

Terms $B_{\bar{N}}(2N + 2)$ through $B_{\bar{N}}(2N + 4547)$ when $N \equiv 5 \pmod{7}$

When $N \equiv 5 \pmod{7}$ and $N \geq 72$, a pattern with 7 interleaved linear sequences lasts from index $N + 67$ through $2N + 1$. If $N \geq 32478$, there are 4546 terms after this pattern ends. Below are calculations of all of these terms along with the necessary lower bound on N for each calculation to be valid. Record large N bounds exceeding 72 are presented in bold.

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2}) &= B_{\bar{N}}(2N + 2 - B_{\bar{N}}(2N + 1)) + B_{\bar{N}}(2N + 2 - B_{\bar{N}}(2N)) + B_{\bar{N}}(2N + 2 - B_{\bar{N}}(2N - 1)) \\
&= B_{\bar{N}}(2N + 2 - (N - 2)) + B_{\bar{N}}\left(2N + 2 - \left(\frac{15N}{7} - \frac{54}{7}\right)\right) + B_{\bar{N}}\left(2N + 2 - \left(\frac{16N}{7} + \frac{305}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{68}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} - \frac{291}{7}\right) = (N + 3) + 0 + 0 = \mathbf{N} + \mathbf{3} \\
&\quad (N \geq 71)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3}) &= B_{\bar{N}}(2N + 3 - B_{\bar{N}}(2N + 2)) + B_{\bar{N}}(2N + 3 - B_{\bar{N}}(2N + 1)) + B_{\bar{N}}(2N + 3 - B_{\bar{N}}(2N)) \\
&= B_{\bar{N}}(2N + 3 - (N + 3)) + B_{\bar{N}}(2N + 3 - (N - 2)) + B_{\bar{N}}\left(2N + 3 - \left(\frac{15N}{7} - \frac{54}{7}\right)\right) \\
&= B_{\bar{N}}(N) + B_{\bar{N}}(N + 5) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{75}{7}\right) = N + 9 + 0 = \mathbf{N} + \mathbf{9} \\
&\quad (\mathbf{N} \geq \mathbf{75})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4}) &= B_{\bar{N}}(2N + 4 - B_{\bar{N}}(2N + 3)) + B_{\bar{N}}(2N + 4 - B_{\bar{N}}(2N + 2)) + B_{\bar{N}}(2N + 4 - B_{\bar{N}}(2N + 1)) \\
&= B_{\bar{N}}(2N + 4 - (N + 9)) + B_{\bar{N}}(2N + 4 - (N + 3)) + B_{\bar{N}}(2N + 4 - (N - 2)) \\
&= B_{\bar{N}}(N - 5) + B_{\bar{N}}(N + 1) + B_{\bar{N}}(N + 6) = (N - 5) + 6 + (N + 4) = \mathbf{2N} + \mathbf{5} \\
&\quad (\mathbf{N} \geq \mathbf{81})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 5) &= B_{\bar{N}}(2N + 5 - B_{\bar{N}}(2N + 4)) + B_{\bar{N}}(2N + 5 - B_{\bar{N}}(2N + 3)) + B_{\bar{N}}(2N + 5 - B_{\bar{N}}(2N + 2)) \\
&= B_{\bar{N}}(2N + 5 - (2N + 5)) + B_{\bar{N}}(2N + 5 - (N + 9)) + B_{\bar{N}}(2N + 5 - (N + 3)) \\
&= B_{\bar{N}}(0) + B_{\bar{N}}(N - 4) + B_{\bar{N}}(N + 2) = 0 + (N - 4) + (N + 1) = \mathbf{2N - 3} \\
&(N \geq 74)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 6) &= B_{\bar{N}}(2N + 6 - B_{\bar{N}}(2N + 5)) + B_{\bar{N}}(2N + 6 - B_{\bar{N}}(2N + 4)) + B_{\bar{N}}(2N + 6 - B_{\bar{N}}(2N + 3)) \\
&= B_{\bar{N}}(2N + 6 - (2N - 3)) + B_{\bar{N}}(2N + 6 - (2N + 5)) + B_{\bar{N}}(2N + 6 - (N + 9)) \\
&= B_{\bar{N}}(9) + B_{\bar{N}}(1) + B_{\bar{N}}(N - 3) = 9 + 1 + (N - 3) = \mathbf{N + 7} \\
&(N \geq 73)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 7) &= B_{\bar{N}}(2N + 7 - B_{\bar{N}}(2N + 6)) + B_{\bar{N}}(2N + 7 - B_{\bar{N}}(2N + 5)) + B_{\bar{N}}(2N + 7 - B_{\bar{N}}(2N + 4)) \\
&= B_{\bar{N}}(2N + 7 - (N + 7)) + B_{\bar{N}}(2N + 7 - (2N - 3)) + B_{\bar{N}}(2N + 7 - (2N + 5)) \\
&= B_{\bar{N}}(N) + B_{\bar{N}}(10) + B_{\bar{N}}(2) = N + 10 + 2 = \mathbf{N + 12} \\
&(N \geq 77)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 8) &= B_{\bar{N}}(2N + 8 - B_{\bar{N}}(2N + 7)) + B_{\bar{N}}(2N + 8 - B_{\bar{N}}(2N + 6)) + B_{\bar{N}}(2N + 8 - B_{\bar{N}}(2N + 5)) \\
&= B_{\bar{N}}(2N + 8 - (N + 12)) + B_{\bar{N}}(2N + 8 - (N + 7)) + B_{\bar{N}}(2N + 8 - (2N - 3)) \\
&= B_{\bar{N}}(N - 4) + B_{\bar{N}}(N + 1) + B_{\bar{N}}(11) = (N - 4) + 6 + 11 = \mathbf{N + 13} \\
&(N \geq 76)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 9) &= B_{\bar{N}}(2N + 9 - B_{\bar{N}}(2N + 8)) + B_{\bar{N}}(2N + 9 - B_{\bar{N}}(2N + 7)) + B_{\bar{N}}(2N + 9 - B_{\bar{N}}(2N + 6)) \\
&= B_{\bar{N}}(2N + 9 - (N + 13)) + B_{\bar{N}}(2N + 9 - (N + 12)) + B_{\bar{N}}(2N + 9 - (N + 7)) \\
&= B_{\bar{N}}(N - 4) + B_{\bar{N}}(N - 3) + B_{\bar{N}}(N + 2) = (N - 4) + (N - 3) + (N + 1) = \mathbf{3N - 6} \\
&(\mathbf{N} \geq \mathbf{105})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 10) &= B_{\bar{N}}(2N + 10 - B_{\bar{N}}(2N + 9)) + B_{\bar{N}}(2N + 10 - B_{\bar{N}}(2N + 8)) + B_{\bar{N}}(2N + 10 - B_{\bar{N}}(2N + 7)) \\
&= B_{\bar{N}}(2N + 10 - (3N - 6)) + B_{\bar{N}}(2N + 10 - (N + 13)) + B_{\bar{N}}(2N + 10 - (N + 12)) \\
&= B_{\bar{N}}(-N + 16) + B_{\bar{N}}(N - 3) + B_{\bar{N}}(N - 2) = 0 + (N - 3) + (N - 2) = \mathbf{2N} - \mathbf{5} \\
&(\mathbf{N} \geq \mathbf{112})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 11) &= B_{\bar{N}}(2N + 11 - B_{\bar{N}}(2N + 10)) + B_{\bar{N}}(2N + 11 - B_{\bar{N}}(2N + 9)) + B_{\bar{N}}(2N + 11 - B_{\bar{N}}(2N + 8)) \\
&= B_{\bar{N}}(2N + 11 - (2N - 5)) + B_{\bar{N}}(2N + 11 - (3N - 6)) + B_{\bar{N}}(2N + 11 - (N + 13)) \\
&= B_{\bar{N}}(16) + B_{\bar{N}}(-N + 17) + B_{\bar{N}}(N - 2) = 16 + 0 + (N - 2) = \mathbf{N} + \mathbf{14} \\
&(\mathbf{N} \geq \mathbf{136})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 12) &= B_{\bar{N}}(2N + 12 - B_{\bar{N}}(2N + 11)) + B_{\bar{N}}(2N + 12 - B_{\bar{N}}(2N + 10)) + B_{\bar{N}}(2N + 12 - B_{\bar{N}}(2N + 9)) \\
&= B_{\bar{N}}(2N + 12 - (N + 14)) + B_{\bar{N}}(2N + 12 - (2N - 5)) + B_{\bar{N}}(2N + 12 - (3N - 6)) \\
&= B_{\bar{N}}(N - 2) + B_{\bar{N}}(17) + B_{\bar{N}}(-N + 18) = (N - 2) + 17 + 0 = \mathbf{N} + \mathbf{15} \\
&(\mathbf{N} \geq \mathbf{143})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 13) &= B_{\bar{N}}(2N + 13 - B_{\bar{N}}(2N + 12)) + B_{\bar{N}}(2N + 13 - B_{\bar{N}}(2N + 11)) + B_{\bar{N}}(2N + 13 - B_{\bar{N}}(2N + 10)) \\
&= B_{\bar{N}}(2N + 13 - (N + 15)) + B_{\bar{N}}(2N + 13 - (N + 14)) + B_{\bar{N}}(2N + 13 - (2N - 5)) \\
&= B_{\bar{N}}(N - 2) + B_{\bar{N}}(N - 1) + B_{\bar{N}}(18) = (N - 2) + (N - 1) + 18 = \mathbf{2N} + \mathbf{15} \\
&(\mathbf{N} \geq \mathbf{150})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 14) &= B_{\bar{N}}(2N + 14 - B_{\bar{N}}(2N + 13)) + B_{\bar{N}}(2N + 14 - B_{\bar{N}}(2N + 12)) + B_{\bar{N}}(2N + 14 - B_{\bar{N}}(2N + 11)) \\
&= B_{\bar{N}}(2N + 14 - (2N + 15)) + B_{\bar{N}}(2N + 14 - (N + 15)) + B_{\bar{N}}(2N + 14 - (N + 14)) \\
&= B_{\bar{N}}(-1) + B_{\bar{N}}(N - 1) + B_{\bar{N}}(N) = 0 + (N - 1) + N = \mathbf{2N} - \mathbf{1} \\
&(N \geq 137)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 15) &= B_{\bar{N}}(2N + 15 - B_{\bar{N}}(2N + 14)) + B_{\bar{N}}(2N + 15 - B_{\bar{N}}(2N + 13)) + B_{\bar{N}}(2N + 15 - B_{\bar{N}}(2N + 12)) \\
&= B_{\bar{N}}(2N + 15 - (2N - 1)) + B_{\bar{N}}(2N + 15 - (2N + 15)) + B_{\bar{N}}(2N + 15 - (N + 15)) \\
&= B_{\bar{N}}(16) + B_{\bar{N}}(0) + B_{\bar{N}}(N) = 16 + 0 + N = \mathbf{N} + \mathbf{16} \\
&(N \geq 144)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 16) &= B_{\bar{N}}(2N + 16 - B_{\bar{N}}(2N + 15)) + B_{\bar{N}}(2N + 16 - B_{\bar{N}}(2N + 14)) + B_{\bar{N}}(2N + 16 - B_{\bar{N}}(2N + 13)) \\
&= B_{\bar{N}}(2N + 16 - (N + 16)) + B_{\bar{N}}(2N + 16 - (2N - 1)) + B_{\bar{N}}(2N + 16 - (2N + 15)) \\
&= B_{\bar{N}}(N) + B_{\bar{N}}(17) + B_{\bar{N}}(1) = N + 17 + 1 = \mathbf{N} + \mathbf{18} \\
&(N \geq 68)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 17) &= B_{\bar{N}}(2N + 17 - B_{\bar{N}}(2N + 16)) + B_{\bar{N}}(2N + 17 - B_{\bar{N}}(2N + 15)) + B_{\bar{N}}(2N + 17 - B_{\bar{N}}(2N + 14)) \\
&= B_{\bar{N}}(2N + 17 - (N + 18)) + B_{\bar{N}}(2N + 17 - (N + 16)) + B_{\bar{N}}(2N + 17 - (2N - 1)) \\
&= B_{\bar{N}}(N - 1) + B_{\bar{N}}(N + 1) + B_{\bar{N}}(18) = (N - 1) + 6 + 18 = \mathbf{N} + \mathbf{23} \\
&(N \geq 75)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 18) &= B_{\bar{N}}(2N + 18 - B_{\bar{N}}(2N + 17)) + B_{\bar{N}}(2N + 18 - B_{\bar{N}}(2N + 16)) + B_{\bar{N}}(2N + 18 - B_{\bar{N}}(2N + 15)) \\
&= B_{\bar{N}}(2N + 18 - (N + 23)) + B_{\bar{N}}(2N + 18 - (N + 18)) + B_{\bar{N}}(2N + 18 - (N + 16)) \\
&= B_{\bar{N}}(N - 5) + B_{\bar{N}}(N) + B_{\bar{N}}(N + 2) = (N - 5) + N + (N + 1) = \mathbf{3N} - \mathbf{4} \\
&(N \geq 74)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 19) &= B_{\bar{N}}(2N + 19 - B_{\bar{N}}(2N + 18)) + B_{\bar{N}}(2N + 19 - B_{\bar{N}}(2N + 17)) + B_{\bar{N}}(2N + 19 - B_{\bar{N}}(2N + 16)) \\
&= B_{\bar{N}}(2N + 19 - (3N - 4)) + B_{\bar{N}}(2N + 19 - (N + 23)) + B_{\bar{N}}(2N + 19 - (N + 18)) \\
&= B_{\bar{N}}(-N + 23) + B_{\bar{N}}(N - 4) + B_{\bar{N}}(N + 1) = 0 + (N - 4) + 6 = \mathbf{N} + \mathbf{2} \\
&(N \geq 77)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{20}) &= B_{\bar{N}}(2N + 20 - B_{\bar{N}}(2N + 19)) + B_{\bar{N}}(2N + 20 - B_{\bar{N}}(2N + 18)) + B_{\bar{N}}(2N + 20 - B_{\bar{N}}(2N + 17)) \\
&= B_{\bar{N}}(2N + 20 - (N + 2)) + B_{\bar{N}}(2N + 20 - (3N - 4)) + B_{\bar{N}}(2N + 20 - (N + 23)) \\
&= B_{\bar{N}}(N + 18) + B_{\bar{N}}(-N + 24) + B_{\bar{N}}(N - 3) = 18 + 0 + (N - 3) = \mathbf{N} + \mathbf{15} \\
&(\mathbf{N} \geq \mathbf{200})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{21}) &= B_{\bar{N}}(2N + 21 - B_{\bar{N}}(2N + 20)) + B_{\bar{N}}(2N + 21 - B_{\bar{N}}(2N + 19)) + B_{\bar{N}}(2N + 21 - B_{\bar{N}}(2N + 18)) \\
&= B_{\bar{N}}(2N + 21 - (N + 15)) + B_{\bar{N}}(2N + 21 - (N + 2)) + B_{\bar{N}}(2N + 21 - (3N - 4)) \\
&= B_{\bar{N}}(N + 6) + B_{\bar{N}}(N + 19) + B_{\bar{N}}(-N + 25) = (N + 4) + (N + 13) + 0 = \mathbf{2N} + \mathbf{17} \\
&(N \geq 75)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{22}) &= B_{\bar{N}}(2N + 22 - B_{\bar{N}}(2N + 21)) + B_{\bar{N}}(2N + 22 - B_{\bar{N}}(2N + 20)) + B_{\bar{N}}(2N + 22 - B_{\bar{N}}(2N + 19)) \\
&= B_{\bar{N}}(2N + 22 - (2N + 17)) + B_{\bar{N}}(2N + 22 - (N + 15)) + B_{\bar{N}}(2N + 22 - (N + 2)) \\
&= B_{\bar{N}}(5) + B_{\bar{N}}(N + 7) + B_{\bar{N}}(N + 20) = 5 + (N + 5) + (N + 15) = \mathbf{2N} + \mathbf{25} \\
&(N \geq 22)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{23}) &= B_{\bar{N}}(2N + 23 - B_{\bar{N}}(2N + 22)) + B_{\bar{N}}(2N + 23 - B_{\bar{N}}(2N + 21)) + B_{\bar{N}}(2N + 23 - B_{\bar{N}}(2N + 20)) \\
&= B_{\bar{N}}(2N + 23 - (2N + 25)) + B_{\bar{N}}(2N + 23 - (2N + 17)) + B_{\bar{N}}(2N + 23 - (N + 15)) \\
&= B_{\bar{N}}(-2) + B_{\bar{N}}(6) + B_{\bar{N}}(N + 8) = 0 + 6 + (N + 6) = \mathbf{N} + \mathbf{12} \\
&(N \geq 71)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{24}) &= B_{\bar{N}}(2N + 24 - B_{\bar{N}}(2N + 23)) + B_{\bar{N}}(2N + 24 - B_{\bar{N}}(2N + 22)) + B_{\bar{N}}(2N + 24 - B_{\bar{N}}(2N + 21)) \\
&= B_{\bar{N}}(2N + 24 - (N + 12)) + B_{\bar{N}}(2N + 24 - (2N + 25)) + B_{\bar{N}}(2N + 24 - (2N + 17)) \\
&= B_{\bar{N}}(N + 12) + B_{\bar{N}}(-1) + B_{\bar{N}}(7) = (N + 9) + 0 + 7 = \mathbf{N} + \mathbf{16} \\
&(N \geq 79)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{25}) &= B_{\bar{N}}(2N + 25 - B_{\bar{N}}(2N + 24)) + B_{\bar{N}}(2N + 25 - B_{\bar{N}}(2N + 23)) + B_{\bar{N}}(2N + 25 - B_{\bar{N}}(2N + 22)) \\
&= B_{\bar{N}}(2N + 25 - (N + 16)) + B_{\bar{N}}(2N + 25 - (N + 12)) + B_{\bar{N}}(2N + 25 - (2N + 25)) \\
&= B_{\bar{N}}(N + 9) + B_{\bar{N}}(N + 13) + B_{\bar{N}}(0) = 12 + 15 + 0 = \mathbf{27} \\
&(N \geq 78)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{26}) &= B_{\bar{N}}(2N + 26 - B_{\bar{N}}(2N + 25)) + B_{\bar{N}}(2N + 26 - B_{\bar{N}}(2N + 24)) + B_{\bar{N}}(2N + 26 - B_{\bar{N}}(2N + 23)) \\
&= B_{\bar{N}}(2N + 26 - 27) + B_{\bar{N}}(2N + 26 - (N + 16)) + B_{\bar{N}}(2N + 26 - (N + 12)) \\
&= B_{\bar{N}}(2N - 1) + B_{\bar{N}}(N + 10) + B_{\bar{N}}(N + 14) = \left(\frac{16N}{7} + \frac{305}{7} \right) + (N + 7) + (N + 10) = \frac{\mathbf{30N}}{\mathbf{7}} + \frac{\mathbf{424}}{\mathbf{7}} \\
&(N \geq 189)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{27}) &= B_{\bar{N}}(2N + 27 - B_{\bar{N}}(2N + 26)) + B_{\bar{N}}(2N + 27 - B_{\bar{N}}(2N + 25)) + B_{\bar{N}}(2N + 27 - B_{\bar{N}}(2N + 24)) \\
&= B_{\bar{N}}\left(2N + 27 - \left(\frac{30N}{7} + \frac{424}{7}\right)\right) + B_{\bar{N}}(2N + 27 - 27) + B_{\bar{N}}(2N + 27 - (N + 16)) \\
&= B_{\bar{N}}\left(-\frac{16N}{7} - \frac{235}{7}\right) + B_{\bar{N}}(2N) + B_{\bar{N}}(N + 11) = 0 + \left(\frac{15N}{7} - \frac{54}{7}\right) + (N + 8) = \frac{\mathbf{22N}}{\mathbf{7}} + \frac{\mathbf{2}}{\mathbf{7}} \\
&(N \geq 196)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{28}) &= B_{\bar{N}}(2N + 28 - B_{\bar{N}}(2N + 27)) + B_{\bar{N}}(2N + 28 - B_{\bar{N}}(2N + 26)) + B_{\bar{N}}(2N + 28 - B_{\bar{N}}(2N + 25)) \\
&= B_{\bar{N}}\left(2N + 28 - \left(\frac{22N}{7} + \frac{2}{7}\right)\right) + B_{\bar{N}}\left(2N + 28 - \left(\frac{30N}{7} + \frac{424}{7}\right)\right) + B_{\bar{N}}(2N + 28 - 27) \\
&= B_{\bar{N}}\left(-\frac{8N}{7} + \frac{194}{7}\right) + B_{\bar{N}}\left(-\frac{16N}{7} - \frac{228}{7}\right) + B_{\bar{N}}(2N + 1) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(N \geq 66)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{29}) &= B_{\bar{N}}(2N + 29 - B_{\bar{N}}(2N + 28)) + B_{\bar{N}}(2N + 29 - B_{\bar{N}}(2N + 27)) + B_{\bar{N}}(2N + 29 - B_{\bar{N}}(2N + 26)) \\
&= B_{\bar{N}}(2N + 29 - (N - 2)) + B_{\bar{N}}\left(2N + 29 - \left(\frac{22N}{7} + \frac{2}{7}\right)\right) + B_{\bar{N}}\left(2N + 29 - \left(\frac{30N}{7} + \frac{424}{7}\right)\right) \\
&= B_{\bar{N}}(N + 31) + B_{\bar{N}}\left(-\frac{8N}{7} + \frac{201}{7}\right) + B_{\bar{N}}\left(-\frac{16N}{7} - \frac{221}{7}\right) = 22 + 0 + 0 = \mathbf{22} \\
&(N \geq 71)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{30}) &= B_{\bar{N}}(2N + 30 - B_{\bar{N}}(2N + 29)) + B_{\bar{N}}(2N + 30 - B_{\bar{N}}(2N + 28)) + B_{\bar{N}}(2N + 30 - B_{\bar{N}}(2N + 27)) \\
&= B_{\bar{N}}(2N + 30 - 22) + B_{\bar{N}}(2N + 30 - (N - 2)) + B_{\bar{N}}\left(2N + 30 - \left(\frac{22N}{7} + \frac{2}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 8) + B_{\bar{N}}(N + 32) + B_{\bar{N}}\left(-\frac{8N}{7} + \frac{208}{7}\right) = (N + 13) + (N + 30) + 0 = \mathbf{2N} + \mathbf{43} \\
&(N \geq 70)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{31}) &= B_{\bar{N}}(2N + 31 - B_{\bar{N}}(2N + 30)) + B_{\bar{N}}(2N + 31 - B_{\bar{N}}(2N + 29)) + B_{\bar{N}}(2N + 31 - B_{\bar{N}}(2N + 28)) \\
&= B_{\bar{N}}(2N + 31 - (2N + 43)) + B_{\bar{N}}(2N + 31 - 22) + B_{\bar{N}}(2N + 31 - (N - 2)) \\
&= B_{\bar{N}}(-12) + B_{\bar{N}}(2N + 9) + B_{\bar{N}}(N + 33) = 0 + (3N - 6) + (N + 35) = \mathbf{4N} + \mathbf{29} \\
&(N \geq 69)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{32}) &= B_{\bar{N}}(2N + 32 - B_{\bar{N}}(2N + 31)) + B_{\bar{N}}(2N + 32 - B_{\bar{N}}(2N + 30)) + B_{\bar{N}}(2N + 32 - B_{\bar{N}}(2N + 29)) \\
&= B_{\bar{N}}(2N + 32 - (4N + 29)) + B_{\bar{N}}(2N + 32 - (2N + 43)) + B_{\bar{N}}(2N + 32 - 22) \\
&= B_{\bar{N}}(-2N + 3) + B_{\bar{N}}(-11) + B_{\bar{N}}(2N + 10) = 0 + 0 + (2N - 5) = \mathbf{2N} - \mathbf{5} \\
&(N \geq 22)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{33}) &= B_{\bar{N}}(2N + 33 - B_{\bar{N}}(2N + 32)) + B_{\bar{N}}(2N + 33 - B_{\bar{N}}(2N + 31)) + B_{\bar{N}}(2N + 33 - B_{\bar{N}}(2N + 30)) \\
&= B_{\bar{N}}(2N + 33 - (2N - 5)) + B_{\bar{N}}(2N + 33 - (4N + 29)) + B_{\bar{N}}(2N + 33 - (2N + 43)) \\
&= B_{\bar{N}}(38) + B_{\bar{N}}(-2N + 4) + B_{\bar{N}}(-10) = 38 + 0 + 0 = \mathbf{38} \\
&(N \geq 69)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{34}) &= B_{\bar{N}}(2N + 34 - B_{\bar{N}}(2N + 33)) + B_{\bar{N}}(2N + 34 - B_{\bar{N}}(2N + 32)) + B_{\bar{N}}(2N + 34 - B_{\bar{N}}(2N + 31)) \\
&= B_{\bar{N}}(2N + 34 - 38) + B_{\bar{N}}(2N + 34 - (2N - 5)) + B_{\bar{N}}(2N + 34 - (4N + 29)) \\
&= B_{\bar{N}}(2N - 4) + B_{\bar{N}}(39) + B_{\bar{N}}(-2N + 5) = (2N - 3) + 39 + 0 = \mathbf{2N} + \mathbf{36} \\
&(N \geq 71)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{35}) &= B_{\bar{N}}(2N + 35 - B_{\bar{N}}(2N + 34)) + B_{\bar{N}}(2N + 35 - B_{\bar{N}}(2N + 33)) + B_{\bar{N}}(2N + 35 - B_{\bar{N}}(2N + 32)) \\
&= B_{\bar{N}}(2N + 35 - (2N + 36)) + B_{\bar{N}}(2N + 35 - 38) + B_{\bar{N}}(2N + 35 - (2N - 5)) \\
&= B_{\bar{N}}(-1) + B_{\bar{N}}(2N - 3) + B_{\bar{N}}(40) = 0 + (2N - 1) + 40 = \mathbf{2N} + \mathbf{39} \\
&(N \geq 70)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{36}) &= B_{\bar{N}}(2N + 36 - B_{\bar{N}}(2N + 35)) + B_{\bar{N}}(2N + 36 - B_{\bar{N}}(2N + 34)) + B_{\bar{N}}(2N + 36 - B_{\bar{N}}(2N + 33)) \\
&= B_{\bar{N}}(2N + 36 - (2N + 39)) + B_{\bar{N}}(2N + 36 - (2N + 36)) + B_{\bar{N}}(2N + 36 - 38) \\
&= B_{\bar{N}}(-3) + B_{\bar{N}}(0) + B_{\bar{N}}(2N - 2) = 0 + 0 + 7 = \mathbf{7} \\
&(N \geq 69)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{37}) &= B_{\bar{N}}(2N + 37 - B_{\bar{N}}(2N + 36)) + B_{\bar{N}}(2N + 37 - B_{\bar{N}}(2N + 35)) + B_{\bar{N}}(2N + 37 - B_{\bar{N}}(2N + 34)) \\
&= B_{\bar{N}}(2N + 37 - 7) + B_{\bar{N}}(2N + 37 - (2N + 39)) + B_{\bar{N}}(2N + 37 - (2N + 36)) \\
&= B_{\bar{N}}(2N + 30) + B_{\bar{N}}(-2) + B_{\bar{N}}(1) = (2N + 43) + 0 + 1 = \mathbf{2N} + \mathbf{44} \\
&(N \geq 23)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 38) &= B_{\bar{N}}(2N + 38 - B_{\bar{N}}(2N + 37)) + B_{\bar{N}}(2N + 38 - B_{\bar{N}}(2N + 36)) + B_{\bar{N}}(2N + 38 - B_{\bar{N}}(2N + 35)) \\
&= B_{\bar{N}}(2N + 38 - (2N + 44)) + B_{\bar{N}}(2N + 38 - 7) + B_{\bar{N}}(2N + 38 - (2N + 39)) \\
&= B_{\bar{N}}(-6) + B_{\bar{N}}(2N + 31) + B_{\bar{N}}(-1) = 0 + (4N + 29) + 0 = \mathbf{4N} + \mathbf{29} \\
&(N \geq 31)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 39) &= B_{\bar{N}}(2N + 39 - B_{\bar{N}}(2N + 38)) + B_{\bar{N}}(2N + 39 - B_{\bar{N}}(2N + 37)) + B_{\bar{N}}(2N + 39 - B_{\bar{N}}(2N + 36)) \\
&= B_{\bar{N}}(2N + 39 - (4N + 29)) + B_{\bar{N}}(2N + 39 - (2N + 44)) + B_{\bar{N}}(2N + 39 - 7) \\
&= B_{\bar{N}}(-2N + 10) + B_{\bar{N}}(-5) + B_{\bar{N}}(2N + 32) = 0 + 0 + (2N - 5) = \mathbf{2N} - \mathbf{5} \\
&(N \geq 32)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 40) &= B_{\bar{N}}(2N + 40 - B_{\bar{N}}(2N + 39)) + B_{\bar{N}}(2N + 40 - B_{\bar{N}}(2N + 38)) + B_{\bar{N}}(2N + 40 - B_{\bar{N}}(2N + 37)) \\
&= B_{\bar{N}}(2N + 40 - (2N - 5)) + B_{\bar{N}}(2N + 40 - (4N + 29)) + B_{\bar{N}}(2N + 40 - (2N + 44)) \\
&= B_{\bar{N}}(45) + B_{\bar{N}}(-2N + 11) + B_{\bar{N}}(-4) = 45 + 0 + 0 = \mathbf{45} \\
&(N \geq 71)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 41) &= B_{\bar{N}}(2N + 41 - B_{\bar{N}}(2N + 40)) + B_{\bar{N}}(2N + 41 - B_{\bar{N}}(2N + 39)) + B_{\bar{N}}(2N + 41 - B_{\bar{N}}(2N + 38)) \\
&= B_{\bar{N}}(2N + 41 - 45) + B_{\bar{N}}(2N + 41 - (2N - 5)) + B_{\bar{N}}(2N + 41 - (4N + 29)) \\
&= B_{\bar{N}}(2N - 4) + B_{\bar{N}}(46) + B_{\bar{N}}(-2N + 12) = (2N - 3) + 46 + 0 = \mathbf{2N} + \mathbf{43} \\
&(N \geq 71)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 42) &= B_{\bar{N}}(2N + 42 - B_{\bar{N}}(2N + 41)) + B_{\bar{N}}(2N + 42 - B_{\bar{N}}(2N + 40)) + B_{\bar{N}}(2N + 42 - B_{\bar{N}}(2N + 39)) \\
&= B_{\bar{N}}(2N + 42 - (2N + 43)) + B_{\bar{N}}(2N + 42 - 45) + B_{\bar{N}}(2N + 42 - (2N - 5)) \\
&= B_{\bar{N}}(-1) + B_{\bar{N}}(2N - 3) + B_{\bar{N}}(47) = 0 + (2N - 1) + 47 = \mathbf{2N} + \mathbf{46} \\
&(N \geq 70)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{43}) &= B_{\bar{N}}(2N + 43 - B_{\bar{N}}(2N + 42)) + B_{\bar{N}}(2N + 43 - B_{\bar{N}}(2N + 41)) + B_{\bar{N}}(2N + 43 - B_{\bar{N}}(2N + 40)) \\
&= B_{\bar{N}}(2N + 43 - (2N + 46)) + B_{\bar{N}}(2N + 43 - (2N + 43)) + B_{\bar{N}}(2N + 43 - 45) \\
&= B_{\bar{N}}(-3) + B_{\bar{N}}(0) + B_{\bar{N}}(2N - 2) = 0 + 0 + 7 = \mathbf{7} \\
&(N \geq 69)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{44}) &= B_{\bar{N}}(2N + 44 - B_{\bar{N}}(2N + 43)) + B_{\bar{N}}(2N + 44 - B_{\bar{N}}(2N + 42)) + B_{\bar{N}}(2N + 44 - B_{\bar{N}}(2N + 41)) \\
&= B_{\bar{N}}(2N + 44 - 7) + B_{\bar{N}}(2N + 44 - (2N + 46)) + B_{\bar{N}}(2N + 44 - (2N + 43)) \\
&= B_{\bar{N}}(2N + 37) + B_{\bar{N}}(-2) + B_{\bar{N}}(1) = (2N + 44) + 0 + 1 = \mathbf{2N} + \mathbf{45} \\
&(N \geq 39)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{45}) &= B_{\bar{N}}(2N + 45 - B_{\bar{N}}(2N + 44)) + B_{\bar{N}}(2N + 45 - B_{\bar{N}}(2N + 43)) + B_{\bar{N}}(2N + 45 - B_{\bar{N}}(2N + 42)) \\
&= B_{\bar{N}}(2N + 45 - (2N + 45)) + B_{\bar{N}}(2N + 45 - 7) + B_{\bar{N}}(2N + 45 - (2N + 46)) \\
&= B_{\bar{N}}(0) + B_{\bar{N}}(2N + 38) + B_{\bar{N}}(-1) = 0 + (4N + 29) + 0 = \mathbf{4N} + \mathbf{29} \\
&(N \geq 71)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{46}) &= B_{\bar{N}}(2N + 46 - B_{\bar{N}}(2N + 45)) + B_{\bar{N}}(2N + 46 - B_{\bar{N}}(2N + 44)) + B_{\bar{N}}(2N + 46 - B_{\bar{N}}(2N + 43)) \\
&= B_{\bar{N}}(2N + 46 - (4N + 29)) + B_{\bar{N}}(2N + 46 - (2N + 45)) + B_{\bar{N}}(2N + 46 - 7) \\
&= B_{\bar{N}}(-2N + 17) + B_{\bar{N}}(1) + B_{\bar{N}}(2N + 39) = 0 + 1 + (2N - 5) = \mathbf{2N} - \mathbf{4} \\
&(N \geq 128)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{47}) &= B_{\bar{N}}(2N + 47 - B_{\bar{N}}(2N + 46)) + B_{\bar{N}}(2N + 47 - B_{\bar{N}}(2N + 45)) + B_{\bar{N}}(2N + 47 - B_{\bar{N}}(2N + 44)) \\
&= B_{\bar{N}}(2N + 47 - (2N - 4)) + B_{\bar{N}}(2N + 47 - (4N + 29)) + B_{\bar{N}}(2N + 47 - (2N + 45)) \\
&= B_{\bar{N}}(51) + B_{\bar{N}}(-2N + 18) + B_{\bar{N}}(2) = 51 + 0 + 2 = \mathbf{53} \\
&(N \geq 135)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 48) &= B_{\bar{N}}(2N + 48 - B_{\bar{N}}(2N + 47)) + B_{\bar{N}}(2N + 48 - B_{\bar{N}}(2N + 46)) + B_{\bar{N}}(2N + 48 - B_{\bar{N}}(2N + 45)) \\
&= B_{\bar{N}}(2N + 48 - 53) + B_{\bar{N}}(2N + 48 - (2N - 4)) + B_{\bar{N}}(2N + 48 - (4N + 29)) \\
&= B_{\bar{N}}(2N - 5) + B_{\bar{N}}(52) + B_{\bar{N}}(-2N + 19) = (N - 3) + 52 + 0 = \mathbf{N} + 49 \\
&(N \geq 142)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 49) &= B_{\bar{N}}(2N + 49 - B_{\bar{N}}(2N + 48)) + B_{\bar{N}}(2N + 49 - B_{\bar{N}}(2N + 47)) + B_{\bar{N}}(2N + 49 - B_{\bar{N}}(2N + 46)) \\
&= B_{\bar{N}}(2N + 49 - (N + 49)) + B_{\bar{N}}(2N + 49 - 53) + B_{\bar{N}}(2N + 49 - (2N - 4)) \\
&= B_{\bar{N}}(N) + B_{\bar{N}}(2N - 4) + B_{\bar{N}}(53) = N + (2N - 3) + 53 = \mathbf{3N} + 50 \\
&(N \geq 71)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 50) &= B_{\bar{N}}(2N + 50 - B_{\bar{N}}(2N + 49)) + B_{\bar{N}}(2N + 50 - B_{\bar{N}}(2N + 48)) + B_{\bar{N}}(2N + 50 - B_{\bar{N}}(2N + 47)) \\
&= B_{\bar{N}}(2N + 50 - (3N + 50)) + B_{\bar{N}}(2N + 50 - (N + 49)) + B_{\bar{N}}(2N + 50 - 53) \\
&= B_{\bar{N}}(-N) + B_{\bar{N}}(N + 1) + B_{\bar{N}}(2N - 3) = 0 + 6 + (2N - 1) = \mathbf{2N} + 5 \\
&(N \geq 70)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 51) &= B_{\bar{N}}(2N + 51 - B_{\bar{N}}(2N + 50)) + B_{\bar{N}}(2N + 51 - B_{\bar{N}}(2N + 49)) + B_{\bar{N}}(2N + 51 - B_{\bar{N}}(2N + 48)) \\
&= B_{\bar{N}}(2N + 51 - (2N + 5)) + B_{\bar{N}}(2N + 51 - (3N + 50)) + B_{\bar{N}}(2N + 51 - (N + 49)) \\
&= B_{\bar{N}}(46) + B_{\bar{N}}(-N + 1) + B_{\bar{N}}(N + 2) = 46 + 0 + (N + 1) = \mathbf{N} + 47 \\
&(N \geq 46)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 52) &= B_{\bar{N}}(2N + 52 - B_{\bar{N}}(2N + 51)) + B_{\bar{N}}(2N + 52 - B_{\bar{N}}(2N + 50)) + B_{\bar{N}}(2N + 52 - B_{\bar{N}}(2N + 49)) \\
&= B_{\bar{N}}(2N + 52 - (N + 47)) + B_{\bar{N}}(2N + 52 - (2N + 5)) + B_{\bar{N}}(2N + 52 - (3N + 50)) \\
&= B_{\bar{N}}(N + 5) + B_{\bar{N}}(47) + B_{\bar{N}}(-N + 2) = 9 + 47 + 0 = \mathbf{56} \\
&(N \geq 55)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{53}) &= B_{\bar{N}}(2N + 53 - B_{\bar{N}}(2N + 52)) + B_{\bar{N}}(2N + 53 - B_{\bar{N}}(2N + 51)) + B_{\bar{N}}(2N + 53 - B_{\bar{N}}(2N + 50)) \\
&= B_{\bar{N}}(2N + 53 - 56) + B_{\bar{N}}(2N + 53 - (N + 47)) + B_{\bar{N}}(2N + 53 - (2N + 5)) \\
&= B_{\bar{N}}(2N - 3) + B_{\bar{N}}(N + 6) + B_{\bar{N}}(48) = (2N - 1) + (N + 4) + 48 = \mathbf{3N} + \mathbf{51} \\
&(N \geq 70)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{54}) &= B_{\bar{N}}(2N + 54 - B_{\bar{N}}(2N + 53)) + B_{\bar{N}}(2N + 54 - B_{\bar{N}}(2N + 52)) + B_{\bar{N}}(2N + 54 - B_{\bar{N}}(2N + 51)) \\
&= B_{\bar{N}}(2N + 54 - (3N + 51)) + B_{\bar{N}}(2N + 54 - 56) + B_{\bar{N}}(2N + 54 - (N + 47)) \\
&= B_{\bar{N}}(-N + 3) + B_{\bar{N}}(2N - 2) + B_{\bar{N}}(N + 7) = 0 + 7 + (N + 5) = \mathbf{N} + \mathbf{12} \\
&(N \geq 69)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{55}) &= B_{\bar{N}}(2N + 55 - B_{\bar{N}}(2N + 54)) + B_{\bar{N}}(2N + 55 - B_{\bar{N}}(2N + 53)) + B_{\bar{N}}(2N + 55 - B_{\bar{N}}(2N + 52)) \\
&= B_{\bar{N}}(2N + 55 - (N + 12)) + B_{\bar{N}}(2N + 55 - (3N + 51)) + B_{\bar{N}}(2N + 55 - 56) \\
&= B_{\bar{N}}(N + 43) + B_{\bar{N}}(-N + 4) + B_{\bar{N}}(2N - 1) = (N + 8) + 0 + \left(\frac{16N}{7} + \frac{305}{7}\right) = \frac{\mathbf{23N}}{\mathbf{7}} + \frac{\mathbf{361}}{\mathbf{7}} \\
&(N \geq 68)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{56}) &= B_{\bar{N}}(2N + 56 - B_{\bar{N}}(2N + 55)) + B_{\bar{N}}(2N + 56 - B_{\bar{N}}(2N + 54)) + B_{\bar{N}}(2N + 56 - B_{\bar{N}}(2N + 53)) \\
&= B_{\bar{N}}\left(2N + 56 - \left(\frac{23N}{7} + \frac{361}{7}\right)\right) + B_{\bar{N}}(2N + 56 - (N + 12)) + B_{\bar{N}}(2N + 56 - (3N + 51)) \\
&= B_{\bar{N}}\left(-\frac{9N}{7} + \frac{31}{7}\right) + B_{\bar{N}}(N + 44) + B_{\bar{N}}(-N + 5) = 0 + 42 + 0 = \mathbf{42} \\
&(N \geq 44)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{57}) &= B_{\bar{N}}(2N + 57 - B_{\bar{N}}(2N + 56)) + B_{\bar{N}}(2N + 57 - B_{\bar{N}}(2N + 55)) + B_{\bar{N}}(2N + 57 - B_{\bar{N}}(2N + 54)) \\
&= B_{\bar{N}}(2N + 57 - 42) + B_{\bar{N}}\left(2N + 57 - \left(\frac{23N}{7} + \frac{361}{7}\right)\right) + B_{\bar{N}}(2N + 57 - (N + 12)) \\
&= B_{\bar{N}}(2N + 15) + B_{\bar{N}}\left(-\frac{9N}{7} + \frac{38}{7}\right) + B_{\bar{N}}(N + 45) = (N + 16) + 0 + (N + 40) = \mathbf{2N} + \mathbf{56} \\
&(N \geq 45)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{58}) &= B_{\bar{N}}(2N + 58 - B_{\bar{N}}(2N + 57)) + B_{\bar{N}}(2N + 58 - B_{\bar{N}}(2N + 56)) + B_{\bar{N}}(2N + 58 - B_{\bar{N}}(2N + 55)) \\
&= B_{\bar{N}}(2N + 58 - (2N + 56)) + B_{\bar{N}}(2N + 58 - 42) + B_{\bar{N}}\left(2N + 58 - \left(\frac{23N}{7} + \frac{361}{7}\right)\right) \\
&= B_{\bar{N}}(2) + B_{\bar{N}}(2N + 16) + B_{\bar{N}}\left(-\frac{9N}{7} + \frac{45}{7}\right) = 2 + (N + 18) + 0 = \mathbf{N} + \mathbf{20} \\
&(N \geq 33)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{59}) &= B_{\bar{N}}(2N + 59 - B_{\bar{N}}(2N + 58)) + B_{\bar{N}}(2N + 59 - B_{\bar{N}}(2N + 57)) + B_{\bar{N}}(2N + 59 - B_{\bar{N}}(2N + 56)) \\
&= B_{\bar{N}}(2N + 59 - (N + 20)) + B_{\bar{N}}(2N + 59 - (2N + 56)) + B_{\bar{N}}(2N + 59 - 42) \\
&= B_{\bar{N}}(N + 39) + B_{\bar{N}}(3) + B_{\bar{N}}(2N + 17) = (N + 4) + 3 + (N + 23) = \mathbf{2N} + \mathbf{30} \\
&(N \geq 71)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{60}) &= B_{\bar{N}}(2N + 60 - B_{\bar{N}}(2N + 59)) + B_{\bar{N}}(2N + 60 - B_{\bar{N}}(2N + 58)) + B_{\bar{N}}(2N + 60 - B_{\bar{N}}(2N + 57)) \\
&= B_{\bar{N}}(2N + 60 - (2N + 30)) + B_{\bar{N}}(2N + 60 - (N + 20)) + B_{\bar{N}}(2N + 60 - (2N + 56)) \\
&= B_{\bar{N}}(30) + B_{\bar{N}}(N + 40) + B_{\bar{N}}(4) = 30 + 39 + 4 = \mathbf{73} \\
&(N \geq 70)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{61}) &= B_{\bar{N}}(2N + 61 - B_{\bar{N}}(2N + 60)) + B_{\bar{N}}(2N + 61 - B_{\bar{N}}(2N + 59)) + B_{\bar{N}}(2N + 61 - B_{\bar{N}}(2N + 58)) \\
&= B_{\bar{N}}(2N + 61 - 73) + B_{\bar{N}}(2N + 61 - (2N + 30)) + B_{\bar{N}}(2N + 61 - (N + 20)) \\
&= B_{\bar{N}}(2N - 12) + B_{\bar{N}}(31) + B_{\bar{N}}(N + 41) = (N - 10) + 31 + (N + 38) = \mathbf{2N} + \mathbf{59} \\
&(N \geq 79)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{62}) &= B_{\bar{N}}(2N + 62 - B_{\bar{N}}(2N + 61)) + B_{\bar{N}}(2N + 62 - B_{\bar{N}}(2N + 60)) + B_{\bar{N}}(2N + 62 - B_{\bar{N}}(2N + 59)) \\
&= B_{\bar{N}}(2N + 62 - (2N + 59)) + B_{\bar{N}}(2N + 62 - 73) + B_{\bar{N}}(2N + 62 - (2N + 30)) \\
&= B_{\bar{N}}(3) + B_{\bar{N}}(2N - 11) + B_{\bar{N}}(32) = 3 + (2N - 10) + 32 = \mathbf{2N} + \mathbf{25} \\
&(N \geq 78)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{63}) &= B_{\bar{N}}(2N + 63 - B_{\bar{N}}(2N + 62)) + B_{\bar{N}}(2N + 63 - B_{\bar{N}}(2N + 61)) + B_{\bar{N}}(2N + 63 - B_{\bar{N}}(2N + 60)) \\
&= B_{\bar{N}}(2N + 63 - (2N + 25)) + B_{\bar{N}}(2N + 63 - (2N + 59)) + B_{\bar{N}}(2N + 63 - 73) \\
&= B_{\bar{N}}(38) + B_{\bar{N}}(4) + B_{\bar{N}}(2N - 10) = 38 + 4 + (2N - 8) = \mathbf{2N} + \mathbf{34} \\
&(N \geq 77)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{64}) &= B_{\bar{N}}(2N + 64 - B_{\bar{N}}(2N + 63)) + B_{\bar{N}}(2N + 64 - B_{\bar{N}}(2N + 62)) + B_{\bar{N}}(2N + 64 - B_{\bar{N}}(2N + 61)) \\
&= B_{\bar{N}}(2N + 64 - (2N + 34)) + B_{\bar{N}}(2N + 64 - (2N + 25)) + B_{\bar{N}}(2N + 64 - (2N + 59)) \\
&= B_{\bar{N}}(30) + B_{\bar{N}}(39) + B_{\bar{N}}(5) = 30 + 39 + 5 = \mathbf{74} \\
&(N \geq 42)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{65}) &= B_{\bar{N}}(2N + 65 - B_{\bar{N}}(2N + 64)) + B_{\bar{N}}(2N + 65 - B_{\bar{N}}(2N + 63)) + B_{\bar{N}}(2N + 65 - B_{\bar{N}}(2N + 62)) \\
&= B_{\bar{N}}(2N + 65 - 74) + B_{\bar{N}}(2N + 65 - (2N + 34)) + B_{\bar{N}}(2N + 65 - (2N + 25)) \\
&= B_{\bar{N}}(2N - 9) + B_{\bar{N}}(31) + B_{\bar{N}}(40) = 7 + 31 + 40 = \mathbf{78} \\
&(N \geq 76)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{66}) &= B_{\bar{N}}(2N + 66 - B_{\bar{N}}(2N + 65)) + B_{\bar{N}}(2N + 66 - B_{\bar{N}}(2N + 64)) + B_{\bar{N}}(2N + 66 - B_{\bar{N}}(2N + 63)) \\
&= B_{\bar{N}}(2N + 66 - 78) + B_{\bar{N}}(2N + 66 - 74) + B_{\bar{N}}(2N + 66 - (2N + 34)) \\
&= B_{\bar{N}}(2N - 12) + B_{\bar{N}}(2N - 8) + B_{\bar{N}}(32) = (N - 10) + \left(\frac{16N}{7} + \frac{291}{7}\right) + 32 = \frac{\mathbf{23N}}{7} + \frac{\mathbf{445}}{7} \\
&(N \geq 79)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{67}) &= B_{\bar{N}}(2N + 67 - B_{\bar{N}}(2N + 66)) + B_{\bar{N}}(2N + 67 - B_{\bar{N}}(2N + 65)) + B_{\bar{N}}(2N + 67 - B_{\bar{N}}(2N + 64)) \\
&= B_{\bar{N}}\left(2N + 67 - \left(\frac{23N}{7} + \frac{445}{7}\right)\right) + B_{\bar{N}}(2N + 67 - 78) + B_{\bar{N}}(2N + 67 - 74) \\
&= B_{\bar{N}}\left(-\frac{9N}{7} + \frac{24}{7}\right) + B_{\bar{N}}(2N - 11) + B_{\bar{N}}(2N - 7) = 0 + (2N - 10) + \left(\frac{15N}{7} - \frac{61}{7}\right) = \frac{\mathbf{29N}}{7} - \frac{\mathbf{131}}{7} \\
&(N \geq 78)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{68}) &= B_{\bar{N}}(2N + 68 - B_{\bar{N}}(2N + 67)) + B_{\bar{N}}(2N + 68 - B_{\bar{N}}(2N + 66)) + B_{\bar{N}}(2N + 68 - B_{\bar{N}}(2N + 65)) \\
&= B_{\bar{N}}\left(2N + 68 - \left(\frac{29N}{7} - \frac{131}{7}\right)\right) + B_{\bar{N}}\left(2N + 68 - \left(\frac{23N}{7} + \frac{445}{7}\right)\right) + B_{\bar{N}}(2N + 68 - 78) \\
&= B_{\bar{N}}\left(-\frac{15N}{7} + \frac{607}{7}\right) + B_{\bar{N}}\left(-\frac{9N}{7} + \frac{31}{7}\right) + B_{\bar{N}}(2N - 10) = 0 + 0 + (2N - 8) = \mathbf{2N} - \mathbf{8} \\
&(N \geq 77)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{69}) &= B_{\bar{N}}(2N + 69 - B_{\bar{N}}(2N + 68)) + B_{\bar{N}}(2N + 69 - B_{\bar{N}}(2N + 67)) + B_{\bar{N}}(2N + 69 - B_{\bar{N}}(2N + 66)) \\
&= B_{\bar{N}}(2N + 69 - (2N - 8)) + B_{\bar{N}}\left(2N + 69 - \left(\frac{29N}{7} - \frac{131}{7}\right)\right) + B_{\bar{N}}\left(2N + 69 - \left(\frac{23N}{7} + \frac{445}{7}\right)\right) \\
&= B_{\bar{N}}(77) + B_{\bar{N}}\left(-\frac{15N}{7} + \frac{614}{7}\right) + B_{\bar{N}}\left(-\frac{9N}{7} + \frac{38}{7}\right) = 77 + 0 + 0 = \mathbf{77} \\
&(N \geq 77)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{70}) &= B_{\bar{N}}(2N + 70 - B_{\bar{N}}(2N + 69)) + B_{\bar{N}}(2N + 70 - B_{\bar{N}}(2N + 68)) + B_{\bar{N}}(2N + 70 - B_{\bar{N}}(2N + 67)) \\
&= B_{\bar{N}}(2N + 70 - 77) + B_{\bar{N}}(2N + 70 - (2N - 8)) + B_{\bar{N}}\left(2N + 70 - \left(\frac{29N}{7} - \frac{131}{7}\right)\right) \\
&= B_{\bar{N}}(2N - 7) + B_{\bar{N}}(78) + B_{\bar{N}}\left(-\frac{15N}{7} + \frac{621}{7}\right) = \left(\frac{15N}{7} - \frac{61}{7}\right) + 78 + 0 = \frac{15N}{7} + \frac{485}{7} \\
&(N \geq 78)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{71}) &= B_{\bar{N}}(2N + 71 - B_{\bar{N}}(2N + 70)) + B_{\bar{N}}(2N + 71 - B_{\bar{N}}(2N + 69)) + B_{\bar{N}}(2N + 71 - B_{\bar{N}}(2N + 68)) \\
&= B_{\bar{N}}\left(2N + 71 - \left(\frac{15N}{7} + \frac{485}{7}\right)\right) + B_{\bar{N}}(2N + 71 - 77) + B_{\bar{N}}(2N + 71 - (2N - 8)) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{12}{7}\right) + B_{\bar{N}}(2N - 6) + B_{\bar{N}}(79) = 0 + (N - 2) + 79 = \mathbf{N} + \mathbf{77} \\
&(N \geq 108)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{72}) &= B_{\bar{N}}(2N + 72 - B_{\bar{N}}(2N + 71)) + B_{\bar{N}}(2N + 72 - B_{\bar{N}}(2N + 70)) + B_{\bar{N}}(2N + 72 - B_{\bar{N}}(2N + 69)) \\
&= B_{\bar{N}}(2N + 72 - (N + 77)) + B_{\bar{N}}\left(2N + 72 - \left(\frac{15N}{7} + \frac{485}{7}\right)\right) + B_{\bar{N}}(2N + 72 - 77) \\
&= B_{\bar{N}}(N - 5) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{19}{7}\right) + B_{\bar{N}}(2N - 5) = (N - 5) + 0 + (N - 3) = \mathbf{2N} - \mathbf{8} \\
&(N \geq 107)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{73}) &= B_{\bar{N}}(2N + 73 - B_{\bar{N}}(2N + 72)) + B_{\bar{N}}(2N + 73 - B_{\bar{N}}(2N + 71)) + B_{\bar{N}}(2N + 73 - B_{\bar{N}}(2N + 70)) \\
&= B_{\bar{N}}(2N + 73 - (2N - 8)) + B_{\bar{N}}(2N + 73 - (N + 77)) + B_{\bar{N}}\left(2N + 73 - \left(\frac{15N}{7} + \frac{485}{7}\right)\right) \\
&= B_{\bar{N}}(81) + B_{\bar{N}}(N - 4) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{26}{7}\right) = 81 + (N - 4) + 0 = \mathbf{N} + \mathbf{77} \\
&(N \geq 106)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{74}) &= B_{\bar{N}}(2N + 74 - B_{\bar{N}}(2N + 73)) + B_{\bar{N}}(2N + 74 - B_{\bar{N}}(2N + 72)) + B_{\bar{N}}(2N + 74 - B_{\bar{N}}(2N + 71)) \\
&= B_{\bar{N}}(2N + 74 - (N + 77)) + B_{\bar{N}}(2N + 74 - (2N - 8)) + B_{\bar{N}}(2N + 74 - (N + 77)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(82) + B_{\bar{N}}(N - 3) = (N - 3) + 82 + (N - 3) = \mathbf{2N} + \mathbf{76} \\
&(N \geq 82)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{75}) &= B_{\bar{N}}(2N + 75 - B_{\bar{N}}(2N + 74)) + B_{\bar{N}}(2N + 75 - B_{\bar{N}}(2N + 73)) + B_{\bar{N}}(2N + 75 - B_{\bar{N}}(2N + 72)) \\
&= B_{\bar{N}}(2N + 75 - (2N + 76)) + B_{\bar{N}}(2N + 75 - (N + 77)) + B_{\bar{N}}(2N + 75 - (2N - 8)) \\
&= B_{\bar{N}}(-1) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(83) = 0 + (N - 2) + 83 = \mathbf{N} + \mathbf{81} \\
&(N \geq 83)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{76}) &= B_{\bar{N}}(2N + 76 - B_{\bar{N}}(2N + 75)) + B_{\bar{N}}(2N + 76 - B_{\bar{N}}(2N + 74)) + B_{\bar{N}}(2N + 76 - B_{\bar{N}}(2N + 73)) \\
&= B_{\bar{N}}(2N + 76 - (N + 81)) + B_{\bar{N}}(2N + 76 - (2N + 76)) + B_{\bar{N}}(2N + 76 - (N + 77)) \\
&= B_{\bar{N}}(N - 5) + B_{\bar{N}}(0) + B_{\bar{N}}(N - 1) = (N - 5) + 0 + (N - 1) = \mathbf{2N} - \mathbf{6} \\
&(N \geq 81)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{77}) &= B_{\bar{N}}(2N + 77 - B_{\bar{N}}(2N + 76)) + B_{\bar{N}}(2N + 77 - B_{\bar{N}}(2N + 75)) + B_{\bar{N}}(2N + 77 - B_{\bar{N}}(2N + 74)) \\
&= B_{\bar{N}}(2N + 77 - (2N - 6)) + B_{\bar{N}}(2N + 77 - (N + 81)) + B_{\bar{N}}(2N + 77 - (2N + 76)) \\
&= B_{\bar{N}}(83) + B_{\bar{N}}(N - 4) + B_{\bar{N}}(1) = 83 + (N - 4) + 1 = \mathbf{N} + \mathbf{80} \\
&(N \geq 85)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{78}) &= B_{\bar{N}}(2N + 78 - B_{\bar{N}}(2N + 77)) + B_{\bar{N}}(2N + 78 - B_{\bar{N}}(2N + 76)) + B_{\bar{N}}(2N + 78 - B_{\bar{N}}(2N + 75)) \\
&= B_{\bar{N}}(2N + 78 - (N + 80)) + B_{\bar{N}}(2N + 78 - (2N - 6)) + B_{\bar{N}}(2N + 78 - (N + 81)) \\
&= B_{\bar{N}}(N - 2) + B_{\bar{N}}(84) + B_{\bar{N}}(N - 3) = (N - 2) + 84 + (N - 3) = \mathbf{2N} + \mathbf{79} \\
&(N \geq 86)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{79}) &= B_{\bar{N}}(2N + 79 - B_{\bar{N}}(2N + 78)) + B_{\bar{N}}(2N + 79 - B_{\bar{N}}(2N + 77)) + B_{\bar{N}}(2N + 79 - B_{\bar{N}}(2N + 76)) \\
&= B_{\bar{N}}(2N + 79 - (2N + 79)) + B_{\bar{N}}(2N + 79 - (N + 80)) + B_{\bar{N}}(2N + 79 - (2N - 6)) \\
&= B_{\bar{N}}(0) + B_{\bar{N}}(N - 1) + B_{\bar{N}}(85) = 0 + (N - 1) + 85 = \mathbf{N} + \mathbf{84} \\
&(N \geq 87)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{80}) &= B_{\bar{N}}(2N + 80 - B_{\bar{N}}(2N + 79)) + B_{\bar{N}}(2N + 80 - B_{\bar{N}}(2N + 78)) + B_{\bar{N}}(2N + 80 - B_{\bar{N}}(2N + 77)) \\
&= B_{\bar{N}}(2N + 80 - (N + 84)) + B_{\bar{N}}(2N + 80 - (2N + 79)) + B_{\bar{N}}(2N + 80 - (N + 80)) \\
&= B_{\bar{N}}(N - 4) + B_{\bar{N}}(1) + B_{\bar{N}}(N) = (N - 4) + 1 + N = \mathbf{2N} - \mathbf{3} \\
&(N \geq 82)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{81}) &= B_{\bar{N}}(2N + 81 - B_{\bar{N}}(2N + 80)) + B_{\bar{N}}(2N + 81 - B_{\bar{N}}(2N + 79)) + B_{\bar{N}}(2N + 81 - B_{\bar{N}}(2N + 78)) \\
&= B_{\bar{N}}(2N + 81 - (2N - 3)) + B_{\bar{N}}(2N + 81 - (N + 84)) + B_{\bar{N}}(2N + 81 - (2N + 79)) \\
&= B_{\bar{N}}(84) + B_{\bar{N}}(N - 3) + B_{\bar{N}}(2) = 84 + (N - 3) + 2 = \mathbf{N} + \mathbf{83} \\
&(N \geq 84)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{82}) &= B_{\bar{N}}(2N + 82 - B_{\bar{N}}(2N + 81)) + B_{\bar{N}}(2N + 82 - B_{\bar{N}}(2N + 80)) + B_{\bar{N}}(2N + 82 - B_{\bar{N}}(2N + 79)) \\
&= B_{\bar{N}}(2N + 82 - (N + 83)) + B_{\bar{N}}(2N + 82 - (2N - 3)) + B_{\bar{N}}(2N + 82 - (N + 84)) \\
&= B_{\bar{N}}(N - 1) + B_{\bar{N}}(85) + B_{\bar{N}}(N - 2) = (N - 1) + 85 + (N - 2) = \mathbf{2N} + \mathbf{82} \\
&(N \geq 85)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{83}) &= B_{\bar{N}}(2N + 83 - B_{\bar{N}}(2N + 82)) + B_{\bar{N}}(2N + 83 - B_{\bar{N}}(2N + 81)) + B_{\bar{N}}(2N + 83 - B_{\bar{N}}(2N + 80)) \\
&= B_{\bar{N}}(2N + 83 - (2N + 82)) + B_{\bar{N}}(2N + 83 - (N + 83)) + B_{\bar{N}}(2N + 83 - (2N - 3)) \\
&= B_{\bar{N}}(1) + B_{\bar{N}}(N) + B_{\bar{N}}(86) = 1 + N + 86 = \mathbf{N} + \mathbf{87} \\
&(N \geq 87)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 84) &= B_{\bar{N}}(2N + 84 - B_{\bar{N}}(2N + 83)) + B_{\bar{N}}(2N + 84 - B_{\bar{N}}(2N + 82)) + B_{\bar{N}}(2N + 84 - B_{\bar{N}}(2N + 81)) \\
&= B_{\bar{N}}(2N + 84 - (N + 87)) + B_{\bar{N}}(2N + 84 - (2N + 82)) + B_{\bar{N}}(2N + 84 - (N + 83)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(2) + B_{\bar{N}}(N + 1) = (N - 3) + 2 + 6 = \mathbf{N} + \mathbf{5} \\
&(N \geq 88)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 85) &= B_{\bar{N}}(2N + 85 - B_{\bar{N}}(2N + 84)) + B_{\bar{N}}(2N + 85 - B_{\bar{N}}(2N + 83)) + B_{\bar{N}}(2N + 85 - B_{\bar{N}}(2N + 82)) \\
&= B_{\bar{N}}(2N + 85 - (N + 5)) + B_{\bar{N}}(2N + 85 - (N + 87)) + B_{\bar{N}}(2N + 85 - (2N + 82)) \\
&= B_{\bar{N}}(N + 80) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(3) = 7 + (N - 2) + 3 = \mathbf{N} + \mathbf{8} \\
&(N \geq 89)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 86) &= B_{\bar{N}}(2N + 86 - B_{\bar{N}}(2N + 85)) + B_{\bar{N}}(2N + 86 - B_{\bar{N}}(2N + 84)) + B_{\bar{N}}(2N + 86 - B_{\bar{N}}(2N + 83)) \\
&= B_{\bar{N}}(2N + 86 - (N + 8)) + B_{\bar{N}}(2N + 86 - (N + 5)) + B_{\bar{N}}(2N + 86 - (N + 87)) \\
&= B_{\bar{N}}(N + 78) + B_{\bar{N}}(N + 81) + B_{\bar{N}}(N - 1) = (N + 79) + (2N + 67) + (N - 1) = \mathbf{4N} + \mathbf{145} \\
&(N \geq 80)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 87) &= B_{\bar{N}}(2N + 87 - B_{\bar{N}}(2N + 86)) + B_{\bar{N}}(2N + 87 - B_{\bar{N}}(2N + 85)) + B_{\bar{N}}(2N + 87 - B_{\bar{N}}(2N + 84)) \\
&= B_{\bar{N}}(2N + 87 - (4N + 145)) + B_{\bar{N}}(2N + 87 - (N + 8)) + B_{\bar{N}}(2N + 87 - (N + 5)) \\
&= B_{\bar{N}}(-2N - 58) + B_{\bar{N}}(N + 79) + B_{\bar{N}}(N + 82) = 0 + (N + 81) + (2N + 4) = \mathbf{3N} + \mathbf{85} \\
&(N \geq 85)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 88) &= B_{\bar{N}}(2N + 88 - B_{\bar{N}}(2N + 87)) + B_{\bar{N}}(2N + 88 - B_{\bar{N}}(2N + 86)) + B_{\bar{N}}(2N + 88 - B_{\bar{N}}(2N + 85)) \\
&= B_{\bar{N}}(2N + 88 - (3N + 85)) + B_{\bar{N}}(2N + 88 - (4N + 145)) + B_{\bar{N}}(2N + 88 - (N + 8)) \\
&= B_{\bar{N}}(-N + 3) + B_{\bar{N}}(-2N - 57) + B_{\bar{N}}(N + 80) = 0 + 0 + 7 = \mathbf{7} \\
&(N \geq 86)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 89) &= B_{\bar{N}}(2N + 89 - B_{\bar{N}}(2N + 88)) + B_{\bar{N}}(2N + 89 - B_{\bar{N}}(2N + 87)) + B_{\bar{N}}(2N + 89 - B_{\bar{N}}(2N + 86)) \\
&= B_{\bar{N}}(2N + 89 - 7) + B_{\bar{N}}(2N + 89 - (3N + 85)) + B_{\bar{N}}(2N + 89 - (4N + 145)) \\
&= B_{\bar{N}}(2N + 82) + B_{\bar{N}}(-N + 4) + B_{\bar{N}}(-2N - 56) = (2N + 82) + 0 + 0 = \mathbf{2N} + \mathbf{82} \\
&(N \geq 87)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 90) &= B_{\bar{N}}(2N + 90 - B_{\bar{N}}(2N + 89)) + B_{\bar{N}}(2N + 90 - B_{\bar{N}}(2N + 88)) + B_{\bar{N}}(2N + 90 - B_{\bar{N}}(2N + 87)) \\
&= B_{\bar{N}}(2N + 90 - (2N + 82)) + B_{\bar{N}}(2N + 90 - 7) + B_{\bar{N}}(2N + 90 - (3N + 85)) \\
&= B_{\bar{N}}(8) + B_{\bar{N}}(2N + 83) + B_{\bar{N}}(-N + 5) = 8 + (N + 87) + 0 = \mathbf{N} + \mathbf{95} \\
&(N \geq 148)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 91) &= B_{\bar{N}}(2N + 91 - B_{\bar{N}}(2N + 90)) + B_{\bar{N}}(2N + 91 - B_{\bar{N}}(2N + 89)) + B_{\bar{N}}(2N + 91 - B_{\bar{N}}(2N + 88)) \\
&= B_{\bar{N}}(2N + 91 - (N + 95)) + B_{\bar{N}}(2N + 91 - (2N + 82)) + B_{\bar{N}}(2N + 91 - 7) \\
&= B_{\bar{N}}(N - 4) + B_{\bar{N}}(9) + B_{\bar{N}}(2N + 84) = (N - 4) + 9 + (N + 5) = \mathbf{2N} + \mathbf{10} \\
&(N \geq 147)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 92) &= B_{\bar{N}}(2N + 92 - B_{\bar{N}}(2N + 91)) + B_{\bar{N}}(2N + 92 - B_{\bar{N}}(2N + 90)) + B_{\bar{N}}(2N + 92 - B_{\bar{N}}(2N + 89)) \\
&= B_{\bar{N}}(2N + 92 - (2N + 10)) + B_{\bar{N}}(2N + 92 - (N + 95)) + B_{\bar{N}}(2N + 92 - (2N + 82)) \\
&= B_{\bar{N}}(82) + B_{\bar{N}}(N - 3) + B_{\bar{N}}(10) = 82 + (N - 3) + 10 = \mathbf{N} + \mathbf{89} \\
&(N \geq 146)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 93) &= B_{\bar{N}}(2N + 93 - B_{\bar{N}}(2N + 92)) + B_{\bar{N}}(2N + 93 - B_{\bar{N}}(2N + 91)) + B_{\bar{N}}(2N + 93 - B_{\bar{N}}(2N + 90)) \\
&= B_{\bar{N}}(2N + 93 - (N + 89)) + B_{\bar{N}}(2N + 93 - (2N + 10)) + B_{\bar{N}}(2N + 93 - (N + 95)) \\
&= B_{\bar{N}}(N + 4) + B_{\bar{N}}(83) + B_{\bar{N}}(N - 2) = (N + 3) + 83 + (N - 2) = \mathbf{2N} + \mathbf{84} \\
&(N \geq 165)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 94) &= B_{\bar{N}}(2N + 94 - B_{\bar{N}}(2N + 93)) + B_{\bar{N}}(2N + 94 - B_{\bar{N}}(2N + 92)) + B_{\bar{N}}(2N + 94 - B_{\bar{N}}(2N + 91)) \\
&= B_{\bar{N}}(2N + 94 - (2N + 84)) + B_{\bar{N}}(2N + 94 - (N + 89)) + B_{\bar{N}}(2N + 94 - (2N + 10)) \\
&= B_{\bar{N}}(10) + B_{\bar{N}}(N + 5) + B_{\bar{N}}(84) = 10 + 9 + 84 = \mathbf{103} \\
&(N \geq 166)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 95) &= B_{\bar{N}}(2N + 95 - B_{\bar{N}}(2N + 94)) + B_{\bar{N}}(2N + 95 - B_{\bar{N}}(2N + 93)) + B_{\bar{N}}(2N + 95 - B_{\bar{N}}(2N + 92)) \\
&= B_{\bar{N}}(2N + 95 - 103) + B_{\bar{N}}(2N + 95 - (2N + 84)) + B_{\bar{N}}(2N + 95 - (N + 89)) \\
&= B_{\bar{N}}(2N - 8) + B_{\bar{N}}(11) + B_{\bar{N}}(N + 6) = \left(\frac{16N}{7} + \frac{291}{7} \right) + 11 + (N + 4) = \frac{23\mathbf{N}}{7} + \frac{396}{7} \\
&(N \geq 167)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 96) &= B_{\bar{N}}(2N + 96 - B_{\bar{N}}(2N + 95)) + B_{\bar{N}}(2N + 96 - B_{\bar{N}}(2N + 94)) + B_{\bar{N}}(2N + 96 - B_{\bar{N}}(2N + 93)) \\
&= B_{\bar{N}}\left(2N + 96 - \left(\frac{23N}{7} + \frac{396}{7}\right)\right) + B_{\bar{N}}(2N + 96 - 103) + B_{\bar{N}}(2N + 96 - (2N + 84)) \\
&= B_{\bar{N}}\left(-\frac{9N}{7} + \frac{276}{7}\right) + B_{\bar{N}}(2N - 7) + B_{\bar{N}}(12) = 0 + \left(\frac{15N}{7} - \frac{61}{7}\right) + 12 = \frac{15\mathbf{N}}{7} + \frac{23}{7} \\
&(N \geq 162)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 97) &= B_{\bar{N}}(2N + 97 - B_{\bar{N}}(2N + 96)) + B_{\bar{N}}(2N + 97 - B_{\bar{N}}(2N + 95)) + B_{\bar{N}}(2N + 97 - B_{\bar{N}}(2N + 94)) \\
&= B_{\bar{N}}\left(2N + 97 - \left(\frac{15N}{7} + \frac{23}{7}\right)\right) + B_{\bar{N}}\left(2N + 97 - \left(\frac{23N}{7} + \frac{396}{7}\right)\right) + B_{\bar{N}}(2N + 97 - 103) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{656}{7}\right) + B_{\bar{N}}\left(-\frac{9N}{7} + \frac{283}{7}\right) + B_{\bar{N}}(2N - 6) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{656})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 98) &= B_{\bar{N}}(2N + 98 - B_{\bar{N}}(2N + 97)) + B_{\bar{N}}(2N + 98 - B_{\bar{N}}(2N + 96)) + B_{\bar{N}}(2N + 98 - B_{\bar{N}}(2N + 95)) \\
&= B_{\bar{N}}(2N + 98 - (N - 2)) + B_{\bar{N}}\left(2N + 98 - \left(\frac{15N}{7} + \frac{23}{7}\right)\right) + B_{\bar{N}}\left(2N + 98 - \left(\frac{23N}{7} + \frac{396}{7}\right)\right) \\
&= B_{\bar{N}}(N + 100) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{663}{7}\right) + B_{\bar{N}}\left(-\frac{9N}{7} + \frac{290}{7}\right) = (N + 102) + 0 + 0 = \mathbf{N} + \mathbf{102} \\
&(\mathbf{N} \geq \mathbf{663})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 99) &= B_{\bar{N}}(2N + 99 - B_{\bar{N}}(2N + 98)) + B_{\bar{N}}(2N + 99 - B_{\bar{N}}(2N + 97)) + B_{\bar{N}}(2N + 99 - B_{\bar{N}}(2N + 96)) \\
&= B_{\bar{N}}(2N + 99 - (N + 102)) + B_{\bar{N}}(2N + 99 - (N - 2)) + B_{\bar{N}}\left(2N + 99 - \left(\frac{15N}{7} + \frac{23}{7}\right)\right) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(N + 101) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{670}{7}\right) = (N - 3) + 7 + 0 = \mathbf{N} + \mathbf{4} \\
&(\mathbf{N} \geq \mathbf{670})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 100) &= B_{\bar{N}}(2N + 100 - B_{\bar{N}}(2N + 99)) + B_{\bar{N}}(2N + 100 - B_{\bar{N}}(2N + 98)) + B_{\bar{N}}(2N + 100 - B_{\bar{N}}(2N + 97)) \\
&= B_{\bar{N}}(2N + 100 - (N + 4)) + B_{\bar{N}}(2N + 100 - (N + 102)) + B_{\bar{N}}(2N + 100 - (N - 2)) \\
&= B_{\bar{N}}(N + 96) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(N + 102) = (2N + 6) + (N - 2) + (2N + 73) = \mathbf{5N} + \mathbf{77} \\
&(N \geq 96)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 101) &= B_{\bar{N}}(2N + 101 - B_{\bar{N}}(2N + 100)) + B_{\bar{N}}(2N + 101 - B_{\bar{N}}(2N + 99)) + B_{\bar{N}}(2N + 101 - B_{\bar{N}}(2N + 98)) \\
&= B_{\bar{N}}(2N + 101 - (5N + 77)) + B_{\bar{N}}(2N + 101 - (N + 4)) + B_{\bar{N}}(2N + 101 - (N + 102)) \\
&= B_{\bar{N}}(-3N + 24) + B_{\bar{N}}(N + 97) + B_{\bar{N}}(N - 1) = 0 + (N - 2) + (N - 1) = \mathbf{2N} - \mathbf{3} \\
&(N \geq 167)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{102}) &= B_{\bar{N}}(2N + 102 - B_{\bar{N}}(2N + 101)) + B_{\bar{N}}(2N + 102 - B_{\bar{N}}(2N + 100)) + B_{\bar{N}}(2N + 102 - B_{\bar{N}}(2N + 99)) \\
&= B_{\bar{N}}(2N + 102 - (2N - 3)) + B_{\bar{N}}(2N + 102 - (5N + 77)) + B_{\bar{N}}(2N + 102 - (N + 4)) \\
&= B_{\bar{N}}(105) + B_{\bar{N}}(-3N + 25) + B_{\bar{N}}(N + 98) = 105 + 0 + 100 = \mathbf{205} \\
&(N \geq 168)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{103}) &= B_{\bar{N}}(2N + 103 - B_{\bar{N}}(2N + 102)) + B_{\bar{N}}(2N + 103 - B_{\bar{N}}(2N + 101)) + B_{\bar{N}}(2N + 103 - B_{\bar{N}}(2N + 100)) \\
&= B_{\bar{N}}(2N + 103 - 205) + B_{\bar{N}}(2N + 103 - (2N - 3)) + B_{\bar{N}}(2N + 103 - (5N + 77)) \\
&= B_{\bar{N}}(2N - 102) + B_{\bar{N}}(106) + B_{\bar{N}}(-3N + 26) = (2N - 101) + 106 + 0 = \mathbf{2N} + \mathbf{5} \\
&(N \geq 169)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{104}) &= B_{\bar{N}}(2N + 104 - B_{\bar{N}}(2N + 103)) + B_{\bar{N}}(2N + 104 - B_{\bar{N}}(2N + 102)) + B_{\bar{N}}(2N + 104 - B_{\bar{N}}(2N + 101)) \\
&= B_{\bar{N}}(2N + 104 - (2N + 5)) + B_{\bar{N}}(2N + 104 - 205) + B_{\bar{N}}(2N + 104 - (2N - 3)) \\
&= B_{\bar{N}}(99) + B_{\bar{N}}(2N - 101) + B_{\bar{N}}(107) = 99 + (2N - 99) + 107 = \mathbf{2N} + \mathbf{107} \\
&(N \geq 168)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{105}) &= B_{\bar{N}}(2N + 105 - B_{\bar{N}}(2N + 104)) + B_{\bar{N}}(2N + 105 - B_{\bar{N}}(2N + 103)) + B_{\bar{N}}(2N + 105 - B_{\bar{N}}(2N + 102)) \\
&= B_{\bar{N}}(2N + 105 - (2N + 107)) + B_{\bar{N}}(2N + 105 - (2N + 5)) + B_{\bar{N}}(2N + 105 - 205) \\
&= B_{\bar{N}}(-2) + B_{\bar{N}}(100) + B_{\bar{N}}(2N - 100) = 0 + 100 + 7 = \mathbf{107} \\
&(N \geq 168)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{106}) &= B_{\bar{N}}(2N + 106 - B_{\bar{N}}(2N + 105)) + B_{\bar{N}}(2N + 106 - B_{\bar{N}}(2N + 104)) + B_{\bar{N}}(2N + 106 - B_{\bar{N}}(2N + 103)) \\
&= B_{\bar{N}}(2N + 106 - 107) + B_{\bar{N}}(2N + 106 - (2N + 107)) + B_{\bar{N}}(2N + 106 - (2N + 5)) \\
&= B_{\bar{N}}(2N - 1) + B_{\bar{N}}(-1) + B_{\bar{N}}(101) = \left(\frac{16N}{7} + \frac{305}{7} \right) + 0 + 101 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{1012}}{\mathbf{7}} \\
&(N \geq 169)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 107) &= B_{\bar{N}}(2N + 107 - B_{\bar{N}}(2N + 106)) + B_{\bar{N}}(2N + 107 - B_{\bar{N}}(2N + 105)) + B_{\bar{N}}(2N + 107 - B_{\bar{N}}(2N + 104)) \\
&= B_{\bar{N}}\left(2N + 107 - \left(\frac{16N}{7} + \frac{1012}{7}\right)\right) + B_{\bar{N}}(2N + 107 - 107) + B_{\bar{N}}(2N + 107 - (2N + 107)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} - \frac{263}{7}\right) + B_{\bar{N}}(2N) + B_{\bar{N}}(0) = 0 + \left(\frac{15N}{7} - \frac{54}{7}\right) + 0 = \frac{15\mathbf{N}}{7} - \frac{54}{7} \\
&\quad (N \geq 170)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 108) &= B_{\bar{N}}(2N + 108 - B_{\bar{N}}(2N + 107)) + B_{\bar{N}}(2N + 108 - B_{\bar{N}}(2N + 106)) + B_{\bar{N}}(2N + 108 - B_{\bar{N}}(2N + 105)) \\
&= B_{\bar{N}}\left(2N + 108 - \left(\frac{15N}{7} - \frac{54}{7}\right)\right) + B_{\bar{N}}\left(2N + 108 - \left(\frac{16N}{7} + \frac{1012}{7}\right)\right) + B_{\bar{N}}(2N + 108 - 107) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{810}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} - \frac{256}{7}\right) + B_{\bar{N}}(2N + 1) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&\quad (\mathbf{N} \geq 810)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 109) &= B_{\bar{N}}(2N + 109 - B_{\bar{N}}(2N + 108)) + B_{\bar{N}}(2N + 109 - B_{\bar{N}}(2N + 107)) + B_{\bar{N}}(2N + 109 - B_{\bar{N}}(2N + 106)) \\
&= B_{\bar{N}}(2N + 109 - (N - 2)) + B_{\bar{N}}\left(2N + 109 - \left(\frac{15N}{7} - \frac{54}{7}\right)\right) + B_{\bar{N}}\left(2N + 109 - \left(\frac{16N}{7} + \frac{1012}{7}\right)\right) \\
&= B_{\bar{N}}(N + 111) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{817}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} - \frac{249}{7}\right) = (N - 2) + 0 + 0 = \mathbf{N} - 2 \\
&\quad (\mathbf{N} \geq 817)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 110) &= B_{\bar{N}}(2N + 110 - B_{\bar{N}}(2N + 109)) + B_{\bar{N}}(2N + 110 - B_{\bar{N}}(2N + 108)) + B_{\bar{N}}(2N + 110 - B_{\bar{N}}(2N + 107)) \\
&= B_{\bar{N}}(2N + 110 - (N - 2)) + B_{\bar{N}}(2N + 110 - (N - 2)) + B_{\bar{N}}\left(2N + 110 - \left(\frac{15N}{7} - \frac{54}{7}\right)\right) \\
&= B_{\bar{N}}(N + 112) + B_{\bar{N}}(N + 112) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{824}{7}\right) = 114 + 114 + 0 = \mathbf{228} \\
&\quad (\mathbf{N} \geq 824)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 111) &= B_{\bar{N}}(2N + 111 - B_{\bar{N}}(2N + 110)) + B_{\bar{N}}(2N + 111 - B_{\bar{N}}(2N + 109)) + B_{\bar{N}}(2N + 111 - B_{\bar{N}}(2N + 108)) \\
&= B_{\bar{N}}(2N + 111 - 228) + B_{\bar{N}}(2N + 111 - (N - 2)) + B_{\bar{N}}(2N + 111 - (N - 2)) \\
&= B_{\bar{N}}(2N - 117) + B_{\bar{N}}(N + 113) + B_{\bar{N}}(N + 113) = (N - 115) + (N + 114) + (N + 114) = \mathbf{3N} + \mathbf{113} \\
&(N \geq 184)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 112) &= B_{\bar{N}}(2N + 112 - B_{\bar{N}}(2N + 111)) + B_{\bar{N}}(2N + 112 - B_{\bar{N}}(2N + 110)) + B_{\bar{N}}(2N + 112 - B_{\bar{N}}(2N + 109)) \\
&= B_{\bar{N}}(2N + 112 - (3N + 113)) + B_{\bar{N}}(2N + 112 - 228) + B_{\bar{N}}(2N + 112 - (N - 2)) \\
&= B_{\bar{N}}(-N - 1) + B_{\bar{N}}(2N - 116) + B_{\bar{N}}(N + 114) = 0 + (2N - 115) + (N + 116) = \mathbf{3N} + \mathbf{1} \\
&(N \geq 183)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 113) &= B_{\bar{N}}(2N + 113 - B_{\bar{N}}(2N + 112)) + B_{\bar{N}}(2N + 113 - B_{\bar{N}}(2N + 111)) + B_{\bar{N}}(2N + 113 - B_{\bar{N}}(2N + 110)) \\
&= B_{\bar{N}}(2N + 113 - (3N + 1)) + B_{\bar{N}}(2N + 113 - (3N + 113)) + B_{\bar{N}}(2N + 113 - 228) \\
&= B_{\bar{N}}(-N + 112) + B_{\bar{N}}(-N) + B_{\bar{N}}(2N - 115) = 0 + 0 + (2N - 113) = \mathbf{2N} - \mathbf{113} \\
&(N \geq 182)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 114) &= B_{\bar{N}}(2N + 114 - B_{\bar{N}}(2N + 113)) + B_{\bar{N}}(2N + 114 - B_{\bar{N}}(2N + 112)) + B_{\bar{N}}(2N + 114 - B_{\bar{N}}(2N + 111)) \\
&= B_{\bar{N}}(2N + 114 - (2N - 113)) + B_{\bar{N}}(2N + 114 - (3N + 1)) + B_{\bar{N}}(2N + 114 - (3N + 113)) \\
&= B_{\bar{N}}(227) + B_{\bar{N}}(-N + 113) + B_{\bar{N}}(-N + 1) = 227 + 0 + 0 = \mathbf{227} \\
&(N \geq 227)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 115) &= B_{\bar{N}}(2N + 115 - B_{\bar{N}}(2N + 114)) + B_{\bar{N}}(2N + 115 - B_{\bar{N}}(2N + 113)) + B_{\bar{N}}(2N + 115 - B_{\bar{N}}(2N + 112)) \\
&= B_{\bar{N}}(2N + 115 - 227) + B_{\bar{N}}(2N + 115 - (2N - 113)) + B_{\bar{N}}(2N + 115 - (3N + 1)) \\
&= B_{\bar{N}}(2N - 112) + B_{\bar{N}}(228) + B_{\bar{N}}(-N + 114) = \left(\frac{15N}{7} - \frac{166}{7} \right) + 228 + 0 = \frac{\mathbf{15N}}{\mathbf{7}} + \frac{\mathbf{1430}}{\mathbf{7}} \\
&(N \geq 228)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{116}) &= B_{\bar{N}}(2N + 116 - B_{\bar{N}}(2N + 115)) + B_{\bar{N}}(2N + 116 - B_{\bar{N}}(2N + 114)) + B_{\bar{N}}(2N + 116 - B_{\bar{N}}(2N + 113)) \\
&= B_{\bar{N}}\left(2N + 116 - \left(\frac{15N}{7} + \frac{1430}{7}\right)\right) + B_{\bar{N}}(2N + 116 - 227) + B_{\bar{N}}(2N + 116 - (2N - 113)) \\
&= B_{\bar{N}}\left(-\frac{N}{7} - \frac{618}{7}\right) + B_{\bar{N}}(2N - 111) + B_{\bar{N}}(229) = 0 + (N - 2) + 229 = \mathbf{N} + \mathbf{227} \\
&(N \geq 229)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{117}) &= B_{\bar{N}}(2N + 117 - B_{\bar{N}}(2N + 116)) + B_{\bar{N}}(2N + 117 - B_{\bar{N}}(2N + 115)) + B_{\bar{N}}(2N + 117 - B_{\bar{N}}(2N + 114)) \\
&= B_{\bar{N}}(2N + 117 - (N + 227)) + B_{\bar{N}}\left(2N + 117 - \left(\frac{15N}{7} + \frac{1430}{7}\right)\right) + B_{\bar{N}}(2N + 117 - 227) \\
&= B_{\bar{N}}(N - 110) + B_{\bar{N}}\left(-\frac{N}{7} - \frac{611}{7}\right) + B_{\bar{N}}(2N - 110) = (N - 110) + 0 + (N - 108) = \mathbf{2N} - \mathbf{218} \\
&(N \geq 177)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{118}) &= B_{\bar{N}}(2N + 118 - B_{\bar{N}}(2N + 117)) + B_{\bar{N}}(2N + 118 - B_{\bar{N}}(2N + 116)) + B_{\bar{N}}(2N + 118 - B_{\bar{N}}(2N + 115)) \\
&= B_{\bar{N}}(2N + 118 - (2N - 218)) + B_{\bar{N}}(2N + 118 - (N + 227)) + B_{\bar{N}}\left(2N + 118 - \left(\frac{15N}{7} + \frac{1430}{7}\right)\right) \\
&= B_{\bar{N}}(336) + B_{\bar{N}}(N - 109) + B_{\bar{N}}\left(-\frac{N}{7} - \frac{604}{7}\right) = 336 + (N - 109) + 0 = \mathbf{N} + \mathbf{227} \\
&(N \geq 336)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{119}) &= B_{\bar{N}}(2N + 119 - B_{\bar{N}}(2N + 118)) + B_{\bar{N}}(2N + 119 - B_{\bar{N}}(2N + 117)) + B_{\bar{N}}(2N + 119 - B_{\bar{N}}(2N + 116)) \\
&= B_{\bar{N}}(2N + 119 - (N + 227)) + B_{\bar{N}}(2N + 119 - (2N - 218)) + B_{\bar{N}}(2N + 119 - (N + 227)) \\
&= B_{\bar{N}}(N - 108) + B_{\bar{N}}(337) + B_{\bar{N}}(N - 108) = (N - 108) + 337 + (N - 108) = \mathbf{2N} + \mathbf{121} \\
&(N \geq 337)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{120}) &= B_{\bar{N}}(2N + 120 - B_{\bar{N}}(2N + 119)) + B_{\bar{N}}(2N + 120 - B_{\bar{N}}(2N + 118)) + B_{\bar{N}}(2N + 120 - B_{\bar{N}}(2N + 117)) \\
&= B_{\bar{N}}(2N + 120 - (2N + 121)) + B_{\bar{N}}(2N + 120 - (N + 227)) + B_{\bar{N}}(2N + 120 - (2N - 218)) \\
&= B_{\bar{N}}(-1) + B_{\bar{N}}(N - 107) + B_{\bar{N}}(338) = 0 + (N - 107) + 338 = \mathbf{N} + \mathbf{231} \\
&(N \geq 338)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{121}) &= B_{\bar{N}}(2N + 121 - B_{\bar{N}}(2N + 120)) + B_{\bar{N}}(2N + 121 - B_{\bar{N}}(2N + 119)) + B_{\bar{N}}(2N + 121 - B_{\bar{N}}(2N + 118)) \\
&= B_{\bar{N}}(2N + 121 - (N + 231)) + B_{\bar{N}}(2N + 121 - (2N + 121)) + B_{\bar{N}}(2N + 121 - (N + 227)) \\
&= B_{\bar{N}}(N - 110) + B_{\bar{N}}(0) + B_{\bar{N}}(N - 106) = (N - 110) + 0 + (N - 106) = \mathbf{2N} - \mathbf{216} \\
&(N \geq 143)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{122}) &= B_{\bar{N}}(2N + 122 - B_{\bar{N}}(2N + 121)) + B_{\bar{N}}(2N + 122 - B_{\bar{N}}(2N + 120)) + B_{\bar{N}}(2N + 122 - B_{\bar{N}}(2N + 119)) \\
&= B_{\bar{N}}(2N + 122 - (2N - 216)) + B_{\bar{N}}(2N + 122 - (N + 231)) + B_{\bar{N}}(2N + 122 - (2N + 121)) \\
&= B_{\bar{N}}(338) + B_{\bar{N}}(N - 109) + B_{\bar{N}}(1) = 338 + (N - 109) + 1 = \mathbf{N} + \mathbf{230} \\
&(N \geq 338)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{123}) &= B_{\bar{N}}(2N + 123 - B_{\bar{N}}(2N + 122)) + B_{\bar{N}}(2N + 123 - B_{\bar{N}}(2N + 121)) + B_{\bar{N}}(2N + 123 - B_{\bar{N}}(2N + 120)) \\
&= B_{\bar{N}}(2N + 123 - (N + 230)) + B_{\bar{N}}(2N + 123 - (2N - 216)) + B_{\bar{N}}(2N + 123 - (N + 231)) \\
&= B_{\bar{N}}(N - 107) + B_{\bar{N}}(339) + B_{\bar{N}}(N - 108) = (N - 107) + 339 + (N - 108) = \mathbf{2N} + \mathbf{124} \\
&(N \geq 339)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{124}) &= B_{\bar{N}}(2N + 124 - B_{\bar{N}}(2N + 123)) + B_{\bar{N}}(2N + 124 - B_{\bar{N}}(2N + 122)) + B_{\bar{N}}(2N + 124 - B_{\bar{N}}(2N + 121)) \\
&= B_{\bar{N}}(2N + 124 - (2N + 124)) + B_{\bar{N}}(2N + 124 - (N + 230)) + B_{\bar{N}}(2N + 124 - (2N - 216)) \\
&= B_{\bar{N}}(0) + B_{\bar{N}}(N - 106) + B_{\bar{N}}(340) = 0 + (N - 106) + 340 = \mathbf{N} + \mathbf{234} \\
&(N \geq 340)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 125) &= B_{\bar{N}}(2N + 125 - B_{\bar{N}}(2N + 124)) + B_{\bar{N}}(2N + 125 - B_{\bar{N}}(2N + 123)) + B_{\bar{N}}(2N + 125 - B_{\bar{N}}(2N + 122)) \\
&= B_{\bar{N}}(2N + 125 - (N + 234)) + B_{\bar{N}}(2N + 125 - (2N + 124)) + B_{\bar{N}}(2N + 125 - (N + 230)) \\
&= B_{\bar{N}}(N - 109) + B_{\bar{N}}(1) + B_{\bar{N}}(N - 105) = (N - 109) + 1 + (N - 105) = \mathbf{2N} - \mathbf{213} \\
&(N \geq 315)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 126) &= B_{\bar{N}}(2N + 126 - B_{\bar{N}}(2N + 125)) + B_{\bar{N}}(2N + 126 - B_{\bar{N}}(2N + 124)) + B_{\bar{N}}(2N + 126 - B_{\bar{N}}(2N + 123)) \\
&= B_{\bar{N}}(2N + 126 - (2N - 213)) + B_{\bar{N}}(2N + 126 - (N + 234)) + B_{\bar{N}}(2N + 126 - (2N + 124)) \\
&= B_{\bar{N}}(339) + B_{\bar{N}}(N - 108) + B_{\bar{N}}(2) = 339 + (N - 108) + 2 = \mathbf{N} + \mathbf{233} \\
&(N \geq 339)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 127) &= B_{\bar{N}}(2N + 127 - B_{\bar{N}}(2N + 126)) + B_{\bar{N}}(2N + 127 - B_{\bar{N}}(2N + 125)) + B_{\bar{N}}(2N + 127 - B_{\bar{N}}(2N + 124)) \\
&= B_{\bar{N}}(2N + 127 - (N + 233)) + B_{\bar{N}}(2N + 127 - (2N - 213)) + B_{\bar{N}}(2N + 127 - (N + 234)) \\
&= B_{\bar{N}}(N - 106) + B_{\bar{N}}(340) + B_{\bar{N}}(N - 107) = (N - 106) + 340 + (N - 107) = \mathbf{2N} + \mathbf{127} \\
&(N \geq 340)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 128) &= B_{\bar{N}}(2N + 128 - B_{\bar{N}}(2N + 127)) + B_{\bar{N}}(2N + 128 - B_{\bar{N}}(2N + 126)) + B_{\bar{N}}(2N + 128 - B_{\bar{N}}(2N + 125)) \\
&= B_{\bar{N}}(2N + 128 - (2N + 127)) + B_{\bar{N}}(2N + 128 - (N + 233)) + B_{\bar{N}}(2N + 128 - (2N - 213)) \\
&= B_{\bar{N}}(1) + B_{\bar{N}}(N - 105) + B_{\bar{N}}(341) = 1 + (N - 105) + 341 = \mathbf{N} + \mathbf{237} \\
&(N \geq 341)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 129) &= B_{\bar{N}}(2N + 129 - B_{\bar{N}}(2N + 128)) + B_{\bar{N}}(2N + 129 - B_{\bar{N}}(2N + 127)) + B_{\bar{N}}(2N + 129 - B_{\bar{N}}(2N + 126)) \\
&= B_{\bar{N}}(2N + 129 - (N + 237)) + B_{\bar{N}}(2N + 129 - (2N + 127)) + B_{\bar{N}}(2N + 129 - (N + 233)) \\
&= B_{\bar{N}}(N - 108) + B_{\bar{N}}(2) + B_{\bar{N}}(N - 104) = (N - 108) + 2 + (N - 104) = \mathbf{2N} - \mathbf{210} \\
&(N \geq 270)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{130}) &= B_{\bar{N}}(2N + 130 - B_{\bar{N}}(2N + 129)) + B_{\bar{N}}(2N + 130 - B_{\bar{N}}(2N + 128)) + B_{\bar{N}}(2N + 130 - B_{\bar{N}}(2N + 127)) \\
&= B_{\bar{N}}(2N + 130 - (2N - 210)) + B_{\bar{N}}(2N + 130 - (N + 237)) + B_{\bar{N}}(2N + 130 - (2N + 127)) \\
&= B_{\bar{N}}(340) + B_{\bar{N}}(N - 107) + B_{\bar{N}}(3) = 340 + (N - 107) + 3 = \mathbf{N} + \mathbf{236} \\
&(N \geq 340)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{131}) &= B_{\bar{N}}(2N + 131 - B_{\bar{N}}(2N + 130)) + B_{\bar{N}}(2N + 131 - B_{\bar{N}}(2N + 129)) + B_{\bar{N}}(2N + 131 - B_{\bar{N}}(2N + 128)) \\
&= B_{\bar{N}}(2N + 131 - (N + 236)) + B_{\bar{N}}(2N + 131 - (2N - 210)) + B_{\bar{N}}(2N + 131 - (N + 237)) \\
&= B_{\bar{N}}(N - 105) + B_{\bar{N}}(341) + B_{\bar{N}}(N - 106) = (N - 105) + 341 + (N - 106) = \mathbf{2N} + \mathbf{130} \\
&(N \geq 341)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{132}) &= B_{\bar{N}}(2N + 132 - B_{\bar{N}}(2N + 131)) + B_{\bar{N}}(2N + 132 - B_{\bar{N}}(2N + 130)) + B_{\bar{N}}(2N + 132 - B_{\bar{N}}(2N + 129)) \\
&= B_{\bar{N}}(2N + 132 - (2N + 130)) + B_{\bar{N}}(2N + 132 - (N + 236)) + B_{\bar{N}}(2N + 132 - (2N - 210)) \\
&= B_{\bar{N}}(2) + B_{\bar{N}}(N - 104) + B_{\bar{N}}(342) = 2 + (N - 104) + 342 = \mathbf{N} + \mathbf{240} \\
&(N \geq 342)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{133}) &= B_{\bar{N}}(2N + 133 - B_{\bar{N}}(2N + 132)) + B_{\bar{N}}(2N + 133 - B_{\bar{N}}(2N + 131)) + B_{\bar{N}}(2N + 133 - B_{\bar{N}}(2N + 130)) \\
&= B_{\bar{N}}(2N + 133 - (N + 240)) + B_{\bar{N}}(2N + 133 - (2N + 130)) + B_{\bar{N}}(2N + 133 - (N + 236)) \\
&= B_{\bar{N}}(N - 107) + B_{\bar{N}}(3) + B_{\bar{N}}(N - 103) = (N - 107) + 3 + (N - 103) = \mathbf{2N} - \mathbf{207} \\
&(N \geq 272)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{134}) &= B_{\bar{N}}(2N + 134 - B_{\bar{N}}(2N + 133)) + B_{\bar{N}}(2N + 134 - B_{\bar{N}}(2N + 132)) + B_{\bar{N}}(2N + 134 - B_{\bar{N}}(2N + 131)) \\
&= B_{\bar{N}}(2N + 134 - (2N - 207)) + B_{\bar{N}}(2N + 134 - (N + 240)) + B_{\bar{N}}(2N + 134 - (2N + 130)) \\
&= B_{\bar{N}}(341) + B_{\bar{N}}(N - 106) + B_{\bar{N}}(4) = 341 + (N - 106) + 4 = \mathbf{N} + \mathbf{239} \\
&(N \geq 341)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 135) &= B_{\bar{N}}(2N + 135 - B_{\bar{N}}(2N + 134)) + B_{\bar{N}}(2N + 135 - B_{\bar{N}}(2N + 133)) + B_{\bar{N}}(2N + 135 - B_{\bar{N}}(2N + 132)) \\
&= B_{\bar{N}}(2N + 135 - (N + 239)) + B_{\bar{N}}(2N + 135 - (2N - 207)) + B_{\bar{N}}(2N + 135 - (N + 240)) \\
&= B_{\bar{N}}(N - 104) + B_{\bar{N}}(342) + B_{\bar{N}}(N - 105) = (N - 104) + 342 + (N - 105) = \mathbf{2N} + \mathbf{133} \\
&(N \geq 342)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 136) &= B_{\bar{N}}(2N + 136 - B_{\bar{N}}(2N + 135)) + B_{\bar{N}}(2N + 136 - B_{\bar{N}}(2N + 134)) + B_{\bar{N}}(2N + 136 - B_{\bar{N}}(2N + 133)) \\
&= B_{\bar{N}}(2N + 136 - (2N + 133)) + B_{\bar{N}}(2N + 136 - (N + 239)) + B_{\bar{N}}(2N + 136 - (2N - 207)) \\
&= B_{\bar{N}}(3) + B_{\bar{N}}(N - 103) + B_{\bar{N}}(343) = 3 + (N - 103) + 343 = \mathbf{N} + \mathbf{243} \\
&(N \geq 343)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 137) &= B_{\bar{N}}(2N + 137 - B_{\bar{N}}(2N + 136)) + B_{\bar{N}}(2N + 137 - B_{\bar{N}}(2N + 135)) + B_{\bar{N}}(2N + 137 - B_{\bar{N}}(2N + 134)) \\
&= B_{\bar{N}}(2N + 137 - (N + 243)) + B_{\bar{N}}(2N + 137 - (2N + 133)) + B_{\bar{N}}(2N + 137 - (N + 239)) \\
&= B_{\bar{N}}(N - 106) + B_{\bar{N}}(4) + B_{\bar{N}}(N - 102) = (N - 106) + 4 + (N - 102) = \mathbf{2N} - \mathbf{204} \\
&(N \geq 273)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 138) &= B_{\bar{N}}(2N + 138 - B_{\bar{N}}(2N + 137)) + B_{\bar{N}}(2N + 138 - B_{\bar{N}}(2N + 136)) + B_{\bar{N}}(2N + 138 - B_{\bar{N}}(2N + 135)) \\
&= B_{\bar{N}}(2N + 138 - (2N - 204)) + B_{\bar{N}}(2N + 138 - (N + 243)) + B_{\bar{N}}(2N + 138 - (2N + 133)) \\
&= B_{\bar{N}}(342) + B_{\bar{N}}(N - 105) + B_{\bar{N}}(5) = 342 + (N - 105) + 5 = \mathbf{N} + \mathbf{242} \\
&(N \geq 342)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 139) &= B_{\bar{N}}(2N + 139 - B_{\bar{N}}(2N + 138)) + B_{\bar{N}}(2N + 139 - B_{\bar{N}}(2N + 137)) + B_{\bar{N}}(2N + 139 - B_{\bar{N}}(2N + 136)) \\
&= B_{\bar{N}}(2N + 139 - (N + 242)) + B_{\bar{N}}(2N + 139 - (2N - 204)) + B_{\bar{N}}(2N + 139 - (N + 243)) \\
&= B_{\bar{N}}(N - 103) + B_{\bar{N}}(343) + B_{\bar{N}}(N - 104) = (N - 103) + 343 + (N - 104) = \mathbf{2N} + \mathbf{136} \\
&(N \geq 343)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 140) &= B_{\bar{N}}(2N + 140 - B_{\bar{N}}(2N + 139)) + B_{\bar{N}}(2N + 140 - B_{\bar{N}}(2N + 138)) + B_{\bar{N}}(2N + 140 - B_{\bar{N}}(2N + 137)) \\
&= B_{\bar{N}}(2N + 140 - (2N + 136)) + B_{\bar{N}}(2N + 140 - (N + 242)) + B_{\bar{N}}(2N + 140 - (2N - 204)) \\
&= B_{\bar{N}}(4) + B_{\bar{N}}(N - 102) + B_{\bar{N}}(344) = 4 + (N - 102) + 344 = \mathbf{N} + \mathbf{246} \\
&(N \geq 344)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 141) &= B_{\bar{N}}(2N + 141 - B_{\bar{N}}(2N + 140)) + B_{\bar{N}}(2N + 141 - B_{\bar{N}}(2N + 139)) + B_{\bar{N}}(2N + 141 - B_{\bar{N}}(2N + 138)) \\
&= B_{\bar{N}}(2N + 141 - (N + 246)) + B_{\bar{N}}(2N + 141 - (2N + 136)) + B_{\bar{N}}(2N + 141 - (N + 242)) \\
&= B_{\bar{N}}(N - 105) + B_{\bar{N}}(5) + B_{\bar{N}}(N - 101) = (N - 105) + 5 + (N - 101) = \mathbf{2N} - \mathbf{201} \\
&(N \geq 274)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 142) &= B_{\bar{N}}(2N + 142 - B_{\bar{N}}(2N + 141)) + B_{\bar{N}}(2N + 142 - B_{\bar{N}}(2N + 140)) + B_{\bar{N}}(2N + 142 - B_{\bar{N}}(2N + 139)) \\
&= B_{\bar{N}}(2N + 142 - (2N - 201)) + B_{\bar{N}}(2N + 142 - (N + 246)) + B_{\bar{N}}(2N + 142 - (2N + 136)) \\
&= B_{\bar{N}}(343) + B_{\bar{N}}(N - 104) + B_{\bar{N}}(6) = 343 + (N - 104) + 6 = \mathbf{N} + \mathbf{245} \\
&(\mathbf{N} \geq \mathbf{1004})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 143) &= B_{\bar{N}}(2N + 143 - B_{\bar{N}}(2N + 142)) + B_{\bar{N}}(2N + 143 - B_{\bar{N}}(2N + 141)) + B_{\bar{N}}(2N + 143 - B_{\bar{N}}(2N + 140)) \\
&= B_{\bar{N}}(2N + 143 - (N + 245)) + B_{\bar{N}}(2N + 143 - (2N - 201)) + B_{\bar{N}}(2N + 143 - (N + 246)) \\
&= B_{\bar{N}}(N - 102) + B_{\bar{N}}(344) + B_{\bar{N}}(N - 103) = (N - 102) + 344 + (N - 103) = \mathbf{2N} + \mathbf{139} \\
&(\mathbf{N} \geq \mathbf{1011})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 144) &= B_{\bar{N}}(2N + 144 - B_{\bar{N}}(2N + 143)) + B_{\bar{N}}(2N + 144 - B_{\bar{N}}(2N + 142)) + B_{\bar{N}}(2N + 144 - B_{\bar{N}}(2N + 141)) \\
&= B_{\bar{N}}(2N + 144 - (2N + 139)) + B_{\bar{N}}(2N + 144 - (N + 245)) + B_{\bar{N}}(2N + 144 - (2N - 201)) \\
&= B_{\bar{N}}(5) + B_{\bar{N}}(N - 101) + B_{\bar{N}}(345) = 5 + (N - 101) + 345 = \mathbf{N} + \mathbf{249} \\
&(\mathbf{N} \geq \mathbf{1018})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 145) &= B_{\bar{N}}(2N + 145 - B_{\bar{N}}(2N + 144)) + B_{\bar{N}}(2N + 145 - B_{\bar{N}}(2N + 143)) + B_{\bar{N}}(2N + 145 - B_{\bar{N}}(2N + 142)) \\
&= B_{\bar{N}}(2N + 145 - (N + 249)) + B_{\bar{N}}(2N + 145 - (2N + 139)) + B_{\bar{N}}(2N + 145 - (N + 245)) \\
&= B_{\bar{N}}(N - 104) + B_{\bar{N}}(6) + B_{\bar{N}}(N - 100) = (N - 104) + 6 + (N - 100) = \mathbf{2N} - \mathbf{198} \\
&(N \geq 275)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 146) &= B_{\bar{N}}(2N + 146 - B_{\bar{N}}(2N + 145)) + B_{\bar{N}}(2N + 146 - B_{\bar{N}}(2N + 144)) + B_{\bar{N}}(2N + 146 - B_{\bar{N}}(2N + 143)) \\
&= B_{\bar{N}}(2N + 146 - (2N - 198)) + B_{\bar{N}}(2N + 146 - (N + 249)) + B_{\bar{N}}(2N + 146 - (2N + 139)) \\
&= B_{\bar{N}}(344) + B_{\bar{N}}(N - 103) + B_{\bar{N}}(7) = 344 + (N - 103) + 7 = \mathbf{N} + \mathbf{248} \\
&(N \geq 344)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 147) &= B_{\bar{N}}(2N + 147 - B_{\bar{N}}(2N + 146)) + B_{\bar{N}}(2N + 147 - B_{\bar{N}}(2N + 145)) + B_{\bar{N}}(2N + 147 - B_{\bar{N}}(2N + 144)) \\
&= B_{\bar{N}}(2N + 147 - (N + 248)) + B_{\bar{N}}(2N + 147 - (2N - 198)) + B_{\bar{N}}(2N + 147 - (N + 249)) \\
&= B_{\bar{N}}(N - 101) + B_{\bar{N}}(345) + B_{\bar{N}}(N - 102) = (N - 101) + 345 + (N - 102) = \mathbf{2N} + \mathbf{142} \\
&(N \geq 345)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 148) &= B_{\bar{N}}(2N + 148 - B_{\bar{N}}(2N + 147)) + B_{\bar{N}}(2N + 148 - B_{\bar{N}}(2N + 146)) + B_{\bar{N}}(2N + 148 - B_{\bar{N}}(2N + 145)) \\
&= B_{\bar{N}}(2N + 148 - (2N + 142)) + B_{\bar{N}}(2N + 148 - (N + 248)) + B_{\bar{N}}(2N + 148 - (2N - 198)) \\
&= B_{\bar{N}}(6) + B_{\bar{N}}(N - 100) + B_{\bar{N}}(346) = 6 + (N - 100) + 346 = \mathbf{N} + \mathbf{252} \\
&(N \geq 346)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 149) &= B_{\bar{N}}(2N + 149 - B_{\bar{N}}(2N + 148)) + B_{\bar{N}}(2N + 149 - B_{\bar{N}}(2N + 147)) + B_{\bar{N}}(2N + 149 - B_{\bar{N}}(2N + 146)) \\
&= B_{\bar{N}}(2N + 149 - (N + 252)) + B_{\bar{N}}(2N + 149 - (2N + 142)) + B_{\bar{N}}(2N + 149 - (N + 248)) \\
&= B_{\bar{N}}(N - 103) + B_{\bar{N}}(7) + B_{\bar{N}}(N - 99) = (N - 103) + 7 + (N - 99) = \mathbf{2N} - \mathbf{195} \\
&(N \geq 276)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 150) &= B_{\bar{N}}(2N + 150 - B_{\bar{N}}(2N + 149)) + B_{\bar{N}}(2N + 150 - B_{\bar{N}}(2N + 148)) + B_{\bar{N}}(2N + 150 - B_{\bar{N}}(2N + 147)) \\
&= B_{\bar{N}}(2N + 150 - (2N - 195)) + B_{\bar{N}}(2N + 150 - (N + 252)) + B_{\bar{N}}(2N + 150 - (2N + 142)) \\
&= B_{\bar{N}}(345) + B_{\bar{N}}(N - 102) + B_{\bar{N}}(8) = 345 + (N - 102) + 8 = \mathbf{N} + \mathbf{251} \\
&(N \geq 345)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 151) &= B_{\bar{N}}(2N + 151 - B_{\bar{N}}(2N + 150)) + B_{\bar{N}}(2N + 151 - B_{\bar{N}}(2N + 149)) + B_{\bar{N}}(2N + 151 - B_{\bar{N}}(2N + 148)) \\
&= B_{\bar{N}}(2N + 151 - (N + 251)) + B_{\bar{N}}(2N + 151 - (2N - 195)) + B_{\bar{N}}(2N + 151 - (N + 252)) \\
&= B_{\bar{N}}(N - 100) + B_{\bar{N}}(346) + B_{\bar{N}}(N - 101) = (N - 100) + 346 + (N - 101) = \mathbf{2N} + \mathbf{145} \\
&(N \geq 346)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 152) &= B_{\bar{N}}(2N + 152 - B_{\bar{N}}(2N + 151)) + B_{\bar{N}}(2N + 152 - B_{\bar{N}}(2N + 150)) + B_{\bar{N}}(2N + 152 - B_{\bar{N}}(2N + 149)) \\
&= B_{\bar{N}}(2N + 152 - (2N + 145)) + B_{\bar{N}}(2N + 152 - (N + 251)) + B_{\bar{N}}(2N + 152 - (2N - 195)) \\
&= B_{\bar{N}}(7) + B_{\bar{N}}(N - 99) + B_{\bar{N}}(347) = 7 + (N - 99) + 347 = \mathbf{N} + \mathbf{255} \\
&(N \geq 347)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 153) &= B_{\bar{N}}(2N + 153 - B_{\bar{N}}(2N + 152)) + B_{\bar{N}}(2N + 153 - B_{\bar{N}}(2N + 151)) + B_{\bar{N}}(2N + 153 - B_{\bar{N}}(2N + 150)) \\
&= B_{\bar{N}}(2N + 153 - (N + 255)) + B_{\bar{N}}(2N + 153 - (2N + 145)) + B_{\bar{N}}(2N + 153 - (N + 251)) \\
&= B_{\bar{N}}(N - 102) + B_{\bar{N}}(8) + B_{\bar{N}}(N - 98) = (N - 102) + 8 + (N - 98) = \mathbf{2N} - \mathbf{192} \\
&(N \geq 277)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 154) &= B_{\bar{N}}(2N + 154 - B_{\bar{N}}(2N + 153)) + B_{\bar{N}}(2N + 154 - B_{\bar{N}}(2N + 152)) + B_{\bar{N}}(2N + 154 - B_{\bar{N}}(2N + 151)) \\
&= B_{\bar{N}}(2N + 154 - (2N - 192)) + B_{\bar{N}}(2N + 154 - (N + 255)) + B_{\bar{N}}(2N + 154 - (2N + 145)) \\
&= B_{\bar{N}}(346) + B_{\bar{N}}(N - 101) + B_{\bar{N}}(9) = 346 + (N - 101) + 9 = \mathbf{N} + \mathbf{254} \\
&(N \geq 346)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 155) &= B_{\bar{N}}(2N + 155 - B_{\bar{N}}(2N + 154)) + B_{\bar{N}}(2N + 155 - B_{\bar{N}}(2N + 153)) + B_{\bar{N}}(2N + 155 - B_{\bar{N}}(2N + 152)) \\
&= B_{\bar{N}}(2N + 155 - (N + 254)) + B_{\bar{N}}(2N + 155 - (2N - 192)) + B_{\bar{N}}(2N + 155 - (N + 255)) \\
&= B_{\bar{N}}(N - 99) + B_{\bar{N}}(347) + B_{\bar{N}}(N - 100) = (N - 99) + 347 + (N - 100) = \mathbf{2N} + \mathbf{148} \\
&(N \geq 347)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 156) &= B_{\bar{N}}(2N + 156 - B_{\bar{N}}(2N + 155)) + B_{\bar{N}}(2N + 156 - B_{\bar{N}}(2N + 154)) + B_{\bar{N}}(2N + 156 - B_{\bar{N}}(2N + 153)) \\
&= B_{\bar{N}}(2N + 156 - (2N + 148)) + B_{\bar{N}}(2N + 156 - (N + 254)) + B_{\bar{N}}(2N + 156 - (2N - 192)) \\
&= B_{\bar{N}}(8) + B_{\bar{N}}(N - 98) + B_{\bar{N}}(348) = 8 + (N - 98) + 348 = \mathbf{N} + \mathbf{258} \\
&(N \geq 348)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 157) &= B_{\bar{N}}(2N + 157 - B_{\bar{N}}(2N + 156)) + B_{\bar{N}}(2N + 157 - B_{\bar{N}}(2N + 155)) + B_{\bar{N}}(2N + 157 - B_{\bar{N}}(2N + 154)) \\
&= B_{\bar{N}}(2N + 157 - (N + 258)) + B_{\bar{N}}(2N + 157 - (2N + 148)) + B_{\bar{N}}(2N + 157 - (N + 254)) \\
&= B_{\bar{N}}(N - 101) + B_{\bar{N}}(9) + B_{\bar{N}}(N - 97) = (N - 101) + 9 + (N - 97) = \mathbf{2N} - \mathbf{189} \\
&(N \geq 278)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 158) &= B_{\bar{N}}(2N + 158 - B_{\bar{N}}(2N + 157)) + B_{\bar{N}}(2N + 158 - B_{\bar{N}}(2N + 156)) + B_{\bar{N}}(2N + 158 - B_{\bar{N}}(2N + 155)) \\
&= B_{\bar{N}}(2N + 158 - (2N - 189)) + B_{\bar{N}}(2N + 158 - (N + 258)) + B_{\bar{N}}(2N + 158 - (2N + 148)) \\
&= B_{\bar{N}}(347) + B_{\bar{N}}(N - 100) + B_{\bar{N}}(10) = 347 + (N - 100) + 10 = \mathbf{N} + \mathbf{257} \\
&(N \geq 347)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 159) &= B_{\bar{N}}(2N + 159 - B_{\bar{N}}(2N + 158)) + B_{\bar{N}}(2N + 159 - B_{\bar{N}}(2N + 157)) + B_{\bar{N}}(2N + 159 - B_{\bar{N}}(2N + 156)) \\
&= B_{\bar{N}}(2N + 159 - (N + 257)) + B_{\bar{N}}(2N + 159 - (2N - 189)) + B_{\bar{N}}(2N + 159 - (N + 258)) \\
&= B_{\bar{N}}(N - 98) + B_{\bar{N}}(348) + B_{\bar{N}}(N - 99) = (N - 98) + 348 + (N - 99) = \mathbf{2N} + \mathbf{151} \\
&(N \geq 348)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 160) &= B_{\bar{N}}(2N + 160 - B_{\bar{N}}(2N + 159)) + B_{\bar{N}}(2N + 160 - B_{\bar{N}}(2N + 158)) + B_{\bar{N}}(2N + 160 - B_{\bar{N}}(2N + 157)) \\
&= B_{\bar{N}}(2N + 160 - (2N + 151)) + B_{\bar{N}}(2N + 160 - (N + 257)) + B_{\bar{N}}(2N + 160 - (2N - 189)) \\
&= B_{\bar{N}}(9) + B_{\bar{N}}(N - 97) + B_{\bar{N}}(349) = 9 + (N - 97) + 349 = \mathbf{N} + \mathbf{261} \\
&(N \geq 349)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 161) &= B_{\bar{N}}(2N + 161 - B_{\bar{N}}(2N + 160)) + B_{\bar{N}}(2N + 161 - B_{\bar{N}}(2N + 159)) + B_{\bar{N}}(2N + 161 - B_{\bar{N}}(2N + 158)) \\
&= B_{\bar{N}}(2N + 161 - (N + 261)) + B_{\bar{N}}(2N + 161 - (2N + 151)) + B_{\bar{N}}(2N + 161 - (N + 257)) \\
&= B_{\bar{N}}(N - 100) + B_{\bar{N}}(10) + B_{\bar{N}}(N - 96) = (N - 100) + 10 + (N - 96) = \mathbf{2N} - \mathbf{186} \\
&(N \geq 279)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 162) &= B_{\bar{N}}(2N + 162 - B_{\bar{N}}(2N + 161)) + B_{\bar{N}}(2N + 162 - B_{\bar{N}}(2N + 160)) + B_{\bar{N}}(2N + 162 - B_{\bar{N}}(2N + 159)) \\
&= B_{\bar{N}}(2N + 162 - (2N - 186)) + B_{\bar{N}}(2N + 162 - (N + 261)) + B_{\bar{N}}(2N + 162 - (2N + 151)) \\
&= B_{\bar{N}}(348) + B_{\bar{N}}(N - 99) + B_{\bar{N}}(11) = 348 + (N - 99) + 11 = \mathbf{N} + \mathbf{260} \\
&(N \geq 402)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 163) &= B_{\bar{N}}(2N + 163 - B_{\bar{N}}(2N + 162)) + B_{\bar{N}}(2N + 163 - B_{\bar{N}}(2N + 161)) + B_{\bar{N}}(2N + 163 - B_{\bar{N}}(2N + 160)) \\
&= B_{\bar{N}}(2N + 163 - (N + 260)) + B_{\bar{N}}(2N + 163 - (2N - 186)) + B_{\bar{N}}(2N + 163 - (N + 261)) \\
&= B_{\bar{N}}(N - 97) + B_{\bar{N}}(349) + B_{\bar{N}}(N - 98) = (N - 97) + 349 + (N - 98) = \mathbf{2N} + \mathbf{154} \\
&(N \geq 409)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 164) &= B_{\bar{N}}(2N + 164 - B_{\bar{N}}(2N + 163)) + B_{\bar{N}}(2N + 164 - B_{\bar{N}}(2N + 162)) + B_{\bar{N}}(2N + 164 - B_{\bar{N}}(2N + 161)) \\
&= B_{\bar{N}}(2N + 164 - (2N + 154)) + B_{\bar{N}}(2N + 164 - (N + 260)) + B_{\bar{N}}(2N + 164 - (2N - 186)) \\
&= B_{\bar{N}}(10) + B_{\bar{N}}(N - 96) + B_{\bar{N}}(350) = 10 + (N - 96) + 350 = \mathbf{N} + \mathbf{264} \\
&(N \geq 416)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 165) &= B_{\bar{N}}(2N + 165 - B_{\bar{N}}(2N + 164)) + B_{\bar{N}}(2N + 165 - B_{\bar{N}}(2N + 163)) + B_{\bar{N}}(2N + 165 - B_{\bar{N}}(2N + 162)) \\
&= B_{\bar{N}}(2N + 165 - (N + 264)) + B_{\bar{N}}(2N + 165 - (2N + 154)) + B_{\bar{N}}(2N + 165 - (N + 260)) \\
&= B_{\bar{N}}(N - 99) + B_{\bar{N}}(11) + B_{\bar{N}}(N - 95) = (N - 99) + 11 + (N - 95) = \mathbf{2N} - \mathbf{183} \\
&(N \geq 280)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 166) &= B_{\bar{N}}(2N + 166 - B_{\bar{N}}(2N + 165)) + B_{\bar{N}}(2N + 166 - B_{\bar{N}}(2N + 164)) + B_{\bar{N}}(2N + 166 - B_{\bar{N}}(2N + 163)) \\
&= B_{\bar{N}}(2N + 166 - (2N - 183)) + B_{\bar{N}}(2N + 166 - (N + 264)) + B_{\bar{N}}(2N + 166 - (2N + 154)) \\
&= B_{\bar{N}}(349) + B_{\bar{N}}(N - 98) + B_{\bar{N}}(12) = 349 + (N - 98) + 12 = \mathbf{N} + \mathbf{263} \\
&(N \geq 349)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 167) &= B_{\bar{N}}(2N + 167 - B_{\bar{N}}(2N + 166)) + B_{\bar{N}}(2N + 167 - B_{\bar{N}}(2N + 165)) + B_{\bar{N}}(2N + 167 - B_{\bar{N}}(2N + 164)) \\
&= B_{\bar{N}}(2N + 167 - (N + 263)) + B_{\bar{N}}(2N + 167 - (2N - 183)) + B_{\bar{N}}(2N + 167 - (N + 264)) \\
&= B_{\bar{N}}(N - 96) + B_{\bar{N}}(350) + B_{\bar{N}}(N - 97) = (N - 96) + 350 + (N - 97) = \mathbf{2N} + \mathbf{157} \\
&(N \geq 350)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 168) &= B_{\bar{N}}(2N + 168 - B_{\bar{N}}(2N + 167)) + B_{\bar{N}}(2N + 168 - B_{\bar{N}}(2N + 166)) + B_{\bar{N}}(2N + 168 - B_{\bar{N}}(2N + 165)) \\
&= B_{\bar{N}}(2N + 168 - (2N + 157)) + B_{\bar{N}}(2N + 168 - (N + 263)) + B_{\bar{N}}(2N + 168 - (2N - 183)) \\
&= B_{\bar{N}}(11) + B_{\bar{N}}(N - 95) + B_{\bar{N}}(351) = 11 + (N - 95) + 351 = \mathbf{N} + \mathbf{267} \\
&(N \geq 351)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 169) &= B_{\bar{N}}(2N + 169 - B_{\bar{N}}(2N + 168)) + B_{\bar{N}}(2N + 169 - B_{\bar{N}}(2N + 167)) + B_{\bar{N}}(2N + 169 - B_{\bar{N}}(2N + 166)) \\
&= B_{\bar{N}}(2N + 169 - (N + 267)) + B_{\bar{N}}(2N + 169 - (2N + 157)) + B_{\bar{N}}(2N + 169 - (N + 263)) \\
&= B_{\bar{N}}(N - 98) + B_{\bar{N}}(12) + B_{\bar{N}}(N - 94) = (N - 98) + 12 + (N - 94) = \mathbf{2N} - \mathbf{180} \\
&(N \geq 281)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 170) &= B_{\bar{N}}(2N + 170 - B_{\bar{N}}(2N + 169)) + B_{\bar{N}}(2N + 170 - B_{\bar{N}}(2N + 168)) + B_{\bar{N}}(2N + 170 - B_{\bar{N}}(2N + 167)) \\
&= B_{\bar{N}}(2N + 170 - (2N - 180)) + B_{\bar{N}}(2N + 170 - (N + 267)) + B_{\bar{N}}(2N + 170 - (2N + 157)) \\
&= B_{\bar{N}}(350) + B_{\bar{N}}(N - 97) + B_{\bar{N}}(13) = 350 + (N - 97) + 13 = \mathbf{N} + \mathbf{266} \\
&(N \geq 350)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 171) &= B_{\bar{N}}(2N + 171 - B_{\bar{N}}(2N + 170)) + B_{\bar{N}}(2N + 171 - B_{\bar{N}}(2N + 169)) + B_{\bar{N}}(2N + 171 - B_{\bar{N}}(2N + 168)) \\
&= B_{\bar{N}}(2N + 171 - (N + 266)) + B_{\bar{N}}(2N + 171 - (2N - 180)) + B_{\bar{N}}(2N + 171 - (N + 267)) \\
&= B_{\bar{N}}(N - 95) + B_{\bar{N}}(351) + B_{\bar{N}}(N - 96) = (N - 95) + 351 + (N - 96) = \mathbf{2N} + \mathbf{160} \\
&(N \geq 351)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 172) &= B_{\bar{N}}(2N + 172 - B_{\bar{N}}(2N + 171)) + B_{\bar{N}}(2N + 172 - B_{\bar{N}}(2N + 170)) + B_{\bar{N}}(2N + 172 - B_{\bar{N}}(2N + 169)) \\
&= B_{\bar{N}}(2N + 172 - (2N + 160)) + B_{\bar{N}}(2N + 172 - (N + 266)) + B_{\bar{N}}(2N + 172 - (2N - 180)) \\
&= B_{\bar{N}}(12) + B_{\bar{N}}(N - 94) + B_{\bar{N}}(352) = 12 + (N - 94) + 352 = \mathbf{N} + \mathbf{270} \\
&(N \geq 352)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 173) &= B_{\bar{N}}(2N + 173 - B_{\bar{N}}(2N + 172)) + B_{\bar{N}}(2N + 173 - B_{\bar{N}}(2N + 171)) + B_{\bar{N}}(2N + 173 - B_{\bar{N}}(2N + 170)) \\
&= B_{\bar{N}}(2N + 173 - (N + 270)) + B_{\bar{N}}(2N + 173 - (2N + 160)) + B_{\bar{N}}(2N + 173 - (N + 266)) \\
&= B_{\bar{N}}(N - 97) + B_{\bar{N}}(13) + B_{\bar{N}}(N - 93) = (N - 97) + 13 + (N - 93) = \mathbf{2N} - \mathbf{177} \\
&(N \geq 282)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 174) &= B_{\bar{N}}(2N + 174 - B_{\bar{N}}(2N + 173)) + B_{\bar{N}}(2N + 174 - B_{\bar{N}}(2N + 172)) + B_{\bar{N}}(2N + 174 - B_{\bar{N}}(2N + 171)) \\
&= B_{\bar{N}}(2N + 174 - (2N - 177)) + B_{\bar{N}}(2N + 174 - (N + 270)) + B_{\bar{N}}(2N + 174 - (2N + 160)) \\
&= B_{\bar{N}}(351) + B_{\bar{N}}(N - 96) + B_{\bar{N}}(14) = 351 + (N - 96) + 14 = \mathbf{N} + \mathbf{269} \\
&(N \geq 351)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 175) &= B_{\bar{N}}(2N + 175 - B_{\bar{N}}(2N + 174)) + B_{\bar{N}}(2N + 175 - B_{\bar{N}}(2N + 173)) + B_{\bar{N}}(2N + 175 - B_{\bar{N}}(2N + 172)) \\
&= B_{\bar{N}}(2N + 175 - (N + 269)) + B_{\bar{N}}(2N + 175 - (2N - 177)) + B_{\bar{N}}(2N + 175 - (N + 270)) \\
&= B_{\bar{N}}(N - 94) + B_{\bar{N}}(352) + B_{\bar{N}}(N - 95) = (N - 94) + 352 + (N - 95) = \mathbf{2N} + \mathbf{163} \\
&(N \geq 352)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 176) &= B_{\bar{N}}(2N + 176 - B_{\bar{N}}(2N + 175)) + B_{\bar{N}}(2N + 176 - B_{\bar{N}}(2N + 174)) + B_{\bar{N}}(2N + 176 - B_{\bar{N}}(2N + 173)) \\
&= B_{\bar{N}}(2N + 176 - (2N + 163)) + B_{\bar{N}}(2N + 176 - (N + 269)) + B_{\bar{N}}(2N + 176 - (2N - 177)) \\
&= B_{\bar{N}}(13) + B_{\bar{N}}(N - 93) + B_{\bar{N}}(353) = 13 + (N - 93) + 353 = \mathbf{N} + \mathbf{273} \\
&(N \geq 353)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 177) &= B_{\bar{N}}(2N + 177 - B_{\bar{N}}(2N + 176)) + B_{\bar{N}}(2N + 177 - B_{\bar{N}}(2N + 175)) + B_{\bar{N}}(2N + 177 - B_{\bar{N}}(2N + 174)) \\
&= B_{\bar{N}}(2N + 177 - (N + 273)) + B_{\bar{N}}(2N + 177 - (2N + 163)) + B_{\bar{N}}(2N + 177 - (N + 269)) \\
&= B_{\bar{N}}(N - 96) + B_{\bar{N}}(14) + B_{\bar{N}}(N - 92) = (N - 96) + 14 + (N - 92) = \mathbf{2N} - \mathbf{174} \\
&(N \geq 283)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 178) &= B_{\bar{N}}(2N + 178 - B_{\bar{N}}(2N + 177)) + B_{\bar{N}}(2N + 178 - B_{\bar{N}}(2N + 176)) + B_{\bar{N}}(2N + 178 - B_{\bar{N}}(2N + 175)) \\
&= B_{\bar{N}}(2N + 178 - (2N - 174)) + B_{\bar{N}}(2N + 178 - (N + 273)) + B_{\bar{N}}(2N + 178 - (2N + 163)) \\
&= B_{\bar{N}}(352) + B_{\bar{N}}(N - 95) + B_{\bar{N}}(15) = 352 + (N - 95) + 15 = \mathbf{N} + \mathbf{272} \\
&(N \geq 352)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 179) &= B_{\bar{N}}(2N + 179 - B_{\bar{N}}(2N + 178)) + B_{\bar{N}}(2N + 179 - B_{\bar{N}}(2N + 177)) + B_{\bar{N}}(2N + 179 - B_{\bar{N}}(2N + 176)) \\
&= B_{\bar{N}}(2N + 179 - (N + 272)) + B_{\bar{N}}(2N + 179 - (2N - 174)) + B_{\bar{N}}(2N + 179 - (N + 273)) \\
&= B_{\bar{N}}(N - 93) + B_{\bar{N}}(353) + B_{\bar{N}}(N - 94) = (N - 93) + 353 + (N - 94) = \mathbf{2N} + \mathbf{166} \\
&(N \geq 353)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 180) &= B_{\bar{N}}(2N + 180 - B_{\bar{N}}(2N + 179)) + B_{\bar{N}}(2N + 180 - B_{\bar{N}}(2N + 178)) + B_{\bar{N}}(2N + 180 - B_{\bar{N}}(2N + 177)) \\
&= B_{\bar{N}}(2N + 180 - (2N + 166)) + B_{\bar{N}}(2N + 180 - (N + 272)) + B_{\bar{N}}(2N + 180 - (2N - 174)) \\
&= B_{\bar{N}}(14) + B_{\bar{N}}(N - 92) + B_{\bar{N}}(354) = 14 + (N - 92) + 354 = \mathbf{N} + \mathbf{276} \\
&(N \geq 354)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 181) &= B_{\bar{N}}(2N + 181 - B_{\bar{N}}(2N + 180)) + B_{\bar{N}}(2N + 181 - B_{\bar{N}}(2N + 179)) + B_{\bar{N}}(2N + 181 - B_{\bar{N}}(2N + 178)) \\
&= B_{\bar{N}}(2N + 181 - (N + 276)) + B_{\bar{N}}(2N + 181 - (2N + 166)) + B_{\bar{N}}(2N + 181 - (N + 272)) \\
&= B_{\bar{N}}(N - 95) + B_{\bar{N}}(15) + B_{\bar{N}}(N - 91) = (N - 95) + 15 + (N - 91) = \mathbf{2N} - \mathbf{171} \\
&(N \geq 284)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 182) &= B_{\bar{N}}(2N + 182 - B_{\bar{N}}(2N + 181)) + B_{\bar{N}}(2N + 182 - B_{\bar{N}}(2N + 180)) + B_{\bar{N}}(2N + 182 - B_{\bar{N}}(2N + 179)) \\
&= B_{\bar{N}}(2N + 182 - (2N - 171)) + B_{\bar{N}}(2N + 182 - (N + 276)) + B_{\bar{N}}(2N + 182 - (2N + 166)) \\
&= B_{\bar{N}}(353) + B_{\bar{N}}(N - 94) + B_{\bar{N}}(16) = 353 + (N - 94) + 16 = \mathbf{N} + \mathbf{275} \\
&(N \geq 353)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 183) &= B_{\bar{N}}(2N + 183 - B_{\bar{N}}(2N + 182)) + B_{\bar{N}}(2N + 183 - B_{\bar{N}}(2N + 181)) + B_{\bar{N}}(2N + 183 - B_{\bar{N}}(2N + 180)) \\
&= B_{\bar{N}}(2N + 183 - (N + 275)) + B_{\bar{N}}(2N + 183 - (2N - 171)) + B_{\bar{N}}(2N + 183 - (N + 276)) \\
&= B_{\bar{N}}(N - 92) + B_{\bar{N}}(354) + B_{\bar{N}}(N - 93) = (N - 92) + 354 + (N - 93) = \mathbf{2N} + \mathbf{169} \\
&(N \geq 354)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 184) &= B_{\bar{N}}(2N + 184 - B_{\bar{N}}(2N + 183)) + B_{\bar{N}}(2N + 184 - B_{\bar{N}}(2N + 182)) + B_{\bar{N}}(2N + 184 - B_{\bar{N}}(2N + 181)) \\
&= B_{\bar{N}}(2N + 184 - (2N + 169)) + B_{\bar{N}}(2N + 184 - (N + 275)) + B_{\bar{N}}(2N + 184 - (2N - 171)) \\
&= B_{\bar{N}}(15) + B_{\bar{N}}(N - 91) + B_{\bar{N}}(355) = 15 + (N - 91) + 355 = \mathbf{N} + \mathbf{279} \\
&(N \geq 355)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 185) &= B_{\bar{N}}(2N + 185 - B_{\bar{N}}(2N + 184)) + B_{\bar{N}}(2N + 185 - B_{\bar{N}}(2N + 183)) + B_{\bar{N}}(2N + 185 - B_{\bar{N}}(2N + 182)) \\
&= B_{\bar{N}}(2N + 185 - (N + 279)) + B_{\bar{N}}(2N + 185 - (2N + 169)) + B_{\bar{N}}(2N + 185 - (N + 275)) \\
&= B_{\bar{N}}(N - 94) + B_{\bar{N}}(16) + B_{\bar{N}}(N - 90) = (N - 94) + 16 + (N - 90) = \mathbf{2N} - \mathbf{168} \\
&(N \geq 285)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 186) &= B_{\bar{N}}(2N + 186 - B_{\bar{N}}(2N + 185)) + B_{\bar{N}}(2N + 186 - B_{\bar{N}}(2N + 184)) + B_{\bar{N}}(2N + 186 - B_{\bar{N}}(2N + 183)) \\
&= B_{\bar{N}}(2N + 186 - (2N - 168)) + B_{\bar{N}}(2N + 186 - (N + 279)) + B_{\bar{N}}(2N + 186 - (2N + 169)) \\
&= B_{\bar{N}}(354) + B_{\bar{N}}(N - 93) + B_{\bar{N}}(17) = 354 + (N - 93) + 17 = \mathbf{N} + \mathbf{278} \\
&(N \geq 354)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 187) &= B_{\bar{N}}(2N + 187 - B_{\bar{N}}(2N + 186)) + B_{\bar{N}}(2N + 187 - B_{\bar{N}}(2N + 185)) + B_{\bar{N}}(2N + 187 - B_{\bar{N}}(2N + 184)) \\
&= B_{\bar{N}}(2N + 187 - (N + 278)) + B_{\bar{N}}(2N + 187 - (2N - 168)) + B_{\bar{N}}(2N + 187 - (N + 279)) \\
&= B_{\bar{N}}(N - 91) + B_{\bar{N}}(355) + B_{\bar{N}}(N - 92) = (N - 91) + 355 + (N - 92) = \mathbf{2N} + \mathbf{172} \\
&(N \geq 355)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 188) &= B_{\bar{N}}(2N + 188 - B_{\bar{N}}(2N + 187)) + B_{\bar{N}}(2N + 188 - B_{\bar{N}}(2N + 186)) + B_{\bar{N}}(2N + 188 - B_{\bar{N}}(2N + 185)) \\
&= B_{\bar{N}}(2N + 188 - (2N + 172)) + B_{\bar{N}}(2N + 188 - (N + 278)) + B_{\bar{N}}(2N + 188 - (2N - 168)) \\
&= B_{\bar{N}}(16) + B_{\bar{N}}(N - 90) + B_{\bar{N}}(356) = 16 + (N - 90) + 356 = \mathbf{N} + \mathbf{282} \\
&(N \geq 356)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 189) &= B_{\bar{N}}(2N + 189 - B_{\bar{N}}(2N + 188)) + B_{\bar{N}}(2N + 189 - B_{\bar{N}}(2N + 187)) + B_{\bar{N}}(2N + 189 - B_{\bar{N}}(2N + 186)) \\
&= B_{\bar{N}}(2N + 189 - (N + 282)) + B_{\bar{N}}(2N + 189 - (2N + 172)) + B_{\bar{N}}(2N + 189 - (N + 278)) \\
&= B_{\bar{N}}(N - 93) + B_{\bar{N}}(17) + B_{\bar{N}}(N - 89) = (N - 93) + 17 + (N - 89) = \mathbf{2N} - \mathbf{165} \\
&(N \geq 286)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 190) &= B_{\bar{N}}(2N + 190 - B_{\bar{N}}(2N + 189)) + B_{\bar{N}}(2N + 190 - B_{\bar{N}}(2N + 188)) + B_{\bar{N}}(2N + 190 - B_{\bar{N}}(2N + 187)) \\
&= B_{\bar{N}}(2N + 190 - (2N - 165)) + B_{\bar{N}}(2N + 190 - (N + 282)) + B_{\bar{N}}(2N + 190 - (2N + 172)) \\
&= B_{\bar{N}}(355) + B_{\bar{N}}(N - 92) + B_{\bar{N}}(18) = 355 + (N - 92) + 18 = \mathbf{N} + \mathbf{281} \\
&(N \geq 355)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 191) &= B_{\bar{N}}(2N + 191 - B_{\bar{N}}(2N + 190)) + B_{\bar{N}}(2N + 191 - B_{\bar{N}}(2N + 189)) + B_{\bar{N}}(2N + 191 - B_{\bar{N}}(2N + 188)) \\
&= B_{\bar{N}}(2N + 191 - (N + 281)) + B_{\bar{N}}(2N + 191 - (2N - 165)) + B_{\bar{N}}(2N + 191 - (N + 282)) \\
&= B_{\bar{N}}(N - 90) + B_{\bar{N}}(356) + B_{\bar{N}}(N - 91) = (N - 90) + 356 + (N - 91) = \mathbf{2N} + \mathbf{175} \\
&(N \geq 356)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 192) &= B_{\bar{N}}(2N + 192 - B_{\bar{N}}(2N + 191)) + B_{\bar{N}}(2N + 192 - B_{\bar{N}}(2N + 190)) + B_{\bar{N}}(2N + 192 - B_{\bar{N}}(2N + 189)) \\
&= B_{\bar{N}}(2N + 192 - (2N + 175)) + B_{\bar{N}}(2N + 192 - (N + 281)) + B_{\bar{N}}(2N + 192 - (2N - 165)) \\
&= B_{\bar{N}}(17) + B_{\bar{N}}(N - 89) + B_{\bar{N}}(357) = 17 + (N - 89) + 357 = \mathbf{N} + \mathbf{285} \\
&(N \geq 357)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 193) &= B_{\bar{N}}(2N + 193 - B_{\bar{N}}(2N + 192)) + B_{\bar{N}}(2N + 193 - B_{\bar{N}}(2N + 191)) + B_{\bar{N}}(2N + 193 - B_{\bar{N}}(2N + 190)) \\
&= B_{\bar{N}}(2N + 193 - (N + 285)) + B_{\bar{N}}(2N + 193 - (2N + 175)) + B_{\bar{N}}(2N + 193 - (N + 281)) \\
&= B_{\bar{N}}(N - 92) + B_{\bar{N}}(18) + B_{\bar{N}}(N - 88) = (N - 92) + 18 + (N - 88) = \mathbf{2N} - \mathbf{162} \\
&(N \geq 287)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 194) &= B_{\bar{N}}(2N + 194 - B_{\bar{N}}(2N + 193)) + B_{\bar{N}}(2N + 194 - B_{\bar{N}}(2N + 192)) + B_{\bar{N}}(2N + 194 - B_{\bar{N}}(2N + 191)) \\
&= B_{\bar{N}}(2N + 194 - (2N - 162)) + B_{\bar{N}}(2N + 194 - (N + 285)) + B_{\bar{N}}(2N + 194 - (2N + 175)) \\
&= B_{\bar{N}}(356) + B_{\bar{N}}(N - 91) + B_{\bar{N}}(19) = 356 + (N - 91) + 19 = \mathbf{N} + \mathbf{284} \\
&(N \geq 356)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 195) &= B_{\bar{N}}(2N + 195 - B_{\bar{N}}(2N + 194)) + B_{\bar{N}}(2N + 195 - B_{\bar{N}}(2N + 193)) + B_{\bar{N}}(2N + 195 - B_{\bar{N}}(2N + 192)) \\
&= B_{\bar{N}}(2N + 195 - (N + 284)) + B_{\bar{N}}(2N + 195 - (2N - 162)) + B_{\bar{N}}(2N + 195 - (N + 285)) \\
&= B_{\bar{N}}(N - 89) + B_{\bar{N}}(357) + B_{\bar{N}}(N - 90) = (N - 89) + 357 + (N - 90) = \mathbf{2N} + \mathbf{178} \\
&(N \geq 357)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 196) &= B_{\bar{N}}(2N + 196 - B_{\bar{N}}(2N + 195)) + B_{\bar{N}}(2N + 196 - B_{\bar{N}}(2N + 194)) + B_{\bar{N}}(2N + 196 - B_{\bar{N}}(2N + 193)) \\
&= B_{\bar{N}}(2N + 196 - (2N + 178)) + B_{\bar{N}}(2N + 196 - (N + 284)) + B_{\bar{N}}(2N + 196 - (2N - 162)) \\
&= B_{\bar{N}}(18) + B_{\bar{N}}(N - 88) + B_{\bar{N}}(358) = 18 + (N - 88) + 358 = \mathbf{N} + \mathbf{288} \\
&(N \geq 358)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 197) &= B_{\bar{N}}(2N + 197 - B_{\bar{N}}(2N + 196)) + B_{\bar{N}}(2N + 197 - B_{\bar{N}}(2N + 195)) + B_{\bar{N}}(2N + 197 - B_{\bar{N}}(2N + 194)) \\
&= B_{\bar{N}}(2N + 197 - (N + 288)) + B_{\bar{N}}(2N + 197 - (2N + 178)) + B_{\bar{N}}(2N + 197 - (N + 284)) \\
&= B_{\bar{N}}(N - 91) + B_{\bar{N}}(19) + B_{\bar{N}}(N - 87) = (N - 91) + 19 + (N - 87) = \mathbf{2N} - \mathbf{159} \\
&(N \geq 288)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 198) &= B_{\bar{N}}(2N + 198 - B_{\bar{N}}(2N + 197)) + B_{\bar{N}}(2N + 198 - B_{\bar{N}}(2N + 196)) + B_{\bar{N}}(2N + 198 - B_{\bar{N}}(2N + 195)) \\
&= B_{\bar{N}}(2N + 198 - (2N - 159)) + B_{\bar{N}}(2N + 198 - (N + 288)) + B_{\bar{N}}(2N + 198 - (2N + 178)) \\
&= B_{\bar{N}}(357) + B_{\bar{N}}(N - 90) + B_{\bar{N}}(20) = 357 + (N - 90) + 20 = \mathbf{N} + \mathbf{287} \\
&(N \geq 357)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 199) &= B_{\bar{N}}(2N + 199 - B_{\bar{N}}(2N + 198)) + B_{\bar{N}}(2N + 199 - B_{\bar{N}}(2N + 197)) + B_{\bar{N}}(2N + 199 - B_{\bar{N}}(2N + 196)) \\
&= B_{\bar{N}}(2N + 199 - (N + 287)) + B_{\bar{N}}(2N + 199 - (2N - 159)) + B_{\bar{N}}(2N + 199 - (N + 288)) \\
&= B_{\bar{N}}(N - 88) + B_{\bar{N}}(358) + B_{\bar{N}}(N - 89) = (N - 88) + 358 + (N - 89) = \mathbf{2N} + \mathbf{181} \\
&(N \geq 358)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{200}) &= B_{\bar{N}}(2N + 200 - B_{\bar{N}}(2N + 199)) + B_{\bar{N}}(2N + 200 - B_{\bar{N}}(2N + 198)) + B_{\bar{N}}(2N + 200 - B_{\bar{N}}(2N + 197)) \\
&= B_{\bar{N}}(2N + 200 - (2N + 181)) + B_{\bar{N}}(2N + 200 - (N + 287)) + B_{\bar{N}}(2N + 200 - (2N - 159)) \\
&= B_{\bar{N}}(19) + B_{\bar{N}}(N - 87) + B_{\bar{N}}(359) = 19 + (N - 87) + 359 = \mathbf{N} + \mathbf{291} \\
&(N \geq 359)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{201}) &= B_{\bar{N}}(2N + 201 - B_{\bar{N}}(2N + 200)) + B_{\bar{N}}(2N + 201 - B_{\bar{N}}(2N + 199)) + B_{\bar{N}}(2N + 201 - B_{\bar{N}}(2N + 198)) \\
&= B_{\bar{N}}(2N + 201 - (N + 291)) + B_{\bar{N}}(2N + 201 - (2N + 181)) + B_{\bar{N}}(2N + 201 - (N + 287)) \\
&= B_{\bar{N}}(N - 90) + B_{\bar{N}}(20) + B_{\bar{N}}(N - 86) = (N - 90) + 20 + (N - 86) = \mathbf{2N} - \mathbf{156} \\
&(N \geq 289)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{202}) &= B_{\bar{N}}(2N + 202 - B_{\bar{N}}(2N + 201)) + B_{\bar{N}}(2N + 202 - B_{\bar{N}}(2N + 200)) + B_{\bar{N}}(2N + 202 - B_{\bar{N}}(2N + 199)) \\
&= B_{\bar{N}}(2N + 202 - (2N - 156)) + B_{\bar{N}}(2N + 202 - (N + 291)) + B_{\bar{N}}(2N + 202 - (2N + 181)) \\
&= B_{\bar{N}}(358) + B_{\bar{N}}(N - 89) + B_{\bar{N}}(21) = 358 + (N - 89) + 21 = \mathbf{N} + \mathbf{290} \\
&(N \geq 358)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{203}) &= B_{\bar{N}}(2N + 203 - B_{\bar{N}}(2N + 202)) + B_{\bar{N}}(2N + 203 - B_{\bar{N}}(2N + 201)) + B_{\bar{N}}(2N + 203 - B_{\bar{N}}(2N + 200)) \\
&= B_{\bar{N}}(2N + 203 - (N + 290)) + B_{\bar{N}}(2N + 203 - (2N - 156)) + B_{\bar{N}}(2N + 203 - (N + 291)) \\
&= B_{\bar{N}}(N - 87) + B_{\bar{N}}(359) + B_{\bar{N}}(N - 88) = (N - 87) + 359 + (N - 88) = \mathbf{2N} + \mathbf{184} \\
&(N \geq 359)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{204}) &= B_{\bar{N}}(2N + 204 - B_{\bar{N}}(2N + 203)) + B_{\bar{N}}(2N + 204 - B_{\bar{N}}(2N + 202)) + B_{\bar{N}}(2N + 204 - B_{\bar{N}}(2N + 201)) \\
&= B_{\bar{N}}(2N + 204 - (2N + 184)) + B_{\bar{N}}(2N + 204 - (N + 290)) + B_{\bar{N}}(2N + 204 - (2N - 156)) \\
&= B_{\bar{N}}(20) + B_{\bar{N}}(N - 86) + B_{\bar{N}}(360) = 20 + (N - 86) + 360 = \mathbf{N} + \mathbf{294} \\
&(N \geq 360)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{205}) &= B_{\bar{N}}(2N + 205 - B_{\bar{N}}(2N + 204)) + B_{\bar{N}}(2N + 205 - B_{\bar{N}}(2N + 203)) + B_{\bar{N}}(2N + 205 - B_{\bar{N}}(2N + 202)) \\
&= B_{\bar{N}}(2N + 205 - (N + 294)) + B_{\bar{N}}(2N + 205 - (2N + 184)) + B_{\bar{N}}(2N + 205 - (N + 290)) \\
&= B_{\bar{N}}(N - 89) + B_{\bar{N}}(21) + B_{\bar{N}}(N - 85) = (N - 89) + 21 + (N - 85) = \mathbf{2N} - \mathbf{153} \\
&(N \geq 290)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{206}) &= B_{\bar{N}}(2N + 206 - B_{\bar{N}}(2N + 205)) + B_{\bar{N}}(2N + 206 - B_{\bar{N}}(2N + 204)) + B_{\bar{N}}(2N + 206 - B_{\bar{N}}(2N + 203)) \\
&= B_{\bar{N}}(2N + 206 - (2N - 153)) + B_{\bar{N}}(2N + 206 - (N + 294)) + B_{\bar{N}}(2N + 206 - (2N + 184)) \\
&= B_{\bar{N}}(359) + B_{\bar{N}}(N - 88) + B_{\bar{N}}(22) = 359 + (N - 88) + 22 = \mathbf{N} + \mathbf{293} \\
&(N \geq 359)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{207}) &= B_{\bar{N}}(2N + 207 - B_{\bar{N}}(2N + 206)) + B_{\bar{N}}(2N + 207 - B_{\bar{N}}(2N + 205)) + B_{\bar{N}}(2N + 207 - B_{\bar{N}}(2N + 204)) \\
&= B_{\bar{N}}(2N + 207 - (N + 293)) + B_{\bar{N}}(2N + 207 - (2N - 153)) + B_{\bar{N}}(2N + 207 - (N + 294)) \\
&= B_{\bar{N}}(N - 86) + B_{\bar{N}}(360) + B_{\bar{N}}(N - 87) = (N - 86) + 360 + (N - 87) = \mathbf{2N} + \mathbf{187} \\
&(N \geq 360)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{208}) &= B_{\bar{N}}(2N + 208 - B_{\bar{N}}(2N + 207)) + B_{\bar{N}}(2N + 208 - B_{\bar{N}}(2N + 206)) + B_{\bar{N}}(2N + 208 - B_{\bar{N}}(2N + 205)) \\
&= B_{\bar{N}}(2N + 208 - (2N + 187)) + B_{\bar{N}}(2N + 208 - (N + 293)) + B_{\bar{N}}(2N + 208 - (2N - 153)) \\
&= B_{\bar{N}}(21) + B_{\bar{N}}(N - 85) + B_{\bar{N}}(361) = 21 + (N - 85) + 361 = \mathbf{N} + \mathbf{297} \\
&(N \geq 361)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{209}) &= B_{\bar{N}}(2N + 209 - B_{\bar{N}}(2N + 208)) + B_{\bar{N}}(2N + 209 - B_{\bar{N}}(2N + 207)) + B_{\bar{N}}(2N + 209 - B_{\bar{N}}(2N + 206)) \\
&= B_{\bar{N}}(2N + 209 - (N + 297)) + B_{\bar{N}}(2N + 209 - (2N + 187)) + B_{\bar{N}}(2N + 209 - (N + 293)) \\
&= B_{\bar{N}}(N - 88) + B_{\bar{N}}(22) + B_{\bar{N}}(N - 84) = (N - 88) + 22 + (N - 84) = \mathbf{2N} - \mathbf{150} \\
&(N \geq 291)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{210}) &= B_{\bar{N}}(2N + 210 - B_{\bar{N}}(2N + 209)) + B_{\bar{N}}(2N + 210 - B_{\bar{N}}(2N + 208)) + B_{\bar{N}}(2N + 210 - B_{\bar{N}}(2N + 207)) \\
&= B_{\bar{N}}(2N + 210 - (2N - 150)) + B_{\bar{N}}(2N + 210 - (N + 297)) + B_{\bar{N}}(2N + 210 - (2N + 187)) \\
&= B_{\bar{N}}(360) + B_{\bar{N}}(N - 87) + B_{\bar{N}}(23) = 360 + (N - 87) + 23 = \mathbf{N} + \mathbf{296} \\
&(N \geq 360)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{211}) &= B_{\bar{N}}(2N + 211 - B_{\bar{N}}(2N + 210)) + B_{\bar{N}}(2N + 211 - B_{\bar{N}}(2N + 209)) + B_{\bar{N}}(2N + 211 - B_{\bar{N}}(2N + 208)) \\
&= B_{\bar{N}}(2N + 211 - (N + 296)) + B_{\bar{N}}(2N + 211 - (2N - 150)) + B_{\bar{N}}(2N + 211 - (N + 297)) \\
&= B_{\bar{N}}(N - 85) + B_{\bar{N}}(361) + B_{\bar{N}}(N - 86) = (N - 85) + 361 + (N - 86) = \mathbf{2N} + \mathbf{190} \\
&(N \geq 361)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{212}) &= B_{\bar{N}}(2N + 212 - B_{\bar{N}}(2N + 211)) + B_{\bar{N}}(2N + 212 - B_{\bar{N}}(2N + 210)) + B_{\bar{N}}(2N + 212 - B_{\bar{N}}(2N + 209)) \\
&= B_{\bar{N}}(2N + 212 - (2N + 190)) + B_{\bar{N}}(2N + 212 - (N + 296)) + B_{\bar{N}}(2N + 212 - (2N - 150)) \\
&= B_{\bar{N}}(22) + B_{\bar{N}}(N - 84) + B_{\bar{N}}(362) = 22 + (N - 84) + 362 = \mathbf{N} + \mathbf{300} \\
&(N \geq 362)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{213}) &= B_{\bar{N}}(2N + 213 - B_{\bar{N}}(2N + 212)) + B_{\bar{N}}(2N + 213 - B_{\bar{N}}(2N + 211)) + B_{\bar{N}}(2N + 213 - B_{\bar{N}}(2N + 210)) \\
&= B_{\bar{N}}(2N + 213 - (N + 300)) + B_{\bar{N}}(2N + 213 - (2N + 190)) + B_{\bar{N}}(2N + 213 - (N + 296)) \\
&= B_{\bar{N}}(N - 87) + B_{\bar{N}}(23) + B_{\bar{N}}(N - 83) = (N - 87) + 23 + (N - 83) = \mathbf{2N} - \mathbf{147} \\
&(N \geq 292)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{214}) &= B_{\bar{N}}(2N + 214 - B_{\bar{N}}(2N + 213)) + B_{\bar{N}}(2N + 214 - B_{\bar{N}}(2N + 212)) + B_{\bar{N}}(2N + 214 - B_{\bar{N}}(2N + 211)) \\
&= B_{\bar{N}}(2N + 214 - (2N - 147)) + B_{\bar{N}}(2N + 214 - (N + 300)) + B_{\bar{N}}(2N + 214 - (2N + 190)) \\
&= B_{\bar{N}}(361) + B_{\bar{N}}(N - 86) + B_{\bar{N}}(24) = 361 + (N - 86) + 24 = \mathbf{N} + \mathbf{299} \\
&(N \geq 361)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{215}) &= B_{\bar{N}}(2N + 215 - B_{\bar{N}}(2N + 214)) + B_{\bar{N}}(2N + 215 - B_{\bar{N}}(2N + 213)) + B_{\bar{N}}(2N + 215 - B_{\bar{N}}(2N + 212)) \\
&= B_{\bar{N}}(2N + 215 - (N + 299)) + B_{\bar{N}}(2N + 215 - (2N - 147)) + B_{\bar{N}}(2N + 215 - (N + 300)) \\
&= B_{\bar{N}}(N - 84) + B_{\bar{N}}(362) + B_{\bar{N}}(N - 85) = (N - 84) + 362 + (N - 85) = \mathbf{2N} + \mathbf{193} \\
&(N \geq 362)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{216}) &= B_{\bar{N}}(2N + 216 - B_{\bar{N}}(2N + 215)) + B_{\bar{N}}(2N + 216 - B_{\bar{N}}(2N + 214)) + B_{\bar{N}}(2N + 216 - B_{\bar{N}}(2N + 213)) \\
&= B_{\bar{N}}(2N + 216 - (2N + 193)) + B_{\bar{N}}(2N + 216 - (N + 299)) + B_{\bar{N}}(2N + 216 - (2N - 147)) \\
&= B_{\bar{N}}(23) + B_{\bar{N}}(N - 83) + B_{\bar{N}}(363) = 23 + (N - 83) + 363 = \mathbf{N} + \mathbf{303} \\
&(N \geq 363)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{217}) &= B_{\bar{N}}(2N + 217 - B_{\bar{N}}(2N + 216)) + B_{\bar{N}}(2N + 217 - B_{\bar{N}}(2N + 215)) + B_{\bar{N}}(2N + 217 - B_{\bar{N}}(2N + 214)) \\
&= B_{\bar{N}}(2N + 217 - (N + 303)) + B_{\bar{N}}(2N + 217 - (2N + 193)) + B_{\bar{N}}(2N + 217 - (N + 299)) \\
&= B_{\bar{N}}(N - 86) + B_{\bar{N}}(24) + B_{\bar{N}}(N - 82) = (N - 86) + 24 + (N - 82) = \mathbf{2N} - \mathbf{144} \\
&(N \geq 293)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{218}) &= B_{\bar{N}}(2N + 218 - B_{\bar{N}}(2N + 217)) + B_{\bar{N}}(2N + 218 - B_{\bar{N}}(2N + 216)) + B_{\bar{N}}(2N + 218 - B_{\bar{N}}(2N + 215)) \\
&= B_{\bar{N}}(2N + 218 - (2N - 144)) + B_{\bar{N}}(2N + 218 - (N + 303)) + B_{\bar{N}}(2N + 218 - (2N + 193)) \\
&= B_{\bar{N}}(362) + B_{\bar{N}}(N - 85) + B_{\bar{N}}(25) = 362 + (N - 85) + 25 = \mathbf{N} + \mathbf{302} \\
&(N \geq 362)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{219}) &= B_{\bar{N}}(2N + 219 - B_{\bar{N}}(2N + 218)) + B_{\bar{N}}(2N + 219 - B_{\bar{N}}(2N + 217)) + B_{\bar{N}}(2N + 219 - B_{\bar{N}}(2N + 216)) \\
&= B_{\bar{N}}(2N + 219 - (N + 302)) + B_{\bar{N}}(2N + 219 - (2N - 144)) + B_{\bar{N}}(2N + 219 - (N + 303)) \\
&= B_{\bar{N}}(N - 83) + B_{\bar{N}}(363) + B_{\bar{N}}(N - 84) = (N - 83) + 363 + (N - 84) = \mathbf{2N} + \mathbf{196} \\
&(N \geq 363)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{220}) &= B_{\bar{N}}(2N + 220 - B_{\bar{N}}(2N + 219)) + B_{\bar{N}}(2N + 220 - B_{\bar{N}}(2N + 218)) + B_{\bar{N}}(2N + 220 - B_{\bar{N}}(2N + 217)) \\
&= B_{\bar{N}}(2N + 220 - (2N + 196)) + B_{\bar{N}}(2N + 220 - (N + 302)) + B_{\bar{N}}(2N + 220 - (2N - 144)) \\
&= B_{\bar{N}}(24) + B_{\bar{N}}(N - 82) + B_{\bar{N}}(364) = 24 + (N - 82) + 364 = \mathbf{N} + \mathbf{306} \\
&(N \geq 364)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{221}) &= B_{\bar{N}}(2N + 221 - B_{\bar{N}}(2N + 220)) + B_{\bar{N}}(2N + 221 - B_{\bar{N}}(2N + 219)) + B_{\bar{N}}(2N + 221 - B_{\bar{N}}(2N + 218)) \\
&= B_{\bar{N}}(2N + 221 - (N + 306)) + B_{\bar{N}}(2N + 221 - (2N + 196)) + B_{\bar{N}}(2N + 221 - (N + 302)) \\
&= B_{\bar{N}}(N - 85) + B_{\bar{N}}(25) + B_{\bar{N}}(N - 81) = (N - 85) + 25 + (N - 81) = \mathbf{2N} - \mathbf{141} \\
&(N \geq 294)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{222}) &= B_{\bar{N}}(2N + 222 - B_{\bar{N}}(2N + 221)) + B_{\bar{N}}(2N + 222 - B_{\bar{N}}(2N + 220)) + B_{\bar{N}}(2N + 222 - B_{\bar{N}}(2N + 219)) \\
&= B_{\bar{N}}(2N + 222 - (2N - 141)) + B_{\bar{N}}(2N + 222 - (N + 306)) + B_{\bar{N}}(2N + 222 - (2N + 196)) \\
&= B_{\bar{N}}(363) + B_{\bar{N}}(N - 84) + B_{\bar{N}}(26) = 363 + (N - 84) + 26 = \mathbf{N} + \mathbf{305} \\
&(N \geq 363)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{223}) &= B_{\bar{N}}(2N + 223 - B_{\bar{N}}(2N + 222)) + B_{\bar{N}}(2N + 223 - B_{\bar{N}}(2N + 221)) + B_{\bar{N}}(2N + 223 - B_{\bar{N}}(2N + 220)) \\
&= B_{\bar{N}}(2N + 223 - (N + 305)) + B_{\bar{N}}(2N + 223 - (2N - 141)) + B_{\bar{N}}(2N + 223 - (N + 306)) \\
&= B_{\bar{N}}(N - 82) + B_{\bar{N}}(364) + B_{\bar{N}}(N - 83) = (N - 82) + 364 + (N - 83) = \mathbf{2N} + \mathbf{199} \\
&(N \geq 364)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{224}) &= B_{\bar{N}}(2N + 224 - B_{\bar{N}}(2N + 223)) + B_{\bar{N}}(2N + 224 - B_{\bar{N}}(2N + 222)) + B_{\bar{N}}(2N + 224 - B_{\bar{N}}(2N + 221)) \\
&= B_{\bar{N}}(2N + 224 - (2N + 199)) + B_{\bar{N}}(2N + 224 - (N + 305)) + B_{\bar{N}}(2N + 224 - (2N - 141)) \\
&= B_{\bar{N}}(25) + B_{\bar{N}}(N - 81) + B_{\bar{N}}(365) = 25 + (N - 81) + 365 = \mathbf{N} + \mathbf{309} \\
&(N \geq 365)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{225}) &= B_{\bar{N}}(2N + 225 - B_{\bar{N}}(2N + 224)) + B_{\bar{N}}(2N + 225 - B_{\bar{N}}(2N + 223)) + B_{\bar{N}}(2N + 225 - B_{\bar{N}}(2N + 222)) \\
&= B_{\bar{N}}(2N + 225 - (N + 309)) + B_{\bar{N}}(2N + 225 - (2N + 199)) + B_{\bar{N}}(2N + 225 - (N + 305)) \\
&= B_{\bar{N}}(N - 84) + B_{\bar{N}}(26) + B_{\bar{N}}(N - 80) = (N - 84) + 26 + (N - 80) = \mathbf{2N} - \mathbf{138} \\
&(N \geq 295)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{226}) &= B_{\bar{N}}(2N + 226 - B_{\bar{N}}(2N + 225)) + B_{\bar{N}}(2N + 226 - B_{\bar{N}}(2N + 224)) + B_{\bar{N}}(2N + 226 - B_{\bar{N}}(2N + 223)) \\
&= B_{\bar{N}}(2N + 226 - (2N - 138)) + B_{\bar{N}}(2N + 226 - (N + 309)) + B_{\bar{N}}(2N + 226 - (2N + 199)) \\
&= B_{\bar{N}}(364) + B_{\bar{N}}(N - 83) + B_{\bar{N}}(27) = 364 + (N - 83) + 27 = \mathbf{N} + \mathbf{308} \\
&(N \geq 364)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{227}) &= B_{\bar{N}}(2N + 227 - B_{\bar{N}}(2N + 226)) + B_{\bar{N}}(2N + 227 - B_{\bar{N}}(2N + 225)) + B_{\bar{N}}(2N + 227 - B_{\bar{N}}(2N + 224)) \\
&= B_{\bar{N}}(2N + 227 - (N + 308)) + B_{\bar{N}}(2N + 227 - (2N - 138)) + B_{\bar{N}}(2N + 227 - (N + 309)) \\
&= B_{\bar{N}}(N - 81) + B_{\bar{N}}(365) + B_{\bar{N}}(N - 82) = (N - 81) + 365 + (N - 82) = \mathbf{2N} + \mathbf{202} \\
&(N \geq 365)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{228}) &= B_{\bar{N}}(2N + 228 - B_{\bar{N}}(2N + 227)) + B_{\bar{N}}(2N + 228 - B_{\bar{N}}(2N + 226)) + B_{\bar{N}}(2N + 228 - B_{\bar{N}}(2N + 225)) \\
&= B_{\bar{N}}(2N + 228 - (2N + 202)) + B_{\bar{N}}(2N + 228 - (N + 308)) + B_{\bar{N}}(2N + 228 - (2N - 138)) \\
&= B_{\bar{N}}(26) + B_{\bar{N}}(N - 80) + B_{\bar{N}}(366) = 26 + (N - 80) + 366 = \mathbf{N} + \mathbf{312} \\
&(N \geq 366)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{229}) &= B_{\bar{N}}(2N + 229 - B_{\bar{N}}(2N + 228)) + B_{\bar{N}}(2N + 229 - B_{\bar{N}}(2N + 227)) + B_{\bar{N}}(2N + 229 - B_{\bar{N}}(2N + 226)) \\
&= B_{\bar{N}}(2N + 229 - (N + 312)) + B_{\bar{N}}(2N + 229 - (2N + 202)) + B_{\bar{N}}(2N + 229 - (N + 308)) \\
&= B_{\bar{N}}(N - 83) + B_{\bar{N}}(27) + B_{\bar{N}}(N - 79) = (N - 83) + 27 + (N - 79) = \mathbf{2N} - \mathbf{135} \\
&(N \geq 296)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{230}) &= B_{\bar{N}}(2N + 230 - B_{\bar{N}}(2N + 229)) + B_{\bar{N}}(2N + 230 - B_{\bar{N}}(2N + 228)) + B_{\bar{N}}(2N + 230 - B_{\bar{N}}(2N + 227)) \\
&= B_{\bar{N}}(2N + 230 - (2N - 135)) + B_{\bar{N}}(2N + 230 - (N + 312)) + B_{\bar{N}}(2N + 230 - (2N + 202)) \\
&= B_{\bar{N}}(365) + B_{\bar{N}}(N - 82) + B_{\bar{N}}(28) = 365 + (N - 82) + 28 = \mathbf{N} + \mathbf{311} \\
&(N \geq 365)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{231}) &= B_{\bar{N}}(2N + 231 - B_{\bar{N}}(2N + 230)) + B_{\bar{N}}(2N + 231 - B_{\bar{N}}(2N + 229)) + B_{\bar{N}}(2N + 231 - B_{\bar{N}}(2N + 228)) \\
&= B_{\bar{N}}(2N + 231 - (N + 311)) + B_{\bar{N}}(2N + 231 - (2N - 135)) + B_{\bar{N}}(2N + 231 - (N + 312)) \\
&= B_{\bar{N}}(N - 80) + B_{\bar{N}}(366) + B_{\bar{N}}(N - 81) = (N - 80) + 366 + (N - 81) = \mathbf{2N} + \mathbf{205} \\
&(N \geq 366)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{232}) &= B_{\bar{N}}(2N + 232 - B_{\bar{N}}(2N + 231)) + B_{\bar{N}}(2N + 232 - B_{\bar{N}}(2N + 230)) + B_{\bar{N}}(2N + 232 - B_{\bar{N}}(2N + 229)) \\
&= B_{\bar{N}}(2N + 232 - (2N + 205)) + B_{\bar{N}}(2N + 232 - (N + 311)) + B_{\bar{N}}(2N + 232 - (2N - 135)) \\
&= B_{\bar{N}}(27) + B_{\bar{N}}(N - 79) + B_{\bar{N}}(367) = 27 + (N - 79) + 367 = \mathbf{N} + \mathbf{315} \\
&(N \geq 367)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{233}) &= B_{\bar{N}}(2N + 233 - B_{\bar{N}}(2N + 232)) + B_{\bar{N}}(2N + 233 - B_{\bar{N}}(2N + 231)) + B_{\bar{N}}(2N + 233 - B_{\bar{N}}(2N + 230)) \\
&= B_{\bar{N}}(2N + 233 - (N + 315)) + B_{\bar{N}}(2N + 233 - (2N + 205)) + B_{\bar{N}}(2N + 233 - (N + 311)) \\
&= B_{\bar{N}}(N - 82) + B_{\bar{N}}(28) + B_{\bar{N}}(N - 78) = (N - 82) + 28 + (N - 78) = \mathbf{2N} - \mathbf{132} \\
&(N \geq 297)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{234}) &= B_{\bar{N}}(2N + 234 - B_{\bar{N}}(2N + 233)) + B_{\bar{N}}(2N + 234 - B_{\bar{N}}(2N + 232)) + B_{\bar{N}}(2N + 234 - B_{\bar{N}}(2N + 231)) \\
&= B_{\bar{N}}(2N + 234 - (2N - 132)) + B_{\bar{N}}(2N + 234 - (N + 315)) + B_{\bar{N}}(2N + 234 - (2N + 205)) \\
&= B_{\bar{N}}(366) + B_{\bar{N}}(N - 81) + B_{\bar{N}}(29) = 366 + (N - 81) + 29 = \mathbf{N} + \mathbf{314} \\
&(N \geq 366)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{235}) &= B_{\bar{N}}(2N + 235 - B_{\bar{N}}(2N + 234)) + B_{\bar{N}}(2N + 235 - B_{\bar{N}}(2N + 233)) + B_{\bar{N}}(2N + 235 - B_{\bar{N}}(2N + 232)) \\
&= B_{\bar{N}}(2N + 235 - (N + 314)) + B_{\bar{N}}(2N + 235 - (2N - 132)) + B_{\bar{N}}(2N + 235 - (N + 315)) \\
&= B_{\bar{N}}(N - 79) + B_{\bar{N}}(367) + B_{\bar{N}}(N - 80) = (N - 79) + 367 + (N - 80) = \mathbf{2N} + \mathbf{208} \\
&(N \geq 367)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{236}) &= B_{\bar{N}}(2N + 236 - B_{\bar{N}}(2N + 235)) + B_{\bar{N}}(2N + 236 - B_{\bar{N}}(2N + 234)) + B_{\bar{N}}(2N + 236 - B_{\bar{N}}(2N + 233)) \\
&= B_{\bar{N}}(2N + 236 - (2N + 208)) + B_{\bar{N}}(2N + 236 - (N + 314)) + B_{\bar{N}}(2N + 236 - (2N - 132)) \\
&= B_{\bar{N}}(28) + B_{\bar{N}}(N - 78) + B_{\bar{N}}(368) = 28 + (N - 78) + 368 = \mathbf{N} + \mathbf{318} \\
&(N \geq 368)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{237}) &= B_{\bar{N}}(2N + 237 - B_{\bar{N}}(2N + 236)) + B_{\bar{N}}(2N + 237 - B_{\bar{N}}(2N + 235)) + B_{\bar{N}}(2N + 237 - B_{\bar{N}}(2N + 234)) \\
&= B_{\bar{N}}(2N + 237 - (N + 318)) + B_{\bar{N}}(2N + 237 - (2N + 208)) + B_{\bar{N}}(2N + 237 - (N + 314)) \\
&= B_{\bar{N}}(N - 81) + B_{\bar{N}}(29) + B_{\bar{N}}(N - 77) = (N - 81) + 29 + (N - 77) = \mathbf{2N} - \mathbf{129} \\
&(N \geq 366)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{238}) &= B_{\bar{N}}(2N + 238 - B_{\bar{N}}(2N + 237)) + B_{\bar{N}}(2N + 238 - B_{\bar{N}}(2N + 236)) + B_{\bar{N}}(2N + 238 - B_{\bar{N}}(2N + 235)) \\
&= B_{\bar{N}}(2N + 238 - (2N - 129)) + B_{\bar{N}}(2N + 238 - (N + 318)) + B_{\bar{N}}(2N + 238 - (2N + 208)) \\
&= B_{\bar{N}}(367) + B_{\bar{N}}(N - 80) + B_{\bar{N}}(30) = 367 + (N - 80) + 30 = \mathbf{N} + \mathbf{317} \\
&(N \geq 367)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{239}) &= B_{\bar{N}}(2N + 239 - B_{\bar{N}}(2N + 238)) + B_{\bar{N}}(2N + 239 - B_{\bar{N}}(2N + 237)) + B_{\bar{N}}(2N + 239 - B_{\bar{N}}(2N + 236)) \\
&= B_{\bar{N}}(2N + 239 - (N + 317)) + B_{\bar{N}}(2N + 239 - (2N - 129)) + B_{\bar{N}}(2N + 239 - (N + 318)) \\
&= B_{\bar{N}}(N - 78) + B_{\bar{N}}(368) + B_{\bar{N}}(N - 79) = (N - 78) + 368 + (N - 79) = \mathbf{2N} + \mathbf{211} \\
&(N \geq 368)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 240) &= B_{\bar{N}}(2N + 240 - B_{\bar{N}}(2N + 239)) + B_{\bar{N}}(2N + 240 - B_{\bar{N}}(2N + 238)) + B_{\bar{N}}(2N + 240 - B_{\bar{N}}(2N + 237)) \\
&= B_{\bar{N}}(2N + 240 - (2N + 211)) + B_{\bar{N}}(2N + 240 - (N + 317)) + B_{\bar{N}}(2N + 240 - (2N - 129)) \\
&= B_{\bar{N}}(29) + B_{\bar{N}}(N - 77) + B_{\bar{N}}(369) = 29 + (N - 77) + 369 = \mathbf{N} + \mathbf{321} \\
&(N \geq 369)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 241) &= B_{\bar{N}}(2N + 241 - B_{\bar{N}}(2N + 240)) + B_{\bar{N}}(2N + 241 - B_{\bar{N}}(2N + 239)) + B_{\bar{N}}(2N + 241 - B_{\bar{N}}(2N + 238)) \\
&= B_{\bar{N}}(2N + 241 - (N + 321)) + B_{\bar{N}}(2N + 241 - (2N + 211)) + B_{\bar{N}}(2N + 241 - (N + 317)) \\
&= B_{\bar{N}}(N - 80) + B_{\bar{N}}(30) + B_{\bar{N}}(N - 76) = (N - 80) + 30 + (N - 76) = \mathbf{2N} - \mathbf{126} \\
&(N \geq 299)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 242) &= B_{\bar{N}}(2N + 242 - B_{\bar{N}}(2N + 241)) + B_{\bar{N}}(2N + 242 - B_{\bar{N}}(2N + 240)) + B_{\bar{N}}(2N + 242 - B_{\bar{N}}(2N + 239)) \\
&= B_{\bar{N}}(2N + 242 - (2N - 126)) + B_{\bar{N}}(2N + 242 - (N + 321)) + B_{\bar{N}}(2N + 242 - (2N + 211)) \\
&= B_{\bar{N}}(368) + B_{\bar{N}}(N - 79) + B_{\bar{N}}(31) = 368 + (N - 79) + 31 = \mathbf{N} + \mathbf{320} \\
&(N \geq 368)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 243) &= B_{\bar{N}}(2N + 243 - B_{\bar{N}}(2N + 242)) + B_{\bar{N}}(2N + 243 - B_{\bar{N}}(2N + 241)) + B_{\bar{N}}(2N + 243 - B_{\bar{N}}(2N + 240)) \\
&= B_{\bar{N}}(2N + 243 - (N + 320)) + B_{\bar{N}}(2N + 243 - (2N - 126)) + B_{\bar{N}}(2N + 243 - (N + 321)) \\
&= B_{\bar{N}}(N - 77) + B_{\bar{N}}(369) + B_{\bar{N}}(N - 78) = (N - 77) + 369 + (N - 78) = \mathbf{2N} + \mathbf{214} \\
&(N \geq 369)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 244) &= B_{\bar{N}}(2N + 244 - B_{\bar{N}}(2N + 243)) + B_{\bar{N}}(2N + 244 - B_{\bar{N}}(2N + 242)) + B_{\bar{N}}(2N + 244 - B_{\bar{N}}(2N + 241)) \\
&= B_{\bar{N}}(2N + 244 - (2N + 214)) + B_{\bar{N}}(2N + 244 - (N + 320)) + B_{\bar{N}}(2N + 244 - (2N - 126)) \\
&= B_{\bar{N}}(30) + B_{\bar{N}}(N - 76) + B_{\bar{N}}(370) = 30 + (N - 76) + 370 = \mathbf{N} + \mathbf{324} \\
&(N \geq 370)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{245}) &= B_{\bar{N}}(2N + 245 - B_{\bar{N}}(2N + 244)) + B_{\bar{N}}(2N + 245 - B_{\bar{N}}(2N + 243)) + B_{\bar{N}}(2N + 245 - B_{\bar{N}}(2N + 242)) \\
&= B_{\bar{N}}(2N + 245 - (N + 324)) + B_{\bar{N}}(2N + 245 - (2N + 214)) + B_{\bar{N}}(2N + 245 - (N + 320)) \\
&= B_{\bar{N}}(N - 79) + B_{\bar{N}}(31) + B_{\bar{N}}(N - 75) = (N - 79) + 31 + (N - 75) = \mathbf{2N} - \mathbf{123} \\
&(N \geq 300)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{246}) &= B_{\bar{N}}(2N + 246 - B_{\bar{N}}(2N + 245)) + B_{\bar{N}}(2N + 246 - B_{\bar{N}}(2N + 244)) + B_{\bar{N}}(2N + 246 - B_{\bar{N}}(2N + 243)) \\
&= B_{\bar{N}}(2N + 246 - (2N - 123)) + B_{\bar{N}}(2N + 246 - (N + 324)) + B_{\bar{N}}(2N + 246 - (2N + 214)) \\
&= B_{\bar{N}}(369) + B_{\bar{N}}(N - 78) + B_{\bar{N}}(32) = 369 + (N - 78) + 32 = \mathbf{N} + \mathbf{323} \\
&(N \geq 369)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{247}) &= B_{\bar{N}}(2N + 247 - B_{\bar{N}}(2N + 246)) + B_{\bar{N}}(2N + 247 - B_{\bar{N}}(2N + 245)) + B_{\bar{N}}(2N + 247 - B_{\bar{N}}(2N + 244)) \\
&= B_{\bar{N}}(2N + 247 - (N + 323)) + B_{\bar{N}}(2N + 247 - (2N - 123)) + B_{\bar{N}}(2N + 247 - (N + 324)) \\
&= B_{\bar{N}}(N - 76) + B_{\bar{N}}(370) + B_{\bar{N}}(N - 77) = (N - 76) + 370 + (N - 77) = \mathbf{2N} + \mathbf{217} \\
&(N \geq 370)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{248}) &= B_{\bar{N}}(2N + 248 - B_{\bar{N}}(2N + 247)) + B_{\bar{N}}(2N + 248 - B_{\bar{N}}(2N + 246)) + B_{\bar{N}}(2N + 248 - B_{\bar{N}}(2N + 245)) \\
&= B_{\bar{N}}(2N + 248 - (2N + 217)) + B_{\bar{N}}(2N + 248 - (N + 323)) + B_{\bar{N}}(2N + 248 - (2N - 123)) \\
&= B_{\bar{N}}(31) + B_{\bar{N}}(N - 75) + B_{\bar{N}}(371) = 31 + (N - 75) + 371 = \mathbf{N} + \mathbf{327} \\
&(N \geq 371)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{249}) &= B_{\bar{N}}(2N + 249 - B_{\bar{N}}(2N + 248)) + B_{\bar{N}}(2N + 249 - B_{\bar{N}}(2N + 247)) + B_{\bar{N}}(2N + 249 - B_{\bar{N}}(2N + 246)) \\
&= B_{\bar{N}}(2N + 249 - (N + 327)) + B_{\bar{N}}(2N + 249 - (2N + 217)) + B_{\bar{N}}(2N + 249 - (N + 323)) \\
&= B_{\bar{N}}(N - 78) + B_{\bar{N}}(32) + B_{\bar{N}}(N - 74) = (N - 78) + 32 + (N - 74) = \mathbf{2N} - \mathbf{120} \\
&(N \geq 301)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 250) &= B_{\bar{N}}(2N + 250 - B_{\bar{N}}(2N + 249)) + B_{\bar{N}}(2N + 250 - B_{\bar{N}}(2N + 248)) + B_{\bar{N}}(2N + 250 - B_{\bar{N}}(2N + 247)) \\
&= B_{\bar{N}}(2N + 250 - (2N - 120)) + B_{\bar{N}}(2N + 250 - (N + 327)) + B_{\bar{N}}(2N + 250 - (2N + 217)) \\
&= B_{\bar{N}}(370) + B_{\bar{N}}(N - 77) + B_{\bar{N}}(33) = 370 + (N - 77) + 33 = \mathbf{N} + \mathbf{326} \\
&(N \geq 370)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 251) &= B_{\bar{N}}(2N + 251 - B_{\bar{N}}(2N + 250)) + B_{\bar{N}}(2N + 251 - B_{\bar{N}}(2N + 249)) + B_{\bar{N}}(2N + 251 - B_{\bar{N}}(2N + 248)) \\
&= B_{\bar{N}}(2N + 251 - (N + 326)) + B_{\bar{N}}(2N + 251 - (2N - 120)) + B_{\bar{N}}(2N + 251 - (N + 327)) \\
&= B_{\bar{N}}(N - 75) + B_{\bar{N}}(371) + B_{\bar{N}}(N - 76) = (N - 75) + 371 + (N - 76) = \mathbf{2N} + \mathbf{220} \\
&(N \geq 371)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 252) &= B_{\bar{N}}(2N + 252 - B_{\bar{N}}(2N + 251)) + B_{\bar{N}}(2N + 252 - B_{\bar{N}}(2N + 250)) + B_{\bar{N}}(2N + 252 - B_{\bar{N}}(2N + 249)) \\
&= B_{\bar{N}}(2N + 252 - (2N + 220)) + B_{\bar{N}}(2N + 252 - (N + 326)) + B_{\bar{N}}(2N + 252 - (2N - 120)) \\
&= B_{\bar{N}}(32) + B_{\bar{N}}(N - 74) + B_{\bar{N}}(372) = 32 + (N - 74) + 372 = \mathbf{N} + \mathbf{330} \\
&(N \geq 372)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 253) &= B_{\bar{N}}(2N + 253 - B_{\bar{N}}(2N + 252)) + B_{\bar{N}}(2N + 253 - B_{\bar{N}}(2N + 251)) + B_{\bar{N}}(2N + 253 - B_{\bar{N}}(2N + 250)) \\
&= B_{\bar{N}}(2N + 253 - (N + 330)) + B_{\bar{N}}(2N + 253 - (2N + 220)) + B_{\bar{N}}(2N + 253 - (N + 326)) \\
&= B_{\bar{N}}(N - 77) + B_{\bar{N}}(33) + B_{\bar{N}}(N - 73) = (N - 77) + 33 + (N - 73) = \mathbf{2N} - \mathbf{117} \\
&(N \geq 322)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 254) &= B_{\bar{N}}(2N + 254 - B_{\bar{N}}(2N + 253)) + B_{\bar{N}}(2N + 254 - B_{\bar{N}}(2N + 252)) + B_{\bar{N}}(2N + 254 - B_{\bar{N}}(2N + 251)) \\
&= B_{\bar{N}}(2N + 254 - (2N - 117)) + B_{\bar{N}}(2N + 254 - (N + 330)) + B_{\bar{N}}(2N + 254 - (2N + 220)) \\
&= B_{\bar{N}}(371) + B_{\bar{N}}(N - 76) + B_{\bar{N}}(34) = 371 + (N - 76) + 34 = \mathbf{N} + \mathbf{329} \\
&(\mathbf{N} \geq \mathbf{2087})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{255}) &= B_{\bar{N}}(2N + 255 - B_{\bar{N}}(2N + 254)) + B_{\bar{N}}(2N + 255 - B_{\bar{N}}(2N + 253)) + B_{\bar{N}}(2N + 255 - B_{\bar{N}}(2N + 252)) \\
&= B_{\bar{N}}(2N + 255 - (N + 329)) + B_{\bar{N}}(2N + 255 - (2N - 117)) + B_{\bar{N}}(2N + 255 - (N + 330)) \\
&= B_{\bar{N}}(N - 74) + B_{\bar{N}}(372) + B_{\bar{N}}(N - 75) = (N - 74) + 372 + (N - 75) = \mathbf{2N} + \mathbf{223} \\
&(N \geq 372)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{256}) &= B_{\bar{N}}(2N + 256 - B_{\bar{N}}(2N + 255)) + B_{\bar{N}}(2N + 256 - B_{\bar{N}}(2N + 254)) + B_{\bar{N}}(2N + 256 - B_{\bar{N}}(2N + 253)) \\
&= B_{\bar{N}}(2N + 256 - (2N + 223)) + B_{\bar{N}}(2N + 256 - (N + 329)) + B_{\bar{N}}(2N + 256 - (2N - 117)) \\
&= B_{\bar{N}}(33) + B_{\bar{N}}(N - 73) + B_{\bar{N}}(373) = 33 + (N - 73) + 373 = \mathbf{N} + \mathbf{333} \\
&(N \geq 373)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{257}) &= B_{\bar{N}}(2N + 257 - B_{\bar{N}}(2N + 256)) + B_{\bar{N}}(2N + 257 - B_{\bar{N}}(2N + 255)) + B_{\bar{N}}(2N + 257 - B_{\bar{N}}(2N + 254)) \\
&= B_{\bar{N}}(2N + 257 - (N + 333)) + B_{\bar{N}}(2N + 257 - (2N + 223)) + B_{\bar{N}}(2N + 257 - (N + 329)) \\
&= B_{\bar{N}}(N - 76) + B_{\bar{N}}(34) + B_{\bar{N}}(N - 72) = (N - 76) + 34 + (N - 72) = \mathbf{2N} - \mathbf{114} \\
&(N \geq 303)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{258}) &= B_{\bar{N}}(2N + 258 - B_{\bar{N}}(2N + 257)) + B_{\bar{N}}(2N + 258 - B_{\bar{N}}(2N + 256)) + B_{\bar{N}}(2N + 258 - B_{\bar{N}}(2N + 255)) \\
&= B_{\bar{N}}(2N + 258 - (2N - 114)) + B_{\bar{N}}(2N + 258 - (N + 333)) + B_{\bar{N}}(2N + 258 - (2N + 223)) \\
&= B_{\bar{N}}(372) + B_{\bar{N}}(N - 75) + B_{\bar{N}}(35) = 372 + (N - 75) + 35 = \mathbf{N} + \mathbf{332} \\
&(N \geq 372)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{259}) &= B_{\bar{N}}(2N + 259 - B_{\bar{N}}(2N + 258)) + B_{\bar{N}}(2N + 259 - B_{\bar{N}}(2N + 257)) + B_{\bar{N}}(2N + 259 - B_{\bar{N}}(2N + 256)) \\
&= B_{\bar{N}}(2N + 259 - (N + 332)) + B_{\bar{N}}(2N + 259 - (2N - 114)) + B_{\bar{N}}(2N + 259 - (N + 333)) \\
&= B_{\bar{N}}(N - 73) + B_{\bar{N}}(373) + B_{\bar{N}}(N - 74) = (N - 73) + 373 + (N - 74) = \mathbf{2N} + \mathbf{226} \\
&(N \geq 373)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 260) &= B_{\bar{N}}(2N + 260 - B_{\bar{N}}(2N + 259)) + B_{\bar{N}}(2N + 260 - B_{\bar{N}}(2N + 258)) + B_{\bar{N}}(2N + 260 - B_{\bar{N}}(2N + 257)) \\
&= B_{\bar{N}}(2N + 260 - (2N + 226)) + B_{\bar{N}}(2N + 260 - (N + 332)) + B_{\bar{N}}(2N + 260 - (2N - 114)) \\
&= B_{\bar{N}}(34) + B_{\bar{N}}(N - 72) + B_{\bar{N}}(374) = 34 + (N - 72) + 374 = \mathbf{N} + \mathbf{336} \\
&(N \geq 374)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 261) &= B_{\bar{N}}(2N + 261 - B_{\bar{N}}(2N + 260)) + B_{\bar{N}}(2N + 261 - B_{\bar{N}}(2N + 259)) + B_{\bar{N}}(2N + 261 - B_{\bar{N}}(2N + 258)) \\
&= B_{\bar{N}}(2N + 261 - (N + 336)) + B_{\bar{N}}(2N + 261 - (2N + 226)) + B_{\bar{N}}(2N + 261 - (N + 332)) \\
&= B_{\bar{N}}(N - 75) + B_{\bar{N}}(35) + B_{\bar{N}}(N - 71) = (N - 75) + 35 + (N - 71) = \mathbf{2N} - \mathbf{111} \\
&(N \geq 304)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 262) &= B_{\bar{N}}(2N + 262 - B_{\bar{N}}(2N + 261)) + B_{\bar{N}}(2N + 262 - B_{\bar{N}}(2N + 260)) + B_{\bar{N}}(2N + 262 - B_{\bar{N}}(2N + 259)) \\
&= B_{\bar{N}}(2N + 262 - (2N - 111)) + B_{\bar{N}}(2N + 262 - (N + 336)) + B_{\bar{N}}(2N + 262 - (2N + 226)) \\
&= B_{\bar{N}}(373) + B_{\bar{N}}(N - 74) + B_{\bar{N}}(36) = 373 + (N - 74) + 36 = \mathbf{N} + \mathbf{335} \\
&(N \geq 373)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 263) &= B_{\bar{N}}(2N + 263 - B_{\bar{N}}(2N + 262)) + B_{\bar{N}}(2N + 263 - B_{\bar{N}}(2N + 261)) + B_{\bar{N}}(2N + 263 - B_{\bar{N}}(2N + 260)) \\
&= B_{\bar{N}}(2N + 263 - (N + 335)) + B_{\bar{N}}(2N + 263 - (2N - 111)) + B_{\bar{N}}(2N + 263 - (N + 336)) \\
&= B_{\bar{N}}(N - 72) + B_{\bar{N}}(374) + B_{\bar{N}}(N - 73) = (N - 72) + 374 + (N - 73) = \mathbf{2N} + \mathbf{229} \\
&(N \geq 374)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 264) &= B_{\bar{N}}(2N + 264 - B_{\bar{N}}(2N + 263)) + B_{\bar{N}}(2N + 264 - B_{\bar{N}}(2N + 262)) + B_{\bar{N}}(2N + 264 - B_{\bar{N}}(2N + 261)) \\
&= B_{\bar{N}}(2N + 264 - (2N + 229)) + B_{\bar{N}}(2N + 264 - (N + 335)) + B_{\bar{N}}(2N + 264 - (2N - 111)) \\
&= B_{\bar{N}}(35) + B_{\bar{N}}(N - 71) + B_{\bar{N}}(375) = 35 + (N - 71) + 375 = \mathbf{N} + \mathbf{339} \\
&(N \geq 375)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 265) &= B_{\bar{N}}(2N + 265 - B_{\bar{N}}(2N + 264)) + B_{\bar{N}}(2N + 265 - B_{\bar{N}}(2N + 263)) + B_{\bar{N}}(2N + 265 - B_{\bar{N}}(2N + 262)) \\
&= B_{\bar{N}}(2N + 265 - (N + 339)) + B_{\bar{N}}(2N + 265 - (2N + 229)) + B_{\bar{N}}(2N + 265 - (N + 335)) \\
&= B_{\bar{N}}(N - 74) + B_{\bar{N}}(36) + B_{\bar{N}}(N - 70) = (N - 74) + 36 + (N - 70) = \mathbf{2N} - \mathbf{108} \\
&(N \geq 305)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 266) &= B_{\bar{N}}(2N + 266 - B_{\bar{N}}(2N + 265)) + B_{\bar{N}}(2N + 266 - B_{\bar{N}}(2N + 264)) + B_{\bar{N}}(2N + 266 - B_{\bar{N}}(2N + 263)) \\
&= B_{\bar{N}}(2N + 266 - (2N - 108)) + B_{\bar{N}}(2N + 266 - (N + 339)) + B_{\bar{N}}(2N + 266 - (2N + 229)) \\
&= B_{\bar{N}}(374) + B_{\bar{N}}(N - 73) + B_{\bar{N}}(37) = 374 + (N - 73) + 37 = \mathbf{N} + \mathbf{338} \\
&(N \geq 374)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 267) &= B_{\bar{N}}(2N + 267 - B_{\bar{N}}(2N + 266)) + B_{\bar{N}}(2N + 267 - B_{\bar{N}}(2N + 265)) + B_{\bar{N}}(2N + 267 - B_{\bar{N}}(2N + 264)) \\
&= B_{\bar{N}}(2N + 267 - (N + 338)) + B_{\bar{N}}(2N + 267 - (2N - 108)) + B_{\bar{N}}(2N + 267 - (N + 339)) \\
&= B_{\bar{N}}(N - 71) + B_{\bar{N}}(375) + B_{\bar{N}}(N - 72) = (N - 71) + 375 + (N - 72) = \mathbf{2N} + \mathbf{232} \\
&(N \geq 375)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 268) &= B_{\bar{N}}(2N + 268 - B_{\bar{N}}(2N + 267)) + B_{\bar{N}}(2N + 268 - B_{\bar{N}}(2N + 266)) + B_{\bar{N}}(2N + 268 - B_{\bar{N}}(2N + 265)) \\
&= B_{\bar{N}}(2N + 268 - (2N + 232)) + B_{\bar{N}}(2N + 268 - (N + 338)) + B_{\bar{N}}(2N + 268 - (2N - 108)) \\
&= B_{\bar{N}}(36) + B_{\bar{N}}(N - 70) + B_{\bar{N}}(376) = 36 + (N - 70) + 376 = \mathbf{N} + \mathbf{342} \\
&(N \geq 376)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 269) &= B_{\bar{N}}(2N + 269 - B_{\bar{N}}(2N + 268)) + B_{\bar{N}}(2N + 269 - B_{\bar{N}}(2N + 267)) + B_{\bar{N}}(2N + 269 - B_{\bar{N}}(2N + 266)) \\
&= B_{\bar{N}}(2N + 269 - (N + 342)) + B_{\bar{N}}(2N + 269 - (2N + 232)) + B_{\bar{N}}(2N + 269 - (N + 338)) \\
&= B_{\bar{N}}(N - 73) + B_{\bar{N}}(37) + B_{\bar{N}}(N - 69) = (N - 73) + 37 + (N - 69) = \mathbf{2N} - \mathbf{105} \\
&(N \geq 306)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{270}) &= B_{\bar{N}}(2N + 270 - B_{\bar{N}}(2N + 269)) + B_{\bar{N}}(2N + 270 - B_{\bar{N}}(2N + 268)) + B_{\bar{N}}(2N + 270 - B_{\bar{N}}(2N + 267)) \\
&= B_{\bar{N}}(2N + 270 - (2N - 105)) + B_{\bar{N}}(2N + 270 - (N + 342)) + B_{\bar{N}}(2N + 270 - (2N + 232)) \\
&= B_{\bar{N}}(375) + B_{\bar{N}}(N - 72) + B_{\bar{N}}(38) = 375 + (N - 72) + 38 = \mathbf{N} + \mathbf{341} \\
&(N \geq 375)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{271}) &= B_{\bar{N}}(2N + 271 - B_{\bar{N}}(2N + 270)) + B_{\bar{N}}(2N + 271 - B_{\bar{N}}(2N + 269)) + B_{\bar{N}}(2N + 271 - B_{\bar{N}}(2N + 268)) \\
&= B_{\bar{N}}(2N + 271 - (N + 341)) + B_{\bar{N}}(2N + 271 - (2N - 105)) + B_{\bar{N}}(2N + 271 - (N + 342)) \\
&= B_{\bar{N}}(N - 70) + B_{\bar{N}}(376) + B_{\bar{N}}(N - 71) = (N - 70) + 376 + (N - 71) = \mathbf{2N} + \mathbf{235} \\
&(N \geq 376)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{272}) &= B_{\bar{N}}(2N + 272 - B_{\bar{N}}(2N + 271)) + B_{\bar{N}}(2N + 272 - B_{\bar{N}}(2N + 270)) + B_{\bar{N}}(2N + 272 - B_{\bar{N}}(2N + 269)) \\
&= B_{\bar{N}}(2N + 272 - (2N + 235)) + B_{\bar{N}}(2N + 272 - (N + 341)) + B_{\bar{N}}(2N + 272 - (2N - 105)) \\
&= B_{\bar{N}}(37) + B_{\bar{N}}(N - 69) + B_{\bar{N}}(377) = 37 + (N - 69) + 377 = \mathbf{N} + \mathbf{345} \\
&(N \geq 377)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{273}) &= B_{\bar{N}}(2N + 273 - B_{\bar{N}}(2N + 272)) + B_{\bar{N}}(2N + 273 - B_{\bar{N}}(2N + 271)) + B_{\bar{N}}(2N + 273 - B_{\bar{N}}(2N + 270)) \\
&= B_{\bar{N}}(2N + 273 - (N + 345)) + B_{\bar{N}}(2N + 273 - (2N + 235)) + B_{\bar{N}}(2N + 273 - (N + 341)) \\
&= B_{\bar{N}}(N - 72) + B_{\bar{N}}(38) + B_{\bar{N}}(N - 68) = (N - 72) + 38 + (N - 68) = \mathbf{2N} - \mathbf{102} \\
&(N \geq 307)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{274}) &= B_{\bar{N}}(2N + 274 - B_{\bar{N}}(2N + 273)) + B_{\bar{N}}(2N + 274 - B_{\bar{N}}(2N + 272)) + B_{\bar{N}}(2N + 274 - B_{\bar{N}}(2N + 271)) \\
&= B_{\bar{N}}(2N + 274 - (2N - 102)) + B_{\bar{N}}(2N + 274 - (N + 345)) + B_{\bar{N}}(2N + 274 - (2N + 235)) \\
&= B_{\bar{N}}(376) + B_{\bar{N}}(N - 71) + B_{\bar{N}}(39) = 376 + (N - 71) + 39 = \mathbf{N} + \mathbf{344} \\
&(N \geq 376)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 275) &= B_{\bar{N}}(2N + 275 - B_{\bar{N}}(2N + 274)) + B_{\bar{N}}(2N + 275 - B_{\bar{N}}(2N + 273)) + B_{\bar{N}}(2N + 275 - B_{\bar{N}}(2N + 272)) \\
&= B_{\bar{N}}(2N + 275 - (N + 344)) + B_{\bar{N}}(2N + 275 - (2N - 102)) + B_{\bar{N}}(2N + 275 - (N + 345)) \\
&= B_{\bar{N}}(N - 69) + B_{\bar{N}}(377) + B_{\bar{N}}(N - 70) = (N - 69) + 377 + (N - 70) = \mathbf{2N} + \mathbf{238} \\
&(N \geq 377)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 276) &= B_{\bar{N}}(2N + 276 - B_{\bar{N}}(2N + 275)) + B_{\bar{N}}(2N + 276 - B_{\bar{N}}(2N + 274)) + B_{\bar{N}}(2N + 276 - B_{\bar{N}}(2N + 273)) \\
&= B_{\bar{N}}(2N + 276 - (2N + 238)) + B_{\bar{N}}(2N + 276 - (N + 344)) + B_{\bar{N}}(2N + 276 - (2N - 102)) \\
&= B_{\bar{N}}(38) + B_{\bar{N}}(N - 68) + B_{\bar{N}}(378) = 38 + (N - 68) + 378 = \mathbf{N} + \mathbf{348} \\
&(N \geq 378)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 277) &= B_{\bar{N}}(2N + 277 - B_{\bar{N}}(2N + 276)) + B_{\bar{N}}(2N + 277 - B_{\bar{N}}(2N + 275)) + B_{\bar{N}}(2N + 277 - B_{\bar{N}}(2N + 274)) \\
&= B_{\bar{N}}(2N + 277 - (N + 348)) + B_{\bar{N}}(2N + 277 - (2N + 238)) + B_{\bar{N}}(2N + 277 - (N + 344)) \\
&= B_{\bar{N}}(N - 71) + B_{\bar{N}}(39) + B_{\bar{N}}(N - 67) = (N - 71) + 39 + (N - 67) = \mathbf{2N} - \mathbf{99} \\
&(N \geq 308)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 278) &= B_{\bar{N}}(2N + 278 - B_{\bar{N}}(2N + 277)) + B_{\bar{N}}(2N + 278 - B_{\bar{N}}(2N + 276)) + B_{\bar{N}}(2N + 278 - B_{\bar{N}}(2N + 275)) \\
&= B_{\bar{N}}(2N + 278 - (2N - 99)) + B_{\bar{N}}(2N + 278 - (N + 348)) + B_{\bar{N}}(2N + 278 - (2N + 238)) \\
&= B_{\bar{N}}(377) + B_{\bar{N}}(N - 70) + B_{\bar{N}}(40) = 377 + (N - 70) + 40 = \mathbf{N} + \mathbf{347} \\
&(N \geq 377)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 279) &= B_{\bar{N}}(2N + 279 - B_{\bar{N}}(2N + 278)) + B_{\bar{N}}(2N + 279 - B_{\bar{N}}(2N + 277)) + B_{\bar{N}}(2N + 279 - B_{\bar{N}}(2N + 276)) \\
&= B_{\bar{N}}(2N + 279 - (N + 347)) + B_{\bar{N}}(2N + 279 - (2N - 99)) + B_{\bar{N}}(2N + 279 - (N + 348)) \\
&= B_{\bar{N}}(N - 68) + B_{\bar{N}}(378) + B_{\bar{N}}(N - 69) = (N - 68) + 378 + (N - 69) = \mathbf{2N} + \mathbf{241} \\
&(N \geq 378)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 280) &= B_{\bar{N}}(2N + 280 - B_{\bar{N}}(2N + 279)) + B_{\bar{N}}(2N + 280 - B_{\bar{N}}(2N + 278)) + B_{\bar{N}}(2N + 280 - B_{\bar{N}}(2N + 277)) \\
&= B_{\bar{N}}(2N + 280 - (2N + 241)) + B_{\bar{N}}(2N + 280 - (N + 347)) + B_{\bar{N}}(2N + 280 - (2N - 99)) \\
&= B_{\bar{N}}(39) + B_{\bar{N}}(N - 67) + B_{\bar{N}}(379) = 39 + (N - 67) + 379 = \mathbf{N} + \mathbf{351} \\
&(N \geq 379)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 281) &= B_{\bar{N}}(2N + 281 - B_{\bar{N}}(2N + 280)) + B_{\bar{N}}(2N + 281 - B_{\bar{N}}(2N + 279)) + B_{\bar{N}}(2N + 281 - B_{\bar{N}}(2N + 278)) \\
&= B_{\bar{N}}(2N + 281 - (N + 351)) + B_{\bar{N}}(2N + 281 - (2N + 241)) + B_{\bar{N}}(2N + 281 - (N + 347)) \\
&= B_{\bar{N}}(N - 70) + B_{\bar{N}}(40) + B_{\bar{N}}(N - 66) = (N - 70) + 40 + (N - 66) = \mathbf{2N} - \mathbf{96} \\
&(N \geq 309)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 282) &= B_{\bar{N}}(2N + 282 - B_{\bar{N}}(2N + 281)) + B_{\bar{N}}(2N + 282 - B_{\bar{N}}(2N + 280)) + B_{\bar{N}}(2N + 282 - B_{\bar{N}}(2N + 279)) \\
&= B_{\bar{N}}(2N + 282 - (2N - 96)) + B_{\bar{N}}(2N + 282 - (N + 351)) + B_{\bar{N}}(2N + 282 - (2N + 241)) \\
&= B_{\bar{N}}(378) + B_{\bar{N}}(N - 69) + B_{\bar{N}}(41) = 378 + (N - 69) + 41 = \mathbf{N} + \mathbf{350} \\
&(N \geq 378)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 283) &= B_{\bar{N}}(2N + 283 - B_{\bar{N}}(2N + 282)) + B_{\bar{N}}(2N + 283 - B_{\bar{N}}(2N + 281)) + B_{\bar{N}}(2N + 283 - B_{\bar{N}}(2N + 280)) \\
&= B_{\bar{N}}(2N + 283 - (N + 350)) + B_{\bar{N}}(2N + 283 - (2N - 96)) + B_{\bar{N}}(2N + 283 - (N + 351)) \\
&= B_{\bar{N}}(N - 67) + B_{\bar{N}}(379) + B_{\bar{N}}(N - 68) = (N - 67) + 379 + (N - 68) = \mathbf{2N} + \mathbf{244} \\
&(N \geq 379)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 284) &= B_{\bar{N}}(2N + 284 - B_{\bar{N}}(2N + 283)) + B_{\bar{N}}(2N + 284 - B_{\bar{N}}(2N + 282)) + B_{\bar{N}}(2N + 284 - B_{\bar{N}}(2N + 281)) \\
&= B_{\bar{N}}(2N + 284 - (2N + 244)) + B_{\bar{N}}(2N + 284 - (N + 350)) + B_{\bar{N}}(2N + 284 - (2N - 96)) \\
&= B_{\bar{N}}(40) + B_{\bar{N}}(N - 66) + B_{\bar{N}}(380) = 40 + (N - 66) + 380 = \mathbf{N} + \mathbf{354} \\
&(N \geq 380)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 285) &= B_{\bar{N}}(2N + 285 - B_{\bar{N}}(2N + 284)) + B_{\bar{N}}(2N + 285 - B_{\bar{N}}(2N + 283)) + B_{\bar{N}}(2N + 285 - B_{\bar{N}}(2N + 282)) \\
&= B_{\bar{N}}(2N + 285 - (N + 354)) + B_{\bar{N}}(2N + 285 - (2N + 244)) + B_{\bar{N}}(2N + 285 - (N + 350)) \\
&= B_{\bar{N}}(N - 69) + B_{\bar{N}}(41) + B_{\bar{N}}(N - 65) = (N - 69) + 41 + (N - 65) = \mathbf{2N} - \mathbf{93} \\
&(N \geq 310)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 286) &= B_{\bar{N}}(2N + 286 - B_{\bar{N}}(2N + 285)) + B_{\bar{N}}(2N + 286 - B_{\bar{N}}(2N + 284)) + B_{\bar{N}}(2N + 286 - B_{\bar{N}}(2N + 283)) \\
&= B_{\bar{N}}(2N + 286 - (2N - 93)) + B_{\bar{N}}(2N + 286 - (N + 354)) + B_{\bar{N}}(2N + 286 - (2N + 244)) \\
&= B_{\bar{N}}(379) + B_{\bar{N}}(N - 68) + B_{\bar{N}}(42) = 379 + (N - 68) + 42 = \mathbf{N} + \mathbf{353} \\
&(N \geq 379)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 287) &= B_{\bar{N}}(2N + 287 - B_{\bar{N}}(2N + 286)) + B_{\bar{N}}(2N + 287 - B_{\bar{N}}(2N + 285)) + B_{\bar{N}}(2N + 287 - B_{\bar{N}}(2N + 284)) \\
&= B_{\bar{N}}(2N + 287 - (N + 353)) + B_{\bar{N}}(2N + 287 - (2N - 93)) + B_{\bar{N}}(2N + 287 - (N + 354)) \\
&= B_{\bar{N}}(N - 66) + B_{\bar{N}}(380) + B_{\bar{N}}(N - 67) = (N - 66) + 380 + (N - 67) = \mathbf{2N} + \mathbf{247} \\
&(N \geq 380)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 288) &= B_{\bar{N}}(2N + 288 - B_{\bar{N}}(2N + 287)) + B_{\bar{N}}(2N + 288 - B_{\bar{N}}(2N + 286)) + B_{\bar{N}}(2N + 288 - B_{\bar{N}}(2N + 285)) \\
&= B_{\bar{N}}(2N + 288 - (2N + 247)) + B_{\bar{N}}(2N + 288 - (N + 353)) + B_{\bar{N}}(2N + 288 - (2N - 93)) \\
&= B_{\bar{N}}(41) + B_{\bar{N}}(N - 65) + B_{\bar{N}}(381) = 41 + (N - 65) + 381 = \mathbf{N} + \mathbf{357} \\
&(N \geq 381)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 289) &= B_{\bar{N}}(2N + 289 - B_{\bar{N}}(2N + 288)) + B_{\bar{N}}(2N + 289 - B_{\bar{N}}(2N + 287)) + B_{\bar{N}}(2N + 289 - B_{\bar{N}}(2N + 286)) \\
&= B_{\bar{N}}(2N + 289 - (N + 357)) + B_{\bar{N}}(2N + 289 - (2N + 247)) + B_{\bar{N}}(2N + 289 - (N + 353)) \\
&= B_{\bar{N}}(N - 68) + B_{\bar{N}}(42) + B_{\bar{N}}(N - 64) = (N - 68) + 42 + (N - 64) = \mathbf{2N} - \mathbf{90} \\
&(N \geq 311)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{290}) &= B_{\bar{N}}(2N + 290 - B_{\bar{N}}(2N + 289)) + B_{\bar{N}}(2N + 290 - B_{\bar{N}}(2N + 288)) + B_{\bar{N}}(2N + 290 - B_{\bar{N}}(2N + 287)) \\
&= B_{\bar{N}}(2N + 290 - (2N - 90)) + B_{\bar{N}}(2N + 290 - (N + 357)) + B_{\bar{N}}(2N + 290 - (2N + 247)) \\
&= B_{\bar{N}}(380) + B_{\bar{N}}(N - 67) + B_{\bar{N}}(43) = 380 + (N - 67) + 43 = \mathbf{N} + \mathbf{356} \\
&(N \geq 380)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{291}) &= B_{\bar{N}}(2N + 291 - B_{\bar{N}}(2N + 290)) + B_{\bar{N}}(2N + 291 - B_{\bar{N}}(2N + 289)) + B_{\bar{N}}(2N + 291 - B_{\bar{N}}(2N + 288)) \\
&= B_{\bar{N}}(2N + 291 - (N + 356)) + B_{\bar{N}}(2N + 291 - (2N - 90)) + B_{\bar{N}}(2N + 291 - (N + 357)) \\
&= B_{\bar{N}}(N - 65) + B_{\bar{N}}(381) + B_{\bar{N}}(N - 66) = (N - 65) + 381 + (N - 66) = \mathbf{2N} + \mathbf{250} \\
&(N \geq 381)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{292}) &= B_{\bar{N}}(2N + 292 - B_{\bar{N}}(2N + 291)) + B_{\bar{N}}(2N + 292 - B_{\bar{N}}(2N + 290)) + B_{\bar{N}}(2N + 292 - B_{\bar{N}}(2N + 289)) \\
&= B_{\bar{N}}(2N + 292 - (2N + 250)) + B_{\bar{N}}(2N + 292 - (N + 356)) + B_{\bar{N}}(2N + 292 - (2N - 90)) \\
&= B_{\bar{N}}(42) + B_{\bar{N}}(N - 64) + B_{\bar{N}}(382) = 42 + (N - 64) + 382 = \mathbf{N} + \mathbf{360} \\
&(N \geq 382)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{293}) &= B_{\bar{N}}(2N + 293 - B_{\bar{N}}(2N + 292)) + B_{\bar{N}}(2N + 293 - B_{\bar{N}}(2N + 291)) + B_{\bar{N}}(2N + 293 - B_{\bar{N}}(2N + 290)) \\
&= B_{\bar{N}}(2N + 293 - (N + 360)) + B_{\bar{N}}(2N + 293 - (2N + 250)) + B_{\bar{N}}(2N + 293 - (N + 356)) \\
&= B_{\bar{N}}(N - 67) + B_{\bar{N}}(43) + B_{\bar{N}}(N - 63) = (N - 67) + 43 + (N - 63) = \mathbf{2N} - \mathbf{87} \\
&(N \geq 312)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{294}) &= B_{\bar{N}}(2N + 294 - B_{\bar{N}}(2N + 293)) + B_{\bar{N}}(2N + 294 - B_{\bar{N}}(2N + 292)) + B_{\bar{N}}(2N + 294 - B_{\bar{N}}(2N + 291)) \\
&= B_{\bar{N}}(2N + 294 - (2N - 87)) + B_{\bar{N}}(2N + 294 - (N + 360)) + B_{\bar{N}}(2N + 294 - (2N + 250)) \\
&= B_{\bar{N}}(381) + B_{\bar{N}}(N - 66) + B_{\bar{N}}(44) = 381 + (N - 66) + 44 = \mathbf{N} + \mathbf{359} \\
&(N \geq 381)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{295}) &= B_{\bar{N}}(2N + 295 - B_{\bar{N}}(2N + 294)) + B_{\bar{N}}(2N + 295 - B_{\bar{N}}(2N + 293)) + B_{\bar{N}}(2N + 295 - B_{\bar{N}}(2N + 292)) \\
&= B_{\bar{N}}(2N + 295 - (N + 359)) + B_{\bar{N}}(2N + 295 - (2N - 87)) + B_{\bar{N}}(2N + 295 - (N + 360)) \\
&= B_{\bar{N}}(N - 64) + B_{\bar{N}}(382) + B_{\bar{N}}(N - 65) = (N - 64) + 382 + (N - 65) = \mathbf{2N} + \mathbf{253} \\
&(N \geq 382)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{296}) &= B_{\bar{N}}(2N + 296 - B_{\bar{N}}(2N + 295)) + B_{\bar{N}}(2N + 296 - B_{\bar{N}}(2N + 294)) + B_{\bar{N}}(2N + 296 - B_{\bar{N}}(2N + 293)) \\
&= B_{\bar{N}}(2N + 296 - (2N + 253)) + B_{\bar{N}}(2N + 296 - (N + 359)) + B_{\bar{N}}(2N + 296 - (2N - 87)) \\
&= B_{\bar{N}}(43) + B_{\bar{N}}(N - 63) + B_{\bar{N}}(383) = 43 + (N - 63) + 383 = \mathbf{N} + \mathbf{363} \\
&(N \geq 383)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{297}) &= B_{\bar{N}}(2N + 297 - B_{\bar{N}}(2N + 296)) + B_{\bar{N}}(2N + 297 - B_{\bar{N}}(2N + 295)) + B_{\bar{N}}(2N + 297 - B_{\bar{N}}(2N + 294)) \\
&= B_{\bar{N}}(2N + 297 - (N + 363)) + B_{\bar{N}}(2N + 297 - (2N + 253)) + B_{\bar{N}}(2N + 297 - (N + 359)) \\
&= B_{\bar{N}}(N - 66) + B_{\bar{N}}(44) + B_{\bar{N}}(N - 62) = (N - 66) + 44 + (N - 62) = \mathbf{2N} - \mathbf{84} \\
&(N \geq 313)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{298}) &= B_{\bar{N}}(2N + 298 - B_{\bar{N}}(2N + 297)) + B_{\bar{N}}(2N + 298 - B_{\bar{N}}(2N + 296)) + B_{\bar{N}}(2N + 298 - B_{\bar{N}}(2N + 295)) \\
&= B_{\bar{N}}(2N + 298 - (2N - 84)) + B_{\bar{N}}(2N + 298 - (N + 363)) + B_{\bar{N}}(2N + 298 - (2N + 253)) \\
&= B_{\bar{N}}(382) + B_{\bar{N}}(N - 65) + B_{\bar{N}}(45) = 382 + (N - 65) + 45 = \mathbf{N} + \mathbf{362} \\
&(N \geq 382)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{299}) &= B_{\bar{N}}(2N + 299 - B_{\bar{N}}(2N + 298)) + B_{\bar{N}}(2N + 299 - B_{\bar{N}}(2N + 297)) + B_{\bar{N}}(2N + 299 - B_{\bar{N}}(2N + 296)) \\
&= B_{\bar{N}}(2N + 299 - (N + 362)) + B_{\bar{N}}(2N + 299 - (2N - 84)) + B_{\bar{N}}(2N + 299 - (N + 363)) \\
&= B_{\bar{N}}(N - 63) + B_{\bar{N}}(383) + B_{\bar{N}}(N - 64) = (N - 63) + 383 + (N - 64) = \mathbf{2N} + \mathbf{256} \\
&(N \geq 383)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 300) &= B_{\bar{N}}(2N + 300 - B_{\bar{N}}(2N + 299)) + B_{\bar{N}}(2N + 300 - B_{\bar{N}}(2N + 298)) + B_{\bar{N}}(2N + 300 - B_{\bar{N}}(2N + 297)) \\
&= B_{\bar{N}}(2N + 300 - (2N + 256)) + B_{\bar{N}}(2N + 300 - (N + 362)) + B_{\bar{N}}(2N + 300 - (2N - 84)) \\
&= B_{\bar{N}}(44) + B_{\bar{N}}(N - 62) + B_{\bar{N}}(384) = 44 + (N - 62) + 384 = \mathbf{N} + \mathbf{366} \\
&(N \geq 384)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 301) &= B_{\bar{N}}(2N + 301 - B_{\bar{N}}(2N + 300)) + B_{\bar{N}}(2N + 301 - B_{\bar{N}}(2N + 299)) + B_{\bar{N}}(2N + 301 - B_{\bar{N}}(2N + 298)) \\
&= B_{\bar{N}}(2N + 301 - (N + 366)) + B_{\bar{N}}(2N + 301 - (2N + 256)) + B_{\bar{N}}(2N + 301 - (N + 362)) \\
&= B_{\bar{N}}(N - 65) + B_{\bar{N}}(45) + B_{\bar{N}}(N - 61) = (N - 65) + 45 + (N - 61) = \mathbf{2N} - \mathbf{81} \\
&(N \geq 314)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 302) &= B_{\bar{N}}(2N + 302 - B_{\bar{N}}(2N + 301)) + B_{\bar{N}}(2N + 302 - B_{\bar{N}}(2N + 300)) + B_{\bar{N}}(2N + 302 - B_{\bar{N}}(2N + 299)) \\
&= B_{\bar{N}}(2N + 302 - (2N - 81)) + B_{\bar{N}}(2N + 302 - (N + 366)) + B_{\bar{N}}(2N + 302 - (2N + 256)) \\
&= B_{\bar{N}}(383) + B_{\bar{N}}(N - 64) + B_{\bar{N}}(46) = 383 + (N - 64) + 46 = \mathbf{N} + \mathbf{365} \\
&(N \geq 383)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 303) &= B_{\bar{N}}(2N + 303 - B_{\bar{N}}(2N + 302)) + B_{\bar{N}}(2N + 303 - B_{\bar{N}}(2N + 301)) + B_{\bar{N}}(2N + 303 - B_{\bar{N}}(2N + 300)) \\
&= B_{\bar{N}}(2N + 303 - (N + 365)) + B_{\bar{N}}(2N + 303 - (2N - 81)) + B_{\bar{N}}(2N + 303 - (N + 366)) \\
&= B_{\bar{N}}(N - 62) + B_{\bar{N}}(384) + B_{\bar{N}}(N - 63) = (N - 62) + 384 + (N - 63) = \mathbf{2N} + \mathbf{259} \\
&(N \geq 384)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 304) &= B_{\bar{N}}(2N + 304 - B_{\bar{N}}(2N + 303)) + B_{\bar{N}}(2N + 304 - B_{\bar{N}}(2N + 302)) + B_{\bar{N}}(2N + 304 - B_{\bar{N}}(2N + 301)) \\
&= B_{\bar{N}}(2N + 304 - (2N + 259)) + B_{\bar{N}}(2N + 304 - (N + 365)) + B_{\bar{N}}(2N + 304 - (2N - 81)) \\
&= B_{\bar{N}}(45) + B_{\bar{N}}(N - 61) + B_{\bar{N}}(385) = 45 + (N - 61) + 385 = \mathbf{N} + \mathbf{369} \\
&(N \geq 385)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 305) &= B_{\bar{N}}(2N + 305 - B_{\bar{N}}(2N + 304)) + B_{\bar{N}}(2N + 305 - B_{\bar{N}}(2N + 303)) + B_{\bar{N}}(2N + 305 - B_{\bar{N}}(2N + 302)) \\
&= B_{\bar{N}}(2N + 305 - (N + 369)) + B_{\bar{N}}(2N + 305 - (2N + 259)) + B_{\bar{N}}(2N + 305 - (N + 365)) \\
&= B_{\bar{N}}(N - 64) + B_{\bar{N}}(46) + B_{\bar{N}}(N - 60) = (N - 64) + 46 + (N - 60) = \mathbf{2N} - \mathbf{78} \\
&(N \geq 315)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 306) &= B_{\bar{N}}(2N + 306 - B_{\bar{N}}(2N + 305)) + B_{\bar{N}}(2N + 306 - B_{\bar{N}}(2N + 304)) + B_{\bar{N}}(2N + 306 - B_{\bar{N}}(2N + 303)) \\
&= B_{\bar{N}}(2N + 306 - (2N - 78)) + B_{\bar{N}}(2N + 306 - (N + 369)) + B_{\bar{N}}(2N + 306 - (2N + 259)) \\
&= B_{\bar{N}}(384) + B_{\bar{N}}(N - 63) + B_{\bar{N}}(47) = 384 + (N - 63) + 47 = \mathbf{N} + \mathbf{368} \\
&(N \geq 384)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 307) &= B_{\bar{N}}(2N + 307 - B_{\bar{N}}(2N + 306)) + B_{\bar{N}}(2N + 307 - B_{\bar{N}}(2N + 305)) + B_{\bar{N}}(2N + 307 - B_{\bar{N}}(2N + 304)) \\
&= B_{\bar{N}}(2N + 307 - (N + 368)) + B_{\bar{N}}(2N + 307 - (2N - 78)) + B_{\bar{N}}(2N + 307 - (N + 369)) \\
&= B_{\bar{N}}(N - 61) + B_{\bar{N}}(385) + B_{\bar{N}}(N - 62) = (N - 61) + 385 + (N - 62) = \mathbf{2N} + \mathbf{262} \\
&(N \geq 385)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 308) &= B_{\bar{N}}(2N + 308 - B_{\bar{N}}(2N + 307)) + B_{\bar{N}}(2N + 308 - B_{\bar{N}}(2N + 306)) + B_{\bar{N}}(2N + 308 - B_{\bar{N}}(2N + 305)) \\
&= B_{\bar{N}}(2N + 308 - (2N + 262)) + B_{\bar{N}}(2N + 308 - (N + 368)) + B_{\bar{N}}(2N + 308 - (2N - 78)) \\
&= B_{\bar{N}}(46) + B_{\bar{N}}(N - 60) + B_{\bar{N}}(386) = 46 + (N - 60) + 386 = \mathbf{N} + \mathbf{372} \\
&(N \geq 386)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 309) &= B_{\bar{N}}(2N + 309 - B_{\bar{N}}(2N + 308)) + B_{\bar{N}}(2N + 309 - B_{\bar{N}}(2N + 307)) + B_{\bar{N}}(2N + 309 - B_{\bar{N}}(2N + 306)) \\
&= B_{\bar{N}}(2N + 309 - (N + 372)) + B_{\bar{N}}(2N + 309 - (2N + 262)) + B_{\bar{N}}(2N + 309 - (N + 368)) \\
&= B_{\bar{N}}(N - 63) + B_{\bar{N}}(47) + B_{\bar{N}}(N - 59) = (N - 63) + 47 + (N - 59) = \mathbf{2N} - \mathbf{75} \\
&(N \geq 316)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 310) &= B_{\bar{N}}(2N + 310 - B_{\bar{N}}(2N + 309)) + B_{\bar{N}}(2N + 310 - B_{\bar{N}}(2N + 308)) + B_{\bar{N}}(2N + 310 - B_{\bar{N}}(2N + 307)) \\
&= B_{\bar{N}}(2N + 310 - (2N - 75)) + B_{\bar{N}}(2N + 310 - (N + 372)) + B_{\bar{N}}(2N + 310 - (2N + 262)) \\
&= B_{\bar{N}}(385) + B_{\bar{N}}(N - 62) + B_{\bar{N}}(48) = 385 + (N - 62) + 48 = \mathbf{N} + \mathbf{371} \\
&(N \geq 385)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 311) &= B_{\bar{N}}(2N + 311 - B_{\bar{N}}(2N + 310)) + B_{\bar{N}}(2N + 311 - B_{\bar{N}}(2N + 309)) + B_{\bar{N}}(2N + 311 - B_{\bar{N}}(2N + 308)) \\
&= B_{\bar{N}}(2N + 311 - (N + 371)) + B_{\bar{N}}(2N + 311 - (2N - 75)) + B_{\bar{N}}(2N + 311 - (N + 372)) \\
&= B_{\bar{N}}(N - 60) + B_{\bar{N}}(386) + B_{\bar{N}}(N - 61) = (N - 60) + 386 + (N - 61) = \mathbf{2N} + \mathbf{265} \\
&(N \geq 386)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 312) &= B_{\bar{N}}(2N + 312 - B_{\bar{N}}(2N + 311)) + B_{\bar{N}}(2N + 312 - B_{\bar{N}}(2N + 310)) + B_{\bar{N}}(2N + 312 - B_{\bar{N}}(2N + 309)) \\
&= B_{\bar{N}}(2N + 312 - (2N + 265)) + B_{\bar{N}}(2N + 312 - (N + 371)) + B_{\bar{N}}(2N + 312 - (2N - 75)) \\
&= B_{\bar{N}}(47) + B_{\bar{N}}(N - 59) + B_{\bar{N}}(387) = 47 + (N - 59) + 387 = \mathbf{N} + \mathbf{375} \\
&(N \geq 387)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 313) &= B_{\bar{N}}(2N + 313 - B_{\bar{N}}(2N + 312)) + B_{\bar{N}}(2N + 313 - B_{\bar{N}}(2N + 311)) + B_{\bar{N}}(2N + 313 - B_{\bar{N}}(2N + 310)) \\
&= B_{\bar{N}}(2N + 313 - (N + 375)) + B_{\bar{N}}(2N + 313 - (2N + 265)) + B_{\bar{N}}(2N + 313 - (N + 371)) \\
&= B_{\bar{N}}(N - 62) + B_{\bar{N}}(48) + B_{\bar{N}}(N - 58) = (N - 62) + 48 + (N - 58) = \mathbf{2N} - \mathbf{72} \\
&(N \geq 317)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 314) &= B_{\bar{N}}(2N + 314 - B_{\bar{N}}(2N + 313)) + B_{\bar{N}}(2N + 314 - B_{\bar{N}}(2N + 312)) + B_{\bar{N}}(2N + 314 - B_{\bar{N}}(2N + 311)) \\
&= B_{\bar{N}}(2N + 314 - (2N - 72)) + B_{\bar{N}}(2N + 314 - (N + 375)) + B_{\bar{N}}(2N + 314 - (2N + 265)) \\
&= B_{\bar{N}}(386) + B_{\bar{N}}(N - 61) + B_{\bar{N}}(49) = 386 + (N - 61) + 49 = \mathbf{N} + \mathbf{374} \\
&(N \geq 386)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 315) &= B_{\bar{N}}(2N + 315 - B_{\bar{N}}(2N + 314)) + B_{\bar{N}}(2N + 315 - B_{\bar{N}}(2N + 313)) + B_{\bar{N}}(2N + 315 - B_{\bar{N}}(2N + 312)) \\
&= B_{\bar{N}}(2N + 315 - (N + 374)) + B_{\bar{N}}(2N + 315 - (2N - 72)) + B_{\bar{N}}(2N + 315 - (N + 375)) \\
&= B_{\bar{N}}(N - 59) + B_{\bar{N}}(387) + B_{\bar{N}}(N - 60) = (N - 59) + 387 + (N - 60) = \mathbf{2N} + \mathbf{268} \\
&(N \geq 387)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 316) &= B_{\bar{N}}(2N + 316 - B_{\bar{N}}(2N + 315)) + B_{\bar{N}}(2N + 316 - B_{\bar{N}}(2N + 314)) + B_{\bar{N}}(2N + 316 - B_{\bar{N}}(2N + 313)) \\
&= B_{\bar{N}}(2N + 316 - (2N + 268)) + B_{\bar{N}}(2N + 316 - (N + 374)) + B_{\bar{N}}(2N + 316 - (2N - 72)) \\
&= B_{\bar{N}}(48) + B_{\bar{N}}(N - 58) + B_{\bar{N}}(388) = 48 + (N - 58) + 388 = \mathbf{N} + \mathbf{378} \\
&(N \geq 388)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 317) &= B_{\bar{N}}(2N + 317 - B_{\bar{N}}(2N + 316)) + B_{\bar{N}}(2N + 317 - B_{\bar{N}}(2N + 315)) + B_{\bar{N}}(2N + 317 - B_{\bar{N}}(2N + 314)) \\
&= B_{\bar{N}}(2N + 317 - (N + 378)) + B_{\bar{N}}(2N + 317 - (2N + 268)) + B_{\bar{N}}(2N + 317 - (N + 374)) \\
&= B_{\bar{N}}(N - 61) + B_{\bar{N}}(49) + B_{\bar{N}}(N - 57) = (N - 61) + 49 + (N - 57) = \mathbf{2N} - \mathbf{69} \\
&(N \geq 318)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 318) &= B_{\bar{N}}(2N + 318 - B_{\bar{N}}(2N + 317)) + B_{\bar{N}}(2N + 318 - B_{\bar{N}}(2N + 316)) + B_{\bar{N}}(2N + 318 - B_{\bar{N}}(2N + 315)) \\
&= B_{\bar{N}}(2N + 318 - (2N - 69)) + B_{\bar{N}}(2N + 318 - (N + 378)) + B_{\bar{N}}(2N + 318 - (2N + 268)) \\
&= B_{\bar{N}}(387) + B_{\bar{N}}(N - 60) + B_{\bar{N}}(50) = 387 + (N - 60) + 50 = \mathbf{N} + \mathbf{377} \\
&(N \geq 387)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 319) &= B_{\bar{N}}(2N + 319 - B_{\bar{N}}(2N + 318)) + B_{\bar{N}}(2N + 319 - B_{\bar{N}}(2N + 317)) + B_{\bar{N}}(2N + 319 - B_{\bar{N}}(2N + 316)) \\
&= B_{\bar{N}}(2N + 319 - (N + 377)) + B_{\bar{N}}(2N + 319 - (2N - 69)) + B_{\bar{N}}(2N + 319 - (N + 378)) \\
&= B_{\bar{N}}(N - 58) + B_{\bar{N}}(388) + B_{\bar{N}}(N - 59) = (N - 58) + 388 + (N - 59) = \mathbf{2N} + \mathbf{271} \\
&(N \geq 388)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 320) &= B_{\bar{N}}(2N + 320 - B_{\bar{N}}(2N + 319)) + B_{\bar{N}}(2N + 320 - B_{\bar{N}}(2N + 318)) + B_{\bar{N}}(2N + 320 - B_{\bar{N}}(2N + 317)) \\
&= B_{\bar{N}}(2N + 320 - (2N + 271)) + B_{\bar{N}}(2N + 320 - (N + 377)) + B_{\bar{N}}(2N + 320 - (2N - 69)) \\
&= B_{\bar{N}}(49) + B_{\bar{N}}(N - 57) + B_{\bar{N}}(389) = 49 + (N - 57) + 389 = \mathbf{N} + \mathbf{381} \\
&(N \geq 389)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 321) &= B_{\bar{N}}(2N + 321 - B_{\bar{N}}(2N + 320)) + B_{\bar{N}}(2N + 321 - B_{\bar{N}}(2N + 319)) + B_{\bar{N}}(2N + 321 - B_{\bar{N}}(2N + 318)) \\
&= B_{\bar{N}}(2N + 321 - (N + 381)) + B_{\bar{N}}(2N + 321 - (2N + 271)) + B_{\bar{N}}(2N + 321 - (N + 377)) \\
&= B_{\bar{N}}(N - 60) + B_{\bar{N}}(50) + B_{\bar{N}}(N - 56) = (N - 60) + 50 + (N - 56) = \mathbf{2N} - \mathbf{66} \\
&(N \geq 319)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 322) &= B_{\bar{N}}(2N + 322 - B_{\bar{N}}(2N + 321)) + B_{\bar{N}}(2N + 322 - B_{\bar{N}}(2N + 320)) + B_{\bar{N}}(2N + 322 - B_{\bar{N}}(2N + 319)) \\
&= B_{\bar{N}}(2N + 322 - (2N - 66)) + B_{\bar{N}}(2N + 322 - (N + 381)) + B_{\bar{N}}(2N + 322 - (2N + 271)) \\
&= B_{\bar{N}}(388) + B_{\bar{N}}(N - 59) + B_{\bar{N}}(51) = 388 + (N - 59) + 51 = \mathbf{N} + \mathbf{380} \\
&(N \geq 388)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 323) &= B_{\bar{N}}(2N + 323 - B_{\bar{N}}(2N + 322)) + B_{\bar{N}}(2N + 323 - B_{\bar{N}}(2N + 321)) + B_{\bar{N}}(2N + 323 - B_{\bar{N}}(2N + 320)) \\
&= B_{\bar{N}}(2N + 323 - (N + 380)) + B_{\bar{N}}(2N + 323 - (2N - 66)) + B_{\bar{N}}(2N + 323 - (N + 381)) \\
&= B_{\bar{N}}(N - 57) + B_{\bar{N}}(389) + B_{\bar{N}}(N - 58) = (N - 57) + 389 + (N - 58) = \mathbf{2N} + \mathbf{274} \\
&(N \geq 389)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 324) &= B_{\bar{N}}(2N + 324 - B_{\bar{N}}(2N + 323)) + B_{\bar{N}}(2N + 324 - B_{\bar{N}}(2N + 322)) + B_{\bar{N}}(2N + 324 - B_{\bar{N}}(2N + 321)) \\
&= B_{\bar{N}}(2N + 324 - (2N + 274)) + B_{\bar{N}}(2N + 324 - (N + 380)) + B_{\bar{N}}(2N + 324 - (2N - 66)) \\
&= B_{\bar{N}}(50) + B_{\bar{N}}(N - 56) + B_{\bar{N}}(390) = 50 + (N - 56) + 390 = \mathbf{N} + \mathbf{384} \\
&(N \geq 390)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 325) &= B_{\bar{N}}(2N + 325 - B_{\bar{N}}(2N + 324)) + B_{\bar{N}}(2N + 325 - B_{\bar{N}}(2N + 323)) + B_{\bar{N}}(2N + 325 - B_{\bar{N}}(2N + 322)) \\
&= B_{\bar{N}}(2N + 325 - (N + 384)) + B_{\bar{N}}(2N + 325 - (2N + 274)) + B_{\bar{N}}(2N + 325 - (N + 380)) \\
&= B_{\bar{N}}(N - 59) + B_{\bar{N}}(51) + B_{\bar{N}}(N - 55) = (N - 59) + 51 + (N - 55) = \mathbf{2N} - \mathbf{63} \\
&(N \geq 320)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 326) &= B_{\bar{N}}(2N + 326 - B_{\bar{N}}(2N + 325)) + B_{\bar{N}}(2N + 326 - B_{\bar{N}}(2N + 324)) + B_{\bar{N}}(2N + 326 - B_{\bar{N}}(2N + 323)) \\
&= B_{\bar{N}}(2N + 326 - (2N - 63)) + B_{\bar{N}}(2N + 326 - (N + 384)) + B_{\bar{N}}(2N + 326 - (2N + 274)) \\
&= B_{\bar{N}}(389) + B_{\bar{N}}(N - 58) + B_{\bar{N}}(52) = 389 + (N - 58) + 52 = \mathbf{N} + \mathbf{383} \\
&(N \geq 389)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 327) &= B_{\bar{N}}(2N + 327 - B_{\bar{N}}(2N + 326)) + B_{\bar{N}}(2N + 327 - B_{\bar{N}}(2N + 325)) + B_{\bar{N}}(2N + 327 - B_{\bar{N}}(2N + 324)) \\
&= B_{\bar{N}}(2N + 327 - (N + 383)) + B_{\bar{N}}(2N + 327 - (2N - 63)) + B_{\bar{N}}(2N + 327 - (N + 384)) \\
&= B_{\bar{N}}(N - 56) + B_{\bar{N}}(390) + B_{\bar{N}}(N - 57) = (N - 56) + 390 + (N - 57) = \mathbf{2N} + \mathbf{277} \\
&(N \geq 390)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 328) &= B_{\bar{N}}(2N + 328 - B_{\bar{N}}(2N + 327)) + B_{\bar{N}}(2N + 328 - B_{\bar{N}}(2N + 326)) + B_{\bar{N}}(2N + 328 - B_{\bar{N}}(2N + 325)) \\
&= B_{\bar{N}}(2N + 328 - (2N + 277)) + B_{\bar{N}}(2N + 328 - (N + 383)) + B_{\bar{N}}(2N + 328 - (2N - 63)) \\
&= B_{\bar{N}}(51) + B_{\bar{N}}(N - 55) + B_{\bar{N}}(391) = 51 + (N - 55) + 391 = \mathbf{N} + \mathbf{387} \\
&(N \geq 391)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 329) &= B_{\bar{N}}(2N + 329 - B_{\bar{N}}(2N + 328)) + B_{\bar{N}}(2N + 329 - B_{\bar{N}}(2N + 327)) + B_{\bar{N}}(2N + 329 - B_{\bar{N}}(2N + 326)) \\
&= B_{\bar{N}}(2N + 329 - (N + 387)) + B_{\bar{N}}(2N + 329 - (2N + 277)) + B_{\bar{N}}(2N + 329 - (N + 383)) \\
&= B_{\bar{N}}(N - 58) + B_{\bar{N}}(52) + B_{\bar{N}}(N - 54) = (N - 58) + 52 + (N - 54) = \mathbf{2N} - \mathbf{60} \\
&(N \geq 321)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 330) &= B_{\bar{N}}(2N + 330 - B_{\bar{N}}(2N + 329)) + B_{\bar{N}}(2N + 330 - B_{\bar{N}}(2N + 328)) + B_{\bar{N}}(2N + 330 - B_{\bar{N}}(2N + 327)) \\
&= B_{\bar{N}}(2N + 330 - (2N - 60)) + B_{\bar{N}}(2N + 330 - (N + 387)) + B_{\bar{N}}(2N + 330 - (2N + 277)) \\
&= B_{\bar{N}}(390) + B_{\bar{N}}(N - 57) + B_{\bar{N}}(53) = 390 + (N - 57) + 53 = \mathbf{N} + \mathbf{386} \\
&(N \geq 390)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 331) &= B_{\bar{N}}(2N + 331 - B_{\bar{N}}(2N + 330)) + B_{\bar{N}}(2N + 331 - B_{\bar{N}}(2N + 329)) + B_{\bar{N}}(2N + 331 - B_{\bar{N}}(2N + 328)) \\
&= B_{\bar{N}}(2N + 331 - (N + 386)) + B_{\bar{N}}(2N + 331 - (2N - 60)) + B_{\bar{N}}(2N + 331 - (N + 387)) \\
&= B_{\bar{N}}(N - 55) + B_{\bar{N}}(391) + B_{\bar{N}}(N - 56) = (N - 55) + 391 + (N - 56) = \mathbf{2N} + \mathbf{280} \\
&(N \geq 391)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 332) &= B_{\bar{N}}(2N + 332 - B_{\bar{N}}(2N + 331)) + B_{\bar{N}}(2N + 332 - B_{\bar{N}}(2N + 330)) + B_{\bar{N}}(2N + 332 - B_{\bar{N}}(2N + 329)) \\
&= B_{\bar{N}}(2N + 332 - (2N + 280)) + B_{\bar{N}}(2N + 332 - (N + 386)) + B_{\bar{N}}(2N + 332 - (2N - 60)) \\
&= B_{\bar{N}}(52) + B_{\bar{N}}(N - 54) + B_{\bar{N}}(392) = 52 + (N - 54) + 392 = \mathbf{N} + \mathbf{390} \\
&(N \geq 392)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 333) &= B_{\bar{N}}(2N + 333 - B_{\bar{N}}(2N + 332)) + B_{\bar{N}}(2N + 333 - B_{\bar{N}}(2N + 331)) + B_{\bar{N}}(2N + 333 - B_{\bar{N}}(2N + 330)) \\
&= B_{\bar{N}}(2N + 333 - (N + 390)) + B_{\bar{N}}(2N + 333 - (2N + 280)) + B_{\bar{N}}(2N + 333 - (N + 386)) \\
&= B_{\bar{N}}(N - 57) + B_{\bar{N}}(53) + B_{\bar{N}}(N - 53) = (N - 57) + 53 + (N - 53) = \mathbf{2N} - \mathbf{57} \\
&(N \geq 363)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 334) &= B_{\bar{N}}(2N + 334 - B_{\bar{N}}(2N + 333)) + B_{\bar{N}}(2N + 334 - B_{\bar{N}}(2N + 332)) + B_{\bar{N}}(2N + 334 - B_{\bar{N}}(2N + 331)) \\
&= B_{\bar{N}}(2N + 334 - (2N - 57)) + B_{\bar{N}}(2N + 334 - (N + 390)) + B_{\bar{N}}(2N + 334 - (2N + 280)) \\
&= B_{\bar{N}}(391) + B_{\bar{N}}(N - 56) + B_{\bar{N}}(54) = 391 + (N - 56) + 54 = \mathbf{N} + \mathbf{389} \\
&(N \geq 391)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 335) &= B_{\bar{N}}(2N + 335 - B_{\bar{N}}(2N + 334)) + B_{\bar{N}}(2N + 335 - B_{\bar{N}}(2N + 333)) + B_{\bar{N}}(2N + 335 - B_{\bar{N}}(2N + 332)) \\
&= B_{\bar{N}}(2N + 335 - (N + 389)) + B_{\bar{N}}(2N + 335 - (2N - 57)) + B_{\bar{N}}(2N + 335 - (N + 390)) \\
&= B_{\bar{N}}(N - 54) + B_{\bar{N}}(392) + B_{\bar{N}}(N - 55) = (N - 54) + 392 + (N - 55) = \mathbf{2N} + \mathbf{283} \\
&(N \geq 392)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 336) &= B_{\bar{N}}(2N + 336 - B_{\bar{N}}(2N + 335)) + B_{\bar{N}}(2N + 336 - B_{\bar{N}}(2N + 334)) + B_{\bar{N}}(2N + 336 - B_{\bar{N}}(2N + 333)) \\
&= B_{\bar{N}}(2N + 336 - (2N + 283)) + B_{\bar{N}}(2N + 336 - (N + 389)) + B_{\bar{N}}(2N + 336 - (2N - 57)) \\
&= B_{\bar{N}}(53) + B_{\bar{N}}(N - 53) + B_{\bar{N}}(393) = 53 + (N - 53) + 393 = \mathbf{N} + \mathbf{393} \\
&(N \geq 393)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 337) &= B_{\bar{N}}(2N + 337 - B_{\bar{N}}(2N + 336)) + B_{\bar{N}}(2N + 337 - B_{\bar{N}}(2N + 335)) + B_{\bar{N}}(2N + 337 - B_{\bar{N}}(2N + 334)) \\
&= B_{\bar{N}}(2N + 337 - (N + 393)) + B_{\bar{N}}(2N + 337 - (2N + 283)) + B_{\bar{N}}(2N + 337 - (N + 389)) \\
&= B_{\bar{N}}(N - 56) + B_{\bar{N}}(54) + B_{\bar{N}}(N - 52) = (N - 56) + 54 + (N - 52) = \mathbf{2N} - \mathbf{54} \\
&(N \geq 365)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 338) &= B_{\bar{N}}(2N + 338 - B_{\bar{N}}(2N + 337)) + B_{\bar{N}}(2N + 338 - B_{\bar{N}}(2N + 336)) + B_{\bar{N}}(2N + 338 - B_{\bar{N}}(2N + 335)) \\
&= B_{\bar{N}}(2N + 338 - (2N - 54)) + B_{\bar{N}}(2N + 338 - (N + 393)) + B_{\bar{N}}(2N + 338 - (2N + 283)) \\
&= B_{\bar{N}}(392) + B_{\bar{N}}(N - 55) + B_{\bar{N}}(55) = 392 + (N - 55) + 55 = \mathbf{N} + \mathbf{392} \\
&(N \geq 392)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 339) &= B_{\bar{N}}(2N + 339 - B_{\bar{N}}(2N + 338)) + B_{\bar{N}}(2N + 339 - B_{\bar{N}}(2N + 337)) + B_{\bar{N}}(2N + 339 - B_{\bar{N}}(2N + 336)) \\
&= B_{\bar{N}}(2N + 339 - (N + 392)) + B_{\bar{N}}(2N + 339 - (2N - 54)) + B_{\bar{N}}(2N + 339 - (N + 393)) \\
&= B_{\bar{N}}(N - 53) + B_{\bar{N}}(393) + B_{\bar{N}}(N - 54) = (N - 53) + 393 + (N - 54) = \mathbf{2N} + \mathbf{286} \\
&(N \geq 393)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 340) &= B_{\bar{N}}(2N + 340 - B_{\bar{N}}(2N + 339)) + B_{\bar{N}}(2N + 340 - B_{\bar{N}}(2N + 338)) + B_{\bar{N}}(2N + 340 - B_{\bar{N}}(2N + 337)) \\
&= B_{\bar{N}}(2N + 340 - (2N + 286)) + B_{\bar{N}}(2N + 340 - (N + 392)) + B_{\bar{N}}(2N + 340 - (2N - 54)) \\
&= B_{\bar{N}}(54) + B_{\bar{N}}(N - 52) + B_{\bar{N}}(394) = 54 + (N - 52) + 394 = \mathbf{N} + \mathbf{396} \\
&(N \geq 394)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 341) &= B_{\bar{N}}(2N + 341 - B_{\bar{N}}(2N + 340)) + B_{\bar{N}}(2N + 341 - B_{\bar{N}}(2N + 339)) + B_{\bar{N}}(2N + 341 - B_{\bar{N}}(2N + 338)) \\
&= B_{\bar{N}}(2N + 341 - (N + 396)) + B_{\bar{N}}(2N + 341 - (2N + 286)) + B_{\bar{N}}(2N + 341 - (N + 392)) \\
&= B_{\bar{N}}(N - 55) + B_{\bar{N}}(55) + B_{\bar{N}}(N - 51) = (N - 55) + 55 + (N - 51) = \mathbf{2N} - \mathbf{51} \\
&(N \geq 366)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 342) &= B_{\bar{N}}(2N + 342 - B_{\bar{N}}(2N + 341)) + B_{\bar{N}}(2N + 342 - B_{\bar{N}}(2N + 340)) + B_{\bar{N}}(2N + 342 - B_{\bar{N}}(2N + 339)) \\
&= B_{\bar{N}}(2N + 342 - (2N - 51)) + B_{\bar{N}}(2N + 342 - (N + 396)) + B_{\bar{N}}(2N + 342 - (2N + 286)) \\
&= B_{\bar{N}}(393) + B_{\bar{N}}(N - 54) + B_{\bar{N}}(56) = 393 + (N - 54) + 56 = \mathbf{N} + \mathbf{395} \\
&(N \geq 393)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 343) &= B_{\bar{N}}(2N + 343 - B_{\bar{N}}(2N + 342)) + B_{\bar{N}}(2N + 343 - B_{\bar{N}}(2N + 341)) + B_{\bar{N}}(2N + 343 - B_{\bar{N}}(2N + 340)) \\
&= B_{\bar{N}}(2N + 343 - (N + 395)) + B_{\bar{N}}(2N + 343 - (2N - 51)) + B_{\bar{N}}(2N + 343 - (N + 396)) \\
&= B_{\bar{N}}(N - 52) + B_{\bar{N}}(394) + B_{\bar{N}}(N - 53) = (N - 52) + 394 + (N - 53) = \mathbf{2N} + \mathbf{289} \\
&(N \geq 394)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 344) &= B_{\bar{N}}(2N + 344 - B_{\bar{N}}(2N + 343)) + B_{\bar{N}}(2N + 344 - B_{\bar{N}}(2N + 342)) + B_{\bar{N}}(2N + 344 - B_{\bar{N}}(2N + 341)) \\
&= B_{\bar{N}}(2N + 344 - (2N + 289)) + B_{\bar{N}}(2N + 344 - (N + 395)) + B_{\bar{N}}(2N + 344 - (2N - 51)) \\
&= B_{\bar{N}}(55) + B_{\bar{N}}(N - 51) + B_{\bar{N}}(395) = 55 + (N - 51) + 395 = \mathbf{N} + \mathbf{399} \\
&(N \geq 395)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 345) &= B_{\bar{N}}(2N + 345 - B_{\bar{N}}(2N + 344)) + B_{\bar{N}}(2N + 345 - B_{\bar{N}}(2N + 343)) + B_{\bar{N}}(2N + 345 - B_{\bar{N}}(2N + 342)) \\
&= B_{\bar{N}}(2N + 345 - (N + 399)) + B_{\bar{N}}(2N + 345 - (2N + 289)) + B_{\bar{N}}(2N + 345 - (N + 395)) \\
&= B_{\bar{N}}(N - 54) + B_{\bar{N}}(56) + B_{\bar{N}}(N - 50) = (N - 54) + 56 + (N - 50) = \mathbf{2N} - \mathbf{48} \\
&(N \geq 367)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 346) &= B_{\bar{N}}(2N + 346 - B_{\bar{N}}(2N + 345)) + B_{\bar{N}}(2N + 346 - B_{\bar{N}}(2N + 344)) + B_{\bar{N}}(2N + 346 - B_{\bar{N}}(2N + 343)) \\
&= B_{\bar{N}}(2N + 346 - (2N - 48)) + B_{\bar{N}}(2N + 346 - (N + 399)) + B_{\bar{N}}(2N + 346 - (2N + 289)) \\
&= B_{\bar{N}}(394) + B_{\bar{N}}(N - 53) + B_{\bar{N}}(57) = 394 + (N - 53) + 57 = \mathbf{N} + \mathbf{398} \\
&(N \geq 394)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 347) &= B_{\bar{N}}(2N + 347 - B_{\bar{N}}(2N + 346)) + B_{\bar{N}}(2N + 347 - B_{\bar{N}}(2N + 345)) + B_{\bar{N}}(2N + 347 - B_{\bar{N}}(2N + 344)) \\
&= B_{\bar{N}}(2N + 347 - (N + 398)) + B_{\bar{N}}(2N + 347 - (2N - 48)) + B_{\bar{N}}(2N + 347 - (N + 399)) \\
&= B_{\bar{N}}(N - 51) + B_{\bar{N}}(395) + B_{\bar{N}}(N - 52) = (N - 51) + 395 + (N - 52) = \mathbf{2N} + \mathbf{292} \\
&(N \geq 395)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 348) &= B_{\bar{N}}(2N + 348 - B_{\bar{N}}(2N + 347)) + B_{\bar{N}}(2N + 348 - B_{\bar{N}}(2N + 346)) + B_{\bar{N}}(2N + 348 - B_{\bar{N}}(2N + 345)) \\
&= B_{\bar{N}}(2N + 348 - (2N + 292)) + B_{\bar{N}}(2N + 348 - (N + 398)) + B_{\bar{N}}(2N + 348 - (2N - 48)) \\
&= B_{\bar{N}}(56) + B_{\bar{N}}(N - 50) + B_{\bar{N}}(396) = 56 + (N - 50) + 396 = \mathbf{N} + \mathbf{402} \\
&(N \geq 396)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 349) &= B_{\bar{N}}(2N + 349 - B_{\bar{N}}(2N + 348)) + B_{\bar{N}}(2N + 349 - B_{\bar{N}}(2N + 347)) + B_{\bar{N}}(2N + 349 - B_{\bar{N}}(2N + 346)) \\
&= B_{\bar{N}}(2N + 349 - (N + 402)) + B_{\bar{N}}(2N + 349 - (2N + 292)) + B_{\bar{N}}(2N + 349 - (N + 398)) \\
&= B_{\bar{N}}(N - 53) + B_{\bar{N}}(57) + B_{\bar{N}}(N - 49) = (N - 53) + 57 + (N - 49) = \mathbf{2N} - \mathbf{45} \\
&(N \geq 368)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 350) &= B_{\bar{N}}(2N + 350 - B_{\bar{N}}(2N + 349)) + B_{\bar{N}}(2N + 350 - B_{\bar{N}}(2N + 348)) + B_{\bar{N}}(2N + 350 - B_{\bar{N}}(2N + 347)) \\
&= B_{\bar{N}}(2N + 350 - (2N - 45)) + B_{\bar{N}}(2N + 350 - (N + 402)) + B_{\bar{N}}(2N + 350 - (2N + 292)) \\
&= B_{\bar{N}}(395) + B_{\bar{N}}(N - 52) + B_{\bar{N}}(58) = 395 + (N - 52) + 58 = \mathbf{N} + \mathbf{401} \\
&(N \geq 395)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 351) &= B_{\bar{N}}(2N + 351 - B_{\bar{N}}(2N + 350)) + B_{\bar{N}}(2N + 351 - B_{\bar{N}}(2N + 349)) + B_{\bar{N}}(2N + 351 - B_{\bar{N}}(2N + 348)) \\
&= B_{\bar{N}}(2N + 351 - (N + 401)) + B_{\bar{N}}(2N + 351 - (2N - 45)) + B_{\bar{N}}(2N + 351 - (N + 402)) \\
&= B_{\bar{N}}(N - 50) + B_{\bar{N}}(396) + B_{\bar{N}}(N - 51) = (N - 50) + 396 + (N - 51) = \mathbf{2N} + \mathbf{295} \\
&(N \geq 396)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 352) &= B_{\bar{N}}(2N + 352 - B_{\bar{N}}(2N + 351)) + B_{\bar{N}}(2N + 352 - B_{\bar{N}}(2N + 350)) + B_{\bar{N}}(2N + 352 - B_{\bar{N}}(2N + 349)) \\
&= B_{\bar{N}}(2N + 352 - (2N + 295)) + B_{\bar{N}}(2N + 352 - (N + 401)) + B_{\bar{N}}(2N + 352 - (2N - 45)) \\
&= B_{\bar{N}}(57) + B_{\bar{N}}(N - 49) + B_{\bar{N}}(397) = 57 + (N - 49) + 397 = \mathbf{N} + \mathbf{405} \\
&(N \geq 397)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 353) &= B_{\bar{N}}(2N + 353 - B_{\bar{N}}(2N + 352)) + B_{\bar{N}}(2N + 353 - B_{\bar{N}}(2N + 351)) + B_{\bar{N}}(2N + 353 - B_{\bar{N}}(2N + 350)) \\
&= B_{\bar{N}}(2N + 353 - (N + 405)) + B_{\bar{N}}(2N + 353 - (2N + 295)) + B_{\bar{N}}(2N + 353 - (N + 401)) \\
&= B_{\bar{N}}(N - 52) + B_{\bar{N}}(58) + B_{\bar{N}}(N - 48) = (N - 52) + 58 + (N - 48) = \mathbf{2N} - \mathbf{42} \\
&(N \geq 369)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 354) &= B_{\bar{N}}(2N + 354 - B_{\bar{N}}(2N + 353)) + B_{\bar{N}}(2N + 354 - B_{\bar{N}}(2N + 352)) + B_{\bar{N}}(2N + 354 - B_{\bar{N}}(2N + 351)) \\
&= B_{\bar{N}}(2N + 354 - (2N - 42)) + B_{\bar{N}}(2N + 354 - (N + 405)) + B_{\bar{N}}(2N + 354 - (2N + 295)) \\
&= B_{\bar{N}}(396) + B_{\bar{N}}(N - 51) + B_{\bar{N}}(59) = 396 + (N - 51) + 59 = \mathbf{N} + \mathbf{404} \\
&(N \geq 396)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 355) &= B_{\bar{N}}(2N + 355 - B_{\bar{N}}(2N + 354)) + B_{\bar{N}}(2N + 355 - B_{\bar{N}}(2N + 353)) + B_{\bar{N}}(2N + 355 - B_{\bar{N}}(2N + 352)) \\
&= B_{\bar{N}}(2N + 355 - (N + 404)) + B_{\bar{N}}(2N + 355 - (2N - 42)) + B_{\bar{N}}(2N + 355 - (N + 405)) \\
&= B_{\bar{N}}(N - 49) + B_{\bar{N}}(397) + B_{\bar{N}}(N - 50) = (N - 49) + 397 + (N - 50) = \mathbf{2N} + \mathbf{298} \\
&(N \geq 397)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 356) &= B_{\bar{N}}(2N + 356 - B_{\bar{N}}(2N + 355)) + B_{\bar{N}}(2N + 356 - B_{\bar{N}}(2N + 354)) + B_{\bar{N}}(2N + 356 - B_{\bar{N}}(2N + 353)) \\
&= B_{\bar{N}}(2N + 356 - (2N + 298)) + B_{\bar{N}}(2N + 356 - (N + 404)) + B_{\bar{N}}(2N + 356 - (2N - 42)) \\
&= B_{\bar{N}}(58) + B_{\bar{N}}(N - 48) + B_{\bar{N}}(398) = 58 + (N - 48) + 398 = \mathbf{N} + \mathbf{408} \\
&(N \geq 398)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 357) &= B_{\bar{N}}(2N + 357 - B_{\bar{N}}(2N + 356)) + B_{\bar{N}}(2N + 357 - B_{\bar{N}}(2N + 355)) + B_{\bar{N}}(2N + 357 - B_{\bar{N}}(2N + 354)) \\
&= B_{\bar{N}}(2N + 357 - (N + 408)) + B_{\bar{N}}(2N + 357 - (2N + 298)) + B_{\bar{N}}(2N + 357 - (N + 404)) \\
&= B_{\bar{N}}(N - 51) + B_{\bar{N}}(59) + B_{\bar{N}}(N - 47) = (N - 51) + 59 + (N - 47) = \mathbf{2N} - \mathbf{39} \\
&(N \geq 370)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 358) &= B_{\bar{N}}(2N + 358 - B_{\bar{N}}(2N + 357)) + B_{\bar{N}}(2N + 358 - B_{\bar{N}}(2N + 356)) + B_{\bar{N}}(2N + 358 - B_{\bar{N}}(2N + 355)) \\
&= B_{\bar{N}}(2N + 358 - (2N - 39)) + B_{\bar{N}}(2N + 358 - (N + 408)) + B_{\bar{N}}(2N + 358 - (2N + 298)) \\
&= B_{\bar{N}}(397) + B_{\bar{N}}(N - 50) + B_{\bar{N}}(60) = 397 + (N - 50) + 60 = \mathbf{N} + \mathbf{407} \\
&(N \geq 397)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 359) &= B_{\bar{N}}(2N + 359 - B_{\bar{N}}(2N + 358)) + B_{\bar{N}}(2N + 359 - B_{\bar{N}}(2N + 357)) + B_{\bar{N}}(2N + 359 - B_{\bar{N}}(2N + 356)) \\
&= B_{\bar{N}}(2N + 359 - (N + 407)) + B_{\bar{N}}(2N + 359 - (2N - 39)) + B_{\bar{N}}(2N + 359 - (N + 408)) \\
&= B_{\bar{N}}(N - 48) + B_{\bar{N}}(398) + B_{\bar{N}}(N - 49) = (N - 48) + 398 + (N - 49) = \mathbf{2N} + \mathbf{301} \\
&(N \geq 398)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 360) &= B_{\bar{N}}(2N + 360 - B_{\bar{N}}(2N + 359)) + B_{\bar{N}}(2N + 360 - B_{\bar{N}}(2N + 358)) + B_{\bar{N}}(2N + 360 - B_{\bar{N}}(2N + 357)) \\
&= B_{\bar{N}}(2N + 360 - (2N + 301)) + B_{\bar{N}}(2N + 360 - (N + 407)) + B_{\bar{N}}(2N + 360 - (2N - 39)) \\
&= B_{\bar{N}}(59) + B_{\bar{N}}(N - 47) + B_{\bar{N}}(399) = 59 + (N - 47) + 399 = \mathbf{N} + \mathbf{411} \\
&(N \geq 399)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 361) &= B_{\bar{N}}(2N + 361 - B_{\bar{N}}(2N + 360)) + B_{\bar{N}}(2N + 361 - B_{\bar{N}}(2N + 359)) + B_{\bar{N}}(2N + 361 - B_{\bar{N}}(2N + 358)) \\
&= B_{\bar{N}}(2N + 361 - (N + 411)) + B_{\bar{N}}(2N + 361 - (2N + 301)) + B_{\bar{N}}(2N + 361 - (N + 407)) \\
&= B_{\bar{N}}(N - 50) + B_{\bar{N}}(60) + B_{\bar{N}}(N - 46) = (N - 50) + 60 + (N - 46) = \mathbf{2N} - \mathbf{36} \\
&(N \geq 60)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 362) &= B_{\bar{N}}(2N + 362 - B_{\bar{N}}(2N + 361)) + B_{\bar{N}}(2N + 362 - B_{\bar{N}}(2N + 360)) + B_{\bar{N}}(2N + 362 - B_{\bar{N}}(2N + 359)) \\
&= B_{\bar{N}}(2N + 362 - (2N - 36)) + B_{\bar{N}}(2N + 362 - (N + 411)) + B_{\bar{N}}(2N + 362 - (2N + 301)) \\
&= B_{\bar{N}}(398) + B_{\bar{N}}(N - 49) + B_{\bar{N}}(61) = 398 + (N - 49) + 61 = \mathbf{N} + \mathbf{410} \\
&(N \geq 398)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 363) &= B_{\bar{N}}(2N + 363 - B_{\bar{N}}(2N + 362)) + B_{\bar{N}}(2N + 363 - B_{\bar{N}}(2N + 361)) + B_{\bar{N}}(2N + 363 - B_{\bar{N}}(2N + 360)) \\
&= B_{\bar{N}}(2N + 363 - (N + 410)) + B_{\bar{N}}(2N + 363 - (2N - 36)) + B_{\bar{N}}(2N + 363 - (N + 411)) \\
&= B_{\bar{N}}(N - 47) + B_{\bar{N}}(399) + B_{\bar{N}}(N - 48) = (N - 47) + 399 + (N - 48) = \mathbf{2N} + \mathbf{304} \\
&(N \geq 399)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 364) &= B_{\bar{N}}(2N + 364 - B_{\bar{N}}(2N + 363)) + B_{\bar{N}}(2N + 364 - B_{\bar{N}}(2N + 362)) + B_{\bar{N}}(2N + 364 - B_{\bar{N}}(2N + 361)) \\
&= B_{\bar{N}}(2N + 364 - (2N + 304)) + B_{\bar{N}}(2N + 364 - (N + 410)) + B_{\bar{N}}(2N + 364 - (2N - 36)) \\
&= B_{\bar{N}}(60) + B_{\bar{N}}(N - 46) + B_{\bar{N}}(400) = 60 + (N - 46) + 400 = \mathbf{N} + \mathbf{414} \\
&(N \geq 400)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 365) &= B_{\bar{N}}(2N + 365 - B_{\bar{N}}(2N + 364)) + B_{\bar{N}}(2N + 365 - B_{\bar{N}}(2N + 363)) + B_{\bar{N}}(2N + 365 - B_{\bar{N}}(2N + 362)) \\
&= B_{\bar{N}}(2N + 365 - (N + 414)) + B_{\bar{N}}(2N + 365 - (2N + 304)) + B_{\bar{N}}(2N + 365 - (N + 410)) \\
&= B_{\bar{N}}(N - 49) + B_{\bar{N}}(61) + B_{\bar{N}}(N - 45) = (N - 49) + 61 + (N - 45) = \mathbf{2N} - \mathbf{33} \\
&(N \geq 378)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 366) &= B_{\bar{N}}(2N + 366 - B_{\bar{N}}(2N + 365)) + B_{\bar{N}}(2N + 366 - B_{\bar{N}}(2N + 364)) + B_{\bar{N}}(2N + 366 - B_{\bar{N}}(2N + 363)) \\
&= B_{\bar{N}}(2N + 366 - (2N - 33)) + B_{\bar{N}}(2N + 366 - (N + 414)) + B_{\bar{N}}(2N + 366 - (2N + 304)) \\
&= B_{\bar{N}}(399) + B_{\bar{N}}(N - 48) + B_{\bar{N}}(62) = 399 + (N - 48) + 62 = \mathbf{N} + \mathbf{413} \\
&(N \geq 399)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 367) &= B_{\bar{N}}(2N + 367 - B_{\bar{N}}(2N + 366)) + B_{\bar{N}}(2N + 367 - B_{\bar{N}}(2N + 365)) + B_{\bar{N}}(2N + 367 - B_{\bar{N}}(2N + 364)) \\
&= B_{\bar{N}}(2N + 367 - (N + 413)) + B_{\bar{N}}(2N + 367 - (2N - 33)) + B_{\bar{N}}(2N + 367 - (N + 414)) \\
&= B_{\bar{N}}(N - 46) + B_{\bar{N}}(400) + B_{\bar{N}}(N - 47) = (N - 46) + 400 + (N - 47) = \mathbf{2N} + \mathbf{307} \\
&(N \geq 400)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 368) &= B_{\bar{N}}(2N + 368 - B_{\bar{N}}(2N + 367)) + B_{\bar{N}}(2N + 368 - B_{\bar{N}}(2N + 366)) + B_{\bar{N}}(2N + 368 - B_{\bar{N}}(2N + 365)) \\
&= B_{\bar{N}}(2N + 368 - (2N + 307)) + B_{\bar{N}}(2N + 368 - (N + 413)) + B_{\bar{N}}(2N + 368 - (2N - 33)) \\
&= B_{\bar{N}}(61) + B_{\bar{N}}(N - 45) + B_{\bar{N}}(401) = 61 + (N - 45) + 401 = \mathbf{N} + \mathbf{417} \\
&(N \geq 737)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 369) &= B_{\bar{N}}(2N + 369 - B_{\bar{N}}(2N + 368)) + B_{\bar{N}}(2N + 369 - B_{\bar{N}}(2N + 367)) + B_{\bar{N}}(2N + 369 - B_{\bar{N}}(2N + 366)) \\
&= B_{\bar{N}}(2N + 369 - (N + 417)) + B_{\bar{N}}(2N + 369 - (2N + 307)) + B_{\bar{N}}(2N + 369 - (N + 413)) \\
&= B_{\bar{N}}(N - 48) + B_{\bar{N}}(62) + B_{\bar{N}}(N - 44) = (N - 48) + 62 + (N - 44) = \mathbf{2N} - \mathbf{30} \\
&(N \geq 794)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 370) &= B_{\bar{N}}(2N + 370 - B_{\bar{N}}(2N + 369)) + B_{\bar{N}}(2N + 370 - B_{\bar{N}}(2N + 368)) + B_{\bar{N}}(2N + 370 - B_{\bar{N}}(2N + 367)) \\
&= B_{\bar{N}}(2N + 370 - (2N - 30)) + B_{\bar{N}}(2N + 370 - (N + 417)) + B_{\bar{N}}(2N + 370 - (2N + 307)) \\
&= B_{\bar{N}}(400) + B_{\bar{N}}(N - 47) + B_{\bar{N}}(63) = 400 + (N - 47) + 63 = \mathbf{N} + \mathbf{416} \\
&(N \geq 793)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 371) &= B_{\bar{N}}(2N + 371 - B_{\bar{N}}(2N + 370)) + B_{\bar{N}}(2N + 371 - B_{\bar{N}}(2N + 369)) + B_{\bar{N}}(2N + 371 - B_{\bar{N}}(2N + 368)) \\
&= B_{\bar{N}}(2N + 371 - (N + 416)) + B_{\bar{N}}(2N + 371 - (2N - 30)) + B_{\bar{N}}(2N + 371 - (N + 417)) \\
&= B_{\bar{N}}(N - 45) + B_{\bar{N}}(401) + B_{\bar{N}}(N - 46) = (N - 45) + 401 + (N - 46) = \mathbf{2N} + \mathbf{310} \\
&(N \geq 792)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 372) &= B_{\bar{N}}(2N + 372 - B_{\bar{N}}(2N + 371)) + B_{\bar{N}}(2N + 372 - B_{\bar{N}}(2N + 370)) + B_{\bar{N}}(2N + 372 - B_{\bar{N}}(2N + 369)) \\
&= B_{\bar{N}}(2N + 372 - (2N + 310)) + B_{\bar{N}}(2N + 372 - (N + 416)) + B_{\bar{N}}(2N + 372 - (2N - 30)) \\
&= B_{\bar{N}}(62) + B_{\bar{N}}(N - 44) + B_{\bar{N}}(402) = 62 + (N - 44) + 402 = \mathbf{N} + \mathbf{420} \\
&(N \geq 1065)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 373) &= B_{\bar{N}}(2N + 373 - B_{\bar{N}}(2N + 372)) + B_{\bar{N}}(2N + 373 - B_{\bar{N}}(2N + 371)) + B_{\bar{N}}(2N + 373 - B_{\bar{N}}(2N + 370)) \\
&= B_{\bar{N}}(2N + 373 - (N + 420)) + B_{\bar{N}}(2N + 373 - (2N + 310)) + B_{\bar{N}}(2N + 373 - (N + 416)) \\
&= B_{\bar{N}}(N - 47) + B_{\bar{N}}(63) + B_{\bar{N}}(N - 43) = (N - 47) + 63 + (N - 43) = \mathbf{2N} - \mathbf{27} \\
&(N \geq 1066)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 374) &= B_{\bar{N}}(2N + 374 - B_{\bar{N}}(2N + 373)) + B_{\bar{N}}(2N + 374 - B_{\bar{N}}(2N + 372)) + B_{\bar{N}}(2N + 374 - B_{\bar{N}}(2N + 371)) \\
&= B_{\bar{N}}(2N + 374 - (2N - 27)) + B_{\bar{N}}(2N + 374 - (N + 420)) + B_{\bar{N}}(2N + 374 - (2N + 310)) \\
&= B_{\bar{N}}(401) + B_{\bar{N}}(N - 46) + B_{\bar{N}}(64) = 401 + (N - 46) + 64 = \mathbf{N} + \mathbf{419} \\
&(N \geq 1066)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 375) &= B_{\bar{N}}(2N + 375 - B_{\bar{N}}(2N + 374)) + B_{\bar{N}}(2N + 375 - B_{\bar{N}}(2N + 373)) + B_{\bar{N}}(2N + 375 - B_{\bar{N}}(2N + 372)) \\
&= B_{\bar{N}}(2N + 375 - (N + 419)) + B_{\bar{N}}(2N + 375 - (2N - 27)) + B_{\bar{N}}(2N + 375 - (N + 420)) \\
&= B_{\bar{N}}(N - 44) + B_{\bar{N}}(402) + B_{\bar{N}}(N - 45) = (N - 44) + 402 + (N - 45) = \mathbf{2N} + \mathbf{313} \\
&(N \geq 402)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 376) &= B_{\bar{N}}(2N + 376 - B_{\bar{N}}(2N + 375)) + B_{\bar{N}}(2N + 376 - B_{\bar{N}}(2N + 374)) + B_{\bar{N}}(2N + 376 - B_{\bar{N}}(2N + 373)) \\
&= B_{\bar{N}}(2N + 376 - (2N + 313)) + B_{\bar{N}}(2N + 376 - (N + 419)) + B_{\bar{N}}(2N + 376 - (2N - 27)) \\
&= B_{\bar{N}}(63) + B_{\bar{N}}(N - 43) + B_{\bar{N}}(403) = 63 + (N - 43) + 403 = \mathbf{N} + \mathbf{423} \\
&(N \geq 403)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 377) &= B_{\bar{N}}(2N + 377 - B_{\bar{N}}(2N + 376)) + B_{\bar{N}}(2N + 377 - B_{\bar{N}}(2N + 375)) + B_{\bar{N}}(2N + 377 - B_{\bar{N}}(2N + 374)) \\
&= B_{\bar{N}}(2N + 377 - (N + 423)) + B_{\bar{N}}(2N + 377 - (2N + 313)) + B_{\bar{N}}(2N + 377 - (N + 419)) \\
&= B_{\bar{N}}(N - 46) + B_{\bar{N}}(64) + B_{\bar{N}}(N - 42) = (N - 46) + 64 + (N - 42) = \mathbf{2N} - \mathbf{24} \\
&(N \geq 70)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 378) &= B_{\bar{N}}(2N + 378 - B_{\bar{N}}(2N + 377)) + B_{\bar{N}}(2N + 378 - B_{\bar{N}}(2N + 376)) + B_{\bar{N}}(2N + 378 - B_{\bar{N}}(2N + 375)) \\
&= B_{\bar{N}}(2N + 378 - (2N - 24)) + B_{\bar{N}}(2N + 378 - (N + 423)) + B_{\bar{N}}(2N + 378 - (2N + 313)) \\
&= B_{\bar{N}}(402) + B_{\bar{N}}(N - 45) + B_{\bar{N}}(65) = 402 + (N - 45) + 65 = \mathbf{N} + \mathbf{422} \\
&(N \geq 402)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 379) &= B_{\bar{N}}(2N + 379 - B_{\bar{N}}(2N + 378)) + B_{\bar{N}}(2N + 379 - B_{\bar{N}}(2N + 377)) + B_{\bar{N}}(2N + 379 - B_{\bar{N}}(2N + 376)) \\
&= B_{\bar{N}}(2N + 379 - (N + 422)) + B_{\bar{N}}(2N + 379 - (2N - 24)) + B_{\bar{N}}(2N + 379 - (N + 423)) \\
&= B_{\bar{N}}(N - 43) + B_{\bar{N}}(403) + B_{\bar{N}}(N - 44) = (N - 43) + 403 + (N - 44) = \mathbf{2N} + \mathbf{316} \\
&(N \geq 403)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 380) &= B_{\bar{N}}(2N + 380 - B_{\bar{N}}(2N + 379)) + B_{\bar{N}}(2N + 380 - B_{\bar{N}}(2N + 378)) + B_{\bar{N}}(2N + 380 - B_{\bar{N}}(2N + 377)) \\
&= B_{\bar{N}}(2N + 380 - (2N + 316)) + B_{\bar{N}}(2N + 380 - (N + 422)) + B_{\bar{N}}(2N + 380 - (2N - 24)) \\
&= B_{\bar{N}}(64) + B_{\bar{N}}(N - 42) + B_{\bar{N}}(404) = 64 + (N - 42) + 404 = \mathbf{N} + \mathbf{426} \\
&(N \geq 404)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 381) &= B_{\bar{N}}(2N + 381 - B_{\bar{N}}(2N + 380)) + B_{\bar{N}}(2N + 381 - B_{\bar{N}}(2N + 379)) + B_{\bar{N}}(2N + 381 - B_{\bar{N}}(2N + 378)) \\
&= B_{\bar{N}}(2N + 381 - (N + 426)) + B_{\bar{N}}(2N + 381 - (2N + 316)) + B_{\bar{N}}(2N + 381 - (N + 422)) \\
&= B_{\bar{N}}(N - 45) + B_{\bar{N}}(65) + B_{\bar{N}}(N - 41) = (N - 45) + 65 + (N - 41) = \mathbf{2N} - \mathbf{21} \\
&(N \geq 65)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 382) &= B_{\bar{N}}(2N + 382 - B_{\bar{N}}(2N + 381)) + B_{\bar{N}}(2N + 382 - B_{\bar{N}}(2N + 380)) + B_{\bar{N}}(2N + 382 - B_{\bar{N}}(2N + 379)) \\
&= B_{\bar{N}}(2N + 382 - (2N - 21)) + B_{\bar{N}}(2N + 382 - (N + 426)) + B_{\bar{N}}(2N + 382 - (2N + 316)) \\
&= B_{\bar{N}}(403) + B_{\bar{N}}(N - 44) + B_{\bar{N}}(66) = 403 + (N - 44) + 66 = \mathbf{N} + \mathbf{425} \\
&(N \geq 403)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 383) &= B_{\bar{N}}(2N + 383 - B_{\bar{N}}(2N + 382)) + B_{\bar{N}}(2N + 383 - B_{\bar{N}}(2N + 381)) + B_{\bar{N}}(2N + 383 - B_{\bar{N}}(2N + 380)) \\
&= B_{\bar{N}}(2N + 383 - (N + 425)) + B_{\bar{N}}(2N + 383 - (2N - 21)) + B_{\bar{N}}(2N + 383 - (N + 426)) \\
&= B_{\bar{N}}(N - 42) + B_{\bar{N}}(404) + B_{\bar{N}}(N - 43) = (N - 42) + 404 + (N - 43) = \mathbf{2N} + \mathbf{319} \\
&(N \geq 404)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 384) &= B_{\bar{N}}(2N + 384 - B_{\bar{N}}(2N + 383)) + B_{\bar{N}}(2N + 384 - B_{\bar{N}}(2N + 382)) + B_{\bar{N}}(2N + 384 - B_{\bar{N}}(2N + 381)) \\
&= B_{\bar{N}}(2N + 384 - (2N + 319)) + B_{\bar{N}}(2N + 384 - (N + 425)) + B_{\bar{N}}(2N + 384 - (2N - 21)) \\
&= B_{\bar{N}}(65) + B_{\bar{N}}(N - 41) + B_{\bar{N}}(405) = 65 + (N - 41) + 405 = \mathbf{N} + \mathbf{429} \\
&(N \geq 405)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 385) &= B_{\bar{N}}(2N + 385 - B_{\bar{N}}(2N + 384)) + B_{\bar{N}}(2N + 385 - B_{\bar{N}}(2N + 383)) + B_{\bar{N}}(2N + 385 - B_{\bar{N}}(2N + 382)) \\
&= B_{\bar{N}}(2N + 385 - (N + 429)) + B_{\bar{N}}(2N + 385 - (2N + 319)) + B_{\bar{N}}(2N + 385 - (N + 425)) \\
&= B_{\bar{N}}(N - 44) + B_{\bar{N}}(66) + B_{\bar{N}}(N - 40) = (N - 44) + 66 + (N - 40) = \mathbf{2N} - \mathbf{18} \\
&(N \geq 66)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 386) &= B_{\bar{N}}(2N + 386 - B_{\bar{N}}(2N + 385)) + B_{\bar{N}}(2N + 386 - B_{\bar{N}}(2N + 384)) + B_{\bar{N}}(2N + 386 - B_{\bar{N}}(2N + 383)) \\
&= B_{\bar{N}}(2N + 386 - (2N - 18)) + B_{\bar{N}}(2N + 386 - (N + 429)) + B_{\bar{N}}(2N + 386 - (2N + 319)) \\
&= B_{\bar{N}}(404) + B_{\bar{N}}(N - 43) + B_{\bar{N}}(67) = 404 + (N - 43) + 67 = \mathbf{N} + \mathbf{428} \\
&(N \geq 404)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 387) &= B_{\bar{N}}(2N + 387 - B_{\bar{N}}(2N + 386)) + B_{\bar{N}}(2N + 387 - B_{\bar{N}}(2N + 385)) + B_{\bar{N}}(2N + 387 - B_{\bar{N}}(2N + 384)) \\
&= B_{\bar{N}}(2N + 387 - (N + 428)) + B_{\bar{N}}(2N + 387 - (2N - 18)) + B_{\bar{N}}(2N + 387 - (N + 429)) \\
&= B_{\bar{N}}(N - 41) + B_{\bar{N}}(405) + B_{\bar{N}}(N - 42) = (N - 41) + 405 + (N - 42) = \mathbf{2N} + \mathbf{322} \\
&(N \geq 405)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 388) &= B_{\bar{N}}(2N + 388 - B_{\bar{N}}(2N + 387)) + B_{\bar{N}}(2N + 388 - B_{\bar{N}}(2N + 386)) + B_{\bar{N}}(2N + 388 - B_{\bar{N}}(2N + 385)) \\
&= B_{\bar{N}}(2N + 388 - (2N + 322)) + B_{\bar{N}}(2N + 388 - (N + 428)) + B_{\bar{N}}(2N + 388 - (2N - 18)) \\
&= B_{\bar{N}}(66) + B_{\bar{N}}(N - 40) + B_{\bar{N}}(406) = 66 + (N - 40) + 406 = \mathbf{N} + \mathbf{432} \\
&(N \geq 406)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 389) &= B_{\bar{N}}(2N + 389 - B_{\bar{N}}(2N + 388)) + B_{\bar{N}}(2N + 389 - B_{\bar{N}}(2N + 387)) + B_{\bar{N}}(2N + 389 - B_{\bar{N}}(2N + 386)) \\
&= B_{\bar{N}}(2N + 389 - (N + 432)) + B_{\bar{N}}(2N + 389 - (2N + 322)) + B_{\bar{N}}(2N + 389 - (N + 428)) \\
&= B_{\bar{N}}(N - 43) + B_{\bar{N}}(67) + B_{\bar{N}}(N - 39) = (N - 43) + 67 + (N - 39) = \mathbf{2N} - \mathbf{15} \\
&(N \geq 67)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 390) &= B_{\bar{N}}(2N + 390 - B_{\bar{N}}(2N + 389)) + B_{\bar{N}}(2N + 390 - B_{\bar{N}}(2N + 388)) + B_{\bar{N}}(2N + 390 - B_{\bar{N}}(2N + 387)) \\
&= B_{\bar{N}}(2N + 390 - (2N - 15)) + B_{\bar{N}}(2N + 390 - (N + 432)) + B_{\bar{N}}(2N + 390 - (2N + 322)) \\
&= B_{\bar{N}}(405) + B_{\bar{N}}(N - 42) + B_{\bar{N}}(68) = 405 + (N - 42) + 68 = \mathbf{N} + \mathbf{431} \\
&(N \geq 405)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 391) &= B_{\bar{N}}(2N + 391 - B_{\bar{N}}(2N + 390)) + B_{\bar{N}}(2N + 391 - B_{\bar{N}}(2N + 389)) + B_{\bar{N}}(2N + 391 - B_{\bar{N}}(2N + 388)) \\
&= B_{\bar{N}}(2N + 391 - (N + 431)) + B_{\bar{N}}(2N + 391 - (2N - 15)) + B_{\bar{N}}(2N + 391 - (N + 432)) \\
&= B_{\bar{N}}(N - 40) + B_{\bar{N}}(406) + B_{\bar{N}}(N - 41) = (N - 40) + 406 + (N - 41) = \mathbf{2N} + \mathbf{325} \\
&(N \geq 406)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 392) &= B_{\bar{N}}(2N + 392 - B_{\bar{N}}(2N + 391)) + B_{\bar{N}}(2N + 392 - B_{\bar{N}}(2N + 390)) + B_{\bar{N}}(2N + 392 - B_{\bar{N}}(2N + 389)) \\
&= B_{\bar{N}}(2N + 392 - (2N + 325)) + B_{\bar{N}}(2N + 392 - (N + 431)) + B_{\bar{N}}(2N + 392 - (2N - 15)) \\
&= B_{\bar{N}}(67) + B_{\bar{N}}(N - 39) + B_{\bar{N}}(407) = 67 + (N - 39) + 407 = \mathbf{N} + \mathbf{435} \\
&(N \geq 407)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 393) &= B_{\bar{N}}(2N + 393 - B_{\bar{N}}(2N + 392)) + B_{\bar{N}}(2N + 393 - B_{\bar{N}}(2N + 391)) + B_{\bar{N}}(2N + 393 - B_{\bar{N}}(2N + 390)) \\
&= B_{\bar{N}}(2N + 393 - (N + 435)) + B_{\bar{N}}(2N + 393 - (2N + 325)) + B_{\bar{N}}(2N + 393 - (N + 431)) \\
&= B_{\bar{N}}(N - 42) + B_{\bar{N}}(68) + B_{\bar{N}}(N - 38) = (N - 42) + 68 + (N - 38) = \mathbf{2N} - \mathbf{12} \\
&(N \geq 385)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 394) &= B_{\bar{N}}(2N + 394 - B_{\bar{N}}(2N + 393)) + B_{\bar{N}}(2N + 394 - B_{\bar{N}}(2N + 392)) + B_{\bar{N}}(2N + 394 - B_{\bar{N}}(2N + 391)) \\
&= B_{\bar{N}}(2N + 394 - (2N - 12)) + B_{\bar{N}}(2N + 394 - (N + 435)) + B_{\bar{N}}(2N + 394 - (2N + 325)) \\
&= B_{\bar{N}}(406) + B_{\bar{N}}(N - 41) + B_{\bar{N}}(69) = 406 + (N - 41) + 69 = \mathbf{N} + \mathbf{434} \\
&(N \geq 406)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 395) &= B_{\bar{N}}(2N + 395 - B_{\bar{N}}(2N + 394)) + B_{\bar{N}}(2N + 395 - B_{\bar{N}}(2N + 393)) + B_{\bar{N}}(2N + 395 - B_{\bar{N}}(2N + 392)) \\
&= B_{\bar{N}}(2N + 395 - (N + 434)) + B_{\bar{N}}(2N + 395 - (2N - 12)) + B_{\bar{N}}(2N + 395 - (N + 435)) \\
&= B_{\bar{N}}(N - 39) + B_{\bar{N}}(407) + B_{\bar{N}}(N - 40) = (N - 39) + 407 + (N - 40) = \mathbf{2N} + \mathbf{328} \\
&(N \geq 743)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 396) &= B_{\bar{N}}(2N + 396 - B_{\bar{N}}(2N + 395)) + B_{\bar{N}}(2N + 396 - B_{\bar{N}}(2N + 394)) + B_{\bar{N}}(2N + 396 - B_{\bar{N}}(2N + 393)) \\
&= B_{\bar{N}}(2N + 396 - (2N + 328)) + B_{\bar{N}}(2N + 396 - (N + 434)) + B_{\bar{N}}(2N + 396 - (2N - 12)) \\
&= B_{\bar{N}}(68) + B_{\bar{N}}(N - 38) + B_{\bar{N}}(408) = 68 + (N - 38) + 408 = \mathbf{N} + \mathbf{438} \\
&(N \geq 773)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 397) &= B_{\bar{N}}(2N + 397 - B_{\bar{N}}(2N + 396)) + B_{\bar{N}}(2N + 397 - B_{\bar{N}}(2N + 395)) + B_{\bar{N}}(2N + 397 - B_{\bar{N}}(2N + 394)) \\
&= B_{\bar{N}}(2N + 397 - (N + 438)) + B_{\bar{N}}(2N + 397 - (2N + 328)) + B_{\bar{N}}(2N + 397 - (N + 434)) \\
&= B_{\bar{N}}(N - 41) + B_{\bar{N}}(69) + B_{\bar{N}}(N - 37) = (N - 41) + 69 + (N - 37) = \mathbf{2N} - \mathbf{9} \\
&(N \geq 772)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 398) &= B_{\bar{N}}(2N + 398 - B_{\bar{N}}(2N + 397)) + B_{\bar{N}}(2N + 398 - B_{\bar{N}}(2N + 396)) + B_{\bar{N}}(2N + 398 - B_{\bar{N}}(2N + 395)) \\
&= B_{\bar{N}}(2N + 398 - (2N - 9)) + B_{\bar{N}}(2N + 398 - (N + 438)) + B_{\bar{N}}(2N + 398 - (2N + 328)) \\
&= B_{\bar{N}}(407) + B_{\bar{N}}(N - 40) + B_{\bar{N}}(70) = 407 + (N - 40) + 70 = \mathbf{N} + \mathbf{437} \\
&(N \geq 771)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 399) &= B_{\bar{N}}(2N + 399 - B_{\bar{N}}(2N + 398)) + B_{\bar{N}}(2N + 399 - B_{\bar{N}}(2N + 397)) + B_{\bar{N}}(2N + 399 - B_{\bar{N}}(2N + 396)) \\
&= B_{\bar{N}}(2N + 399 - (N + 437)) + B_{\bar{N}}(2N + 399 - (2N - 9)) + B_{\bar{N}}(2N + 399 - (N + 438)) \\
&= B_{\bar{N}}(N - 38) + B_{\bar{N}}(408) + B_{\bar{N}}(N - 39) = (N - 38) + 408 + (N - 39) = \mathbf{2N} + \mathbf{331} \\
&(N \geq 1067)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 400) &= B_{\bar{N}}(2N + 400 - B_{\bar{N}}(2N + 399)) + B_{\bar{N}}(2N + 400 - B_{\bar{N}}(2N + 398)) + B_{\bar{N}}(2N + 400 - B_{\bar{N}}(2N + 397)) \\
&= B_{\bar{N}}(2N + 400 - (2N + 331)) + B_{\bar{N}}(2N + 400 - (N + 437)) + B_{\bar{N}}(2N + 400 - (2N - 9)) \\
&= B_{\bar{N}}(69) + B_{\bar{N}}(N - 37) + B_{\bar{N}}(409) = 69 + (N - 37) + 409 = \mathbf{N} + \mathbf{441} \\
&(N \geq 1068)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 401) &= B_{\bar{N}}(2N + 401 - B_{\bar{N}}(2N + 400)) + B_{\bar{N}}(2N + 401 - B_{\bar{N}}(2N + 399)) + B_{\bar{N}}(2N + 401 - B_{\bar{N}}(2N + 398)) \\
&= B_{\bar{N}}(2N + 401 - (N + 441)) + B_{\bar{N}}(2N + 401 - (2N + 331)) + B_{\bar{N}}(2N + 401 - (N + 437)) \\
&= B_{\bar{N}}(N - 40) + B_{\bar{N}}(70) + B_{\bar{N}}(N - 36) = (N - 40) + 70 + (N - 36) = \mathbf{2N} - \mathbf{6} \\
&(N \geq 1069)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 402) &= B_{\bar{N}}(2N + 402 - B_{\bar{N}}(2N + 401)) + B_{\bar{N}}(2N + 402 - B_{\bar{N}}(2N + 400)) + B_{\bar{N}}(2N + 402 - B_{\bar{N}}(2N + 399)) \\
&= B_{\bar{N}}(2N + 402 - (2N - 6)) + B_{\bar{N}}(2N + 402 - (N + 441)) + B_{\bar{N}}(2N + 402 - (2N + 331)) \\
&= B_{\bar{N}}(408) + B_{\bar{N}}(N - 39) + B_{\bar{N}}(71) = 408 + (N - 39) + 71 = \mathbf{N} + \mathbf{440} \\
&(N \geq 408)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 403) &= B_{\bar{N}}(2N + 403 - B_{\bar{N}}(2N + 402)) + B_{\bar{N}}(2N + 403 - B_{\bar{N}}(2N + 401)) + B_{\bar{N}}(2N + 403 - B_{\bar{N}}(2N + 400)) \\
&= B_{\bar{N}}(2N + 403 - (N + 440)) + B_{\bar{N}}(2N + 403 - (2N - 6)) + B_{\bar{N}}(2N + 403 - (N + 441)) \\
&= B_{\bar{N}}(N - 37) + B_{\bar{N}}(409) + B_{\bar{N}}(N - 38) = (N - 37) + 409 + (N - 38) = \mathbf{2N} + \mathbf{334} \\
&(N \geq 1186)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 404) &= B_{\bar{N}}(2N + 404 - B_{\bar{N}}(2N + 403)) + B_{\bar{N}}(2N + 404 - B_{\bar{N}}(2N + 402)) + B_{\bar{N}}(2N + 404 - B_{\bar{N}}(2N + 401)) \\
&= B_{\bar{N}}(2N + 404 - (2N + 334)) + B_{\bar{N}}(2N + 404 - (N + 440)) + B_{\bar{N}}(2N + 404 - (2N - 6)) \\
&= B_{\bar{N}}(70) + B_{\bar{N}}(N - 36) + B_{\bar{N}}(410) = 70 + (N - 36) + 410 = \mathbf{N} + \mathbf{444} \\
&(N \geq 1185)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 405) &= B_{\bar{N}}(2N + 405 - B_{\bar{N}}(2N + 404)) + B_{\bar{N}}(2N + 405 - B_{\bar{N}}(2N + 403)) + B_{\bar{N}}(2N + 405 - B_{\bar{N}}(2N + 402)) \\
&= B_{\bar{N}}(2N + 405 - (N + 444)) + B_{\bar{N}}(2N + 405 - (2N + 334)) + B_{\bar{N}}(2N + 405 - (N + 440)) \\
&= B_{\bar{N}}(N - 39) + B_{\bar{N}}(71) + B_{\bar{N}}(N - 35) = (N - 39) + 71 + (N - 35) = \mathbf{2N} - \mathbf{3} \\
&(N \geq 1184)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 406) &= B_{\bar{N}}(2N + 406 - B_{\bar{N}}(2N + 405)) + B_{\bar{N}}(2N + 406 - B_{\bar{N}}(2N + 404)) + B_{\bar{N}}(2N + 406 - B_{\bar{N}}(2N + 403)) \\
&= B_{\bar{N}}(2N + 406 - (2N - 3)) + B_{\bar{N}}(2N + 406 - (N + 444)) + B_{\bar{N}}(2N + 406 - (2N + 334)) \\
&= B_{\bar{N}}(409) + B_{\bar{N}}(N - 38) + B_{\bar{N}}(72) = 409 + (N - 38) + 72 = \mathbf{N} + \mathbf{443} \\
&(N \geq 511)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 407) &= B_{\bar{N}}(2N + 407 - B_{\bar{N}}(2N + 406)) + B_{\bar{N}}(2N + 407 - B_{\bar{N}}(2N + 405)) + B_{\bar{N}}(2N + 407 - B_{\bar{N}}(2N + 404)) \\
&= B_{\bar{N}}(2N + 407 - (N + 443)) + B_{\bar{N}}(2N + 407 - (2N - 3)) + B_{\bar{N}}(2N + 407 - (N + 444)) \\
&= B_{\bar{N}}(N - 36) + B_{\bar{N}}(410) + B_{\bar{N}}(N - 37) = (N - 36) + 410 + (N - 37) = \mathbf{2N} + \mathbf{337} \\
&(N \geq 512)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 408) &= B_{\bar{N}}(2N + 408 - B_{\bar{N}}(2N + 407)) + B_{\bar{N}}(2N + 408 - B_{\bar{N}}(2N + 406)) + B_{\bar{N}}(2N + 408 - B_{\bar{N}}(2N + 405)) \\
&= B_{\bar{N}}(2N + 408 - (2N + 337)) + B_{\bar{N}}(2N + 408 - (N + 443)) + B_{\bar{N}}(2N + 408 - (2N - 3)) \\
&= B_{\bar{N}}(71) + B_{\bar{N}}(N - 35) + B_{\bar{N}}(411) = 71 + (N - 35) + 411 = \mathbf{N} + \mathbf{447} \\
&(N \geq 513)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 409) &= B_{\bar{N}}(2N + 409 - B_{\bar{N}}(2N + 408)) + B_{\bar{N}}(2N + 409 - B_{\bar{N}}(2N + 407)) + B_{\bar{N}}(2N + 409 - B_{\bar{N}}(2N + 406)) \\
&= B_{\bar{N}}(2N + 409 - (N + 447)) + B_{\bar{N}}(2N + 409 - (2N + 337)) + B_{\bar{N}}(2N + 409 - (N + 443)) \\
&= B_{\bar{N}}(N - 38) + B_{\bar{N}}(72) + B_{\bar{N}}(N - 34) = (N - 38) + 72 + (N - 34) = \mathbf{2N} \\
&(N \geq 72)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 410) &= B_{\bar{N}}(2N + 410 - B_{\bar{N}}(2N + 409)) + B_{\bar{N}}(2N + 410 - B_{\bar{N}}(2N + 408)) + B_{\bar{N}}(2N + 410 - B_{\bar{N}}(2N + 407)) \\
&= B_{\bar{N}}(2N + 410 - 2N) + B_{\bar{N}}(2N + 410 - (N + 447)) + B_{\bar{N}}(2N + 410 - (2N + 337)) \\
&= B_{\bar{N}}(410) + B_{\bar{N}}(N - 37) + B_{\bar{N}}(73) = 410 + (N - 37) + 73 = \mathbf{N} + \mathbf{446} \\
&(N \geq 410)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 411) &= B_{\bar{N}}(2N + 411 - B_{\bar{N}}(2N + 410)) + B_{\bar{N}}(2N + 411 - B_{\bar{N}}(2N + 409)) + B_{\bar{N}}(2N + 411 - B_{\bar{N}}(2N + 408)) \\
&= B_{\bar{N}}(2N + 411 - (N + 446)) + B_{\bar{N}}(2N + 411 - 2N) + B_{\bar{N}}(2N + 411 - (N + 447)) \\
&= B_{\bar{N}}(N - 35) + B_{\bar{N}}(411) + B_{\bar{N}}(N - 36) = (N - 35) + 411 + (N - 36) = \mathbf{2N} + \mathbf{340} \\
&(N \geq 411)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 412) &= B_{\bar{N}}(2N + 412 - B_{\bar{N}}(2N + 411)) + B_{\bar{N}}(2N + 412 - B_{\bar{N}}(2N + 410)) + B_{\bar{N}}(2N + 412 - B_{\bar{N}}(2N + 409)) \\
&= B_{\bar{N}}(2N + 412 - (2N + 340)) + B_{\bar{N}}(2N + 412 - (N + 446)) + B_{\bar{N}}(2N + 412 - 2N) \\
&= B_{\bar{N}}(72) + B_{\bar{N}}(N - 34) + B_{\bar{N}}(412) = 72 + (N - 34) + 412 = \mathbf{N} + \mathbf{450} \\
&(N \geq 412)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 413) &= B_{\bar{N}}(2N + 413 - B_{\bar{N}}(2N + 412)) + B_{\bar{N}}(2N + 413 - B_{\bar{N}}(2N + 411)) + B_{\bar{N}}(2N + 413 - B_{\bar{N}}(2N + 410)) \\
&= B_{\bar{N}}(2N + 413 - (N + 450)) + B_{\bar{N}}(2N + 413 - (2N + 340)) + B_{\bar{N}}(2N + 413 - (N + 446)) \\
&= B_{\bar{N}}(N - 37) + B_{\bar{N}}(73) + B_{\bar{N}}(N - 33) = (N - 37) + 73 + (N - 33) = \mathbf{2N} + \mathbf{3} \\
&(N \geq 73)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 414) &= B_{\bar{N}}(2N + 414 - B_{\bar{N}}(2N + 413)) + B_{\bar{N}}(2N + 414 - B_{\bar{N}}(2N + 412)) + B_{\bar{N}}(2N + 414 - B_{\bar{N}}(2N + 411)) \\
&= B_{\bar{N}}(2N + 414 - (2N + 3)) + B_{\bar{N}}(2N + 414 - (N + 450)) + B_{\bar{N}}(2N + 414 - (2N + 340)) \\
&= B_{\bar{N}}(411) + B_{\bar{N}}(N - 36) + B_{\bar{N}}(74) = 411 + (N - 36) + 74 = \mathbf{N} + \mathbf{449} \\
&(N \geq 411)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 415) &= B_{\bar{N}}(2N + 415 - B_{\bar{N}}(2N + 414)) + B_{\bar{N}}(2N + 415 - B_{\bar{N}}(2N + 413)) + B_{\bar{N}}(2N + 415 - B_{\bar{N}}(2N + 412)) \\
&= B_{\bar{N}}(2N + 415 - (N + 449)) + B_{\bar{N}}(2N + 415 - (2N + 3)) + B_{\bar{N}}(2N + 415 - (N + 450)) \\
&= B_{\bar{N}}(N - 34) + B_{\bar{N}}(412) + B_{\bar{N}}(N - 35) = (N - 34) + 412 + (N - 35) = \mathbf{2N} + \mathbf{343} \\
&(N \geq 412)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 416) &= B_{\bar{N}}(2N + 416 - B_{\bar{N}}(2N + 415)) + B_{\bar{N}}(2N + 416 - B_{\bar{N}}(2N + 414)) + B_{\bar{N}}(2N + 416 - B_{\bar{N}}(2N + 413)) \\
&= B_{\bar{N}}(2N + 416 - (2N + 343)) + B_{\bar{N}}(2N + 416 - (N + 449)) + B_{\bar{N}}(2N + 416 - (2N + 3)) \\
&= B_{\bar{N}}(73) + B_{\bar{N}}(N - 33) + B_{\bar{N}}(413) = 73 + (N - 33) + 413 = \mathbf{N} + \mathbf{453} \\
&(N \geq 413)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 417) &= B_{\bar{N}}(2N + 417 - B_{\bar{N}}(2N + 416)) + B_{\bar{N}}(2N + 417 - B_{\bar{N}}(2N + 415)) + B_{\bar{N}}(2N + 417 - B_{\bar{N}}(2N + 414)) \\
&= B_{\bar{N}}(2N + 417 - (N + 453)) + B_{\bar{N}}(2N + 417 - (2N + 343)) + B_{\bar{N}}(2N + 417 - (N + 449)) \\
&= B_{\bar{N}}(N - 36) + B_{\bar{N}}(74) + B_{\bar{N}}(N - 32) = (N - 36) + 74 + (N - 32) = \mathbf{2N} + \mathbf{6} \\
&(N \geq 366)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 418) &= B_{\bar{N}}(2N + 418 - B_{\bar{N}}(2N + 417)) + B_{\bar{N}}(2N + 418 - B_{\bar{N}}(2N + 416)) + B_{\bar{N}}(2N + 418 - B_{\bar{N}}(2N + 415)) \\
&= B_{\bar{N}}(2N + 418 - (2N + 6)) + B_{\bar{N}}(2N + 418 - (N + 453)) + B_{\bar{N}}(2N + 418 - (2N + 343)) \\
&= B_{\bar{N}}(412) + B_{\bar{N}}(N - 35) + B_{\bar{N}}(75) = 412 + (N - 35) + 75 = \mathbf{N} + \mathbf{452} \\
&(N \geq 412)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 419) &= B_{\bar{N}}(2N + 419 - B_{\bar{N}}(2N + 418)) + B_{\bar{N}}(2N + 419 - B_{\bar{N}}(2N + 417)) + B_{\bar{N}}(2N + 419 - B_{\bar{N}}(2N + 416)) \\
&= B_{\bar{N}}(2N + 419 - (N + 452)) + B_{\bar{N}}(2N + 419 - (2N + 6)) + B_{\bar{N}}(2N + 419 - (N + 453)) \\
&= B_{\bar{N}}(N - 33) + B_{\bar{N}}(413) + B_{\bar{N}}(N - 34) = (N - 33) + 413 + (N - 34) = \mathbf{2N} + \mathbf{346} \\
&(N \geq 413)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 420) &= B_{\bar{N}}(2N + 420 - B_{\bar{N}}(2N + 419)) + B_{\bar{N}}(2N + 420 - B_{\bar{N}}(2N + 418)) + B_{\bar{N}}(2N + 420 - B_{\bar{N}}(2N + 417)) \\
&= B_{\bar{N}}(2N + 420 - (2N + 346)) + B_{\bar{N}}(2N + 420 - (N + 452)) + B_{\bar{N}}(2N + 420 - (2N + 6)) \\
&= B_{\bar{N}}(74) + B_{\bar{N}}(N - 32) + B_{\bar{N}}(414) = 74 + (N - 32) + 414 = \mathbf{N} + 456 \\
&(N \geq 414)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 421) &= B_{\bar{N}}(2N + 421 - B_{\bar{N}}(2N + 420)) + B_{\bar{N}}(2N + 421 - B_{\bar{N}}(2N + 419)) + B_{\bar{N}}(2N + 421 - B_{\bar{N}}(2N + 418)) \\
&= B_{\bar{N}}(2N + 421 - (N + 456)) + B_{\bar{N}}(2N + 421 - (2N + 346)) + B_{\bar{N}}(2N + 421 - (N + 452)) \\
&= B_{\bar{N}}(N - 35) + B_{\bar{N}}(75) + B_{\bar{N}}(N - 31) = (N - 35) + 75 + (N - 31) = 2\mathbf{N} + 9 \\
&(N \geq 361)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 422) &= B_{\bar{N}}(2N + 422 - B_{\bar{N}}(2N + 421)) + B_{\bar{N}}(2N + 422 - B_{\bar{N}}(2N + 420)) + B_{\bar{N}}(2N + 422 - B_{\bar{N}}(2N + 419)) \\
&= B_{\bar{N}}(2N + 422 - (2N + 9)) + B_{\bar{N}}(2N + 422 - (N + 456)) + B_{\bar{N}}(2N + 422 - (2N + 346)) \\
&= B_{\bar{N}}(413) + B_{\bar{N}}(N - 34) + B_{\bar{N}}(76) = 413 + (N - 34) + 76 = \mathbf{N} + 455 \\
&(N \geq 413)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 423) &= B_{\bar{N}}(2N + 423 - B_{\bar{N}}(2N + 422)) + B_{\bar{N}}(2N + 423 - B_{\bar{N}}(2N + 421)) + B_{\bar{N}}(2N + 423 - B_{\bar{N}}(2N + 420)) \\
&= B_{\bar{N}}(2N + 423 - (N + 455)) + B_{\bar{N}}(2N + 423 - (2N + 9)) + B_{\bar{N}}(2N + 423 - (N + 456)) \\
&= B_{\bar{N}}(N - 32) + B_{\bar{N}}(414) + B_{\bar{N}}(N - 33) = (N - 32) + 414 + (N - 33) = 2\mathbf{N} + 349 \\
&(N \geq 414)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 424) &= B_{\bar{N}}(2N + 424 - B_{\bar{N}}(2N + 423)) + B_{\bar{N}}(2N + 424 - B_{\bar{N}}(2N + 422)) + B_{\bar{N}}(2N + 424 - B_{\bar{N}}(2N + 421)) \\
&= B_{\bar{N}}(2N + 424 - (2N + 349)) + B_{\bar{N}}(2N + 424 - (N + 455)) + B_{\bar{N}}(2N + 424 - (2N + 9)) \\
&= B_{\bar{N}}(75) + B_{\bar{N}}(N - 31) + B_{\bar{N}}(415) = 75 + (N - 31) + 415 = \mathbf{N} + 459 \\
&(N \geq 415)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 425) &= B_{\bar{N}}(2N + 425 - B_{\bar{N}}(2N + 424)) + B_{\bar{N}}(2N + 425 - B_{\bar{N}}(2N + 423)) + B_{\bar{N}}(2N + 425 - B_{\bar{N}}(2N + 422)) \\
&= B_{\bar{N}}(2N + 425 - (N + 459)) + B_{\bar{N}}(2N + 425 - (2N + 349)) + B_{\bar{N}}(2N + 425 - (N + 455)) \\
&= B_{\bar{N}}(N - 34) + B_{\bar{N}}(76) + B_{\bar{N}}(N - 30) = (N - 34) + 76 + (N - 30) = \mathbf{2N} + \mathbf{12} \\
&(N \geq 106)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 426) &= B_{\bar{N}}(2N + 426 - B_{\bar{N}}(2N + 425)) + B_{\bar{N}}(2N + 426 - B_{\bar{N}}(2N + 424)) + B_{\bar{N}}(2N + 426 - B_{\bar{N}}(2N + 423)) \\
&= B_{\bar{N}}(2N + 426 - (2N + 12)) + B_{\bar{N}}(2N + 426 - (N + 459)) + B_{\bar{N}}(2N + 426 - (2N + 349)) \\
&= B_{\bar{N}}(414) + B_{\bar{N}}(N - 33) + B_{\bar{N}}(77) = 414 + (N - 33) + 77 = \mathbf{N} + \mathbf{458} \\
&(N \geq 414)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 427) &= B_{\bar{N}}(2N + 427 - B_{\bar{N}}(2N + 426)) + B_{\bar{N}}(2N + 427 - B_{\bar{N}}(2N + 425)) + B_{\bar{N}}(2N + 427 - B_{\bar{N}}(2N + 424)) \\
&= B_{\bar{N}}(2N + 427 - (N + 458)) + B_{\bar{N}}(2N + 427 - (2N + 12)) + B_{\bar{N}}(2N + 427 - (N + 459)) \\
&= B_{\bar{N}}(N - 31) + B_{\bar{N}}(415) + B_{\bar{N}}(N - 32) = (N - 31) + 415 + (N - 32) = \mathbf{2N} + \mathbf{352} \\
&(N \geq 415)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 428) &= B_{\bar{N}}(2N + 428 - B_{\bar{N}}(2N + 427)) + B_{\bar{N}}(2N + 428 - B_{\bar{N}}(2N + 426)) + B_{\bar{N}}(2N + 428 - B_{\bar{N}}(2N + 425)) \\
&= B_{\bar{N}}(2N + 428 - (2N + 352)) + B_{\bar{N}}(2N + 428 - (N + 458)) + B_{\bar{N}}(2N + 428 - (2N + 12)) \\
&= B_{\bar{N}}(76) + B_{\bar{N}}(N - 30) + B_{\bar{N}}(416) = 76 + (N - 30) + 416 = \mathbf{N} + \mathbf{462} \\
&(N \geq 416)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 429) &= B_{\bar{N}}(2N + 429 - B_{\bar{N}}(2N + 428)) + B_{\bar{N}}(2N + 429 - B_{\bar{N}}(2N + 427)) + B_{\bar{N}}(2N + 429 - B_{\bar{N}}(2N + 426)) \\
&= B_{\bar{N}}(2N + 429 - (N + 462)) + B_{\bar{N}}(2N + 429 - (2N + 352)) + B_{\bar{N}}(2N + 429 - (N + 458)) \\
&= B_{\bar{N}}(N - 33) + B_{\bar{N}}(77) + B_{\bar{N}}(N - 29) = (N - 33) + 77 + (N - 29) = \mathbf{2N} + \mathbf{15} \\
&(N \geq 77)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 430) &= B_{\bar{N}}(2N + 430 - B_{\bar{N}}(2N + 429)) + B_{\bar{N}}(2N + 430 - B_{\bar{N}}(2N + 428)) + B_{\bar{N}}(2N + 430 - B_{\bar{N}}(2N + 427)) \\
&= B_{\bar{N}}(2N + 430 - (2N + 15)) + B_{\bar{N}}(2N + 430 - (N + 462)) + B_{\bar{N}}(2N + 430 - (2N + 352)) \\
&= B_{\bar{N}}(415) + B_{\bar{N}}(N - 32) + B_{\bar{N}}(78) = 415 + (N - 32) + 78 = \mathbf{N} + \mathbf{461} \\
&(N \geq 415)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 431) &= B_{\bar{N}}(2N + 431 - B_{\bar{N}}(2N + 430)) + B_{\bar{N}}(2N + 431 - B_{\bar{N}}(2N + 429)) + B_{\bar{N}}(2N + 431 - B_{\bar{N}}(2N + 428)) \\
&= B_{\bar{N}}(2N + 431 - (N + 461)) + B_{\bar{N}}(2N + 431 - (2N + 15)) + B_{\bar{N}}(2N + 431 - (N + 462)) \\
&= B_{\bar{N}}(N - 30) + B_{\bar{N}}(416) + B_{\bar{N}}(N - 31) = (N - 30) + 416 + (N - 31) = \mathbf{2N} + \mathbf{355} \\
&(N \geq 416)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 432) &= B_{\bar{N}}(2N + 432 - B_{\bar{N}}(2N + 431)) + B_{\bar{N}}(2N + 432 - B_{\bar{N}}(2N + 430)) + B_{\bar{N}}(2N + 432 - B_{\bar{N}}(2N + 429)) \\
&= B_{\bar{N}}(2N + 432 - (2N + 355)) + B_{\bar{N}}(2N + 432 - (N + 461)) + B_{\bar{N}}(2N + 432 - (2N + 15)) \\
&= B_{\bar{N}}(77) + B_{\bar{N}}(N - 29) + B_{\bar{N}}(417) = 77 + (N - 29) + 417 = \mathbf{N} + \mathbf{465} \\
&(N \geq 417)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 433) &= B_{\bar{N}}(2N + 433 - B_{\bar{N}}(2N + 432)) + B_{\bar{N}}(2N + 433 - B_{\bar{N}}(2N + 431)) + B_{\bar{N}}(2N + 433 - B_{\bar{N}}(2N + 430)) \\
&= B_{\bar{N}}(2N + 433 - (N + 465)) + B_{\bar{N}}(2N + 433 - (2N + 355)) + B_{\bar{N}}(2N + 433 - (N + 461)) \\
&= B_{\bar{N}}(N - 32) + B_{\bar{N}}(78) + B_{\bar{N}}(N - 28) = (N - 32) + 78 + (N - 28) = \mathbf{2N} + \mathbf{18} \\
&(N \geq 259)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 434) &= B_{\bar{N}}(2N + 434 - B_{\bar{N}}(2N + 433)) + B_{\bar{N}}(2N + 434 - B_{\bar{N}}(2N + 432)) + B_{\bar{N}}(2N + 434 - B_{\bar{N}}(2N + 431)) \\
&= B_{\bar{N}}(2N + 434 - (2N + 18)) + B_{\bar{N}}(2N + 434 - (N + 465)) + B_{\bar{N}}(2N + 434 - (2N + 355)) \\
&= B_{\bar{N}}(416) + B_{\bar{N}}(N - 31) + B_{\bar{N}}(79) = 416 + (N - 31) + 79 = \mathbf{N} + \mathbf{464} \\
&(N \geq 416)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 435) &= B_{\bar{N}}(2N + 435 - B_{\bar{N}}(2N + 434)) + B_{\bar{N}}(2N + 435 - B_{\bar{N}}(2N + 433)) + B_{\bar{N}}(2N + 435 - B_{\bar{N}}(2N + 432)) \\
&= B_{\bar{N}}(2N + 435 - (N + 464)) + B_{\bar{N}}(2N + 435 - (2N + 18)) + B_{\bar{N}}(2N + 435 - (N + 465)) \\
&= B_{\bar{N}}(N - 29) + B_{\bar{N}}(417) + B_{\bar{N}}(N - 30) = (N - 29) + 417 + (N - 30) = \mathbf{2N} + \mathbf{358} \\
&(N \geq 417)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 436) &= B_{\bar{N}}(2N + 436 - B_{\bar{N}}(2N + 435)) + B_{\bar{N}}(2N + 436 - B_{\bar{N}}(2N + 434)) + B_{\bar{N}}(2N + 436 - B_{\bar{N}}(2N + 433)) \\
&= B_{\bar{N}}(2N + 436 - (2N + 358)) + B_{\bar{N}}(2N + 436 - (N + 464)) + B_{\bar{N}}(2N + 436 - (2N + 18)) \\
&= B_{\bar{N}}(78) + B_{\bar{N}}(N - 28) + B_{\bar{N}}(418) = 78 + (N - 28) + 418 = \mathbf{N} + \mathbf{468} \\
&(N \geq 418)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 437) &= B_{\bar{N}}(2N + 437 - B_{\bar{N}}(2N + 436)) + B_{\bar{N}}(2N + 437 - B_{\bar{N}}(2N + 435)) + B_{\bar{N}}(2N + 437 - B_{\bar{N}}(2N + 434)) \\
&= B_{\bar{N}}(2N + 437 - (N + 468)) + B_{\bar{N}}(2N + 437 - (2N + 358)) + B_{\bar{N}}(2N + 437 - (N + 464)) \\
&= B_{\bar{N}}(N - 31) + B_{\bar{N}}(79) + B_{\bar{N}}(N - 27) = (N - 31) + 79 + (N - 27) = \mathbf{2N} + \mathbf{21} \\
&(N \geq 310)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 438) &= B_{\bar{N}}(2N + 438 - B_{\bar{N}}(2N + 437)) + B_{\bar{N}}(2N + 438 - B_{\bar{N}}(2N + 436)) + B_{\bar{N}}(2N + 438 - B_{\bar{N}}(2N + 435)) \\
&= B_{\bar{N}}(2N + 438 - (2N + 21)) + B_{\bar{N}}(2N + 438 - (N + 468)) + B_{\bar{N}}(2N + 438 - (2N + 358)) \\
&= B_{\bar{N}}(417) + B_{\bar{N}}(N - 30) + B_{\bar{N}}(80) = 417 + (N - 30) + 80 = \mathbf{N} + \mathbf{467} \\
&(N \geq 417)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 439) &= B_{\bar{N}}(2N + 439 - B_{\bar{N}}(2N + 438)) + B_{\bar{N}}(2N + 439 - B_{\bar{N}}(2N + 437)) + B_{\bar{N}}(2N + 439 - B_{\bar{N}}(2N + 436)) \\
&= B_{\bar{N}}(2N + 439 - (N + 467)) + B_{\bar{N}}(2N + 439 - (2N + 21)) + B_{\bar{N}}(2N + 439 - (N + 468)) \\
&= B_{\bar{N}}(N - 28) + B_{\bar{N}}(418) + B_{\bar{N}}(N - 29) = (N - 28) + 418 + (N - 29) = \mathbf{2N} + \mathbf{361} \\
&(N \geq 418)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 440) &= B_{\bar{N}}(2N + 440 - B_{\bar{N}}(2N + 439)) + B_{\bar{N}}(2N + 440 - B_{\bar{N}}(2N + 438)) + B_{\bar{N}}(2N + 440 - B_{\bar{N}}(2N + 437)) \\
&= B_{\bar{N}}(2N + 440 - (2N + 361)) + B_{\bar{N}}(2N + 440 - (N + 467)) + B_{\bar{N}}(2N + 440 - (2N + 21)) \\
&= B_{\bar{N}}(79) + B_{\bar{N}}(N - 27) + B_{\bar{N}}(419) = 79 + (N - 27) + 419 = \mathbf{N} + \mathbf{471} \\
&(N \geq 419)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 441) &= B_{\bar{N}}(2N + 441 - B_{\bar{N}}(2N + 440)) + B_{\bar{N}}(2N + 441 - B_{\bar{N}}(2N + 439)) + B_{\bar{N}}(2N + 441 - B_{\bar{N}}(2N + 438)) \\
&= B_{\bar{N}}(2N + 441 - (N + 471)) + B_{\bar{N}}(2N + 441 - (2N + 361)) + B_{\bar{N}}(2N + 441 - (N + 467)) \\
&= B_{\bar{N}}(N - 30) + B_{\bar{N}}(80) + B_{\bar{N}}(N - 26) = (N - 30) + 80 + (N - 26) = \mathbf{2N} + \mathbf{24} \\
&(N \geq 80)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 442) &= B_{\bar{N}}(2N + 442 - B_{\bar{N}}(2N + 441)) + B_{\bar{N}}(2N + 442 - B_{\bar{N}}(2N + 440)) + B_{\bar{N}}(2N + 442 - B_{\bar{N}}(2N + 439)) \\
&= B_{\bar{N}}(2N + 442 - (2N + 24)) + B_{\bar{N}}(2N + 442 - (N + 471)) + B_{\bar{N}}(2N + 442 - (2N + 361)) \\
&= B_{\bar{N}}(418) + B_{\bar{N}}(N - 29) + B_{\bar{N}}(81) = 418 + (N - 29) + 81 = \mathbf{N} + \mathbf{470} \\
&(N \geq 418)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 443) &= B_{\bar{N}}(2N + 443 - B_{\bar{N}}(2N + 442)) + B_{\bar{N}}(2N + 443 - B_{\bar{N}}(2N + 441)) + B_{\bar{N}}(2N + 443 - B_{\bar{N}}(2N + 440)) \\
&= B_{\bar{N}}(2N + 443 - (N + 470)) + B_{\bar{N}}(2N + 443 - (2N + 24)) + B_{\bar{N}}(2N + 443 - (N + 471)) \\
&= B_{\bar{N}}(N - 27) + B_{\bar{N}}(419) + B_{\bar{N}}(N - 28) = (N - 27) + 419 + (N - 28) = \mathbf{2N} + \mathbf{364} \\
&(N \geq 419)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 444) &= B_{\bar{N}}(2N + 444 - B_{\bar{N}}(2N + 443)) + B_{\bar{N}}(2N + 444 - B_{\bar{N}}(2N + 442)) + B_{\bar{N}}(2N + 444 - B_{\bar{N}}(2N + 441)) \\
&= B_{\bar{N}}(2N + 444 - (2N + 364)) + B_{\bar{N}}(2N + 444 - (N + 470)) + B_{\bar{N}}(2N + 444 - (2N + 24)) \\
&= B_{\bar{N}}(80) + B_{\bar{N}}(N - 26) + B_{\bar{N}}(420) = 80 + (N - 26) + 420 = \mathbf{N} + \mathbf{474} \\
&(N \geq 420)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 445) &= B_{\bar{N}}(2N + 445 - B_{\bar{N}}(2N + 444)) + B_{\bar{N}}(2N + 445 - B_{\bar{N}}(2N + 443)) + B_{\bar{N}}(2N + 445 - B_{\bar{N}}(2N + 442)) \\
&= B_{\bar{N}}(2N + 445 - (N + 474)) + B_{\bar{N}}(2N + 445 - (2N + 364)) + B_{\bar{N}}(2N + 445 - (N + 470)) \\
&= B_{\bar{N}}(N - 29) + B_{\bar{N}}(81) + B_{\bar{N}}(N - 25) = (N - 29) + 81 + (N - 25) = \mathbf{2N} + \mathbf{27} \\
&(N \geq 400)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 446) &= B_{\bar{N}}(2N + 446 - B_{\bar{N}}(2N + 445)) + B_{\bar{N}}(2N + 446 - B_{\bar{N}}(2N + 444)) + B_{\bar{N}}(2N + 446 - B_{\bar{N}}(2N + 443)) \\
&= B_{\bar{N}}(2N + 446 - (2N + 27)) + B_{\bar{N}}(2N + 446 - (N + 474)) + B_{\bar{N}}(2N + 446 - (2N + 364)) \\
&= B_{\bar{N}}(419) + B_{\bar{N}}(N - 28) + B_{\bar{N}}(82) = 419 + (N - 28) + 82 = \mathbf{N} + \mathbf{473} \\
&(N \geq 419)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 447) &= B_{\bar{N}}(2N + 447 - B_{\bar{N}}(2N + 446)) + B_{\bar{N}}(2N + 447 - B_{\bar{N}}(2N + 445)) + B_{\bar{N}}(2N + 447 - B_{\bar{N}}(2N + 444)) \\
&= B_{\bar{N}}(2N + 447 - (N + 473)) + B_{\bar{N}}(2N + 447 - (2N + 27)) + B_{\bar{N}}(2N + 447 - (N + 474)) \\
&= B_{\bar{N}}(N - 26) + B_{\bar{N}}(420) + B_{\bar{N}}(N - 27) = (N - 26) + 420 + (N - 27) = \mathbf{2N} + \mathbf{367} \\
&(N \geq 420)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 448) &= B_{\bar{N}}(2N + 448 - B_{\bar{N}}(2N + 447)) + B_{\bar{N}}(2N + 448 - B_{\bar{N}}(2N + 446)) + B_{\bar{N}}(2N + 448 - B_{\bar{N}}(2N + 445)) \\
&= B_{\bar{N}}(2N + 448 - (2N + 367)) + B_{\bar{N}}(2N + 448 - (N + 473)) + B_{\bar{N}}(2N + 448 - (2N + 27)) \\
&= B_{\bar{N}}(81) + B_{\bar{N}}(N - 25) + B_{\bar{N}}(421) = 81 + (N - 25) + 421 = \mathbf{N} + \mathbf{477} \\
&(N \geq 421)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 449) &= B_{\bar{N}}(2N + 449 - B_{\bar{N}}(2N + 448)) + B_{\bar{N}}(2N + 449 - B_{\bar{N}}(2N + 447)) + B_{\bar{N}}(2N + 449 - B_{\bar{N}}(2N + 446)) \\
&= B_{\bar{N}}(2N + 449 - (N + 477)) + B_{\bar{N}}(2N + 449 - (2N + 367)) + B_{\bar{N}}(2N + 449 - (N + 473)) \\
&= B_{\bar{N}}(N - 28) + B_{\bar{N}}(82) + B_{\bar{N}}(N - 24) = (N - 28) + 82 + (N - 24) = \mathbf{2N} + \mathbf{30} \\
&(N \geq 416)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 450) &= B_{\bar{N}}(2N + 450 - B_{\bar{N}}(2N + 449)) + B_{\bar{N}}(2N + 450 - B_{\bar{N}}(2N + 448)) + B_{\bar{N}}(2N + 450 - B_{\bar{N}}(2N + 447)) \\
&= B_{\bar{N}}(2N + 450 - (2N + 30)) + B_{\bar{N}}(2N + 450 - (N + 477)) + B_{\bar{N}}(2N + 450 - (2N + 367)) \\
&= B_{\bar{N}}(420) + B_{\bar{N}}(N - 27) + B_{\bar{N}}(83) = 420 + (N - 27) + 83 = \mathbf{N} + \mathbf{476} \\
&(N \geq 420)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 451) &= B_{\bar{N}}(2N + 451 - B_{\bar{N}}(2N + 450)) + B_{\bar{N}}(2N + 451 - B_{\bar{N}}(2N + 449)) + B_{\bar{N}}(2N + 451 - B_{\bar{N}}(2N + 448)) \\
&= B_{\bar{N}}(2N + 451 - (N + 476)) + B_{\bar{N}}(2N + 451 - (2N + 30)) + B_{\bar{N}}(2N + 451 - (N + 477)) \\
&= B_{\bar{N}}(N - 25) + B_{\bar{N}}(421) + B_{\bar{N}}(N - 26) = (N - 25) + 421 + (N - 26) = \mathbf{2N} + \mathbf{370} \\
&(N \geq 425)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 452) &= B_{\bar{N}}(2N + 452 - B_{\bar{N}}(2N + 451)) + B_{\bar{N}}(2N + 452 - B_{\bar{N}}(2N + 450)) + B_{\bar{N}}(2N + 452 - B_{\bar{N}}(2N + 449)) \\
&= B_{\bar{N}}(2N + 452 - (2N + 370)) + B_{\bar{N}}(2N + 452 - (N + 476)) + B_{\bar{N}}(2N + 452 - (2N + 30)) \\
&= B_{\bar{N}}(82) + B_{\bar{N}}(N - 24) + B_{\bar{N}}(422) = 82 + (N - 24) + 422 = \mathbf{N} + \mathbf{480} \\
&(N \geq 426)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 453) &= B_{\bar{N}}(2N + 453 - B_{\bar{N}}(2N + 452)) + B_{\bar{N}}(2N + 453 - B_{\bar{N}}(2N + 451)) + B_{\bar{N}}(2N + 453 - B_{\bar{N}}(2N + 450)) \\
&= B_{\bar{N}}(2N + 453 - (N + 480)) + B_{\bar{N}}(2N + 453 - (2N + 370)) + B_{\bar{N}}(2N + 453 - (N + 476)) \\
&= B_{\bar{N}}(N - 27) + B_{\bar{N}}(83) + B_{\bar{N}}(N - 23) = (N - 27) + 83 + (N - 23) = \mathbf{2N} + \mathbf{33} \\
&(N \geq 427)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 454) &= B_{\bar{N}}(2N + 454 - B_{\bar{N}}(2N + 453)) + B_{\bar{N}}(2N + 454 - B_{\bar{N}}(2N + 452)) + B_{\bar{N}}(2N + 454 - B_{\bar{N}}(2N + 451)) \\
&= B_{\bar{N}}(2N + 454 - (2N + 33)) + B_{\bar{N}}(2N + 454 - (N + 480)) + B_{\bar{N}}(2N + 454 - (2N + 370)) \\
&= B_{\bar{N}}(421) + B_{\bar{N}}(N - 26) + B_{\bar{N}}(84) = 421 + (N - 26) + 84 = \mathbf{N} + \mathbf{479} \\
&(N \geq 421)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 455) &= B_{\bar{N}}(2N + 455 - B_{\bar{N}}(2N + 454)) + B_{\bar{N}}(2N + 455 - B_{\bar{N}}(2N + 453)) + B_{\bar{N}}(2N + 455 - B_{\bar{N}}(2N + 452)) \\
&= B_{\bar{N}}(2N + 455 - (N + 479)) + B_{\bar{N}}(2N + 455 - (2N + 33)) + B_{\bar{N}}(2N + 455 - (N + 480)) \\
&= B_{\bar{N}}(N - 24) + B_{\bar{N}}(422) + B_{\bar{N}}(N - 25) = (N - 24) + 422 + (N - 25) = \mathbf{2N} + \mathbf{373} \\
&(N \geq 856)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 456) &= B_{\bar{N}}(2N + 456 - B_{\bar{N}}(2N + 455)) + B_{\bar{N}}(2N + 456 - B_{\bar{N}}(2N + 454)) + B_{\bar{N}}(2N + 456 - B_{\bar{N}}(2N + 453)) \\
&= B_{\bar{N}}(2N + 456 - (2N + 373)) + B_{\bar{N}}(2N + 456 - (N + 479)) + B_{\bar{N}}(2N + 456 - (2N + 33)) \\
&= B_{\bar{N}}(83) + B_{\bar{N}}(N - 23) + B_{\bar{N}}(423) = 83 + (N - 23) + 423 = \mathbf{N} + \mathbf{483} \\
&(N \geq 863)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 457) &= B_{\bar{N}}(2N + 457 - B_{\bar{N}}(2N + 456)) + B_{\bar{N}}(2N + 457 - B_{\bar{N}}(2N + 455)) + B_{\bar{N}}(2N + 457 - B_{\bar{N}}(2N + 454)) \\
&= B_{\bar{N}}(2N + 457 - (N + 483)) + B_{\bar{N}}(2N + 457 - (2N + 373)) + B_{\bar{N}}(2N + 457 - (N + 479)) \\
&= B_{\bar{N}}(N - 26) + B_{\bar{N}}(84) + B_{\bar{N}}(N - 22) = (N - 26) + 84 + (N - 22) = \mathbf{2N} + \mathbf{36} \\
&(N \geq 870)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 458) &= B_{\bar{N}}(2N + 458 - B_{\bar{N}}(2N + 457)) + B_{\bar{N}}(2N + 458 - B_{\bar{N}}(2N + 456)) + B_{\bar{N}}(2N + 458 - B_{\bar{N}}(2N + 455)) \\
&= B_{\bar{N}}(2N + 458 - (2N + 36)) + B_{\bar{N}}(2N + 458 - (N + 483)) + B_{\bar{N}}(2N + 458 - (2N + 373)) \\
&= B_{\bar{N}}(422) + B_{\bar{N}}(N - 25) + B_{\bar{N}}(85) = 422 + (N - 25) + 85 = \mathbf{N} + \mathbf{482} \\
&(N \geq 422)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 459) &= B_{\bar{N}}(2N + 459 - B_{\bar{N}}(2N + 458)) + B_{\bar{N}}(2N + 459 - B_{\bar{N}}(2N + 457)) + B_{\bar{N}}(2N + 459 - B_{\bar{N}}(2N + 456)) \\
&= B_{\bar{N}}(2N + 459 - (N + 482)) + B_{\bar{N}}(2N + 459 - (2N + 36)) + B_{\bar{N}}(2N + 459 - (N + 483)) \\
&= B_{\bar{N}}(N - 23) + B_{\bar{N}}(423) + B_{\bar{N}}(N - 24) = (N - 23) + 423 + (N - 24) = \mathbf{2N} + \mathbf{376} \\
&(N \geq 423)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 460) &= B_{\bar{N}}(2N + 460 - B_{\bar{N}}(2N + 459)) + B_{\bar{N}}(2N + 460 - B_{\bar{N}}(2N + 458)) + B_{\bar{N}}(2N + 460 - B_{\bar{N}}(2N + 457)) \\
&= B_{\bar{N}}(2N + 460 - (2N + 376)) + B_{\bar{N}}(2N + 460 - (N + 482)) + B_{\bar{N}}(2N + 460 - (2N + 36)) \\
&= B_{\bar{N}}(84) + B_{\bar{N}}(N - 22) + B_{\bar{N}}(424) = 84 + (N - 22) + 424 = \mathbf{N} + \mathbf{486} \\
&(N \geq 600)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 461) &= B_{\bar{N}}(2N + 461 - B_{\bar{N}}(2N + 460)) + B_{\bar{N}}(2N + 461 - B_{\bar{N}}(2N + 459)) + B_{\bar{N}}(2N + 461 - B_{\bar{N}}(2N + 458)) \\
&= B_{\bar{N}}(2N + 461 - (N + 486)) + B_{\bar{N}}(2N + 461 - (2N + 376)) + B_{\bar{N}}(2N + 461 - (N + 482)) \\
&= B_{\bar{N}}(N - 25) + B_{\bar{N}}(85) + B_{\bar{N}}(N - 21) = (N - 25) + 85 + (N - 21) = \mathbf{2N} + \mathbf{39} \\
&(\mathbf{N} \geq \mathbf{3286})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 462) &= B_{\bar{N}}(2N + 462 - B_{\bar{N}}(2N + 461)) + B_{\bar{N}}(2N + 462 - B_{\bar{N}}(2N + 460)) + B_{\bar{N}}(2N + 462 - B_{\bar{N}}(2N + 459)) \\
&= B_{\bar{N}}(2N + 462 - (2N + 39)) + B_{\bar{N}}(2N + 462 - (N + 486)) + B_{\bar{N}}(2N + 462 - (2N + 376)) \\
&= B_{\bar{N}}(423) + B_{\bar{N}}(N - 24) + B_{\bar{N}}(86) = 423 + (N - 24) + 86 = \mathbf{N} + \mathbf{485} \\
&(\mathbf{N} \geq \mathbf{3293})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 463) &= B_{\bar{N}}(2N + 463 - B_{\bar{N}}(2N + 462)) + B_{\bar{N}}(2N + 463 - B_{\bar{N}}(2N + 461)) + B_{\bar{N}}(2N + 463 - B_{\bar{N}}(2N + 460)) \\
&= B_{\bar{N}}(2N + 463 - (N + 485)) + B_{\bar{N}}(2N + 463 - (2N + 39)) + B_{\bar{N}}(2N + 463 - (N + 486)) \\
&= B_{\bar{N}}(N - 22) + B_{\bar{N}}(424) + B_{\bar{N}}(N - 23) = (N - 22) + 424 + (N - 23) = \mathbf{2N} + \mathbf{379} \\
&(\mathbf{N} \geq \mathbf{3300})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 464) &= B_{\bar{N}}(2N + 464 - B_{\bar{N}}(2N + 463)) + B_{\bar{N}}(2N + 464 - B_{\bar{N}}(2N + 462)) + B_{\bar{N}}(2N + 464 - B_{\bar{N}}(2N + 461)) \\
&= B_{\bar{N}}(2N + 464 - (2N + 379)) + B_{\bar{N}}(2N + 464 - (N + 485)) + B_{\bar{N}}(2N + 464 - (2N + 39)) \\
&= B_{\bar{N}}(85) + B_{\bar{N}}(N - 21) + B_{\bar{N}}(425) = 85 + (N - 21) + 425 = \mathbf{N} + \mathbf{489} \\
&(N \geq 603)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 465) &= B_{\bar{N}}(2N + 465 - B_{\bar{N}}(2N + 464)) + B_{\bar{N}}(2N + 465 - B_{\bar{N}}(2N + 463)) + B_{\bar{N}}(2N + 465 - B_{\bar{N}}(2N + 462)) \\
&= B_{\bar{N}}(2N + 465 - (N + 489)) + B_{\bar{N}}(2N + 465 - (2N + 379)) + B_{\bar{N}}(2N + 465 - (N + 485)) \\
&= B_{\bar{N}}(N - 24) + B_{\bar{N}}(86) + B_{\bar{N}}(N - 20) = (N - 24) + 86 + (N - 20) = \mathbf{2N} + \mathbf{42} \\
&(N \geq 2095)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 466) &= B_{\bar{N}}(2N + 466 - B_{\bar{N}}(2N + 465)) + B_{\bar{N}}(2N + 466 - B_{\bar{N}}(2N + 464)) + B_{\bar{N}}(2N + 466 - B_{\bar{N}}(2N + 463)) \\
&= B_{\bar{N}}(2N + 466 - (2N + 42)) + B_{\bar{N}}(2N + 466 - (N + 489)) + B_{\bar{N}}(2N + 466 - (2N + 379)) \\
&= B_{\bar{N}}(424) + B_{\bar{N}}(N - 23) + B_{\bar{N}}(87) = 424 + (N - 23) + 87 = \mathbf{N} + \mathbf{488} \\
&(N \geq 2102)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 467) &= B_{\bar{N}}(2N + 467 - B_{\bar{N}}(2N + 466)) + B_{\bar{N}}(2N + 467 - B_{\bar{N}}(2N + 465)) + B_{\bar{N}}(2N + 467 - B_{\bar{N}}(2N + 464)) \\
&= B_{\bar{N}}(2N + 467 - (N + 488)) + B_{\bar{N}}(2N + 467 - (2N + 42)) + B_{\bar{N}}(2N + 467 - (N + 489)) \\
&= B_{\bar{N}}(N - 21) + B_{\bar{N}}(425) + B_{\bar{N}}(N - 22) = (N - 21) + 425 + (N - 22) = \mathbf{2N} + \mathbf{382} \\
&(N \geq 2109)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 468) &= B_{\bar{N}}(2N + 468 - B_{\bar{N}}(2N + 467)) + B_{\bar{N}}(2N + 468 - B_{\bar{N}}(2N + 466)) + B_{\bar{N}}(2N + 468 - B_{\bar{N}}(2N + 465)) \\
&= B_{\bar{N}}(2N + 468 - (2N + 382)) + B_{\bar{N}}(2N + 468 - (N + 488)) + B_{\bar{N}}(2N + 468 - (2N + 42)) \\
&= B_{\bar{N}}(86) + B_{\bar{N}}(N - 20) + B_{\bar{N}}(426) = 86 + (N - 20) + 426 = \mathbf{N} + \mathbf{492} \\
&(N \geq 541)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 469) &= B_{\bar{N}}(2N + 469 - B_{\bar{N}}(2N + 468)) + B_{\bar{N}}(2N + 469 - B_{\bar{N}}(2N + 467)) + B_{\bar{N}}(2N + 469 - B_{\bar{N}}(2N + 466)) \\
&= B_{\bar{N}}(2N + 469 - (N + 492)) + B_{\bar{N}}(2N + 469 - (2N + 382)) + B_{\bar{N}}(2N + 469 - (N + 488)) \\
&= B_{\bar{N}}(N - 23) + B_{\bar{N}}(87) + B_{\bar{N}}(N - 19) = (N - 23) + 87 + (N - 19) = \mathbf{2N} + \mathbf{45} \\
&(N \geq 540)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 470) &= B_{\bar{N}}(2N + 470 - B_{\bar{N}}(2N + 469)) + B_{\bar{N}}(2N + 470 - B_{\bar{N}}(2N + 468)) + B_{\bar{N}}(2N + 470 - B_{\bar{N}}(2N + 467)) \\
&= B_{\bar{N}}(2N + 470 - (2N + 45)) + B_{\bar{N}}(2N + 470 - (N + 492)) + B_{\bar{N}}(2N + 470 - (2N + 382)) \\
&= B_{\bar{N}}(425) + B_{\bar{N}}(N - 22) + B_{\bar{N}}(88) = 425 + (N - 22) + 88 = \mathbf{N} + \mathbf{491} \\
&(N \geq 539)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 471) &= B_{\bar{N}}(2N + 471 - B_{\bar{N}}(2N + 470)) + B_{\bar{N}}(2N + 471 - B_{\bar{N}}(2N + 469)) + B_{\bar{N}}(2N + 471 - B_{\bar{N}}(2N + 468)) \\
&= B_{\bar{N}}(2N + 471 - (N + 491)) + B_{\bar{N}}(2N + 471 - (2N + 45)) + B_{\bar{N}}(2N + 471 - (N + 492)) \\
&= B_{\bar{N}}(N - 20) + B_{\bar{N}}(426) + B_{\bar{N}}(N - 21) = (N - 20) + 426 + (N - 21) = \mathbf{2N} + \mathbf{385} \\
&(N \geq 426)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 472) &= B_{\bar{N}}(2N + 472 - B_{\bar{N}}(2N + 471)) + B_{\bar{N}}(2N + 472 - B_{\bar{N}}(2N + 470)) + B_{\bar{N}}(2N + 472 - B_{\bar{N}}(2N + 469)) \\
&= B_{\bar{N}}(2N + 472 - (2N + 385)) + B_{\bar{N}}(2N + 472 - (N + 491)) + B_{\bar{N}}(2N + 472 - (2N + 45)) \\
&= B_{\bar{N}}(87) + B_{\bar{N}}(N - 19) + B_{\bar{N}}(427) = 87 + (N - 19) + 427 = \mathbf{N} + \mathbf{495} \\
&(N \geq 467)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 473) &= B_{\bar{N}}(2N + 473 - B_{\bar{N}}(2N + 472)) + B_{\bar{N}}(2N + 473 - B_{\bar{N}}(2N + 471)) + B_{\bar{N}}(2N + 473 - B_{\bar{N}}(2N + 470)) \\
&= B_{\bar{N}}(2N + 473 - (N + 495)) + B_{\bar{N}}(2N + 473 - (2N + 385)) + B_{\bar{N}}(2N + 473 - (N + 491)) \\
&= B_{\bar{N}}(N - 22) + B_{\bar{N}}(88) + B_{\bar{N}}(N - 18) = (N - 22) + 88 + (N - 18) = \mathbf{2N} + \mathbf{48} \\
&(N \geq 468)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 474) &= B_{\bar{N}}(2N + 474 - B_{\bar{N}}(2N + 473)) + B_{\bar{N}}(2N + 474 - B_{\bar{N}}(2N + 472)) + B_{\bar{N}}(2N + 474 - B_{\bar{N}}(2N + 471)) \\
&= B_{\bar{N}}(2N + 474 - (2N + 48)) + B_{\bar{N}}(2N + 474 - (N + 495)) + B_{\bar{N}}(2N + 474 - (2N + 385)) \\
&= B_{\bar{N}}(426) + B_{\bar{N}}(N - 21) + B_{\bar{N}}(89) = 426 + (N - 21) + 89 = \mathbf{N} + \mathbf{494} \\
&(N \geq 469)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 475) &= B_{\bar{N}}(2N + 475 - B_{\bar{N}}(2N + 474)) + B_{\bar{N}}(2N + 475 - B_{\bar{N}}(2N + 473)) + B_{\bar{N}}(2N + 475 - B_{\bar{N}}(2N + 472)) \\
&= B_{\bar{N}}(2N + 475 - (N + 494)) + B_{\bar{N}}(2N + 475 - (2N + 48)) + B_{\bar{N}}(2N + 475 - (N + 495)) \\
&= B_{\bar{N}}(N - 19) + B_{\bar{N}}(427) + B_{\bar{N}}(N - 20) = (N - 19) + 427 + (N - 20) = \mathbf{2N} + \mathbf{388} \\
&(N \geq 427)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 476) &= B_{\bar{N}}(2N + 476 - B_{\bar{N}}(2N + 475)) + B_{\bar{N}}(2N + 476 - B_{\bar{N}}(2N + 474)) + B_{\bar{N}}(2N + 476 - B_{\bar{N}}(2N + 473)) \\
&= B_{\bar{N}}(2N + 476 - (2N + 388)) + B_{\bar{N}}(2N + 476 - (N + 494)) + B_{\bar{N}}(2N + 476 - (2N + 48)) \\
&= B_{\bar{N}}(88) + B_{\bar{N}}(N - 18) + B_{\bar{N}}(428) = 88 + (N - 18) + 428 = \mathbf{N} + \mathbf{498} \\
&(N \geq 473)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 477) &= B_{\bar{N}}(2N + 477 - B_{\bar{N}}(2N + 476)) + B_{\bar{N}}(2N + 477 - B_{\bar{N}}(2N + 475)) + B_{\bar{N}}(2N + 477 - B_{\bar{N}}(2N + 474)) \\
&= B_{\bar{N}}(2N + 477 - (N + 498)) + B_{\bar{N}}(2N + 477 - (2N + 388)) + B_{\bar{N}}(2N + 477 - (N + 494)) \\
&= B_{\bar{N}}(N - 21) + B_{\bar{N}}(89) + B_{\bar{N}}(N - 17) = (N - 21) + 89 + (N - 17) = \mathbf{2N} + \mathbf{51} \\
&(N \geq 474)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 478) &= B_{\bar{N}}(2N + 478 - B_{\bar{N}}(2N + 477)) + B_{\bar{N}}(2N + 478 - B_{\bar{N}}(2N + 476)) + B_{\bar{N}}(2N + 478 - B_{\bar{N}}(2N + 475)) \\
&= B_{\bar{N}}(2N + 478 - (2N + 51)) + B_{\bar{N}}(2N + 478 - (N + 498)) + B_{\bar{N}}(2N + 478 - (2N + 388)) \\
&= B_{\bar{N}}(427) + B_{\bar{N}}(N - 20) + B_{\bar{N}}(90) = 427 + (N - 20) + 90 = \mathbf{N} + \mathbf{497} \\
&(N \geq 475)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 479) &= B_{\bar{N}}(2N + 479 - B_{\bar{N}}(2N + 478)) + B_{\bar{N}}(2N + 479 - B_{\bar{N}}(2N + 477)) + B_{\bar{N}}(2N + 479 - B_{\bar{N}}(2N + 476)) \\
&= B_{\bar{N}}(2N + 479 - (N + 497)) + B_{\bar{N}}(2N + 479 - (2N + 51)) + B_{\bar{N}}(2N + 479 - (N + 498)) \\
&= B_{\bar{N}}(N - 18) + B_{\bar{N}}(428) + B_{\bar{N}}(N - 19) = (N - 18) + 428 + (N - 19) = \mathbf{2N} + \mathbf{391} \\
&(N \geq 428)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 480) &= B_{\bar{N}}(2N + 480 - B_{\bar{N}}(2N + 479)) + B_{\bar{N}}(2N + 480 - B_{\bar{N}}(2N + 478)) + B_{\bar{N}}(2N + 480 - B_{\bar{N}}(2N + 477)) \\
&= B_{\bar{N}}(2N + 480 - (2N + 391)) + B_{\bar{N}}(2N + 480 - (N + 497)) + B_{\bar{N}}(2N + 480 - (2N + 51)) \\
&= B_{\bar{N}}(89) + B_{\bar{N}}(N - 17) + B_{\bar{N}}(429) = 89 + (N - 17) + 429 = \mathbf{N} + \mathbf{501} \\
&(N \geq 474)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 481) &= B_{\bar{N}}(2N + 481 - B_{\bar{N}}(2N + 480)) + B_{\bar{N}}(2N + 481 - B_{\bar{N}}(2N + 479)) + B_{\bar{N}}(2N + 481 - B_{\bar{N}}(2N + 478)) \\
&= B_{\bar{N}}(2N + 481 - (N + 501)) + B_{\bar{N}}(2N + 481 - (2N + 391)) + B_{\bar{N}}(2N + 481 - (N + 497)) \\
&= B_{\bar{N}}(N - 20) + B_{\bar{N}}(90) + B_{\bar{N}}(N - 16) = (N - 20) + 90 + (N - 16) = \mathbf{2N} + \mathbf{54} \\
&(N \geq 475)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 482) &= B_{\bar{N}}(2N + 482 - B_{\bar{N}}(2N + 481)) + B_{\bar{N}}(2N + 482 - B_{\bar{N}}(2N + 480)) + B_{\bar{N}}(2N + 482 - B_{\bar{N}}(2N + 479)) \\
&= B_{\bar{N}}(2N + 482 - (2N + 54)) + B_{\bar{N}}(2N + 482 - (N + 501)) + B_{\bar{N}}(2N + 482 - (2N + 391)) \\
&= B_{\bar{N}}(428) + B_{\bar{N}}(N - 19) + B_{\bar{N}}(91) = 428 + (N - 19) + 91 = \mathbf{N} + \mathbf{500} \\
&(N \geq 476)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 483) &= B_{\bar{N}}(2N + 483 - B_{\bar{N}}(2N + 482)) + B_{\bar{N}}(2N + 483 - B_{\bar{N}}(2N + 481)) + B_{\bar{N}}(2N + 483 - B_{\bar{N}}(2N + 480)) \\
&= B_{\bar{N}}(2N + 483 - (N + 500)) + B_{\bar{N}}(2N + 483 - (2N + 54)) + B_{\bar{N}}(2N + 483 - (N + 501)) \\
&= B_{\bar{N}}(N - 17) + B_{\bar{N}}(429) + B_{\bar{N}}(N - 18) = (N - 17) + 429 + (N - 18) = \mathbf{2N} + \mathbf{394} \\
&(N \geq 429)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 484) &= B_{\bar{N}}(2N + 484 - B_{\bar{N}}(2N + 483)) + B_{\bar{N}}(2N + 484 - B_{\bar{N}}(2N + 482)) + B_{\bar{N}}(2N + 484 - B_{\bar{N}}(2N + 481)) \\
&= B_{\bar{N}}(2N + 484 - (2N + 394)) + B_{\bar{N}}(2N + 484 - (N + 500)) + B_{\bar{N}}(2N + 484 - (2N + 54)) \\
&= B_{\bar{N}}(90) + B_{\bar{N}}(N - 16) + B_{\bar{N}}(430) = 90 + (N - 16) + 430 = \mathbf{N} + \mathbf{504} \\
&(N \geq 475)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 485) &= B_{\bar{N}}(2N + 485 - B_{\bar{N}}(2N + 484)) + B_{\bar{N}}(2N + 485 - B_{\bar{N}}(2N + 483)) + B_{\bar{N}}(2N + 485 - B_{\bar{N}}(2N + 482)) \\
&= B_{\bar{N}}(2N + 485 - (N + 504)) + B_{\bar{N}}(2N + 485 - (2N + 394)) + B_{\bar{N}}(2N + 485 - (N + 500)) \\
&= B_{\bar{N}}(N - 19) + B_{\bar{N}}(91) + B_{\bar{N}}(N - 15) = (N - 19) + 91 + (N - 15) = \mathbf{2N} + \mathbf{57} \\
&(N \geq 476)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 486) &= B_{\bar{N}}(2N + 486 - B_{\bar{N}}(2N + 485)) + B_{\bar{N}}(2N + 486 - B_{\bar{N}}(2N + 484)) + B_{\bar{N}}(2N + 486 - B_{\bar{N}}(2N + 483)) \\
&= B_{\bar{N}}(2N + 486 - (2N + 57)) + B_{\bar{N}}(2N + 486 - (N + 504)) + B_{\bar{N}}(2N + 486 - (2N + 394)) \\
&= B_{\bar{N}}(429) + B_{\bar{N}}(N - 18) + B_{\bar{N}}(92) = 429 + (N - 18) + 92 = \mathbf{N} + \mathbf{503} \\
&(N \geq 477)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 487) &= B_{\bar{N}}(2N + 487 - B_{\bar{N}}(2N + 486)) + B_{\bar{N}}(2N + 487 - B_{\bar{N}}(2N + 485)) + B_{\bar{N}}(2N + 487 - B_{\bar{N}}(2N + 484)) \\
&= B_{\bar{N}}(2N + 487 - (N + 503)) + B_{\bar{N}}(2N + 487 - (2N + 57)) + B_{\bar{N}}(2N + 487 - (N + 504)) \\
&= B_{\bar{N}}(N - 16) + B_{\bar{N}}(430) + B_{\bar{N}}(N - 17) = (N - 16) + 430 + (N - 17) = \mathbf{2N} + \mathbf{397} \\
&(N \geq 476)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 488) &= B_{\bar{N}}(2N + 488 - B_{\bar{N}}(2N + 487)) + B_{\bar{N}}(2N + 488 - B_{\bar{N}}(2N + 486)) + B_{\bar{N}}(2N + 488 - B_{\bar{N}}(2N + 485)) \\
&= B_{\bar{N}}(2N + 488 - (2N + 397)) + B_{\bar{N}}(2N + 488 - (N + 503)) + B_{\bar{N}}(2N + 488 - (2N + 57)) \\
&= B_{\bar{N}}(91) + B_{\bar{N}}(N - 15) + B_{\bar{N}}(431) = 91 + (N - 15) + 431 = \mathbf{N} + \mathbf{507} \\
&(N \geq 503)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 489) &= B_{\bar{N}}(2N + 489 - B_{\bar{N}}(2N + 488)) + B_{\bar{N}}(2N + 489 - B_{\bar{N}}(2N + 487)) + B_{\bar{N}}(2N + 489 - B_{\bar{N}}(2N + 486)) \\
&= B_{\bar{N}}(2N + 489 - (N + 507)) + B_{\bar{N}}(2N + 489 - (2N + 397)) + B_{\bar{N}}(2N + 489 - (N + 503)) \\
&= B_{\bar{N}}(N - 18) + B_{\bar{N}}(92) + B_{\bar{N}}(N - 14) = (N - 18) + 92 + (N - 14) = \mathbf{2N} + \mathbf{60} \\
&(N \geq 506)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 490) &= B_{\bar{N}}(2N + 490 - B_{\bar{N}}(2N + 489)) + B_{\bar{N}}(2N + 490 - B_{\bar{N}}(2N + 488)) + B_{\bar{N}}(2N + 490 - B_{\bar{N}}(2N + 487)) \\
&= B_{\bar{N}}(2N + 490 - (2N + 60)) + B_{\bar{N}}(2N + 490 - (N + 507)) + B_{\bar{N}}(2N + 490 - (2N + 397)) \\
&= B_{\bar{N}}(430) + B_{\bar{N}}(N - 17) + B_{\bar{N}}(93) = 430 + (N - 17) + 93 = \mathbf{N} + \mathbf{506} \\
&(N \geq 510)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 491) &= B_{\bar{N}}(2N + 491 - B_{\bar{N}}(2N + 490)) + B_{\bar{N}}(2N + 491 - B_{\bar{N}}(2N + 489)) + B_{\bar{N}}(2N + 491 - B_{\bar{N}}(2N + 488)) \\
&= B_{\bar{N}}(2N + 491 - (N + 506)) + B_{\bar{N}}(2N + 491 - (2N + 60)) + B_{\bar{N}}(2N + 491 - (N + 507)) \\
&= B_{\bar{N}}(N - 15) + B_{\bar{N}}(431) + B_{\bar{N}}(N - 16) = (N - 15) + 431 + (N - 16) = \mathbf{2N} + \mathbf{400} \\
&(N \geq 477)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 492) &= B_{\bar{N}}(2N + 492 - B_{\bar{N}}(2N + 491)) + B_{\bar{N}}(2N + 492 - B_{\bar{N}}(2N + 490)) + B_{\bar{N}}(2N + 492 - B_{\bar{N}}(2N + 489)) \\
&= B_{\bar{N}}(2N + 492 - (2N + 400)) + B_{\bar{N}}(2N + 492 - (N + 506)) + B_{\bar{N}}(2N + 492 - (2N + 60)) \\
&= B_{\bar{N}}(92) + B_{\bar{N}}(N - 14) + B_{\bar{N}}(432) = 92 + (N - 14) + 432 = \mathbf{N} + \mathbf{510} \\
&(N \geq 478)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 493) &= B_{\bar{N}}(2N + 493 - B_{\bar{N}}(2N + 492)) + B_{\bar{N}}(2N + 493 - B_{\bar{N}}(2N + 491)) + B_{\bar{N}}(2N + 493 - B_{\bar{N}}(2N + 490)) \\
&= B_{\bar{N}}(2N + 493 - (N + 510)) + B_{\bar{N}}(2N + 493 - (2N + 400)) + B_{\bar{N}}(2N + 493 - (N + 506)) \\
&= B_{\bar{N}}(N - 17) + B_{\bar{N}}(93) + B_{\bar{N}}(N - 13) = (N - 17) + 93 + (N - 13) = \mathbf{2N} + \mathbf{63} \\
&(N \geq 479)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 494) &= B_{\bar{N}}(2N + 494 - B_{\bar{N}}(2N + 493)) + B_{\bar{N}}(2N + 494 - B_{\bar{N}}(2N + 492)) + B_{\bar{N}}(2N + 494 - B_{\bar{N}}(2N + 491)) \\
&= B_{\bar{N}}(2N + 494 - (2N + 63)) + B_{\bar{N}}(2N + 494 - (N + 510)) + B_{\bar{N}}(2N + 494 - (2N + 400)) \\
&= B_{\bar{N}}(431) + B_{\bar{N}}(N - 16) + B_{\bar{N}}(94) = 431 + (N - 16) + 94 = \mathbf{N} + \mathbf{509} \\
&(N \geq 479)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 495) &= B_{\bar{N}}(2N + 495 - B_{\bar{N}}(2N + 494)) + B_{\bar{N}}(2N + 495 - B_{\bar{N}}(2N + 493)) + B_{\bar{N}}(2N + 495 - B_{\bar{N}}(2N + 492)) \\
&= B_{\bar{N}}(2N + 495 - (N + 509)) + B_{\bar{N}}(2N + 495 - (2N + 63)) + B_{\bar{N}}(2N + 495 - (N + 510)) \\
&= B_{\bar{N}}(N - 14) + B_{\bar{N}}(432) + B_{\bar{N}}(N - 15) = (N - 14) + 432 + (N - 15) = \mathbf{2N} + \mathbf{403} \\
&(N \geq 484)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 496) &= B_{\bar{N}}(2N + 496 - B_{\bar{N}}(2N + 495)) + B_{\bar{N}}(2N + 496 - B_{\bar{N}}(2N + 494)) + B_{\bar{N}}(2N + 496 - B_{\bar{N}}(2N + 493)) \\
&= B_{\bar{N}}(2N + 496 - (2N + 403)) + B_{\bar{N}}(2N + 496 - (N + 509)) + B_{\bar{N}}(2N + 496 - (2N + 63)) \\
&= B_{\bar{N}}(93) + B_{\bar{N}}(N - 13) + B_{\bar{N}}(433) = 93 + (N - 13) + 433 = \mathbf{N} + \mathbf{513} \\
&(N \geq 496)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 497) &= B_{\bar{N}}(2N + 497 - B_{\bar{N}}(2N + 496)) + B_{\bar{N}}(2N + 497 - B_{\bar{N}}(2N + 495)) + B_{\bar{N}}(2N + 497 - B_{\bar{N}}(2N + 494)) \\
&= B_{\bar{N}}(2N + 497 - (N + 513)) + B_{\bar{N}}(2N + 497 - (2N + 403)) + B_{\bar{N}}(2N + 497 - (N + 509)) \\
&= B_{\bar{N}}(N - 16) + B_{\bar{N}}(94) + B_{\bar{N}}(N - 12) = (N - 16) + 94 + (N - 12) = \mathbf{2N} + \mathbf{66} \\
&(N \geq 497)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 498) &= B_{\bar{N}}(2N + 498 - B_{\bar{N}}(2N + 497)) + B_{\bar{N}}(2N + 498 - B_{\bar{N}}(2N + 496)) + B_{\bar{N}}(2N + 498 - B_{\bar{N}}(2N + 495)) \\
&= B_{\bar{N}}(2N + 498 - (2N + 66)) + B_{\bar{N}}(2N + 498 - (N + 513)) + B_{\bar{N}}(2N + 498 - (2N + 403)) \\
&= B_{\bar{N}}(432) + B_{\bar{N}}(N - 15) + B_{\bar{N}}(95) = 432 + (N - 15) + 95 = \mathbf{N} + \mathbf{512} \\
&(N \geq 498)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 499) &= B_{\bar{N}}(2N + 499 - B_{\bar{N}}(2N + 498)) + B_{\bar{N}}(2N + 499 - B_{\bar{N}}(2N + 497)) + B_{\bar{N}}(2N + 499 - B_{\bar{N}}(2N + 496)) \\
&= B_{\bar{N}}(2N + 499 - (N + 512)) + B_{\bar{N}}(2N + 499 - (2N + 66)) + B_{\bar{N}}(2N + 499 - (N + 513)) \\
&= B_{\bar{N}}(N - 13) + B_{\bar{N}}(433) + B_{\bar{N}}(N - 14) = (N - 13) + 433 + (N - 14) = \mathbf{2N} + \mathbf{406} \\
&(N \geq 433)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 500) &= B_{\bar{N}}(2N + 500 - B_{\bar{N}}(2N + 499)) + B_{\bar{N}}(2N + 500 - B_{\bar{N}}(2N + 498)) + B_{\bar{N}}(2N + 500 - B_{\bar{N}}(2N + 497)) \\
&= B_{\bar{N}}(2N + 500 - (2N + 406)) + B_{\bar{N}}(2N + 500 - (N + 512)) + B_{\bar{N}}(2N + 500 - (2N + 66)) \\
&= B_{\bar{N}}(94) + B_{\bar{N}}(N - 12) + B_{\bar{N}}(434) = 94 + (N - 12) + 434 = \mathbf{N} + \mathbf{516} \\
&(N \geq 434)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 501) &= B_{\bar{N}}(2N + 501 - B_{\bar{N}}(2N + 500)) + B_{\bar{N}}(2N + 501 - B_{\bar{N}}(2N + 499)) + B_{\bar{N}}(2N + 501 - B_{\bar{N}}(2N + 498)) \\
&= B_{\bar{N}}(2N + 501 - (N + 516)) + B_{\bar{N}}(2N + 501 - (2N + 406)) + B_{\bar{N}}(2N + 501 - (N + 512)) \\
&= B_{\bar{N}}(N - 15) + B_{\bar{N}}(95) + B_{\bar{N}}(N - 11) = (N - 15) + 95 + (N - 11) = \mathbf{2N} + \mathbf{69} \\
&(\mathbf{N} \geq \mathbf{3531})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 502) &= B_{\bar{N}}(2N + 502 - B_{\bar{N}}(2N + 501)) + B_{\bar{N}}(2N + 502 - B_{\bar{N}}(2N + 500)) + B_{\bar{N}}(2N + 502 - B_{\bar{N}}(2N + 499)) \\
&= B_{\bar{N}}(2N + 502 - (2N + 69)) + B_{\bar{N}}(2N + 502 - (N + 516)) + B_{\bar{N}}(2N + 502 - (2N + 406)) \\
&= B_{\bar{N}}(433) + B_{\bar{N}}(N - 14) + B_{\bar{N}}(96) = 433 + (N - 14) + 96 = \mathbf{N} + \mathbf{515} \\
&(\mathbf{N} \geq \mathbf{3538})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 503) &= B_{\bar{N}}(2N + 503 - B_{\bar{N}}(2N + 502)) + B_{\bar{N}}(2N + 503 - B_{\bar{N}}(2N + 501)) + B_{\bar{N}}(2N + 503 - B_{\bar{N}}(2N + 500)) \\
&= B_{\bar{N}}(2N + 503 - (N + 515)) + B_{\bar{N}}(2N + 503 - (2N + 69)) + B_{\bar{N}}(2N + 503 - (N + 516)) \\
&= B_{\bar{N}}(N - 12) + B_{\bar{N}}(434) + B_{\bar{N}}(N - 13) = (N - 12) + 434 + (N - 13) = \mathbf{2N} + \mathbf{409} \\
&(\mathbf{N} \geq \mathbf{3545})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 504) &= B_{\bar{N}}(2N + 504 - B_{\bar{N}}(2N + 503)) + B_{\bar{N}}(2N + 504 - B_{\bar{N}}(2N + 502)) + B_{\bar{N}}(2N + 504 - B_{\bar{N}}(2N + 501)) \\
&= B_{\bar{N}}(2N + 504 - (2N + 409)) + B_{\bar{N}}(2N + 504 - (N + 515)) + B_{\bar{N}}(2N + 504 - (2N + 69)) \\
&= B_{\bar{N}}(95) + B_{\bar{N}}(N - 11) + B_{\bar{N}}(435) = 95 + (N - 11) + 435 = \mathbf{N} + \mathbf{519} \\
&(N \geq 435)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 505) &= B_{\bar{N}}(2N + 505 - B_{\bar{N}}(2N + 504)) + B_{\bar{N}}(2N + 505 - B_{\bar{N}}(2N + 503)) + B_{\bar{N}}(2N + 505 - B_{\bar{N}}(2N + 502)) \\
&= B_{\bar{N}}(2N + 505 - (N + 519)) + B_{\bar{N}}(2N + 505 - (2N + 409)) + B_{\bar{N}}(2N + 505 - (N + 515)) \\
&= B_{\bar{N}}(N - 14) + B_{\bar{N}}(96) + B_{\bar{N}}(N - 10) = (N - 14) + 96 + (N - 10) = \mathbf{2N} + \mathbf{72} \\
&(N \geq 428)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 506) &= B_{\bar{N}}(2N + 506 - B_{\bar{N}}(2N + 505)) + B_{\bar{N}}(2N + 506 - B_{\bar{N}}(2N + 504)) + B_{\bar{N}}(2N + 506 - B_{\bar{N}}(2N + 503)) \\
&= B_{\bar{N}}(2N + 506 - (2N + 72)) + B_{\bar{N}}(2N + 506 - (N + 519)) + B_{\bar{N}}(2N + 506 - (2N + 409)) \\
&= B_{\bar{N}}(434) + B_{\bar{N}}(N - 13) + B_{\bar{N}}(97) = 434 + (N - 13) + 97 = \mathbf{N} + \mathbf{518} \\
&(N \geq 488)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 507) &= B_{\bar{N}}(2N + 507 - B_{\bar{N}}(2N + 506)) + B_{\bar{N}}(2N + 507 - B_{\bar{N}}(2N + 505)) + B_{\bar{N}}(2N + 507 - B_{\bar{N}}(2N + 504)) \\
&= B_{\bar{N}}(2N + 507 - (N + 518)) + B_{\bar{N}}(2N + 507 - (2N + 72)) + B_{\bar{N}}(2N + 507 - (N + 519)) \\
&= B_{\bar{N}}(N - 11) + B_{\bar{N}}(435) + B_{\bar{N}}(N - 12) = (N - 11) + 435 + (N - 12) = \mathbf{2N} + \mathbf{412} \\
&(N \geq 487)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 508) &= B_{\bar{N}}(2N + 508 - B_{\bar{N}}(2N + 507)) + B_{\bar{N}}(2N + 508 - B_{\bar{N}}(2N + 506)) + B_{\bar{N}}(2N + 508 - B_{\bar{N}}(2N + 505)) \\
&= B_{\bar{N}}(2N + 508 - (2N + 412)) + B_{\bar{N}}(2N + 508 - (N + 518)) + B_{\bar{N}}(2N + 508 - (2N + 72)) \\
&= B_{\bar{N}}(96) + B_{\bar{N}}(N - 10) + B_{\bar{N}}(436) = 96 + (N - 10) + 436 = \mathbf{N} + \mathbf{522} \\
&(N \geq 486)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 509) &= B_{\bar{N}}(2N + 509 - B_{\bar{N}}(2N + 508)) + B_{\bar{N}}(2N + 509 - B_{\bar{N}}(2N + 507)) + B_{\bar{N}}(2N + 509 - B_{\bar{N}}(2N + 506)) \\
&= B_{\bar{N}}(2N + 509 - (N + 522)) + B_{\bar{N}}(2N + 509 - (2N + 412)) + B_{\bar{N}}(2N + 509 - (N + 518)) \\
&= B_{\bar{N}}(N - 13) + B_{\bar{N}}(97) + B_{\bar{N}}(N - 9) = (N - 13) + 97 + (N - 9) = \mathbf{2N} + \mathbf{75} \\
&(N \geq 462)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{510}) &= B_{\bar{N}}(2N + 510 - B_{\bar{N}}(2N + 509)) + B_{\bar{N}}(2N + 510 - B_{\bar{N}}(2N + 508)) + B_{\bar{N}}(2N + 510 - B_{\bar{N}}(2N + 507)) \\
&= B_{\bar{N}}(2N + 510 - (2N + 75)) + B_{\bar{N}}(2N + 510 - (N + 522)) + B_{\bar{N}}(2N + 510 - (2N + 412)) \\
&= B_{\bar{N}}(435) + B_{\bar{N}}(N - 12) + B_{\bar{N}}(98) = 435 + (N - 12) + 98 = \mathbf{N} + \mathbf{521} \\
&(N \geq 463)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{511}) &= B_{\bar{N}}(2N + 511 - B_{\bar{N}}(2N + 510)) + B_{\bar{N}}(2N + 511 - B_{\bar{N}}(2N + 509)) + B_{\bar{N}}(2N + 511 - B_{\bar{N}}(2N + 508)) \\
&= B_{\bar{N}}(2N + 511 - (N + 521)) + B_{\bar{N}}(2N + 511 - (2N + 75)) + B_{\bar{N}}(2N + 511 - (N + 522)) \\
&= B_{\bar{N}}(N - 10) + B_{\bar{N}}(436) + B_{\bar{N}}(N - 11) = (N - 10) + 436 + (N - 11) = \mathbf{2N} + \mathbf{415} \\
&(N \geq 436)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{512}) &= B_{\bar{N}}(2N + 512 - B_{\bar{N}}(2N + 511)) + B_{\bar{N}}(2N + 512 - B_{\bar{N}}(2N + 510)) + B_{\bar{N}}(2N + 512 - B_{\bar{N}}(2N + 509)) \\
&= B_{\bar{N}}(2N + 512 - (2N + 415)) + B_{\bar{N}}(2N + 512 - (N + 521)) + B_{\bar{N}}(2N + 512 - (2N + 75)) \\
&= B_{\bar{N}}(97) + B_{\bar{N}}(N - 9) + B_{\bar{N}}(437) = 97 + (N - 9) + 437 = \mathbf{N} + \mathbf{525} \\
&(N \geq 437)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{513}) &= B_{\bar{N}}(2N + 513 - B_{\bar{N}}(2N + 512)) + B_{\bar{N}}(2N + 513 - B_{\bar{N}}(2N + 511)) + B_{\bar{N}}(2N + 513 - B_{\bar{N}}(2N + 510)) \\
&= B_{\bar{N}}(2N + 513 - (N + 525)) + B_{\bar{N}}(2N + 513 - (2N + 415)) + B_{\bar{N}}(2N + 513 - (N + 521)) \\
&= B_{\bar{N}}(N - 12) + B_{\bar{N}}(98) + B_{\bar{N}}(N - 8) = (N - 12) + 98 + (N - 8) = \mathbf{2N} + \mathbf{78} \\
&(N \geq 187)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{514}) &= B_{\bar{N}}(2N + 514 - B_{\bar{N}}(2N + 513)) + B_{\bar{N}}(2N + 514 - B_{\bar{N}}(2N + 512)) + B_{\bar{N}}(2N + 514 - B_{\bar{N}}(2N + 511)) \\
&= B_{\bar{N}}(2N + 514 - (2N + 78)) + B_{\bar{N}}(2N + 514 - (N + 525)) + B_{\bar{N}}(2N + 514 - (2N + 415)) \\
&= B_{\bar{N}}(436) + B_{\bar{N}}(N - 11) + B_{\bar{N}}(99) = 436 + (N - 11) + 99 = \mathbf{N} + \mathbf{524} \\
&(N \geq 1423)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 515) &= B_{\bar{N}}(2N + 515 - B_{\bar{N}}(2N + 514)) + B_{\bar{N}}(2N + 515 - B_{\bar{N}}(2N + 513)) + B_{\bar{N}}(2N + 515 - B_{\bar{N}}(2N + 512)) \\
&= B_{\bar{N}}(2N + 515 - (N + 524)) + B_{\bar{N}}(2N + 515 - (2N + 78)) + B_{\bar{N}}(2N + 515 - (N + 525)) \\
&= B_{\bar{N}}(N - 9) + B_{\bar{N}}(437) + B_{\bar{N}}(N - 10) = (N - 9) + 437 + (N - 10) = \mathbf{2N} + \mathbf{418} \\
&(N \geq 3138)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 516) &= B_{\bar{N}}(2N + 516 - B_{\bar{N}}(2N + 515)) + B_{\bar{N}}(2N + 516 - B_{\bar{N}}(2N + 514)) + B_{\bar{N}}(2N + 516 - B_{\bar{N}}(2N + 513)) \\
&= B_{\bar{N}}(2N + 516 - (2N + 418)) + B_{\bar{N}}(2N + 516 - (N + 524)) + B_{\bar{N}}(2N + 516 - (2N + 78)) \\
&= B_{\bar{N}}(98) + B_{\bar{N}}(N - 8) + B_{\bar{N}}(438) = 98 + (N - 8) + 438 = \mathbf{N} + \mathbf{528} \\
&(N \geq 3145)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 517) &= B_{\bar{N}}(2N + 517 - B_{\bar{N}}(2N + 516)) + B_{\bar{N}}(2N + 517 - B_{\bar{N}}(2N + 515)) + B_{\bar{N}}(2N + 517 - B_{\bar{N}}(2N + 514)) \\
&= B_{\bar{N}}(2N + 517 - (N + 528)) + B_{\bar{N}}(2N + 517 - (2N + 418)) + B_{\bar{N}}(2N + 517 - (N + 524)) \\
&= B_{\bar{N}}(N - 11) + B_{\bar{N}}(99) + B_{\bar{N}}(N - 7) = (N - 11) + 99 + (N - 7) = \mathbf{2N} + \mathbf{81} \\
&(N \geq 3152)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 518) &= B_{\bar{N}}(2N + 518 - B_{\bar{N}}(2N + 517)) + B_{\bar{N}}(2N + 518 - B_{\bar{N}}(2N + 516)) + B_{\bar{N}}(2N + 518 - B_{\bar{N}}(2N + 515)) \\
&= B_{\bar{N}}(2N + 518 - (2N + 81)) + B_{\bar{N}}(2N + 518 - (N + 528)) + B_{\bar{N}}(2N + 518 - (2N + 418)) \\
&= B_{\bar{N}}(437) + B_{\bar{N}}(N - 10) + B_{\bar{N}}(100) = 437 + (N - 10) + 100 = \mathbf{N} + \mathbf{527} \\
&(N \geq 437)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 519) &= B_{\bar{N}}(2N + 519 - B_{\bar{N}}(2N + 518)) + B_{\bar{N}}(2N + 519 - B_{\bar{N}}(2N + 517)) + B_{\bar{N}}(2N + 519 - B_{\bar{N}}(2N + 516)) \\
&= B_{\bar{N}}(2N + 519 - (N + 527)) + B_{\bar{N}}(2N + 519 - (2N + 81)) + B_{\bar{N}}(2N + 519 - (N + 528)) \\
&= B_{\bar{N}}(N - 8) + B_{\bar{N}}(438) + B_{\bar{N}}(N - 9) = (N - 8) + 438 + (N - 9) = \mathbf{2N} + \mathbf{421} \\
&(N \geq 438)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{520}) &= B_{\bar{N}}(2N + 520 - B_{\bar{N}}(2N + 519)) + B_{\bar{N}}(2N + 520 - B_{\bar{N}}(2N + 518)) + B_{\bar{N}}(2N + 520 - B_{\bar{N}}(2N + 517)) \\
&= B_{\bar{N}}(2N + 520 - (2N + 421)) + B_{\bar{N}}(2N + 520 - (N + 527)) + B_{\bar{N}}(2N + 520 - (2N + 81)) \\
&= B_{\bar{N}}(99) + B_{\bar{N}}(N - 7) + B_{\bar{N}}(439) = 99 + (N - 7) + 439 = \mathbf{N} + \mathbf{531} \\
&(N \geq 439)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{521}) &= B_{\bar{N}}(2N + 521 - B_{\bar{N}}(2N + 520)) + B_{\bar{N}}(2N + 521 - B_{\bar{N}}(2N + 519)) + B_{\bar{N}}(2N + 521 - B_{\bar{N}}(2N + 518)) \\
&= B_{\bar{N}}(2N + 521 - (N + 531)) + B_{\bar{N}}(2N + 521 - (2N + 421)) + B_{\bar{N}}(2N + 521 - (N + 527)) \\
&= B_{\bar{N}}(N - 10) + B_{\bar{N}}(100) + B_{\bar{N}}(N - 6) = (N - 10) + 100 + (N - 6) = \mathbf{2N} + \mathbf{84} \\
&(N \geq 217)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{522}) &= B_{\bar{N}}(2N + 522 - B_{\bar{N}}(2N + 521)) + B_{\bar{N}}(2N + 522 - B_{\bar{N}}(2N + 520)) + B_{\bar{N}}(2N + 522 - B_{\bar{N}}(2N + 519)) \\
&= B_{\bar{N}}(2N + 522 - (2N + 84)) + B_{\bar{N}}(2N + 522 - (N + 531)) + B_{\bar{N}}(2N + 522 - (2N + 421)) \\
&= B_{\bar{N}}(438) + B_{\bar{N}}(N - 9) + B_{\bar{N}}(101) = 438 + (N - 9) + 101 = \mathbf{N} + \mathbf{530} \\
&(N \geq 438)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{523}) &= B_{\bar{N}}(2N + 523 - B_{\bar{N}}(2N + 522)) + B_{\bar{N}}(2N + 523 - B_{\bar{N}}(2N + 521)) + B_{\bar{N}}(2N + 523 - B_{\bar{N}}(2N + 520)) \\
&= B_{\bar{N}}(2N + 523 - (N + 530)) + B_{\bar{N}}(2N + 523 - (2N + 84)) + B_{\bar{N}}(2N + 523 - (N + 531)) \\
&= B_{\bar{N}}(N - 7) + B_{\bar{N}}(439) + B_{\bar{N}}(N - 8) = (N - 7) + 439 + (N - 8) = \mathbf{2N} + \mathbf{424} \\
&(N \geq 439)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{524}) &= B_{\bar{N}}(2N + 524 - B_{\bar{N}}(2N + 523)) + B_{\bar{N}}(2N + 524 - B_{\bar{N}}(2N + 522)) + B_{\bar{N}}(2N + 524 - B_{\bar{N}}(2N + 521)) \\
&= B_{\bar{N}}(2N + 524 - (2N + 424)) + B_{\bar{N}}(2N + 524 - (N + 530)) + B_{\bar{N}}(2N + 524 - (2N + 84)) \\
&= B_{\bar{N}}(100) + B_{\bar{N}}(N - 6) + B_{\bar{N}}(440) = 100 + (N - 6) + 440 = \mathbf{N} + \mathbf{534} \\
&(N \geq 3201)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 525) &= B_{\bar{N}}(2N + 525 - B_{\bar{N}}(2N + 524)) + B_{\bar{N}}(2N + 525 - B_{\bar{N}}(2N + 523)) + B_{\bar{N}}(2N + 525 - B_{\bar{N}}(2N + 522)) \\
&= B_{\bar{N}}(2N + 525 - (N + 534)) + B_{\bar{N}}(2N + 525 - (2N + 424)) + B_{\bar{N}}(2N + 525 - (N + 530)) \\
&= B_{\bar{N}}(N - 9) + B_{\bar{N}}(101) + B_{\bar{N}}(N - 5) = (N - 9) + 101 + (N - 5) = \mathbf{2N} + \mathbf{87} \\
&(N \geq 596)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 526) &= B_{\bar{N}}(2N + 526 - B_{\bar{N}}(2N + 525)) + B_{\bar{N}}(2N + 526 - B_{\bar{N}}(2N + 524)) + B_{\bar{N}}(2N + 526 - B_{\bar{N}}(2N + 523)) \\
&= B_{\bar{N}}(2N + 526 - (2N + 87)) + B_{\bar{N}}(2N + 526 - (N + 534)) + B_{\bar{N}}(2N + 526 - (2N + 424)) \\
&= B_{\bar{N}}(439) + B_{\bar{N}}(N - 8) + B_{\bar{N}}(102) = 439 + (N - 8) + 102 = \mathbf{N} + \mathbf{533} \\
&(N \geq 595)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 527) &= B_{\bar{N}}(2N + 527 - B_{\bar{N}}(2N + 526)) + B_{\bar{N}}(2N + 527 - B_{\bar{N}}(2N + 525)) + B_{\bar{N}}(2N + 527 - B_{\bar{N}}(2N + 524)) \\
&= B_{\bar{N}}(2N + 527 - (N + 533)) + B_{\bar{N}}(2N + 527 - (2N + 87)) + B_{\bar{N}}(2N + 527 - (N + 534)) \\
&= B_{\bar{N}}(N - 6) + B_{\bar{N}}(440) + B_{\bar{N}}(N - 7) = (N - 6) + 440 + (N - 7) = \mathbf{2N} + \mathbf{427} \\
&(N \geq 440)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 528) &= B_{\bar{N}}(2N + 528 - B_{\bar{N}}(2N + 527)) + B_{\bar{N}}(2N + 528 - B_{\bar{N}}(2N + 526)) + B_{\bar{N}}(2N + 528 - B_{\bar{N}}(2N + 525)) \\
&= B_{\bar{N}}(2N + 528 - (2N + 427)) + B_{\bar{N}}(2N + 528 - (N + 533)) + B_{\bar{N}}(2N + 528 - (2N + 87)) \\
&= B_{\bar{N}}(101) + B_{\bar{N}}(N - 5) + B_{\bar{N}}(441) = 101 + (N - 5) + 441 = \mathbf{N} + \mathbf{537} \\
&(N \geq 441)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 529) &= B_{\bar{N}}(2N + 529 - B_{\bar{N}}(2N + 528)) + B_{\bar{N}}(2N + 529 - B_{\bar{N}}(2N + 527)) + B_{\bar{N}}(2N + 529 - B_{\bar{N}}(2N + 526)) \\
&= B_{\bar{N}}(2N + 529 - (N + 537)) + B_{\bar{N}}(2N + 529 - (2N + 427)) + B_{\bar{N}}(2N + 529 - (N + 533)) \\
&= B_{\bar{N}}(N - 8) + B_{\bar{N}}(102) + B_{\bar{N}}(N - 4) = (N - 8) + 102 + (N - 4) = \mathbf{2N} + \mathbf{90} \\
&(N \geq 185)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 530) &= B_{\bar{N}}(2N + 530 - B_{\bar{N}}(2N + 529)) + B_{\bar{N}}(2N + 530 - B_{\bar{N}}(2N + 528)) + B_{\bar{N}}(2N + 530 - B_{\bar{N}}(2N + 527)) \\
&= B_{\bar{N}}(2N + 530 - (2N + 90)) + B_{\bar{N}}(2N + 530 - (N + 537)) + B_{\bar{N}}(2N + 530 - (2N + 427)) \\
&= B_{\bar{N}}(440) + B_{\bar{N}}(N - 7) + B_{\bar{N}}(103) = 440 + (N - 7) + 103 = \mathbf{N} + 536 \\
&(N \geq 440)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 531) &= B_{\bar{N}}(2N + 531 - B_{\bar{N}}(2N + 530)) + B_{\bar{N}}(2N + 531 - B_{\bar{N}}(2N + 529)) + B_{\bar{N}}(2N + 531 - B_{\bar{N}}(2N + 528)) \\
&= B_{\bar{N}}(2N + 531 - (N + 536)) + B_{\bar{N}}(2N + 531 - (2N + 90)) + B_{\bar{N}}(2N + 531 - (N + 537)) \\
&= B_{\bar{N}}(N - 5) + B_{\bar{N}}(441) + B_{\bar{N}}(N - 6) = (N - 5) + 441 + (N - 6) = 2\mathbf{N} + 430 \\
&(N \geq 590)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 532) &= B_{\bar{N}}(2N + 532 - B_{\bar{N}}(2N + 531)) + B_{\bar{N}}(2N + 532 - B_{\bar{N}}(2N + 530)) + B_{\bar{N}}(2N + 532 - B_{\bar{N}}(2N + 529)) \\
&= B_{\bar{N}}(2N + 532 - (2N + 430)) + B_{\bar{N}}(2N + 532 - (N + 536)) + B_{\bar{N}}(2N + 532 - (2N + 90)) \\
&= B_{\bar{N}}(102) + B_{\bar{N}}(N - 4) + B_{\bar{N}}(442) = 102 + (N - 4) + 442 = \mathbf{N} + 540 \\
&(\mathbf{N} \geq 4301)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 533) &= B_{\bar{N}}(2N + 533 - B_{\bar{N}}(2N + 532)) + B_{\bar{N}}(2N + 533 - B_{\bar{N}}(2N + 531)) + B_{\bar{N}}(2N + 533 - B_{\bar{N}}(2N + 530)) \\
&= B_{\bar{N}}(2N + 533 - (N + 540)) + B_{\bar{N}}(2N + 533 - (2N + 430)) + B_{\bar{N}}(2N + 533 - (N + 536)) \\
&= B_{\bar{N}}(N - 7) + B_{\bar{N}}(103) + B_{\bar{N}}(N - 3) = (N - 7) + 103 + (N - 3) = 2\mathbf{N} + 93 \\
&(\mathbf{N} \geq 4308)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 534) &= B_{\bar{N}}(2N + 534 - B_{\bar{N}}(2N + 533)) + B_{\bar{N}}(2N + 534 - B_{\bar{N}}(2N + 532)) + B_{\bar{N}}(2N + 534 - B_{\bar{N}}(2N + 531)) \\
&= B_{\bar{N}}(2N + 534 - (2N + 93)) + B_{\bar{N}}(2N + 534 - (N + 540)) + B_{\bar{N}}(2N + 534 - (2N + 430)) \\
&= B_{\bar{N}}(441) + B_{\bar{N}}(N - 6) + B_{\bar{N}}(104) = 441 + (N - 6) + 104 = \mathbf{N} + 539 \\
&(\mathbf{N} \geq 4315)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 535) &= B_{\bar{N}}(2N + 535 - B_{\bar{N}}(2N + 534)) + B_{\bar{N}}(2N + 535 - B_{\bar{N}}(2N + 533)) + B_{\bar{N}}(2N + 535 - B_{\bar{N}}(2N + 532)) \\
&= B_{\bar{N}}(2N + 535 - (N + 539)) + B_{\bar{N}}(2N + 535 - (2N + 93)) + B_{\bar{N}}(2N + 535 - (N + 540)) \\
&= B_{\bar{N}}(N - 4) + B_{\bar{N}}(442) + B_{\bar{N}}(N - 5) = (N - 4) + 442 + (N - 5) = \mathbf{2N} + \mathbf{433} \\
&(N \geq 442)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 536) &= B_{\bar{N}}(2N + 536 - B_{\bar{N}}(2N + 535)) + B_{\bar{N}}(2N + 536 - B_{\bar{N}}(2N + 534)) + B_{\bar{N}}(2N + 536 - B_{\bar{N}}(2N + 533)) \\
&= B_{\bar{N}}(2N + 536 - (2N + 433)) + B_{\bar{N}}(2N + 536 - (N + 539)) + B_{\bar{N}}(2N + 536 - (2N + 93)) \\
&= B_{\bar{N}}(103) + B_{\bar{N}}(N - 3) + B_{\bar{N}}(443) = 103 + (N - 3) + 443 = \mathbf{N} + \mathbf{543} \\
&(N \geq 443)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 537) &= B_{\bar{N}}(2N + 537 - B_{\bar{N}}(2N + 536)) + B_{\bar{N}}(2N + 537 - B_{\bar{N}}(2N + 535)) + B_{\bar{N}}(2N + 537 - B_{\bar{N}}(2N + 534)) \\
&= B_{\bar{N}}(2N + 537 - (N + 543)) + B_{\bar{N}}(2N + 537 - (2N + 433)) + B_{\bar{N}}(2N + 537 - (N + 539)) \\
&= B_{\bar{N}}(N - 6) + B_{\bar{N}}(104) + B_{\bar{N}}(N - 2) = (N - 6) + 104 + (N - 2) = \mathbf{2N} + \mathbf{96} \\
&(N \geq 333)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 538) &= B_{\bar{N}}(2N + 538 - B_{\bar{N}}(2N + 537)) + B_{\bar{N}}(2N + 538 - B_{\bar{N}}(2N + 536)) + B_{\bar{N}}(2N + 538 - B_{\bar{N}}(2N + 535)) \\
&= B_{\bar{N}}(2N + 538 - (2N + 96)) + B_{\bar{N}}(2N + 538 - (N + 543)) + B_{\bar{N}}(2N + 538 - (2N + 433)) \\
&= B_{\bar{N}}(442) + B_{\bar{N}}(N - 5) + B_{\bar{N}}(105) = 442 + (N - 5) + 105 = \mathbf{N} + \mathbf{542} \\
&(N \geq 442)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 539) &= B_{\bar{N}}(2N + 539 - B_{\bar{N}}(2N + 538)) + B_{\bar{N}}(2N + 539 - B_{\bar{N}}(2N + 537)) + B_{\bar{N}}(2N + 539 - B_{\bar{N}}(2N + 536)) \\
&= B_{\bar{N}}(2N + 539 - (N + 542)) + B_{\bar{N}}(2N + 539 - (2N + 96)) + B_{\bar{N}}(2N + 539 - (N + 543)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(443) + B_{\bar{N}}(N - 4) = (N - 3) + 443 + (N - 4) = \mathbf{2N} + \mathbf{436} \\
&(N \geq 443)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 540) &= B_{\bar{N}}(2N + 540 - B_{\bar{N}}(2N + 539)) + B_{\bar{N}}(2N + 540 - B_{\bar{N}}(2N + 538)) + B_{\bar{N}}(2N + 540 - B_{\bar{N}}(2N + 537)) \\
&= B_{\bar{N}}(2N + 540 - (2N + 436)) + B_{\bar{N}}(2N + 540 - (N + 542)) + B_{\bar{N}}(2N + 540 - (2N + 96)) \\
&= B_{\bar{N}}(104) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(444) = 104 + (N - 2) + 444 = \mathbf{N} + 546 \\
&(N \geq 444)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 541) &= B_{\bar{N}}(2N + 541 - B_{\bar{N}}(2N + 540)) + B_{\bar{N}}(2N + 541 - B_{\bar{N}}(2N + 539)) + B_{\bar{N}}(2N + 541 - B_{\bar{N}}(2N + 538)) \\
&= B_{\bar{N}}(2N + 541 - (N + 546)) + B_{\bar{N}}(2N + 541 - (2N + 436)) + B_{\bar{N}}(2N + 541 - (N + 542)) \\
&= B_{\bar{N}}(N - 5) + B_{\bar{N}}(105) + B_{\bar{N}}(N - 1) = (N - 5) + 105 + (N - 1) = 2\mathbf{N} + 99 \\
&(N \geq 402)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 542) &= B_{\bar{N}}(2N + 542 - B_{\bar{N}}(2N + 541)) + B_{\bar{N}}(2N + 542 - B_{\bar{N}}(2N + 540)) + B_{\bar{N}}(2N + 542 - B_{\bar{N}}(2N + 539)) \\
&= B_{\bar{N}}(2N + 542 - (2N + 99)) + B_{\bar{N}}(2N + 542 - (N + 546)) + B_{\bar{N}}(2N + 542 - (2N + 436)) \\
&= B_{\bar{N}}(443) + B_{\bar{N}}(N - 4) + B_{\bar{N}}(106) = 443 + (N - 4) + 106 = \mathbf{N} + 545 \\
&(N \geq 443)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 543) &= B_{\bar{N}}(2N + 543 - B_{\bar{N}}(2N + 542)) + B_{\bar{N}}(2N + 543 - B_{\bar{N}}(2N + 541)) + B_{\bar{N}}(2N + 543 - B_{\bar{N}}(2N + 540)) \\
&= B_{\bar{N}}(2N + 543 - (N + 545)) + B_{\bar{N}}(2N + 543 - (2N + 99)) + B_{\bar{N}}(2N + 543 - (N + 546)) \\
&= B_{\bar{N}}(N - 2) + B_{\bar{N}}(444) + B_{\bar{N}}(N - 3) = (N - 2) + 444 + (N - 3) = 2\mathbf{N} + 439 \\
&(N \geq 444)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 544) &= B_{\bar{N}}(2N + 544 - B_{\bar{N}}(2N + 543)) + B_{\bar{N}}(2N + 544 - B_{\bar{N}}(2N + 542)) + B_{\bar{N}}(2N + 544 - B_{\bar{N}}(2N + 541)) \\
&= B_{\bar{N}}(2N + 544 - (2N + 439)) + B_{\bar{N}}(2N + 544 - (N + 545)) + B_{\bar{N}}(2N + 544 - (2N + 99)) \\
&= B_{\bar{N}}(105) + B_{\bar{N}}(N - 1) + B_{\bar{N}}(445) = 105 + (N - 1) + 445 = \mathbf{N} + 549 \\
&(N \geq 456)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 545) &= B_{\bar{N}}(2N + 545 - B_{\bar{N}}(2N + 544)) + B_{\bar{N}}(2N + 545 - B_{\bar{N}}(2N + 543)) + B_{\bar{N}}(2N + 545 - B_{\bar{N}}(2N + 542)) \\
&= B_{\bar{N}}(2N + 545 - (N + 549)) + B_{\bar{N}}(2N + 545 - (2N + 439)) + B_{\bar{N}}(2N + 545 - (N + 545)) \\
&= B_{\bar{N}}(N - 4) + B_{\bar{N}}(106) + B_{\bar{N}}(N) = (N - 4) + 106 + N = \mathbf{2N} + \mathbf{102} \\
&(N \geq 530)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 546) &= B_{\bar{N}}(2N + 546 - B_{\bar{N}}(2N + 545)) + B_{\bar{N}}(2N + 546 - B_{\bar{N}}(2N + 544)) + B_{\bar{N}}(2N + 546 - B_{\bar{N}}(2N + 543)) \\
&= B_{\bar{N}}(2N + 546 - (2N + 102)) + B_{\bar{N}}(2N + 546 - (N + 549)) + B_{\bar{N}}(2N + 546 - (2N + 439)) \\
&= B_{\bar{N}}(444) + B_{\bar{N}}(N - 3) + B_{\bar{N}}(107) = 444 + (N - 3) + 107 = \mathbf{N} + \mathbf{548} \\
&(N \geq 531)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 547) &= B_{\bar{N}}(2N + 547 - B_{\bar{N}}(2N + 546)) + B_{\bar{N}}(2N + 547 - B_{\bar{N}}(2N + 545)) + B_{\bar{N}}(2N + 547 - B_{\bar{N}}(2N + 544)) \\
&= B_{\bar{N}}(2N + 547 - (N + 548)) + B_{\bar{N}}(2N + 547 - (2N + 102)) + B_{\bar{N}}(2N + 547 - (N + 549)) \\
&= B_{\bar{N}}(N - 1) + B_{\bar{N}}(445) + B_{\bar{N}}(N - 2) = (N - 1) + 445 + (N - 2) = \mathbf{2N} + \mathbf{442} \\
&(N \geq 532)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 548) &= B_{\bar{N}}(2N + 548 - B_{\bar{N}}(2N + 547)) + B_{\bar{N}}(2N + 548 - B_{\bar{N}}(2N + 546)) + B_{\bar{N}}(2N + 548 - B_{\bar{N}}(2N + 545)) \\
&= B_{\bar{N}}(2N + 548 - (2N + 442)) + B_{\bar{N}}(2N + 548 - (N + 548)) + B_{\bar{N}}(2N + 548 - (2N + 102)) \\
&= B_{\bar{N}}(106) + B_{\bar{N}}(N) + B_{\bar{N}}(446) = 106 + N + 446 = \mathbf{N} + \mathbf{552} \\
&(N \geq 446)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 549) &= B_{\bar{N}}(2N + 549 - B_{\bar{N}}(2N + 548)) + B_{\bar{N}}(2N + 549 - B_{\bar{N}}(2N + 547)) + B_{\bar{N}}(2N + 549 - B_{\bar{N}}(2N + 546)) \\
&= B_{\bar{N}}(2N + 549 - (N + 552)) + B_{\bar{N}}(2N + 549 - (2N + 442)) + B_{\bar{N}}(2N + 549 - (N + 548)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(107) + B_{\bar{N}}(N + 1) = (N - 3) + 107 + 6 = \mathbf{N} + \mathbf{110} \\
&(N \geq 107)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 550) &= B_{\bar{N}}(2N + 550 - B_{\bar{N}}(2N + 549)) + B_{\bar{N}}(2N + 550 - B_{\bar{N}}(2N + 548)) + B_{\bar{N}}(2N + 550 - B_{\bar{N}}(2N + 547)) \\
&= B_{\bar{N}}(2N + 550 - (N + 110)) + B_{\bar{N}}(2N + 550 - (N + 552)) + B_{\bar{N}}(2N + 550 - (2N + 442)) \\
&= B_{\bar{N}}(N + 440) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(108) = (N - 2) + (N - 2) + 108 = \mathbf{2N} + \mathbf{104} \\
&(N \geq 108)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 551) &= B_{\bar{N}}(2N + 551 - B_{\bar{N}}(2N + 550)) + B_{\bar{N}}(2N + 551 - B_{\bar{N}}(2N + 549)) + B_{\bar{N}}(2N + 551 - B_{\bar{N}}(2N + 548)) \\
&= B_{\bar{N}}(2N + 551 - (2N + 104)) + B_{\bar{N}}(2N + 551 - (N + 110)) + B_{\bar{N}}(2N + 551 - (N + 552)) \\
&= B_{\bar{N}}(447) + B_{\bar{N}}(N + 441) + B_{\bar{N}}(N - 1) = 447 + 443 + (N - 1) = \mathbf{N} + \mathbf{889} \\
&(N \geq 447)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 552) &= B_{\bar{N}}(2N + 552 - B_{\bar{N}}(2N + 551)) + B_{\bar{N}}(2N + 552 - B_{\bar{N}}(2N + 550)) + B_{\bar{N}}(2N + 552 - B_{\bar{N}}(2N + 549)) \\
&= B_{\bar{N}}(2N + 552 - (N + 889)) + B_{\bar{N}}(2N + 552 - (2N + 104)) + B_{\bar{N}}(2N + 552 - (N + 110)) \\
&= B_{\bar{N}}(N - 337) + B_{\bar{N}}(448) + B_{\bar{N}}(N + 442) = (N - 337) + 448 + (N + 443) = \mathbf{2N} + \mathbf{554} \\
&(N \geq 448)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 553) &= B_{\bar{N}}(2N + 553 - B_{\bar{N}}(2N + 552)) + B_{\bar{N}}(2N + 553 - B_{\bar{N}}(2N + 551)) + B_{\bar{N}}(2N + 553 - B_{\bar{N}}(2N + 550)) \\
&= B_{\bar{N}}(2N + 553 - (2N + 554)) + B_{\bar{N}}(2N + 553 - (N + 889)) + B_{\bar{N}}(2N + 553 - (2N + 104)) \\
&= B_{\bar{N}}(-1) + B_{\bar{N}}(N - 336) + B_{\bar{N}}(449) = 0 + (N - 336) + 449 = \mathbf{N} + \mathbf{113} \\
&(N \geq 449)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 554) &= B_{\bar{N}}(2N + 554 - B_{\bar{N}}(2N + 553)) + B_{\bar{N}}(2N + 554 - B_{\bar{N}}(2N + 552)) + B_{\bar{N}}(2N + 554 - B_{\bar{N}}(2N + 551)) \\
&= B_{\bar{N}}(2N + 554 - (N + 113)) + B_{\bar{N}}(2N + 554 - (2N + 554)) + B_{\bar{N}}(2N + 554 - (N + 889)) \\
&= B_{\bar{N}}(N + 441) + B_{\bar{N}}(0) + B_{\bar{N}}(N - 335) = 443 + 0 + (N - 335) = \mathbf{N} + \mathbf{108} \\
&(N \geq 336)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 555) &= B_{\bar{N}}(2N + 555 - B_{\bar{N}}(2N + 554)) + B_{\bar{N}}(2N + 555 - B_{\bar{N}}(2N + 553)) + B_{\bar{N}}(2N + 555 - B_{\bar{N}}(2N + 552)) \\
&= B_{\bar{N}}(2N + 555 - (N + 108)) + B_{\bar{N}}(2N + 555 - (N + 113)) + B_{\bar{N}}(2N + 555 - (2N + 554)) \\
&= B_{\bar{N}}(N + 447) + B_{\bar{N}}(N + 442) + B_{\bar{N}}(1) = (N - 2) + (N + 443) + 1 = \mathbf{2N} + \mathbf{442} \\
&(N \geq 18)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 556) &= B_{\bar{N}}(2N + 556 - B_{\bar{N}}(2N + 555)) + B_{\bar{N}}(2N + 556 - B_{\bar{N}}(2N + 554)) + B_{\bar{N}}(2N + 556 - B_{\bar{N}}(2N + 553)) \\
&= B_{\bar{N}}(2N + 556 - (2N + 442)) + B_{\bar{N}}(2N + 556 - (N + 108)) + B_{\bar{N}}(2N + 556 - (N + 113)) \\
&= B_{\bar{N}}(114) + B_{\bar{N}}(N + 448) + B_{\bar{N}}(N + 443) = 114 + 450 + (N + 445) = \mathbf{N} + \mathbf{1009} \\
&(N \geq 114)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 557) &= B_{\bar{N}}(2N + 557 - B_{\bar{N}}(2N + 556)) + B_{\bar{N}}(2N + 557 - B_{\bar{N}}(2N + 555)) + B_{\bar{N}}(2N + 557 - B_{\bar{N}}(2N + 554)) \\
&= B_{\bar{N}}(2N + 557 - (N + 1009)) + B_{\bar{N}}(2N + 557 - (2N + 442)) + B_{\bar{N}}(2N + 557 - (N + 108)) \\
&= B_{\bar{N}}(N - 452) + B_{\bar{N}}(115) + B_{\bar{N}}(N + 449) = (N - 452) + 115 + (N + 450) = \mathbf{2N} + \mathbf{113} \\
&(N \geq 453)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 558) &= B_{\bar{N}}(2N + 558 - B_{\bar{N}}(2N + 557)) + B_{\bar{N}}(2N + 558 - B_{\bar{N}}(2N + 556)) + B_{\bar{N}}(2N + 558 - B_{\bar{N}}(2N + 555)) \\
&= B_{\bar{N}}(2N + 558 - (2N + 113)) + B_{\bar{N}}(2N + 558 - (N + 1009)) + B_{\bar{N}}(2N + 558 - (2N + 442)) \\
&= B_{\bar{N}}(445) + B_{\bar{N}}(N - 451) + B_{\bar{N}}(116) = 445 + (N - 451) + 116 = \mathbf{N} + \mathbf{110} \\
&(N \geq 452)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 559) &= B_{\bar{N}}(2N + 559 - B_{\bar{N}}(2N + 558)) + B_{\bar{N}}(2N + 559 - B_{\bar{N}}(2N + 557)) + B_{\bar{N}}(2N + 559 - B_{\bar{N}}(2N + 556)) \\
&= B_{\bar{N}}(2N + 559 - (N + 110)) + B_{\bar{N}}(2N + 559 - (2N + 113)) + B_{\bar{N}}(2N + 559 - (N + 1009)) \\
&= B_{\bar{N}}(N + 449) + B_{\bar{N}}(446) + B_{\bar{N}}(N - 450) = (N + 450) + 446 + (N - 450) = \mathbf{2N} + \mathbf{446} \\
&(N \geq 3678)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 560) &= B_{\bar{N}}(2N + 560 - B_{\bar{N}}(2N + 559)) + B_{\bar{N}}(2N + 560 - B_{\bar{N}}(2N + 558)) + B_{\bar{N}}(2N + 560 - B_{\bar{N}}(2N + 557)) \\
&= B_{\bar{N}}(2N + 560 - (2N + 446)) + B_{\bar{N}}(2N + 560 - (N + 110)) + B_{\bar{N}}(2N + 560 - (2N + 113)) \\
&= B_{\bar{N}}(114) + B_{\bar{N}}(N + 450) + B_{\bar{N}}(447) = 114 + (N + 452) + 447 = \mathbf{N} + \mathbf{1013} \\
&(N \geq 3685)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 561) &= B_{\bar{N}}(2N + 561 - B_{\bar{N}}(2N + 560)) + B_{\bar{N}}(2N + 561 - B_{\bar{N}}(2N + 559)) + B_{\bar{N}}(2N + 561 - B_{\bar{N}}(2N + 558)) \\
&= B_{\bar{N}}(2N + 561 - (N + 1013)) + B_{\bar{N}}(2N + 561 - (2N + 446)) + B_{\bar{N}}(2N + 561 - (N + 110)) \\
&= B_{\bar{N}}(N - 452) + B_{\bar{N}}(115) + B_{\bar{N}}(N + 451) = (N - 452) + 115 + 7 = \mathbf{N} - \mathbf{330} \\
&(N \geq 453)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 562) &= B_{\bar{N}}(2N + 562 - B_{\bar{N}}(2N + 561)) + B_{\bar{N}}(2N + 562 - B_{\bar{N}}(2N + 560)) + B_{\bar{N}}(2N + 562 - B_{\bar{N}}(2N + 559)) \\
&= B_{\bar{N}}(2N + 562 - (N - 330)) + B_{\bar{N}}(2N + 562 - (N + 1013)) + B_{\bar{N}}(2N + 562 - (2N + 446)) \\
&= B_{\bar{N}}(N + 892) + B_{\bar{N}}(N - 451) + B_{\bar{N}}(116) = 7 + (N - 451) + 116 = \mathbf{N} - \mathbf{328} \\
&(N \geq 452)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 563) &= B_{\bar{N}}(2N + 563 - B_{\bar{N}}(2N + 562)) + B_{\bar{N}}(2N + 563 - B_{\bar{N}}(2N + 561)) + B_{\bar{N}}(2N + 563 - B_{\bar{N}}(2N + 560)) \\
&= B_{\bar{N}}(2N + 563 - (N - 328)) + B_{\bar{N}}(2N + 563 - (N - 330)) + B_{\bar{N}}(2N + 563 - (N + 1013)) \\
&= B_{\bar{N}}(N + 891) + B_{\bar{N}}(N + 893) + B_{\bar{N}}(N - 450) = (N + 893) + (2N + 299) + (N - 450) = \mathbf{4N} + \mathbf{742} \\
&(N \geq 451)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 564) &= B_{\bar{N}}(2N + 564 - B_{\bar{N}}(2N + 563)) + B_{\bar{N}}(2N + 564 - B_{\bar{N}}(2N + 562)) + B_{\bar{N}}(2N + 564 - B_{\bar{N}}(2N + 561)) \\
&= B_{\bar{N}}(2N + 564 - (4N + 742)) + B_{\bar{N}}(2N + 564 - (N - 328)) + B_{\bar{N}}(2N + 564 - (N - 330)) \\
&= B_{\bar{N}}(-2N - 178) + B_{\bar{N}}(N + 892) + B_{\bar{N}}(N + 894) = 0 + 7 + (2N + 120) = \mathbf{2N} + \mathbf{127} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 565) &= B_{\bar{N}}(2N + 565 - B_{\bar{N}}(2N + 564)) + B_{\bar{N}}(2N + 565 - B_{\bar{N}}(2N + 563)) + B_{\bar{N}}(2N + 565 - B_{\bar{N}}(2N + 562)) \\
&= B_{\bar{N}}(2N + 565 - (2N + 127)) + B_{\bar{N}}(2N + 565 - (4N + 742)) + B_{\bar{N}}(2N + 565 - (N - 328)) \\
&= B_{\bar{N}}(438) + B_{\bar{N}}(-2N - 177) + B_{\bar{N}}(N + 893) = 438 + 0 + (2N + 299) = \mathbf{2N} + \mathbf{737} \\
&(N \geq 438)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 566) &= B_{\bar{N}}(2N + 566 - B_{\bar{N}}(2N + 565)) + B_{\bar{N}}(2N + 566 - B_{\bar{N}}(2N + 564)) + B_{\bar{N}}(2N + 566 - B_{\bar{N}}(2N + 563)) \\
&= B_{\bar{N}}(2N + 566 - (2N + 737)) + B_{\bar{N}}(2N + 566 - (2N + 127)) + B_{\bar{N}}(2N + 566 - (4N + 742)) \\
&= B_{\bar{N}}(-171) + B_{\bar{N}}(439) + B_{\bar{N}}(-2N - 176) = 0 + 439 + 0 = \mathbf{439} \\
&(N \geq 439)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 567) &= B_{\bar{N}}(2N + 567 - B_{\bar{N}}(2N + 566)) + B_{\bar{N}}(2N + 567 - B_{\bar{N}}(2N + 565)) + B_{\bar{N}}(2N + 567 - B_{\bar{N}}(2N + 564)) \\
&= B_{\bar{N}}(2N + 567 - 439) + B_{\bar{N}}(2N + 567 - (2N + 737)) + B_{\bar{N}}(2N + 567 - (2N + 127)) \\
&= B_{\bar{N}}(2N + 128) + B_{\bar{N}}(-170) + B_{\bar{N}}(440) = (N + 237) + 0 + 440 = \mathbf{N} + \mathbf{677} \\
&(N \geq 440)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 568) &= B_{\bar{N}}(2N + 568 - B_{\bar{N}}(2N + 567)) + B_{\bar{N}}(2N + 568 - B_{\bar{N}}(2N + 566)) + B_{\bar{N}}(2N + 568 - B_{\bar{N}}(2N + 565)) \\
&= B_{\bar{N}}(2N + 568 - (N + 677)) + B_{\bar{N}}(2N + 568 - 439) + B_{\bar{N}}(2N + 568 - (2N + 737)) \\
&= B_{\bar{N}}(N - 109) + B_{\bar{N}}(2N + 129) + B_{\bar{N}}(-169) = (N - 109) + (2N - 210) + 0 = \mathbf{3N} - \mathbf{319} \\
&(N \geq 110)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 569) &= B_{\bar{N}}(2N + 569 - B_{\bar{N}}(2N + 568)) + B_{\bar{N}}(2N + 569 - B_{\bar{N}}(2N + 567)) + B_{\bar{N}}(2N + 569 - B_{\bar{N}}(2N + 566)) \\
&= B_{\bar{N}}(2N + 569 - (3N - 319)) + B_{\bar{N}}(2N + 569 - (N + 677)) + B_{\bar{N}}(2N + 569 - 439) \\
&= B_{\bar{N}}(-N + 888) + B_{\bar{N}}(N - 108) + B_{\bar{N}}(2N + 130) = 0 + (N - 108) + (N + 236) = \mathbf{2N} + \mathbf{128} \\
&(N \geq 888)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 570) &= B_{\bar{N}}(2N + 570 - B_{\bar{N}}(2N + 569)) + B_{\bar{N}}(2N + 570 - B_{\bar{N}}(2N + 568)) + B_{\bar{N}}(2N + 570 - B_{\bar{N}}(2N + 567)) \\
&= B_{\bar{N}}(2N + 570 - (2N + 128)) + B_{\bar{N}}(2N + 570 - (3N - 319)) + B_{\bar{N}}(2N + 570 - (N + 677)) \\
&= B_{\bar{N}}(442) + B_{\bar{N}}(-N + 889) + B_{\bar{N}}(N - 107) = 442 + 0 + (N - 107) = \mathbf{N} + \mathbf{335} \\
&(N \geq 889)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 571) &= B_{\bar{N}}(2N + 571 - B_{\bar{N}}(2N + 570)) + B_{\bar{N}}(2N + 571 - B_{\bar{N}}(2N + 569)) + B_{\bar{N}}(2N + 571 - B_{\bar{N}}(2N + 568)) \\
&= B_{\bar{N}}(2N + 571 - (N + 335)) + B_{\bar{N}}(2N + 571 - (2N + 128)) + B_{\bar{N}}(2N + 571 - (3N - 319)) \\
&= B_{\bar{N}}(N + 236) + B_{\bar{N}}(443) + B_{\bar{N}}(-N + 890) = (2N + 26) + 443 + 0 = \mathbf{2N} + \mathbf{469} \\
&(N \geq 890)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 572) &= B_{\bar{N}}(2N + 572 - B_{\bar{N}}(2N + 571)) + B_{\bar{N}}(2N + 572 - B_{\bar{N}}(2N + 570)) + B_{\bar{N}}(2N + 572 - B_{\bar{N}}(2N + 569)) \\
&= B_{\bar{N}}(2N + 572 - (2N + 469)) + B_{\bar{N}}(2N + 572 - (N + 335)) + B_{\bar{N}}(2N + 572 - (2N + 128)) \\
&= B_{\bar{N}}(103) + B_{\bar{N}}(N + 237) + B_{\bar{N}}(444) = 103 + (N - 2) + 444 = \mathbf{N} + \mathbf{545} \\
&(N \geq 444)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 573) &= B_{\bar{N}}(2N + 573 - B_{\bar{N}}(2N + 572)) + B_{\bar{N}}(2N + 573 - B_{\bar{N}}(2N + 571)) + B_{\bar{N}}(2N + 573 - B_{\bar{N}}(2N + 570)) \\
&= B_{\bar{N}}(2N + 573 - (N + 545)) + B_{\bar{N}}(2N + 573 - (2N + 469)) + B_{\bar{N}}(2N + 573 - (N + 335)) \\
&= B_{\bar{N}}(N + 28) + B_{\bar{N}}(104) + B_{\bar{N}}(N + 238) = (2N + 20) + 104 + 240 = \mathbf{2N} + \mathbf{364} \\
&(N \geq 104)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 574) &= B_{\bar{N}}(2N + 574 - B_{\bar{N}}(2N + 573)) + B_{\bar{N}}(2N + 574 - B_{\bar{N}}(2N + 572)) + B_{\bar{N}}(2N + 574 - B_{\bar{N}}(2N + 571)) \\
&= B_{\bar{N}}(2N + 574 - (2N + 364)) + B_{\bar{N}}(2N + 574 - (N + 545)) + B_{\bar{N}}(2N + 574 - (2N + 469)) \\
&= B_{\bar{N}}(210) + B_{\bar{N}}(N + 29) + B_{\bar{N}}(105) = 210 + (2N + 23) + 105 = \mathbf{2N} + \mathbf{338} \\
&(N \geq 210)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 575) &= B_{\bar{N}}(2N + 575 - B_{\bar{N}}(2N + 574)) + B_{\bar{N}}(2N + 575 - B_{\bar{N}}(2N + 573)) + B_{\bar{N}}(2N + 575 - B_{\bar{N}}(2N + 572)) \\
&= B_{\bar{N}}(2N + 575 - (2N + 338)) + B_{\bar{N}}(2N + 575 - (2N + 364)) + B_{\bar{N}}(2N + 575 - (N + 545)) \\
&= B_{\bar{N}}(237) + B_{\bar{N}}(211) + B_{\bar{N}}(N + 30) = 237 + 211 + (N + 9) = \mathbf{N} + 457 \\
&(N \geq 237)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 576) &= B_{\bar{N}}(2N + 576 - B_{\bar{N}}(2N + 575)) + B_{\bar{N}}(2N + 576 - B_{\bar{N}}(2N + 574)) + B_{\bar{N}}(2N + 576 - B_{\bar{N}}(2N + 573)) \\
&= B_{\bar{N}}(2N + 576 - (N + 457)) + B_{\bar{N}}(2N + 576 - (2N + 338)) + B_{\bar{N}}(2N + 576 - (2N + 364)) \\
&= B_{\bar{N}}(N + 119) + B_{\bar{N}}(238) + B_{\bar{N}}(212) = 121 + 238 + 212 = \mathbf{571} \\
&(N \geq 238)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 577) &= B_{\bar{N}}(2N + 577 - B_{\bar{N}}(2N + 576)) + B_{\bar{N}}(2N + 577 - B_{\bar{N}}(2N + 575)) + B_{\bar{N}}(2N + 577 - B_{\bar{N}}(2N + 574)) \\
&= B_{\bar{N}}(2N + 577 - 571) + B_{\bar{N}}(2N + 577 - (N + 457)) + B_{\bar{N}}(2N + 577 - (2N + 338)) \\
&= B_{\bar{N}}(2N + 6) + B_{\bar{N}}(N + 120) + B_{\bar{N}}(239) = (N + 7) + (N + 121) + 239 = \mathbf{2N} + 367 \\
&(N \geq 239)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 578) &= B_{\bar{N}}(2N + 578 - B_{\bar{N}}(2N + 577)) + B_{\bar{N}}(2N + 578 - B_{\bar{N}}(2N + 576)) + B_{\bar{N}}(2N + 578 - B_{\bar{N}}(2N + 575)) \\
&= B_{\bar{N}}(2N + 578 - (2N + 367)) + B_{\bar{N}}(2N + 578 - 571) + B_{\bar{N}}(2N + 578 - (N + 457)) \\
&= B_{\bar{N}}(211) + B_{\bar{N}}(2N + 7) + B_{\bar{N}}(N + 121) = 211 + (N + 12) + (N + 123) = \mathbf{2N} + 346 \\
&(N \geq 211)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 579) &= B_{\bar{N}}(2N + 579 - B_{\bar{N}}(2N + 578)) + B_{\bar{N}}(2N + 579 - B_{\bar{N}}(2N + 577)) + B_{\bar{N}}(2N + 579 - B_{\bar{N}}(2N + 576)) \\
&= B_{\bar{N}}(2N + 579 - (2N + 346)) + B_{\bar{N}}(2N + 579 - (2N + 367)) + B_{\bar{N}}(2N + 579 - 571) \\
&= B_{\bar{N}}(233) + B_{\bar{N}}(212) + B_{\bar{N}}(2N + 8) = 233 + 212 + (N + 13) = \mathbf{N} + 458 \\
&(N \geq 233)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 580) &= B_{\bar{N}}(2N + 580 - B_{\bar{N}}(2N + 579)) + B_{\bar{N}}(2N + 580 - B_{\bar{N}}(2N + 578)) + B_{\bar{N}}(2N + 580 - B_{\bar{N}}(2N + 577)) \\
&= B_{\bar{N}}(2N + 580 - (N + 458)) + B_{\bar{N}}(2N + 580 - (2N + 346)) + B_{\bar{N}}(2N + 580 - (2N + 367)) \\
&= B_{\bar{N}}(N + 122) + B_{\bar{N}}(234) + B_{\bar{N}}(213) = 7 + 234 + 213 = \mathbf{454} \\
&(N \geq 234)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 581) &= B_{\bar{N}}(2N + 581 - B_{\bar{N}}(2N + 580)) + B_{\bar{N}}(2N + 581 - B_{\bar{N}}(2N + 579)) + B_{\bar{N}}(2N + 581 - B_{\bar{N}}(2N + 578)) \\
&= B_{\bar{N}}(2N + 581 - 454) + B_{\bar{N}}(2N + 581 - (N + 458)) + B_{\bar{N}}(2N + 581 - (2N + 346)) \\
&= B_{\bar{N}}(2N + 127) + B_{\bar{N}}(N + 123) + B_{\bar{N}}(235) = (2N + 127) + (2N + 79) + 235 = \mathbf{4N} + \mathbf{441} \\
&(N \geq 235)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 582) &= B_{\bar{N}}(2N + 582 - B_{\bar{N}}(2N + 581)) + B_{\bar{N}}(2N + 582 - B_{\bar{N}}(2N + 580)) + B_{\bar{N}}(2N + 582 - B_{\bar{N}}(2N + 579)) \\
&= B_{\bar{N}}(2N + 582 - (4N + 441)) + B_{\bar{N}}(2N + 582 - 454) + B_{\bar{N}}(2N + 582 - (N + 458)) \\
&= B_{\bar{N}}(-2N + 141) + B_{\bar{N}}(2N + 128) + B_{\bar{N}}(N + 124) = 0 + (N + 237) + (2N + 10) = \mathbf{3N} + \mathbf{247} \\
&(N \geq 71)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 583) &= B_{\bar{N}}(2N + 583 - B_{\bar{N}}(2N + 582)) + B_{\bar{N}}(2N + 583 - B_{\bar{N}}(2N + 581)) + B_{\bar{N}}(2N + 583 - B_{\bar{N}}(2N + 580)) \\
&= B_{\bar{N}}(2N + 583 - (3N + 247)) + B_{\bar{N}}(2N + 583 - (4N + 441)) + B_{\bar{N}}(2N + 583 - 454) \\
&= B_{\bar{N}}(-N + 336) + B_{\bar{N}}(-2N + 142) + B_{\bar{N}}(2N + 129) = 0 + 0 + (2N - 210) = \mathbf{2N} - \mathbf{210} \\
&(N \geq 336)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 584) &= B_{\bar{N}}(2N + 584 - B_{\bar{N}}(2N + 583)) + B_{\bar{N}}(2N + 584 - B_{\bar{N}}(2N + 582)) + B_{\bar{N}}(2N + 584 - B_{\bar{N}}(2N + 581)) \\
&= B_{\bar{N}}(2N + 584 - (2N - 210)) + B_{\bar{N}}(2N + 584 - (3N + 247)) + B_{\bar{N}}(2N + 584 - (4N + 441)) \\
&= B_{\bar{N}}(794) + B_{\bar{N}}(-N + 337) + B_{\bar{N}}(-2N + 143) = 794 + 0 + 0 = \mathbf{794} \\
&(N \geq 794)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 585) &= B_{\bar{N}}(2N + 585 - B_{\bar{N}}(2N + 584)) + B_{\bar{N}}(2N + 585 - B_{\bar{N}}(2N + 583)) + B_{\bar{N}}(2N + 585 - B_{\bar{N}}(2N + 582)) \\
&= B_{\bar{N}}(2N + 585 - 794) + B_{\bar{N}}(2N + 585 - (2N - 210)) + B_{\bar{N}}(2N + 585 - (3N + 247)) \\
&= B_{\bar{N}}(2N - 209) + B_{\bar{N}}(795) + B_{\bar{N}}(-N + 338) = (N - 2) + 795 + 0 = \mathbf{N} + \mathbf{793} \\
&(N \geq 795)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 586) &= B_{\bar{N}}(2N + 586 - B_{\bar{N}}(2N + 585)) + B_{\bar{N}}(2N + 586 - B_{\bar{N}}(2N + 584)) + B_{\bar{N}}(2N + 586 - B_{\bar{N}}(2N + 583)) \\
&= B_{\bar{N}}(2N + 586 - (N + 793)) + B_{\bar{N}}(2N + 586 - 794) + B_{\bar{N}}(2N + 586 - (2N - 210)) \\
&= B_{\bar{N}}(N - 207) + B_{\bar{N}}(2N - 208) + B_{\bar{N}}(796) = (N - 207) + (N - 206) + 796 = \mathbf{2N} + \mathbf{383} \\
&(N \geq 796)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 587) &= B_{\bar{N}}(2N + 587 - B_{\bar{N}}(2N + 586)) + B_{\bar{N}}(2N + 587 - B_{\bar{N}}(2N + 585)) + B_{\bar{N}}(2N + 587 - B_{\bar{N}}(2N + 584)) \\
&= B_{\bar{N}}(2N + 587 - (2N + 383)) + B_{\bar{N}}(2N + 587 - (N + 793)) + B_{\bar{N}}(2N + 587 - 794) \\
&= B_{\bar{N}}(204) + B_{\bar{N}}(N - 206) + B_{\bar{N}}(2N - 207) = 204 + (N - 206) + (2N - 206) = \mathbf{3N} - \mathbf{208} \\
&(N \geq 274)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 588) &= B_{\bar{N}}(2N + 588 - B_{\bar{N}}(2N + 587)) + B_{\bar{N}}(2N + 588 - B_{\bar{N}}(2N + 586)) + B_{\bar{N}}(2N + 588 - B_{\bar{N}}(2N + 585)) \\
&= B_{\bar{N}}(2N + 588 - (3N - 208)) + B_{\bar{N}}(2N + 588 - (2N + 383)) + B_{\bar{N}}(2N + 588 - (N + 793)) \\
&= B_{\bar{N}}(-N + 796) + B_{\bar{N}}(205) + B_{\bar{N}}(N - 205) = 0 + 205 + (N - 205) = \mathbf{N} \\
&(N \geq 796)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 589) &= B_{\bar{N}}(2N + 589 - B_{\bar{N}}(2N + 588)) + B_{\bar{N}}(2N + 589 - B_{\bar{N}}(2N + 587)) + B_{\bar{N}}(2N + 589 - B_{\bar{N}}(2N + 586)) \\
&= B_{\bar{N}}(2N + 589 - N) + B_{\bar{N}}(2N + 589 - (3N - 208)) + B_{\bar{N}}(2N + 589 - (2N + 383)) \\
&= B_{\bar{N}}(N + 589) + B_{\bar{N}}(-N + 797) + B_{\bar{N}}(206) = (N + 590) + 0 + 206 = \mathbf{N} + \mathbf{796} \\
&(N \geq 797)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 590) &= B_{\bar{N}}(2N + 590 - B_{\bar{N}}(2N + 589)) + B_{\bar{N}}(2N + 590 - B_{\bar{N}}(2N + 588)) + B_{\bar{N}}(2N + 590 - B_{\bar{N}}(2N + 587)) \\
&= B_{\bar{N}}(2N + 590 - (N + 796)) + B_{\bar{N}}(2N + 590 - N) + B_{\bar{N}}(2N + 590 - (3N - 208)) \\
&= B_{\bar{N}}(N - 206) + B_{\bar{N}}(N + 590) + B_{\bar{N}}(-N + 798) = (N - 206) + (N + 592) + 0 = \mathbf{2N} + \mathbf{386} \\
&(N \geq 798)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 591) &= B_{\bar{N}}(2N + 591 - B_{\bar{N}}(2N + 590)) + B_{\bar{N}}(2N + 591 - B_{\bar{N}}(2N + 589)) + B_{\bar{N}}(2N + 591 - B_{\bar{N}}(2N + 588)) \\
&= B_{\bar{N}}(2N + 591 - (2N + 386)) + B_{\bar{N}}(2N + 591 - (N + 796)) + B_{\bar{N}}(2N + 591 - N) \\
&= B_{\bar{N}}(205) + B_{\bar{N}}(N - 205) + B_{\bar{N}}(N + 591) = 205 + (N - 205) + 7 = \mathbf{N} + \mathbf{7} \\
&(N \geq 206)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 592) &= B_{\bar{N}}(2N + 592 - B_{\bar{N}}(2N + 591)) + B_{\bar{N}}(2N + 592 - B_{\bar{N}}(2N + 590)) + B_{\bar{N}}(2N + 592 - B_{\bar{N}}(2N + 589)) \\
&= B_{\bar{N}}(2N + 592 - (N + 7)) + B_{\bar{N}}(2N + 592 - (2N + 386)) + B_{\bar{N}}(2N + 592 - (N + 796)) \\
&= B_{\bar{N}}(N + 585) + B_{\bar{N}}(206) + B_{\bar{N}}(N - 204) = (2N + 211) + 206 + (N - 204) = \mathbf{3N} + \mathbf{213} \\
&(N \geq 206)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 593) &= B_{\bar{N}}(2N + 593 - B_{\bar{N}}(2N + 592)) + B_{\bar{N}}(2N + 593 - B_{\bar{N}}(2N + 591)) + B_{\bar{N}}(2N + 593 - B_{\bar{N}}(2N + 590)) \\
&= B_{\bar{N}}(2N + 593 - (3N + 213)) + B_{\bar{N}}(2N + 593 - (N + 7)) + B_{\bar{N}}(2N + 593 - (2N + 386)) \\
&= B_{\bar{N}}(-N + 380) + B_{\bar{N}}(N + 586) + B_{\bar{N}}(207) = 0 + (2N + 76) + 207 = \mathbf{2N} + \mathbf{283} \\
&(N \geq 380)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 594) &= B_{\bar{N}}(2N + 594 - B_{\bar{N}}(2N + 593)) + B_{\bar{N}}(2N + 594 - B_{\bar{N}}(2N + 592)) + B_{\bar{N}}(2N + 594 - B_{\bar{N}}(2N + 591)) \\
&= B_{\bar{N}}(2N + 594 - (2N + 283)) + B_{\bar{N}}(2N + 594 - (3N + 213)) + B_{\bar{N}}(2N + 594 - (N + 7)) \\
&= B_{\bar{N}}(311) + B_{\bar{N}}(-N + 381) + B_{\bar{N}}(N + 587) = 311 + 0 + (N - 2) = \mathbf{N} + \mathbf{309} \\
&(N \geq 381)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 595) &= B_{\bar{N}}(2N + 595 - B_{\bar{N}}(2N + 594)) + B_{\bar{N}}(2N + 595 - B_{\bar{N}}(2N + 593)) + B_{\bar{N}}(2N + 595 - B_{\bar{N}}(2N + 592)) \\
&= B_{\bar{N}}(2N + 595 - (N + 309)) + B_{\bar{N}}(2N + 595 - (2N + 283)) + B_{\bar{N}}(2N + 595 - (3N + 213)) \\
&= B_{\bar{N}}(N + 286) + B_{\bar{N}}(312) + B_{\bar{N}}(-N + 382) = (N - 2) + 312 + 0 = \mathbf{N} + \mathbf{310} \\
&(N \geq 382)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 596) &= B_{\bar{N}}(2N + 596 - B_{\bar{N}}(2N + 595)) + B_{\bar{N}}(2N + 596 - B_{\bar{N}}(2N + 594)) + B_{\bar{N}}(2N + 596 - B_{\bar{N}}(2N + 593)) \\
&= B_{\bar{N}}(2N + 596 - (N + 310)) + B_{\bar{N}}(2N + 596 - (N + 309)) + B_{\bar{N}}(2N + 596 - (2N + 283)) \\
&= B_{\bar{N}}(N + 286) + B_{\bar{N}}(N + 287) + B_{\bar{N}}(313) = (N - 2) + 289 + 313 = \mathbf{N} + \mathbf{600} \\
&(N \geq 313)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 597) &= B_{\bar{N}}(2N + 597 - B_{\bar{N}}(2N + 596)) + B_{\bar{N}}(2N + 597 - B_{\bar{N}}(2N + 595)) + B_{\bar{N}}(2N + 597 - B_{\bar{N}}(2N + 594)) \\
&= B_{\bar{N}}(2N + 597 - (N + 600)) + B_{\bar{N}}(2N + 597 - (N + 310)) + B_{\bar{N}}(2N + 597 - (N + 309)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(N + 287) + B_{\bar{N}}(N + 288) = (N - 3) + 289 + (N + 289) = \mathbf{2N} + \mathbf{575} \\
&(N \geq 4)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 598) &= B_{\bar{N}}(2N + 598 - B_{\bar{N}}(2N + 597)) + B_{\bar{N}}(2N + 598 - B_{\bar{N}}(2N + 596)) + B_{\bar{N}}(2N + 598 - B_{\bar{N}}(2N + 595)) \\
&= B_{\bar{N}}(2N + 598 - (2N + 575)) + B_{\bar{N}}(2N + 598 - (N + 600)) + B_{\bar{N}}(2N + 598 - (N + 310)) \\
&= B_{\bar{N}}(23) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(N + 288) = 23 + (N - 2) + (N + 289) = \mathbf{2N} + \mathbf{310} \\
&(N \geq 23)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 599) &= B_{\bar{N}}(2N + 599 - B_{\bar{N}}(2N + 598)) + B_{\bar{N}}(2N + 599 - B_{\bar{N}}(2N + 597)) + B_{\bar{N}}(2N + 599 - B_{\bar{N}}(2N + 596)) \\
&= B_{\bar{N}}(2N + 599 - (2N + 310)) + B_{\bar{N}}(2N + 599 - (2N + 575)) + B_{\bar{N}}(2N + 599 - (N + 600)) \\
&= B_{\bar{N}}(289) + B_{\bar{N}}(24) + B_{\bar{N}}(N - 1) = 289 + 24 + (N - 1) = \mathbf{N} + \mathbf{312} \\
&(N \geq 289)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 600) &= B_{\bar{N}}(2N + 600 - B_{\bar{N}}(2N + 599)) + B_{\bar{N}}(2N + 600 - B_{\bar{N}}(2N + 598)) + B_{\bar{N}}(2N + 600 - B_{\bar{N}}(2N + 597)) \\
&= B_{\bar{N}}(2N + 600 - (N + 312)) + B_{\bar{N}}(2N + 600 - (2N + 310)) + B_{\bar{N}}(2N + 600 - (2N + 575)) \\
&= B_{\bar{N}}(N + 288) + B_{\bar{N}}(290) + B_{\bar{N}}(25) = (N + 289) + 290 + 25 = \mathbf{N} + \mathbf{604} \\
&(N \geq 290)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 601) &= B_{\bar{N}}(2N + 601 - B_{\bar{N}}(2N + 600)) + B_{\bar{N}}(2N + 601 - B_{\bar{N}}(2N + 599)) + B_{\bar{N}}(2N + 601 - B_{\bar{N}}(2N + 598)) \\
&= B_{\bar{N}}(2N + 601 - (N + 604)) + B_{\bar{N}}(2N + 601 - (N + 312)) + B_{\bar{N}}(2N + 601 - (2N + 310)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(N + 289) + B_{\bar{N}}(291) = (N - 3) + (N + 291) + 291 = \mathbf{2N} + \mathbf{579} \\
&(N \geq 291)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 602) &= B_{\bar{N}}(2N + 602 - B_{\bar{N}}(2N + 601)) + B_{\bar{N}}(2N + 602 - B_{\bar{N}}(2N + 600)) + B_{\bar{N}}(2N + 602 - B_{\bar{N}}(2N + 599)) \\
&= B_{\bar{N}}(2N + 602 - (2N + 579)) + B_{\bar{N}}(2N + 602 - (N + 604)) + B_{\bar{N}}(2N + 602 - (N + 312)) \\
&= B_{\bar{N}}(23) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(N + 290) = 23 + (N - 2) + 7 = \mathbf{N} + \mathbf{28} \\
&(N \geq 23)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 603) &= B_{\bar{N}}(2N + 603 - B_{\bar{N}}(2N + 602)) + B_{\bar{N}}(2N + 603 - B_{\bar{N}}(2N + 601)) + B_{\bar{N}}(2N + 603 - B_{\bar{N}}(2N + 600)) \\
&= B_{\bar{N}}(2N + 603 - (N + 28)) + B_{\bar{N}}(2N + 603 - (2N + 579)) + B_{\bar{N}}(2N + 603 - (N + 604)) \\
&= B_{\bar{N}}(N + 575) + B_{\bar{N}}(24) + B_{\bar{N}}(N - 1) = (N + 576) + 24 + (N - 1) = \mathbf{2N} + \mathbf{599} \\
&(N \geq 24)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 604) &= B_{\bar{N}}(2N + 604 - B_{\bar{N}}(2N + 603)) + B_{\bar{N}}(2N + 604 - B_{\bar{N}}(2N + 602)) + B_{\bar{N}}(2N + 604 - B_{\bar{N}}(2N + 601)) \\
&= B_{\bar{N}}(2N + 604 - (2N + 599)) + B_{\bar{N}}(2N + 604 - (N + 28)) + B_{\bar{N}}(2N + 604 - (2N + 579)) \\
&= B_{\bar{N}}(5) + B_{\bar{N}}(N + 576) + B_{\bar{N}}(25) = 5 + (N + 578) + 25 = \mathbf{N} + \mathbf{608} \\
&(N \geq 25)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 605) &= B_{\bar{N}}(2N + 605 - B_{\bar{N}}(2N + 604)) + B_{\bar{N}}(2N + 605 - B_{\bar{N}}(2N + 603)) + B_{\bar{N}}(2N + 605 - B_{\bar{N}}(2N + 602)) \\
&= B_{\bar{N}}(2N + 605 - (N + 608)) + B_{\bar{N}}(2N + 605 - (2N + 599)) + B_{\bar{N}}(2N + 605 - (N + 28)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(6) + B_{\bar{N}}(N + 577) = (N - 3) + 6 + 7 = \mathbf{N} + \mathbf{10} \\
&(N \geq 6)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 606) &= B_{\bar{N}}(2N + 606 - B_{\bar{N}}(2N + 605)) + B_{\bar{N}}(2N + 606 - B_{\bar{N}}(2N + 604)) + B_{\bar{N}}(2N + 606 - B_{\bar{N}}(2N + 603)) \\
&= B_{\bar{N}}(2N + 606 - (N + 10)) + B_{\bar{N}}(2N + 606 - (N + 608)) + B_{\bar{N}}(2N + 606 - (2N + 599)) \\
&= B_{\bar{N}}(N + 596) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(7) = (N + 597) + (N - 2) + 7 = \mathbf{2N} + \mathbf{602} \\
&(N \geq 7)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 607) &= B_{\bar{N}}(2N + 607 - B_{\bar{N}}(2N + 606)) + B_{\bar{N}}(2N + 607 - B_{\bar{N}}(2N + 605)) + B_{\bar{N}}(2N + 607 - B_{\bar{N}}(2N + 604)) \\
&= B_{\bar{N}}(2N + 607 - (2N + 602)) + B_{\bar{N}}(2N + 607 - (N + 10)) + B_{\bar{N}}(2N + 607 - (N + 608)) \\
&= B_{\bar{N}}(5) + B_{\bar{N}}(N + 597) + B_{\bar{N}}(N - 1) = 5 + (N + 599) + (N - 1) = \mathbf{2N} + \mathbf{603} \\
&(N \geq 5)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 608) &= B_{\bar{N}}(2N + 608 - B_{\bar{N}}(2N + 607)) + B_{\bar{N}}(2N + 608 - B_{\bar{N}}(2N + 606)) + B_{\bar{N}}(2N + 608 - B_{\bar{N}}(2N + 605)) \\
&= B_{\bar{N}}(2N + 608 - (2N + 603)) + B_{\bar{N}}(2N + 608 - (2N + 602)) + B_{\bar{N}}(2N + 608 - (N + 10)) \\
&= B_{\bar{N}}(5) + B_{\bar{N}}(6) + B_{\bar{N}}(N + 598) = 5 + 6 + 7 = \mathbf{18} \\
&(N \geq 6)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 609) &= B_{\bar{N}}(2N + 609 - B_{\bar{N}}(2N + 608)) + B_{\bar{N}}(2N + 609 - B_{\bar{N}}(2N + 607)) + B_{\bar{N}}(2N + 609 - B_{\bar{N}}(2N + 606)) \\
&= B_{\bar{N}}(2N + 609 - 18) + B_{\bar{N}}(2N + 609 - (2N + 603)) + B_{\bar{N}}(2N + 609 - (2N + 602)) \\
&= B_{\bar{N}}(2N + 591) + B_{\bar{N}}(6) + B_{\bar{N}}(7) = (N + 7) + 6 + 7 = \mathbf{N} + \mathbf{20} \\
&(N \geq 7)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{610}) &= B_{\bar{N}}(2N + 610 - B_{\bar{N}}(2N + 609)) + B_{\bar{N}}(2N + 610 - B_{\bar{N}}(2N + 608)) + B_{\bar{N}}(2N + 610 - B_{\bar{N}}(2N + 607)) \\
&= B_{\bar{N}}(2N + 610 - (N + 20)) + B_{\bar{N}}(2N + 610 - 18) + B_{\bar{N}}(2N + 610 - (2N + 603)) \\
&= B_{\bar{N}}(N + 590) + B_{\bar{N}}(2N + 592) + B_{\bar{N}}(7) = (N + 592) + (3N + 213) + 7 = \mathbf{4N} + \mathbf{812} \\
&(N \geq 7)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{611}) &= B_{\bar{N}}(2N + 611 - B_{\bar{N}}(2N + 610)) + B_{\bar{N}}(2N + 611 - B_{\bar{N}}(2N + 609)) + B_{\bar{N}}(2N + 611 - B_{\bar{N}}(2N + 608)) \\
&= B_{\bar{N}}(2N + 611 - (4N + 812)) + B_{\bar{N}}(2N + 611 - (N + 20)) + B_{\bar{N}}(2N + 611 - 18) \\
&= B_{\bar{N}}(-2N - 201) + B_{\bar{N}}(N + 591) + B_{\bar{N}}(2N + 593) = 0 + 7 + (2N + 283) = \mathbf{2N} + \mathbf{290} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{612}) &= B_{\bar{N}}(2N + 612 - B_{\bar{N}}(2N + 611)) + B_{\bar{N}}(2N + 612 - B_{\bar{N}}(2N + 610)) + B_{\bar{N}}(2N + 612 - B_{\bar{N}}(2N + 609)) \\
&= B_{\bar{N}}(2N + 612 - (2N + 290)) + B_{\bar{N}}(2N + 612 - (4N + 812)) + B_{\bar{N}}(2N + 612 - (N + 20)) \\
&= B_{\bar{N}}(322) + B_{\bar{N}}(-2N - 200) + B_{\bar{N}}(N + 592) = 322 + 0 + (2N + 213) = \mathbf{2N} + \mathbf{535} \\
&(N \geq 322)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{613}) &= B_{\bar{N}}(2N + 613 - B_{\bar{N}}(2N + 612)) + B_{\bar{N}}(2N + 613 - B_{\bar{N}}(2N + 611)) + B_{\bar{N}}(2N + 613 - B_{\bar{N}}(2N + 610)) \\
&= B_{\bar{N}}(2N + 613 - (2N + 535)) + B_{\bar{N}}(2N + 613 - (2N + 290)) + B_{\bar{N}}(2N + 613 - (4N + 812)) \\
&= B_{\bar{N}}(78) + B_{\bar{N}}(323) + B_{\bar{N}}(-2N - 199) = 78 + 323 + 0 = \mathbf{401} \\
&(N \geq 323)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{614}) &= B_{\bar{N}}(2N + 614 - B_{\bar{N}}(2N + 613)) + B_{\bar{N}}(2N + 614 - B_{\bar{N}}(2N + 612)) + B_{\bar{N}}(2N + 614 - B_{\bar{N}}(2N + 611)) \\
&= B_{\bar{N}}(2N + 614 - 401) + B_{\bar{N}}(2N + 614 - (2N + 535)) + B_{\bar{N}}(2N + 614 - (2N + 290)) \\
&= B_{\bar{N}}(2N + 213) + B_{\bar{N}}(79) + B_{\bar{N}}(324) = (2N - 147) + 79 + 324 = \mathbf{2N} + \mathbf{256} \\
&(N \geq 324)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 615) &= B_{\bar{N}}(2N + 615 - B_{\bar{N}}(2N + 614)) + B_{\bar{N}}(2N + 615 - B_{\bar{N}}(2N + 613)) + B_{\bar{N}}(2N + 615 - B_{\bar{N}}(2N + 612)) \\
&= B_{\bar{N}}(2N + 615 - (2N + 256)) + B_{\bar{N}}(2N + 615 - 401) + B_{\bar{N}}(2N + 615 - (2N + 535)) \\
&= B_{\bar{N}}(359) + B_{\bar{N}}(2N + 214) + B_{\bar{N}}(80) = 359 + (N + 299) + 80 = \mathbf{N} + \mathbf{738} \\
&(N \geq 359)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 616) &= B_{\bar{N}}(2N + 616 - B_{\bar{N}}(2N + 615)) + B_{\bar{N}}(2N + 616 - B_{\bar{N}}(2N + 614)) + B_{\bar{N}}(2N + 616 - B_{\bar{N}}(2N + 613)) \\
&= B_{\bar{N}}(2N + 616 - (N + 738)) + B_{\bar{N}}(2N + 616 - (2N + 256)) + B_{\bar{N}}(2N + 616 - 401) \\
&= B_{\bar{N}}(N - 122) + B_{\bar{N}}(360) + B_{\bar{N}}(2N + 215) = (N - 122) + 360 + (2N + 193) = \mathbf{3N} + \mathbf{431} \\
&(N \geq 360)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 617) &= B_{\bar{N}}(2N + 617 - B_{\bar{N}}(2N + 616)) + B_{\bar{N}}(2N + 617 - B_{\bar{N}}(2N + 615)) + B_{\bar{N}}(2N + 617 - B_{\bar{N}}(2N + 614)) \\
&= B_{\bar{N}}(2N + 617 - (3N + 431)) + B_{\bar{N}}(2N + 617 - (N + 738)) + B_{\bar{N}}(2N + 617 - (2N + 256)) \\
&= B_{\bar{N}}(-N + 186) + B_{\bar{N}}(N - 121) + B_{\bar{N}}(361) = 0 + (N - 121) + 361 = \mathbf{N} + \mathbf{240} \\
&(N \geq 361)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 618) &= B_{\bar{N}}(2N + 618 - B_{\bar{N}}(2N + 617)) + B_{\bar{N}}(2N + 618 - B_{\bar{N}}(2N + 616)) + B_{\bar{N}}(2N + 618 - B_{\bar{N}}(2N + 615)) \\
&= B_{\bar{N}}(2N + 618 - (N + 240)) + B_{\bar{N}}(2N + 618 - (3N + 431)) + B_{\bar{N}}(2N + 618 - (N + 738)) \\
&= B_{\bar{N}}(N + 378) + B_{\bar{N}}(-N + 187) + B_{\bar{N}}(N - 120) = 380 + 0 + (N - 120) = \mathbf{N} + \mathbf{260} \\
&(N \geq 187)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 619) &= B_{\bar{N}}(2N + 619 - B_{\bar{N}}(2N + 618)) + B_{\bar{N}}(2N + 619 - B_{\bar{N}}(2N + 617)) + B_{\bar{N}}(2N + 619 - B_{\bar{N}}(2N + 616)) \\
&= B_{\bar{N}}(2N + 619 - (N + 260)) + B_{\bar{N}}(2N + 619 - (N + 240)) + B_{\bar{N}}(2N + 619 - (3N + 431)) \\
&= B_{\bar{N}}(N + 359) + B_{\bar{N}}(N + 379) + B_{\bar{N}}(-N + 188) = (N + 361) + (N + 380) + 0 = \mathbf{2N} + \mathbf{741} \\
&(N \geq 188)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 620) &= B_{\bar{N}}(2N + 620 - B_{\bar{N}}(2N + 619)) + B_{\bar{N}}(2N + 620 - B_{\bar{N}}(2N + 618)) + B_{\bar{N}}(2N + 620 - B_{\bar{N}}(2N + 617)) \\
&= B_{\bar{N}}(2N + 620 - (2N + 741)) + B_{\bar{N}}(2N + 620 - (N + 260)) + B_{\bar{N}}(2N + 620 - (N + 240)) \\
&= B_{\bar{N}}(-121) + B_{\bar{N}}(N + 360) + B_{\bar{N}}(N + 380) = 0 + 7 + (N + 382) = \mathbf{N} + \mathbf{389} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 621) &= B_{\bar{N}}(2N + 621 - B_{\bar{N}}(2N + 620)) + B_{\bar{N}}(2N + 621 - B_{\bar{N}}(2N + 619)) + B_{\bar{N}}(2N + 621 - B_{\bar{N}}(2N + 618)) \\
&= B_{\bar{N}}(2N + 621 - (N + 389)) + B_{\bar{N}}(2N + 621 - (2N + 741)) + B_{\bar{N}}(2N + 621 - (N + 260)) \\
&= B_{\bar{N}}(N + 232) + B_{\bar{N}}(-120) + B_{\bar{N}}(N + 361) = (N + 233) + 0 + (2N + 147) = \mathbf{3N} + \mathbf{380} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 622) &= B_{\bar{N}}(2N + 622 - B_{\bar{N}}(2N + 621)) + B_{\bar{N}}(2N + 622 - B_{\bar{N}}(2N + 620)) + B_{\bar{N}}(2N + 622 - B_{\bar{N}}(2N + 619)) \\
&= B_{\bar{N}}(2N + 622 - (3N + 380)) + B_{\bar{N}}(2N + 622 - (N + 389)) + B_{\bar{N}}(2N + 622 - (2N + 741)) \\
&= B_{\bar{N}}(-N + 242) + B_{\bar{N}}(N + 233) + B_{\bar{N}}(-119) = 0 + (N + 235) + 0 = \mathbf{N} + \mathbf{235} \\
&(N \geq 242)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 623) &= B_{\bar{N}}(2N + 623 - B_{\bar{N}}(2N + 622)) + B_{\bar{N}}(2N + 623 - B_{\bar{N}}(2N + 621)) + B_{\bar{N}}(2N + 623 - B_{\bar{N}}(2N + 620)) \\
&= B_{\bar{N}}(2N + 623 - (N + 235)) + B_{\bar{N}}(2N + 623 - (3N + 380)) + B_{\bar{N}}(2N + 623 - (N + 389)) \\
&= B_{\bar{N}}(N + 388) + B_{\bar{N}}(-N + 243) + B_{\bar{N}}(N + 234) = 7 + 0 + 7 = \mathbf{14} \\
&(N \geq 243)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 624) &= B_{\bar{N}}(2N + 624 - B_{\bar{N}}(2N + 623)) + B_{\bar{N}}(2N + 624 - B_{\bar{N}}(2N + 622)) + B_{\bar{N}}(2N + 624 - B_{\bar{N}}(2N + 621)) \\
&= B_{\bar{N}}(2N + 624 - 14) + B_{\bar{N}}(2N + 624 - (N + 235)) + B_{\bar{N}}(2N + 624 - (3N + 380)) \\
&= B_{\bar{N}}(2N + 610) + B_{\bar{N}}(N + 389) + B_{\bar{N}}(-N + 244) = (4N + 812) + (2N + 155) + 0 = \mathbf{6N} + \mathbf{967} \\
&(N \geq 244)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 625) &= B_{\bar{N}}(2N + 625 - B_{\bar{N}}(2N + 624)) + B_{\bar{N}}(2N + 625 - B_{\bar{N}}(2N + 623)) + B_{\bar{N}}(2N + 625 - B_{\bar{N}}(2N + 622)) \\
&= B_{\bar{N}}(2N + 625 - (6N + 967)) + B_{\bar{N}}(2N + 625 - 14) + B_{\bar{N}}(2N + 625 - (N + 235)) \\
&= B_{\bar{N}}(-4N - 342) + B_{\bar{N}}(2N + 611) + B_{\bar{N}}(N + 390) = 0 + (2N + 290) + (2N + 48) = \mathbf{4N} + \mathbf{338} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 626) &= B_{\bar{N}}(2N + 626 - B_{\bar{N}}(2N + 625)) + B_{\bar{N}}(2N + 626 - B_{\bar{N}}(2N + 624)) + B_{\bar{N}}(2N + 626 - B_{\bar{N}}(2N + 623)) \\
&= B_{\bar{N}}(2N + 626 - (4N + 338)) + B_{\bar{N}}(2N + 626 - (6N + 967)) + B_{\bar{N}}(2N + 626 - 14) \\
&= B_{\bar{N}}(-2N + 288) + B_{\bar{N}}(-4N - 341) + B_{\bar{N}}(2N + 612) = 0 + 0 + (2N + 535) = \mathbf{2N} + \mathbf{535} \\
&(N \geq 144)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 627) &= B_{\bar{N}}(2N + 627 - B_{\bar{N}}(2N + 626)) + B_{\bar{N}}(2N + 627 - B_{\bar{N}}(2N + 625)) + B_{\bar{N}}(2N + 627 - B_{\bar{N}}(2N + 624)) \\
&= B_{\bar{N}}(2N + 627 - (2N + 535)) + B_{\bar{N}}(2N + 627 - (4N + 338)) + B_{\bar{N}}(2N + 627 - (6N + 967)) \\
&= B_{\bar{N}}(92) + B_{\bar{N}}(-2N + 289) + B_{\bar{N}}(-4N - 340) = 92 + 0 + 0 = \mathbf{92} \\
&(N \geq 145)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 628) &= B_{\bar{N}}(2N + 628 - B_{\bar{N}}(2N + 627)) + B_{\bar{N}}(2N + 628 - B_{\bar{N}}(2N + 626)) + B_{\bar{N}}(2N + 628 - B_{\bar{N}}(2N + 625)) \\
&= B_{\bar{N}}(2N + 628 - 92) + B_{\bar{N}}(2N + 628 - (2N + 535)) + B_{\bar{N}}(2N + 628 - (4N + 338)) \\
&= B_{\bar{N}}(2N + 536) + B_{\bar{N}}(93) + B_{\bar{N}}(-2N + 290) = (N + 543) + 93 + 0 = \mathbf{N} + \mathbf{636} \\
&(N \geq 145)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 629) &= B_{\bar{N}}(2N + 629 - B_{\bar{N}}(2N + 628)) + B_{\bar{N}}(2N + 629 - B_{\bar{N}}(2N + 627)) + B_{\bar{N}}(2N + 629 - B_{\bar{N}}(2N + 626)) \\
&= B_{\bar{N}}(2N + 629 - (N + 636)) + B_{\bar{N}}(2N + 629 - 92) + B_{\bar{N}}(2N + 629 - (2N + 535)) \\
&= B_{\bar{N}}(N - 7) + B_{\bar{N}}(2N + 537) + B_{\bar{N}}(94) = (N - 7) + (2N + 96) + 94 = \mathbf{3N} + \mathbf{183} \\
&(N \geq 94)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 630) &= B_{\bar{N}}(2N + 630 - B_{\bar{N}}(2N + 629)) + B_{\bar{N}}(2N + 630 - B_{\bar{N}}(2N + 628)) + B_{\bar{N}}(2N + 630 - B_{\bar{N}}(2N + 627)) \\
&= B_{\bar{N}}(2N + 630 - (3N + 183)) + B_{\bar{N}}(2N + 630 - (N + 636)) + B_{\bar{N}}(2N + 630 - 92) \\
&= B_{\bar{N}}(-N + 447) + B_{\bar{N}}(N - 6) + B_{\bar{N}}(2N + 538) = 0 + (N - 6) + (N + 542) = \mathbf{2N} + \mathbf{536} \\
&(N \geq 447)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 631) &= B_{\bar{N}}(2N + 631 - B_{\bar{N}}(2N + 630)) + B_{\bar{N}}(2N + 631 - B_{\bar{N}}(2N + 629)) + B_{\bar{N}}(2N + 631 - B_{\bar{N}}(2N + 628)) \\
&= B_{\bar{N}}(2N + 631 - (2N + 536)) + B_{\bar{N}}(2N + 631 - (3N + 183)) + B_{\bar{N}}(2N + 631 - (N + 636)) \\
&= B_{\bar{N}}(95) + B_{\bar{N}}(-N + 448) + B_{\bar{N}}(N - 5) = 95 + 0 + (N - 5) = \mathbf{N} + \mathbf{90} \\
&(N \geq 448)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 632) &= B_{\bar{N}}(2N + 632 - B_{\bar{N}}(2N + 631)) + B_{\bar{N}}(2N + 632 - B_{\bar{N}}(2N + 630)) + B_{\bar{N}}(2N + 632 - B_{\bar{N}}(2N + 629)) \\
&= B_{\bar{N}}(2N + 632 - (N + 90)) + B_{\bar{N}}(2N + 632 - (2N + 536)) + B_{\bar{N}}(2N + 632 - (3N + 183)) \\
&= B_{\bar{N}}(N + 542) + B_{\bar{N}}(96) + B_{\bar{N}}(-N + 449) = 7 + 96 + 0 = \mathbf{103} \\
&(N \geq 449)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 633) &= B_{\bar{N}}(2N + 633 - B_{\bar{N}}(2N + 632)) + B_{\bar{N}}(2N + 633 - B_{\bar{N}}(2N + 631)) + B_{\bar{N}}(2N + 633 - B_{\bar{N}}(2N + 630)) \\
&= B_{\bar{N}}(2N + 633 - 103) + B_{\bar{N}}(2N + 633 - (N + 90)) + B_{\bar{N}}(2N + 633 - (2N + 536)) \\
&= B_{\bar{N}}(2N + 530) + B_{\bar{N}}(N + 543) + B_{\bar{N}}(97) = (N + 536) + (2N + 199) + 97 = \mathbf{3N} + \mathbf{832} \\
&(N \geq 97)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 634) &= B_{\bar{N}}(2N + 634 - B_{\bar{N}}(2N + 633)) + B_{\bar{N}}(2N + 634 - B_{\bar{N}}(2N + 632)) + B_{\bar{N}}(2N + 634 - B_{\bar{N}}(2N + 631)) \\
&= B_{\bar{N}}(2N + 634 - (3N + 832)) + B_{\bar{N}}(2N + 634 - 103) + B_{\bar{N}}(2N + 634 - (N + 90)) \\
&= B_{\bar{N}}(-N - 198) + B_{\bar{N}}(2N + 531) + B_{\bar{N}}(N + 544) = 0 + (2N + 430) + (2N + 70) = \mathbf{4N} + \mathbf{500} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 635) &= B_{\bar{N}}(2N + 635 - B_{\bar{N}}(2N + 634)) + B_{\bar{N}}(2N + 635 - B_{\bar{N}}(2N + 633)) + B_{\bar{N}}(2N + 635 - B_{\bar{N}}(2N + 632)) \\
&= B_{\bar{N}}(2N + 635 - (4N + 500)) + B_{\bar{N}}(2N + 635 - (3N + 832)) + B_{\bar{N}}(2N + 635 - 103) \\
&= B_{\bar{N}}(-2N + 135) + B_{\bar{N}}(-N - 197) + B_{\bar{N}}(2N + 532) = 0 + 0 + (N + 540) = \mathbf{N} + \mathbf{540} \\
&(N \geq 68)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 636) &= B_{\bar{N}}(2N + 636 - B_{\bar{N}}(2N + 635)) + B_{\bar{N}}(2N + 636 - B_{\bar{N}}(2N + 634)) + B_{\bar{N}}(2N + 636 - B_{\bar{N}}(2N + 633)) \\
&= B_{\bar{N}}(2N + 636 - (N + 540)) + B_{\bar{N}}(2N + 636 - (4N + 500)) + B_{\bar{N}}(2N + 636 - (3N + 832)) \\
&= B_{\bar{N}}(N + 96) + B_{\bar{N}}(-2N + 136) + B_{\bar{N}}(-N - 196) = (2N + 6) + 0 + 0 = \mathbf{2N} + \mathbf{6} \\
&(N \geq 68)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 637) &= B_{\bar{N}}(2N + 637 - B_{\bar{N}}(2N + 636)) + B_{\bar{N}}(2N + 637 - B_{\bar{N}}(2N + 635)) + B_{\bar{N}}(2N + 637 - B_{\bar{N}}(2N + 634)) \\
&= B_{\bar{N}}(2N + 637 - (2N + 6)) + B_{\bar{N}}(2N + 637 - (N + 540)) + B_{\bar{N}}(2N + 637 - (4N + 500)) \\
&= B_{\bar{N}}(631) + B_{\bar{N}}(N + 97) + B_{\bar{N}}(-2N + 137) = 631 + (N - 2) + 0 = \mathbf{N} + \mathbf{629} \\
&(N \geq 631)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 638) &= B_{\bar{N}}(2N + 638 - B_{\bar{N}}(2N + 637)) + B_{\bar{N}}(2N + 638 - B_{\bar{N}}(2N + 636)) + B_{\bar{N}}(2N + 638 - B_{\bar{N}}(2N + 635)) \\
&= B_{\bar{N}}(2N + 638 - (N + 629)) + B_{\bar{N}}(2N + 638 - (2N + 6)) + B_{\bar{N}}(2N + 638 - (N + 540)) \\
&= B_{\bar{N}}(N + 9) + B_{\bar{N}}(632) + B_{\bar{N}}(N + 98) = 12 + 632 + 100 = \mathbf{744} \\
&(N \geq 632)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 639) &= B_{\bar{N}}(2N + 639 - B_{\bar{N}}(2N + 638)) + B_{\bar{N}}(2N + 639 - B_{\bar{N}}(2N + 637)) + B_{\bar{N}}(2N + 639 - B_{\bar{N}}(2N + 636)) \\
&= B_{\bar{N}}(2N + 639 - 744) + B_{\bar{N}}(2N + 639 - (N + 629)) + B_{\bar{N}}(2N + 639 - (2N + 6)) \\
&= B_{\bar{N}}(2N - 105) + B_{\bar{N}}(N + 10) + B_{\bar{N}}(633) = \left(\frac{15N}{7} - \frac{159}{7} \right) + (N + 7) + 633 = \frac{22\mathbf{N}}{7} + \frac{4321}{7} \\
&(N \geq 633)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{640}) &= B_{\bar{N}}(2N + 640 - B_{\bar{N}}(2N + 639)) + B_{\bar{N}}(2N + 640 - B_{\bar{N}}(2N + 638)) + B_{\bar{N}}(2N + 640 - B_{\bar{N}}(2N + 637)) \\
&= B_{\bar{N}}\left(2N + 640 - \left(\frac{22N}{7} + \frac{4321}{7}\right)\right) + B_{\bar{N}}(2N + 640 - 744) + B_{\bar{N}}(2N + 640 - (N + 629)) \\
&= B_{\bar{N}}\left(-\frac{8N}{7} + \frac{159}{7}\right) + B_{\bar{N}}(2N - 104) + B_{\bar{N}}(N + 11) = 0 + (N - 2) + (N + 8) = \mathbf{2N} + \mathbf{6} \\
&(N \geq 171)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{641}) &= B_{\bar{N}}(2N + 641 - B_{\bar{N}}(2N + 640)) + B_{\bar{N}}(2N + 641 - B_{\bar{N}}(2N + 639)) + B_{\bar{N}}(2N + 641 - B_{\bar{N}}(2N + 638)) \\
&= B_{\bar{N}}(2N + 641 - (2N + 6)) + B_{\bar{N}}\left(2N + 641 - \left(\frac{22N}{7} + \frac{4321}{7}\right)\right) + B_{\bar{N}}(2N + 641 - 744) \\
&= B_{\bar{N}}(635) + B_{\bar{N}}\left(-\frac{8N}{7} + \frac{166}{7}\right) + B_{\bar{N}}(2N - 103) = 635 + 0 + (N - 101) = \mathbf{N} + \mathbf{534} \\
&(N \geq 635)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{642}) &= B_{\bar{N}}(2N + 642 - B_{\bar{N}}(2N + 641)) + B_{\bar{N}}(2N + 642 - B_{\bar{N}}(2N + 640)) + B_{\bar{N}}(2N + 642 - B_{\bar{N}}(2N + 639)) \\
&= B_{\bar{N}}(2N + 642 - (N + 534)) + B_{\bar{N}}(2N + 642 - (2N + 6)) + B_{\bar{N}}\left(2N + 642 - \left(\frac{22N}{7} + \frac{4321}{7}\right)\right) \\
&= B_{\bar{N}}(N + 108) + B_{\bar{N}}(636) + B_{\bar{N}}\left(-\frac{8N}{7} + \frac{173}{7}\right) = 7 + 636 + 0 = \mathbf{643} \\
&(N \geq 636)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{643}) &= B_{\bar{N}}(2N + 643 - B_{\bar{N}}(2N + 642)) + B_{\bar{N}}(2N + 643 - B_{\bar{N}}(2N + 641)) + B_{\bar{N}}(2N + 643 - B_{\bar{N}}(2N + 640)) \\
&= B_{\bar{N}}(2N + 643 - 643) + B_{\bar{N}}(2N + 643 - (N + 534)) + B_{\bar{N}}(2N + 643 - (2N + 6)) \\
&= B_{\bar{N}}(2N) + B_{\bar{N}}(N + 109) + B_{\bar{N}}(637) = \left(\frac{15N}{7} - \frac{54}{7}\right) + (2N + 75) + 637 = \frac{\mathbf{29N}}{\mathbf{7}} + \frac{\mathbf{4930}}{\mathbf{7}} \\
&(N \geq 637)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 644) &= B_{\bar{N}}(2N + 644 - B_{\bar{N}}(2N + 643)) + B_{\bar{N}}(2N + 644 - B_{\bar{N}}(2N + 642)) + B_{\bar{N}}(2N + 644 - B_{\bar{N}}(2N + 641)) \\
&= B_{\bar{N}}\left(2N + 644 - \left(\frac{29N}{7} + \frac{4930}{7}\right)\right) + B_{\bar{N}}(2N + 644 - 643) + B_{\bar{N}}(2N + 644 - (N + 534)) \\
&= B_{\bar{N}}\left(-\frac{15N}{7} - \frac{422}{7}\right) + B_{\bar{N}}(2N + 1) + B_{\bar{N}}(N + 110) = 0 + (N - 2) + (2N + 8) = \mathbf{3N} + \mathbf{6} \\
&(N \geq 66)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 645) &= B_{\bar{N}}(2N + 645 - B_{\bar{N}}(2N + 644)) + B_{\bar{N}}(2N + 645 - B_{\bar{N}}(2N + 643)) + B_{\bar{N}}(2N + 645 - B_{\bar{N}}(2N + 642)) \\
&= B_{\bar{N}}(2N + 645 - (3N + 6)) + B_{\bar{N}}\left(2N + 645 - \left(\frac{29N}{7} + \frac{4930}{7}\right)\right) + B_{\bar{N}}(2N + 645 - 643) \\
&= B_{\bar{N}}(-N + 639) + B_{\bar{N}}\left(-\frac{15N}{7} - \frac{415}{7}\right) + B_{\bar{N}}(2N + 2) = 0 + 0 + (N + 3) = \mathbf{N} + \mathbf{3} \\
&(N \geq 639)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 646) &= B_{\bar{N}}(2N + 646 - B_{\bar{N}}(2N + 645)) + B_{\bar{N}}(2N + 646 - B_{\bar{N}}(2N + 644)) + B_{\bar{N}}(2N + 646 - B_{\bar{N}}(2N + 643)) \\
&= B_{\bar{N}}(2N + 646 - (N + 3)) + B_{\bar{N}}(2N + 646 - (3N + 6)) + B_{\bar{N}}\left(2N + 646 - \left(\frac{29N}{7} + \frac{4930}{7}\right)\right) \\
&= B_{\bar{N}}(N + 643) + B_{\bar{N}}(-N + 640) + B_{\bar{N}}\left(-\frac{15N}{7} - \frac{408}{7}\right) = (N - 2) + 0 + 0 = \mathbf{N} - \mathbf{2} \\
&(N \geq 640)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 647) &= B_{\bar{N}}(2N + 647 - B_{\bar{N}}(2N + 646)) + B_{\bar{N}}(2N + 647 - B_{\bar{N}}(2N + 645)) + B_{\bar{N}}(2N + 647 - B_{\bar{N}}(2N + 644)) \\
&= B_{\bar{N}}(2N + 647 - (N - 2)) + B_{\bar{N}}(2N + 647 - (N + 3)) + B_{\bar{N}}(2N + 647 - (3N + 6)) \\
&= B_{\bar{N}}(N + 649) + B_{\bar{N}}(N + 644) + B_{\bar{N}}(-N + 641) = (2N + 85) + 646 + 0 = \mathbf{2N} + \mathbf{731} \\
&(N \geq 641)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 648) &= B_{\bar{N}}(2N + 648 - B_{\bar{N}}(2N + 647)) + B_{\bar{N}}(2N + 648 - B_{\bar{N}}(2N + 646)) + B_{\bar{N}}(2N + 648 - B_{\bar{N}}(2N + 645)) \\
&= B_{\bar{N}}(2N + 648 - (2N + 731)) + B_{\bar{N}}(2N + 648 - (N - 2)) + B_{\bar{N}}(2N + 648 - (N + 3)) \\
&= B_{\bar{N}}(-83) + B_{\bar{N}}(N + 650) + B_{\bar{N}}(N + 645) = 0 + (N - 2) + (N + 646) = \mathbf{2N} + \mathbf{644} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 649) &= B_{\bar{N}}(2N + 649 - B_{\bar{N}}(2N + 648)) + B_{\bar{N}}(2N + 649 - B_{\bar{N}}(2N + 647)) + B_{\bar{N}}(2N + 649 - B_{\bar{N}}(2N + 646)) \\
&= B_{\bar{N}}(2N + 649 - (2N + 644)) + B_{\bar{N}}(2N + 649 - (2N + 731)) + B_{\bar{N}}(2N + 649 - (N - 2)) \\
&= B_{\bar{N}}(5) + B_{\bar{N}}(-82) + B_{\bar{N}}(N + 651) = 5 + 0 + 653 = \mathbf{658} \\
&(N \geq 5)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 650) &= B_{\bar{N}}(2N + 650 - B_{\bar{N}}(2N + 649)) + B_{\bar{N}}(2N + 650 - B_{\bar{N}}(2N + 648)) + B_{\bar{N}}(2N + 650 - B_{\bar{N}}(2N + 647)) \\
&= B_{\bar{N}}(2N + 650 - 658) + B_{\bar{N}}(2N + 650 - (2N + 644)) + B_{\bar{N}}(2N + 650 - (2N + 731)) \\
&= B_{\bar{N}}(2N - 8) + B_{\bar{N}}(6) + B_{\bar{N}}(-81) = \left(\frac{16N}{7} + \frac{291}{7} \right) + 6 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{333}}{\mathbf{7}} \\
&(N \geq 75)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 651) &= B_{\bar{N}}(2N + 651 - B_{\bar{N}}(2N + 650)) + B_{\bar{N}}(2N + 651 - B_{\bar{N}}(2N + 649)) + B_{\bar{N}}(2N + 651 - B_{\bar{N}}(2N + 648)) \\
&= B_{\bar{N}}\left(2N + 651 - \left(\frac{16N}{7} + \frac{333}{7}\right)\right) + B_{\bar{N}}(2N + 651 - 658) + B_{\bar{N}}(2N + 651 - (2N + 644)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{4224}{7}\right) + B_{\bar{N}}(2N - 7) + B_{\bar{N}}(7) = 0 + \left(\frac{15N}{7} - \frac{61}{7}\right) + 7 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{12}}{\mathbf{7}} \\
&(N \geq 2112)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 652) &= B_{\bar{N}}(2N + 652 - B_{\bar{N}}(2N + 651)) + B_{\bar{N}}(2N + 652 - B_{\bar{N}}(2N + 650)) + B_{\bar{N}}(2N + 652 - B_{\bar{N}}(2N + 649)) \\
&= B_{\bar{N}}\left(2N + 652 - \left(\frac{15N}{7} - \frac{12}{7}\right)\right) + B_{\bar{N}}\left(2N + 652 - \left(\frac{16N}{7} + \frac{333}{7}\right)\right) + B_{\bar{N}}(2N + 652 - 658) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{4576}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{4231}{7}\right) + B_{\bar{N}}(2N - 6) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{4576})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 653) &= B_{\bar{N}}(2N + 653 - B_{\bar{N}}(2N + 652)) + B_{\bar{N}}(2N + 653 - B_{\bar{N}}(2N + 651)) + B_{\bar{N}}(2N + 653 - B_{\bar{N}}(2N + 650)) \\
&= B_{\bar{N}}(2N + 653 - (N - 2)) + B_{\bar{N}}\left(2N + 653 - \left(\frac{15N}{7} - \frac{12}{7}\right)\right) + B_{\bar{N}}\left(2N + 653 - \left(\frac{16N}{7} + \frac{333}{7}\right)\right) \\
&= B_{\bar{N}}(N + 655) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{4583}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{4238}{7}\right) = (2N + 231) + 0 + 0 = \mathbf{2N} + \mathbf{231} \\
&(\mathbf{N} \geq \mathbf{4583})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 654) &= B_{\bar{N}}(2N + 654 - B_{\bar{N}}(2N + 653)) + B_{\bar{N}}(2N + 654 - B_{\bar{N}}(2N + 652)) + B_{\bar{N}}(2N + 654 - B_{\bar{N}}(2N + 651)) \\
&= B_{\bar{N}}(2N + 654 - (2N + 231)) + B_{\bar{N}}(2N + 654 - (N - 2)) + B_{\bar{N}}\left(2N + 654 - \left(\frac{15N}{7} - \frac{12}{7}\right)\right) \\
&= B_{\bar{N}}(423) + B_{\bar{N}}(N + 656) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{4590}{7}\right) = 423 + (2N + 86) + 0 = \mathbf{2N} + \mathbf{509} \\
&(\mathbf{N} \geq \mathbf{4590})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 655) &= B_{\bar{N}}(2N + 655 - B_{\bar{N}}(2N + 654)) + B_{\bar{N}}(2N + 655 - B_{\bar{N}}(2N + 653)) + B_{\bar{N}}(2N + 655 - B_{\bar{N}}(2N + 652)) \\
&= B_{\bar{N}}(2N + 655 - (2N + 509)) + B_{\bar{N}}(2N + 655 - (2N + 231)) + B_{\bar{N}}(2N + 655 - (N - 2)) \\
&= B_{\bar{N}}(146) + B_{\bar{N}}(424) + B_{\bar{N}}(N + 657) = 146 + 424 + (N - 2) = \mathbf{N} + \mathbf{568} \\
&(N \geq 424)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 656) &= B_{\bar{N}}(2N + 656 - B_{\bar{N}}(2N + 655)) + B_{\bar{N}}(2N + 656 - B_{\bar{N}}(2N + 654)) + B_{\bar{N}}(2N + 656 - B_{\bar{N}}(2N + 653)) \\
&= B_{\bar{N}}(2N + 656 - (N + 568)) + B_{\bar{N}}(2N + 656 - (2N + 509)) + B_{\bar{N}}(2N + 656 - (2N + 231)) \\
&= B_{\bar{N}}(N + 88) + B_{\bar{N}}(147) + B_{\bar{N}}(425) = (2N + 69) + 147 + 425 = \mathbf{2N} + \mathbf{641} \\
&(N \geq 425)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 657) &= B_{\bar{N}}(2N + 657 - B_{\bar{N}}(2N + 656)) + B_{\bar{N}}(2N + 657 - B_{\bar{N}}(2N + 655)) + B_{\bar{N}}(2N + 657 - B_{\bar{N}}(2N + 654)) \\
&= B_{\bar{N}}(2N + 657 - (2N + 641)) + B_{\bar{N}}(2N + 657 - (N + 568)) + B_{\bar{N}}(2N + 657 - (2N + 509)) \\
&= B_{\bar{N}}(16) + B_{\bar{N}}(N + 89) + B_{\bar{N}}(148) = 16 + (2N + 5) + 148 = \mathbf{2N} + \mathbf{169} \\
&(N \geq 148)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 658) &= B_{\bar{N}}(2N + 658 - B_{\bar{N}}(2N + 657)) + B_{\bar{N}}(2N + 658 - B_{\bar{N}}(2N + 656)) + B_{\bar{N}}(2N + 658 - B_{\bar{N}}(2N + 655)) \\
&= B_{\bar{N}}(2N + 658 - (2N + 169)) + B_{\bar{N}}(2N + 658 - (2N + 641)) + B_{\bar{N}}(2N + 658 - (N + 568)) \\
&= B_{\bar{N}}(489) + B_{\bar{N}}(17) + B_{\bar{N}}(N + 90) = 489 + 17 + (N - 2) = \mathbf{N} + \mathbf{504} \\
&(N \geq 489)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 659) &= B_{\bar{N}}(2N + 659 - B_{\bar{N}}(2N + 658)) + B_{\bar{N}}(2N + 659 - B_{\bar{N}}(2N + 657)) + B_{\bar{N}}(2N + 659 - B_{\bar{N}}(2N + 656)) \\
&= B_{\bar{N}}(2N + 659 - (N + 504)) + B_{\bar{N}}(2N + 659 - (2N + 169)) + B_{\bar{N}}(2N + 659 - (2N + 641)) \\
&= B_{\bar{N}}(N + 155) + B_{\bar{N}}(490) + B_{\bar{N}}(18) = (N + 156) + 490 + 18 = \mathbf{N} + \mathbf{664} \\
&(N \geq 490)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 660) &= B_{\bar{N}}(2N + 660 - B_{\bar{N}}(2N + 659)) + B_{\bar{N}}(2N + 660 - B_{\bar{N}}(2N + 658)) + B_{\bar{N}}(2N + 660 - B_{\bar{N}}(2N + 657)) \\
&= B_{\bar{N}}(2N + 660 - (N + 664)) + B_{\bar{N}}(2N + 660 - (N + 504)) + B_{\bar{N}}(2N + 660 - (2N + 169)) \\
&= B_{\bar{N}}(N - 4) + B_{\bar{N}}(N + 156) + B_{\bar{N}}(491) = (N - 4) + (N + 158) + 491 = \mathbf{2N} + \mathbf{645} \\
&(N \geq 491)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 661) &= B_{\bar{N}}(2N + 661 - B_{\bar{N}}(2N + 660)) + B_{\bar{N}}(2N + 661 - B_{\bar{N}}(2N + 659)) + B_{\bar{N}}(2N + 661 - B_{\bar{N}}(2N + 658)) \\
&= B_{\bar{N}}(2N + 661 - (2N + 645)) + B_{\bar{N}}(2N + 661 - (N + 664)) + B_{\bar{N}}(2N + 661 - (N + 504)) \\
&= B_{\bar{N}}(16) + B_{\bar{N}}(N - 3) + B_{\bar{N}}(N + 157) = 16 + (N - 3) + 7 = \mathbf{N} + \mathbf{20} \\
&(N \geq 16)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 662) &= B_{\bar{N}}(2N + 662 - B_{\bar{N}}(2N + 661)) + B_{\bar{N}}(2N + 662 - B_{\bar{N}}(2N + 660)) + B_{\bar{N}}(2N + 662 - B_{\bar{N}}(2N + 659)) \\
&= B_{\bar{N}}(2N + 662 - (N + 20)) + B_{\bar{N}}(2N + 662 - (2N + 645)) + B_{\bar{N}}(2N + 662 - (N + 664)) \\
&= B_{\bar{N}}(N + 642) + B_{\bar{N}}(17) + B_{\bar{N}}(N - 2) = (2N + 84) + 17 + (N - 2) = \mathbf{3N} + \mathbf{99} \\
&(N \geq 17)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 663) &= B_{\bar{N}}(2N + 663 - B_{\bar{N}}(2N + 662)) + B_{\bar{N}}(2N + 663 - B_{\bar{N}}(2N + 661)) + B_{\bar{N}}(2N + 663 - B_{\bar{N}}(2N + 660)) \\
&= B_{\bar{N}}(2N + 663 - (3N + 99)) + B_{\bar{N}}(2N + 663 - (N + 20)) + B_{\bar{N}}(2N + 663 - (2N + 645)) \\
&= B_{\bar{N}}(-N + 564) + B_{\bar{N}}(N + 643) + B_{\bar{N}}(18) = 0 + (N - 2) + 18 = \mathbf{N} + \mathbf{16} \\
&(N \geq 564)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 664) &= B_{\bar{N}}(2N + 664 - B_{\bar{N}}(2N + 663)) + B_{\bar{N}}(2N + 664 - B_{\bar{N}}(2N + 662)) + B_{\bar{N}}(2N + 664 - B_{\bar{N}}(2N + 661)) \\
&= B_{\bar{N}}(2N + 664 - (N + 16)) + B_{\bar{N}}(2N + 664 - (3N + 99)) + B_{\bar{N}}(2N + 664 - (N + 20)) \\
&= B_{\bar{N}}(N + 648) + B_{\bar{N}}(-N + 565) + B_{\bar{N}}(N + 644) = (2N + 229) + 0 + 646 = \mathbf{2N} + \mathbf{875} \\
&(N \geq 565)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 665) &= B_{\bar{N}}(2N + 665 - B_{\bar{N}}(2N + 664)) + B_{\bar{N}}(2N + 665 - B_{\bar{N}}(2N + 663)) + B_{\bar{N}}(2N + 665 - B_{\bar{N}}(2N + 662)) \\
&= B_{\bar{N}}(2N + 665 - (2N + 875)) + B_{\bar{N}}(2N + 665 - (N + 16)) + B_{\bar{N}}(2N + 665 - (3N + 99)) \\
&= B_{\bar{N}}(-210) + B_{\bar{N}}(N + 649) + B_{\bar{N}}(-N + 566) = 0 + (2N + 85) + 0 = \mathbf{2N} + \mathbf{85} \\
&(N \geq 566)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 666) &= B_{\bar{N}}(2N + 666 - B_{\bar{N}}(2N + 665)) + B_{\bar{N}}(2N + 666 - B_{\bar{N}}(2N + 664)) + B_{\bar{N}}(2N + 666 - B_{\bar{N}}(2N + 663)) \\
&= B_{\bar{N}}(2N + 666 - (2N + 85)) + B_{\bar{N}}(2N + 666 - (2N + 875)) + B_{\bar{N}}(2N + 666 - (N + 16)) \\
&= B_{\bar{N}}(581) + B_{\bar{N}}(-209) + B_{\bar{N}}(N + 650) = 581 + 0 + (N - 2) = \mathbf{N} + \mathbf{579} \\
&(N \geq 581)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 667) &= B_{\bar{N}}(2N + 667 - B_{\bar{N}}(2N + 666)) + B_{\bar{N}}(2N + 667 - B_{\bar{N}}(2N + 665)) + B_{\bar{N}}(2N + 667 - B_{\bar{N}}(2N + 664)) \\
&= B_{\bar{N}}(2N + 667 - (N + 579)) + B_{\bar{N}}(2N + 667 - (2N + 85)) + B_{\bar{N}}(2N + 667 - (2N + 875)) \\
&= B_{\bar{N}}(N + 88) + B_{\bar{N}}(582) + B_{\bar{N}}(-208) = (2N + 69) + 582 + 0 = \mathbf{2N} + \mathbf{651} \\
&(N \geq 582)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 668) &= B_{\bar{N}}(2N + 668 - B_{\bar{N}}(2N + 667)) + B_{\bar{N}}(2N + 668 - B_{\bar{N}}(2N + 666)) + B_{\bar{N}}(2N + 668 - B_{\bar{N}}(2N + 665)) \\
&= B_{\bar{N}}(2N + 668 - (2N + 651)) + B_{\bar{N}}(2N + 668 - (N + 579)) + B_{\bar{N}}(2N + 668 - (2N + 85)) \\
&= B_{\bar{N}}(17) + B_{\bar{N}}(N + 89) + B_{\bar{N}}(583) = 17 + (2N + 5) + 583 = \mathbf{2N} + \mathbf{605} \\
&(N \geq 583)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 669) &= B_{\bar{N}}(2N + 669 - B_{\bar{N}}(2N + 668)) + B_{\bar{N}}(2N + 669 - B_{\bar{N}}(2N + 667)) + B_{\bar{N}}(2N + 669 - B_{\bar{N}}(2N + 666)) \\
&= B_{\bar{N}}(2N + 669 - (2N + 605)) + B_{\bar{N}}(2N + 669 - (2N + 651)) + B_{\bar{N}}(2N + 669 - (N + 579)) \\
&= B_{\bar{N}}(64) + B_{\bar{N}}(18) + B_{\bar{N}}(N + 90) = 64 + 18 + (N - 2) = \mathbf{N} + \mathbf{80} \\
&(N \geq 64)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 670) &= B_{\bar{N}}(2N + 670 - B_{\bar{N}}(2N + 669)) + B_{\bar{N}}(2N + 670 - B_{\bar{N}}(2N + 668)) + B_{\bar{N}}(2N + 670 - B_{\bar{N}}(2N + 667)) \\
&= B_{\bar{N}}(2N + 670 - (N + 80)) + B_{\bar{N}}(2N + 670 - (2N + 605)) + B_{\bar{N}}(2N + 670 - (2N + 651)) \\
&= B_{\bar{N}}(N + 590) + B_{\bar{N}}(65) + B_{\bar{N}}(19) = (N + 592) + 65 + 19 = \mathbf{N} + \mathbf{676} \\
&(N \geq 65)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 671) &= B_{\bar{N}}(2N + 671 - B_{\bar{N}}(2N + 670)) + B_{\bar{N}}(2N + 671 - B_{\bar{N}}(2N + 669)) + B_{\bar{N}}(2N + 671 - B_{\bar{N}}(2N + 668)) \\
&= B_{\bar{N}}(2N + 671 - (N + 676)) + B_{\bar{N}}(2N + 671 - (N + 80)) + B_{\bar{N}}(2N + 671 - (2N + 605)) \\
&= B_{\bar{N}}(N - 5) + B_{\bar{N}}(N + 591) + B_{\bar{N}}(66) = (N - 5) + 7 + 66 = \mathbf{N} + \mathbf{68} \\
&(N \geq 66)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 672) &= B_{\bar{N}}(2N + 672 - B_{\bar{N}}(2N + 671)) + B_{\bar{N}}(2N + 672 - B_{\bar{N}}(2N + 670)) + B_{\bar{N}}(2N + 672 - B_{\bar{N}}(2N + 669)) \\
&= B_{\bar{N}}(2N + 672 - (N + 68)) + B_{\bar{N}}(2N + 672 - (N + 676)) + B_{\bar{N}}(2N + 672 - (N + 80)) \\
&= B_{\bar{N}}(N + 604) + B_{\bar{N}}(N - 4) + B_{\bar{N}}(N + 592) = (N + 606) + (N - 4) + (2N + 213) = \mathbf{4N} + \mathbf{815} \\
&(N \geq 5)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 673) &= B_{\bar{N}}(2N + 673 - B_{\bar{N}}(2N + 672)) + B_{\bar{N}}(2N + 673 - B_{\bar{N}}(2N + 671)) + B_{\bar{N}}(2N + 673 - B_{\bar{N}}(2N + 670)) \\
&= B_{\bar{N}}(2N + 673 - (4N + 815)) + B_{\bar{N}}(2N + 673 - (N + 68)) + B_{\bar{N}}(2N + 673 - (N + 676)) \\
&= B_{\bar{N}}(-2N - 142) + B_{\bar{N}}(N + 605) + B_{\bar{N}}(N - 3) = 0 + 7 + (N - 3) = \mathbf{N} + \mathbf{4} \\
&(N \geq 4)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 674) &= B_{\bar{N}}(2N + 674 - B_{\bar{N}}(2N + 673)) + B_{\bar{N}}(2N + 674 - B_{\bar{N}}(2N + 672)) + B_{\bar{N}}(2N + 674 - B_{\bar{N}}(2N + 671)) \\
&= B_{\bar{N}}(2N + 674 - (N + 4)) + B_{\bar{N}}(2N + 674 - (4N + 815)) + B_{\bar{N}}(2N + 674 - (N + 68)) \\
&= B_{\bar{N}}(N + 670) + B_{\bar{N}}(-2N - 141) + B_{\bar{N}}(N + 606) = (2N + 88) + 0 + (2N + 217) = \mathbf{4N} + \mathbf{305} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 675) &= B_{\bar{N}}(2N + 675 - B_{\bar{N}}(2N + 674)) + B_{\bar{N}}(2N + 675 - B_{\bar{N}}(2N + 673)) + B_{\bar{N}}(2N + 675 - B_{\bar{N}}(2N + 672)) \\
&= B_{\bar{N}}(2N + 675 - (4N + 305)) + B_{\bar{N}}(2N + 675 - (N + 4)) + B_{\bar{N}}(2N + 675 - (4N + 815)) \\
&= B_{\bar{N}}(-2N + 370) + B_{\bar{N}}(N + 671) + B_{\bar{N}}(-2N - 140) = 0 + (N - 2) + 0 = \mathbf{N} - \mathbf{2} \\
&(N \geq 185)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 676) &= B_{\bar{N}}(2N + 676 - B_{\bar{N}}(2N + 675)) + B_{\bar{N}}(2N + 676 - B_{\bar{N}}(2N + 674)) + B_{\bar{N}}(2N + 676 - B_{\bar{N}}(2N + 673)) \\
&= B_{\bar{N}}(2N + 676 - (N - 2)) + B_{\bar{N}}(2N + 676 - (4N + 305)) + B_{\bar{N}}(2N + 676 - (N + 4)) \\
&= B_{\bar{N}}(N + 678) + B_{\bar{N}}(-2N + 371) + B_{\bar{N}}(N + 672) = (N - 2) + 0 + 674 = \mathbf{N} + 672 \\
&(N \geq 186)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 677) &= B_{\bar{N}}(2N + 677 - B_{\bar{N}}(2N + 676)) + B_{\bar{N}}(2N + 677 - B_{\bar{N}}(2N + 675)) + B_{\bar{N}}(2N + 677 - B_{\bar{N}}(2N + 674)) \\
&= B_{\bar{N}}(2N + 677 - (N + 672)) + B_{\bar{N}}(2N + 677 - (N - 2)) + B_{\bar{N}}(2N + 677 - (4N + 305)) \\
&= B_{\bar{N}}(N + 5) + B_{\bar{N}}(N + 679) + B_{\bar{N}}(-2N + 372) = 9 + 681 + 0 = \mathbf{690} \\
&(N \geq 186)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 678) &= B_{\bar{N}}(2N + 678 - B_{\bar{N}}(2N + 677)) + B_{\bar{N}}(2N + 678 - B_{\bar{N}}(2N + 676)) + B_{\bar{N}}(2N + 678 - B_{\bar{N}}(2N + 675)) \\
&= B_{\bar{N}}(2N + 678 - 690) + B_{\bar{N}}(2N + 678 - (N + 672)) + B_{\bar{N}}(2N + 678 - (N - 2)) \\
&= B_{\bar{N}}(2N - 12) + B_{\bar{N}}(N + 6) + B_{\bar{N}}(N + 680) = (N - 10) + (N + 4) + (N + 681) = \mathbf{3N} + 675 \\
&(N \geq 79)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 679) &= B_{\bar{N}}(2N + 679 - B_{\bar{N}}(2N + 678)) + B_{\bar{N}}(2N + 679 - B_{\bar{N}}(2N + 677)) + B_{\bar{N}}(2N + 679 - B_{\bar{N}}(2N + 676)) \\
&= B_{\bar{N}}(2N + 679 - (3N + 675)) + B_{\bar{N}}(2N + 679 - 690) + B_{\bar{N}}(2N + 679 - (N + 672)) \\
&= B_{\bar{N}}(-N + 4) + B_{\bar{N}}(2N - 11) + B_{\bar{N}}(N + 7) = 0 + (2N - 10) + (N + 5) = \mathbf{3N} - 5 \\
&(N \geq 78)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 680) &= B_{\bar{N}}(2N + 680 - B_{\bar{N}}(2N + 679)) + B_{\bar{N}}(2N + 680 - B_{\bar{N}}(2N + 678)) + B_{\bar{N}}(2N + 680 - B_{\bar{N}}(2N + 677)) \\
&= B_{\bar{N}}(2N + 680 - (3N - 5)) + B_{\bar{N}}(2N + 680 - (3N + 675)) + B_{\bar{N}}(2N + 680 - 690) \\
&= B_{\bar{N}}(-N + 685) + B_{\bar{N}}(-N + 5) + B_{\bar{N}}(2N - 10) = 0 + 0 + (2N - 8) = \mathbf{2N} - 8 \\
&(N \geq 685)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 681) &= B_{\bar{N}}(2N + 681 - B_{\bar{N}}(2N + 680)) + B_{\bar{N}}(2N + 681 - B_{\bar{N}}(2N + 679)) + B_{\bar{N}}(2N + 681 - B_{\bar{N}}(2N + 678)) \\
&= B_{\bar{N}}(2N + 681 - (2N - 8)) + B_{\bar{N}}(2N + 681 - (3N - 5)) + B_{\bar{N}}(2N + 681 - (3N + 675)) \\
&= B_{\bar{N}}(689) + B_{\bar{N}}(-N + 686) + B_{\bar{N}}(-N + 6) = 689 + 0 + 0 = \mathbf{689} \\
&(N \geq 689)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 682) &= B_{\bar{N}}(2N + 682 - B_{\bar{N}}(2N + 681)) + B_{\bar{N}}(2N + 682 - B_{\bar{N}}(2N + 680)) + B_{\bar{N}}(2N + 682 - B_{\bar{N}}(2N + 679)) \\
&= B_{\bar{N}}(2N + 682 - 689) + B_{\bar{N}}(2N + 682 - (2N - 8)) + B_{\bar{N}}(2N + 682 - (3N - 5)) \\
&= B_{\bar{N}}(2N - 7) + B_{\bar{N}}(690) + B_{\bar{N}}(-N + 687) = \left(\frac{15N}{7} - \frac{61}{7} \right) + 690 + 0 = \frac{15\mathbf{N}}{7} + \frac{4769}{7} \\
&(N \geq 690)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 683) &= B_{\bar{N}}(2N + 683 - B_{\bar{N}}(2N + 682)) + B_{\bar{N}}(2N + 683 - B_{\bar{N}}(2N + 681)) + B_{\bar{N}}(2N + 683 - B_{\bar{N}}(2N + 680)) \\
&= B_{\bar{N}}\left(2N + 683 - \left(\frac{15N}{7} + \frac{4769}{7}\right)\right) + B_{\bar{N}}(2N + 683 - 689) + B_{\bar{N}}(2N + 683 - (2N - 8)) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{12}{7}\right) + B_{\bar{N}}(2N - 6) + B_{\bar{N}}(691) = 0 + (N - 2) + 691 = \mathbf{N} + \mathbf{689} \\
&(N \geq 691)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 684) &= B_{\bar{N}}(2N + 684 - B_{\bar{N}}(2N + 683)) + B_{\bar{N}}(2N + 684 - B_{\bar{N}}(2N + 682)) + B_{\bar{N}}(2N + 684 - B_{\bar{N}}(2N + 681)) \\
&= B_{\bar{N}}(2N + 684 - (N + 689)) + B_{\bar{N}}\left(2N + 684 - \left(\frac{15N}{7} + \frac{4769}{7}\right)\right) + B_{\bar{N}}(2N + 684 - 689) \\
&= B_{\bar{N}}(N - 5) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{19}{7}\right) + B_{\bar{N}}(2N - 5) = (N - 5) + 0 + (N - 3) = \mathbf{2N} - \mathbf{8} \\
&(N \geq 72)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 685) &= B_{\bar{N}}(2N + 685 - B_{\bar{N}}(2N + 684)) + B_{\bar{N}}(2N + 685 - B_{\bar{N}}(2N + 683)) + B_{\bar{N}}(2N + 685 - B_{\bar{N}}(2N + 682)) \\
&= B_{\bar{N}}(2N + 685 - (2N - 8)) + B_{\bar{N}}(2N + 685 - (N + 689)) + B_{\bar{N}}\left(2N + 685 - \left(\frac{15N}{7} + \frac{4769}{7}\right)\right) \\
&= B_{\bar{N}}(693) + B_{\bar{N}}(N - 4) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{26}{7}\right) = 693 + (N - 4) + 0 = \mathbf{N} + 689 \\
&(N \geq 693)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 686) &= B_{\bar{N}}(2N + 686 - B_{\bar{N}}(2N + 685)) + B_{\bar{N}}(2N + 686 - B_{\bar{N}}(2N + 684)) + B_{\bar{N}}(2N + 686 - B_{\bar{N}}(2N + 683)) \\
&= B_{\bar{N}}(2N + 686 - (N + 689)) + B_{\bar{N}}(2N + 686 - (2N - 8)) + B_{\bar{N}}(2N + 686 - (N + 689)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(694) + B_{\bar{N}}(N - 3) = (N - 3) + 694 + (N - 3) = \mathbf{2N} + 688 \\
&(N \geq 694)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 687) &= B_{\bar{N}}(2N + 687 - B_{\bar{N}}(2N + 686)) + B_{\bar{N}}(2N + 687 - B_{\bar{N}}(2N + 685)) + B_{\bar{N}}(2N + 687 - B_{\bar{N}}(2N + 684)) \\
&= B_{\bar{N}}(2N + 687 - (2N + 688)) + B_{\bar{N}}(2N + 687 - (N + 689)) + B_{\bar{N}}(2N + 687 - (2N - 8)) \\
&= B_{\bar{N}}(-1) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(695) = 0 + (N - 2) + 695 = \mathbf{N} + 693 \\
&(N \geq 695)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 688) &= B_{\bar{N}}(2N + 688 - B_{\bar{N}}(2N + 687)) + B_{\bar{N}}(2N + 688 - B_{\bar{N}}(2N + 686)) + B_{\bar{N}}(2N + 688 - B_{\bar{N}}(2N + 685)) \\
&= B_{\bar{N}}(2N + 688 - (N + 693)) + B_{\bar{N}}(2N + 688 - (2N + 688)) + B_{\bar{N}}(2N + 688 - (N + 689)) \\
&= B_{\bar{N}}(N - 5) + B_{\bar{N}}(0) + B_{\bar{N}}(N - 1) = (N - 5) + 0 + (N - 1) = \mathbf{2N} - 6 \\
&(N \geq 6)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 689) &= B_{\bar{N}}(2N + 689 - B_{\bar{N}}(2N + 688)) + B_{\bar{N}}(2N + 689 - B_{\bar{N}}(2N + 687)) + B_{\bar{N}}(2N + 689 - B_{\bar{N}}(2N + 686)) \\
&= B_{\bar{N}}(2N + 689 - (2N - 6)) + B_{\bar{N}}(2N + 689 - (N + 693)) + B_{\bar{N}}(2N + 689 - (2N + 688)) \\
&= B_{\bar{N}}(695) + B_{\bar{N}}(N - 4) + B_{\bar{N}}(1) = 695 + (N - 4) + 1 = \mathbf{N} + 692 \\
&(N \geq 695)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 690) &= B_{\bar{N}}(2N + 690 - B_{\bar{N}}(2N + 689)) + B_{\bar{N}}(2N + 690 - B_{\bar{N}}(2N + 688)) + B_{\bar{N}}(2N + 690 - B_{\bar{N}}(2N + 687)) \\
&= B_{\bar{N}}(2N + 690 - (N + 692)) + B_{\bar{N}}(2N + 690 - (2N - 6)) + B_{\bar{N}}(2N + 690 - (N + 693)) \\
&= B_{\bar{N}}(N - 2) + B_{\bar{N}}(696) + B_{\bar{N}}(N - 3) = (N - 2) + 696 + (N - 3) = \mathbf{2N} + \mathbf{691} \\
&(N \geq 696)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 691) &= B_{\bar{N}}(2N + 691 - B_{\bar{N}}(2N + 690)) + B_{\bar{N}}(2N + 691 - B_{\bar{N}}(2N + 689)) + B_{\bar{N}}(2N + 691 - B_{\bar{N}}(2N + 688)) \\
&= B_{\bar{N}}(2N + 691 - (2N + 691)) + B_{\bar{N}}(2N + 691 - (N + 692)) + B_{\bar{N}}(2N + 691 - (2N - 6)) \\
&= B_{\bar{N}}(0) + B_{\bar{N}}(N - 1) + B_{\bar{N}}(697) = 0 + (N - 1) + 697 = \mathbf{N} + \mathbf{696} \\
&(N \geq 697)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 692) &= B_{\bar{N}}(2N + 692 - B_{\bar{N}}(2N + 691)) + B_{\bar{N}}(2N + 692 - B_{\bar{N}}(2N + 690)) + B_{\bar{N}}(2N + 692 - B_{\bar{N}}(2N + 689)) \\
&= B_{\bar{N}}(2N + 692 - (N + 696)) + B_{\bar{N}}(2N + 692 - (2N + 691)) + B_{\bar{N}}(2N + 692 - (N + 692)) \\
&= B_{\bar{N}}(N - 4) + B_{\bar{N}}(1) + B_{\bar{N}}(N) = (N - 4) + 1 + N = \mathbf{2N} - \mathbf{3} \\
&(N \geq 5)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 693) &= B_{\bar{N}}(2N + 693 - B_{\bar{N}}(2N + 692)) + B_{\bar{N}}(2N + 693 - B_{\bar{N}}(2N + 691)) + B_{\bar{N}}(2N + 693 - B_{\bar{N}}(2N + 690)) \\
&= B_{\bar{N}}(2N + 693 - (2N - 3)) + B_{\bar{N}}(2N + 693 - (N + 696)) + B_{\bar{N}}(2N + 693 - (2N + 691)) \\
&= B_{\bar{N}}(696) + B_{\bar{N}}(N - 3) + B_{\bar{N}}(2) = 696 + (N - 3) + 2 = \mathbf{N} + \mathbf{695} \\
&(N \geq 696)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 694) &= B_{\bar{N}}(2N + 694 - B_{\bar{N}}(2N + 693)) + B_{\bar{N}}(2N + 694 - B_{\bar{N}}(2N + 692)) + B_{\bar{N}}(2N + 694 - B_{\bar{N}}(2N + 691)) \\
&= B_{\bar{N}}(2N + 694 - (N + 695)) + B_{\bar{N}}(2N + 694 - (2N - 3)) + B_{\bar{N}}(2N + 694 - (N + 696)) \\
&= B_{\bar{N}}(N - 1) + B_{\bar{N}}(697) + B_{\bar{N}}(N - 2) = (N - 1) + 697 + (N - 2) = \mathbf{2N} + \mathbf{694} \\
&(N \geq 697)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 695) &= B_{\bar{N}}(2N + 695 - B_{\bar{N}}(2N + 694)) + B_{\bar{N}}(2N + 695 - B_{\bar{N}}(2N + 693)) + B_{\bar{N}}(2N + 695 - B_{\bar{N}}(2N + 692)) \\
&= B_{\bar{N}}(2N + 695 - (2N + 694)) + B_{\bar{N}}(2N + 695 - (N + 695)) + B_{\bar{N}}(2N + 695 - (2N - 3)) \\
&= B_{\bar{N}}(1) + B_{\bar{N}}(N) + B_{\bar{N}}(698) = 1 + N + 698 = \mathbf{N} + 699 \\
&(N \geq 698)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 696) &= B_{\bar{N}}(2N + 696 - B_{\bar{N}}(2N + 695)) + B_{\bar{N}}(2N + 696 - B_{\bar{N}}(2N + 694)) + B_{\bar{N}}(2N + 696 - B_{\bar{N}}(2N + 693)) \\
&= B_{\bar{N}}(2N + 696 - (N + 699)) + B_{\bar{N}}(2N + 696 - (2N + 694)) + B_{\bar{N}}(2N + 696 - (N + 695)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(2) + B_{\bar{N}}(N + 1) = (N - 3) + 2 + 6 = \mathbf{N} + 5 \\
&(N \geq 4)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 697) &= B_{\bar{N}}(2N + 697 - B_{\bar{N}}(2N + 696)) + B_{\bar{N}}(2N + 697 - B_{\bar{N}}(2N + 695)) + B_{\bar{N}}(2N + 697 - B_{\bar{N}}(2N + 694)) \\
&= B_{\bar{N}}(2N + 697 - (N + 5)) + B_{\bar{N}}(2N + 697 - (N + 699)) + B_{\bar{N}}(2N + 697 - (2N + 694)) \\
&= B_{\bar{N}}(N + 692) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(3) = (N - 2) + (N - 2) + 3 = 2\mathbf{N} - 1 \\
&(N \geq 3)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 698) &= B_{\bar{N}}(2N + 698 - B_{\bar{N}}(2N + 697)) + B_{\bar{N}}(2N + 698 - B_{\bar{N}}(2N + 696)) + B_{\bar{N}}(2N + 698 - B_{\bar{N}}(2N + 695)) \\
&= B_{\bar{N}}(2N + 698 - (2N - 1)) + B_{\bar{N}}(2N + 698 - (N + 5)) + B_{\bar{N}}(2N + 698 - (N + 699)) \\
&= B_{\bar{N}}(699) + B_{\bar{N}}(N + 693) + B_{\bar{N}}(N - 1) = 699 + 695 + (N - 1) = \mathbf{N} + 1393 \\
&(N \geq 699)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 699) &= B_{\bar{N}}(2N + 699 - B_{\bar{N}}(2N + 698)) + B_{\bar{N}}(2N + 699 - B_{\bar{N}}(2N + 697)) + B_{\bar{N}}(2N + 699 - B_{\bar{N}}(2N + 696)) \\
&= B_{\bar{N}}(2N + 699 - (N + 1393)) + B_{\bar{N}}(2N + 699 - (2N - 1)) + B_{\bar{N}}(2N + 699 - (N + 5)) \\
&= B_{\bar{N}}(N - 694) + B_{\bar{N}}(700) + B_{\bar{N}}(N + 694) = (N - 694) + 700 + (N + 695) = 2\mathbf{N} + 701 \\
&(N \geq 700)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{700}) &= B_{\bar{N}}(2N + 700 - B_{\bar{N}}(2N + 699)) + B_{\bar{N}}(2N + 700 - B_{\bar{N}}(2N + 698)) + B_{\bar{N}}(2N + 700 - B_{\bar{N}}(2N + 697)) \\
&= B_{\bar{N}}(2N + 700 - (2N + 701)) + B_{\bar{N}}(2N + 700 - (N + 1393)) + B_{\bar{N}}(2N + 700 - (2N - 1)) \\
&= B_{\bar{N}}(-1) + B_{\bar{N}}(N - 693) + B_{\bar{N}}(701) = 0 + (N - 693) + 701 = \mathbf{N} + \mathbf{8} \\
&(N \geq 701)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{701}) &= B_{\bar{N}}(2N + 701 - B_{\bar{N}}(2N + 700)) + B_{\bar{N}}(2N + 701 - B_{\bar{N}}(2N + 699)) + B_{\bar{N}}(2N + 701 - B_{\bar{N}}(2N + 698)) \\
&= B_{\bar{N}}(2N + 701 - (N + 8)) + B_{\bar{N}}(2N + 701 - (2N + 701)) + B_{\bar{N}}(2N + 701 - (N + 1393)) \\
&= B_{\bar{N}}(N + 693) + B_{\bar{N}}(0) + B_{\bar{N}}(N - 692) = 695 + 0 + (N - 692) = \mathbf{N} + \mathbf{3} \\
&(N \geq 693)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{702}) &= B_{\bar{N}}(2N + 702 - B_{\bar{N}}(2N + 701)) + B_{\bar{N}}(2N + 702 - B_{\bar{N}}(2N + 700)) + B_{\bar{N}}(2N + 702 - B_{\bar{N}}(2N + 699)) \\
&= B_{\bar{N}}(2N + 702 - (N + 3)) + B_{\bar{N}}(2N + 702 - (N + 8)) + B_{\bar{N}}(2N + 702 - (2N + 701)) \\
&= B_{\bar{N}}(N + 699) + B_{\bar{N}}(N + 694) + B_{\bar{N}}(1) = (N - 2) + (N + 695) + 1 = \mathbf{2N} + \mathbf{694} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{703}) &= B_{\bar{N}}(2N + 703 - B_{\bar{N}}(2N + 702)) + B_{\bar{N}}(2N + 703 - B_{\bar{N}}(2N + 701)) + B_{\bar{N}}(2N + 703 - B_{\bar{N}}(2N + 700)) \\
&= B_{\bar{N}}(2N + 703 - (2N + 694)) + B_{\bar{N}}(2N + 703 - (N + 3)) + B_{\bar{N}}(2N + 703 - (N + 8)) \\
&= B_{\bar{N}}(9) + B_{\bar{N}}(N + 700) + B_{\bar{N}}(N + 695) = 9 + 702 + (N + 697) = \mathbf{N} + \mathbf{1408} \\
&(N \geq 9)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{704}) &= B_{\bar{N}}(2N + 704 - B_{\bar{N}}(2N + 703)) + B_{\bar{N}}(2N + 704 - B_{\bar{N}}(2N + 702)) + B_{\bar{N}}(2N + 704 - B_{\bar{N}}(2N + 701)) \\
&= B_{\bar{N}}(2N + 704 - (N + 1408)) + B_{\bar{N}}(2N + 704 - (2N + 694)) + B_{\bar{N}}(2N + 704 - (N + 3)) \\
&= B_{\bar{N}}(N - 704) + B_{\bar{N}}(10) + B_{\bar{N}}(N + 701) = (N - 704) + 10 + (N + 702) = \mathbf{2N} + \mathbf{8} \\
&(N \geq 705)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 705) &= B_{\bar{N}}(2N + 705 - B_{\bar{N}}(2N + 704)) + B_{\bar{N}}(2N + 705 - B_{\bar{N}}(2N + 703)) + B_{\bar{N}}(2N + 705 - B_{\bar{N}}(2N + 702)) \\
&= B_{\bar{N}}(2N + 705 - (2N + 8)) + B_{\bar{N}}(2N + 705 - (N + 1408)) + B_{\bar{N}}(2N + 705 - (2N + 694)) \\
&= B_{\bar{N}}(697) + B_{\bar{N}}(N - 703) + B_{\bar{N}}(11) = 697 + (N - 703) + 11 = \mathbf{N} + 5 \\
&(N \geq 704)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 706) &= B_{\bar{N}}(2N + 706 - B_{\bar{N}}(2N + 705)) + B_{\bar{N}}(2N + 706 - B_{\bar{N}}(2N + 704)) + B_{\bar{N}}(2N + 706 - B_{\bar{N}}(2N + 703)) \\
&= B_{\bar{N}}(2N + 706 - (N + 5)) + B_{\bar{N}}(2N + 706 - (2N + 8)) + B_{\bar{N}}(2N + 706 - (N + 1408)) \\
&= B_{\bar{N}}(N + 701) + B_{\bar{N}}(698) + B_{\bar{N}}(N - 702) = (N + 702) + 698 + (N - 702) = 2\mathbf{N} + 698 \\
&(N \geq 703)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 707) &= B_{\bar{N}}(2N + 707 - B_{\bar{N}}(2N + 706)) + B_{\bar{N}}(2N + 707 - B_{\bar{N}}(2N + 705)) + B_{\bar{N}}(2N + 707 - B_{\bar{N}}(2N + 704)) \\
&= B_{\bar{N}}(2N + 707 - (2N + 698)) + B_{\bar{N}}(2N + 707 - (N + 5)) + B_{\bar{N}}(2N + 707 - (2N + 8)) \\
&= B_{\bar{N}}(9) + B_{\bar{N}}(N + 702) + B_{\bar{N}}(699) = 9 + (N + 704) + 699 = \mathbf{N} + 1412 \\
&(N \geq 699)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 708) &= B_{\bar{N}}(2N + 708 - B_{\bar{N}}(2N + 707)) + B_{\bar{N}}(2N + 708 - B_{\bar{N}}(2N + 706)) + B_{\bar{N}}(2N + 708 - B_{\bar{N}}(2N + 705)) \\
&= B_{\bar{N}}(2N + 708 - (N + 1412)) + B_{\bar{N}}(2N + 708 - (2N + 698)) + B_{\bar{N}}(2N + 708 - (N + 5)) \\
&= B_{\bar{N}}(N - 704) + B_{\bar{N}}(10) + B_{\bar{N}}(N + 703) = (N - 704) + 10 + 7 = \mathbf{N} - 687 \\
&(N \geq 705)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 709) &= B_{\bar{N}}(2N + 709 - B_{\bar{N}}(2N + 708)) + B_{\bar{N}}(2N + 709 - B_{\bar{N}}(2N + 707)) + B_{\bar{N}}(2N + 709 - B_{\bar{N}}(2N + 706)) \\
&= B_{\bar{N}}(2N + 709 - (N - 687)) + B_{\bar{N}}(2N + 709 - (N + 1412)) + B_{\bar{N}}(2N + 709 - (2N + 698)) \\
&= B_{\bar{N}}(N + 1396) + B_{\bar{N}}(N - 703) + B_{\bar{N}}(11) = 7 + (N - 703) + 11 = \mathbf{N} - 685 \\
&(N \geq 704)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{710}) &= B_{\bar{N}}(2N + 710 - B_{\bar{N}}(2N + 709)) + B_{\bar{N}}(2N + 710 - B_{\bar{N}}(2N + 708)) + B_{\bar{N}}(2N + 710 - B_{\bar{N}}(2N + 707)) \\
&= B_{\bar{N}}(2N + 710 - (N - 685)) + B_{\bar{N}}(2N + 710 - (N - 687)) + B_{\bar{N}}(2N + 710 - (N + 1412)) \\
&= B_{\bar{N}}(N + 1395) + B_{\bar{N}}(N + 1397) + B_{\bar{N}}(N - 702) = (N + 1397) + (2N + 443) + (N - 702) = \mathbf{4N} + \mathbf{1138} \\
&(N \geq 703)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{711}) &= B_{\bar{N}}(2N + 711 - B_{\bar{N}}(2N + 710)) + B_{\bar{N}}(2N + 711 - B_{\bar{N}}(2N + 709)) + B_{\bar{N}}(2N + 711 - B_{\bar{N}}(2N + 708)) \\
&= B_{\bar{N}}(2N + 711 - (4N + 1138)) + B_{\bar{N}}(2N + 711 - (N - 685)) + B_{\bar{N}}(2N + 711 - (N - 687)) \\
&= B_{\bar{N}}(-2N - 427) + B_{\bar{N}}(N + 1396) + B_{\bar{N}}(N + 1398) = 0 + 7 + (2N + 192) = \mathbf{2N} + \mathbf{199} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{712}) &= B_{\bar{N}}(2N + 712 - B_{\bar{N}}(2N + 711)) + B_{\bar{N}}(2N + 712 - B_{\bar{N}}(2N + 710)) + B_{\bar{N}}(2N + 712 - B_{\bar{N}}(2N + 709)) \\
&= B_{\bar{N}}(2N + 712 - (2N + 199)) + B_{\bar{N}}(2N + 712 - (4N + 1138)) + B_{\bar{N}}(2N + 712 - (N - 685)) \\
&= B_{\bar{N}}(513) + B_{\bar{N}}(-2N - 426) + B_{\bar{N}}(N + 1397) = 513 + 0 + (2N + 443) = \mathbf{2N} + \mathbf{956} \\
&(N \geq 513)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{713}) &= B_{\bar{N}}(2N + 713 - B_{\bar{N}}(2N + 712)) + B_{\bar{N}}(2N + 713 - B_{\bar{N}}(2N + 711)) + B_{\bar{N}}(2N + 713 - B_{\bar{N}}(2N + 710)) \\
&= B_{\bar{N}}(2N + 713 - (2N + 956)) + B_{\bar{N}}(2N + 713 - (2N + 199)) + B_{\bar{N}}(2N + 713 - (4N + 1138)) \\
&= B_{\bar{N}}(-243) + B_{\bar{N}}(514) + B_{\bar{N}}(-2N - 425) = 0 + 514 + 0 = \mathbf{514} \\
&(N \geq 514)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{714}) &= B_{\bar{N}}(2N + 714 - B_{\bar{N}}(2N + 713)) + B_{\bar{N}}(2N + 714 - B_{\bar{N}}(2N + 712)) + B_{\bar{N}}(2N + 714 - B_{\bar{N}}(2N + 711)) \\
&= B_{\bar{N}}(2N + 714 - 514) + B_{\bar{N}}(2N + 714 - (2N + 956)) + B_{\bar{N}}(2N + 714 - (2N + 199)) \\
&= B_{\bar{N}}(2N + 200) + B_{\bar{N}}(-242) + B_{\bar{N}}(515) = (N + 291) + 0 + 515 = \mathbf{N} + \mathbf{806} \\
&(N \geq 515)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 715) &= B_{\bar{N}}(2N + 715 - B_{\bar{N}}(2N + 714)) + B_{\bar{N}}(2N + 715 - B_{\bar{N}}(2N + 713)) + B_{\bar{N}}(2N + 715 - B_{\bar{N}}(2N + 712)) \\
&= B_{\bar{N}}(2N + 715 - (N + 806)) + B_{\bar{N}}(2N + 715 - 514) + B_{\bar{N}}(2N + 715 - (2N + 956)) \\
&= B_{\bar{N}}(N - 91) + B_{\bar{N}}(2N + 201) + B_{\bar{N}}(-241) = (N - 91) + (2N - 156) + 0 = \mathbf{3N} - \mathbf{247} \\
&(N \geq 92)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 716) &= B_{\bar{N}}(2N + 716 - B_{\bar{N}}(2N + 715)) + B_{\bar{N}}(2N + 716 - B_{\bar{N}}(2N + 714)) + B_{\bar{N}}(2N + 716 - B_{\bar{N}}(2N + 713)) \\
&= B_{\bar{N}}(2N + 716 - (3N - 247)) + B_{\bar{N}}(2N + 716 - (N + 806)) + B_{\bar{N}}(2N + 716 - 514) \\
&= B_{\bar{N}}(-N + 963) + B_{\bar{N}}(N - 90) + B_{\bar{N}}(2N + 202) = 0 + (N - 90) + (N + 290) = \mathbf{2N} + \mathbf{200} \\
&(N \geq 963)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 717) &= B_{\bar{N}}(2N + 717 - B_{\bar{N}}(2N + 716)) + B_{\bar{N}}(2N + 717 - B_{\bar{N}}(2N + 715)) + B_{\bar{N}}(2N + 717 - B_{\bar{N}}(2N + 714)) \\
&= B_{\bar{N}}(2N + 717 - (2N + 200)) + B_{\bar{N}}(2N + 717 - (3N - 247)) + B_{\bar{N}}(2N + 717 - (N + 806)) \\
&= B_{\bar{N}}(517) + B_{\bar{N}}(-N + 964) + B_{\bar{N}}(N - 89) = 517 + 0 + (N - 89) = \mathbf{N} + \mathbf{428} \\
&(N \geq 964)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 718) &= B_{\bar{N}}(2N + 718 - B_{\bar{N}}(2N + 717)) + B_{\bar{N}}(2N + 718 - B_{\bar{N}}(2N + 716)) + B_{\bar{N}}(2N + 718 - B_{\bar{N}}(2N + 715)) \\
&= B_{\bar{N}}(2N + 718 - (N + 428)) + B_{\bar{N}}(2N + 718 - (2N + 200)) + B_{\bar{N}}(2N + 718 - (3N - 247)) \\
&= B_{\bar{N}}(N + 290) + B_{\bar{N}}(518) + B_{\bar{N}}(-N + 965) = 7 + 518 + 0 = \mathbf{525} \\
&(N \geq 965)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 719) &= B_{\bar{N}}(2N + 719 - B_{\bar{N}}(2N + 718)) + B_{\bar{N}}(2N + 719 - B_{\bar{N}}(2N + 717)) + B_{\bar{N}}(2N + 719 - B_{\bar{N}}(2N + 716)) \\
&= B_{\bar{N}}(2N + 719 - 525) + B_{\bar{N}}(2N + 719 - (N + 428)) + B_{\bar{N}}(2N + 719 - (2N + 200)) \\
&= B_{\bar{N}}(2N + 194) + B_{\bar{N}}(N + 291) + B_{\bar{N}}(519) = (N + 284) + (2N + 127) + 519 = \mathbf{3N} + \mathbf{930} \\
&(N \geq 519)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{720}) &= B_{\bar{N}}(2N + 720 - B_{\bar{N}}(2N + 719)) + B_{\bar{N}}(2N + 720 - B_{\bar{N}}(2N + 718)) + B_{\bar{N}}(2N + 720 - B_{\bar{N}}(2N + 717)) \\
&= B_{\bar{N}}(2N + 720 - (3N + 930)) + B_{\bar{N}}(2N + 720 - 525) + B_{\bar{N}}(2N + 720 - (N + 428)) \\
&= B_{\bar{N}}(-N - 210) + B_{\bar{N}}(2N + 195) + B_{\bar{N}}(N + 292) = 0 + (2N + 178) + (2N + 34) = \mathbf{4N} + \mathbf{212} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{721}) &= B_{\bar{N}}(2N + 721 - B_{\bar{N}}(2N + 720)) + B_{\bar{N}}(2N + 721 - B_{\bar{N}}(2N + 719)) + B_{\bar{N}}(2N + 721 - B_{\bar{N}}(2N + 718)) \\
&= B_{\bar{N}}(2N + 721 - (4N + 212)) + B_{\bar{N}}(2N + 721 - (3N + 930)) + B_{\bar{N}}(2N + 721 - 525) \\
&= B_{\bar{N}}(-2N + 509) + B_{\bar{N}}(-N - 209) + B_{\bar{N}}(2N + 196) = 0 + 0 + (N + 288) = \mathbf{N} + \mathbf{288} \\
&(N \geq 255)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{722}) &= B_{\bar{N}}(2N + 722 - B_{\bar{N}}(2N + 721)) + B_{\bar{N}}(2N + 722 - B_{\bar{N}}(2N + 720)) + B_{\bar{N}}(2N + 722 - B_{\bar{N}}(2N + 719)) \\
&= B_{\bar{N}}(2N + 722 - (N + 288)) + B_{\bar{N}}(2N + 722 - (4N + 212)) + B_{\bar{N}}(2N + 722 - (3N + 930)) \\
&= B_{\bar{N}}(N + 434) + B_{\bar{N}}(-2N + 510) + B_{\bar{N}}(-N - 208) = 436 + 0 + 0 = \mathbf{436} \\
&(N \geq 255)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{723}) &= B_{\bar{N}}(2N + 723 - B_{\bar{N}}(2N + 722)) + B_{\bar{N}}(2N + 723 - B_{\bar{N}}(2N + 721)) + B_{\bar{N}}(2N + 723 - B_{\bar{N}}(2N + 720)) \\
&= B_{\bar{N}}(2N + 723 - 436) + B_{\bar{N}}(2N + 723 - (N + 288)) + B_{\bar{N}}(2N + 723 - (4N + 212)) \\
&= B_{\bar{N}}(2N + 287) + B_{\bar{N}}(N + 435) + B_{\bar{N}}(-2N + 511) = (2N + 247) + (N + 436) + 0 = \mathbf{3N} + \mathbf{683} \\
&(N \geq 256)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{724}) &= B_{\bar{N}}(2N + 724 - B_{\bar{N}}(2N + 723)) + B_{\bar{N}}(2N + 724 - B_{\bar{N}}(2N + 722)) + B_{\bar{N}}(2N + 724 - B_{\bar{N}}(2N + 721)) \\
&= B_{\bar{N}}(2N + 724 - (3N + 683)) + B_{\bar{N}}(2N + 724 - 436) + B_{\bar{N}}(2N + 724 - (N + 288)) \\
&= B_{\bar{N}}(-N + 41) + B_{\bar{N}}(2N + 288) + B_{\bar{N}}(N + 436) = 0 + (N + 357) + (N + 438) = \mathbf{2N} + \mathbf{795} \\
&(N \geq 41)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{725}) &= B_{\bar{N}}(2N + 725 - B_{\bar{N}}(2N + 724)) + B_{\bar{N}}(2N + 725 - B_{\bar{N}}(2N + 723)) + B_{\bar{N}}(2N + 725 - B_{\bar{N}}(2N + 722)) \\
&= B_{\bar{N}}(2N + 725 - (2N + 795)) + B_{\bar{N}}(2N + 725 - (3N + 683)) + B_{\bar{N}}(2N + 725 - 436) \\
&= B_{\bar{N}}(-70) + B_{\bar{N}}(-N + 42) + B_{\bar{N}}(2N + 289) = 0 + 0 + (2N - 90) = \mathbf{2N - 90} \\
&(N \geq 42)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{726}) &= B_{\bar{N}}(2N + 726 - B_{\bar{N}}(2N + 725)) + B_{\bar{N}}(2N + 726 - B_{\bar{N}}(2N + 724)) + B_{\bar{N}}(2N + 726 - B_{\bar{N}}(2N + 723)) \\
&= B_{\bar{N}}(2N + 726 - (2N - 90)) + B_{\bar{N}}(2N + 726 - (2N + 795)) + B_{\bar{N}}(2N + 726 - (3N + 683)) \\
&= B_{\bar{N}}(816) + B_{\bar{N}}(-69) + B_{\bar{N}}(-N + 43) = 816 + 0 + 0 = \mathbf{816} \\
&(N \geq 816)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{727}) &= B_{\bar{N}}(2N + 727 - B_{\bar{N}}(2N + 726)) + B_{\bar{N}}(2N + 727 - B_{\bar{N}}(2N + 725)) + B_{\bar{N}}(2N + 727 - B_{\bar{N}}(2N + 724)) \\
&= B_{\bar{N}}(2N + 727 - 816) + B_{\bar{N}}(2N + 727 - (2N - 90)) + B_{\bar{N}}(2N + 727 - (2N + 795)) \\
&= B_{\bar{N}}(2N - 89) + B_{\bar{N}}(817) + B_{\bar{N}}(-68) = (N - 87) + 817 + 0 = \mathbf{N + 730} \\
&(N \geq 817)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{728}) &= B_{\bar{N}}(2N + 728 - B_{\bar{N}}(2N + 727)) + B_{\bar{N}}(2N + 728 - B_{\bar{N}}(2N + 726)) + B_{\bar{N}}(2N + 728 - B_{\bar{N}}(2N + 725)) \\
&= B_{\bar{N}}(2N + 728 - (N + 730)) + B_{\bar{N}}(2N + 728 - 816) + B_{\bar{N}}(2N + 728 - (2N - 90)) \\
&= B_{\bar{N}}(N - 2) + B_{\bar{N}}(2N - 88) + B_{\bar{N}}(818) = (N - 2) + (2N - 87) + 818 = \mathbf{3N + 729} \\
&(N \geq 818)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{729}) &= B_{\bar{N}}(2N + 729 - B_{\bar{N}}(2N + 728)) + B_{\bar{N}}(2N + 729 - B_{\bar{N}}(2N + 727)) + B_{\bar{N}}(2N + 729 - B_{\bar{N}}(2N + 726)) \\
&= B_{\bar{N}}(2N + 729 - (3N + 729)) + B_{\bar{N}}(2N + 729 - (N + 730)) + B_{\bar{N}}(2N + 729 - 816) \\
&= B_{\bar{N}}(-N) + B_{\bar{N}}(N - 1) + B_{\bar{N}}(2N - 87) = 0 + (N - 1) + (2N - 85) = \mathbf{3N - 86} \\
&(N \geq 154)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{730}) &= B_{\bar{N}}(2N + 730 - B_{\bar{N}}(2N + 729)) + B_{\bar{N}}(2N + 730 - B_{\bar{N}}(2N + 728)) + B_{\bar{N}}(2N + 730 - B_{\bar{N}}(2N + 727)) \\
&= B_{\bar{N}}(2N + 730 - (3N - 86)) + B_{\bar{N}}(2N + 730 - (3N + 729)) + B_{\bar{N}}(2N + 730 - (N + 730)) \\
&= B_{\bar{N}}(-N + 816) + B_{\bar{N}}(-N + 1) + B_{\bar{N}}(N) = 0 + 0 + N = \mathbf{N} \\
&(N \geq 816)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{731}) &= B_{\bar{N}}(2N + 731 - B_{\bar{N}}(2N + 730)) + B_{\bar{N}}(2N + 731 - B_{\bar{N}}(2N + 729)) + B_{\bar{N}}(2N + 731 - B_{\bar{N}}(2N + 728)) \\
&= B_{\bar{N}}(2N + 731 - N) + B_{\bar{N}}(2N + 731 - (3N - 86)) + B_{\bar{N}}(2N + 731 - (3N + 729)) \\
&= B_{\bar{N}}(N + 731) + B_{\bar{N}}(-N + 817) + B_{\bar{N}}(-N + 2) = 7 + 0 + 0 = \mathbf{7} \\
&(N \geq 817)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{732}) &= B_{\bar{N}}(2N + 732 - B_{\bar{N}}(2N + 731)) + B_{\bar{N}}(2N + 732 - B_{\bar{N}}(2N + 730)) + B_{\bar{N}}(2N + 732 - B_{\bar{N}}(2N + 729)) \\
&= B_{\bar{N}}(2N + 732 - 7) + B_{\bar{N}}(2N + 732 - N) + B_{\bar{N}}(2N + 732 - (3N - 86)) \\
&= B_{\bar{N}}(2N + 725) + B_{\bar{N}}(N + 732) + B_{\bar{N}}(-N + 818) = (2N - 90) + (2N + 253) + 0 = \mathbf{4N} + \mathbf{163} \\
&(N \geq 818)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{733}) &= B_{\bar{N}}(2N + 733 - B_{\bar{N}}(2N + 732)) + B_{\bar{N}}(2N + 733 - B_{\bar{N}}(2N + 731)) + B_{\bar{N}}(2N + 733 - B_{\bar{N}}(2N + 730)) \\
&= B_{\bar{N}}(2N + 733 - (4N + 163)) + B_{\bar{N}}(2N + 733 - 7) + B_{\bar{N}}(2N + 733 - N) \\
&= B_{\bar{N}}(-2N + 570) + B_{\bar{N}}(2N + 726) + B_{\bar{N}}(N + 733) = 0 + 816 + (2N + 97) = \mathbf{2N} + \mathbf{913} \\
&(N \geq 285)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{734}) &= B_{\bar{N}}(2N + 734 - B_{\bar{N}}(2N + 733)) + B_{\bar{N}}(2N + 734 - B_{\bar{N}}(2N + 732)) + B_{\bar{N}}(2N + 734 - B_{\bar{N}}(2N + 731)) \\
&= B_{\bar{N}}(2N + 734 - (2N + 913)) + B_{\bar{N}}(2N + 734 - (4N + 163)) + B_{\bar{N}}(2N + 734 - 7) \\
&= B_{\bar{N}}(-179) + B_{\bar{N}}(-2N + 571) + B_{\bar{N}}(2N + 727) = 0 + 0 + (N + 730) = \mathbf{N} + \mathbf{730} \\
&(N \geq 286)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{735}) &= B_{\bar{N}}(2N + 735 - B_{\bar{N}}(2N + 734)) + B_{\bar{N}}(2N + 735 - B_{\bar{N}}(2N + 733)) + B_{\bar{N}}(2N + 735 - B_{\bar{N}}(2N + 732)) \\
&= B_{\bar{N}}(2N + 735 - (N + 730)) + B_{\bar{N}}(2N + 735 - (2N + 913)) + B_{\bar{N}}(2N + 735 - (4N + 163)) \\
&= B_{\bar{N}}(N + 5) + B_{\bar{N}}(-178) + B_{\bar{N}}(-2N + 572) = 9 + 0 + 0 = \mathbf{9} \\
&(N \geq 286)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{736}) &= B_{\bar{N}}(2N + 736 - B_{\bar{N}}(2N + 735)) + B_{\bar{N}}(2N + 736 - B_{\bar{N}}(2N + 734)) + B_{\bar{N}}(2N + 736 - B_{\bar{N}}(2N + 733)) \\
&= B_{\bar{N}}(2N + 736 - 9) + B_{\bar{N}}(2N + 736 - (N + 730)) + B_{\bar{N}}(2N + 736 - (2N + 913)) \\
&= B_{\bar{N}}(2N + 727) + B_{\bar{N}}(N + 6) + B_{\bar{N}}(-177) = (N + 730) + (N + 4) + 0 = \mathbf{2N} + \mathbf{734} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{737}) &= B_{\bar{N}}(2N + 737 - B_{\bar{N}}(2N + 736)) + B_{\bar{N}}(2N + 737 - B_{\bar{N}}(2N + 735)) + B_{\bar{N}}(2N + 737 - B_{\bar{N}}(2N + 734)) \\
&= B_{\bar{N}}(2N + 737 - (2N + 734)) + B_{\bar{N}}(2N + 737 - 9) + B_{\bar{N}}(2N + 737 - (N + 730)) \\
&= B_{\bar{N}}(3) + B_{\bar{N}}(2N + 728) + B_{\bar{N}}(N + 7) = 3 + (3N + 729) + (N + 5) = \mathbf{4N} + \mathbf{737} \\
&(N \geq 3)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{738}) &= B_{\bar{N}}(2N + 738 - B_{\bar{N}}(2N + 737)) + B_{\bar{N}}(2N + 738 - B_{\bar{N}}(2N + 736)) + B_{\bar{N}}(2N + 738 - B_{\bar{N}}(2N + 735)) \\
&= B_{\bar{N}}(2N + 738 - (4N + 737)) + B_{\bar{N}}(2N + 738 - (2N + 734)) + B_{\bar{N}}(2N + 738 - 9) \\
&= B_{\bar{N}}(-2N + 1) + B_{\bar{N}}(4) + B_{\bar{N}}(2N + 729) = 0 + 4 + (3N - 86) = \mathbf{3N} - \mathbf{82} \\
&(N \geq 4)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{739}) &= B_{\bar{N}}(2N + 739 - B_{\bar{N}}(2N + 738)) + B_{\bar{N}}(2N + 739 - B_{\bar{N}}(2N + 737)) + B_{\bar{N}}(2N + 739 - B_{\bar{N}}(2N + 736)) \\
&= B_{\bar{N}}(2N + 739 - (3N - 82)) + B_{\bar{N}}(2N + 739 - (4N + 737)) + B_{\bar{N}}(2N + 739 - (2N + 734)) \\
&= B_{\bar{N}}(-N + 821) + B_{\bar{N}}(-2N + 2) + B_{\bar{N}}(5) = 0 + 0 + 5 = \mathbf{5} \\
&(N \geq 821)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 740) &= B_{\bar{N}}(2N + 740 - B_{\bar{N}}(2N + 739)) + B_{\bar{N}}(2N + 740 - B_{\bar{N}}(2N + 738)) + B_{\bar{N}}(2N + 740 - B_{\bar{N}}(2N + 737)) \\
&= B_{\bar{N}}(2N + 740 - 5) + B_{\bar{N}}(2N + 740 - (3N - 82)) + B_{\bar{N}}(2N + 740 - (4N + 737)) \\
&= B_{\bar{N}}(2N + 735) + B_{\bar{N}}(-N + 822) + B_{\bar{N}}(-2N + 3) = 9 + 0 + 0 = \mathbf{9} \\
&(N \geq 822)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 741) &= B_{\bar{N}}(2N + 741 - B_{\bar{N}}(2N + 740)) + B_{\bar{N}}(2N + 741 - B_{\bar{N}}(2N + 739)) + B_{\bar{N}}(2N + 741 - B_{\bar{N}}(2N + 738)) \\
&= B_{\bar{N}}(2N + 741 - 9) + B_{\bar{N}}(2N + 741 - 5) + B_{\bar{N}}(2N + 741 - (3N - 82)) \\
&= B_{\bar{N}}(2N + 732) + B_{\bar{N}}(2N + 736) + B_{\bar{N}}(-N + 823) = (4N + 163) + (2N + 734) + 0 = \mathbf{6N} + \mathbf{897} \\
&(N \geq 823)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 742) &= B_{\bar{N}}(2N + 742 - B_{\bar{N}}(2N + 741)) + B_{\bar{N}}(2N + 742 - B_{\bar{N}}(2N + 740)) + B_{\bar{N}}(2N + 742 - B_{\bar{N}}(2N + 739)) \\
&= B_{\bar{N}}(2N + 742 - (6N + 897)) + B_{\bar{N}}(2N + 742 - 9) + B_{\bar{N}}(2N + 742 - 5) \\
&= B_{\bar{N}}(-4N - 155) + B_{\bar{N}}(2N + 733) + B_{\bar{N}}(2N + 737) = 0 + (2N + 913) + (4N + 737) = \mathbf{6N} + \mathbf{1650} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 743) &= B_{\bar{N}}(2N + 743 - B_{\bar{N}}(2N + 742)) + B_{\bar{N}}(2N + 743 - B_{\bar{N}}(2N + 741)) + B_{\bar{N}}(2N + 743 - B_{\bar{N}}(2N + 740)) \\
&= B_{\bar{N}}(2N + 743 - (6N + 1650)) + B_{\bar{N}}(2N + 743 - (6N + 897)) + B_{\bar{N}}(2N + 743 - 9) \\
&= B_{\bar{N}}(-4N - 907) + B_{\bar{N}}(-4N - 154) + B_{\bar{N}}(2N + 734) = 0 + 0 + (N + 730) = \mathbf{N} + \mathbf{730} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 744) &= B_{\bar{N}}(2N + 744 - B_{\bar{N}}(2N + 743)) + B_{\bar{N}}(2N + 744 - B_{\bar{N}}(2N + 742)) + B_{\bar{N}}(2N + 744 - B_{\bar{N}}(2N + 741)) \\
&= B_{\bar{N}}(2N + 744 - (N + 730)) + B_{\bar{N}}(2N + 744 - (6N + 1650)) + B_{\bar{N}}(2N + 744 - (6N + 897)) \\
&= B_{\bar{N}}(N + 14) + B_{\bar{N}}(-4N - 906) + B_{\bar{N}}(-4N - 153) = (N + 10) + 0 + 0 = \mathbf{N} + \mathbf{10} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 745) &= B_{\bar{N}}(2N + 745 - B_{\bar{N}}(2N + 744)) + B_{\bar{N}}(2N + 745 - B_{\bar{N}}(2N + 743)) + B_{\bar{N}}(2N + 745 - B_{\bar{N}}(2N + 742)) \\
&= B_{\bar{N}}(2N + 745 - (N + 10)) + B_{\bar{N}}(2N + 745 - (N + 730)) + B_{\bar{N}}(2N + 745 - (6N + 1650)) \\
&= B_{\bar{N}}(N + 735) + B_{\bar{N}}(N + 15) + B_{\bar{N}}(-4N - 905) = 737 + (N + 11) + 0 = \mathbf{N} + 748 \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 746) &= B_{\bar{N}}(2N + 746 - B_{\bar{N}}(2N + 745)) + B_{\bar{N}}(2N + 746 - B_{\bar{N}}(2N + 744)) + B_{\bar{N}}(2N + 746 - B_{\bar{N}}(2N + 743)) \\
&= B_{\bar{N}}(2N + 746 - (N + 748)) + B_{\bar{N}}(2N + 746 - (N + 10)) + B_{\bar{N}}(2N + 746 - (N + 730)) \\
&= B_{\bar{N}}(N - 2) + B_{\bar{N}}(N + 736) + B_{\bar{N}}(N + 16) = (N - 2) + (N + 737) + 17 = \mathbf{2N} + 752 \\
&(N \geq 3)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 747) &= B_{\bar{N}}(2N + 747 - B_{\bar{N}}(2N + 746)) + B_{\bar{N}}(2N + 747 - B_{\bar{N}}(2N + 745)) + B_{\bar{N}}(2N + 747 - B_{\bar{N}}(2N + 744)) \\
&= B_{\bar{N}}(2N + 747 - (2N + 752)) + B_{\bar{N}}(2N + 747 - (N + 748)) + B_{\bar{N}}(2N + 747 - (N + 10)) \\
&= B_{\bar{N}}(-5) + B_{\bar{N}}(N - 1) + B_{\bar{N}}(N + 737) = 0 + (N - 1) + (N + 739) = \mathbf{2N} + 738 \\
&(N \geq 2)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 748) &= B_{\bar{N}}(2N + 748 - B_{\bar{N}}(2N + 747)) + B_{\bar{N}}(2N + 748 - B_{\bar{N}}(2N + 746)) + B_{\bar{N}}(2N + 748 - B_{\bar{N}}(2N + 745)) \\
&= B_{\bar{N}}(2N + 748 - (2N + 738)) + B_{\bar{N}}(2N + 748 - (2N + 752)) + B_{\bar{N}}(2N + 748 - (N + 748)) \\
&= B_{\bar{N}}(10) + B_{\bar{N}}(-4) + B_{\bar{N}}(N) = 10 + 0 + N = \mathbf{N} + 10 \\
&(N \geq 10)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 749) &= B_{\bar{N}}(2N + 749 - B_{\bar{N}}(2N + 748)) + B_{\bar{N}}(2N + 749 - B_{\bar{N}}(2N + 747)) + B_{\bar{N}}(2N + 749 - B_{\bar{N}}(2N + 746)) \\
&= B_{\bar{N}}(2N + 749 - (N + 10)) + B_{\bar{N}}(2N + 749 - (2N + 738)) + B_{\bar{N}}(2N + 749 - (2N + 752)) \\
&= B_{\bar{N}}(N + 739) + B_{\bar{N}}(11) + B_{\bar{N}}(-3) = (2N + 255) + 11 + 0 = \mathbf{2N} + 266 \\
&(N \geq 11)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 750) &= B_{\bar{N}}(2N + 750 - B_{\bar{N}}(2N + 749)) + B_{\bar{N}}(2N + 750 - B_{\bar{N}}(2N + 748)) + B_{\bar{N}}(2N + 750 - B_{\bar{N}}(2N + 747)) \\
&= B_{\bar{N}}(2N + 750 - (2N + 266)) + B_{\bar{N}}(2N + 750 - (N + 10)) + B_{\bar{N}}(2N + 750 - (2N + 738)) \\
&= B_{\bar{N}}(484) + B_{\bar{N}}(N + 740) + B_{\bar{N}}(12) = 484 + (2N + 98) + 12 = \mathbf{2N} + \mathbf{594} \\
&(N \geq 484)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 751) &= B_{\bar{N}}(2N + 751 - B_{\bar{N}}(2N + 750)) + B_{\bar{N}}(2N + 751 - B_{\bar{N}}(2N + 749)) + B_{\bar{N}}(2N + 751 - B_{\bar{N}}(2N + 748)) \\
&= B_{\bar{N}}(2N + 751 - (2N + 594)) + B_{\bar{N}}(2N + 751 - (2N + 266)) + B_{\bar{N}}(2N + 751 - (N + 10)) \\
&= B_{\bar{N}}(157) + B_{\bar{N}}(485) + B_{\bar{N}}(N + 741) = 157 + 485 + (N - 2) = \mathbf{N} + \mathbf{640} \\
&(N \geq 485)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 752) &= B_{\bar{N}}(2N + 752 - B_{\bar{N}}(2N + 751)) + B_{\bar{N}}(2N + 752 - B_{\bar{N}}(2N + 750)) + B_{\bar{N}}(2N + 752 - B_{\bar{N}}(2N + 749)) \\
&= B_{\bar{N}}(2N + 752 - (N + 640)) + B_{\bar{N}}(2N + 752 - (2N + 594)) + B_{\bar{N}}(2N + 752 - (2N + 266)) \\
&= B_{\bar{N}}(N + 112) + B_{\bar{N}}(158) + B_{\bar{N}}(486) = 114 + 158 + 486 = \mathbf{758} \\
&(N \geq 486)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 753) &= B_{\bar{N}}(2N + 753 - B_{\bar{N}}(2N + 752)) + B_{\bar{N}}(2N + 753 - B_{\bar{N}}(2N + 751)) + B_{\bar{N}}(2N + 753 - B_{\bar{N}}(2N + 750)) \\
&= B_{\bar{N}}(2N + 753 - 758) + B_{\bar{N}}(2N + 753 - (N + 640)) + B_{\bar{N}}(2N + 753 - (2N + 594)) \\
&= B_{\bar{N}}(2N - 5) + B_{\bar{N}}(N + 113) + B_{\bar{N}}(159) = (N - 3) + (N + 114) + 159 = \mathbf{2N} + \mathbf{270} \\
&(N \geq 159)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 754) &= B_{\bar{N}}(2N + 754 - B_{\bar{N}}(2N + 753)) + B_{\bar{N}}(2N + 754 - B_{\bar{N}}(2N + 752)) + B_{\bar{N}}(2N + 754 - B_{\bar{N}}(2N + 751)) \\
&= B_{\bar{N}}(2N + 754 - (2N + 270)) + B_{\bar{N}}(2N + 754 - 758) + B_{\bar{N}}(2N + 754 - (N + 640)) \\
&= B_{\bar{N}}(484) + B_{\bar{N}}(2N - 4) + B_{\bar{N}}(N + 114) = 484 + (2N - 3) + (N + 116) = \mathbf{3N} + \mathbf{597} \\
&(N \geq 484)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 755) &= B_{\bar{N}}(2N + 755 - B_{\bar{N}}(2N + 754)) + B_{\bar{N}}(2N + 755 - B_{\bar{N}}(2N + 753)) + B_{\bar{N}}(2N + 755 - B_{\bar{N}}(2N + 752)) \\
&= B_{\bar{N}}(2N + 755 - (3N + 597)) + B_{\bar{N}}(2N + 755 - (2N + 270)) + B_{\bar{N}}(2N + 755 - 758) \\
&= B_{\bar{N}}(-N + 158) + B_{\bar{N}}(485) + B_{\bar{N}}(2N - 3) = 0 + 485 + (2N - 1) = \mathbf{2N} + \mathbf{484} \\
&(N \geq 485)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 756) &= B_{\bar{N}}(2N + 756 - B_{\bar{N}}(2N + 755)) + B_{\bar{N}}(2N + 756 - B_{\bar{N}}(2N + 754)) + B_{\bar{N}}(2N + 756 - B_{\bar{N}}(2N + 753)) \\
&= B_{\bar{N}}(2N + 756 - (2N + 484)) + B_{\bar{N}}(2N + 756 - (3N + 597)) + B_{\bar{N}}(2N + 756 - (2N + 270)) \\
&= B_{\bar{N}}(272) + B_{\bar{N}}(-N + 159) + B_{\bar{N}}(486) = 272 + 0 + 486 = \mathbf{758} \\
&(N \geq 486)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 757) &= B_{\bar{N}}(2N + 757 - B_{\bar{N}}(2N + 756)) + B_{\bar{N}}(2N + 757 - B_{\bar{N}}(2N + 755)) + B_{\bar{N}}(2N + 757 - B_{\bar{N}}(2N + 754)) \\
&= B_{\bar{N}}(2N + 757 - 758) + B_{\bar{N}}(2N + 757 - (2N + 484)) + B_{\bar{N}}(2N + 757 - (3N + 597)) \\
&= B_{\bar{N}}(2N - 1) + B_{\bar{N}}(273) + B_{\bar{N}}(-N + 160) = \left(\frac{16N}{7} + \frac{305}{7} \right) + 273 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{2216}}{\mathbf{7}} \\
&(N \geq 273)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 758) &= B_{\bar{N}}(2N + 758 - B_{\bar{N}}(2N + 757)) + B_{\bar{N}}(2N + 758 - B_{\bar{N}}(2N + 756)) + B_{\bar{N}}(2N + 758 - B_{\bar{N}}(2N + 755)) \\
&= B_{\bar{N}}\left(2N + 758 - \left(\frac{16N}{7} + \frac{2216}{7}\right)\right) + B_{\bar{N}}(2N + 758 - 758) + B_{\bar{N}}(2N + 758 - (2N + 484)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{3090}{7}\right) + B_{\bar{N}}(2N) + B_{\bar{N}}(274) = 0 + \left(\frac{15N}{7} - \frac{54}{7}\right) + 274 = \frac{\mathbf{15N}}{\mathbf{7}} + \frac{\mathbf{1864}}{\mathbf{7}} \\
&(N \geq 1545)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{759}) &= B_{\bar{N}}(2N + 759 - B_{\bar{N}}(2N + 758)) + B_{\bar{N}}(2N + 759 - B_{\bar{N}}(2N + 757)) + B_{\bar{N}}(2N + 759 - B_{\bar{N}}(2N + 756)) \\
&= B_{\bar{N}}\left(2N + 759 - \left(\frac{15N}{7} + \frac{1864}{7}\right)\right) + B_{\bar{N}}\left(2N + 759 - \left(\frac{16N}{7} + \frac{2216}{7}\right)\right) + B_{\bar{N}}(2N + 759 - 758) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{3449}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{3097}{7}\right) + B_{\bar{N}}(2N + 1) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(N \geq 3449)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{760}) &= B_{\bar{N}}(2N + 760 - B_{\bar{N}}(2N + 759)) + B_{\bar{N}}(2N + 760 - B_{\bar{N}}(2N + 758)) + B_{\bar{N}}(2N + 760 - B_{\bar{N}}(2N + 757)) \\
&= B_{\bar{N}}(2N + 760 - (N - 2)) + B_{\bar{N}}\left(2N + 760 - \left(\frac{15N}{7} + \frac{1864}{7}\right)\right) + B_{\bar{N}}\left(2N + 760 - \left(\frac{16N}{7} + \frac{2216}{7}\right)\right) \\
&= B_{\bar{N}}(N + 762) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{3456}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{3104}{7}\right) = (N - 2) + 0 + 0 = \mathbf{N} - \mathbf{2} \\
&(N \geq 3456)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{761}) &= B_{\bar{N}}(2N + 761 - B_{\bar{N}}(2N + 760)) + B_{\bar{N}}(2N + 761 - B_{\bar{N}}(2N + 759)) + B_{\bar{N}}(2N + 761 - B_{\bar{N}}(2N + 758)) \\
&= B_{\bar{N}}(2N + 761 - (N - 2)) + B_{\bar{N}}(2N + 761 - (N - 2)) + B_{\bar{N}}\left(2N + 761 - \left(\frac{15N}{7} + \frac{1864}{7}\right)\right) \\
&= B_{\bar{N}}(N + 763) + B_{\bar{N}}(N + 763) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{3463}{7}\right) = 765 + 765 + 0 = \mathbf{1530} \\
&(N \geq 3463)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{762}) &= B_{\bar{N}}(2N + 762 - B_{\bar{N}}(2N + 761)) + B_{\bar{N}}(2N + 762 - B_{\bar{N}}(2N + 760)) + B_{\bar{N}}(2N + 762 - B_{\bar{N}}(2N + 759)) \\
&= B_{\bar{N}}(2N + 762 - 1530) + B_{\bar{N}}(2N + 762 - (N - 2)) + B_{\bar{N}}(2N + 762 - (N - 2)) \\
&= B_{\bar{N}}(2N - 768) + B_{\bar{N}}(N + 764) + B_{\bar{N}}(N + 764) = (N - 766) + (N + 765) + (N + 765) = \mathbf{3N} + \mathbf{764} \\
&(N \geq 835)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{763}) &= B_{\bar{N}}(2N + 763 - B_{\bar{N}}(2N + 762)) + B_{\bar{N}}(2N + 763 - B_{\bar{N}}(2N + 761)) + B_{\bar{N}}(2N + 763 - B_{\bar{N}}(2N + 760)) \\
&= B_{\bar{N}}(2N + 763 - (3N + 764)) + B_{\bar{N}}(2N + 763 - 1530) + B_{\bar{N}}(2N + 763 - (N - 2)) \\
&= B_{\bar{N}}(-N - 1) + B_{\bar{N}}(2N - 767) + B_{\bar{N}}(N + 765) = 0 + (2N - 766) + (N + 767) = \mathbf{3N} + \mathbf{1} \\
&(N \geq 834)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{764}) &= B_{\bar{N}}(2N + 764 - B_{\bar{N}}(2N + 763)) + B_{\bar{N}}(2N + 764 - B_{\bar{N}}(2N + 762)) + B_{\bar{N}}(2N + 764 - B_{\bar{N}}(2N + 761)) \\
&= B_{\bar{N}}(2N + 764 - (3N + 1)) + B_{\bar{N}}(2N + 764 - (3N + 764)) + B_{\bar{N}}(2N + 764 - 1530) \\
&= B_{\bar{N}}(-N + 763) + B_{\bar{N}}(-N) + B_{\bar{N}}(2N - 766) = 0 + 0 + (2N - 764) = \mathbf{2N} - \mathbf{764} \\
&(N \geq 833)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{765}) &= B_{\bar{N}}(2N + 765 - B_{\bar{N}}(2N + 764)) + B_{\bar{N}}(2N + 765 - B_{\bar{N}}(2N + 763)) + B_{\bar{N}}(2N + 765 - B_{\bar{N}}(2N + 762)) \\
&= B_{\bar{N}}(2N + 765 - (2N - 764)) + B_{\bar{N}}(2N + 765 - (3N + 1)) + B_{\bar{N}}(2N + 765 - (3N + 764)) \\
&= B_{\bar{N}}(1529) + B_{\bar{N}}(-N + 764) + B_{\bar{N}}(-N + 1) = 1529 + 0 + 0 = \mathbf{1529} \\
&(N \geq 1529)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{766}) &= B_{\bar{N}}(2N + 766 - B_{\bar{N}}(2N + 765)) + B_{\bar{N}}(2N + 766 - B_{\bar{N}}(2N + 764)) + B_{\bar{N}}(2N + 766 - B_{\bar{N}}(2N + 763)) \\
&= B_{\bar{N}}(2N + 766 - 1529) + B_{\bar{N}}(2N + 766 - (2N - 764)) + B_{\bar{N}}(2N + 766 - (3N + 1)) \\
&= B_{\bar{N}}(2N - 763) + B_{\bar{N}}(1530) + B_{\bar{N}}(-N + 765) = \left(\frac{15N}{7} - \frac{817}{7} \right) + 1530 + 0 = \frac{\mathbf{15N}}{\mathbf{7}} + \frac{\mathbf{9893}}{\mathbf{7}} \\
&(N \geq 1530)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{767}) &= B_{\bar{N}}(2N + 767 - B_{\bar{N}}(2N + 766)) + B_{\bar{N}}(2N + 767 - B_{\bar{N}}(2N + 765)) + B_{\bar{N}}(2N + 767 - B_{\bar{N}}(2N + 764)) \\
&= B_{\bar{N}}\left(2N + 767 - \left(\frac{15N}{7} + \frac{9893}{7}\right)\right) + B_{\bar{N}}(2N + 767 - 1529) + B_{\bar{N}}(2N + 767 - (2N - 764)) \\
&= B_{\bar{N}}\left(-\frac{N}{7} - \frac{4524}{7}\right) + B_{\bar{N}}(2N - 762) + B_{\bar{N}}(1531) = 0 + (N - 2) + 1531 = \mathbf{N} + \mathbf{1529} \\
&(N \geq 1531)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 768) &= B_{\bar{N}}(2N + 768 - B_{\bar{N}}(2N + 767)) + B_{\bar{N}}(2N + 768 - B_{\bar{N}}(2N + 766)) + B_{\bar{N}}(2N + 768 - B_{\bar{N}}(2N + 765)) \\
&= B_{\bar{N}}(2N + 768 - (N + 1529)) + B_{\bar{N}}\left(2N + 768 - \left(\frac{15N}{7} + \frac{9893}{7}\right)\right) + B_{\bar{N}}(2N + 768 - 1529) \\
&= B_{\bar{N}}(N - 761) + B_{\bar{N}}\left(-\frac{N}{7} - \frac{4517}{7}\right) + B_{\bar{N}}(2N - 761) = (N - 761) + 0 + (N - 759) = \mathbf{2N} - \mathbf{1520} \\
&(N \geq 828)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 769) &= B_{\bar{N}}(2N + 769 - B_{\bar{N}}(2N + 768)) + B_{\bar{N}}(2N + 769 - B_{\bar{N}}(2N + 767)) + B_{\bar{N}}(2N + 769 - B_{\bar{N}}(2N + 766)) \\
&= B_{\bar{N}}(2N + 769 - (2N - 1520)) + B_{\bar{N}}(2N + 769 - (N + 1529)) + B_{\bar{N}}\left(2N + 769 - \left(\frac{15N}{7} + \frac{9893}{7}\right)\right) \\
&= B_{\bar{N}}(2289) + B_{\bar{N}}(N - 760) + B_{\bar{N}}\left(-\frac{N}{7} - \frac{4510}{7}\right) = 2289 + (N - 760) + 0 = \mathbf{N} + \mathbf{1529} \\
&(N \geq 2289)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 770) &= B_{\bar{N}}(2N + 770 - B_{\bar{N}}(2N + 769)) + B_{\bar{N}}(2N + 770 - B_{\bar{N}}(2N + 768)) + B_{\bar{N}}(2N + 770 - B_{\bar{N}}(2N + 767)) \\
&= B_{\bar{N}}(2N + 770 - (N + 1529)) + B_{\bar{N}}(2N + 770 - (2N - 1520)) + B_{\bar{N}}(2N + 770 - (N + 1529)) \\
&= B_{\bar{N}}(N - 759) + B_{\bar{N}}(2290) + B_{\bar{N}}(N - 759) = (N - 759) + 2290 + (N - 759) = \mathbf{2N} + \mathbf{772} \\
&(N \geq 2290)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 771) &= B_{\bar{N}}(2N + 771 - B_{\bar{N}}(2N + 770)) + B_{\bar{N}}(2N + 771 - B_{\bar{N}}(2N + 769)) + B_{\bar{N}}(2N + 771 - B_{\bar{N}}(2N + 768)) \\
&= B_{\bar{N}}(2N + 771 - (2N + 772)) + B_{\bar{N}}(2N + 771 - (N + 1529)) + B_{\bar{N}}(2N + 771 - (2N - 1520)) \\
&= B_{\bar{N}}(-1) + B_{\bar{N}}(N - 758) + B_{\bar{N}}(2291) = 0 + (N - 758) + 2291 = \mathbf{N} + \mathbf{1533} \\
&(N \geq 2291)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 772) &= B_{\bar{N}}(2N + 772 - B_{\bar{N}}(2N + 771)) + B_{\bar{N}}(2N + 772 - B_{\bar{N}}(2N + 770)) + B_{\bar{N}}(2N + 772 - B_{\bar{N}}(2N + 769)) \\
&= B_{\bar{N}}(2N + 772 - (N + 1533)) + B_{\bar{N}}(2N + 772 - (2N + 772)) + B_{\bar{N}}(2N + 772 - (N + 1529)) \\
&= B_{\bar{N}}(N - 761) + B_{\bar{N}}(0) + B_{\bar{N}}(N - 757) = (N - 761) + 0 + (N - 757) = \mathbf{2N} - \mathbf{1518} \\
&(N \geq 762)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 773) &= B_{\bar{N}}(2N + 773 - B_{\bar{N}}(2N + 772)) + B_{\bar{N}}(2N + 773 - B_{\bar{N}}(2N + 771)) + B_{\bar{N}}(2N + 773 - B_{\bar{N}}(2N + 770)) \\
&= B_{\bar{N}}(2N + 773 - (2N - 1518)) + B_{\bar{N}}(2N + 773 - (N + 1533)) + B_{\bar{N}}(2N + 773 - (2N + 772)) \\
&= B_{\bar{N}}(2291) + B_{\bar{N}}(N - 760) + B_{\bar{N}}(1) = 2291 + (N - 760) + 1 = \mathbf{N} + \mathbf{1532} \\
&(N \geq 2291)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 774) &= B_{\bar{N}}(2N + 774 - B_{\bar{N}}(2N + 773)) + B_{\bar{N}}(2N + 774 - B_{\bar{N}}(2N + 772)) + B_{\bar{N}}(2N + 774 - B_{\bar{N}}(2N + 771)) \\
&= B_{\bar{N}}(2N + 774 - (N + 1532)) + B_{\bar{N}}(2N + 774 - (2N - 1518)) + B_{\bar{N}}(2N + 774 - (N + 1533)) \\
&= B_{\bar{N}}(N - 758) + B_{\bar{N}}(2292) + B_{\bar{N}}(N - 759) = (N - 758) + 2292 + (N - 759) = \mathbf{2N} + \mathbf{775} \\
&(N \geq 2292)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 775) &= B_{\bar{N}}(2N + 775 - B_{\bar{N}}(2N + 774)) + B_{\bar{N}}(2N + 775 - B_{\bar{N}}(2N + 773)) + B_{\bar{N}}(2N + 775 - B_{\bar{N}}(2N + 772)) \\
&= B_{\bar{N}}(2N + 775 - (2N + 775)) + B_{\bar{N}}(2N + 775 - (N + 1532)) + B_{\bar{N}}(2N + 775 - (2N - 1518)) \\
&= B_{\bar{N}}(0) + B_{\bar{N}}(N - 757) + B_{\bar{N}}(2293) = 0 + (N - 757) + 2293 = \mathbf{N} + \mathbf{1536} \\
&(N \geq 2293)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 776) &= B_{\bar{N}}(2N + 776 - B_{\bar{N}}(2N + 775)) + B_{\bar{N}}(2N + 776 - B_{\bar{N}}(2N + 774)) + B_{\bar{N}}(2N + 776 - B_{\bar{N}}(2N + 773)) \\
&= B_{\bar{N}}(2N + 776 - (N + 1536)) + B_{\bar{N}}(2N + 776 - (2N + 775)) + B_{\bar{N}}(2N + 776 - (N + 1532)) \\
&= B_{\bar{N}}(N - 760) + B_{\bar{N}}(1) + B_{\bar{N}}(N - 756) = (N - 760) + 1 + (N - 756) = \mathbf{2N} - \mathbf{1515} \\
&(N \geq 761)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 777) &= B_{\bar{N}}(2N + 777 - B_{\bar{N}}(2N + 776)) + B_{\bar{N}}(2N + 777 - B_{\bar{N}}(2N + 775)) + B_{\bar{N}}(2N + 777 - B_{\bar{N}}(2N + 774)) \\
&= B_{\bar{N}}(2N + 777 - (2N - 1515)) + B_{\bar{N}}(2N + 777 - (N + 1536)) + B_{\bar{N}}(2N + 777 - (2N + 775)) \\
&= B_{\bar{N}}(2292) + B_{\bar{N}}(N - 759) + B_{\bar{N}}(2) = 2292 + (N - 759) + 2 = \mathbf{N} + \mathbf{1535} \\
&(N \geq 2292)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 778) &= B_{\bar{N}}(2N + 778 - B_{\bar{N}}(2N + 777)) + B_{\bar{N}}(2N + 778 - B_{\bar{N}}(2N + 776)) + B_{\bar{N}}(2N + 778 - B_{\bar{N}}(2N + 775)) \\
&= B_{\bar{N}}(2N + 778 - (N + 1535)) + B_{\bar{N}}(2N + 778 - (2N - 1515)) + B_{\bar{N}}(2N + 778 - (N + 1536)) \\
&= B_{\bar{N}}(N - 757) + B_{\bar{N}}(2293) + B_{\bar{N}}(N - 758) = (N - 757) + 2293 + (N - 758) = \mathbf{2N} + \mathbf{778} \\
&(N \geq 2293)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 779) &= B_{\bar{N}}(2N + 779 - B_{\bar{N}}(2N + 778)) + B_{\bar{N}}(2N + 779 - B_{\bar{N}}(2N + 777)) + B_{\bar{N}}(2N + 779 - B_{\bar{N}}(2N + 776)) \\
&= B_{\bar{N}}(2N + 779 - (2N + 778)) + B_{\bar{N}}(2N + 779 - (N + 1535)) + B_{\bar{N}}(2N + 779 - (2N - 1515)) \\
&= B_{\bar{N}}(1) + B_{\bar{N}}(N - 756) + B_{\bar{N}}(2294) = 1 + (N - 756) + 2294 = \mathbf{N} + \mathbf{1539} \\
&(N \geq 2294)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 780) &= B_{\bar{N}}(2N + 780 - B_{\bar{N}}(2N + 779)) + B_{\bar{N}}(2N + 780 - B_{\bar{N}}(2N + 778)) + B_{\bar{N}}(2N + 780 - B_{\bar{N}}(2N + 777)) \\
&= B_{\bar{N}}(2N + 780 - (N + 1539)) + B_{\bar{N}}(2N + 780 - (2N + 778)) + B_{\bar{N}}(2N + 780 - (N + 1535)) \\
&= B_{\bar{N}}(N - 759) + B_{\bar{N}}(2) + B_{\bar{N}}(N - 755) = (N - 759) + 2 + (N - 755) = \mathbf{2N} - \mathbf{1512} \\
&(N \geq 760)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 781) &= B_{\bar{N}}(2N + 781 - B_{\bar{N}}(2N + 780)) + B_{\bar{N}}(2N + 781 - B_{\bar{N}}(2N + 779)) + B_{\bar{N}}(2N + 781 - B_{\bar{N}}(2N + 778)) \\
&= B_{\bar{N}}(2N + 781 - (2N - 1512)) + B_{\bar{N}}(2N + 781 - (N + 1539)) + B_{\bar{N}}(2N + 781 - (2N + 778)) \\
&= B_{\bar{N}}(2293) + B_{\bar{N}}(N - 758) + B_{\bar{N}}(3) = 2293 + (N - 758) + 3 = \mathbf{N} + \mathbf{1538} \\
&(N \geq 2293)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 782) &= B_{\bar{N}}(2N + 782 - B_{\bar{N}}(2N + 781)) + B_{\bar{N}}(2N + 782 - B_{\bar{N}}(2N + 780)) + B_{\bar{N}}(2N + 782 - B_{\bar{N}}(2N + 779)) \\
&= B_{\bar{N}}(2N + 782 - (N + 1538)) + B_{\bar{N}}(2N + 782 - (2N - 1512)) + B_{\bar{N}}(2N + 782 - (N + 1539)) \\
&= B_{\bar{N}}(N - 756) + B_{\bar{N}}(2294) + B_{\bar{N}}(N - 757) = (N - 756) + 2294 + (N - 757) = \mathbf{2N} + \mathbf{781} \\
&(N \geq 2294)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 783) &= B_{\bar{N}}(2N + 783 - B_{\bar{N}}(2N + 782)) + B_{\bar{N}}(2N + 783 - B_{\bar{N}}(2N + 781)) + B_{\bar{N}}(2N + 783 - B_{\bar{N}}(2N + 780)) \\
&= B_{\bar{N}}(2N + 783 - (2N + 781)) + B_{\bar{N}}(2N + 783 - (N + 1538)) + B_{\bar{N}}(2N + 783 - (2N - 1512)) \\
&= B_{\bar{N}}(2) + B_{\bar{N}}(N - 755) + B_{\bar{N}}(2295) = 2 + (N - 755) + 2295 = \mathbf{N} + \mathbf{1542} \\
&(N \geq 2295)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 784) &= B_{\bar{N}}(2N + 784 - B_{\bar{N}}(2N + 783)) + B_{\bar{N}}(2N + 784 - B_{\bar{N}}(2N + 782)) + B_{\bar{N}}(2N + 784 - B_{\bar{N}}(2N + 781)) \\
&= B_{\bar{N}}(2N + 784 - (N + 1542)) + B_{\bar{N}}(2N + 784 - (2N + 781)) + B_{\bar{N}}(2N + 784 - (N + 1538)) \\
&= B_{\bar{N}}(N - 758) + B_{\bar{N}}(3) + B_{\bar{N}}(N - 754) = (N - 758) + 3 + (N - 754) = \mathbf{2N} - \mathbf{1509} \\
&(N \geq 759)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 785) &= B_{\bar{N}}(2N + 785 - B_{\bar{N}}(2N + 784)) + B_{\bar{N}}(2N + 785 - B_{\bar{N}}(2N + 783)) + B_{\bar{N}}(2N + 785 - B_{\bar{N}}(2N + 782)) \\
&= B_{\bar{N}}(2N + 785 - (2N - 1509)) + B_{\bar{N}}(2N + 785 - (N + 1542)) + B_{\bar{N}}(2N + 785 - (2N + 781)) \\
&= B_{\bar{N}}(2294) + B_{\bar{N}}(N - 757) + B_{\bar{N}}(4) = 2294 + (N - 757) + 4 = \mathbf{N} + \mathbf{1541} \\
&(N \geq 2294)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 786) &= B_{\bar{N}}(2N + 786 - B_{\bar{N}}(2N + 785)) + B_{\bar{N}}(2N + 786 - B_{\bar{N}}(2N + 784)) + B_{\bar{N}}(2N + 786 - B_{\bar{N}}(2N + 783)) \\
&= B_{\bar{N}}(2N + 786 - (N + 1541)) + B_{\bar{N}}(2N + 786 - (2N - 1509)) + B_{\bar{N}}(2N + 786 - (N + 1542)) \\
&= B_{\bar{N}}(N - 755) + B_{\bar{N}}(2295) + B_{\bar{N}}(N - 756) = (N - 755) + 2295 + (N - 756) = \mathbf{2N} + \mathbf{784} \\
&(N \geq 2295)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 787) &= B_{\bar{N}}(2N + 787 - B_{\bar{N}}(2N + 786)) + B_{\bar{N}}(2N + 787 - B_{\bar{N}}(2N + 785)) + B_{\bar{N}}(2N + 787 - B_{\bar{N}}(2N + 784)) \\
&= B_{\bar{N}}(2N + 787 - (2N + 784)) + B_{\bar{N}}(2N + 787 - (N + 1541)) + B_{\bar{N}}(2N + 787 - (2N - 1509)) \\
&= B_{\bar{N}}(3) + B_{\bar{N}}(N - 754) + B_{\bar{N}}(2296) = 3 + (N - 754) + 2296 = \mathbf{N} + \mathbf{1545} \\
&(N \geq 2296)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 788) &= B_{\bar{N}}(2N + 788 - B_{\bar{N}}(2N + 787)) + B_{\bar{N}}(2N + 788 - B_{\bar{N}}(2N + 786)) + B_{\bar{N}}(2N + 788 - B_{\bar{N}}(2N + 785)) \\
&= B_{\bar{N}}(2N + 788 - (N + 1545)) + B_{\bar{N}}(2N + 788 - (2N + 784)) + B_{\bar{N}}(2N + 788 - (N + 1541)) \\
&= B_{\bar{N}}(N - 757) + B_{\bar{N}}(4) + B_{\bar{N}}(N - 753) = (N - 757) + 4 + (N - 753) = \mathbf{2N} - \mathbf{1506} \\
&(N \geq 758)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 789) &= B_{\bar{N}}(2N + 789 - B_{\bar{N}}(2N + 788)) + B_{\bar{N}}(2N + 789 - B_{\bar{N}}(2N + 787)) + B_{\bar{N}}(2N + 789 - B_{\bar{N}}(2N + 786)) \\
&= B_{\bar{N}}(2N + 789 - (2N - 1506)) + B_{\bar{N}}(2N + 789 - (N + 1545)) + B_{\bar{N}}(2N + 789 - (2N + 784)) \\
&= B_{\bar{N}}(2295) + B_{\bar{N}}(N - 756) + B_{\bar{N}}(5) = 2295 + (N - 756) + 5 = \mathbf{N} + \mathbf{1544} \\
&(N \geq 2295)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 790) &= B_{\bar{N}}(2N + 790 - B_{\bar{N}}(2N + 789)) + B_{\bar{N}}(2N + 790 - B_{\bar{N}}(2N + 788)) + B_{\bar{N}}(2N + 790 - B_{\bar{N}}(2N + 787)) \\
&= B_{\bar{N}}(2N + 790 - (N + 1544)) + B_{\bar{N}}(2N + 790 - (2N - 1506)) + B_{\bar{N}}(2N + 790 - (N + 1545)) \\
&= B_{\bar{N}}(N - 754) + B_{\bar{N}}(2296) + B_{\bar{N}}(N - 755) = (N - 754) + 2296 + (N - 755) = \mathbf{2N} + \mathbf{787} \\
&(N \geq 2296)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 791) &= B_{\bar{N}}(2N + 791 - B_{\bar{N}}(2N + 790)) + B_{\bar{N}}(2N + 791 - B_{\bar{N}}(2N + 789)) + B_{\bar{N}}(2N + 791 - B_{\bar{N}}(2N + 788)) \\
&= B_{\bar{N}}(2N + 791 - (2N + 787)) + B_{\bar{N}}(2N + 791 - (N + 1544)) + B_{\bar{N}}(2N + 791 - (2N - 1506)) \\
&= B_{\bar{N}}(4) + B_{\bar{N}}(N - 753) + B_{\bar{N}}(2297) = 4 + (N - 753) + 2297 = \mathbf{N} + \mathbf{1548} \\
&(N \geq 2297)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{792}) &= B_{\bar{N}}(2N + 792 - B_{\bar{N}}(2N + 791)) + B_{\bar{N}}(2N + 792 - B_{\bar{N}}(2N + 790)) + B_{\bar{N}}(2N + 792 - B_{\bar{N}}(2N + 789)) \\
&= B_{\bar{N}}(2N + 792 - (N + 1548)) + B_{\bar{N}}(2N + 792 - (2N + 787)) + B_{\bar{N}}(2N + 792 - (N + 1544)) \\
&= B_{\bar{N}}(N - 756) + B_{\bar{N}}(5) + B_{\bar{N}}(N - 752) = (N - 756) + 5 + (N - 752) = \mathbf{2N} - \mathbf{1503} \\
&(N \geq 757)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{793}) &= B_{\bar{N}}(2N + 793 - B_{\bar{N}}(2N + 792)) + B_{\bar{N}}(2N + 793 - B_{\bar{N}}(2N + 791)) + B_{\bar{N}}(2N + 793 - B_{\bar{N}}(2N + 790)) \\
&= B_{\bar{N}}(2N + 793 - (2N - 1503)) + B_{\bar{N}}(2N + 793 - (N + 1548)) + B_{\bar{N}}(2N + 793 - (2N + 787)) \\
&= B_{\bar{N}}(2296) + B_{\bar{N}}(N - 755) + B_{\bar{N}}(6) = 2296 + (N - 755) + 6 = \mathbf{N} + \mathbf{1547} \\
&(N \geq 2296)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{794}) &= B_{\bar{N}}(2N + 794 - B_{\bar{N}}(2N + 793)) + B_{\bar{N}}(2N + 794 - B_{\bar{N}}(2N + 792)) + B_{\bar{N}}(2N + 794 - B_{\bar{N}}(2N + 791)) \\
&= B_{\bar{N}}(2N + 794 - (N + 1547)) + B_{\bar{N}}(2N + 794 - (2N - 1503)) + B_{\bar{N}}(2N + 794 - (N + 1548)) \\
&= B_{\bar{N}}(N - 753) + B_{\bar{N}}(2297) + B_{\bar{N}}(N - 754) = (N - 753) + 2297 + (N - 754) = \mathbf{2N} + \mathbf{790} \\
&(N \geq 2297)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{795}) &= B_{\bar{N}}(2N + 795 - B_{\bar{N}}(2N + 794)) + B_{\bar{N}}(2N + 795 - B_{\bar{N}}(2N + 793)) + B_{\bar{N}}(2N + 795 - B_{\bar{N}}(2N + 792)) \\
&= B_{\bar{N}}(2N + 795 - (2N + 790)) + B_{\bar{N}}(2N + 795 - (N + 1547)) + B_{\bar{N}}(2N + 795 - (2N - 1503)) \\
&= B_{\bar{N}}(5) + B_{\bar{N}}(N - 752) + B_{\bar{N}}(2298) = 5 + (N - 752) + 2298 = \mathbf{N} + \mathbf{1551} \\
&(N \geq 2298)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{796}) &= B_{\bar{N}}(2N + 796 - B_{\bar{N}}(2N + 795)) + B_{\bar{N}}(2N + 796 - B_{\bar{N}}(2N + 794)) + B_{\bar{N}}(2N + 796 - B_{\bar{N}}(2N + 793)) \\
&= B_{\bar{N}}(2N + 796 - (N + 1551)) + B_{\bar{N}}(2N + 796 - (2N + 790)) + B_{\bar{N}}(2N + 796 - (N + 1547)) \\
&= B_{\bar{N}}(N - 755) + B_{\bar{N}}(6) + B_{\bar{N}}(N - 751) = (N - 755) + 6 + (N - 751) = \mathbf{2N} - \mathbf{1500} \\
&(N \geq 756)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{797}) &= B_{\bar{N}}(2N + 797 - B_{\bar{N}}(2N + 796)) + B_{\bar{N}}(2N + 797 - B_{\bar{N}}(2N + 795)) + B_{\bar{N}}(2N + 797 - B_{\bar{N}}(2N + 794)) \\
&= B_{\bar{N}}(2N + 797 - (2N - 1500)) + B_{\bar{N}}(2N + 797 - (N + 1551)) + B_{\bar{N}}(2N + 797 - (2N + 790)) \\
&= B_{\bar{N}}(2297) + B_{\bar{N}}(N - 754) + B_{\bar{N}}(7) = 2297 + (N - 754) + 7 = \mathbf{N} + \mathbf{1550} \\
&(N \geq 2297)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{798}) &= B_{\bar{N}}(2N + 798 - B_{\bar{N}}(2N + 797)) + B_{\bar{N}}(2N + 798 - B_{\bar{N}}(2N + 796)) + B_{\bar{N}}(2N + 798 - B_{\bar{N}}(2N + 795)) \\
&= B_{\bar{N}}(2N + 798 - (N + 1550)) + B_{\bar{N}}(2N + 798 - (2N - 1500)) + B_{\bar{N}}(2N + 798 - (N + 1551)) \\
&= B_{\bar{N}}(N - 752) + B_{\bar{N}}(2298) + B_{\bar{N}}(N - 753) = (N - 752) + 2298 + (N - 753) = \mathbf{2N} + \mathbf{793} \\
&(N \geq 2298)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{799}) &= B_{\bar{N}}(2N + 799 - B_{\bar{N}}(2N + 798)) + B_{\bar{N}}(2N + 799 - B_{\bar{N}}(2N + 797)) + B_{\bar{N}}(2N + 799 - B_{\bar{N}}(2N + 796)) \\
&= B_{\bar{N}}(2N + 799 - (2N + 793)) + B_{\bar{N}}(2N + 799 - (N + 1550)) + B_{\bar{N}}(2N + 799 - (2N - 1500)) \\
&= B_{\bar{N}}(6) + B_{\bar{N}}(N - 751) + B_{\bar{N}}(2299) = 6 + (N - 751) + 2299 = \mathbf{N} + \mathbf{1554} \\
&(N \geq 2299)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{800}) &= B_{\bar{N}}(2N + 800 - B_{\bar{N}}(2N + 799)) + B_{\bar{N}}(2N + 800 - B_{\bar{N}}(2N + 798)) + B_{\bar{N}}(2N + 800 - B_{\bar{N}}(2N + 797)) \\
&= B_{\bar{N}}(2N + 800 - (N + 1554)) + B_{\bar{N}}(2N + 800 - (2N + 793)) + B_{\bar{N}}(2N + 800 - (N + 1550)) \\
&= B_{\bar{N}}(N - 754) + B_{\bar{N}}(7) + B_{\bar{N}}(N - 750) = (N - 754) + 7 + (N - 750) = \mathbf{2N} - \mathbf{1497} \\
&(N \geq 755)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{801}) &= B_{\bar{N}}(2N + 801 - B_{\bar{N}}(2N + 800)) + B_{\bar{N}}(2N + 801 - B_{\bar{N}}(2N + 799)) + B_{\bar{N}}(2N + 801 - B_{\bar{N}}(2N + 798)) \\
&= B_{\bar{N}}(2N + 801 - (2N - 1497)) + B_{\bar{N}}(2N + 801 - (N + 1554)) + B_{\bar{N}}(2N + 801 - (2N + 793)) \\
&= B_{\bar{N}}(2298) + B_{\bar{N}}(N - 753) + B_{\bar{N}}(8) = 2298 + (N - 753) + 8 = \mathbf{N} + \mathbf{1553} \\
&(N \geq 2298)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 802) &= B_{\bar{N}}(2N + 802 - B_{\bar{N}}(2N + 801)) + B_{\bar{N}}(2N + 802 - B_{\bar{N}}(2N + 800)) + B_{\bar{N}}(2N + 802 - B_{\bar{N}}(2N + 799)) \\
&= B_{\bar{N}}(2N + 802 - (N + 1553)) + B_{\bar{N}}(2N + 802 - (2N - 1497)) + B_{\bar{N}}(2N + 802 - (N + 1554)) \\
&= B_{\bar{N}}(N - 751) + B_{\bar{N}}(2299) + B_{\bar{N}}(N - 752) = (N - 751) + 2299 + (N - 752) = \mathbf{2N} + \mathbf{796} \\
&(N \geq 2299)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 803) &= B_{\bar{N}}(2N + 803 - B_{\bar{N}}(2N + 802)) + B_{\bar{N}}(2N + 803 - B_{\bar{N}}(2N + 801)) + B_{\bar{N}}(2N + 803 - B_{\bar{N}}(2N + 800)) \\
&= B_{\bar{N}}(2N + 803 - (2N + 796)) + B_{\bar{N}}(2N + 803 - (N + 1553)) + B_{\bar{N}}(2N + 803 - (2N - 1497)) \\
&= B_{\bar{N}}(7) + B_{\bar{N}}(N - 750) + B_{\bar{N}}(2300) = 7 + (N - 750) + 2300 = \mathbf{N} + \mathbf{1557} \\
&(N \geq 2300)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 804) &= B_{\bar{N}}(2N + 804 - B_{\bar{N}}(2N + 803)) + B_{\bar{N}}(2N + 804 - B_{\bar{N}}(2N + 802)) + B_{\bar{N}}(2N + 804 - B_{\bar{N}}(2N + 801)) \\
&= B_{\bar{N}}(2N + 804 - (N + 1557)) + B_{\bar{N}}(2N + 804 - (2N + 796)) + B_{\bar{N}}(2N + 804 - (N + 1553)) \\
&= B_{\bar{N}}(N - 753) + B_{\bar{N}}(8) + B_{\bar{N}}(N - 749) = (N - 753) + 8 + (N - 749) = \mathbf{2N} - \mathbf{1494} \\
&(N \geq 754)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 805) &= B_{\bar{N}}(2N + 805 - B_{\bar{N}}(2N + 804)) + B_{\bar{N}}(2N + 805 - B_{\bar{N}}(2N + 803)) + B_{\bar{N}}(2N + 805 - B_{\bar{N}}(2N + 802)) \\
&= B_{\bar{N}}(2N + 805 - (2N - 1494)) + B_{\bar{N}}(2N + 805 - (N + 1557)) + B_{\bar{N}}(2N + 805 - (2N + 796)) \\
&= B_{\bar{N}}(2299) + B_{\bar{N}}(N - 752) + B_{\bar{N}}(9) = 2299 + (N - 752) + 9 = \mathbf{N} + \mathbf{1556} \\
&(N \geq 2299)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 806) &= B_{\bar{N}}(2N + 806 - B_{\bar{N}}(2N + 805)) + B_{\bar{N}}(2N + 806 - B_{\bar{N}}(2N + 804)) + B_{\bar{N}}(2N + 806 - B_{\bar{N}}(2N + 803)) \\
&= B_{\bar{N}}(2N + 806 - (N + 1556)) + B_{\bar{N}}(2N + 806 - (2N - 1494)) + B_{\bar{N}}(2N + 806 - (N + 1557)) \\
&= B_{\bar{N}}(N - 750) + B_{\bar{N}}(2300) + B_{\bar{N}}(N - 751) = (N - 750) + 2300 + (N - 751) = \mathbf{2N} + \mathbf{799} \\
&(N \geq 2300)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 807) &= B_{\bar{N}}(2N + 807 - B_{\bar{N}}(2N + 806)) + B_{\bar{N}}(2N + 807 - B_{\bar{N}}(2N + 805)) + B_{\bar{N}}(2N + 807 - B_{\bar{N}}(2N + 804)) \\
&= B_{\bar{N}}(2N + 807 - (2N + 799)) + B_{\bar{N}}(2N + 807 - (N + 1556)) + B_{\bar{N}}(2N + 807 - (2N - 1494)) \\
&= B_{\bar{N}}(8) + B_{\bar{N}}(N - 749) + B_{\bar{N}}(2301) = 8 + (N - 749) + 2301 = \mathbf{N} + \mathbf{1560} \\
&(N \geq 2301)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 808) &= B_{\bar{N}}(2N + 808 - B_{\bar{N}}(2N + 807)) + B_{\bar{N}}(2N + 808 - B_{\bar{N}}(2N + 806)) + B_{\bar{N}}(2N + 808 - B_{\bar{N}}(2N + 805)) \\
&= B_{\bar{N}}(2N + 808 - (N + 1560)) + B_{\bar{N}}(2N + 808 - (2N + 799)) + B_{\bar{N}}(2N + 808 - (N + 1556)) \\
&= B_{\bar{N}}(N - 752) + B_{\bar{N}}(9) + B_{\bar{N}}(N - 748) = (N - 752) + 9 + (N - 748) = \mathbf{2N} - \mathbf{1491} \\
&(N \geq 753)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 809) &= B_{\bar{N}}(2N + 809 - B_{\bar{N}}(2N + 808)) + B_{\bar{N}}(2N + 809 - B_{\bar{N}}(2N + 807)) + B_{\bar{N}}(2N + 809 - B_{\bar{N}}(2N + 806)) \\
&= B_{\bar{N}}(2N + 809 - (2N - 1491)) + B_{\bar{N}}(2N + 809 - (N + 1560)) + B_{\bar{N}}(2N + 809 - (2N + 799)) \\
&= B_{\bar{N}}(2300) + B_{\bar{N}}(N - 751) + B_{\bar{N}}(10) = 2300 + (N - 751) + 10 = \mathbf{N} + \mathbf{1559} \\
&(N \geq 2300)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 810) &= B_{\bar{N}}(2N + 810 - B_{\bar{N}}(2N + 809)) + B_{\bar{N}}(2N + 810 - B_{\bar{N}}(2N + 808)) + B_{\bar{N}}(2N + 810 - B_{\bar{N}}(2N + 807)) \\
&= B_{\bar{N}}(2N + 810 - (N + 1559)) + B_{\bar{N}}(2N + 810 - (2N - 1491)) + B_{\bar{N}}(2N + 810 - (N + 1560)) \\
&= B_{\bar{N}}(N - 749) + B_{\bar{N}}(2301) + B_{\bar{N}}(N - 750) = (N - 749) + 2301 + (N - 750) = \mathbf{2N} + \mathbf{802} \\
&(N \geq 2301)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 811) &= B_{\bar{N}}(2N + 811 - B_{\bar{N}}(2N + 810)) + B_{\bar{N}}(2N + 811 - B_{\bar{N}}(2N + 809)) + B_{\bar{N}}(2N + 811 - B_{\bar{N}}(2N + 808)) \\
&= B_{\bar{N}}(2N + 811 - (2N + 802)) + B_{\bar{N}}(2N + 811 - (N + 1559)) + B_{\bar{N}}(2N + 811 - (2N - 1491)) \\
&= B_{\bar{N}}(9) + B_{\bar{N}}(N - 748) + B_{\bar{N}}(2302) = 9 + (N - 748) + 2302 = \mathbf{N} + \mathbf{1563} \\
&(N \geq 2302)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 812) &= B_{\bar{N}}(2N + 812 - B_{\bar{N}}(2N + 811)) + B_{\bar{N}}(2N + 812 - B_{\bar{N}}(2N + 810)) + B_{\bar{N}}(2N + 812 - B_{\bar{N}}(2N + 809)) \\
&= B_{\bar{N}}(2N + 812 - (N + 1563)) + B_{\bar{N}}(2N + 812 - (2N + 802)) + B_{\bar{N}}(2N + 812 - (N + 1559)) \\
&= B_{\bar{N}}(N - 751) + B_{\bar{N}}(10) + B_{\bar{N}}(N - 747) = (N - 751) + 10 + (N - 747) = \mathbf{2N} - \mathbf{1488} \\
&(N \geq 752)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 813) &= B_{\bar{N}}(2N + 813 - B_{\bar{N}}(2N + 812)) + B_{\bar{N}}(2N + 813 - B_{\bar{N}}(2N + 811)) + B_{\bar{N}}(2N + 813 - B_{\bar{N}}(2N + 810)) \\
&= B_{\bar{N}}(2N + 813 - (2N - 1488)) + B_{\bar{N}}(2N + 813 - (N + 1563)) + B_{\bar{N}}(2N + 813 - (2N + 802)) \\
&= B_{\bar{N}}(2301) + B_{\bar{N}}(N - 750) + B_{\bar{N}}(11) = 2301 + (N - 750) + 11 = \mathbf{N} + \mathbf{1562} \\
&(N \geq 2301)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 814) &= B_{\bar{N}}(2N + 814 - B_{\bar{N}}(2N + 813)) + B_{\bar{N}}(2N + 814 - B_{\bar{N}}(2N + 812)) + B_{\bar{N}}(2N + 814 - B_{\bar{N}}(2N + 811)) \\
&= B_{\bar{N}}(2N + 814 - (N + 1562)) + B_{\bar{N}}(2N + 814 - (2N - 1488)) + B_{\bar{N}}(2N + 814 - (N + 1563)) \\
&= B_{\bar{N}}(N - 748) + B_{\bar{N}}(2302) + B_{\bar{N}}(N - 749) = (N - 748) + 2302 + (N - 749) = \mathbf{2N} + \mathbf{805} \\
&(N \geq 2302)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 815) &= B_{\bar{N}}(2N + 815 - B_{\bar{N}}(2N + 814)) + B_{\bar{N}}(2N + 815 - B_{\bar{N}}(2N + 813)) + B_{\bar{N}}(2N + 815 - B_{\bar{N}}(2N + 812)) \\
&= B_{\bar{N}}(2N + 815 - (2N + 805)) + B_{\bar{N}}(2N + 815 - (N + 1562)) + B_{\bar{N}}(2N + 815 - (2N - 1488)) \\
&= B_{\bar{N}}(10) + B_{\bar{N}}(N - 747) + B_{\bar{N}}(2303) = 10 + (N - 747) + 2303 = \mathbf{N} + \mathbf{1566} \\
&(N \geq 2303)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 816) &= B_{\bar{N}}(2N + 816 - B_{\bar{N}}(2N + 815)) + B_{\bar{N}}(2N + 816 - B_{\bar{N}}(2N + 814)) + B_{\bar{N}}(2N + 816 - B_{\bar{N}}(2N + 813)) \\
&= B_{\bar{N}}(2N + 816 - (N + 1566)) + B_{\bar{N}}(2N + 816 - (2N + 805)) + B_{\bar{N}}(2N + 816 - (N + 1562)) \\
&= B_{\bar{N}}(N - 750) + B_{\bar{N}}(11) + B_{\bar{N}}(N - 746) = (N - 750) + 11 + (N - 746) = \mathbf{2N} - \mathbf{1485} \\
&(N \geq 751)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 817) &= B_{\bar{N}}(2N + 817 - B_{\bar{N}}(2N + 816)) + B_{\bar{N}}(2N + 817 - B_{\bar{N}}(2N + 815)) + B_{\bar{N}}(2N + 817 - B_{\bar{N}}(2N + 814)) \\
&= B_{\bar{N}}(2N + 817 - (2N - 1485)) + B_{\bar{N}}(2N + 817 - (N + 1566)) + B_{\bar{N}}(2N + 817 - (2N + 805)) \\
&= B_{\bar{N}}(2302) + B_{\bar{N}}(N - 749) + B_{\bar{N}}(12) = 2302 + (N - 749) + 12 = \mathbf{N} + \mathbf{1565} \\
&(N \geq 2302)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 818) &= B_{\bar{N}}(2N + 818 - B_{\bar{N}}(2N + 817)) + B_{\bar{N}}(2N + 818 - B_{\bar{N}}(2N + 816)) + B_{\bar{N}}(2N + 818 - B_{\bar{N}}(2N + 815)) \\
&= B_{\bar{N}}(2N + 818 - (N + 1565)) + B_{\bar{N}}(2N + 818 - (2N - 1485)) + B_{\bar{N}}(2N + 818 - (N + 1566)) \\
&= B_{\bar{N}}(N - 747) + B_{\bar{N}}(2303) + B_{\bar{N}}(N - 748) = (N - 747) + 2303 + (N - 748) = \mathbf{2N} + \mathbf{808} \\
&(N \geq 2303)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 819) &= B_{\bar{N}}(2N + 819 - B_{\bar{N}}(2N + 818)) + B_{\bar{N}}(2N + 819 - B_{\bar{N}}(2N + 817)) + B_{\bar{N}}(2N + 819 - B_{\bar{N}}(2N + 816)) \\
&= B_{\bar{N}}(2N + 819 - (2N + 808)) + B_{\bar{N}}(2N + 819 - (N + 1565)) + B_{\bar{N}}(2N + 819 - (2N - 1485)) \\
&= B_{\bar{N}}(11) + B_{\bar{N}}(N - 746) + B_{\bar{N}}(2304) = 11 + (N - 746) + 2304 = \mathbf{N} + \mathbf{1569} \\
&(N \geq 2304)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 820) &= B_{\bar{N}}(2N + 820 - B_{\bar{N}}(2N + 819)) + B_{\bar{N}}(2N + 820 - B_{\bar{N}}(2N + 818)) + B_{\bar{N}}(2N + 820 - B_{\bar{N}}(2N + 817)) \\
&= B_{\bar{N}}(2N + 820 - (N + 1569)) + B_{\bar{N}}(2N + 820 - (2N + 808)) + B_{\bar{N}}(2N + 820 - (N + 1565)) \\
&= B_{\bar{N}}(N - 749) + B_{\bar{N}}(12) + B_{\bar{N}}(N - 745) = (N - 749) + 12 + (N - 745) = \mathbf{2N} - \mathbf{1482} \\
&(N \geq 750)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 821) &= B_{\bar{N}}(2N + 821 - B_{\bar{N}}(2N + 820)) + B_{\bar{N}}(2N + 821 - B_{\bar{N}}(2N + 819)) + B_{\bar{N}}(2N + 821 - B_{\bar{N}}(2N + 818)) \\
&= B_{\bar{N}}(2N + 821 - (2N - 1482)) + B_{\bar{N}}(2N + 821 - (N + 1569)) + B_{\bar{N}}(2N + 821 - (2N + 808)) \\
&= B_{\bar{N}}(2303) + B_{\bar{N}}(N - 748) + B_{\bar{N}}(13) = 2303 + (N - 748) + 13 = \mathbf{N} + \mathbf{1568} \\
&(N \geq 2303)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 822) &= B_{\bar{N}}(2N + 822 - B_{\bar{N}}(2N + 821)) + B_{\bar{N}}(2N + 822 - B_{\bar{N}}(2N + 820)) + B_{\bar{N}}(2N + 822 - B_{\bar{N}}(2N + 819)) \\
&= B_{\bar{N}}(2N + 822 - (N + 1568)) + B_{\bar{N}}(2N + 822 - (2N - 1482)) + B_{\bar{N}}(2N + 822 - (N + 1569)) \\
&= B_{\bar{N}}(N - 746) + B_{\bar{N}}(2304) + B_{\bar{N}}(N - 747) = (N - 746) + 2304 + (N - 747) = \mathbf{2N} + \mathbf{811} \\
&(N \geq 2304)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 823) &= B_{\bar{N}}(2N + 823 - B_{\bar{N}}(2N + 822)) + B_{\bar{N}}(2N + 823 - B_{\bar{N}}(2N + 821)) + B_{\bar{N}}(2N + 823 - B_{\bar{N}}(2N + 820)) \\
&= B_{\bar{N}}(2N + 823 - (2N + 811)) + B_{\bar{N}}(2N + 823 - (N + 1568)) + B_{\bar{N}}(2N + 823 - (2N - 1482)) \\
&= B_{\bar{N}}(12) + B_{\bar{N}}(N - 745) + B_{\bar{N}}(2305) = 12 + (N - 745) + 2305 = \mathbf{N} + \mathbf{1572} \\
&(N \geq 2305)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 824) &= B_{\bar{N}}(2N + 824 - B_{\bar{N}}(2N + 823)) + B_{\bar{N}}(2N + 824 - B_{\bar{N}}(2N + 822)) + B_{\bar{N}}(2N + 824 - B_{\bar{N}}(2N + 821)) \\
&= B_{\bar{N}}(2N + 824 - (N + 1572)) + B_{\bar{N}}(2N + 824 - (2N + 811)) + B_{\bar{N}}(2N + 824 - (N + 1568)) \\
&= B_{\bar{N}}(N - 748) + B_{\bar{N}}(13) + B_{\bar{N}}(N - 744) = (N - 748) + 13 + (N - 744) = \mathbf{2N} - \mathbf{1479} \\
&(N \geq 749)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 825) &= B_{\bar{N}}(2N + 825 - B_{\bar{N}}(2N + 824)) + B_{\bar{N}}(2N + 825 - B_{\bar{N}}(2N + 823)) + B_{\bar{N}}(2N + 825 - B_{\bar{N}}(2N + 822)) \\
&= B_{\bar{N}}(2N + 825 - (2N - 1479)) + B_{\bar{N}}(2N + 825 - (N + 1572)) + B_{\bar{N}}(2N + 825 - (2N + 811)) \\
&= B_{\bar{N}}(2304) + B_{\bar{N}}(N - 747) + B_{\bar{N}}(14) = 2304 + (N - 747) + 14 = \mathbf{N} + \mathbf{1571} \\
&(N \geq 2304)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 826) &= B_{\bar{N}}(2N + 826 - B_{\bar{N}}(2N + 825)) + B_{\bar{N}}(2N + 826 - B_{\bar{N}}(2N + 824)) + B_{\bar{N}}(2N + 826 - B_{\bar{N}}(2N + 823)) \\
&= B_{\bar{N}}(2N + 826 - (N + 1571)) + B_{\bar{N}}(2N + 826 - (2N - 1479)) + B_{\bar{N}}(2N + 826 - (N + 1572)) \\
&= B_{\bar{N}}(N - 745) + B_{\bar{N}}(2305) + B_{\bar{N}}(N - 746) = (N - 745) + 2305 + (N - 746) = \mathbf{2N} + \mathbf{814} \\
&(N \geq 2305)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 827) &= B_{\bar{N}}(2N + 827 - B_{\bar{N}}(2N + 826)) + B_{\bar{N}}(2N + 827 - B_{\bar{N}}(2N + 825)) + B_{\bar{N}}(2N + 827 - B_{\bar{N}}(2N + 824)) \\
&= B_{\bar{N}}(2N + 827 - (2N + 814)) + B_{\bar{N}}(2N + 827 - (N + 1571)) + B_{\bar{N}}(2N + 827 - (2N - 1479)) \\
&= B_{\bar{N}}(13) + B_{\bar{N}}(N - 744) + B_{\bar{N}}(2306) = 13 + (N - 744) + 2306 = \mathbf{N} + \mathbf{1575} \\
&(N \geq 2306)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 828) &= B_{\bar{N}}(2N + 828 - B_{\bar{N}}(2N + 827)) + B_{\bar{N}}(2N + 828 - B_{\bar{N}}(2N + 826)) + B_{\bar{N}}(2N + 828 - B_{\bar{N}}(2N + 825)) \\
&= B_{\bar{N}}(2N + 828 - (N + 1575)) + B_{\bar{N}}(2N + 828 - (2N + 814)) + B_{\bar{N}}(2N + 828 - (N + 1571)) \\
&= B_{\bar{N}}(N - 747) + B_{\bar{N}}(14) + B_{\bar{N}}(N - 743) = (N - 747) + 14 + (N - 743) = \mathbf{2N} - \mathbf{1476} \\
&(N \geq 748)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 829) &= B_{\bar{N}}(2N + 829 - B_{\bar{N}}(2N + 828)) + B_{\bar{N}}(2N + 829 - B_{\bar{N}}(2N + 827)) + B_{\bar{N}}(2N + 829 - B_{\bar{N}}(2N + 826)) \\
&= B_{\bar{N}}(2N + 829 - (2N - 1476)) + B_{\bar{N}}(2N + 829 - (N + 1575)) + B_{\bar{N}}(2N + 829 - (2N + 814)) \\
&= B_{\bar{N}}(2305) + B_{\bar{N}}(N - 746) + B_{\bar{N}}(15) = 2305 + (N - 746) + 15 = \mathbf{N} + \mathbf{1574} \\
&(N \geq 2305)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 830) &= B_{\bar{N}}(2N + 830 - B_{\bar{N}}(2N + 829)) + B_{\bar{N}}(2N + 830 - B_{\bar{N}}(2N + 828)) + B_{\bar{N}}(2N + 830 - B_{\bar{N}}(2N + 827)) \\
&= B_{\bar{N}}(2N + 830 - (N + 1574)) + B_{\bar{N}}(2N + 830 - (2N - 1476)) + B_{\bar{N}}(2N + 830 - (N + 1575)) \\
&= B_{\bar{N}}(N - 744) + B_{\bar{N}}(2306) + B_{\bar{N}}(N - 745) = (N - 744) + 2306 + (N - 745) = \mathbf{2N} + \mathbf{817} \\
&(N \geq 2306)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 831) &= B_{\bar{N}}(2N + 831 - B_{\bar{N}}(2N + 830)) + B_{\bar{N}}(2N + 831 - B_{\bar{N}}(2N + 829)) + B_{\bar{N}}(2N + 831 - B_{\bar{N}}(2N + 828)) \\
&= B_{\bar{N}}(2N + 831 - (2N + 817)) + B_{\bar{N}}(2N + 831 - (N + 1574)) + B_{\bar{N}}(2N + 831 - (2N - 1476)) \\
&= B_{\bar{N}}(14) + B_{\bar{N}}(N - 743) + B_{\bar{N}}(2307) = 14 + (N - 743) + 2307 = \mathbf{N} + \mathbf{1578} \\
&(N \geq 2307)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 832) &= B_{\bar{N}}(2N + 832 - B_{\bar{N}}(2N + 831)) + B_{\bar{N}}(2N + 832 - B_{\bar{N}}(2N + 830)) + B_{\bar{N}}(2N + 832 - B_{\bar{N}}(2N + 829)) \\
&= B_{\bar{N}}(2N + 832 - (N + 1578)) + B_{\bar{N}}(2N + 832 - (2N + 817)) + B_{\bar{N}}(2N + 832 - (N + 1574)) \\
&= B_{\bar{N}}(N - 746) + B_{\bar{N}}(15) + B_{\bar{N}}(N - 742) = (N - 746) + 15 + (N - 742) = \mathbf{2N} - \mathbf{1473} \\
&(N \geq 747)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 833) &= B_{\bar{N}}(2N + 833 - B_{\bar{N}}(2N + 832)) + B_{\bar{N}}(2N + 833 - B_{\bar{N}}(2N + 831)) + B_{\bar{N}}(2N + 833 - B_{\bar{N}}(2N + 830)) \\
&= B_{\bar{N}}(2N + 833 - (2N - 1473)) + B_{\bar{N}}(2N + 833 - (N + 1578)) + B_{\bar{N}}(2N + 833 - (2N + 817)) \\
&= B_{\bar{N}}(2306) + B_{\bar{N}}(N - 745) + B_{\bar{N}}(16) = 2306 + (N - 745) + 16 = \mathbf{N} + \mathbf{1577} \\
&(N \geq 2306)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 834) &= B_{\bar{N}}(2N + 834 - B_{\bar{N}}(2N + 833)) + B_{\bar{N}}(2N + 834 - B_{\bar{N}}(2N + 832)) + B_{\bar{N}}(2N + 834 - B_{\bar{N}}(2N + 831)) \\
&= B_{\bar{N}}(2N + 834 - (N + 1577)) + B_{\bar{N}}(2N + 834 - (2N - 1473)) + B_{\bar{N}}(2N + 834 - (N + 1578)) \\
&= B_{\bar{N}}(N - 743) + B_{\bar{N}}(2307) + B_{\bar{N}}(N - 744) = (N - 743) + 2307 + (N - 744) = \mathbf{2N} + \mathbf{820} \\
&(N \geq 2307)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 835) &= B_{\bar{N}}(2N + 835 - B_{\bar{N}}(2N + 834)) + B_{\bar{N}}(2N + 835 - B_{\bar{N}}(2N + 833)) + B_{\bar{N}}(2N + 835 - B_{\bar{N}}(2N + 832)) \\
&= B_{\bar{N}}(2N + 835 - (2N + 820)) + B_{\bar{N}}(2N + 835 - (N + 1577)) + B_{\bar{N}}(2N + 835 - (2N - 1473)) \\
&= B_{\bar{N}}(15) + B_{\bar{N}}(N - 742) + B_{\bar{N}}(2308) = 15 + (N - 742) + 2308 = \mathbf{N} + \mathbf{1581} \\
&(N \geq 2308)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 836) &= B_{\bar{N}}(2N + 836 - B_{\bar{N}}(2N + 835)) + B_{\bar{N}}(2N + 836 - B_{\bar{N}}(2N + 834)) + B_{\bar{N}}(2N + 836 - B_{\bar{N}}(2N + 833)) \\
&= B_{\bar{N}}(2N + 836 - (N + 1581)) + B_{\bar{N}}(2N + 836 - (2N + 820)) + B_{\bar{N}}(2N + 836 - (N + 1577)) \\
&= B_{\bar{N}}(N - 745) + B_{\bar{N}}(16) + B_{\bar{N}}(N - 741) = (N - 745) + 16 + (N - 741) = \mathbf{2N} - \mathbf{1470} \\
&(N \geq 746)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 837) &= B_{\bar{N}}(2N + 837 - B_{\bar{N}}(2N + 836)) + B_{\bar{N}}(2N + 837 - B_{\bar{N}}(2N + 835)) + B_{\bar{N}}(2N + 837 - B_{\bar{N}}(2N + 834)) \\
&= B_{\bar{N}}(2N + 837 - (2N - 1470)) + B_{\bar{N}}(2N + 837 - (N + 1581)) + B_{\bar{N}}(2N + 837 - (2N + 820)) \\
&= B_{\bar{N}}(2307) + B_{\bar{N}}(N - 744) + B_{\bar{N}}(17) = 2307 + (N - 744) + 17 = \mathbf{N} + \mathbf{1580} \\
&(N \geq 2307)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 838) &= B_{\bar{N}}(2N + 838 - B_{\bar{N}}(2N + 837)) + B_{\bar{N}}(2N + 838 - B_{\bar{N}}(2N + 836)) + B_{\bar{N}}(2N + 838 - B_{\bar{N}}(2N + 835)) \\
&= B_{\bar{N}}(2N + 838 - (N + 1580)) + B_{\bar{N}}(2N + 838 - (2N - 1470)) + B_{\bar{N}}(2N + 838 - (N + 1581)) \\
&= B_{\bar{N}}(N - 742) + B_{\bar{N}}(2308) + B_{\bar{N}}(N - 743) = (N - 742) + 2308 + (N - 743) = \mathbf{2N} + \mathbf{823} \\
&(N \geq 2308)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 839) &= B_{\bar{N}}(2N + 839 - B_{\bar{N}}(2N + 838)) + B_{\bar{N}}(2N + 839 - B_{\bar{N}}(2N + 837)) + B_{\bar{N}}(2N + 839 - B_{\bar{N}}(2N + 836)) \\
&= B_{\bar{N}}(2N + 839 - (2N + 823)) + B_{\bar{N}}(2N + 839 - (N + 1580)) + B_{\bar{N}}(2N + 839 - (2N - 1470)) \\
&= B_{\bar{N}}(16) + B_{\bar{N}}(N - 741) + B_{\bar{N}}(2309) = 16 + (N - 741) + 2309 = \mathbf{N} + \mathbf{1584} \\
&(N \geq 2309)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 840) &= B_{\bar{N}}(2N + 840 - B_{\bar{N}}(2N + 839)) + B_{\bar{N}}(2N + 840 - B_{\bar{N}}(2N + 838)) + B_{\bar{N}}(2N + 840 - B_{\bar{N}}(2N + 837)) \\
&= B_{\bar{N}}(2N + 840 - (N + 1584)) + B_{\bar{N}}(2N + 840 - (2N + 823)) + B_{\bar{N}}(2N + 840 - (N + 1580)) \\
&= B_{\bar{N}}(N - 744) + B_{\bar{N}}(17) + B_{\bar{N}}(N - 740) = (N - 744) + 17 + (N - 740) = \mathbf{2N} - \mathbf{1467} \\
&(N \geq 745)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 841) &= B_{\bar{N}}(2N + 841 - B_{\bar{N}}(2N + 840)) + B_{\bar{N}}(2N + 841 - B_{\bar{N}}(2N + 839)) + B_{\bar{N}}(2N + 841 - B_{\bar{N}}(2N + 838)) \\
&= B_{\bar{N}}(2N + 841 - (2N - 1467)) + B_{\bar{N}}(2N + 841 - (N + 1584)) + B_{\bar{N}}(2N + 841 - (2N + 823)) \\
&= B_{\bar{N}}(2308) + B_{\bar{N}}(N - 743) + B_{\bar{N}}(18) = 2308 + (N - 743) + 18 = \mathbf{N} + \mathbf{1583} \\
&(N \geq 2308)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 842) &= B_{\bar{N}}(2N + 842 - B_{\bar{N}}(2N + 841)) + B_{\bar{N}}(2N + 842 - B_{\bar{N}}(2N + 840)) + B_{\bar{N}}(2N + 842 - B_{\bar{N}}(2N + 839)) \\
&= B_{\bar{N}}(2N + 842 - (N + 1583)) + B_{\bar{N}}(2N + 842 - (2N - 1467)) + B_{\bar{N}}(2N + 842 - (N + 1584)) \\
&= B_{\bar{N}}(N - 741) + B_{\bar{N}}(2309) + B_{\bar{N}}(N - 742) = (N - 741) + 2309 + (N - 742) = \mathbf{2N} + \mathbf{826} \\
&(N \geq 2309)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 843) &= B_{\bar{N}}(2N + 843 - B_{\bar{N}}(2N + 842)) + B_{\bar{N}}(2N + 843 - B_{\bar{N}}(2N + 841)) + B_{\bar{N}}(2N + 843 - B_{\bar{N}}(2N + 840)) \\
&= B_{\bar{N}}(2N + 843 - (2N + 826)) + B_{\bar{N}}(2N + 843 - (N + 1583)) + B_{\bar{N}}(2N + 843 - (2N - 1467)) \\
&= B_{\bar{N}}(17) + B_{\bar{N}}(N - 740) + B_{\bar{N}}(2310) = 17 + (N - 740) + 2310 = \mathbf{N} + \mathbf{1587} \\
&(N \geq 2310)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 844) &= B_{\bar{N}}(2N + 844 - B_{\bar{N}}(2N + 843)) + B_{\bar{N}}(2N + 844 - B_{\bar{N}}(2N + 842)) + B_{\bar{N}}(2N + 844 - B_{\bar{N}}(2N + 841)) \\
&= B_{\bar{N}}(2N + 844 - (N + 1587)) + B_{\bar{N}}(2N + 844 - (2N + 826)) + B_{\bar{N}}(2N + 844 - (N + 1583)) \\
&= B_{\bar{N}}(N - 743) + B_{\bar{N}}(18) + B_{\bar{N}}(N - 739) = (N - 743) + 18 + (N - 739) = \mathbf{2N} - \mathbf{1464} \\
&(N \geq 744)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 845) &= B_{\bar{N}}(2N + 845 - B_{\bar{N}}(2N + 844)) + B_{\bar{N}}(2N + 845 - B_{\bar{N}}(2N + 843)) + B_{\bar{N}}(2N + 845 - B_{\bar{N}}(2N + 842)) \\
&= B_{\bar{N}}(2N + 845 - (2N - 1464)) + B_{\bar{N}}(2N + 845 - (N + 1587)) + B_{\bar{N}}(2N + 845 - (2N + 826)) \\
&= B_{\bar{N}}(2309) + B_{\bar{N}}(N - 742) + B_{\bar{N}}(19) = 2309 + (N - 742) + 19 = \mathbf{N} + \mathbf{1586} \\
&(N \geq 2309)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 846) &= B_{\bar{N}}(2N + 846 - B_{\bar{N}}(2N + 845)) + B_{\bar{N}}(2N + 846 - B_{\bar{N}}(2N + 844)) + B_{\bar{N}}(2N + 846 - B_{\bar{N}}(2N + 843)) \\
&= B_{\bar{N}}(2N + 846 - (N + 1586)) + B_{\bar{N}}(2N + 846 - (2N - 1464)) + B_{\bar{N}}(2N + 846 - (N + 1587)) \\
&= B_{\bar{N}}(N - 740) + B_{\bar{N}}(2310) + B_{\bar{N}}(N - 741) = (N - 740) + 2310 + (N - 741) = \mathbf{2N} + \mathbf{829} \\
&(N \geq 2310)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 847) &= B_{\bar{N}}(2N + 847 - B_{\bar{N}}(2N + 846)) + B_{\bar{N}}(2N + 847 - B_{\bar{N}}(2N + 845)) + B_{\bar{N}}(2N + 847 - B_{\bar{N}}(2N + 844)) \\
&= B_{\bar{N}}(2N + 847 - (2N + 829)) + B_{\bar{N}}(2N + 847 - (N + 1586)) + B_{\bar{N}}(2N + 847 - (2N - 1464)) \\
&= B_{\bar{N}}(18) + B_{\bar{N}}(N - 739) + B_{\bar{N}}(2311) = 18 + (N - 739) + 2311 = \mathbf{N} + \mathbf{1590} \\
&(N \geq 2311)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 848) &= B_{\bar{N}}(2N + 848 - B_{\bar{N}}(2N + 847)) + B_{\bar{N}}(2N + 848 - B_{\bar{N}}(2N + 846)) + B_{\bar{N}}(2N + 848 - B_{\bar{N}}(2N + 845)) \\
&= B_{\bar{N}}(2N + 848 - (N + 1590)) + B_{\bar{N}}(2N + 848 - (2N + 829)) + B_{\bar{N}}(2N + 848 - (N + 1586)) \\
&= B_{\bar{N}}(N - 742) + B_{\bar{N}}(19) + B_{\bar{N}}(N - 738) = (N - 742) + 19 + (N - 738) = \mathbf{2N} - \mathbf{1461} \\
&(N \geq 743)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 849) &= B_{\bar{N}}(2N + 849 - B_{\bar{N}}(2N + 848)) + B_{\bar{N}}(2N + 849 - B_{\bar{N}}(2N + 847)) + B_{\bar{N}}(2N + 849 - B_{\bar{N}}(2N + 846)) \\
&= B_{\bar{N}}(2N + 849 - (2N - 1461)) + B_{\bar{N}}(2N + 849 - (N + 1590)) + B_{\bar{N}}(2N + 849 - (2N + 829)) \\
&= B_{\bar{N}}(2310) + B_{\bar{N}}(N - 741) + B_{\bar{N}}(20) = 2310 + (N - 741) + 20 = \mathbf{N} + \mathbf{1589} \\
&(N \geq 2310)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 850) &= B_{\bar{N}}(2N + 850 - B_{\bar{N}}(2N + 849)) + B_{\bar{N}}(2N + 850 - B_{\bar{N}}(2N + 848)) + B_{\bar{N}}(2N + 850 - B_{\bar{N}}(2N + 847)) \\
&= B_{\bar{N}}(2N + 850 - (N + 1589)) + B_{\bar{N}}(2N + 850 - (2N - 1461)) + B_{\bar{N}}(2N + 850 - (N + 1590)) \\
&= B_{\bar{N}}(N - 739) + B_{\bar{N}}(2311) + B_{\bar{N}}(N - 740) = (N - 739) + 2311 + (N - 740) = \mathbf{2N} + \mathbf{832} \\
&(N \geq 2311)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 851) &= B_{\bar{N}}(2N + 851 - B_{\bar{N}}(2N + 850)) + B_{\bar{N}}(2N + 851 - B_{\bar{N}}(2N + 849)) + B_{\bar{N}}(2N + 851 - B_{\bar{N}}(2N + 848)) \\
&= B_{\bar{N}}(2N + 851 - (2N + 832)) + B_{\bar{N}}(2N + 851 - (N + 1589)) + B_{\bar{N}}(2N + 851 - (2N - 1461)) \\
&= B_{\bar{N}}(19) + B_{\bar{N}}(N - 738) + B_{\bar{N}}(2312) = 19 + (N - 738) + 2312 = \mathbf{N} + \mathbf{1593} \\
&(N \geq 2312)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 852) &= B_{\bar{N}}(2N + 852 - B_{\bar{N}}(2N + 851)) + B_{\bar{N}}(2N + 852 - B_{\bar{N}}(2N + 850)) + B_{\bar{N}}(2N + 852 - B_{\bar{N}}(2N + 849)) \\
&= B_{\bar{N}}(2N + 852 - (N + 1593)) + B_{\bar{N}}(2N + 852 - (2N + 832)) + B_{\bar{N}}(2N + 852 - (N + 1589)) \\
&= B_{\bar{N}}(N - 741) + B_{\bar{N}}(20) + B_{\bar{N}}(N - 737) = (N - 741) + 20 + (N - 737) = \mathbf{2N} - \mathbf{1458} \\
&(N \geq 742)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 853) &= B_{\bar{N}}(2N + 853 - B_{\bar{N}}(2N + 852)) + B_{\bar{N}}(2N + 853 - B_{\bar{N}}(2N + 851)) + B_{\bar{N}}(2N + 853 - B_{\bar{N}}(2N + 850)) \\
&= B_{\bar{N}}(2N + 853 - (2N - 1458)) + B_{\bar{N}}(2N + 853 - (N + 1593)) + B_{\bar{N}}(2N + 853 - (2N + 832)) \\
&= B_{\bar{N}}(2311) + B_{\bar{N}}(N - 740) + B_{\bar{N}}(21) = 2311 + (N - 740) + 21 = \mathbf{N} + \mathbf{1592} \\
&(N \geq 2311)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 854) &= B_{\bar{N}}(2N + 854 - B_{\bar{N}}(2N + 853)) + B_{\bar{N}}(2N + 854 - B_{\bar{N}}(2N + 852)) + B_{\bar{N}}(2N + 854 - B_{\bar{N}}(2N + 851)) \\
&= B_{\bar{N}}(2N + 854 - (N + 1592)) + B_{\bar{N}}(2N + 854 - (2N - 1458)) + B_{\bar{N}}(2N + 854 - (N + 1593)) \\
&= B_{\bar{N}}(N - 738) + B_{\bar{N}}(2312) + B_{\bar{N}}(N - 739) = (N - 738) + 2312 + (N - 739) = \mathbf{2N} + \mathbf{835} \\
&(N \geq 2312)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 855) &= B_{\bar{N}}(2N + 855 - B_{\bar{N}}(2N + 854)) + B_{\bar{N}}(2N + 855 - B_{\bar{N}}(2N + 853)) + B_{\bar{N}}(2N + 855 - B_{\bar{N}}(2N + 852)) \\
&= B_{\bar{N}}(2N + 855 - (2N + 835)) + B_{\bar{N}}(2N + 855 - (N + 1592)) + B_{\bar{N}}(2N + 855 - (2N - 1458)) \\
&= B_{\bar{N}}(20) + B_{\bar{N}}(N - 737) + B_{\bar{N}}(2313) = 20 + (N - 737) + 2313 = \mathbf{N} + \mathbf{1596} \\
&(N \geq 2313)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 856) &= B_{\bar{N}}(2N + 856 - B_{\bar{N}}(2N + 855)) + B_{\bar{N}}(2N + 856 - B_{\bar{N}}(2N + 854)) + B_{\bar{N}}(2N + 856 - B_{\bar{N}}(2N + 853)) \\
&= B_{\bar{N}}(2N + 856 - (N + 1596)) + B_{\bar{N}}(2N + 856 - (2N + 835)) + B_{\bar{N}}(2N + 856 - (N + 1592)) \\
&= B_{\bar{N}}(N - 740) + B_{\bar{N}}(21) + B_{\bar{N}}(N - 736) = (N - 740) + 21 + (N - 736) = \mathbf{2N} - \mathbf{1455} \\
&(N \geq 741)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 857) &= B_{\bar{N}}(2N + 857 - B_{\bar{N}}(2N + 856)) + B_{\bar{N}}(2N + 857 - B_{\bar{N}}(2N + 855)) + B_{\bar{N}}(2N + 857 - B_{\bar{N}}(2N + 854)) \\
&= B_{\bar{N}}(2N + 857 - (2N - 1455)) + B_{\bar{N}}(2N + 857 - (N + 1596)) + B_{\bar{N}}(2N + 857 - (2N + 835)) \\
&= B_{\bar{N}}(2312) + B_{\bar{N}}(N - 739) + B_{\bar{N}}(22) = 2312 + (N - 739) + 22 = \mathbf{N} + \mathbf{1595} \\
&(N \geq 2312)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 858) &= B_{\bar{N}}(2N + 858 - B_{\bar{N}}(2N + 857)) + B_{\bar{N}}(2N + 858 - B_{\bar{N}}(2N + 856)) + B_{\bar{N}}(2N + 858 - B_{\bar{N}}(2N + 855)) \\
&= B_{\bar{N}}(2N + 858 - (N + 1595)) + B_{\bar{N}}(2N + 858 - (2N - 1455)) + B_{\bar{N}}(2N + 858 - (N + 1596)) \\
&= B_{\bar{N}}(N - 737) + B_{\bar{N}}(2313) + B_{\bar{N}}(N - 738) = (N - 737) + 2313 + (N - 738) = \mathbf{2N} + \mathbf{838} \\
&(N \geq 2313)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 859) &= B_{\bar{N}}(2N + 859 - B_{\bar{N}}(2N + 858)) + B_{\bar{N}}(2N + 859 - B_{\bar{N}}(2N + 857)) + B_{\bar{N}}(2N + 859 - B_{\bar{N}}(2N + 856)) \\
&= B_{\bar{N}}(2N + 859 - (2N + 838)) + B_{\bar{N}}(2N + 859 - (N + 1595)) + B_{\bar{N}}(2N + 859 - (2N - 1455)) \\
&= B_{\bar{N}}(21) + B_{\bar{N}}(N - 736) + B_{\bar{N}}(2314) = 21 + (N - 736) + 2314 = \mathbf{N} + \mathbf{1599} \\
&(N \geq 2314)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 860) &= B_{\bar{N}}(2N + 860 - B_{\bar{N}}(2N + 859)) + B_{\bar{N}}(2N + 860 - B_{\bar{N}}(2N + 858)) + B_{\bar{N}}(2N + 860 - B_{\bar{N}}(2N + 857)) \\
&= B_{\bar{N}}(2N + 860 - (N + 1599)) + B_{\bar{N}}(2N + 860 - (2N + 838)) + B_{\bar{N}}(2N + 860 - (N + 1595)) \\
&= B_{\bar{N}}(N - 739) + B_{\bar{N}}(22) + B_{\bar{N}}(N - 735) = (N - 739) + 22 + (N - 735) = \mathbf{2N} - \mathbf{1452} \\
&(N \geq 740)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 861) &= B_{\bar{N}}(2N + 861 - B_{\bar{N}}(2N + 860)) + B_{\bar{N}}(2N + 861 - B_{\bar{N}}(2N + 859)) + B_{\bar{N}}(2N + 861 - B_{\bar{N}}(2N + 858)) \\
&= B_{\bar{N}}(2N + 861 - (2N - 1452)) + B_{\bar{N}}(2N + 861 - (N + 1599)) + B_{\bar{N}}(2N + 861 - (2N + 838)) \\
&= B_{\bar{N}}(2313) + B_{\bar{N}}(N - 738) + B_{\bar{N}}(23) = 2313 + (N - 738) + 23 = \mathbf{N} + \mathbf{1598} \\
&(N \geq 2313)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 862) &= B_{\bar{N}}(2N + 862 - B_{\bar{N}}(2N + 861)) + B_{\bar{N}}(2N + 862 - B_{\bar{N}}(2N + 860)) + B_{\bar{N}}(2N + 862 - B_{\bar{N}}(2N + 859)) \\
&= B_{\bar{N}}(2N + 862 - (N + 1598)) + B_{\bar{N}}(2N + 862 - (2N - 1452)) + B_{\bar{N}}(2N + 862 - (N + 1599)) \\
&= B_{\bar{N}}(N - 736) + B_{\bar{N}}(2314) + B_{\bar{N}}(N - 737) = (N - 736) + 2314 + (N - 737) = \mathbf{2N} + \mathbf{841} \\
&(N \geq 2314)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 863) &= B_{\bar{N}}(2N + 863 - B_{\bar{N}}(2N + 862)) + B_{\bar{N}}(2N + 863 - B_{\bar{N}}(2N + 861)) + B_{\bar{N}}(2N + 863 - B_{\bar{N}}(2N + 860)) \\
&= B_{\bar{N}}(2N + 863 - (2N + 841)) + B_{\bar{N}}(2N + 863 - (N + 1598)) + B_{\bar{N}}(2N + 863 - (2N - 1452)) \\
&= B_{\bar{N}}(22) + B_{\bar{N}}(N - 735) + B_{\bar{N}}(2315) = 22 + (N - 735) + 2315 = \mathbf{N} + \mathbf{1602} \\
&(N \geq 2315)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 864) &= B_{\bar{N}}(2N + 864 - B_{\bar{N}}(2N + 863)) + B_{\bar{N}}(2N + 864 - B_{\bar{N}}(2N + 862)) + B_{\bar{N}}(2N + 864 - B_{\bar{N}}(2N + 861)) \\
&= B_{\bar{N}}(2N + 864 - (N + 1602)) + B_{\bar{N}}(2N + 864 - (2N + 841)) + B_{\bar{N}}(2N + 864 - (N + 1598)) \\
&= B_{\bar{N}}(N - 738) + B_{\bar{N}}(23) + B_{\bar{N}}(N - 734) = (N - 738) + 23 + (N - 734) = \mathbf{2N} - \mathbf{1449} \\
&(N \geq 739)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 865) &= B_{\bar{N}}(2N + 865 - B_{\bar{N}}(2N + 864)) + B_{\bar{N}}(2N + 865 - B_{\bar{N}}(2N + 863)) + B_{\bar{N}}(2N + 865 - B_{\bar{N}}(2N + 862)) \\
&= B_{\bar{N}}(2N + 865 - (2N - 1449)) + B_{\bar{N}}(2N + 865 - (N + 1602)) + B_{\bar{N}}(2N + 865 - (2N + 841)) \\
&= B_{\bar{N}}(2314) + B_{\bar{N}}(N - 737) + B_{\bar{N}}(24) = 2314 + (N - 737) + 24 = \mathbf{N} + \mathbf{1601} \\
&(N \geq 2314)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 866) &= B_{\bar{N}}(2N + 866 - B_{\bar{N}}(2N + 865)) + B_{\bar{N}}(2N + 866 - B_{\bar{N}}(2N + 864)) + B_{\bar{N}}(2N + 866 - B_{\bar{N}}(2N + 863)) \\
&= B_{\bar{N}}(2N + 866 - (N + 1601)) + B_{\bar{N}}(2N + 866 - (2N - 1449)) + B_{\bar{N}}(2N + 866 - (N + 1602)) \\
&= B_{\bar{N}}(N - 735) + B_{\bar{N}}(2315) + B_{\bar{N}}(N - 736) = (N - 735) + 2315 + (N - 736) = \mathbf{2N} + \mathbf{844} \\
&(N \geq 2315)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 867) &= B_{\bar{N}}(2N + 867 - B_{\bar{N}}(2N + 866)) + B_{\bar{N}}(2N + 867 - B_{\bar{N}}(2N + 865)) + B_{\bar{N}}(2N + 867 - B_{\bar{N}}(2N + 864)) \\
&= B_{\bar{N}}(2N + 867 - (2N + 844)) + B_{\bar{N}}(2N + 867 - (N + 1601)) + B_{\bar{N}}(2N + 867 - (2N - 1449)) \\
&= B_{\bar{N}}(23) + B_{\bar{N}}(N - 734) + B_{\bar{N}}(2316) = 23 + (N - 734) + 2316 = \mathbf{N} + \mathbf{1605} \\
&(N \geq 2316)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 868) &= B_{\bar{N}}(2N + 868 - B_{\bar{N}}(2N + 867)) + B_{\bar{N}}(2N + 868 - B_{\bar{N}}(2N + 866)) + B_{\bar{N}}(2N + 868 - B_{\bar{N}}(2N + 865)) \\
&= B_{\bar{N}}(2N + 868 - (N + 1605)) + B_{\bar{N}}(2N + 868 - (2N + 844)) + B_{\bar{N}}(2N + 868 - (N + 1601)) \\
&= B_{\bar{N}}(N - 737) + B_{\bar{N}}(24) + B_{\bar{N}}(N - 733) = (N - 737) + 24 + (N - 733) = \mathbf{2N} - \mathbf{1446} \\
&(N \geq 738)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 869) &= B_{\bar{N}}(2N + 869 - B_{\bar{N}}(2N + 868)) + B_{\bar{N}}(2N + 869 - B_{\bar{N}}(2N + 867)) + B_{\bar{N}}(2N + 869 - B_{\bar{N}}(2N + 866)) \\
&= B_{\bar{N}}(2N + 869 - (2N - 1446)) + B_{\bar{N}}(2N + 869 - (N + 1605)) + B_{\bar{N}}(2N + 869 - (2N + 844)) \\
&= B_{\bar{N}}(2315) + B_{\bar{N}}(N - 736) + B_{\bar{N}}(25) = 2315 + (N - 736) + 25 = \mathbf{N} + \mathbf{1604} \\
&(N \geq 2315)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 870) &= B_{\bar{N}}(2N + 870 - B_{\bar{N}}(2N + 869)) + B_{\bar{N}}(2N + 870 - B_{\bar{N}}(2N + 868)) + B_{\bar{N}}(2N + 870 - B_{\bar{N}}(2N + 867)) \\
&= B_{\bar{N}}(2N + 870 - (N + 1604)) + B_{\bar{N}}(2N + 870 - (2N - 1446)) + B_{\bar{N}}(2N + 870 - (N + 1605)) \\
&= B_{\bar{N}}(N - 734) + B_{\bar{N}}(2316) + B_{\bar{N}}(N - 735) = (N - 734) + 2316 + (N - 735) = \mathbf{2N} + \mathbf{847} \\
&(N \geq 2316)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 871) &= B_{\bar{N}}(2N + 871 - B_{\bar{N}}(2N + 870)) + B_{\bar{N}}(2N + 871 - B_{\bar{N}}(2N + 869)) + B_{\bar{N}}(2N + 871 - B_{\bar{N}}(2N + 868)) \\
&= B_{\bar{N}}(2N + 871 - (2N + 847)) + B_{\bar{N}}(2N + 871 - (N + 1604)) + B_{\bar{N}}(2N + 871 - (2N - 1446)) \\
&= B_{\bar{N}}(24) + B_{\bar{N}}(N - 733) + B_{\bar{N}}(2317) = 24 + (N - 733) + 2317 = \mathbf{N} + \mathbf{1608} \\
&(N \geq 2317)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 872) &= B_{\bar{N}}(2N + 872 - B_{\bar{N}}(2N + 871)) + B_{\bar{N}}(2N + 872 - B_{\bar{N}}(2N + 870)) + B_{\bar{N}}(2N + 872 - B_{\bar{N}}(2N + 869)) \\
&= B_{\bar{N}}(2N + 872 - (N + 1608)) + B_{\bar{N}}(2N + 872 - (2N + 847)) + B_{\bar{N}}(2N + 872 - (N + 1604)) \\
&= B_{\bar{N}}(N - 736) + B_{\bar{N}}(25) + B_{\bar{N}}(N - 732) = (N - 736) + 25 + (N - 732) = \mathbf{2N} - \mathbf{1443} \\
&(N \geq 737)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 873) &= B_{\bar{N}}(2N + 873 - B_{\bar{N}}(2N + 872)) + B_{\bar{N}}(2N + 873 - B_{\bar{N}}(2N + 871)) + B_{\bar{N}}(2N + 873 - B_{\bar{N}}(2N + 870)) \\
&= B_{\bar{N}}(2N + 873 - (2N - 1443)) + B_{\bar{N}}(2N + 873 - (N + 1608)) + B_{\bar{N}}(2N + 873 - (2N + 847)) \\
&= B_{\bar{N}}(2316) + B_{\bar{N}}(N - 735) + B_{\bar{N}}(26) = 2316 + (N - 735) + 26 = \mathbf{N} + \mathbf{1607} \\
&(N \geq 2316)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 874) &= B_{\bar{N}}(2N + 874 - B_{\bar{N}}(2N + 873)) + B_{\bar{N}}(2N + 874 - B_{\bar{N}}(2N + 872)) + B_{\bar{N}}(2N + 874 - B_{\bar{N}}(2N + 871)) \\
&= B_{\bar{N}}(2N + 874 - (N + 1607)) + B_{\bar{N}}(2N + 874 - (2N - 1443)) + B_{\bar{N}}(2N + 874 - (N + 1608)) \\
&= B_{\bar{N}}(N - 733) + B_{\bar{N}}(2317) + B_{\bar{N}}(N - 734) = (N - 733) + 2317 + (N - 734) = \mathbf{2N} + \mathbf{850} \\
&(N \geq 2317)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 875) &= B_{\bar{N}}(2N + 875 - B_{\bar{N}}(2N + 874)) + B_{\bar{N}}(2N + 875 - B_{\bar{N}}(2N + 873)) + B_{\bar{N}}(2N + 875 - B_{\bar{N}}(2N + 872)) \\
&= B_{\bar{N}}(2N + 875 - (2N + 850)) + B_{\bar{N}}(2N + 875 - (N + 1607)) + B_{\bar{N}}(2N + 875 - (2N - 1443)) \\
&= B_{\bar{N}}(25) + B_{\bar{N}}(N - 732) + B_{\bar{N}}(2318) = 25 + (N - 732) + 2318 = \mathbf{N} + \mathbf{1611} \\
&(N \geq 2318)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 876) &= B_{\bar{N}}(2N + 876 - B_{\bar{N}}(2N + 875)) + B_{\bar{N}}(2N + 876 - B_{\bar{N}}(2N + 874)) + B_{\bar{N}}(2N + 876 - B_{\bar{N}}(2N + 873)) \\
&= B_{\bar{N}}(2N + 876 - (N + 1611)) + B_{\bar{N}}(2N + 876 - (2N + 850)) + B_{\bar{N}}(2N + 876 - (N + 1607)) \\
&= B_{\bar{N}}(N - 735) + B_{\bar{N}}(26) + B_{\bar{N}}(N - 731) = (N - 735) + 26 + (N - 731) = \mathbf{2N} - \mathbf{1440} \\
&(N \geq 736)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 877) &= B_{\bar{N}}(2N + 877 - B_{\bar{N}}(2N + 876)) + B_{\bar{N}}(2N + 877 - B_{\bar{N}}(2N + 875)) + B_{\bar{N}}(2N + 877 - B_{\bar{N}}(2N + 874)) \\
&= B_{\bar{N}}(2N + 877 - (2N - 1440)) + B_{\bar{N}}(2N + 877 - (N + 1611)) + B_{\bar{N}}(2N + 877 - (2N + 850)) \\
&= B_{\bar{N}}(2317) + B_{\bar{N}}(N - 734) + B_{\bar{N}}(27) = 2317 + (N - 734) + 27 = \mathbf{N} + \mathbf{1610} \\
&(N \geq 2317)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 878) &= B_{\bar{N}}(2N + 878 - B_{\bar{N}}(2N + 877)) + B_{\bar{N}}(2N + 878 - B_{\bar{N}}(2N + 876)) + B_{\bar{N}}(2N + 878 - B_{\bar{N}}(2N + 875)) \\
&= B_{\bar{N}}(2N + 878 - (N + 1610)) + B_{\bar{N}}(2N + 878 - (2N - 1440)) + B_{\bar{N}}(2N + 878 - (N + 1611)) \\
&= B_{\bar{N}}(N - 732) + B_{\bar{N}}(2318) + B_{\bar{N}}(N - 733) = (N - 732) + 2318 + (N - 733) = \mathbf{2N} + \mathbf{853} \\
&(N \geq 2318)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 879) &= B_{\bar{N}}(2N + 879 - B_{\bar{N}}(2N + 878)) + B_{\bar{N}}(2N + 879 - B_{\bar{N}}(2N + 877)) + B_{\bar{N}}(2N + 879 - B_{\bar{N}}(2N + 876)) \\
&= B_{\bar{N}}(2N + 879 - (2N + 853)) + B_{\bar{N}}(2N + 879 - (N + 1610)) + B_{\bar{N}}(2N + 879 - (2N - 1440)) \\
&= B_{\bar{N}}(26) + B_{\bar{N}}(N - 731) + B_{\bar{N}}(2319) = 26 + (N - 731) + 2319 = \mathbf{N} + \mathbf{1614} \\
&(N \geq 2319)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 880) &= B_{\bar{N}}(2N + 880 - B_{\bar{N}}(2N + 879)) + B_{\bar{N}}(2N + 880 - B_{\bar{N}}(2N + 878)) + B_{\bar{N}}(2N + 880 - B_{\bar{N}}(2N + 877)) \\
&= B_{\bar{N}}(2N + 880 - (N + 1614)) + B_{\bar{N}}(2N + 880 - (2N + 853)) + B_{\bar{N}}(2N + 880 - (N + 1610)) \\
&= B_{\bar{N}}(N - 734) + B_{\bar{N}}(27) + B_{\bar{N}}(N - 730) = (N - 734) + 27 + (N - 730) = \mathbf{2N} - \mathbf{1437} \\
&(N \geq 735)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 881) &= B_{\bar{N}}(2N + 881 - B_{\bar{N}}(2N + 880)) + B_{\bar{N}}(2N + 881 - B_{\bar{N}}(2N + 879)) + B_{\bar{N}}(2N + 881 - B_{\bar{N}}(2N + 878)) \\
&= B_{\bar{N}}(2N + 881 - (2N - 1437)) + B_{\bar{N}}(2N + 881 - (N + 1614)) + B_{\bar{N}}(2N + 881 - (2N + 853)) \\
&= B_{\bar{N}}(2318) + B_{\bar{N}}(N - 733) + B_{\bar{N}}(28) = 2318 + (N - 733) + 28 = \mathbf{N} + \mathbf{1613} \\
&(N \geq 2318)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 882) &= B_{\bar{N}}(2N + 882 - B_{\bar{N}}(2N + 881)) + B_{\bar{N}}(2N + 882 - B_{\bar{N}}(2N + 880)) + B_{\bar{N}}(2N + 882 - B_{\bar{N}}(2N + 879)) \\
&= B_{\bar{N}}(2N + 882 - (N + 1613)) + B_{\bar{N}}(2N + 882 - (2N - 1437)) + B_{\bar{N}}(2N + 882 - (N + 1614)) \\
&= B_{\bar{N}}(N - 731) + B_{\bar{N}}(2319) + B_{\bar{N}}(N - 732) = (N - 731) + 2319 + (N - 732) = \mathbf{2N} + \mathbf{856} \\
&(N \geq 2319)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 883) &= B_{\bar{N}}(2N + 883 - B_{\bar{N}}(2N + 882)) + B_{\bar{N}}(2N + 883 - B_{\bar{N}}(2N + 881)) + B_{\bar{N}}(2N + 883 - B_{\bar{N}}(2N + 880)) \\
&= B_{\bar{N}}(2N + 883 - (2N + 856)) + B_{\bar{N}}(2N + 883 - (N + 1613)) + B_{\bar{N}}(2N + 883 - (2N - 1437)) \\
&= B_{\bar{N}}(27) + B_{\bar{N}}(N - 730) + B_{\bar{N}}(2320) = 27 + (N - 730) + 2320 = \mathbf{N} + \mathbf{1617} \\
&(N \geq 2320)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 884) &= B_{\bar{N}}(2N + 884 - B_{\bar{N}}(2N + 883)) + B_{\bar{N}}(2N + 884 - B_{\bar{N}}(2N + 882)) + B_{\bar{N}}(2N + 884 - B_{\bar{N}}(2N + 881)) \\
&= B_{\bar{N}}(2N + 884 - (N + 1617)) + B_{\bar{N}}(2N + 884 - (2N + 856)) + B_{\bar{N}}(2N + 884 - (N + 1613)) \\
&= B_{\bar{N}}(N - 733) + B_{\bar{N}}(28) + B_{\bar{N}}(N - 729) = (N - 733) + 28 + (N - 729) = \mathbf{2N} - \mathbf{1434} \\
&(N \geq 734)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 885) &= B_{\bar{N}}(2N + 885 - B_{\bar{N}}(2N + 884)) + B_{\bar{N}}(2N + 885 - B_{\bar{N}}(2N + 883)) + B_{\bar{N}}(2N + 885 - B_{\bar{N}}(2N + 882)) \\
&= B_{\bar{N}}(2N + 885 - (2N - 1434)) + B_{\bar{N}}(2N + 885 - (N + 1617)) + B_{\bar{N}}(2N + 885 - (2N + 856)) \\
&= B_{\bar{N}}(2319) + B_{\bar{N}}(N - 732) + B_{\bar{N}}(29) = 2319 + (N - 732) + 29 = \mathbf{N} + \mathbf{1616} \\
&(N \geq 2319)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 886) &= B_{\bar{N}}(2N + 886 - B_{\bar{N}}(2N + 885)) + B_{\bar{N}}(2N + 886 - B_{\bar{N}}(2N + 884)) + B_{\bar{N}}(2N + 886 - B_{\bar{N}}(2N + 883)) \\
&= B_{\bar{N}}(2N + 886 - (N + 1616)) + B_{\bar{N}}(2N + 886 - (2N - 1434)) + B_{\bar{N}}(2N + 886 - (N + 1617)) \\
&= B_{\bar{N}}(N - 730) + B_{\bar{N}}(2320) + B_{\bar{N}}(N - 731) = (N - 730) + 2320 + (N - 731) = \mathbf{2N} + \mathbf{859} \\
&(N \geq 2320)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 887) &= B_{\bar{N}}(2N + 887 - B_{\bar{N}}(2N + 886)) + B_{\bar{N}}(2N + 887 - B_{\bar{N}}(2N + 885)) + B_{\bar{N}}(2N + 887 - B_{\bar{N}}(2N + 884)) \\
&= B_{\bar{N}}(2N + 887 - (2N + 859)) + B_{\bar{N}}(2N + 887 - (N + 1616)) + B_{\bar{N}}(2N + 887 - (2N - 1434)) \\
&= B_{\bar{N}}(28) + B_{\bar{N}}(N - 729) + B_{\bar{N}}(2321) = 28 + (N - 729) + 2321 = \mathbf{N} + \mathbf{1620} \\
&(N \geq 2321)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 888) &= B_{\bar{N}}(2N + 888 - B_{\bar{N}}(2N + 887)) + B_{\bar{N}}(2N + 888 - B_{\bar{N}}(2N + 886)) + B_{\bar{N}}(2N + 888 - B_{\bar{N}}(2N + 885)) \\
&= B_{\bar{N}}(2N + 888 - (N + 1620)) + B_{\bar{N}}(2N + 888 - (2N + 859)) + B_{\bar{N}}(2N + 888 - (N + 1616)) \\
&= B_{\bar{N}}(N - 732) + B_{\bar{N}}(29) + B_{\bar{N}}(N - 728) = (N - 732) + 29 + (N - 728) = \mathbf{2N} - \mathbf{1431} \\
&(N \geq 733)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 889) &= B_{\bar{N}}(2N + 889 - B_{\bar{N}}(2N + 888)) + B_{\bar{N}}(2N + 889 - B_{\bar{N}}(2N + 887)) + B_{\bar{N}}(2N + 889 - B_{\bar{N}}(2N + 886)) \\
&= B_{\bar{N}}(2N + 889 - (2N - 1431)) + B_{\bar{N}}(2N + 889 - (N + 1620)) + B_{\bar{N}}(2N + 889 - (2N + 859)) \\
&= B_{\bar{N}}(2320) + B_{\bar{N}}(N - 731) + B_{\bar{N}}(30) = 2320 + (N - 731) + 30 = \mathbf{N} + \mathbf{1619} \\
&(N \geq 2320)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 890) &= B_{\bar{N}}(2N + 890 - B_{\bar{N}}(2N + 889)) + B_{\bar{N}}(2N + 890 - B_{\bar{N}}(2N + 888)) + B_{\bar{N}}(2N + 890 - B_{\bar{N}}(2N + 887)) \\
&= B_{\bar{N}}(2N + 890 - (N + 1619)) + B_{\bar{N}}(2N + 890 - (2N - 1431)) + B_{\bar{N}}(2N + 890 - (N + 1620)) \\
&= B_{\bar{N}}(N - 729) + B_{\bar{N}}(2321) + B_{\bar{N}}(N - 730) = (N - 729) + 2321 + (N - 730) = \mathbf{2N} + \mathbf{862} \\
&(N \geq 2321)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 891) &= B_{\bar{N}}(2N + 891 - B_{\bar{N}}(2N + 890)) + B_{\bar{N}}(2N + 891 - B_{\bar{N}}(2N + 889)) + B_{\bar{N}}(2N + 891 - B_{\bar{N}}(2N + 888)) \\
&= B_{\bar{N}}(2N + 891 - (2N + 862)) + B_{\bar{N}}(2N + 891 - (N + 1619)) + B_{\bar{N}}(2N + 891 - (2N - 1431)) \\
&= B_{\bar{N}}(29) + B_{\bar{N}}(N - 728) + B_{\bar{N}}(2322) = 29 + (N - 728) + 2322 = \mathbf{N} + \mathbf{1623} \\
&(N \geq 2322)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 892) &= B_{\bar{N}}(2N + 892 - B_{\bar{N}}(2N + 891)) + B_{\bar{N}}(2N + 892 - B_{\bar{N}}(2N + 890)) + B_{\bar{N}}(2N + 892 - B_{\bar{N}}(2N + 889)) \\
&= B_{\bar{N}}(2N + 892 - (N + 1623)) + B_{\bar{N}}(2N + 892 - (2N + 862)) + B_{\bar{N}}(2N + 892 - (N + 1619)) \\
&= B_{\bar{N}}(N - 731) + B_{\bar{N}}(30) + B_{\bar{N}}(N - 727) = (N - 731) + 30 + (N - 727) = \mathbf{2N} - \mathbf{1428} \\
&(N \geq 732)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 893) &= B_{\bar{N}}(2N + 893 - B_{\bar{N}}(2N + 892)) + B_{\bar{N}}(2N + 893 - B_{\bar{N}}(2N + 891)) + B_{\bar{N}}(2N + 893 - B_{\bar{N}}(2N + 890)) \\
&= B_{\bar{N}}(2N + 893 - (2N - 1428)) + B_{\bar{N}}(2N + 893 - (N + 1623)) + B_{\bar{N}}(2N + 893 - (2N + 862)) \\
&= B_{\bar{N}}(2321) + B_{\bar{N}}(N - 730) + B_{\bar{N}}(31) = 2321 + (N - 730) + 31 = \mathbf{N} + \mathbf{1622} \\
&(N \geq 2321)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 894) &= B_{\bar{N}}(2N + 894 - B_{\bar{N}}(2N + 893)) + B_{\bar{N}}(2N + 894 - B_{\bar{N}}(2N + 892)) + B_{\bar{N}}(2N + 894 - B_{\bar{N}}(2N + 891)) \\
&= B_{\bar{N}}(2N + 894 - (N + 1622)) + B_{\bar{N}}(2N + 894 - (2N - 1428)) + B_{\bar{N}}(2N + 894 - (N + 1623)) \\
&= B_{\bar{N}}(N - 728) + B_{\bar{N}}(2322) + B_{\bar{N}}(N - 729) = (N - 728) + 2322 + (N - 729) = \mathbf{2N} + \mathbf{865} \\
&(N \geq 2322)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 895) &= B_{\bar{N}}(2N + 895 - B_{\bar{N}}(2N + 894)) + B_{\bar{N}}(2N + 895 - B_{\bar{N}}(2N + 893)) + B_{\bar{N}}(2N + 895 - B_{\bar{N}}(2N + 892)) \\
&= B_{\bar{N}}(2N + 895 - (2N + 865)) + B_{\bar{N}}(2N + 895 - (N + 1622)) + B_{\bar{N}}(2N + 895 - (2N - 1428)) \\
&= B_{\bar{N}}(30) + B_{\bar{N}}(N - 727) + B_{\bar{N}}(2323) = 30 + (N - 727) + 2323 = \mathbf{N} + \mathbf{1626} \\
&(N \geq 2323)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 896) &= B_{\bar{N}}(2N + 896 - B_{\bar{N}}(2N + 895)) + B_{\bar{N}}(2N + 896 - B_{\bar{N}}(2N + 894)) + B_{\bar{N}}(2N + 896 - B_{\bar{N}}(2N + 893)) \\
&= B_{\bar{N}}(2N + 896 - (N + 1626)) + B_{\bar{N}}(2N + 896 - (2N + 865)) + B_{\bar{N}}(2N + 896 - (N + 1622)) \\
&= B_{\bar{N}}(N - 730) + B_{\bar{N}}(31) + B_{\bar{N}}(N - 726) = (N - 730) + 31 + (N - 726) = \mathbf{2N} - \mathbf{1425} \\
&(N \geq 731)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 897) &= B_{\bar{N}}(2N + 897 - B_{\bar{N}}(2N + 896)) + B_{\bar{N}}(2N + 897 - B_{\bar{N}}(2N + 895)) + B_{\bar{N}}(2N + 897 - B_{\bar{N}}(2N + 894)) \\
&= B_{\bar{N}}(2N + 897 - (2N - 1425)) + B_{\bar{N}}(2N + 897 - (N + 1626)) + B_{\bar{N}}(2N + 897 - (2N + 865)) \\
&= B_{\bar{N}}(2322) + B_{\bar{N}}(N - 729) + B_{\bar{N}}(32) = 2322 + (N - 729) + 32 = \mathbf{N} + \mathbf{1625} \\
&(N \geq 2322)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 898) &= B_{\bar{N}}(2N + 898 - B_{\bar{N}}(2N + 897)) + B_{\bar{N}}(2N + 898 - B_{\bar{N}}(2N + 896)) + B_{\bar{N}}(2N + 898 - B_{\bar{N}}(2N + 895)) \\
&= B_{\bar{N}}(2N + 898 - (N + 1625)) + B_{\bar{N}}(2N + 898 - (2N - 1425)) + B_{\bar{N}}(2N + 898 - (N + 1626)) \\
&= B_{\bar{N}}(N - 727) + B_{\bar{N}}(2323) + B_{\bar{N}}(N - 728) = (N - 727) + 2323 + (N - 728) = \mathbf{2N} + \mathbf{868} \\
&(N \geq 2323)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 899) &= B_{\bar{N}}(2N + 899 - B_{\bar{N}}(2N + 898)) + B_{\bar{N}}(2N + 899 - B_{\bar{N}}(2N + 897)) + B_{\bar{N}}(2N + 899 - B_{\bar{N}}(2N + 896)) \\
&= B_{\bar{N}}(2N + 899 - (2N + 868)) + B_{\bar{N}}(2N + 899 - (N + 1625)) + B_{\bar{N}}(2N + 899 - (2N - 1425)) \\
&= B_{\bar{N}}(31) + B_{\bar{N}}(N - 726) + B_{\bar{N}}(2324) = 31 + (N - 726) + 2324 = \mathbf{N} + \mathbf{1629} \\
&(N \geq 2324)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 900) &= B_{\bar{N}}(2N + 900 - B_{\bar{N}}(2N + 899)) + B_{\bar{N}}(2N + 900 - B_{\bar{N}}(2N + 898)) + B_{\bar{N}}(2N + 900 - B_{\bar{N}}(2N + 897)) \\
&= B_{\bar{N}}(2N + 900 - (N + 1629)) + B_{\bar{N}}(2N + 900 - (2N + 868)) + B_{\bar{N}}(2N + 900 - (N + 1625)) \\
&= B_{\bar{N}}(N - 729) + B_{\bar{N}}(32) + B_{\bar{N}}(N - 725) = (N - 729) + 32 + (N - 725) = \mathbf{2N} - \mathbf{1422} \\
&(N \geq 730)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 901) &= B_{\bar{N}}(2N + 901 - B_{\bar{N}}(2N + 900)) + B_{\bar{N}}(2N + 901 - B_{\bar{N}}(2N + 899)) + B_{\bar{N}}(2N + 901 - B_{\bar{N}}(2N + 898)) \\
&= B_{\bar{N}}(2N + 901 - (2N - 1422)) + B_{\bar{N}}(2N + 901 - (N + 1629)) + B_{\bar{N}}(2N + 901 - (2N + 868)) \\
&= B_{\bar{N}}(2323) + B_{\bar{N}}(N - 728) + B_{\bar{N}}(33) = 2323 + (N - 728) + 33 = \mathbf{N} + \mathbf{1628} \\
&(N \geq 2323)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 902) &= B_{\bar{N}}(2N + 902 - B_{\bar{N}}(2N + 901)) + B_{\bar{N}}(2N + 902 - B_{\bar{N}}(2N + 900)) + B_{\bar{N}}(2N + 902 - B_{\bar{N}}(2N + 899)) \\
&= B_{\bar{N}}(2N + 902 - (N + 1628)) + B_{\bar{N}}(2N + 902 - (2N - 1422)) + B_{\bar{N}}(2N + 902 - (N + 1629)) \\
&= B_{\bar{N}}(N - 726) + B_{\bar{N}}(2324) + B_{\bar{N}}(N - 727) = (N - 726) + 2324 + (N - 727) = \mathbf{2N} + \mathbf{871} \\
&(N \geq 2324)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 903) &= B_{\bar{N}}(2N + 903 - B_{\bar{N}}(2N + 902)) + B_{\bar{N}}(2N + 903 - B_{\bar{N}}(2N + 901)) + B_{\bar{N}}(2N + 903 - B_{\bar{N}}(2N + 900)) \\
&= B_{\bar{N}}(2N + 903 - (2N + 871)) + B_{\bar{N}}(2N + 903 - (N + 1628)) + B_{\bar{N}}(2N + 903 - (2N - 1422)) \\
&= B_{\bar{N}}(32) + B_{\bar{N}}(N - 725) + B_{\bar{N}}(2325) = 32 + (N - 725) + 2325 = \mathbf{N} + \mathbf{1632} \\
&(N \geq 2325)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 904) &= B_{\bar{N}}(2N + 904 - B_{\bar{N}}(2N + 903)) + B_{\bar{N}}(2N + 904 - B_{\bar{N}}(2N + 902)) + B_{\bar{N}}(2N + 904 - B_{\bar{N}}(2N + 901)) \\
&= B_{\bar{N}}(2N + 904 - (N + 1632)) + B_{\bar{N}}(2N + 904 - (2N + 871)) + B_{\bar{N}}(2N + 904 - (N + 1628)) \\
&= B_{\bar{N}}(N - 728) + B_{\bar{N}}(33) + B_{\bar{N}}(N - 724) = (N - 728) + 33 + (N - 724) = \mathbf{2N} - \mathbf{1419} \\
&(N \geq 729)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 905) &= B_{\bar{N}}(2N + 905 - B_{\bar{N}}(2N + 904)) + B_{\bar{N}}(2N + 905 - B_{\bar{N}}(2N + 903)) + B_{\bar{N}}(2N + 905 - B_{\bar{N}}(2N + 902)) \\
&= B_{\bar{N}}(2N + 905 - (2N - 1419)) + B_{\bar{N}}(2N + 905 - (N + 1632)) + B_{\bar{N}}(2N + 905 - (2N + 871)) \\
&= B_{\bar{N}}(2324) + B_{\bar{N}}(N - 727) + B_{\bar{N}}(34) = 2324 + (N - 727) + 34 = \mathbf{N} + \mathbf{1631} \\
&(N \geq 2324)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 906) &= B_{\bar{N}}(2N + 906 - B_{\bar{N}}(2N + 905)) + B_{\bar{N}}(2N + 906 - B_{\bar{N}}(2N + 904)) + B_{\bar{N}}(2N + 906 - B_{\bar{N}}(2N + 903)) \\
&= B_{\bar{N}}(2N + 906 - (N + 1631)) + B_{\bar{N}}(2N + 906 - (2N - 1419)) + B_{\bar{N}}(2N + 906 - (N + 1632)) \\
&= B_{\bar{N}}(N - 725) + B_{\bar{N}}(2325) + B_{\bar{N}}(N - 726) = (N - 725) + 2325 + (N - 726) = \mathbf{2N} + \mathbf{874} \\
&(N \geq 2325)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{907}) &= B_{\bar{N}}(2N + 907 - B_{\bar{N}}(2N + 906)) + B_{\bar{N}}(2N + 907 - B_{\bar{N}}(2N + 905)) + B_{\bar{N}}(2N + 907 - B_{\bar{N}}(2N + 904)) \\
&= B_{\bar{N}}(2N + 907 - (2N + 874)) + B_{\bar{N}}(2N + 907 - (N + 1631)) + B_{\bar{N}}(2N + 907 - (2N - 1419)) \\
&= B_{\bar{N}}(33) + B_{\bar{N}}(N - 724) + B_{\bar{N}}(2326) = 33 + (N - 724) + 2326 = \mathbf{N} + \mathbf{1635} \\
&(N \geq 2326)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{908}) &= B_{\bar{N}}(2N + 908 - B_{\bar{N}}(2N + 907)) + B_{\bar{N}}(2N + 908 - B_{\bar{N}}(2N + 906)) + B_{\bar{N}}(2N + 908 - B_{\bar{N}}(2N + 905)) \\
&= B_{\bar{N}}(2N + 908 - (N + 1635)) + B_{\bar{N}}(2N + 908 - (2N + 874)) + B_{\bar{N}}(2N + 908 - (N + 1631)) \\
&= B_{\bar{N}}(N - 727) + B_{\bar{N}}(34) + B_{\bar{N}}(N - 723) = (N - 727) + 34 + (N - 723) = \mathbf{2N} - \mathbf{1416} \\
&(N \geq 728)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{909}) &= B_{\bar{N}}(2N + 909 - B_{\bar{N}}(2N + 908)) + B_{\bar{N}}(2N + 909 - B_{\bar{N}}(2N + 907)) + B_{\bar{N}}(2N + 909 - B_{\bar{N}}(2N + 906)) \\
&= B_{\bar{N}}(2N + 909 - (2N - 1416)) + B_{\bar{N}}(2N + 909 - (N + 1635)) + B_{\bar{N}}(2N + 909 - (2N + 874)) \\
&= B_{\bar{N}}(2325) + B_{\bar{N}}(N - 726) + B_{\bar{N}}(35) = 2325 + (N - 726) + 35 = \mathbf{N} + \mathbf{1634} \\
&(N \geq 2325)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{910}) &= B_{\bar{N}}(2N + 910 - B_{\bar{N}}(2N + 909)) + B_{\bar{N}}(2N + 910 - B_{\bar{N}}(2N + 908)) + B_{\bar{N}}(2N + 910 - B_{\bar{N}}(2N + 907)) \\
&= B_{\bar{N}}(2N + 910 - (N + 1634)) + B_{\bar{N}}(2N + 910 - (2N - 1416)) + B_{\bar{N}}(2N + 910 - (N + 1635)) \\
&= B_{\bar{N}}(N - 724) + B_{\bar{N}}(2326) + B_{\bar{N}}(N - 725) = (N - 724) + 2326 + (N - 725) = \mathbf{2N} + \mathbf{877} \\
&(N \geq 2326)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{911}) &= B_{\bar{N}}(2N + 911 - B_{\bar{N}}(2N + 910)) + B_{\bar{N}}(2N + 911 - B_{\bar{N}}(2N + 909)) + B_{\bar{N}}(2N + 911 - B_{\bar{N}}(2N + 908)) \\
&= B_{\bar{N}}(2N + 911 - (2N + 877)) + B_{\bar{N}}(2N + 911 - (N + 1634)) + B_{\bar{N}}(2N + 911 - (2N - 1416)) \\
&= B_{\bar{N}}(34) + B_{\bar{N}}(N - 723) + B_{\bar{N}}(2327) = 34 + (N - 723) + 2327 = \mathbf{N} + \mathbf{1638} \\
&(N \geq 2327)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{912}) &= B_{\bar{N}}(2N + 912 - B_{\bar{N}}(2N + 911)) + B_{\bar{N}}(2N + 912 - B_{\bar{N}}(2N + 910)) + B_{\bar{N}}(2N + 912 - B_{\bar{N}}(2N + 909)) \\
&= B_{\bar{N}}(2N + 912 - (N + 1638)) + B_{\bar{N}}(2N + 912 - (2N + 877)) + B_{\bar{N}}(2N + 912 - (N + 1634)) \\
&= B_{\bar{N}}(N - 726) + B_{\bar{N}}(35) + B_{\bar{N}}(N - 722) = (N - 726) + 35 + (N - 722) = \mathbf{2N} - \mathbf{1413} \\
&(N \geq 727)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{913}) &= B_{\bar{N}}(2N + 913 - B_{\bar{N}}(2N + 912)) + B_{\bar{N}}(2N + 913 - B_{\bar{N}}(2N + 911)) + B_{\bar{N}}(2N + 913 - B_{\bar{N}}(2N + 910)) \\
&= B_{\bar{N}}(2N + 913 - (2N - 1413)) + B_{\bar{N}}(2N + 913 - (N + 1638)) + B_{\bar{N}}(2N + 913 - (2N + 877)) \\
&= B_{\bar{N}}(2326) + B_{\bar{N}}(N - 725) + B_{\bar{N}}(36) = 2326 + (N - 725) + 36 = \mathbf{N} + \mathbf{1637} \\
&(N \geq 2326)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{914}) &= B_{\bar{N}}(2N + 914 - B_{\bar{N}}(2N + 913)) + B_{\bar{N}}(2N + 914 - B_{\bar{N}}(2N + 912)) + B_{\bar{N}}(2N + 914 - B_{\bar{N}}(2N + 911)) \\
&= B_{\bar{N}}(2N + 914 - (N + 1637)) + B_{\bar{N}}(2N + 914 - (2N - 1413)) + B_{\bar{N}}(2N + 914 - (N + 1638)) \\
&= B_{\bar{N}}(N - 723) + B_{\bar{N}}(2327) + B_{\bar{N}}(N - 724) = (N - 723) + 2327 + (N - 724) = \mathbf{2N} + \mathbf{880} \\
&(N \geq 2327)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{915}) &= B_{\bar{N}}(2N + 915 - B_{\bar{N}}(2N + 914)) + B_{\bar{N}}(2N + 915 - B_{\bar{N}}(2N + 913)) + B_{\bar{N}}(2N + 915 - B_{\bar{N}}(2N + 912)) \\
&= B_{\bar{N}}(2N + 915 - (2N + 880)) + B_{\bar{N}}(2N + 915 - (N + 1637)) + B_{\bar{N}}(2N + 915 - (2N - 1413)) \\
&= B_{\bar{N}}(35) + B_{\bar{N}}(N - 722) + B_{\bar{N}}(2328) = 35 + (N - 722) + 2328 = \mathbf{N} + \mathbf{1641} \\
&(N \geq 2328)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{916}) &= B_{\bar{N}}(2N + 916 - B_{\bar{N}}(2N + 915)) + B_{\bar{N}}(2N + 916 - B_{\bar{N}}(2N + 914)) + B_{\bar{N}}(2N + 916 - B_{\bar{N}}(2N + 913)) \\
&= B_{\bar{N}}(2N + 916 - (N + 1641)) + B_{\bar{N}}(2N + 916 - (2N + 880)) + B_{\bar{N}}(2N + 916 - (N + 1637)) \\
&= B_{\bar{N}}(N - 725) + B_{\bar{N}}(36) + B_{\bar{N}}(N - 721) = (N - 725) + 36 + (N - 721) = \mathbf{2N} - \mathbf{1410} \\
&(N \geq 726)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 917) &= B_{\bar{N}}(2N + 917 - B_{\bar{N}}(2N + 916)) + B_{\bar{N}}(2N + 917 - B_{\bar{N}}(2N + 915)) + B_{\bar{N}}(2N + 917 - B_{\bar{N}}(2N + 914)) \\
&= B_{\bar{N}}(2N + 917 - (2N - 1410)) + B_{\bar{N}}(2N + 917 - (N + 1641)) + B_{\bar{N}}(2N + 917 - (2N + 880)) \\
&= B_{\bar{N}}(2327) + B_{\bar{N}}(N - 724) + B_{\bar{N}}(37) = 2327 + (N - 724) + 37 = \mathbf{N} + \mathbf{1640} \\
&(N \geq 2327)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 918) &= B_{\bar{N}}(2N + 918 - B_{\bar{N}}(2N + 917)) + B_{\bar{N}}(2N + 918 - B_{\bar{N}}(2N + 916)) + B_{\bar{N}}(2N + 918 - B_{\bar{N}}(2N + 915)) \\
&= B_{\bar{N}}(2N + 918 - (N + 1640)) + B_{\bar{N}}(2N + 918 - (2N - 1410)) + B_{\bar{N}}(2N + 918 - (N + 1641)) \\
&= B_{\bar{N}}(N - 722) + B_{\bar{N}}(2328) + B_{\bar{N}}(N - 723) = (N - 722) + 2328 + (N - 723) = \mathbf{2N} + \mathbf{883} \\
&(N \geq 2328)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 919) &= B_{\bar{N}}(2N + 919 - B_{\bar{N}}(2N + 918)) + B_{\bar{N}}(2N + 919 - B_{\bar{N}}(2N + 917)) + B_{\bar{N}}(2N + 919 - B_{\bar{N}}(2N + 916)) \\
&= B_{\bar{N}}(2N + 919 - (2N + 883)) + B_{\bar{N}}(2N + 919 - (N + 1640)) + B_{\bar{N}}(2N + 919 - (2N - 1410)) \\
&= B_{\bar{N}}(36) + B_{\bar{N}}(N - 721) + B_{\bar{N}}(2329) = 36 + (N - 721) + 2329 = \mathbf{N} + \mathbf{1644} \\
&(N \geq 2329)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 920) &= B_{\bar{N}}(2N + 920 - B_{\bar{N}}(2N + 919)) + B_{\bar{N}}(2N + 920 - B_{\bar{N}}(2N + 918)) + B_{\bar{N}}(2N + 920 - B_{\bar{N}}(2N + 917)) \\
&= B_{\bar{N}}(2N + 920 - (N + 1644)) + B_{\bar{N}}(2N + 920 - (2N + 883)) + B_{\bar{N}}(2N + 920 - (N + 1640)) \\
&= B_{\bar{N}}(N - 724) + B_{\bar{N}}(37) + B_{\bar{N}}(N - 720) = (N - 724) + 37 + (N - 720) = \mathbf{2N} - \mathbf{1407} \\
&(N \geq 725)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 921) &= B_{\bar{N}}(2N + 921 - B_{\bar{N}}(2N + 920)) + B_{\bar{N}}(2N + 921 - B_{\bar{N}}(2N + 919)) + B_{\bar{N}}(2N + 921 - B_{\bar{N}}(2N + 918)) \\
&= B_{\bar{N}}(2N + 921 - (2N - 1407)) + B_{\bar{N}}(2N + 921 - (N + 1644)) + B_{\bar{N}}(2N + 921 - (2N + 883)) \\
&= B_{\bar{N}}(2328) + B_{\bar{N}}(N - 723) + B_{\bar{N}}(38) = 2328 + (N - 723) + 38 = \mathbf{N} + \mathbf{1643} \\
&(N \geq 2328)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{922}) &= B_{\bar{N}}(2N + 922 - B_{\bar{N}}(2N + 921)) + B_{\bar{N}}(2N + 922 - B_{\bar{N}}(2N + 920)) + B_{\bar{N}}(2N + 922 - B_{\bar{N}}(2N + 919)) \\
&= B_{\bar{N}}(2N + 922 - (N + 1643)) + B_{\bar{N}}(2N + 922 - (2N - 1407)) + B_{\bar{N}}(2N + 922 - (N + 1644)) \\
&= B_{\bar{N}}(N - 721) + B_{\bar{N}}(2329) + B_{\bar{N}}(N - 722) = (N - 721) + 2329 + (N - 722) = \mathbf{2N} + \mathbf{886} \\
&(N \geq 2329)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{923}) &= B_{\bar{N}}(2N + 923 - B_{\bar{N}}(2N + 922)) + B_{\bar{N}}(2N + 923 - B_{\bar{N}}(2N + 921)) + B_{\bar{N}}(2N + 923 - B_{\bar{N}}(2N + 920)) \\
&= B_{\bar{N}}(2N + 923 - (2N + 886)) + B_{\bar{N}}(2N + 923 - (N + 1643)) + B_{\bar{N}}(2N + 923 - (2N - 1407)) \\
&= B_{\bar{N}}(37) + B_{\bar{N}}(N - 720) + B_{\bar{N}}(2330) = 37 + (N - 720) + 2330 = \mathbf{N} + \mathbf{1647} \\
&(N \geq 2330)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{924}) &= B_{\bar{N}}(2N + 924 - B_{\bar{N}}(2N + 923)) + B_{\bar{N}}(2N + 924 - B_{\bar{N}}(2N + 922)) + B_{\bar{N}}(2N + 924 - B_{\bar{N}}(2N + 921)) \\
&= B_{\bar{N}}(2N + 924 - (N + 1647)) + B_{\bar{N}}(2N + 924 - (2N + 886)) + B_{\bar{N}}(2N + 924 - (N + 1643)) \\
&= B_{\bar{N}}(N - 723) + B_{\bar{N}}(38) + B_{\bar{N}}(N - 719) = (N - 723) + 38 + (N - 719) = \mathbf{2N} - \mathbf{1404} \\
&(N \geq 724)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{925}) &= B_{\bar{N}}(2N + 925 - B_{\bar{N}}(2N + 924)) + B_{\bar{N}}(2N + 925 - B_{\bar{N}}(2N + 923)) + B_{\bar{N}}(2N + 925 - B_{\bar{N}}(2N + 922)) \\
&= B_{\bar{N}}(2N + 925 - (2N - 1404)) + B_{\bar{N}}(2N + 925 - (N + 1647)) + B_{\bar{N}}(2N + 925 - (2N + 886)) \\
&= B_{\bar{N}}(2329) + B_{\bar{N}}(N - 722) + B_{\bar{N}}(39) = 2329 + (N - 722) + 39 = \mathbf{N} + \mathbf{1646} \\
&(N \geq 2329)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{926}) &= B_{\bar{N}}(2N + 926 - B_{\bar{N}}(2N + 925)) + B_{\bar{N}}(2N + 926 - B_{\bar{N}}(2N + 924)) + B_{\bar{N}}(2N + 926 - B_{\bar{N}}(2N + 923)) \\
&= B_{\bar{N}}(2N + 926 - (N + 1646)) + B_{\bar{N}}(2N + 926 - (2N - 1404)) + B_{\bar{N}}(2N + 926 - (N + 1647)) \\
&= B_{\bar{N}}(N - 720) + B_{\bar{N}}(2330) + B_{\bar{N}}(N - 721) = (N - 720) + 2330 + (N - 721) = \mathbf{2N} + \mathbf{889} \\
&(N \geq 2330)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{927}) &= B_{\bar{N}}(2N + 927 - B_{\bar{N}}(2N + 926)) + B_{\bar{N}}(2N + 927 - B_{\bar{N}}(2N + 925)) + B_{\bar{N}}(2N + 927 - B_{\bar{N}}(2N + 924)) \\
&= B_{\bar{N}}(2N + 927 - (2N + 889)) + B_{\bar{N}}(2N + 927 - (N + 1646)) + B_{\bar{N}}(2N + 927 - (2N - 1404)) \\
&= B_{\bar{N}}(38) + B_{\bar{N}}(N - 719) + B_{\bar{N}}(2331) = 38 + (N - 719) + 2331 = \mathbf{N} + \mathbf{1650} \\
&(N \geq 2331)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{928}) &= B_{\bar{N}}(2N + 928 - B_{\bar{N}}(2N + 927)) + B_{\bar{N}}(2N + 928 - B_{\bar{N}}(2N + 926)) + B_{\bar{N}}(2N + 928 - B_{\bar{N}}(2N + 925)) \\
&= B_{\bar{N}}(2N + 928 - (N + 1650)) + B_{\bar{N}}(2N + 928 - (2N + 889)) + B_{\bar{N}}(2N + 928 - (N + 1646)) \\
&= B_{\bar{N}}(N - 722) + B_{\bar{N}}(39) + B_{\bar{N}}(N - 718) = (N - 722) + 39 + (N - 718) = \mathbf{2N} - \mathbf{1401} \\
&(N \geq 723)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{929}) &= B_{\bar{N}}(2N + 929 - B_{\bar{N}}(2N + 928)) + B_{\bar{N}}(2N + 929 - B_{\bar{N}}(2N + 927)) + B_{\bar{N}}(2N + 929 - B_{\bar{N}}(2N + 926)) \\
&= B_{\bar{N}}(2N + 929 - (2N - 1401)) + B_{\bar{N}}(2N + 929 - (N + 1650)) + B_{\bar{N}}(2N + 929 - (2N + 889)) \\
&= B_{\bar{N}}(2330) + B_{\bar{N}}(N - 721) + B_{\bar{N}}(40) = 2330 + (N - 721) + 40 = \mathbf{N} + \mathbf{1649} \\
&(N \geq 2330)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{930}) &= B_{\bar{N}}(2N + 930 - B_{\bar{N}}(2N + 929)) + B_{\bar{N}}(2N + 930 - B_{\bar{N}}(2N + 928)) + B_{\bar{N}}(2N + 930 - B_{\bar{N}}(2N + 927)) \\
&= B_{\bar{N}}(2N + 930 - (N + 1649)) + B_{\bar{N}}(2N + 930 - (2N - 1401)) + B_{\bar{N}}(2N + 930 - (N + 1650)) \\
&= B_{\bar{N}}(N - 719) + B_{\bar{N}}(2331) + B_{\bar{N}}(N - 720) = (N - 719) + 2331 + (N - 720) = \mathbf{2N} + \mathbf{892} \\
&(N \geq 2331)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{931}) &= B_{\bar{N}}(2N + 931 - B_{\bar{N}}(2N + 930)) + B_{\bar{N}}(2N + 931 - B_{\bar{N}}(2N + 929)) + B_{\bar{N}}(2N + 931 - B_{\bar{N}}(2N + 928)) \\
&= B_{\bar{N}}(2N + 931 - (2N + 892)) + B_{\bar{N}}(2N + 931 - (N + 1649)) + B_{\bar{N}}(2N + 931 - (2N - 1401)) \\
&= B_{\bar{N}}(39) + B_{\bar{N}}(N - 718) + B_{\bar{N}}(2332) = 39 + (N - 718) + 2332 = \mathbf{N} + \mathbf{1653} \\
&(N \geq 2332)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{932}) &= B_{\bar{N}}(2N + 932 - B_{\bar{N}}(2N + 931)) + B_{\bar{N}}(2N + 932 - B_{\bar{N}}(2N + 930)) + B_{\bar{N}}(2N + 932 - B_{\bar{N}}(2N + 929)) \\
&= B_{\bar{N}}(2N + 932 - (N + 1653)) + B_{\bar{N}}(2N + 932 - (2N + 892)) + B_{\bar{N}}(2N + 932 - (N + 1649)) \\
&= B_{\bar{N}}(N - 721) + B_{\bar{N}}(40) + B_{\bar{N}}(N - 717) = (N - 721) + 40 + (N - 717) = \mathbf{2N} - \mathbf{1398} \\
&(N \geq 722)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{933}) &= B_{\bar{N}}(2N + 933 - B_{\bar{N}}(2N + 932)) + B_{\bar{N}}(2N + 933 - B_{\bar{N}}(2N + 931)) + B_{\bar{N}}(2N + 933 - B_{\bar{N}}(2N + 930)) \\
&= B_{\bar{N}}(2N + 933 - (2N - 1398)) + B_{\bar{N}}(2N + 933 - (N + 1653)) + B_{\bar{N}}(2N + 933 - (2N + 892)) \\
&= B_{\bar{N}}(2331) + B_{\bar{N}}(N - 720) + B_{\bar{N}}(41) = 2331 + (N - 720) + 41 = \mathbf{N} + \mathbf{1652} \\
&(N \geq 2331)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{934}) &= B_{\bar{N}}(2N + 934 - B_{\bar{N}}(2N + 933)) + B_{\bar{N}}(2N + 934 - B_{\bar{N}}(2N + 932)) + B_{\bar{N}}(2N + 934 - B_{\bar{N}}(2N + 931)) \\
&= B_{\bar{N}}(2N + 934 - (N + 1652)) + B_{\bar{N}}(2N + 934 - (2N - 1398)) + B_{\bar{N}}(2N + 934 - (N + 1653)) \\
&= B_{\bar{N}}(N - 718) + B_{\bar{N}}(2332) + B_{\bar{N}}(N - 719) = (N - 718) + 2332 + (N - 719) = \mathbf{2N} + \mathbf{895} \\
&(N \geq 2332)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{935}) &= B_{\bar{N}}(2N + 935 - B_{\bar{N}}(2N + 934)) + B_{\bar{N}}(2N + 935 - B_{\bar{N}}(2N + 933)) + B_{\bar{N}}(2N + 935 - B_{\bar{N}}(2N + 932)) \\
&= B_{\bar{N}}(2N + 935 - (2N + 895)) + B_{\bar{N}}(2N + 935 - (N + 1652)) + B_{\bar{N}}(2N + 935 - (2N - 1398)) \\
&= B_{\bar{N}}(40) + B_{\bar{N}}(N - 717) + B_{\bar{N}}(2333) = 40 + (N - 717) + 2333 = \mathbf{N} + \mathbf{1656} \\
&(N \geq 2333)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{936}) &= B_{\bar{N}}(2N + 936 - B_{\bar{N}}(2N + 935)) + B_{\bar{N}}(2N + 936 - B_{\bar{N}}(2N + 934)) + B_{\bar{N}}(2N + 936 - B_{\bar{N}}(2N + 933)) \\
&= B_{\bar{N}}(2N + 936 - (N + 1656)) + B_{\bar{N}}(2N + 936 - (2N + 895)) + B_{\bar{N}}(2N + 936 - (N + 1652)) \\
&= B_{\bar{N}}(N - 720) + B_{\bar{N}}(41) + B_{\bar{N}}(N - 716) = (N - 720) + 41 + (N - 716) = \mathbf{2N} - \mathbf{1395} \\
&(N \geq 721)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 937) &= B_{\bar{N}}(2N + 937 - B_{\bar{N}}(2N + 936)) + B_{\bar{N}}(2N + 937 - B_{\bar{N}}(2N + 935)) + B_{\bar{N}}(2N + 937 - B_{\bar{N}}(2N + 934)) \\
&= B_{\bar{N}}(2N + 937 - (2N - 1395)) + B_{\bar{N}}(2N + 937 - (N + 1656)) + B_{\bar{N}}(2N + 937 - (2N + 895)) \\
&= B_{\bar{N}}(2332) + B_{\bar{N}}(N - 719) + B_{\bar{N}}(42) = 2332 + (N - 719) + 42 = \mathbf{N} + \mathbf{1655} \\
&(N \geq 2332)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 938) &= B_{\bar{N}}(2N + 938 - B_{\bar{N}}(2N + 937)) + B_{\bar{N}}(2N + 938 - B_{\bar{N}}(2N + 936)) + B_{\bar{N}}(2N + 938 - B_{\bar{N}}(2N + 935)) \\
&= B_{\bar{N}}(2N + 938 - (N + 1655)) + B_{\bar{N}}(2N + 938 - (2N - 1395)) + B_{\bar{N}}(2N + 938 - (N + 1656)) \\
&= B_{\bar{N}}(N - 717) + B_{\bar{N}}(2333) + B_{\bar{N}}(N - 718) = (N - 717) + 2333 + (N - 718) = \mathbf{2N} + \mathbf{898} \\
&(N \geq 2333)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 939) &= B_{\bar{N}}(2N + 939 - B_{\bar{N}}(2N + 938)) + B_{\bar{N}}(2N + 939 - B_{\bar{N}}(2N + 937)) + B_{\bar{N}}(2N + 939 - B_{\bar{N}}(2N + 936)) \\
&= B_{\bar{N}}(2N + 939 - (2N + 898)) + B_{\bar{N}}(2N + 939 - (N + 1655)) + B_{\bar{N}}(2N + 939 - (2N - 1395)) \\
&= B_{\bar{N}}(41) + B_{\bar{N}}(N - 716) + B_{\bar{N}}(2334) = 41 + (N - 716) + 2334 = \mathbf{N} + \mathbf{1659} \\
&(N \geq 2334)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 940) &= B_{\bar{N}}(2N + 940 - B_{\bar{N}}(2N + 939)) + B_{\bar{N}}(2N + 940 - B_{\bar{N}}(2N + 938)) + B_{\bar{N}}(2N + 940 - B_{\bar{N}}(2N + 937)) \\
&= B_{\bar{N}}(2N + 940 - (N + 1659)) + B_{\bar{N}}(2N + 940 - (2N + 898)) + B_{\bar{N}}(2N + 940 - (N + 1655)) \\
&= B_{\bar{N}}(N - 719) + B_{\bar{N}}(42) + B_{\bar{N}}(N - 715) = (N - 719) + 42 + (N - 715) = \mathbf{2N} - \mathbf{1392} \\
&(N \geq 720)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 941) &= B_{\bar{N}}(2N + 941 - B_{\bar{N}}(2N + 940)) + B_{\bar{N}}(2N + 941 - B_{\bar{N}}(2N + 939)) + B_{\bar{N}}(2N + 941 - B_{\bar{N}}(2N + 938)) \\
&= B_{\bar{N}}(2N + 941 - (2N - 1392)) + B_{\bar{N}}(2N + 941 - (N + 1659)) + B_{\bar{N}}(2N + 941 - (2N + 898)) \\
&= B_{\bar{N}}(2333) + B_{\bar{N}}(N - 718) + B_{\bar{N}}(43) = 2333 + (N - 718) + 43 = \mathbf{N} + \mathbf{1658} \\
&(N \geq 2333)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 942) &= B_{\bar{N}}(2N + 942 - B_{\bar{N}}(2N + 941)) + B_{\bar{N}}(2N + 942 - B_{\bar{N}}(2N + 940)) + B_{\bar{N}}(2N + 942 - B_{\bar{N}}(2N + 939)) \\
&= B_{\bar{N}}(2N + 942 - (N + 1658)) + B_{\bar{N}}(2N + 942 - (2N - 1392)) + B_{\bar{N}}(2N + 942 - (N + 1659)) \\
&= B_{\bar{N}}(N - 716) + B_{\bar{N}}(2334) + B_{\bar{N}}(N - 717) = (N - 716) + 2334 + (N - 717) = \mathbf{2N} + \mathbf{901} \\
&(N \geq 2334)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 943) &= B_{\bar{N}}(2N + 943 - B_{\bar{N}}(2N + 942)) + B_{\bar{N}}(2N + 943 - B_{\bar{N}}(2N + 941)) + B_{\bar{N}}(2N + 943 - B_{\bar{N}}(2N + 940)) \\
&= B_{\bar{N}}(2N + 943 - (2N + 901)) + B_{\bar{N}}(2N + 943 - (N + 1658)) + B_{\bar{N}}(2N + 943 - (2N - 1392)) \\
&= B_{\bar{N}}(42) + B_{\bar{N}}(N - 715) + B_{\bar{N}}(2335) = 42 + (N - 715) + 2335 = \mathbf{N} + \mathbf{1662} \\
&(N \geq 2335)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 944) &= B_{\bar{N}}(2N + 944 - B_{\bar{N}}(2N + 943)) + B_{\bar{N}}(2N + 944 - B_{\bar{N}}(2N + 942)) + B_{\bar{N}}(2N + 944 - B_{\bar{N}}(2N + 941)) \\
&= B_{\bar{N}}(2N + 944 - (N + 1662)) + B_{\bar{N}}(2N + 944 - (2N + 901)) + B_{\bar{N}}(2N + 944 - (N + 1658)) \\
&= B_{\bar{N}}(N - 718) + B_{\bar{N}}(43) + B_{\bar{N}}(N - 714) = (N - 718) + 43 + (N - 714) = \mathbf{2N} - \mathbf{1389} \\
&(N \geq 719)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 945) &= B_{\bar{N}}(2N + 945 - B_{\bar{N}}(2N + 944)) + B_{\bar{N}}(2N + 945 - B_{\bar{N}}(2N + 943)) + B_{\bar{N}}(2N + 945 - B_{\bar{N}}(2N + 942)) \\
&= B_{\bar{N}}(2N + 945 - (2N - 1389)) + B_{\bar{N}}(2N + 945 - (N + 1662)) + B_{\bar{N}}(2N + 945 - (2N + 901)) \\
&= B_{\bar{N}}(2334) + B_{\bar{N}}(N - 717) + B_{\bar{N}}(44) = 2334 + (N - 717) + 44 = \mathbf{N} + \mathbf{1661} \\
&(N \geq 2334)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 946) &= B_{\bar{N}}(2N + 946 - B_{\bar{N}}(2N + 945)) + B_{\bar{N}}(2N + 946 - B_{\bar{N}}(2N + 944)) + B_{\bar{N}}(2N + 946 - B_{\bar{N}}(2N + 943)) \\
&= B_{\bar{N}}(2N + 946 - (N + 1661)) + B_{\bar{N}}(2N + 946 - (2N - 1389)) + B_{\bar{N}}(2N + 946 - (N + 1662)) \\
&= B_{\bar{N}}(N - 715) + B_{\bar{N}}(2335) + B_{\bar{N}}(N - 716) = (N - 715) + 2335 + (N - 716) = \mathbf{2N} + \mathbf{904} \\
&(N \geq 2335)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 947) &= B_{\bar{N}}(2N + 947 - B_{\bar{N}}(2N + 946)) + B_{\bar{N}}(2N + 947 - B_{\bar{N}}(2N + 945)) + B_{\bar{N}}(2N + 947 - B_{\bar{N}}(2N + 944)) \\
&= B_{\bar{N}}(2N + 947 - (2N + 904)) + B_{\bar{N}}(2N + 947 - (N + 1661)) + B_{\bar{N}}(2N + 947 - (2N - 1389)) \\
&= B_{\bar{N}}(43) + B_{\bar{N}}(N - 714) + B_{\bar{N}}(2336) = 43 + (N - 714) + 2336 = \mathbf{N} + \mathbf{1665} \\
&(N \geq 2336)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 948) &= B_{\bar{N}}(2N + 948 - B_{\bar{N}}(2N + 947)) + B_{\bar{N}}(2N + 948 - B_{\bar{N}}(2N + 946)) + B_{\bar{N}}(2N + 948 - B_{\bar{N}}(2N + 945)) \\
&= B_{\bar{N}}(2N + 948 - (N + 1665)) + B_{\bar{N}}(2N + 948 - (2N + 904)) + B_{\bar{N}}(2N + 948 - (N + 1661)) \\
&= B_{\bar{N}}(N - 717) + B_{\bar{N}}(44) + B_{\bar{N}}(N - 713) = (N - 717) + 44 + (N - 713) = \mathbf{2N} - \mathbf{1386} \\
&(N \geq 718)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 949) &= B_{\bar{N}}(2N + 949 - B_{\bar{N}}(2N + 948)) + B_{\bar{N}}(2N + 949 - B_{\bar{N}}(2N + 947)) + B_{\bar{N}}(2N + 949 - B_{\bar{N}}(2N + 946)) \\
&= B_{\bar{N}}(2N + 949 - (2N - 1386)) + B_{\bar{N}}(2N + 949 - (N + 1665)) + B_{\bar{N}}(2N + 949 - (2N + 904)) \\
&= B_{\bar{N}}(2335) + B_{\bar{N}}(N - 716) + B_{\bar{N}}(45) = 2335 + (N - 716) + 45 = \mathbf{N} + \mathbf{1664} \\
&(N \geq 2335)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 950) &= B_{\bar{N}}(2N + 950 - B_{\bar{N}}(2N + 949)) + B_{\bar{N}}(2N + 950 - B_{\bar{N}}(2N + 948)) + B_{\bar{N}}(2N + 950 - B_{\bar{N}}(2N + 947)) \\
&= B_{\bar{N}}(2N + 950 - (N + 1664)) + B_{\bar{N}}(2N + 950 - (2N - 1386)) + B_{\bar{N}}(2N + 950 - (N + 1665)) \\
&= B_{\bar{N}}(N - 714) + B_{\bar{N}}(2336) + B_{\bar{N}}(N - 715) = (N - 714) + 2336 + (N - 715) = \mathbf{2N} + \mathbf{907} \\
&(N \geq 2336)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 951) &= B_{\bar{N}}(2N + 951 - B_{\bar{N}}(2N + 950)) + B_{\bar{N}}(2N + 951 - B_{\bar{N}}(2N + 949)) + B_{\bar{N}}(2N + 951 - B_{\bar{N}}(2N + 948)) \\
&= B_{\bar{N}}(2N + 951 - (2N + 907)) + B_{\bar{N}}(2N + 951 - (N + 1664)) + B_{\bar{N}}(2N + 951 - (2N - 1386)) \\
&= B_{\bar{N}}(44) + B_{\bar{N}}(N - 713) + B_{\bar{N}}(2337) = 44 + (N - 713) + 2337 = \mathbf{N} + \mathbf{1668} \\
&(N \geq 2337)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 952) &= B_{\bar{N}}(2N + 952 - B_{\bar{N}}(2N + 951)) + B_{\bar{N}}(2N + 952 - B_{\bar{N}}(2N + 950)) + B_{\bar{N}}(2N + 952 - B_{\bar{N}}(2N + 949)) \\
&= B_{\bar{N}}(2N + 952 - (N + 1668)) + B_{\bar{N}}(2N + 952 - (2N + 907)) + B_{\bar{N}}(2N + 952 - (N + 1664)) \\
&= B_{\bar{N}}(N - 716) + B_{\bar{N}}(45) + B_{\bar{N}}(N - 712) = (N - 716) + 45 + (N - 712) = \mathbf{2N} - \mathbf{1383} \\
&(N \geq 717)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 953) &= B_{\bar{N}}(2N + 953 - B_{\bar{N}}(2N + 952)) + B_{\bar{N}}(2N + 953 - B_{\bar{N}}(2N + 951)) + B_{\bar{N}}(2N + 953 - B_{\bar{N}}(2N + 950)) \\
&= B_{\bar{N}}(2N + 953 - (2N - 1383)) + B_{\bar{N}}(2N + 953 - (N + 1668)) + B_{\bar{N}}(2N + 953 - (2N + 907)) \\
&= B_{\bar{N}}(2336) + B_{\bar{N}}(N - 715) + B_{\bar{N}}(46) = 2336 + (N - 715) + 46 = \mathbf{N} + \mathbf{1667} \\
&(N \geq 2336)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 954) &= B_{\bar{N}}(2N + 954 - B_{\bar{N}}(2N + 953)) + B_{\bar{N}}(2N + 954 - B_{\bar{N}}(2N + 952)) + B_{\bar{N}}(2N + 954 - B_{\bar{N}}(2N + 951)) \\
&= B_{\bar{N}}(2N + 954 - (N + 1667)) + B_{\bar{N}}(2N + 954 - (2N - 1383)) + B_{\bar{N}}(2N + 954 - (N + 1668)) \\
&= B_{\bar{N}}(N - 713) + B_{\bar{N}}(2337) + B_{\bar{N}}(N - 714) = (N - 713) + 2337 + (N - 714) = \mathbf{2N} + \mathbf{910} \\
&(N \geq 2337)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 955) &= B_{\bar{N}}(2N + 955 - B_{\bar{N}}(2N + 954)) + B_{\bar{N}}(2N + 955 - B_{\bar{N}}(2N + 953)) + B_{\bar{N}}(2N + 955 - B_{\bar{N}}(2N + 952)) \\
&= B_{\bar{N}}(2N + 955 - (2N + 910)) + B_{\bar{N}}(2N + 955 - (N + 1667)) + B_{\bar{N}}(2N + 955 - (2N - 1383)) \\
&= B_{\bar{N}}(45) + B_{\bar{N}}(N - 712) + B_{\bar{N}}(2338) = 45 + (N - 712) + 2338 = \mathbf{N} + \mathbf{1671} \\
&(N \geq 2338)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 956) &= B_{\bar{N}}(2N + 956 - B_{\bar{N}}(2N + 955)) + B_{\bar{N}}(2N + 956 - B_{\bar{N}}(2N + 954)) + B_{\bar{N}}(2N + 956 - B_{\bar{N}}(2N + 953)) \\
&= B_{\bar{N}}(2N + 956 - (N + 1671)) + B_{\bar{N}}(2N + 956 - (2N + 910)) + B_{\bar{N}}(2N + 956 - (N + 1667)) \\
&= B_{\bar{N}}(N - 715) + B_{\bar{N}}(46) + B_{\bar{N}}(N - 711) = (N - 715) + 46 + (N - 711) = \mathbf{2N} - \mathbf{1380} \\
&(N \geq 716)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{957}) &= B_{\bar{N}}(2N + 957 - B_{\bar{N}}(2N + 956)) + B_{\bar{N}}(2N + 957 - B_{\bar{N}}(2N + 955)) + B_{\bar{N}}(2N + 957 - B_{\bar{N}}(2N + 954)) \\
&= B_{\bar{N}}(2N + 957 - (2N - 1380)) + B_{\bar{N}}(2N + 957 - (N + 1671)) + B_{\bar{N}}(2N + 957 - (2N + 910)) \\
&= B_{\bar{N}}(2337) + B_{\bar{N}}(N - 714) + B_{\bar{N}}(47) = 2337 + (N - 714) + 47 = \mathbf{N} + \mathbf{1670} \\
&(N \geq 2337)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{958}) &= B_{\bar{N}}(2N + 958 - B_{\bar{N}}(2N + 957)) + B_{\bar{N}}(2N + 958 - B_{\bar{N}}(2N + 956)) + B_{\bar{N}}(2N + 958 - B_{\bar{N}}(2N + 955)) \\
&= B_{\bar{N}}(2N + 958 - (N + 1670)) + B_{\bar{N}}(2N + 958 - (2N - 1380)) + B_{\bar{N}}(2N + 958 - (N + 1671)) \\
&= B_{\bar{N}}(N - 712) + B_{\bar{N}}(2338) + B_{\bar{N}}(N - 713) = (N - 712) + 2338 + (N - 713) = \mathbf{2N} + \mathbf{913} \\
&(N \geq 2338)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{959}) &= B_{\bar{N}}(2N + 959 - B_{\bar{N}}(2N + 958)) + B_{\bar{N}}(2N + 959 - B_{\bar{N}}(2N + 957)) + B_{\bar{N}}(2N + 959 - B_{\bar{N}}(2N + 956)) \\
&= B_{\bar{N}}(2N + 959 - (2N + 913)) + B_{\bar{N}}(2N + 959 - (N + 1670)) + B_{\bar{N}}(2N + 959 - (2N - 1380)) \\
&= B_{\bar{N}}(46) + B_{\bar{N}}(N - 711) + B_{\bar{N}}(2339) = 46 + (N - 711) + 2339 = \mathbf{N} + \mathbf{1674} \\
&(N \geq 2339)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{960}) &= B_{\bar{N}}(2N + 960 - B_{\bar{N}}(2N + 959)) + B_{\bar{N}}(2N + 960 - B_{\bar{N}}(2N + 958)) + B_{\bar{N}}(2N + 960 - B_{\bar{N}}(2N + 957)) \\
&= B_{\bar{N}}(2N + 960 - (N + 1674)) + B_{\bar{N}}(2N + 960 - (2N + 913)) + B_{\bar{N}}(2N + 960 - (N + 1670)) \\
&= B_{\bar{N}}(N - 714) + B_{\bar{N}}(47) + B_{\bar{N}}(N - 710) = (N - 714) + 47 + (N - 710) = \mathbf{2N} - \mathbf{1377} \\
&(N \geq 715)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{961}) &= B_{\bar{N}}(2N + 961 - B_{\bar{N}}(2N + 960)) + B_{\bar{N}}(2N + 961 - B_{\bar{N}}(2N + 959)) + B_{\bar{N}}(2N + 961 - B_{\bar{N}}(2N + 958)) \\
&= B_{\bar{N}}(2N + 961 - (2N - 1377)) + B_{\bar{N}}(2N + 961 - (N + 1674)) + B_{\bar{N}}(2N + 961 - (2N + 913)) \\
&= B_{\bar{N}}(2338) + B_{\bar{N}}(N - 713) + B_{\bar{N}}(48) = 2338 + (N - 713) + 48 = \mathbf{N} + \mathbf{1673} \\
&(N \geq 2338)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 962) &= B_{\bar{N}}(2N + 962 - B_{\bar{N}}(2N + 961)) + B_{\bar{N}}(2N + 962 - B_{\bar{N}}(2N + 960)) + B_{\bar{N}}(2N + 962 - B_{\bar{N}}(2N + 959)) \\
&= B_{\bar{N}}(2N + 962 - (N + 1673)) + B_{\bar{N}}(2N + 962 - (2N - 1377)) + B_{\bar{N}}(2N + 962 - (N + 1674)) \\
&= B_{\bar{N}}(N - 711) + B_{\bar{N}}(2339) + B_{\bar{N}}(N - 712) = (N - 711) + 2339 + (N - 712) = \mathbf{2N} + \mathbf{916} \\
&(N \geq 2339)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 963) &= B_{\bar{N}}(2N + 963 - B_{\bar{N}}(2N + 962)) + B_{\bar{N}}(2N + 963 - B_{\bar{N}}(2N + 961)) + B_{\bar{N}}(2N + 963 - B_{\bar{N}}(2N + 960)) \\
&= B_{\bar{N}}(2N + 963 - (2N + 916)) + B_{\bar{N}}(2N + 963 - (N + 1673)) + B_{\bar{N}}(2N + 963 - (2N - 1377)) \\
&= B_{\bar{N}}(47) + B_{\bar{N}}(N - 710) + B_{\bar{N}}(2340) = 47 + (N - 710) + 2340 = \mathbf{N} + \mathbf{1677} \\
&(N \geq 2340)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 964) &= B_{\bar{N}}(2N + 964 - B_{\bar{N}}(2N + 963)) + B_{\bar{N}}(2N + 964 - B_{\bar{N}}(2N + 962)) + B_{\bar{N}}(2N + 964 - B_{\bar{N}}(2N + 961)) \\
&= B_{\bar{N}}(2N + 964 - (N + 1677)) + B_{\bar{N}}(2N + 964 - (2N + 916)) + B_{\bar{N}}(2N + 964 - (N + 1673)) \\
&= B_{\bar{N}}(N - 713) + B_{\bar{N}}(48) + B_{\bar{N}}(N - 709) = (N - 713) + 48 + (N - 709) = \mathbf{2N} - \mathbf{1374} \\
&(N \geq 714)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 965) &= B_{\bar{N}}(2N + 965 - B_{\bar{N}}(2N + 964)) + B_{\bar{N}}(2N + 965 - B_{\bar{N}}(2N + 963)) + B_{\bar{N}}(2N + 965 - B_{\bar{N}}(2N + 962)) \\
&= B_{\bar{N}}(2N + 965 - (2N - 1374)) + B_{\bar{N}}(2N + 965 - (N + 1677)) + B_{\bar{N}}(2N + 965 - (2N + 916)) \\
&= B_{\bar{N}}(2339) + B_{\bar{N}}(N - 712) + B_{\bar{N}}(49) = 2339 + (N - 712) + 49 = \mathbf{N} + \mathbf{1676} \\
&(N \geq 2339)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 966) &= B_{\bar{N}}(2N + 966 - B_{\bar{N}}(2N + 965)) + B_{\bar{N}}(2N + 966 - B_{\bar{N}}(2N + 964)) + B_{\bar{N}}(2N + 966 - B_{\bar{N}}(2N + 963)) \\
&= B_{\bar{N}}(2N + 966 - (N + 1676)) + B_{\bar{N}}(2N + 966 - (2N - 1374)) + B_{\bar{N}}(2N + 966 - (N + 1677)) \\
&= B_{\bar{N}}(N - 710) + B_{\bar{N}}(2340) + B_{\bar{N}}(N - 711) = (N - 710) + 2340 + (N - 711) = \mathbf{2N} + \mathbf{919} \\
&(N \geq 2340)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{967}) &= B_{\bar{N}}(2N + 967 - B_{\bar{N}}(2N + 966)) + B_{\bar{N}}(2N + 967 - B_{\bar{N}}(2N + 965)) + B_{\bar{N}}(2N + 967 - B_{\bar{N}}(2N + 964)) \\
&= B_{\bar{N}}(2N + 967 - (2N + 919)) + B_{\bar{N}}(2N + 967 - (N + 1676)) + B_{\bar{N}}(2N + 967 - (2N - 1374)) \\
&= B_{\bar{N}}(48) + B_{\bar{N}}(N - 709) + B_{\bar{N}}(2341) = 48 + (N - 709) + 2341 = \mathbf{N} + \mathbf{1680} \\
&(N \geq 2341)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{968}) &= B_{\bar{N}}(2N + 968 - B_{\bar{N}}(2N + 967)) + B_{\bar{N}}(2N + 968 - B_{\bar{N}}(2N + 966)) + B_{\bar{N}}(2N + 968 - B_{\bar{N}}(2N + 965)) \\
&= B_{\bar{N}}(2N + 968 - (N + 1680)) + B_{\bar{N}}(2N + 968 - (2N + 919)) + B_{\bar{N}}(2N + 968 - (N + 1676)) \\
&= B_{\bar{N}}(N - 712) + B_{\bar{N}}(49) + B_{\bar{N}}(N - 708) = (N - 712) + 49 + (N - 708) = \mathbf{2N} - \mathbf{1371} \\
&(N \geq 713)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{969}) &= B_{\bar{N}}(2N + 969 - B_{\bar{N}}(2N + 968)) + B_{\bar{N}}(2N + 969 - B_{\bar{N}}(2N + 967)) + B_{\bar{N}}(2N + 969 - B_{\bar{N}}(2N + 966)) \\
&= B_{\bar{N}}(2N + 969 - (2N - 1371)) + B_{\bar{N}}(2N + 969 - (N + 1680)) + B_{\bar{N}}(2N + 969 - (2N + 919)) \\
&= B_{\bar{N}}(2340) + B_{\bar{N}}(N - 711) + B_{\bar{N}}(50) = 2340 + (N - 711) + 50 = \mathbf{N} + \mathbf{1679} \\
&(N \geq 2340)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{970}) &= B_{\bar{N}}(2N + 970 - B_{\bar{N}}(2N + 969)) + B_{\bar{N}}(2N + 970 - B_{\bar{N}}(2N + 968)) + B_{\bar{N}}(2N + 970 - B_{\bar{N}}(2N + 967)) \\
&= B_{\bar{N}}(2N + 970 - (N + 1679)) + B_{\bar{N}}(2N + 970 - (2N - 1371)) + B_{\bar{N}}(2N + 970 - (N + 1680)) \\
&= B_{\bar{N}}(N - 709) + B_{\bar{N}}(2341) + B_{\bar{N}}(N - 710) = (N - 709) + 2341 + (N - 710) = \mathbf{2N} + \mathbf{922} \\
&(N \geq 2341)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{971}) &= B_{\bar{N}}(2N + 971 - B_{\bar{N}}(2N + 970)) + B_{\bar{N}}(2N + 971 - B_{\bar{N}}(2N + 969)) + B_{\bar{N}}(2N + 971 - B_{\bar{N}}(2N + 968)) \\
&= B_{\bar{N}}(2N + 971 - (2N + 922)) + B_{\bar{N}}(2N + 971 - (N + 1679)) + B_{\bar{N}}(2N + 971 - (2N - 1371)) \\
&= B_{\bar{N}}(49) + B_{\bar{N}}(N - 708) + B_{\bar{N}}(2342) = 49 + (N - 708) + 2342 = \mathbf{N} + \mathbf{1683} \\
&(N \geq 2342)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 972) &= B_{\bar{N}}(2N + 972 - B_{\bar{N}}(2N + 971)) + B_{\bar{N}}(2N + 972 - B_{\bar{N}}(2N + 970)) + B_{\bar{N}}(2N + 972 - B_{\bar{N}}(2N + 969)) \\
&= B_{\bar{N}}(2N + 972 - (N + 1683)) + B_{\bar{N}}(2N + 972 - (2N + 922)) + B_{\bar{N}}(2N + 972 - (N + 1679)) \\
&= B_{\bar{N}}(N - 711) + B_{\bar{N}}(50) + B_{\bar{N}}(N - 707) = (N - 711) + 50 + (N - 707) = \mathbf{2N} - \mathbf{1368} \\
&(N \geq 712)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 973) &= B_{\bar{N}}(2N + 973 - B_{\bar{N}}(2N + 972)) + B_{\bar{N}}(2N + 973 - B_{\bar{N}}(2N + 971)) + B_{\bar{N}}(2N + 973 - B_{\bar{N}}(2N + 970)) \\
&= B_{\bar{N}}(2N + 973 - (2N - 1368)) + B_{\bar{N}}(2N + 973 - (N + 1683)) + B_{\bar{N}}(2N + 973 - (2N + 922)) \\
&= B_{\bar{N}}(2341) + B_{\bar{N}}(N - 710) + B_{\bar{N}}(51) = 2341 + (N - 710) + 51 = \mathbf{N} + \mathbf{1682} \\
&(N \geq 2341)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 974) &= B_{\bar{N}}(2N + 974 - B_{\bar{N}}(2N + 973)) + B_{\bar{N}}(2N + 974 - B_{\bar{N}}(2N + 972)) + B_{\bar{N}}(2N + 974 - B_{\bar{N}}(2N + 971)) \\
&= B_{\bar{N}}(2N + 974 - (N + 1682)) + B_{\bar{N}}(2N + 974 - (2N - 1368)) + B_{\bar{N}}(2N + 974 - (N + 1683)) \\
&= B_{\bar{N}}(N - 708) + B_{\bar{N}}(2342) + B_{\bar{N}}(N - 709) = (N - 708) + 2342 + (N - 709) = \mathbf{2N} + \mathbf{925} \\
&(N \geq 2342)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 975) &= B_{\bar{N}}(2N + 975 - B_{\bar{N}}(2N + 974)) + B_{\bar{N}}(2N + 975 - B_{\bar{N}}(2N + 973)) + B_{\bar{N}}(2N + 975 - B_{\bar{N}}(2N + 972)) \\
&= B_{\bar{N}}(2N + 975 - (2N + 925)) + B_{\bar{N}}(2N + 975 - (N + 1682)) + B_{\bar{N}}(2N + 975 - (2N - 1368)) \\
&= B_{\bar{N}}(50) + B_{\bar{N}}(N - 707) + B_{\bar{N}}(2343) = 50 + (N - 707) + 2343 = \mathbf{N} + \mathbf{1686} \\
&(N \geq 2343)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 976) &= B_{\bar{N}}(2N + 976 - B_{\bar{N}}(2N + 975)) + B_{\bar{N}}(2N + 976 - B_{\bar{N}}(2N + 974)) + B_{\bar{N}}(2N + 976 - B_{\bar{N}}(2N + 973)) \\
&= B_{\bar{N}}(2N + 976 - (N + 1686)) + B_{\bar{N}}(2N + 976 - (2N + 925)) + B_{\bar{N}}(2N + 976 - (N + 1682)) \\
&= B_{\bar{N}}(N - 710) + B_{\bar{N}}(51) + B_{\bar{N}}(N - 706) = (N - 710) + 51 + (N - 706) = \mathbf{2N} - \mathbf{1365} \\
&(N \geq 711)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 977) &= B_{\bar{N}}(2N + 977 - B_{\bar{N}}(2N + 976)) + B_{\bar{N}}(2N + 977 - B_{\bar{N}}(2N + 975)) + B_{\bar{N}}(2N + 977 - B_{\bar{N}}(2N + 974)) \\
&= B_{\bar{N}}(2N + 977 - (2N - 1365)) + B_{\bar{N}}(2N + 977 - (N + 1686)) + B_{\bar{N}}(2N + 977 - (2N + 925)) \\
&= B_{\bar{N}}(2342) + B_{\bar{N}}(N - 709) + B_{\bar{N}}(52) = 2342 + (N - 709) + 52 = \mathbf{N} + \mathbf{1685} \\
&(N \geq 2342)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 978) &= B_{\bar{N}}(2N + 978 - B_{\bar{N}}(2N + 977)) + B_{\bar{N}}(2N + 978 - B_{\bar{N}}(2N + 976)) + B_{\bar{N}}(2N + 978 - B_{\bar{N}}(2N + 975)) \\
&= B_{\bar{N}}(2N + 978 - (N + 1685)) + B_{\bar{N}}(2N + 978 - (2N - 1365)) + B_{\bar{N}}(2N + 978 - (N + 1686)) \\
&= B_{\bar{N}}(N - 707) + B_{\bar{N}}(2343) + B_{\bar{N}}(N - 708) = (N - 707) + 2343 + (N - 708) = \mathbf{2N} + \mathbf{928} \\
&(N \geq 2343)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 979) &= B_{\bar{N}}(2N + 979 - B_{\bar{N}}(2N + 978)) + B_{\bar{N}}(2N + 979 - B_{\bar{N}}(2N + 977)) + B_{\bar{N}}(2N + 979 - B_{\bar{N}}(2N + 976)) \\
&= B_{\bar{N}}(2N + 979 - (2N + 928)) + B_{\bar{N}}(2N + 979 - (N + 1685)) + B_{\bar{N}}(2N + 979 - (2N - 1365)) \\
&= B_{\bar{N}}(51) + B_{\bar{N}}(N - 706) + B_{\bar{N}}(2344) = 51 + (N - 706) + 2344 = \mathbf{N} + \mathbf{1689} \\
&(N \geq 2344)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 980) &= B_{\bar{N}}(2N + 980 - B_{\bar{N}}(2N + 979)) + B_{\bar{N}}(2N + 980 - B_{\bar{N}}(2N + 978)) + B_{\bar{N}}(2N + 980 - B_{\bar{N}}(2N + 977)) \\
&= B_{\bar{N}}(2N + 980 - (N + 1689)) + B_{\bar{N}}(2N + 980 - (2N + 928)) + B_{\bar{N}}(2N + 980 - (N + 1685)) \\
&= B_{\bar{N}}(N - 709) + B_{\bar{N}}(52) + B_{\bar{N}}(N - 705) = (N - 709) + 52 + (N - 705) = \mathbf{2N} - \mathbf{1362} \\
&(N \geq 710)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 981) &= B_{\bar{N}}(2N + 981 - B_{\bar{N}}(2N + 980)) + B_{\bar{N}}(2N + 981 - B_{\bar{N}}(2N + 979)) + B_{\bar{N}}(2N + 981 - B_{\bar{N}}(2N + 978)) \\
&= B_{\bar{N}}(2N + 981 - (2N - 1362)) + B_{\bar{N}}(2N + 981 - (N + 1689)) + B_{\bar{N}}(2N + 981 - (2N + 928)) \\
&= B_{\bar{N}}(2343) + B_{\bar{N}}(N - 708) + B_{\bar{N}}(53) = 2343 + (N - 708) + 53 = \mathbf{N} + \mathbf{1688} \\
&(N \geq 2343)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 982) &= B_{\bar{N}}(2N + 982 - B_{\bar{N}}(2N + 981)) + B_{\bar{N}}(2N + 982 - B_{\bar{N}}(2N + 980)) + B_{\bar{N}}(2N + 982 - B_{\bar{N}}(2N + 979)) \\
&= B_{\bar{N}}(2N + 982 - (N + 1688)) + B_{\bar{N}}(2N + 982 - (2N - 1362)) + B_{\bar{N}}(2N + 982 - (N + 1689)) \\
&= B_{\bar{N}}(N - 706) + B_{\bar{N}}(2344) + B_{\bar{N}}(N - 707) = (N - 706) + 2344 + (N - 707) = \mathbf{2N} + \mathbf{931} \\
&(N \geq 2344)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 983) &= B_{\bar{N}}(2N + 983 - B_{\bar{N}}(2N + 982)) + B_{\bar{N}}(2N + 983 - B_{\bar{N}}(2N + 981)) + B_{\bar{N}}(2N + 983 - B_{\bar{N}}(2N + 980)) \\
&= B_{\bar{N}}(2N + 983 - (2N + 931)) + B_{\bar{N}}(2N + 983 - (N + 1688)) + B_{\bar{N}}(2N + 983 - (2N - 1362)) \\
&= B_{\bar{N}}(52) + B_{\bar{N}}(N - 705) + B_{\bar{N}}(2345) = 52 + (N - 705) + 2345 = \mathbf{N} + \mathbf{1692} \\
&(N \geq 2345)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 984) &= B_{\bar{N}}(2N + 984 - B_{\bar{N}}(2N + 983)) + B_{\bar{N}}(2N + 984 - B_{\bar{N}}(2N + 982)) + B_{\bar{N}}(2N + 984 - B_{\bar{N}}(2N + 981)) \\
&= B_{\bar{N}}(2N + 984 - (N + 1692)) + B_{\bar{N}}(2N + 984 - (2N + 931)) + B_{\bar{N}}(2N + 984 - (N + 1688)) \\
&= B_{\bar{N}}(N - 708) + B_{\bar{N}}(53) + B_{\bar{N}}(N - 704) = (N - 708) + 53 + (N - 704) = \mathbf{2N} - \mathbf{1359} \\
&(N \geq 709)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 985) &= B_{\bar{N}}(2N + 985 - B_{\bar{N}}(2N + 984)) + B_{\bar{N}}(2N + 985 - B_{\bar{N}}(2N + 983)) + B_{\bar{N}}(2N + 985 - B_{\bar{N}}(2N + 982)) \\
&= B_{\bar{N}}(2N + 985 - (2N - 1359)) + B_{\bar{N}}(2N + 985 - (N + 1692)) + B_{\bar{N}}(2N + 985 - (2N + 931)) \\
&= B_{\bar{N}}(2344) + B_{\bar{N}}(N - 707) + B_{\bar{N}}(54) = 2344 + (N - 707) + 54 = \mathbf{N} + \mathbf{1691} \\
&(N \geq 2344)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 986) &= B_{\bar{N}}(2N + 986 - B_{\bar{N}}(2N + 985)) + B_{\bar{N}}(2N + 986 - B_{\bar{N}}(2N + 984)) + B_{\bar{N}}(2N + 986 - B_{\bar{N}}(2N + 983)) \\
&= B_{\bar{N}}(2N + 986 - (N + 1691)) + B_{\bar{N}}(2N + 986 - (2N - 1359)) + B_{\bar{N}}(2N + 986 - (N + 1692)) \\
&= B_{\bar{N}}(N - 705) + B_{\bar{N}}(2345) + B_{\bar{N}}(N - 706) = (N - 705) + 2345 + (N - 706) = \mathbf{2N} + \mathbf{934} \\
&(N \geq 2345)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 987) &= B_{\bar{N}}(2N + 987 - B_{\bar{N}}(2N + 986)) + B_{\bar{N}}(2N + 987 - B_{\bar{N}}(2N + 985)) + B_{\bar{N}}(2N + 987 - B_{\bar{N}}(2N + 984)) \\
&= B_{\bar{N}}(2N + 987 - (2N + 934)) + B_{\bar{N}}(2N + 987 - (N + 1691)) + B_{\bar{N}}(2N + 987 - (2N - 1359)) \\
&= B_{\bar{N}}(53) + B_{\bar{N}}(N - 704) + B_{\bar{N}}(2346) = 53 + (N - 704) + 2346 = \mathbf{N} + \mathbf{1695} \\
&(N \geq 2346)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 988) &= B_{\bar{N}}(2N + 988 - B_{\bar{N}}(2N + 987)) + B_{\bar{N}}(2N + 988 - B_{\bar{N}}(2N + 986)) + B_{\bar{N}}(2N + 988 - B_{\bar{N}}(2N + 985)) \\
&= B_{\bar{N}}(2N + 988 - (N + 1695)) + B_{\bar{N}}(2N + 988 - (2N + 934)) + B_{\bar{N}}(2N + 988 - (N + 1691)) \\
&= B_{\bar{N}}(N - 707) + B_{\bar{N}}(54) + B_{\bar{N}}(N - 703) = (N - 707) + 54 + (N - 703) = \mathbf{2N} - \mathbf{1356} \\
&(N \geq 708)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 989) &= B_{\bar{N}}(2N + 989 - B_{\bar{N}}(2N + 988)) + B_{\bar{N}}(2N + 989 - B_{\bar{N}}(2N + 987)) + B_{\bar{N}}(2N + 989 - B_{\bar{N}}(2N + 986)) \\
&= B_{\bar{N}}(2N + 989 - (2N - 1356)) + B_{\bar{N}}(2N + 989 - (N + 1695)) + B_{\bar{N}}(2N + 989 - (2N + 934)) \\
&= B_{\bar{N}}(2345) + B_{\bar{N}}(N - 706) + B_{\bar{N}}(55) = 2345 + (N - 706) + 55 = \mathbf{N} + \mathbf{1694} \\
&(N \geq 2345)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 990) &= B_{\bar{N}}(2N + 990 - B_{\bar{N}}(2N + 989)) + B_{\bar{N}}(2N + 990 - B_{\bar{N}}(2N + 988)) + B_{\bar{N}}(2N + 990 - B_{\bar{N}}(2N + 987)) \\
&= B_{\bar{N}}(2N + 990 - (N + 1694)) + B_{\bar{N}}(2N + 990 - (2N - 1356)) + B_{\bar{N}}(2N + 990 - (N + 1695)) \\
&= B_{\bar{N}}(N - 704) + B_{\bar{N}}(2346) + B_{\bar{N}}(N - 705) = (N - 704) + 2346 + (N - 705) = \mathbf{2N} + \mathbf{937} \\
&(N \geq 2346)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 991) &= B_{\bar{N}}(2N + 991 - B_{\bar{N}}(2N + 990)) + B_{\bar{N}}(2N + 991 - B_{\bar{N}}(2N + 989)) + B_{\bar{N}}(2N + 991 - B_{\bar{N}}(2N + 988)) \\
&= B_{\bar{N}}(2N + 991 - (2N + 937)) + B_{\bar{N}}(2N + 991 - (N + 1694)) + B_{\bar{N}}(2N + 991 - (2N - 1356)) \\
&= B_{\bar{N}}(54) + B_{\bar{N}}(N - 703) + B_{\bar{N}}(2347) = 54 + (N - 703) + 2347 = \mathbf{N} + \mathbf{1698} \\
&(N \geq 2347)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 992) &= B_{\bar{N}}(2N + 992 - B_{\bar{N}}(2N + 991)) + B_{\bar{N}}(2N + 992 - B_{\bar{N}}(2N + 990)) + B_{\bar{N}}(2N + 992 - B_{\bar{N}}(2N + 989)) \\
&= B_{\bar{N}}(2N + 992 - (N + 1698)) + B_{\bar{N}}(2N + 992 - (2N + 937)) + B_{\bar{N}}(2N + 992 - (N + 1694)) \\
&= B_{\bar{N}}(N - 706) + B_{\bar{N}}(55) + B_{\bar{N}}(N - 702) = (N - 706) + 55 + (N - 702) = \mathbf{2N} - \mathbf{1353} \\
&(N \geq 707)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 993) &= B_{\bar{N}}(2N + 993 - B_{\bar{N}}(2N + 992)) + B_{\bar{N}}(2N + 993 - B_{\bar{N}}(2N + 991)) + B_{\bar{N}}(2N + 993 - B_{\bar{N}}(2N + 990)) \\
&= B_{\bar{N}}(2N + 993 - (2N - 1353)) + B_{\bar{N}}(2N + 993 - (N + 1698)) + B_{\bar{N}}(2N + 993 - (2N + 937)) \\
&= B_{\bar{N}}(2346) + B_{\bar{N}}(N - 705) + B_{\bar{N}}(56) = 2346 + (N - 705) + 56 = \mathbf{N} + \mathbf{1697} \\
&(N \geq 2346)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 994) &= B_{\bar{N}}(2N + 994 - B_{\bar{N}}(2N + 993)) + B_{\bar{N}}(2N + 994 - B_{\bar{N}}(2N + 992)) + B_{\bar{N}}(2N + 994 - B_{\bar{N}}(2N + 991)) \\
&= B_{\bar{N}}(2N + 994 - (N + 1697)) + B_{\bar{N}}(2N + 994 - (2N - 1353)) + B_{\bar{N}}(2N + 994 - (N + 1698)) \\
&= B_{\bar{N}}(N - 703) + B_{\bar{N}}(2347) + B_{\bar{N}}(N - 704) = (N - 703) + 2347 + (N - 704) = \mathbf{2N} + \mathbf{940} \\
&(N \geq 2347)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 995) &= B_{\bar{N}}(2N + 995 - B_{\bar{N}}(2N + 994)) + B_{\bar{N}}(2N + 995 - B_{\bar{N}}(2N + 993)) + B_{\bar{N}}(2N + 995 - B_{\bar{N}}(2N + 992)) \\
&= B_{\bar{N}}(2N + 995 - (2N + 940)) + B_{\bar{N}}(2N + 995 - (N + 1697)) + B_{\bar{N}}(2N + 995 - (2N - 1353)) \\
&= B_{\bar{N}}(55) + B_{\bar{N}}(N - 702) + B_{\bar{N}}(2348) = 55 + (N - 702) + 2348 = \mathbf{N} + \mathbf{1701} \\
&(N \geq 2348)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 996) &= B_{\bar{N}}(2N + 996 - B_{\bar{N}}(2N + 995)) + B_{\bar{N}}(2N + 996 - B_{\bar{N}}(2N + 994)) + B_{\bar{N}}(2N + 996 - B_{\bar{N}}(2N + 993)) \\
&= B_{\bar{N}}(2N + 996 - (N + 1701)) + B_{\bar{N}}(2N + 996 - (2N + 940)) + B_{\bar{N}}(2N + 996 - (N + 1697)) \\
&= B_{\bar{N}}(N - 705) + B_{\bar{N}}(56) + B_{\bar{N}}(N - 701) = (N - 705) + 56 + (N - 701) = \mathbf{2N} - \mathbf{1350} \\
&(N \geq 706)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 997) &= B_{\bar{N}}(2N + 997 - B_{\bar{N}}(2N + 996)) + B_{\bar{N}}(2N + 997 - B_{\bar{N}}(2N + 995)) + B_{\bar{N}}(2N + 997 - B_{\bar{N}}(2N + 994)) \\
&= B_{\bar{N}}(2N + 997 - (2N - 1350)) + B_{\bar{N}}(2N + 997 - (N + 1701)) + B_{\bar{N}}(2N + 997 - (2N + 940)) \\
&= B_{\bar{N}}(2347) + B_{\bar{N}}(N - 704) + B_{\bar{N}}(57) = 2347 + (N - 704) + 57 = \mathbf{N} + \mathbf{1700} \\
&(N \geq 2347)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 998) &= B_{\bar{N}}(2N + 998 - B_{\bar{N}}(2N + 997)) + B_{\bar{N}}(2N + 998 - B_{\bar{N}}(2N + 996)) + B_{\bar{N}}(2N + 998 - B_{\bar{N}}(2N + 995)) \\
&= B_{\bar{N}}(2N + 998 - (N + 1700)) + B_{\bar{N}}(2N + 998 - (2N - 1350)) + B_{\bar{N}}(2N + 998 - (N + 1701)) \\
&= B_{\bar{N}}(N - 702) + B_{\bar{N}}(2348) + B_{\bar{N}}(N - 703) = (N - 702) + 2348 + (N - 703) = \mathbf{2N} + \mathbf{943} \\
&(N \geq 2348)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 999) &= B_{\bar{N}}(2N + 999 - B_{\bar{N}}(2N + 998)) + B_{\bar{N}}(2N + 999 - B_{\bar{N}}(2N + 997)) + B_{\bar{N}}(2N + 999 - B_{\bar{N}}(2N + 996)) \\
&= B_{\bar{N}}(2N + 999 - (2N + 943)) + B_{\bar{N}}(2N + 999 - (N + 1700)) + B_{\bar{N}}(2N + 999 - (2N - 1350)) \\
&= B_{\bar{N}}(56) + B_{\bar{N}}(N - 701) + B_{\bar{N}}(2349) = 56 + (N - 701) + 2349 = \mathbf{N} + \mathbf{1704} \\
&(N \geq 2349)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 1000) &= B_{\bar{N}}(2N + 1000 - B_{\bar{N}}(2N + 999)) + B_{\bar{N}}(2N + 1000 - B_{\bar{N}}(2N + 998)) + B_{\bar{N}}(2N + 1000 - B_{\bar{N}}(2N + 997)) \\
&= B_{\bar{N}}(2N + 1000 - (N + 1704)) + B_{\bar{N}}(2N + 1000 - (2N + 943)) + B_{\bar{N}}(2N + 1000 - (N + 1700)) \\
&= B_{\bar{N}}(N - 704) + B_{\bar{N}}(57) + B_{\bar{N}}(N - 700) = (N - 704) + 57 + (N - 700) = \mathbf{2N} - \mathbf{1347} \\
&(N \geq 705)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 1001) &= B_{\bar{N}}(2N + 1001 - B_{\bar{N}}(2N + 1000)) + B_{\bar{N}}(2N + 1001 - B_{\bar{N}}(2N + 999)) + B_{\bar{N}}(2N + 1001 - B_{\bar{N}}(2N + 998)) \\
&= B_{\bar{N}}(2N + 1001 - (2N - 1347)) + B_{\bar{N}}(2N + 1001 - (N + 1704)) + B_{\bar{N}}(2N + 1001 - (2N + 943)) \\
&= B_{\bar{N}}(2348) + B_{\bar{N}}(N - 703) + B_{\bar{N}}(58) = 2348 + (N - 703) + 58 = \mathbf{N} + \mathbf{1703} \\
&(N \geq 2348)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1002}) &= B_{\bar{N}}(2N + 1002 - B_{\bar{N}}(2N + 1001)) + B_{\bar{N}}(2N + 1002 - B_{\bar{N}}(2N + 1000)) + B_{\bar{N}}(2N + 1002 - B_{\bar{N}}(2N + 999)) \\
&= B_{\bar{N}}(2N + 1002 - (N + 1703)) + B_{\bar{N}}(2N + 1002 - (2N - 1347)) + B_{\bar{N}}(2N + 1002 - (N + 1704)) \\
&= B_{\bar{N}}(N - 701) + B_{\bar{N}}(2349) + B_{\bar{N}}(N - 702) = (N - 701) + 2349 + (N - 702) = \mathbf{2N} + \mathbf{946} \\
&(N \geq 2349)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1003}) &= B_{\bar{N}}(2N + 1003 - B_{\bar{N}}(2N + 1002)) + B_{\bar{N}}(2N + 1003 - B_{\bar{N}}(2N + 1001)) + B_{\bar{N}}(2N + 1003 - B_{\bar{N}}(2N + 1000)) \\
&= B_{\bar{N}}(2N + 1003 - (2N + 946)) + B_{\bar{N}}(2N + 1003 - (N + 1703)) + B_{\bar{N}}(2N + 1003 - (2N - 1347)) \\
&= B_{\bar{N}}(57) + B_{\bar{N}}(N - 700) + B_{\bar{N}}(2350) = 57 + (N - 700) + 2350 = \mathbf{N} + \mathbf{1707} \\
&(N \geq 2350)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1004}) &= B_{\bar{N}}(2N + 1004 - B_{\bar{N}}(2N + 1003)) + B_{\bar{N}}(2N + 1004 - B_{\bar{N}}(2N + 1002)) + B_{\bar{N}}(2N + 1004 - B_{\bar{N}}(2N + 1001)) \\
&= B_{\bar{N}}(2N + 1004 - (N + 1707)) + B_{\bar{N}}(2N + 1004 - (2N + 946)) + B_{\bar{N}}(2N + 1004 - (N + 1703)) \\
&= B_{\bar{N}}(N - 703) + B_{\bar{N}}(58) + B_{\bar{N}}(N - 699) = (N - 703) + 58 + (N - 699) = \mathbf{2N} - \mathbf{1344} \\
&(N \geq 704)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1005}) &= B_{\bar{N}}(2N + 1005 - B_{\bar{N}}(2N + 1004)) + B_{\bar{N}}(2N + 1005 - B_{\bar{N}}(2N + 1003)) + B_{\bar{N}}(2N + 1005 - B_{\bar{N}}(2N + 1002)) \\
&= B_{\bar{N}}(2N + 1005 - (2N - 1344)) + B_{\bar{N}}(2N + 1005 - (N + 1707)) + B_{\bar{N}}(2N + 1005 - (2N + 946)) \\
&= B_{\bar{N}}(2349) + B_{\bar{N}}(N - 702) + B_{\bar{N}}(59) = 2349 + (N - 702) + 59 = \mathbf{N} + \mathbf{1706} \\
&(N \geq 2349)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1006}) &= B_{\bar{N}}(2N + 1006 - B_{\bar{N}}(2N + 1005)) + B_{\bar{N}}(2N + 1006 - B_{\bar{N}}(2N + 1004)) + B_{\bar{N}}(2N + 1006 - B_{\bar{N}}(2N + 1003)) \\
&= B_{\bar{N}}(2N + 1006 - (N + 1706)) + B_{\bar{N}}(2N + 1006 - (2N - 1344)) + B_{\bar{N}}(2N + 1006 - (N + 1707)) \\
&= B_{\bar{N}}(N - 700) + B_{\bar{N}}(2350) + B_{\bar{N}}(N - 701) = (N - 700) + 2350 + (N - 701) = \mathbf{2N} + \mathbf{949} \\
&(N \geq 2350)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1007}) &= B_{\bar{N}}(2N + 1007 - B_{\bar{N}}(2N + 1006)) + B_{\bar{N}}(2N + 1007 - B_{\bar{N}}(2N + 1005)) + B_{\bar{N}}(2N + 1007 - B_{\bar{N}}(2N + 1004)) \\
&= B_{\bar{N}}(2N + 1007 - (2N + 949)) + B_{\bar{N}}(2N + 1007 - (N + 1706)) + B_{\bar{N}}(2N + 1007 - (2N - 1344)) \\
&= B_{\bar{N}}(58) + B_{\bar{N}}(N - 699) + B_{\bar{N}}(2351) = 58 + (N - 699) + 2351 = \mathbf{N} + \mathbf{1710} \\
&(N \geq 2351)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1008}) &= B_{\bar{N}}(2N + 1008 - B_{\bar{N}}(2N + 1007)) + B_{\bar{N}}(2N + 1008 - B_{\bar{N}}(2N + 1006)) + B_{\bar{N}}(2N + 1008 - B_{\bar{N}}(2N + 1005)) \\
&= B_{\bar{N}}(2N + 1008 - (N + 1710)) + B_{\bar{N}}(2N + 1008 - (2N + 949)) + B_{\bar{N}}(2N + 1008 - (N + 1706)) \\
&= B_{\bar{N}}(N - 702) + B_{\bar{N}}(59) + B_{\bar{N}}(N - 698) = (N - 702) + 59 + (N - 698) = \mathbf{2N} - \mathbf{1341} \\
&(N \geq 703)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1009}) &= B_{\bar{N}}(2N + 1009 - B_{\bar{N}}(2N + 1008)) + B_{\bar{N}}(2N + 1009 - B_{\bar{N}}(2N + 1007)) + B_{\bar{N}}(2N + 1009 - B_{\bar{N}}(2N + 1006)) \\
&= B_{\bar{N}}(2N + 1009 - (2N - 1341)) + B_{\bar{N}}(2N + 1009 - (N + 1710)) + B_{\bar{N}}(2N + 1009 - (2N + 949)) \\
&= B_{\bar{N}}(2350) + B_{\bar{N}}(N - 701) + B_{\bar{N}}(60) = 2350 + (N - 701) + 60 = \mathbf{N} + \mathbf{1709} \\
&(N \geq 2350)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1010}) &= B_{\bar{N}}(2N + 1010 - B_{\bar{N}}(2N + 1009)) + B_{\bar{N}}(2N + 1010 - B_{\bar{N}}(2N + 1008)) + B_{\bar{N}}(2N + 1010 - B_{\bar{N}}(2N + 1007)) \\
&= B_{\bar{N}}(2N + 1010 - (N + 1709)) + B_{\bar{N}}(2N + 1010 - (2N - 1341)) + B_{\bar{N}}(2N + 1010 - (N + 1710)) \\
&= B_{\bar{N}}(N - 699) + B_{\bar{N}}(2351) + B_{\bar{N}}(N - 700) = (N - 699) + 2351 + (N - 700) = \mathbf{2N} + \mathbf{952} \\
&(N \geq 2351)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1011}) &= B_{\bar{N}}(2N + 1011 - B_{\bar{N}}(2N + 1010)) + B_{\bar{N}}(2N + 1011 - B_{\bar{N}}(2N + 1009)) + B_{\bar{N}}(2N + 1011 - B_{\bar{N}}(2N + 1008)) \\
&= B_{\bar{N}}(2N + 1011 - (2N + 952)) + B_{\bar{N}}(2N + 1011 - (N + 1709)) + B_{\bar{N}}(2N + 1011 - (2N - 1341)) \\
&= B_{\bar{N}}(59) + B_{\bar{N}}(N - 698) + B_{\bar{N}}(2352) = 59 + (N - 698) + 2352 = \mathbf{N} + \mathbf{1713} \\
&(N \geq 2352)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1012}) &= B_{\bar{N}}(2N + 1012 - B_{\bar{N}}(2N + 1011)) + B_{\bar{N}}(2N + 1012 - B_{\bar{N}}(2N + 1010)) + B_{\bar{N}}(2N + 1012 - B_{\bar{N}}(2N + 1009)) \\
&= B_{\bar{N}}(2N + 1012 - (N + 1713)) + B_{\bar{N}}(2N + 1012 - (2N + 952)) + B_{\bar{N}}(2N + 1012 - (N + 1709)) \\
&= B_{\bar{N}}(N - 701) + B_{\bar{N}}(60) + B_{\bar{N}}(N - 697) = (N - 701) + 60 + (N - 697) = \mathbf{2N} - \mathbf{1338} \\
&(N \geq 702)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1013}) &= B_{\bar{N}}(2N + 1013 - B_{\bar{N}}(2N + 1012)) + B_{\bar{N}}(2N + 1013 - B_{\bar{N}}(2N + 1011)) + B_{\bar{N}}(2N + 1013 - B_{\bar{N}}(2N + 1010)) \\
&= B_{\bar{N}}(2N + 1013 - (2N - 1338)) + B_{\bar{N}}(2N + 1013 - (N + 1713)) + B_{\bar{N}}(2N + 1013 - (2N + 952)) \\
&= B_{\bar{N}}(2351) + B_{\bar{N}}(N - 700) + B_{\bar{N}}(61) = 2351 + (N - 700) + 61 = \mathbf{N} + \mathbf{1712} \\
&(N \geq 2351)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1014}) &= B_{\bar{N}}(2N + 1014 - B_{\bar{N}}(2N + 1013)) + B_{\bar{N}}(2N + 1014 - B_{\bar{N}}(2N + 1012)) + B_{\bar{N}}(2N + 1014 - B_{\bar{N}}(2N + 1011)) \\
&= B_{\bar{N}}(2N + 1014 - (N + 1712)) + B_{\bar{N}}(2N + 1014 - (2N - 1338)) + B_{\bar{N}}(2N + 1014 - (N + 1713)) \\
&= B_{\bar{N}}(N - 698) + B_{\bar{N}}(2352) + B_{\bar{N}}(N - 699) = (N - 698) + 2352 + (N - 699) = \mathbf{2N} + \mathbf{955} \\
&(N \geq 2352)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1015}) &= B_{\bar{N}}(2N + 1015 - B_{\bar{N}}(2N + 1014)) + B_{\bar{N}}(2N + 1015 - B_{\bar{N}}(2N + 1013)) + B_{\bar{N}}(2N + 1015 - B_{\bar{N}}(2N + 1012)) \\
&= B_{\bar{N}}(2N + 1015 - (2N + 955)) + B_{\bar{N}}(2N + 1015 - (N + 1712)) + B_{\bar{N}}(2N + 1015 - (2N - 1338)) \\
&= B_{\bar{N}}(60) + B_{\bar{N}}(N - 697) + B_{\bar{N}}(2353) = 60 + (N - 697) + 2353 = \mathbf{N} + \mathbf{1716} \\
&(N \geq 2353)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1016}) &= B_{\bar{N}}(2N + 1016 - B_{\bar{N}}(2N + 1015)) + B_{\bar{N}}(2N + 1016 - B_{\bar{N}}(2N + 1014)) + B_{\bar{N}}(2N + 1016 - B_{\bar{N}}(2N + 1013)) \\
&= B_{\bar{N}}(2N + 1016 - (N + 1716)) + B_{\bar{N}}(2N + 1016 - (2N + 955)) + B_{\bar{N}}(2N + 1016 - (N + 1712)) \\
&= B_{\bar{N}}(N - 700) + B_{\bar{N}}(61) + B_{\bar{N}}(N - 696) = (N - 700) + 61 + (N - 696) = \mathbf{2N} - \mathbf{1335} \\
&(N \geq 701)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1017}) &= B_{\bar{N}}(2N + 1017 - B_{\bar{N}}(2N + 1016)) + B_{\bar{N}}(2N + 1017 - B_{\bar{N}}(2N + 1015)) + B_{\bar{N}}(2N + 1017 - B_{\bar{N}}(2N + 1014)) \\
&= B_{\bar{N}}(2N + 1017 - (2N - 1335)) + B_{\bar{N}}(2N + 1017 - (N + 1716)) + B_{\bar{N}}(2N + 1017 - (2N + 955)) \\
&= B_{\bar{N}}(2352) + B_{\bar{N}}(N - 699) + B_{\bar{N}}(62) = 2352 + (N - 699) + 62 = \mathbf{N} + \mathbf{1715} \\
&(N \geq 2352)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1018}) &= B_{\bar{N}}(2N + 1018 - B_{\bar{N}}(2N + 1017)) + B_{\bar{N}}(2N + 1018 - B_{\bar{N}}(2N + 1016)) + B_{\bar{N}}(2N + 1018 - B_{\bar{N}}(2N + 1015)) \\
&= B_{\bar{N}}(2N + 1018 - (N + 1715)) + B_{\bar{N}}(2N + 1018 - (2N - 1335)) + B_{\bar{N}}(2N + 1018 - (N + 1716)) \\
&= B_{\bar{N}}(N - 697) + B_{\bar{N}}(2353) + B_{\bar{N}}(N - 698) = (N - 697) + 2353 + (N - 698) = \mathbf{2N} + \mathbf{958} \\
&(N \geq 2353)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1019}) &= B_{\bar{N}}(2N + 1019 - B_{\bar{N}}(2N + 1018)) + B_{\bar{N}}(2N + 1019 - B_{\bar{N}}(2N + 1017)) + B_{\bar{N}}(2N + 1019 - B_{\bar{N}}(2N + 1016)) \\
&= B_{\bar{N}}(2N + 1019 - (2N + 958)) + B_{\bar{N}}(2N + 1019 - (N + 1715)) + B_{\bar{N}}(2N + 1019 - (2N - 1335)) \\
&= B_{\bar{N}}(61) + B_{\bar{N}}(N - 696) + B_{\bar{N}}(2354) = 61 + (N - 696) + 2354 = \mathbf{N} + \mathbf{1719} \\
&(N \geq 2354)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1020}) &= B_{\bar{N}}(2N + 1020 - B_{\bar{N}}(2N + 1019)) + B_{\bar{N}}(2N + 1020 - B_{\bar{N}}(2N + 1018)) + B_{\bar{N}}(2N + 1020 - B_{\bar{N}}(2N + 1017)) \\
&= B_{\bar{N}}(2N + 1020 - (N + 1719)) + B_{\bar{N}}(2N + 1020 - (2N + 958)) + B_{\bar{N}}(2N + 1020 - (N + 1715)) \\
&= B_{\bar{N}}(N - 699) + B_{\bar{N}}(62) + B_{\bar{N}}(N - 695) = (N - 699) + 62 + (N - 695) = \mathbf{2N} - \mathbf{1332} \\
&(N \geq 700)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1021}) &= B_{\bar{N}}(2N + 1021 - B_{\bar{N}}(2N + 1020)) + B_{\bar{N}}(2N + 1021 - B_{\bar{N}}(2N + 1019)) + B_{\bar{N}}(2N + 1021 - B_{\bar{N}}(2N + 1018)) \\
&= B_{\bar{N}}(2N + 1021 - (2N - 1332)) + B_{\bar{N}}(2N + 1021 - (N + 1719)) + B_{\bar{N}}(2N + 1021 - (2N + 958)) \\
&= B_{\bar{N}}(2353) + B_{\bar{N}}(N - 698) + B_{\bar{N}}(63) = 2353 + (N - 698) + 63 = \mathbf{N} + \mathbf{1718} \\
&(N \geq 2353)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1022}) &= B_{\bar{N}}(2N + 1022 - B_{\bar{N}}(2N + 1021)) + B_{\bar{N}}(2N + 1022 - B_{\bar{N}}(2N + 1020)) + B_{\bar{N}}(2N + 1022 - B_{\bar{N}}(2N + 1019)) \\
&= B_{\bar{N}}(2N + 1022 - (N + 1718)) + B_{\bar{N}}(2N + 1022 - (2N - 1332)) + B_{\bar{N}}(2N + 1022 - (N + 1719)) \\
&= B_{\bar{N}}(N - 696) + B_{\bar{N}}(2354) + B_{\bar{N}}(N - 697) = (N - 696) + 2354 + (N - 697) = \mathbf{2N} + \mathbf{961} \\
&(N \geq 2354)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1023}) &= B_{\bar{N}}(2N + 1023 - B_{\bar{N}}(2N + 1022)) + B_{\bar{N}}(2N + 1023 - B_{\bar{N}}(2N + 1021)) + B_{\bar{N}}(2N + 1023 - B_{\bar{N}}(2N + 1020)) \\
&= B_{\bar{N}}(2N + 1023 - (2N + 961)) + B_{\bar{N}}(2N + 1023 - (N + 1718)) + B_{\bar{N}}(2N + 1023 - (2N - 1332)) \\
&= B_{\bar{N}}(62) + B_{\bar{N}}(N - 695) + B_{\bar{N}}(2355) = 62 + (N - 695) + 2355 = \mathbf{N} + \mathbf{1722} \\
&(N \geq 2355)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1024}) &= B_{\bar{N}}(2N + 1024 - B_{\bar{N}}(2N + 1023)) + B_{\bar{N}}(2N + 1024 - B_{\bar{N}}(2N + 1022)) + B_{\bar{N}}(2N + 1024 - B_{\bar{N}}(2N + 1021)) \\
&= B_{\bar{N}}(2N + 1024 - (N + 1722)) + B_{\bar{N}}(2N + 1024 - (2N + 961)) + B_{\bar{N}}(2N + 1024 - (N + 1718)) \\
&= B_{\bar{N}}(N - 698) + B_{\bar{N}}(63) + B_{\bar{N}}(N - 694) = (N - 698) + 63 + (N - 694) = \mathbf{2N} - \mathbf{1329} \\
&(N \geq 699)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1025}) &= B_{\bar{N}}(2N + 1025 - B_{\bar{N}}(2N + 1024)) + B_{\bar{N}}(2N + 1025 - B_{\bar{N}}(2N + 1023)) + B_{\bar{N}}(2N + 1025 - B_{\bar{N}}(2N + 1022)) \\
&= B_{\bar{N}}(2N + 1025 - (2N - 1329)) + B_{\bar{N}}(2N + 1025 - (N + 1722)) + B_{\bar{N}}(2N + 1025 - (2N + 961)) \\
&= B_{\bar{N}}(2354) + B_{\bar{N}}(N - 697) + B_{\bar{N}}(64) = 2354 + (N - 697) + 64 = \mathbf{N} + \mathbf{1721} \\
&(N \geq 2354)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1026}) &= B_{\bar{N}}(2N + 1026 - B_{\bar{N}}(2N + 1025)) + B_{\bar{N}}(2N + 1026 - B_{\bar{N}}(2N + 1024)) + B_{\bar{N}}(2N + 1026 - B_{\bar{N}}(2N + 1023)) \\
&= B_{\bar{N}}(2N + 1026 - (N + 1721)) + B_{\bar{N}}(2N + 1026 - (2N - 1329)) + B_{\bar{N}}(2N + 1026 - (N + 1722)) \\
&= B_{\bar{N}}(N - 695) + B_{\bar{N}}(2355) + B_{\bar{N}}(N - 696) = (N - 695) + 2355 + (N - 696) = \mathbf{2N} + \mathbf{964} \\
&(N \geq 2355)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1027}) &= B_{\bar{N}}(2N + 1027 - B_{\bar{N}}(2N + 1026)) + B_{\bar{N}}(2N + 1027 - B_{\bar{N}}(2N + 1025)) + B_{\bar{N}}(2N + 1027 - B_{\bar{N}}(2N + 1024)) \\
&= B_{\bar{N}}(2N + 1027 - (2N + 964)) + B_{\bar{N}}(2N + 1027 - (N + 1721)) + B_{\bar{N}}(2N + 1027 - (2N - 1329)) \\
&= B_{\bar{N}}(63) + B_{\bar{N}}(N - 694) + B_{\bar{N}}(2356) = 63 + (N - 694) + 2356 = \mathbf{N} + \mathbf{1725} \\
&(N \geq 2356)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1028}) &= B_{\bar{N}}(2N + 1028 - B_{\bar{N}}(2N + 1027)) + B_{\bar{N}}(2N + 1028 - B_{\bar{N}}(2N + 1026)) + B_{\bar{N}}(2N + 1028 - B_{\bar{N}}(2N + 1025)) \\
&= B_{\bar{N}}(2N + 1028 - (N + 1725)) + B_{\bar{N}}(2N + 1028 - (2N + 964)) + B_{\bar{N}}(2N + 1028 - (N + 1721)) \\
&= B_{\bar{N}}(N - 697) + B_{\bar{N}}(64) + B_{\bar{N}}(N - 693) = (N - 697) + 64 + (N - 693) = \mathbf{2N} - \mathbf{1326} \\
&(N \geq 698)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1029}) &= B_{\bar{N}}(2N + 1029 - B_{\bar{N}}(2N + 1028)) + B_{\bar{N}}(2N + 1029 - B_{\bar{N}}(2N + 1027)) + B_{\bar{N}}(2N + 1029 - B_{\bar{N}}(2N + 1026)) \\
&= B_{\bar{N}}(2N + 1029 - (2N - 1326)) + B_{\bar{N}}(2N + 1029 - (N + 1725)) + B_{\bar{N}}(2N + 1029 - (2N + 964)) \\
&= B_{\bar{N}}(2355) + B_{\bar{N}}(N - 696) + B_{\bar{N}}(65) = 2355 + (N - 696) + 65 = \mathbf{N} + \mathbf{1724} \\
&(N \geq 2355)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1030}) &= B_{\bar{N}}(2N + 1030 - B_{\bar{N}}(2N + 1029)) + B_{\bar{N}}(2N + 1030 - B_{\bar{N}}(2N + 1028)) + B_{\bar{N}}(2N + 1030 - B_{\bar{N}}(2N + 1027)) \\
&= B_{\bar{N}}(2N + 1030 - (N + 1724)) + B_{\bar{N}}(2N + 1030 - (2N - 1326)) + B_{\bar{N}}(2N + 1030 - (N + 1725)) \\
&= B_{\bar{N}}(N - 694) + B_{\bar{N}}(2356) + B_{\bar{N}}(N - 695) = (N - 694) + 2356 + (N - 695) = \mathbf{2N} + \mathbf{967} \\
&(N \geq 2356)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1031}) &= B_{\bar{N}}(2N + 1031 - B_{\bar{N}}(2N + 1030)) + B_{\bar{N}}(2N + 1031 - B_{\bar{N}}(2N + 1029)) + B_{\bar{N}}(2N + 1031 - B_{\bar{N}}(2N + 1028)) \\
&= B_{\bar{N}}(2N + 1031 - (2N + 967)) + B_{\bar{N}}(2N + 1031 - (N + 1724)) + B_{\bar{N}}(2N + 1031 - (2N - 1326)) \\
&= B_{\bar{N}}(64) + B_{\bar{N}}(N - 693) + B_{\bar{N}}(2357) = 64 + (N - 693) + 2357 = \mathbf{N} + \mathbf{1728} \\
&(N \geq 2357)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1032}) &= B_{\bar{N}}(2N + 1032 - B_{\bar{N}}(2N + 1031)) + B_{\bar{N}}(2N + 1032 - B_{\bar{N}}(2N + 1030)) + B_{\bar{N}}(2N + 1032 - B_{\bar{N}}(2N + 1029)) \\
&= B_{\bar{N}}(2N + 1032 - (N + 1728)) + B_{\bar{N}}(2N + 1032 - (2N + 967)) + B_{\bar{N}}(2N + 1032 - (N + 1724)) \\
&= B_{\bar{N}}(N - 696) + B_{\bar{N}}(65) + B_{\bar{N}}(N - 692) = (N - 696) + 65 + (N - 692) = \mathbf{2N} - \mathbf{1323} \\
&(N \geq 697)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1033}) &= B_{\bar{N}}(2N + 1033 - B_{\bar{N}}(2N + 1032)) + B_{\bar{N}}(2N + 1033 - B_{\bar{N}}(2N + 1031)) + B_{\bar{N}}(2N + 1033 - B_{\bar{N}}(2N + 1030)) \\
&= B_{\bar{N}}(2N + 1033 - (2N - 1323)) + B_{\bar{N}}(2N + 1033 - (N + 1728)) + B_{\bar{N}}(2N + 1033 - (2N + 967)) \\
&= B_{\bar{N}}(2356) + B_{\bar{N}}(N - 695) + B_{\bar{N}}(66) = 2356 + (N - 695) + 66 = \mathbf{N} + \mathbf{1727} \\
&(N \geq 2356)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1034}) &= B_{\bar{N}}(2N + 1034 - B_{\bar{N}}(2N + 1033)) + B_{\bar{N}}(2N + 1034 - B_{\bar{N}}(2N + 1032)) + B_{\bar{N}}(2N + 1034 - B_{\bar{N}}(2N + 1031)) \\
&= B_{\bar{N}}(2N + 1034 - (N + 1727)) + B_{\bar{N}}(2N + 1034 - (2N - 1323)) + B_{\bar{N}}(2N + 1034 - (N + 1728)) \\
&= B_{\bar{N}}(N - 693) + B_{\bar{N}}(2357) + B_{\bar{N}}(N - 694) = (N - 693) + 2357 + (N - 694) = \mathbf{2N} + \mathbf{970} \\
&(N \geq 2357)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1035}) &= B_{\bar{N}}(2N + 1035 - B_{\bar{N}}(2N + 1034)) + B_{\bar{N}}(2N + 1035 - B_{\bar{N}}(2N + 1033)) + B_{\bar{N}}(2N + 1035 - B_{\bar{N}}(2N + 1032)) \\
&= B_{\bar{N}}(2N + 1035 - (2N + 970)) + B_{\bar{N}}(2N + 1035 - (N + 1727)) + B_{\bar{N}}(2N + 1035 - (2N - 1323)) \\
&= B_{\bar{N}}(65) + B_{\bar{N}}(N - 692) + B_{\bar{N}}(2358) = 65 + (N - 692) + 2358 = \mathbf{N} + \mathbf{1731} \\
&(N \geq 2358)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1036}) &= B_{\bar{N}}(2N + 1036 - B_{\bar{N}}(2N + 1035)) + B_{\bar{N}}(2N + 1036 - B_{\bar{N}}(2N + 1034)) + B_{\bar{N}}(2N + 1036 - B_{\bar{N}}(2N + 1033)) \\
&= B_{\bar{N}}(2N + 1036 - (N + 1731)) + B_{\bar{N}}(2N + 1036 - (2N + 970)) + B_{\bar{N}}(2N + 1036 - (N + 1727)) \\
&= B_{\bar{N}}(N - 695) + B_{\bar{N}}(66) + B_{\bar{N}}(N - 691) = (N - 695) + 66 + (N - 691) = \mathbf{2N} - \mathbf{1320} \\
&(N \geq 696)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1037}) &= B_{\bar{N}}(2N + 1037 - B_{\bar{N}}(2N + 1036)) + B_{\bar{N}}(2N + 1037 - B_{\bar{N}}(2N + 1035)) + B_{\bar{N}}(2N + 1037 - B_{\bar{N}}(2N + 1034)) \\
&= B_{\bar{N}}(2N + 1037 - (2N - 1320)) + B_{\bar{N}}(2N + 1037 - (N + 1731)) + B_{\bar{N}}(2N + 1037 - (2N + 970)) \\
&= B_{\bar{N}}(2357) + B_{\bar{N}}(N - 694) + B_{\bar{N}}(67) = 2357 + (N - 694) + 67 = \mathbf{N} + \mathbf{1730} \\
&(N \geq 2357)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1038}) &= B_{\bar{N}}(2N + 1038 - B_{\bar{N}}(2N + 1037)) + B_{\bar{N}}(2N + 1038 - B_{\bar{N}}(2N + 1036)) + B_{\bar{N}}(2N + 1038 - B_{\bar{N}}(2N + 1035)) \\
&= B_{\bar{N}}(2N + 1038 - (N + 1730)) + B_{\bar{N}}(2N + 1038 - (2N - 1320)) + B_{\bar{N}}(2N + 1038 - (N + 1731)) \\
&= B_{\bar{N}}(N - 692) + B_{\bar{N}}(2358) + B_{\bar{N}}(N - 693) = (N - 692) + 2358 + (N - 693) = \mathbf{2N} + \mathbf{973} \\
&(N \geq 2358)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1039}) &= B_{\bar{N}}(2N + 1039 - B_{\bar{N}}(2N + 1038)) + B_{\bar{N}}(2N + 1039 - B_{\bar{N}}(2N + 1037)) + B_{\bar{N}}(2N + 1039 - B_{\bar{N}}(2N + 1036)) \\
&= B_{\bar{N}}(2N + 1039 - (2N + 973)) + B_{\bar{N}}(2N + 1039 - (N + 1730)) + B_{\bar{N}}(2N + 1039 - (2N - 1320)) \\
&= B_{\bar{N}}(66) + B_{\bar{N}}(N - 691) + B_{\bar{N}}(2359) = 66 + (N - 691) + 2359 = \mathbf{N} + \mathbf{1734} \\
&(N \geq 2359)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1040}) &= B_{\bar{N}}(2N + 1040 - B_{\bar{N}}(2N + 1039)) + B_{\bar{N}}(2N + 1040 - B_{\bar{N}}(2N + 1038)) + B_{\bar{N}}(2N + 1040 - B_{\bar{N}}(2N + 1037)) \\
&= B_{\bar{N}}(2N + 1040 - (N + 1734)) + B_{\bar{N}}(2N + 1040 - (2N + 973)) + B_{\bar{N}}(2N + 1040 - (N + 1730)) \\
&= B_{\bar{N}}(N - 694) + B_{\bar{N}}(67) + B_{\bar{N}}(N - 690) = (N - 694) + 67 + (N - 690) = \mathbf{2N} - \mathbf{1317} \\
&(N \geq 695)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1041}) &= B_{\bar{N}}(2N + 1041 - B_{\bar{N}}(2N + 1040)) + B_{\bar{N}}(2N + 1041 - B_{\bar{N}}(2N + 1039)) + B_{\bar{N}}(2N + 1041 - B_{\bar{N}}(2N + 1038)) \\
&= B_{\bar{N}}(2N + 1041 - (2N - 1317)) + B_{\bar{N}}(2N + 1041 - (N + 1734)) + B_{\bar{N}}(2N + 1041 - (2N + 973)) \\
&= B_{\bar{N}}(2358) + B_{\bar{N}}(N - 693) + B_{\bar{N}}(68) = 2358 + (N - 693) + 68 = \mathbf{N} + \mathbf{1733} \\
&(N \geq 2358)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1042}) &= B_{\bar{N}}(2N + 1042 - B_{\bar{N}}(2N + 1041)) + B_{\bar{N}}(2N + 1042 - B_{\bar{N}}(2N + 1040)) + B_{\bar{N}}(2N + 1042 - B_{\bar{N}}(2N + 1039)) \\
&= B_{\bar{N}}(2N + 1042 - (N + 1733)) + B_{\bar{N}}(2N + 1042 - (2N - 1317)) + B_{\bar{N}}(2N + 1042 - (N + 1734)) \\
&= B_{\bar{N}}(N - 691) + B_{\bar{N}}(2359) + B_{\bar{N}}(N - 692) = (N - 691) + 2359 + (N - 692) = \mathbf{2N} + \mathbf{976} \\
&(N \geq 2359)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1043}) &= B_{\bar{N}}(2N + 1043 - B_{\bar{N}}(2N + 1042)) + B_{\bar{N}}(2N + 1043 - B_{\bar{N}}(2N + 1041)) + B_{\bar{N}}(2N + 1043 - B_{\bar{N}}(2N + 1040)) \\
&= B_{\bar{N}}(2N + 1043 - (2N + 976)) + B_{\bar{N}}(2N + 1043 - (N + 1733)) + B_{\bar{N}}(2N + 1043 - (2N - 1317)) \\
&= B_{\bar{N}}(67) + B_{\bar{N}}(N - 690) + B_{\bar{N}}(2360) = 67 + (N - 690) + 2360 = \mathbf{N} + \mathbf{1737} \\
&(N \geq 2360)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1044}) &= B_{\bar{N}}(2N + 1044 - B_{\bar{N}}(2N + 1043)) + B_{\bar{N}}(2N + 1044 - B_{\bar{N}}(2N + 1042)) + B_{\bar{N}}(2N + 1044 - B_{\bar{N}}(2N + 1041)) \\
&= B_{\bar{N}}(2N + 1044 - (N + 1737)) + B_{\bar{N}}(2N + 1044 - (2N + 976)) + B_{\bar{N}}(2N + 1044 - (N + 1733)) \\
&= B_{\bar{N}}(N - 693) + B_{\bar{N}}(68) + B_{\bar{N}}(N - 689) = (N - 693) + 68 + (N - 689) = \mathbf{2N} - \mathbf{1314} \\
&(N \geq 694)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1045}) &= B_{\bar{N}}(2N + 1045 - B_{\bar{N}}(2N + 1044)) + B_{\bar{N}}(2N + 1045 - B_{\bar{N}}(2N + 1043)) + B_{\bar{N}}(2N + 1045 - B_{\bar{N}}(2N + 1042)) \\
&= B_{\bar{N}}(2N + 1045 - (2N - 1314)) + B_{\bar{N}}(2N + 1045 - (N + 1737)) + B_{\bar{N}}(2N + 1045 - (2N + 976)) \\
&= B_{\bar{N}}(2359) + B_{\bar{N}}(N - 692) + B_{\bar{N}}(69) = 2359 + (N - 692) + 69 = \mathbf{N} + \mathbf{1736} \\
&(N \geq 2359)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1046}) &= B_{\bar{N}}(2N + 1046 - B_{\bar{N}}(2N + 1045)) + B_{\bar{N}}(2N + 1046 - B_{\bar{N}}(2N + 1044)) + B_{\bar{N}}(2N + 1046 - B_{\bar{N}}(2N + 1043)) \\
&= B_{\bar{N}}(2N + 1046 - (N + 1736)) + B_{\bar{N}}(2N + 1046 - (2N - 1314)) + B_{\bar{N}}(2N + 1046 - (N + 1737)) \\
&= B_{\bar{N}}(N - 690) + B_{\bar{N}}(2360) + B_{\bar{N}}(N - 691) = (N - 690) + 2360 + (N - 691) = \mathbf{2N} + \mathbf{979} \\
&(N \geq 2360)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1047}) &= B_{\bar{N}}(2N + 1047 - B_{\bar{N}}(2N + 1046)) + B_{\bar{N}}(2N + 1047 - B_{\bar{N}}(2N + 1045)) + B_{\bar{N}}(2N + 1047 - B_{\bar{N}}(2N + 1044)) \\
&= B_{\bar{N}}(2N + 1047 - (2N + 979)) + B_{\bar{N}}(2N + 1047 - (N + 1736)) + B_{\bar{N}}(2N + 1047 - (2N - 1314)) \\
&= B_{\bar{N}}(68) + B_{\bar{N}}(N - 689) + B_{\bar{N}}(2361) = 68 + (N - 689) + 2361 = \mathbf{N} + \mathbf{1740} \\
&(N \geq 2361)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1048}) &= B_{\bar{N}}(2N + 1048 - B_{\bar{N}}(2N + 1047)) + B_{\bar{N}}(2N + 1048 - B_{\bar{N}}(2N + 1046)) + B_{\bar{N}}(2N + 1048 - B_{\bar{N}}(2N + 1045)) \\
&= B_{\bar{N}}(2N + 1048 - (N + 1740)) + B_{\bar{N}}(2N + 1048 - (2N + 979)) + B_{\bar{N}}(2N + 1048 - (N + 1736)) \\
&= B_{\bar{N}}(N - 692) + B_{\bar{N}}(69) + B_{\bar{N}}(N - 688) = (N - 692) + 69 + (N - 688) = \mathbf{2N} - \mathbf{1311} \\
&(N \geq 693)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1049}) &= B_{\bar{N}}(2N + 1049 - B_{\bar{N}}(2N + 1048)) + B_{\bar{N}}(2N + 1049 - B_{\bar{N}}(2N + 1047)) + B_{\bar{N}}(2N + 1049 - B_{\bar{N}}(2N + 1046)) \\
&= B_{\bar{N}}(2N + 1049 - (2N - 1311)) + B_{\bar{N}}(2N + 1049 - (N + 1740)) + B_{\bar{N}}(2N + 1049 - (2N + 979)) \\
&= B_{\bar{N}}(2360) + B_{\bar{N}}(N - 691) + B_{\bar{N}}(70) = 2360 + (N - 691) + 70 = \mathbf{N} + \mathbf{1739} \\
&(N \geq 2360)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1050}) &= B_{\bar{N}}(2N + 1050 - B_{\bar{N}}(2N + 1049)) + B_{\bar{N}}(2N + 1050 - B_{\bar{N}}(2N + 1048)) + B_{\bar{N}}(2N + 1050 - B_{\bar{N}}(2N + 1047)) \\
&= B_{\bar{N}}(2N + 1050 - (N + 1739)) + B_{\bar{N}}(2N + 1050 - (2N - 1311)) + B_{\bar{N}}(2N + 1050 - (N + 1740)) \\
&= B_{\bar{N}}(N - 689) + B_{\bar{N}}(2361) + B_{\bar{N}}(N - 690) = (N - 689) + 2361 + (N - 690) = \mathbf{2N} + \mathbf{982} \\
&(N \geq 2361)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1051}) &= B_{\bar{N}}(2N + 1051 - B_{\bar{N}}(2N + 1050)) + B_{\bar{N}}(2N + 1051 - B_{\bar{N}}(2N + 1049)) + B_{\bar{N}}(2N + 1051 - B_{\bar{N}}(2N + 1048)) \\
&= B_{\bar{N}}(2N + 1051 - (2N + 982)) + B_{\bar{N}}(2N + 1051 - (N + 1739)) + B_{\bar{N}}(2N + 1051 - (2N - 1311)) \\
&= B_{\bar{N}}(69) + B_{\bar{N}}(N - 688) + B_{\bar{N}}(2362) = 69 + (N - 688) + 2362 = \mathbf{N} + \mathbf{1743} \\
&(N \geq 2362)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1052}) &= B_{\bar{N}}(2N + 1052 - B_{\bar{N}}(2N + 1051)) + B_{\bar{N}}(2N + 1052 - B_{\bar{N}}(2N + 1050)) + B_{\bar{N}}(2N + 1052 - B_{\bar{N}}(2N + 1049)) \\
&= B_{\bar{N}}(2N + 1052 - (N + 1743)) + B_{\bar{N}}(2N + 1052 - (2N + 982)) + B_{\bar{N}}(2N + 1052 - (N + 1739)) \\
&= B_{\bar{N}}(N - 691) + B_{\bar{N}}(70) + B_{\bar{N}}(N - 687) = (N - 691) + 70 + (N - 687) = \mathbf{2N} - \mathbf{1308} \\
&(N \geq 692)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1053}) &= B_{\bar{N}}(2N + 1053 - B_{\bar{N}}(2N + 1052)) + B_{\bar{N}}(2N + 1053 - B_{\bar{N}}(2N + 1051)) + B_{\bar{N}}(2N + 1053 - B_{\bar{N}}(2N + 1050)) \\
&= B_{\bar{N}}(2N + 1053 - (2N - 1308)) + B_{\bar{N}}(2N + 1053 - (N + 1743)) + B_{\bar{N}}(2N + 1053 - (2N + 982)) \\
&= B_{\bar{N}}(2361) + B_{\bar{N}}(N - 690) + B_{\bar{N}}(71) = 2361 + (N - 690) + 71 = \mathbf{N} + \mathbf{1742} \\
&(N \geq 2361)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1054}) &= B_{\bar{N}}(2N + 1054 - B_{\bar{N}}(2N + 1053)) + B_{\bar{N}}(2N + 1054 - B_{\bar{N}}(2N + 1052)) + B_{\bar{N}}(2N + 1054 - B_{\bar{N}}(2N + 1051)) \\
&= B_{\bar{N}}(2N + 1054 - (N + 1742)) + B_{\bar{N}}(2N + 1054 - (2N - 1308)) + B_{\bar{N}}(2N + 1054 - (N + 1743)) \\
&= B_{\bar{N}}(N - 688) + B_{\bar{N}}(2362) + B_{\bar{N}}(N - 689) = (N - 688) + 2362 + (N - 689) = \mathbf{2N} + \mathbf{985} \\
&(N \geq 2362)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1055}) &= B_{\bar{N}}(2N + 1055 - B_{\bar{N}}(2N + 1054)) + B_{\bar{N}}(2N + 1055 - B_{\bar{N}}(2N + 1053)) + B_{\bar{N}}(2N + 1055 - B_{\bar{N}}(2N + 1052)) \\
&= B_{\bar{N}}(2N + 1055 - (2N + 985)) + B_{\bar{N}}(2N + 1055 - (N + 1742)) + B_{\bar{N}}(2N + 1055 - (2N - 1308)) \\
&= B_{\bar{N}}(70) + B_{\bar{N}}(N - 687) + B_{\bar{N}}(2363) = 70 + (N - 687) + 2363 = \mathbf{N} + \mathbf{1746} \\
&(N \geq 2363)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1056}) &= B_{\bar{N}}(2N + 1056 - B_{\bar{N}}(2N + 1055)) + B_{\bar{N}}(2N + 1056 - B_{\bar{N}}(2N + 1054)) + B_{\bar{N}}(2N + 1056 - B_{\bar{N}}(2N + 1053)) \\
&= B_{\bar{N}}(2N + 1056 - (N + 1746)) + B_{\bar{N}}(2N + 1056 - (2N + 985)) + B_{\bar{N}}(2N + 1056 - (N + 1742)) \\
&= B_{\bar{N}}(N - 690) + B_{\bar{N}}(71) + B_{\bar{N}}(N - 686) = (N - 690) + 71 + (N - 686) = \mathbf{2N} - \mathbf{1305} \\
&(N \geq 691)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1057}) &= B_{\bar{N}}(2N + 1057 - B_{\bar{N}}(2N + 1056)) + B_{\bar{N}}(2N + 1057 - B_{\bar{N}}(2N + 1055)) + B_{\bar{N}}(2N + 1057 - B_{\bar{N}}(2N + 1054)) \\
&= B_{\bar{N}}(2N + 1057 - (2N - 1305)) + B_{\bar{N}}(2N + 1057 - (N + 1746)) + B_{\bar{N}}(2N + 1057 - (2N + 985)) \\
&= B_{\bar{N}}(2362) + B_{\bar{N}}(N - 689) + B_{\bar{N}}(72) = 2362 + (N - 689) + 72 = \mathbf{N} + \mathbf{1745} \\
&(N \geq 2362)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1058}) &= B_{\bar{N}}(2N + 1058 - B_{\bar{N}}(2N + 1057)) + B_{\bar{N}}(2N + 1058 - B_{\bar{N}}(2N + 1056)) + B_{\bar{N}}(2N + 1058 - B_{\bar{N}}(2N + 1055)) \\
&= B_{\bar{N}}(2N + 1058 - (N + 1745)) + B_{\bar{N}}(2N + 1058 - (2N - 1305)) + B_{\bar{N}}(2N + 1058 - (N + 1746)) \\
&= B_{\bar{N}}(N - 687) + B_{\bar{N}}(2363) + B_{\bar{N}}(N - 688) = (N - 687) + 2363 + (N - 688) = \mathbf{2N} + \mathbf{988} \\
&(N \geq 2363)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1059}) &= B_{\bar{N}}(2N + 1059 - B_{\bar{N}}(2N + 1058)) + B_{\bar{N}}(2N + 1059 - B_{\bar{N}}(2N + 1057)) + B_{\bar{N}}(2N + 1059 - B_{\bar{N}}(2N + 1056)) \\
&= B_{\bar{N}}(2N + 1059 - (2N + 988)) + B_{\bar{N}}(2N + 1059 - (N + 1745)) + B_{\bar{N}}(2N + 1059 - (2N - 1305)) \\
&= B_{\bar{N}}(71) + B_{\bar{N}}(N - 686) + B_{\bar{N}}(2364) = 71 + (N - 686) + 2364 = \mathbf{N} + \mathbf{1749} \\
&(N \geq 2364)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1060}) &= B_{\bar{N}}(2N + 1060 - B_{\bar{N}}(2N + 1059)) + B_{\bar{N}}(2N + 1060 - B_{\bar{N}}(2N + 1058)) + B_{\bar{N}}(2N + 1060 - B_{\bar{N}}(2N + 1057)) \\
&= B_{\bar{N}}(2N + 1060 - (N + 1749)) + B_{\bar{N}}(2N + 1060 - (2N + 988)) + B_{\bar{N}}(2N + 1060 - (N + 1745)) \\
&= B_{\bar{N}}(N - 689) + B_{\bar{N}}(72) + B_{\bar{N}}(N - 685) = (N - 689) + 72 + (N - 685) = \mathbf{2N} - \mathbf{1302} \\
&(N \geq 690)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1061}) &= B_{\bar{N}}(2N + 1061 - B_{\bar{N}}(2N + 1060)) + B_{\bar{N}}(2N + 1061 - B_{\bar{N}}(2N + 1059)) + B_{\bar{N}}(2N + 1061 - B_{\bar{N}}(2N + 1058)) \\
&= B_{\bar{N}}(2N + 1061 - (2N - 1302)) + B_{\bar{N}}(2N + 1061 - (N + 1749)) + B_{\bar{N}}(2N + 1061 - (2N + 988)) \\
&= B_{\bar{N}}(2363) + B_{\bar{N}}(N - 688) + B_{\bar{N}}(73) = 2363 + (N - 688) + 73 = \mathbf{N} + \mathbf{1748} \\
&(N \geq 2363)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1062}) &= B_{\bar{N}}(2N + 1062 - B_{\bar{N}}(2N + 1061)) + B_{\bar{N}}(2N + 1062 - B_{\bar{N}}(2N + 1060)) + B_{\bar{N}}(2N + 1062 - B_{\bar{N}}(2N + 1059)) \\
&= B_{\bar{N}}(2N + 1062 - (N + 1748)) + B_{\bar{N}}(2N + 1062 - (2N - 1302)) + B_{\bar{N}}(2N + 1062 - (N + 1749)) \\
&= B_{\bar{N}}(N - 686) + B_{\bar{N}}(2364) + B_{\bar{N}}(N - 687) = (N - 686) + 2364 + (N - 687) = \mathbf{2N} + \mathbf{991} \\
&(N \geq 2364)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1063}) &= B_{\bar{N}}(2N + 1063 - B_{\bar{N}}(2N + 1062)) + B_{\bar{N}}(2N + 1063 - B_{\bar{N}}(2N + 1061)) + B_{\bar{N}}(2N + 1063 - B_{\bar{N}}(2N + 1060)) \\
&= B_{\bar{N}}(2N + 1063 - (2N + 991)) + B_{\bar{N}}(2N + 1063 - (N + 1748)) + B_{\bar{N}}(2N + 1063 - (2N - 1302)) \\
&= B_{\bar{N}}(72) + B_{\bar{N}}(N - 685) + B_{\bar{N}}(2365) = 72 + (N - 685) + 2365 = \mathbf{N} + \mathbf{1752} \\
&(N \geq 2365)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1064}) &= B_{\bar{N}}(2N + 1064 - B_{\bar{N}}(2N + 1063)) + B_{\bar{N}}(2N + 1064 - B_{\bar{N}}(2N + 1062)) + B_{\bar{N}}(2N + 1064 - B_{\bar{N}}(2N + 1061)) \\
&= B_{\bar{N}}(2N + 1064 - (N + 1752)) + B_{\bar{N}}(2N + 1064 - (2N + 991)) + B_{\bar{N}}(2N + 1064 - (N + 1748)) \\
&= B_{\bar{N}}(N - 688) + B_{\bar{N}}(73) + B_{\bar{N}}(N - 684) = (N - 688) + 73 + (N - 684) = \mathbf{2N} - \mathbf{1299} \\
&(N \geq 689)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1065}) &= B_{\bar{N}}(2N + 1065 - B_{\bar{N}}(2N + 1064)) + B_{\bar{N}}(2N + 1065 - B_{\bar{N}}(2N + 1063)) + B_{\bar{N}}(2N + 1065 - B_{\bar{N}}(2N + 1062)) \\
&= B_{\bar{N}}(2N + 1065 - (2N - 1299)) + B_{\bar{N}}(2N + 1065 - (N + 1752)) + B_{\bar{N}}(2N + 1065 - (2N + 991)) \\
&= B_{\bar{N}}(2364) + B_{\bar{N}}(N - 687) + B_{\bar{N}}(74) = 2364 + (N - 687) + 74 = \mathbf{N} + \mathbf{1751} \\
&(N \geq 2364)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1066}) &= B_{\bar{N}}(2N + 1066 - B_{\bar{N}}(2N + 1065)) + B_{\bar{N}}(2N + 1066 - B_{\bar{N}}(2N + 1064)) + B_{\bar{N}}(2N + 1066 - B_{\bar{N}}(2N + 1063)) \\
&= B_{\bar{N}}(2N + 1066 - (N + 1751)) + B_{\bar{N}}(2N + 1066 - (2N - 1299)) + B_{\bar{N}}(2N + 1066 - (N + 1752)) \\
&= B_{\bar{N}}(N - 685) + B_{\bar{N}}(2365) + B_{\bar{N}}(N - 686) = (N - 685) + 2365 + (N - 686) = \mathbf{2N} + \mathbf{994} \\
&(N \geq 2365)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1067}) &= B_{\bar{N}}(2N + 1067 - B_{\bar{N}}(2N + 1066)) + B_{\bar{N}}(2N + 1067 - B_{\bar{N}}(2N + 1065)) + B_{\bar{N}}(2N + 1067 - B_{\bar{N}}(2N + 1064)) \\
&= B_{\bar{N}}(2N + 1067 - (2N + 994)) + B_{\bar{N}}(2N + 1067 - (N + 1751)) + B_{\bar{N}}(2N + 1067 - (2N - 1299)) \\
&= B_{\bar{N}}(73) + B_{\bar{N}}(N - 684) + B_{\bar{N}}(2366) = 73 + (N - 684) + 2366 = \mathbf{N} + \mathbf{1755} \\
&(N \geq 2366)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1068}) &= B_{\bar{N}}(2N + 1068 - B_{\bar{N}}(2N + 1067)) + B_{\bar{N}}(2N + 1068 - B_{\bar{N}}(2N + 1066)) + B_{\bar{N}}(2N + 1068 - B_{\bar{N}}(2N + 1065)) \\
&= B_{\bar{N}}(2N + 1068 - (N + 1755)) + B_{\bar{N}}(2N + 1068 - (2N + 994)) + B_{\bar{N}}(2N + 1068 - (N + 1751)) \\
&= B_{\bar{N}}(N - 687) + B_{\bar{N}}(74) + B_{\bar{N}}(N - 683) = (N - 687) + 74 + (N - 683) = \mathbf{2N} - \mathbf{1296} \\
&(N \geq 688)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1069}) &= B_{\bar{N}}(2N + 1069 - B_{\bar{N}}(2N + 1068)) + B_{\bar{N}}(2N + 1069 - B_{\bar{N}}(2N + 1067)) + B_{\bar{N}}(2N + 1069 - B_{\bar{N}}(2N + 1066)) \\
&= B_{\bar{N}}(2N + 1069 - (2N - 1296)) + B_{\bar{N}}(2N + 1069 - (N + 1755)) + B_{\bar{N}}(2N + 1069 - (2N + 994)) \\
&= B_{\bar{N}}(2365) + B_{\bar{N}}(N - 686) + B_{\bar{N}}(75) = 2365 + (N - 686) + 75 = \mathbf{N} + \mathbf{1754} \\
&(N \geq 2365)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1070}) &= B_{\bar{N}}(2N + 1070 - B_{\bar{N}}(2N + 1069)) + B_{\bar{N}}(2N + 1070 - B_{\bar{N}}(2N + 1068)) + B_{\bar{N}}(2N + 1070 - B_{\bar{N}}(2N + 1067)) \\
&= B_{\bar{N}}(2N + 1070 - (N + 1754)) + B_{\bar{N}}(2N + 1070 - (2N - 1296)) + B_{\bar{N}}(2N + 1070 - (N + 1755)) \\
&= B_{\bar{N}}(N - 684) + B_{\bar{N}}(2366) + B_{\bar{N}}(N - 685) = (N - 684) + 2366 + (N - 685) = \mathbf{2N} + \mathbf{997} \\
&(N \geq 2366)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1071}) &= B_{\bar{N}}(2N + 1071 - B_{\bar{N}}(2N + 1070)) + B_{\bar{N}}(2N + 1071 - B_{\bar{N}}(2N + 1069)) + B_{\bar{N}}(2N + 1071 - B_{\bar{N}}(2N + 1068)) \\
&= B_{\bar{N}}(2N + 1071 - (2N + 997)) + B_{\bar{N}}(2N + 1071 - (N + 1754)) + B_{\bar{N}}(2N + 1071 - (2N - 1296)) \\
&= B_{\bar{N}}(74) + B_{\bar{N}}(N - 683) + B_{\bar{N}}(2367) = 74 + (N - 683) + 2367 = \mathbf{N} + \mathbf{1758} \\
&(N \geq 2367)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1072}) &= B_{\bar{N}}(2N + 1072 - B_{\bar{N}}(2N + 1071)) + B_{\bar{N}}(2N + 1072 - B_{\bar{N}}(2N + 1070)) + B_{\bar{N}}(2N + 1072 - B_{\bar{N}}(2N + 1069)) \\
&= B_{\bar{N}}(2N + 1072 - (N + 1758)) + B_{\bar{N}}(2N + 1072 - (2N + 997)) + B_{\bar{N}}(2N + 1072 - (N + 1754)) \\
&= B_{\bar{N}}(N - 686) + B_{\bar{N}}(75) + B_{\bar{N}}(N - 682) = (N - 686) + 75 + (N - 682) = \mathbf{2N} - \mathbf{1293} \\
&(N \geq 687)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1073}) &= B_{\bar{N}}(2N + 1073 - B_{\bar{N}}(2N + 1072)) + B_{\bar{N}}(2N + 1073 - B_{\bar{N}}(2N + 1071)) + B_{\bar{N}}(2N + 1073 - B_{\bar{N}}(2N + 1070)) \\
&= B_{\bar{N}}(2N + 1073 - (2N - 1293)) + B_{\bar{N}}(2N + 1073 - (N + 1758)) + B_{\bar{N}}(2N + 1073 - (2N + 997)) \\
&= B_{\bar{N}}(2366) + B_{\bar{N}}(N - 685) + B_{\bar{N}}(76) = 2366 + (N - 685) + 76 = \mathbf{N} + \mathbf{1757} \\
&(N \geq 2366)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1074}) &= B_{\bar{N}}(2N + 1074 - B_{\bar{N}}(2N + 1073)) + B_{\bar{N}}(2N + 1074 - B_{\bar{N}}(2N + 1072)) + B_{\bar{N}}(2N + 1074 - B_{\bar{N}}(2N + 1071)) \\
&= B_{\bar{N}}(2N + 1074 - (N + 1757)) + B_{\bar{N}}(2N + 1074 - (2N - 1293)) + B_{\bar{N}}(2N + 1074 - (N + 1758)) \\
&= B_{\bar{N}}(N - 683) + B_{\bar{N}}(2367) + B_{\bar{N}}(N - 684) = (N - 683) + 2367 + (N - 684) = \mathbf{2N} + \mathbf{1000} \\
&(N \geq 2367)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1075}) &= B_{\bar{N}}(2N + 1075 - B_{\bar{N}}(2N + 1074)) + B_{\bar{N}}(2N + 1075 - B_{\bar{N}}(2N + 1073)) + B_{\bar{N}}(2N + 1075 - B_{\bar{N}}(2N + 1072)) \\
&= B_{\bar{N}}(2N + 1075 - (2N + 1000)) + B_{\bar{N}}(2N + 1075 - (N + 1757)) + B_{\bar{N}}(2N + 1075 - (2N - 1293)) \\
&= B_{\bar{N}}(75) + B_{\bar{N}}(N - 682) + B_{\bar{N}}(2368) = 75 + (N - 682) + 2368 = \mathbf{N} + \mathbf{1761} \\
&(N \geq 2368)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1076}) &= B_{\bar{N}}(2N + 1076 - B_{\bar{N}}(2N + 1075)) + B_{\bar{N}}(2N + 1076 - B_{\bar{N}}(2N + 1074)) + B_{\bar{N}}(2N + 1076 - B_{\bar{N}}(2N + 1073)) \\
&= B_{\bar{N}}(2N + 1076 - (N + 1761)) + B_{\bar{N}}(2N + 1076 - (2N + 1000)) + B_{\bar{N}}(2N + 1076 - (N + 1757)) \\
&= B_{\bar{N}}(N - 685) + B_{\bar{N}}(76) + B_{\bar{N}}(N - 681) = (N - 685) + 76 + (N - 681) = \mathbf{2N} - \mathbf{1290} \\
&(N \geq 686)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1077}) &= B_{\bar{N}}(2N + 1077 - B_{\bar{N}}(2N + 1076)) + B_{\bar{N}}(2N + 1077 - B_{\bar{N}}(2N + 1075)) + B_{\bar{N}}(2N + 1077 - B_{\bar{N}}(2N + 1074)) \\
&= B_{\bar{N}}(2N + 1077 - (2N - 1290)) + B_{\bar{N}}(2N + 1077 - (N + 1761)) + B_{\bar{N}}(2N + 1077 - (2N + 1000)) \\
&= B_{\bar{N}}(2367) + B_{\bar{N}}(N - 684) + B_{\bar{N}}(77) = 2367 + (N - 684) + 77 = \mathbf{N} + \mathbf{1760} \\
&(N \geq 2367)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1078}) &= B_{\bar{N}}(2N + 1078 - B_{\bar{N}}(2N + 1077)) + B_{\bar{N}}(2N + 1078 - B_{\bar{N}}(2N + 1076)) + B_{\bar{N}}(2N + 1078 - B_{\bar{N}}(2N + 1075)) \\
&= B_{\bar{N}}(2N + 1078 - (N + 1760)) + B_{\bar{N}}(2N + 1078 - (2N - 1290)) + B_{\bar{N}}(2N + 1078 - (N + 1761)) \\
&= B_{\bar{N}}(N - 682) + B_{\bar{N}}(2368) + B_{\bar{N}}(N - 683) = (N - 682) + 2368 + (N - 683) = \mathbf{2N} + \mathbf{1003} \\
&(N \geq 2368)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1079}) &= B_{\bar{N}}(2N + 1079 - B_{\bar{N}}(2N + 1078)) + B_{\bar{N}}(2N + 1079 - B_{\bar{N}}(2N + 1077)) + B_{\bar{N}}(2N + 1079 - B_{\bar{N}}(2N + 1076)) \\
&= B_{\bar{N}}(2N + 1079 - (2N + 1003)) + B_{\bar{N}}(2N + 1079 - (N + 1760)) + B_{\bar{N}}(2N + 1079 - (2N - 1290)) \\
&= B_{\bar{N}}(76) + B_{\bar{N}}(N - 681) + B_{\bar{N}}(2369) = 76 + (N - 681) + 2369 = \mathbf{N} + \mathbf{1764} \\
&(N \geq 2369)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1080}) &= B_{\bar{N}}(2N + 1080 - B_{\bar{N}}(2N + 1079)) + B_{\bar{N}}(2N + 1080 - B_{\bar{N}}(2N + 1078)) + B_{\bar{N}}(2N + 1080 - B_{\bar{N}}(2N + 1077)) \\
&= B_{\bar{N}}(2N + 1080 - (N + 1764)) + B_{\bar{N}}(2N + 1080 - (2N + 1003)) + B_{\bar{N}}(2N + 1080 - (N + 1760)) \\
&= B_{\bar{N}}(N - 684) + B_{\bar{N}}(77) + B_{\bar{N}}(N - 680) = (N - 684) + 77 + (N - 680) = \mathbf{2N} - \mathbf{1287} \\
&(N \geq 685)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1081}) &= B_{\bar{N}}(2N + 1081 - B_{\bar{N}}(2N + 1080)) + B_{\bar{N}}(2N + 1081 - B_{\bar{N}}(2N + 1079)) + B_{\bar{N}}(2N + 1081 - B_{\bar{N}}(2N + 1078)) \\
&= B_{\bar{N}}(2N + 1081 - (2N - 1287)) + B_{\bar{N}}(2N + 1081 - (N + 1764)) + B_{\bar{N}}(2N + 1081 - (2N + 1003)) \\
&= B_{\bar{N}}(2368) + B_{\bar{N}}(N - 683) + B_{\bar{N}}(78) = 2368 + (N - 683) + 78 = \mathbf{N} + \mathbf{1763} \\
&(N \geq 2368)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1082}) &= B_{\bar{N}}(2N + 1082 - B_{\bar{N}}(2N + 1081)) + B_{\bar{N}}(2N + 1082 - B_{\bar{N}}(2N + 1080)) + B_{\bar{N}}(2N + 1082 - B_{\bar{N}}(2N + 1079)) \\
&= B_{\bar{N}}(2N + 1082 - (N + 1763)) + B_{\bar{N}}(2N + 1082 - (2N - 1287)) + B_{\bar{N}}(2N + 1082 - (N + 1764)) \\
&= B_{\bar{N}}(N - 681) + B_{\bar{N}}(2369) + B_{\bar{N}}(N - 682) = (N - 681) + 2369 + (N - 682) = \mathbf{2N} + \mathbf{1006} \\
&(N \geq 2369)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1083}) &= B_{\bar{N}}(2N + 1083 - B_{\bar{N}}(2N + 1082)) + B_{\bar{N}}(2N + 1083 - B_{\bar{N}}(2N + 1081)) + B_{\bar{N}}(2N + 1083 - B_{\bar{N}}(2N + 1080)) \\
&= B_{\bar{N}}(2N + 1083 - (2N + 1006)) + B_{\bar{N}}(2N + 1083 - (N + 1763)) + B_{\bar{N}}(2N + 1083 - (2N - 1287)) \\
&= B_{\bar{N}}(77) + B_{\bar{N}}(N - 680) + B_{\bar{N}}(2370) = 77 + (N - 680) + 2370 = \mathbf{N} + \mathbf{1767} \\
&(N \geq 2370)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1084}) &= B_{\bar{N}}(2N + 1084 - B_{\bar{N}}(2N + 1083)) + B_{\bar{N}}(2N + 1084 - B_{\bar{N}}(2N + 1082)) + B_{\bar{N}}(2N + 1084 - B_{\bar{N}}(2N + 1081)) \\
&= B_{\bar{N}}(2N + 1084 - (N + 1767)) + B_{\bar{N}}(2N + 1084 - (2N + 1006)) + B_{\bar{N}}(2N + 1084 - (N + 1763)) \\
&= B_{\bar{N}}(N - 683) + B_{\bar{N}}(78) + B_{\bar{N}}(N - 679) = (N - 683) + 78 + (N - 679) = \mathbf{2N} - \mathbf{1284} \\
&(N \geq 684)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1085}) &= B_{\bar{N}}(2N + 1085 - B_{\bar{N}}(2N + 1084)) + B_{\bar{N}}(2N + 1085 - B_{\bar{N}}(2N + 1083)) + B_{\bar{N}}(2N + 1085 - B_{\bar{N}}(2N + 1082)) \\
&= B_{\bar{N}}(2N + 1085 - (2N - 1284)) + B_{\bar{N}}(2N + 1085 - (N + 1767)) + B_{\bar{N}}(2N + 1085 - (2N + 1006)) \\
&= B_{\bar{N}}(2369) + B_{\bar{N}}(N - 682) + B_{\bar{N}}(79) = 2369 + (N - 682) + 79 = \mathbf{N} + \mathbf{1766} \\
&(N \geq 2369)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1086}) &= B_{\bar{N}}(2N + 1086 - B_{\bar{N}}(2N + 1085)) + B_{\bar{N}}(2N + 1086 - B_{\bar{N}}(2N + 1084)) + B_{\bar{N}}(2N + 1086 - B_{\bar{N}}(2N + 1083)) \\
&= B_{\bar{N}}(2N + 1086 - (N + 1766)) + B_{\bar{N}}(2N + 1086 - (2N - 1284)) + B_{\bar{N}}(2N + 1086 - (N + 1767)) \\
&= B_{\bar{N}}(N - 680) + B_{\bar{N}}(2370) + B_{\bar{N}}(N - 681) = (N - 680) + 2370 + (N - 681) = \mathbf{2N} + \mathbf{1009} \\
&(N \geq 2370)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1087}) &= B_{\bar{N}}(2N + 1087 - B_{\bar{N}}(2N + 1086)) + B_{\bar{N}}(2N + 1087 - B_{\bar{N}}(2N + 1085)) + B_{\bar{N}}(2N + 1087 - B_{\bar{N}}(2N + 1084)) \\
&= B_{\bar{N}}(2N + 1087 - (2N + 1009)) + B_{\bar{N}}(2N + 1087 - (N + 1766)) + B_{\bar{N}}(2N + 1087 - (2N - 1284)) \\
&= B_{\bar{N}}(78) + B_{\bar{N}}(N - 679) + B_{\bar{N}}(2371) = 78 + (N - 679) + 2371 = \mathbf{N} + \mathbf{1770} \\
&(N \geq 2371)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1088}) &= B_{\bar{N}}(2N + 1088 - B_{\bar{N}}(2N + 1087)) + B_{\bar{N}}(2N + 1088 - B_{\bar{N}}(2N + 1086)) + B_{\bar{N}}(2N + 1088 - B_{\bar{N}}(2N + 1085)) \\
&= B_{\bar{N}}(2N + 1088 - (N + 1770)) + B_{\bar{N}}(2N + 1088 - (2N + 1009)) + B_{\bar{N}}(2N + 1088 - (N + 1766)) \\
&= B_{\bar{N}}(N - 682) + B_{\bar{N}}(79) + B_{\bar{N}}(N - 678) = (N - 682) + 79 + (N - 678) = \mathbf{2N} - \mathbf{1281} \\
&(N \geq 683)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1089}) &= B_{\bar{N}}(2N + 1089 - B_{\bar{N}}(2N + 1088)) + B_{\bar{N}}(2N + 1089 - B_{\bar{N}}(2N + 1087)) + B_{\bar{N}}(2N + 1089 - B_{\bar{N}}(2N + 1086)) \\
&= B_{\bar{N}}(2N + 1089 - (2N - 1281)) + B_{\bar{N}}(2N + 1089 - (N + 1770)) + B_{\bar{N}}(2N + 1089 - (2N + 1009)) \\
&= B_{\bar{N}}(2370) + B_{\bar{N}}(N - 681) + B_{\bar{N}}(80) = 2370 + (N - 681) + 80 = \mathbf{N} + \mathbf{1769} \\
&(N \geq 2370)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1090}) &= B_{\bar{N}}(2N + 1090 - B_{\bar{N}}(2N + 1089)) + B_{\bar{N}}(2N + 1090 - B_{\bar{N}}(2N + 1088)) + B_{\bar{N}}(2N + 1090 - B_{\bar{N}}(2N + 1087)) \\
&= B_{\bar{N}}(2N + 1090 - (N + 1769)) + B_{\bar{N}}(2N + 1090 - (2N - 1281)) + B_{\bar{N}}(2N + 1090 - (N + 1770)) \\
&= B_{\bar{N}}(N - 679) + B_{\bar{N}}(2371) + B_{\bar{N}}(N - 680) = (N - 679) + 2371 + (N - 680) = \mathbf{2N} + \mathbf{1012} \\
&(N \geq 2371)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1091}) &= B_{\bar{N}}(2N + 1091 - B_{\bar{N}}(2N + 1090)) + B_{\bar{N}}(2N + 1091 - B_{\bar{N}}(2N + 1089)) + B_{\bar{N}}(2N + 1091 - B_{\bar{N}}(2N + 1088)) \\
&= B_{\bar{N}}(2N + 1091 - (2N + 1012)) + B_{\bar{N}}(2N + 1091 - (N + 1769)) + B_{\bar{N}}(2N + 1091 - (2N - 1281)) \\
&= B_{\bar{N}}(79) + B_{\bar{N}}(N - 678) + B_{\bar{N}}(2372) = 79 + (N - 678) + 2372 = \mathbf{N} + \mathbf{1773} \\
&(N \geq 2372)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1092}) &= B_{\bar{N}}(2N + 1092 - B_{\bar{N}}(2N + 1091)) + B_{\bar{N}}(2N + 1092 - B_{\bar{N}}(2N + 1090)) + B_{\bar{N}}(2N + 1092 - B_{\bar{N}}(2N + 1089)) \\
&= B_{\bar{N}}(2N + 1092 - (N + 1773)) + B_{\bar{N}}(2N + 1092 - (2N + 1012)) + B_{\bar{N}}(2N + 1092 - (N + 1769)) \\
&= B_{\bar{N}}(N - 681) + B_{\bar{N}}(80) + B_{\bar{N}}(N - 677) = (N - 681) + 80 + (N - 677) = \mathbf{2N} - \mathbf{1278} \\
&(N \geq 682)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1093}) &= B_{\bar{N}}(2N + 1093 - B_{\bar{N}}(2N + 1092)) + B_{\bar{N}}(2N + 1093 - B_{\bar{N}}(2N + 1091)) + B_{\bar{N}}(2N + 1093 - B_{\bar{N}}(2N + 1090)) \\
&= B_{\bar{N}}(2N + 1093 - (2N - 1278)) + B_{\bar{N}}(2N + 1093 - (N + 1773)) + B_{\bar{N}}(2N + 1093 - (2N + 1012)) \\
&= B_{\bar{N}}(2371) + B_{\bar{N}}(N - 680) + B_{\bar{N}}(81) = 2371 + (N - 680) + 81 = \mathbf{N} + \mathbf{1772} \\
&(N \geq 2371)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1094}) &= B_{\bar{N}}(2N + 1094 - B_{\bar{N}}(2N + 1093)) + B_{\bar{N}}(2N + 1094 - B_{\bar{N}}(2N + 1092)) + B_{\bar{N}}(2N + 1094 - B_{\bar{N}}(2N + 1091)) \\
&= B_{\bar{N}}(2N + 1094 - (N + 1772)) + B_{\bar{N}}(2N + 1094 - (2N - 1278)) + B_{\bar{N}}(2N + 1094 - (N + 1773)) \\
&= B_{\bar{N}}(N - 678) + B_{\bar{N}}(2372) + B_{\bar{N}}(N - 679) = (N - 678) + 2372 + (N - 679) = \mathbf{2N} + \mathbf{1015} \\
&(N \geq 2372)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1095}) &= B_{\bar{N}}(2N + 1095 - B_{\bar{N}}(2N + 1094)) + B_{\bar{N}}(2N + 1095 - B_{\bar{N}}(2N + 1093)) + B_{\bar{N}}(2N + 1095 - B_{\bar{N}}(2N + 1092)) \\
&= B_{\bar{N}}(2N + 1095 - (2N + 1015)) + B_{\bar{N}}(2N + 1095 - (N + 1772)) + B_{\bar{N}}(2N + 1095 - (2N - 1278)) \\
&= B_{\bar{N}}(80) + B_{\bar{N}}(N - 677) + B_{\bar{N}}(2373) = 80 + (N - 677) + 2373 = \mathbf{N} + \mathbf{1776} \\
&(N \geq 2373)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1096}) &= B_{\bar{N}}(2N + 1096 - B_{\bar{N}}(2N + 1095)) + B_{\bar{N}}(2N + 1096 - B_{\bar{N}}(2N + 1094)) + B_{\bar{N}}(2N + 1096 - B_{\bar{N}}(2N + 1093)) \\
&= B_{\bar{N}}(2N + 1096 - (N + 1776)) + B_{\bar{N}}(2N + 1096 - (2N + 1015)) + B_{\bar{N}}(2N + 1096 - (N + 1772)) \\
&= B_{\bar{N}}(N - 680) + B_{\bar{N}}(81) + B_{\bar{N}}(N - 676) = (N - 680) + 81 + (N - 676) = \mathbf{2N} - \mathbf{1275} \\
&(N \geq 681)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1097}) &= B_{\bar{N}}(2N + 1097 - B_{\bar{N}}(2N + 1096)) + B_{\bar{N}}(2N + 1097 - B_{\bar{N}}(2N + 1095)) + B_{\bar{N}}(2N + 1097 - B_{\bar{N}}(2N + 1094)) \\
&= B_{\bar{N}}(2N + 1097 - (2N - 1275)) + B_{\bar{N}}(2N + 1097 - (N + 1776)) + B_{\bar{N}}(2N + 1097 - (2N + 1015)) \\
&= B_{\bar{N}}(2372) + B_{\bar{N}}(N - 679) + B_{\bar{N}}(82) = 2372 + (N - 679) + 82 = \mathbf{N} + \mathbf{1775} \\
&(N \geq 2372)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1098}) &= B_{\bar{N}}(2N + 1098 - B_{\bar{N}}(2N + 1097)) + B_{\bar{N}}(2N + 1098 - B_{\bar{N}}(2N + 1096)) + B_{\bar{N}}(2N + 1098 - B_{\bar{N}}(2N + 1095)) \\
&= B_{\bar{N}}(2N + 1098 - (N + 1775)) + B_{\bar{N}}(2N + 1098 - (2N - 1275)) + B_{\bar{N}}(2N + 1098 - (N + 1776)) \\
&= B_{\bar{N}}(N - 677) + B_{\bar{N}}(2373) + B_{\bar{N}}(N - 678) = (N - 677) + 2373 + (N - 678) = \mathbf{2N} + \mathbf{1018} \\
&(N \geq 2373)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1099}) &= B_{\bar{N}}(2N + 1099 - B_{\bar{N}}(2N + 1098)) + B_{\bar{N}}(2N + 1099 - B_{\bar{N}}(2N + 1097)) + B_{\bar{N}}(2N + 1099 - B_{\bar{N}}(2N + 1096)) \\
&= B_{\bar{N}}(2N + 1099 - (2N + 1018)) + B_{\bar{N}}(2N + 1099 - (N + 1775)) + B_{\bar{N}}(2N + 1099 - (2N - 1275)) \\
&= B_{\bar{N}}(81) + B_{\bar{N}}(N - 676) + B_{\bar{N}}(2374) = 81 + (N - 676) + 2374 = \mathbf{N} + \mathbf{1779} \\
&(N \geq 2374)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1100}) &= B_{\bar{N}}(2N + 1100 - B_{\bar{N}}(2N + 1099)) + B_{\bar{N}}(2N + 1100 - B_{\bar{N}}(2N + 1098)) + B_{\bar{N}}(2N + 1100 - B_{\bar{N}}(2N + 1097)) \\
&= B_{\bar{N}}(2N + 1100 - (N + 1779)) + B_{\bar{N}}(2N + 1100 - (2N + 1018)) + B_{\bar{N}}(2N + 1100 - (N + 1775)) \\
&= B_{\bar{N}}(N - 679) + B_{\bar{N}}(82) + B_{\bar{N}}(N - 675) = (N - 679) + 82 + (N - 675) = \mathbf{2N} - \mathbf{1272} \\
&(N \geq 680)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1101}) &= B_{\bar{N}}(2N + 1101 - B_{\bar{N}}(2N + 1100)) + B_{\bar{N}}(2N + 1101 - B_{\bar{N}}(2N + 1099)) + B_{\bar{N}}(2N + 1101 - B_{\bar{N}}(2N + 1098)) \\
&= B_{\bar{N}}(2N + 1101 - (2N - 1272)) + B_{\bar{N}}(2N + 1101 - (N + 1779)) + B_{\bar{N}}(2N + 1101 - (2N + 1018)) \\
&= B_{\bar{N}}(2373) + B_{\bar{N}}(N - 678) + B_{\bar{N}}(83) = 2373 + (N - 678) + 83 = \mathbf{N} + \mathbf{1778} \\
&(N \geq 2373)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1102}) &= B_{\bar{N}}(2N + 1102 - B_{\bar{N}}(2N + 1101)) + B_{\bar{N}}(2N + 1102 - B_{\bar{N}}(2N + 1100)) + B_{\bar{N}}(2N + 1102 - B_{\bar{N}}(2N + 1099)) \\
&= B_{\bar{N}}(2N + 1102 - (N + 1778)) + B_{\bar{N}}(2N + 1102 - (2N - 1272)) + B_{\bar{N}}(2N + 1102 - (N + 1779)) \\
&= B_{\bar{N}}(N - 676) + B_{\bar{N}}(2374) + B_{\bar{N}}(N - 677) = (N - 676) + 2374 + (N - 677) = \mathbf{2N} + \mathbf{1021} \\
&(N \geq 2374)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1103}) &= B_{\bar{N}}(2N + 1103 - B_{\bar{N}}(2N + 1102)) + B_{\bar{N}}(2N + 1103 - B_{\bar{N}}(2N + 1101)) + B_{\bar{N}}(2N + 1103 - B_{\bar{N}}(2N + 1100)) \\
&= B_{\bar{N}}(2N + 1103 - (2N + 1021)) + B_{\bar{N}}(2N + 1103 - (N + 1778)) + B_{\bar{N}}(2N + 1103 - (2N - 1272)) \\
&= B_{\bar{N}}(82) + B_{\bar{N}}(N - 675) + B_{\bar{N}}(2375) = 82 + (N - 675) + 2375 = \mathbf{N} + \mathbf{1782} \\
&(N \geq 2375)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1104}) &= B_{\bar{N}}(2N + 1104 - B_{\bar{N}}(2N + 1103)) + B_{\bar{N}}(2N + 1104 - B_{\bar{N}}(2N + 1102)) + B_{\bar{N}}(2N + 1104 - B_{\bar{N}}(2N + 1101)) \\
&= B_{\bar{N}}(2N + 1104 - (N + 1782)) + B_{\bar{N}}(2N + 1104 - (2N + 1021)) + B_{\bar{N}}(2N + 1104 - (N + 1778)) \\
&= B_{\bar{N}}(N - 678) + B_{\bar{N}}(83) + B_{\bar{N}}(N - 674) = (N - 678) + 83 + (N - 674) = \mathbf{2N} - \mathbf{1269} \\
&(N \geq 679)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1105}) &= B_{\bar{N}}(2N + 1105 - B_{\bar{N}}(2N + 1104)) + B_{\bar{N}}(2N + 1105 - B_{\bar{N}}(2N + 1103)) + B_{\bar{N}}(2N + 1105 - B_{\bar{N}}(2N + 1102)) \\
&= B_{\bar{N}}(2N + 1105 - (2N - 1269)) + B_{\bar{N}}(2N + 1105 - (N + 1782)) + B_{\bar{N}}(2N + 1105 - (2N + 1021)) \\
&= B_{\bar{N}}(2374) + B_{\bar{N}}(N - 677) + B_{\bar{N}}(84) = 2374 + (N - 677) + 84 = \mathbf{N} + \mathbf{1781} \\
&(N \geq 2374)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1106}) &= B_{\bar{N}}(2N + 1106 - B_{\bar{N}}(2N + 1105)) + B_{\bar{N}}(2N + 1106 - B_{\bar{N}}(2N + 1104)) + B_{\bar{N}}(2N + 1106 - B_{\bar{N}}(2N + 1103)) \\
&= B_{\bar{N}}(2N + 1106 - (N + 1781)) + B_{\bar{N}}(2N + 1106 - (2N - 1269)) + B_{\bar{N}}(2N + 1106 - (N + 1782)) \\
&= B_{\bar{N}}(N - 675) + B_{\bar{N}}(2375) + B_{\bar{N}}(N - 676) = (N - 675) + 2375 + (N - 676) = \mathbf{2N} + \mathbf{1024} \\
&(N \geq 2375)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1107}) &= B_{\bar{N}}(2N + 1107 - B_{\bar{N}}(2N + 1106)) + B_{\bar{N}}(2N + 1107 - B_{\bar{N}}(2N + 1105)) + B_{\bar{N}}(2N + 1107 - B_{\bar{N}}(2N + 1104)) \\
&= B_{\bar{N}}(2N + 1107 - (2N + 1024)) + B_{\bar{N}}(2N + 1107 - (N + 1781)) + B_{\bar{N}}(2N + 1107 - (2N - 1269)) \\
&= B_{\bar{N}}(83) + B_{\bar{N}}(N - 674) + B_{\bar{N}}(2376) = 83 + (N - 674) + 2376 = \mathbf{N} + \mathbf{1785} \\
&(N \geq 2376)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1108}) &= B_{\bar{N}}(2N + 1108 - B_{\bar{N}}(2N + 1107)) + B_{\bar{N}}(2N + 1108 - B_{\bar{N}}(2N + 1106)) + B_{\bar{N}}(2N + 1108 - B_{\bar{N}}(2N + 1105)) \\
&= B_{\bar{N}}(2N + 1108 - (N + 1785)) + B_{\bar{N}}(2N + 1108 - (2N + 1024)) + B_{\bar{N}}(2N + 1108 - (N + 1781)) \\
&= B_{\bar{N}}(N - 677) + B_{\bar{N}}(84) + B_{\bar{N}}(N - 673) = (N - 677) + 84 + (N - 673) = \mathbf{2N} - \mathbf{1266} \\
&(N \geq 678)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1109}) &= B_{\bar{N}}(2N + 1109 - B_{\bar{N}}(2N + 1108)) + B_{\bar{N}}(2N + 1109 - B_{\bar{N}}(2N + 1107)) + B_{\bar{N}}(2N + 1109 - B_{\bar{N}}(2N + 1106)) \\
&= B_{\bar{N}}(2N + 1109 - (2N - 1266)) + B_{\bar{N}}(2N + 1109 - (N + 1785)) + B_{\bar{N}}(2N + 1109 - (2N + 1024)) \\
&= B_{\bar{N}}(2375) + B_{\bar{N}}(N - 676) + B_{\bar{N}}(85) = 2375 + (N - 676) + 85 = \mathbf{N} + \mathbf{1784} \\
&(N \geq 2375)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1110}) &= B_{\bar{N}}(2N + 1110 - B_{\bar{N}}(2N + 1109)) + B_{\bar{N}}(2N + 1110 - B_{\bar{N}}(2N + 1108)) + B_{\bar{N}}(2N + 1110 - B_{\bar{N}}(2N + 1107)) \\
&= B_{\bar{N}}(2N + 1110 - (N + 1784)) + B_{\bar{N}}(2N + 1110 - (2N - 1266)) + B_{\bar{N}}(2N + 1110 - (N + 1785)) \\
&= B_{\bar{N}}(N - 674) + B_{\bar{N}}(2376) + B_{\bar{N}}(N - 675) = (N - 674) + 2376 + (N - 675) = \mathbf{2N} + \mathbf{1027} \\
&(N \geq 2376)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1111}) &= B_{\bar{N}}(2N + 1111 - B_{\bar{N}}(2N + 1110)) + B_{\bar{N}}(2N + 1111 - B_{\bar{N}}(2N + 1109)) + B_{\bar{N}}(2N + 1111 - B_{\bar{N}}(2N + 1108)) \\
&= B_{\bar{N}}(2N + 1111 - (2N + 1027)) + B_{\bar{N}}(2N + 1111 - (N + 1784)) + B_{\bar{N}}(2N + 1111 - (2N - 1266)) \\
&= B_{\bar{N}}(84) + B_{\bar{N}}(N - 673) + B_{\bar{N}}(2377) = 84 + (N - 673) + 2377 = \mathbf{N} + \mathbf{1788} \\
&(N \geq 2377)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1112}) &= B_{\bar{N}}(2N + 1112 - B_{\bar{N}}(2N + 1111)) + B_{\bar{N}}(2N + 1112 - B_{\bar{N}}(2N + 1110)) + B_{\bar{N}}(2N + 1112 - B_{\bar{N}}(2N + 1109)) \\
&= B_{\bar{N}}(2N + 1112 - (N + 1788)) + B_{\bar{N}}(2N + 1112 - (2N + 1027)) + B_{\bar{N}}(2N + 1112 - (N + 1784)) \\
&= B_{\bar{N}}(N - 676) + B_{\bar{N}}(85) + B_{\bar{N}}(N - 672) = (N - 676) + 85 + (N - 672) = \mathbf{2N} - \mathbf{1263} \\
&(N \geq 677)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1113}) &= B_{\bar{N}}(2N + 1113 - B_{\bar{N}}(2N + 1112)) + B_{\bar{N}}(2N + 1113 - B_{\bar{N}}(2N + 1111)) + B_{\bar{N}}(2N + 1113 - B_{\bar{N}}(2N + 1110)) \\
&= B_{\bar{N}}(2N + 1113 - (2N - 1263)) + B_{\bar{N}}(2N + 1113 - (N + 1788)) + B_{\bar{N}}(2N + 1113 - (2N + 1027)) \\
&= B_{\bar{N}}(2376) + B_{\bar{N}}(N - 675) + B_{\bar{N}}(86) = 2376 + (N - 675) + 86 = \mathbf{N} + \mathbf{1787} \\
&(N \geq 2376)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1114}) &= B_{\bar{N}}(2N + 1114 - B_{\bar{N}}(2N + 1113)) + B_{\bar{N}}(2N + 1114 - B_{\bar{N}}(2N + 1112)) + B_{\bar{N}}(2N + 1114 - B_{\bar{N}}(2N + 1111)) \\
&= B_{\bar{N}}(2N + 1114 - (N + 1787)) + B_{\bar{N}}(2N + 1114 - (2N - 1263)) + B_{\bar{N}}(2N + 1114 - (N + 1788)) \\
&= B_{\bar{N}}(N - 673) + B_{\bar{N}}(2377) + B_{\bar{N}}(N - 674) = (N - 673) + 2377 + (N - 674) = \mathbf{2N} + \mathbf{1030} \\
&(N \geq 2377)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1115}) &= B_{\bar{N}}(2N + 1115 - B_{\bar{N}}(2N + 1114)) + B_{\bar{N}}(2N + 1115 - B_{\bar{N}}(2N + 1113)) + B_{\bar{N}}(2N + 1115 - B_{\bar{N}}(2N + 1112)) \\
&= B_{\bar{N}}(2N + 1115 - (2N + 1030)) + B_{\bar{N}}(2N + 1115 - (N + 1787)) + B_{\bar{N}}(2N + 1115 - (2N - 1263)) \\
&= B_{\bar{N}}(85) + B_{\bar{N}}(N - 672) + B_{\bar{N}}(2378) = 85 + (N - 672) + 2378 = \mathbf{N} + \mathbf{1791} \\
&(N \geq 2378)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1116}) &= B_{\bar{N}}(2N + 1116 - B_{\bar{N}}(2N + 1115)) + B_{\bar{N}}(2N + 1116 - B_{\bar{N}}(2N + 1114)) + B_{\bar{N}}(2N + 1116 - B_{\bar{N}}(2N + 1113)) \\
&= B_{\bar{N}}(2N + 1116 - (N + 1791)) + B_{\bar{N}}(2N + 1116 - (2N + 1030)) + B_{\bar{N}}(2N + 1116 - (N + 1787)) \\
&= B_{\bar{N}}(N - 675) + B_{\bar{N}}(86) + B_{\bar{N}}(N - 671) = (N - 675) + 86 + (N - 671) = \mathbf{2N} - \mathbf{1260} \\
&(N \geq 676)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1117}) &= B_{\bar{N}}(2N + 1117 - B_{\bar{N}}(2N + 1116)) + B_{\bar{N}}(2N + 1117 - B_{\bar{N}}(2N + 1115)) + B_{\bar{N}}(2N + 1117 - B_{\bar{N}}(2N + 1114)) \\
&= B_{\bar{N}}(2N + 1117 - (2N - 1260)) + B_{\bar{N}}(2N + 1117 - (N + 1791)) + B_{\bar{N}}(2N + 1117 - (2N + 1030)) \\
&= B_{\bar{N}}(2377) + B_{\bar{N}}(N - 674) + B_{\bar{N}}(87) = 2377 + (N - 674) + 87 = \mathbf{N} + \mathbf{1790} \\
&(N \geq 2377)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1118}) &= B_{\bar{N}}(2N + 1118 - B_{\bar{N}}(2N + 1117)) + B_{\bar{N}}(2N + 1118 - B_{\bar{N}}(2N + 1116)) + B_{\bar{N}}(2N + 1118 - B_{\bar{N}}(2N + 1115)) \\
&= B_{\bar{N}}(2N + 1118 - (N + 1790)) + B_{\bar{N}}(2N + 1118 - (2N - 1260)) + B_{\bar{N}}(2N + 1118 - (N + 1791)) \\
&= B_{\bar{N}}(N - 672) + B_{\bar{N}}(2378) + B_{\bar{N}}(N - 673) = (N - 672) + 2378 + (N - 673) = \mathbf{2N} + \mathbf{1033} \\
&(N \geq 2378)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1119}) &= B_{\bar{N}}(2N + 1119 - B_{\bar{N}}(2N + 1118)) + B_{\bar{N}}(2N + 1119 - B_{\bar{N}}(2N + 1117)) + B_{\bar{N}}(2N + 1119 - B_{\bar{N}}(2N + 1116)) \\
&= B_{\bar{N}}(2N + 1119 - (2N + 1033)) + B_{\bar{N}}(2N + 1119 - (N + 1790)) + B_{\bar{N}}(2N + 1119 - (2N - 1260)) \\
&= B_{\bar{N}}(86) + B_{\bar{N}}(N - 671) + B_{\bar{N}}(2379) = 86 + (N - 671) + 2379 = \mathbf{N} + \mathbf{1794} \\
&(N \geq 2379)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1120}) &= B_{\bar{N}}(2N + 1120 - B_{\bar{N}}(2N + 1119)) + B_{\bar{N}}(2N + 1120 - B_{\bar{N}}(2N + 1118)) + B_{\bar{N}}(2N + 1120 - B_{\bar{N}}(2N + 1117)) \\
&= B_{\bar{N}}(2N + 1120 - (N + 1794)) + B_{\bar{N}}(2N + 1120 - (2N + 1033)) + B_{\bar{N}}(2N + 1120 - (N + 1790)) \\
&= B_{\bar{N}}(N - 674) + B_{\bar{N}}(87) + B_{\bar{N}}(N - 670) = (N - 674) + 87 + (N - 670) = \mathbf{2N} - \mathbf{1257} \\
&(N \geq 675)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1121}) &= B_{\bar{N}}(2N + 1121 - B_{\bar{N}}(2N + 1120)) + B_{\bar{N}}(2N + 1121 - B_{\bar{N}}(2N + 1119)) + B_{\bar{N}}(2N + 1121 - B_{\bar{N}}(2N + 1118)) \\
&= B_{\bar{N}}(2N + 1121 - (2N - 1257)) + B_{\bar{N}}(2N + 1121 - (N + 1794)) + B_{\bar{N}}(2N + 1121 - (2N + 1033)) \\
&= B_{\bar{N}}(2378) + B_{\bar{N}}(N - 673) + B_{\bar{N}}(88) = 2378 + (N - 673) + 88 = \mathbf{N} + \mathbf{1793} \\
&(N \geq 2378)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1122}) &= B_{\bar{N}}(2N + 1122 - B_{\bar{N}}(2N + 1121)) + B_{\bar{N}}(2N + 1122 - B_{\bar{N}}(2N + 1120)) + B_{\bar{N}}(2N + 1122 - B_{\bar{N}}(2N + 1119)) \\
&= B_{\bar{N}}(2N + 1122 - (N + 1793)) + B_{\bar{N}}(2N + 1122 - (2N - 1257)) + B_{\bar{N}}(2N + 1122 - (N + 1794)) \\
&= B_{\bar{N}}(N - 671) + B_{\bar{N}}(2379) + B_{\bar{N}}(N - 672) = (N - 671) + 2379 + (N - 672) = \mathbf{2N} + \mathbf{1036} \\
&(N \geq 2379)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1123}) &= B_{\bar{N}}(2N + 1123 - B_{\bar{N}}(2N + 1122)) + B_{\bar{N}}(2N + 1123 - B_{\bar{N}}(2N + 1121)) + B_{\bar{N}}(2N + 1123 - B_{\bar{N}}(2N + 1120)) \\
&= B_{\bar{N}}(2N + 1123 - (2N + 1036)) + B_{\bar{N}}(2N + 1123 - (N + 1793)) + B_{\bar{N}}(2N + 1123 - (2N - 1257)) \\
&= B_{\bar{N}}(87) + B_{\bar{N}}(N - 670) + B_{\bar{N}}(2380) = 87 + (N - 670) + 2380 = \mathbf{N} + \mathbf{1797} \\
&(N \geq 2380)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1124}) &= B_{\bar{N}}(2N + 1124 - B_{\bar{N}}(2N + 1123)) + B_{\bar{N}}(2N + 1124 - B_{\bar{N}}(2N + 1122)) + B_{\bar{N}}(2N + 1124 - B_{\bar{N}}(2N + 1121)) \\
&= B_{\bar{N}}(2N + 1124 - (N + 1797)) + B_{\bar{N}}(2N + 1124 - (2N + 1036)) + B_{\bar{N}}(2N + 1124 - (N + 1793)) \\
&= B_{\bar{N}}(N - 673) + B_{\bar{N}}(88) + B_{\bar{N}}(N - 669) = (N - 673) + 88 + (N - 669) = \mathbf{2N} - \mathbf{1254} \\
&(N \geq 674)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1125}) &= B_{\bar{N}}(2N + 1125 - B_{\bar{N}}(2N + 1124)) + B_{\bar{N}}(2N + 1125 - B_{\bar{N}}(2N + 1123)) + B_{\bar{N}}(2N + 1125 - B_{\bar{N}}(2N + 1122)) \\
&= B_{\bar{N}}(2N + 1125 - (2N - 1254)) + B_{\bar{N}}(2N + 1125 - (N + 1797)) + B_{\bar{N}}(2N + 1125 - (2N + 1036)) \\
&= B_{\bar{N}}(2379) + B_{\bar{N}}(N - 672) + B_{\bar{N}}(89) = 2379 + (N - 672) + 89 = \mathbf{N} + \mathbf{1796} \\
&(N \geq 2379)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1126}) &= B_{\bar{N}}(2N + 1126 - B_{\bar{N}}(2N + 1125)) + B_{\bar{N}}(2N + 1126 - B_{\bar{N}}(2N + 1124)) + B_{\bar{N}}(2N + 1126 - B_{\bar{N}}(2N + 1123)) \\
&= B_{\bar{N}}(2N + 1126 - (N + 1796)) + B_{\bar{N}}(2N + 1126 - (2N - 1254)) + B_{\bar{N}}(2N + 1126 - (N + 1797)) \\
&= B_{\bar{N}}(N - 670) + B_{\bar{N}}(2380) + B_{\bar{N}}(N - 671) = (N - 670) + 2380 + (N - 671) = \mathbf{2N} + \mathbf{1039} \\
&(N \geq 2380)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1127}) &= B_{\bar{N}}(2N + 1127 - B_{\bar{N}}(2N + 1126)) + B_{\bar{N}}(2N + 1127 - B_{\bar{N}}(2N + 1125)) + B_{\bar{N}}(2N + 1127 - B_{\bar{N}}(2N + 1124)) \\
&= B_{\bar{N}}(2N + 1127 - (2N + 1039)) + B_{\bar{N}}(2N + 1127 - (N + 1796)) + B_{\bar{N}}(2N + 1127 - (2N - 1254)) \\
&= B_{\bar{N}}(88) + B_{\bar{N}}(N - 669) + B_{\bar{N}}(2381) = 88 + (N - 669) + 2381 = \mathbf{N} + \mathbf{1800} \\
&(N \geq 2381)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1128}) &= B_{\bar{N}}(2N + 1128 - B_{\bar{N}}(2N + 1127)) + B_{\bar{N}}(2N + 1128 - B_{\bar{N}}(2N + 1126)) + B_{\bar{N}}(2N + 1128 - B_{\bar{N}}(2N + 1125)) \\
&= B_{\bar{N}}(2N + 1128 - (N + 1800)) + B_{\bar{N}}(2N + 1128 - (2N + 1039)) + B_{\bar{N}}(2N + 1128 - (N + 1796)) \\
&= B_{\bar{N}}(N - 672) + B_{\bar{N}}(89) + B_{\bar{N}}(N - 668) = (N - 672) + 89 + (N - 668) = \mathbf{2N} - \mathbf{1251} \\
&(N \geq 673)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1129}) &= B_{\bar{N}}(2N + 1129 - B_{\bar{N}}(2N + 1128)) + B_{\bar{N}}(2N + 1129 - B_{\bar{N}}(2N + 1127)) + B_{\bar{N}}(2N + 1129 - B_{\bar{N}}(2N + 1126)) \\
&= B_{\bar{N}}(2N + 1129 - (2N - 1251)) + B_{\bar{N}}(2N + 1129 - (N + 1800)) + B_{\bar{N}}(2N + 1129 - (2N + 1039)) \\
&= B_{\bar{N}}(2380) + B_{\bar{N}}(N - 671) + B_{\bar{N}}(90) = 2380 + (N - 671) + 90 = \mathbf{N} + \mathbf{1799} \\
&(N \geq 2380)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1130}) &= B_{\bar{N}}(2N + 1130 - B_{\bar{N}}(2N + 1129)) + B_{\bar{N}}(2N + 1130 - B_{\bar{N}}(2N + 1128)) + B_{\bar{N}}(2N + 1130 - B_{\bar{N}}(2N + 1127)) \\
&= B_{\bar{N}}(2N + 1130 - (N + 1799)) + B_{\bar{N}}(2N + 1130 - (2N - 1251)) + B_{\bar{N}}(2N + 1130 - (N + 1800)) \\
&= B_{\bar{N}}(N - 669) + B_{\bar{N}}(2381) + B_{\bar{N}}(N - 670) = (N - 669) + 2381 + (N - 670) = \mathbf{2N} + \mathbf{1042} \\
&(N \geq 2381)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1131}) &= B_{\bar{N}}(2N + 1131 - B_{\bar{N}}(2N + 1130)) + B_{\bar{N}}(2N + 1131 - B_{\bar{N}}(2N + 1129)) + B_{\bar{N}}(2N + 1131 - B_{\bar{N}}(2N + 1128)) \\
&= B_{\bar{N}}(2N + 1131 - (2N + 1042)) + B_{\bar{N}}(2N + 1131 - (N + 1799)) + B_{\bar{N}}(2N + 1131 - (2N - 1251)) \\
&= B_{\bar{N}}(89) + B_{\bar{N}}(N - 668) + B_{\bar{N}}(2382) = 89 + (N - 668) + 2382 = \mathbf{N} + \mathbf{1803} \\
&(N \geq 2382)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1132}) &= B_{\bar{N}}(2N + 1132 - B_{\bar{N}}(2N + 1131)) + B_{\bar{N}}(2N + 1132 - B_{\bar{N}}(2N + 1130)) + B_{\bar{N}}(2N + 1132 - B_{\bar{N}}(2N + 1129)) \\
&= B_{\bar{N}}(2N + 1132 - (N + 1803)) + B_{\bar{N}}(2N + 1132 - (2N + 1042)) + B_{\bar{N}}(2N + 1132 - (N + 1799)) \\
&= B_{\bar{N}}(N - 671) + B_{\bar{N}}(90) + B_{\bar{N}}(N - 667) = (N - 671) + 90 + (N - 667) = \mathbf{2N} - \mathbf{1248} \\
&(N \geq 672)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1133}) &= B_{\bar{N}}(2N + 1133 - B_{\bar{N}}(2N + 1132)) + B_{\bar{N}}(2N + 1133 - B_{\bar{N}}(2N + 1131)) + B_{\bar{N}}(2N + 1133 - B_{\bar{N}}(2N + 1130)) \\
&= B_{\bar{N}}(2N + 1133 - (2N - 1248)) + B_{\bar{N}}(2N + 1133 - (N + 1803)) + B_{\bar{N}}(2N + 1133 - (2N + 1042)) \\
&= B_{\bar{N}}(2381) + B_{\bar{N}}(N - 670) + B_{\bar{N}}(91) = 2381 + (N - 670) + 91 = \mathbf{N} + \mathbf{1802} \\
&(N \geq 2381)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1134}) &= B_{\bar{N}}(2N + 1134 - B_{\bar{N}}(2N + 1133)) + B_{\bar{N}}(2N + 1134 - B_{\bar{N}}(2N + 1132)) + B_{\bar{N}}(2N + 1134 - B_{\bar{N}}(2N + 1131)) \\
&= B_{\bar{N}}(2N + 1134 - (N + 1802)) + B_{\bar{N}}(2N + 1134 - (2N - 1248)) + B_{\bar{N}}(2N + 1134 - (N + 1803)) \\
&= B_{\bar{N}}(N - 668) + B_{\bar{N}}(2382) + B_{\bar{N}}(N - 669) = (N - 668) + 2382 + (N - 669) = \mathbf{2N} + \mathbf{1045} \\
&(N \geq 2382)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1135}) &= B_{\bar{N}}(2N + 1135 - B_{\bar{N}}(2N + 1134)) + B_{\bar{N}}(2N + 1135 - B_{\bar{N}}(2N + 1133)) + B_{\bar{N}}(2N + 1135 - B_{\bar{N}}(2N + 1132)) \\
&= B_{\bar{N}}(2N + 1135 - (2N + 1045)) + B_{\bar{N}}(2N + 1135 - (N + 1802)) + B_{\bar{N}}(2N + 1135 - (2N - 1248)) \\
&= B_{\bar{N}}(90) + B_{\bar{N}}(N - 667) + B_{\bar{N}}(2383) = 90 + (N - 667) + 2383 = \mathbf{N} + \mathbf{1806} \\
&(N \geq 2383)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1136}) &= B_{\bar{N}}(2N + 1136 - B_{\bar{N}}(2N + 1135)) + B_{\bar{N}}(2N + 1136 - B_{\bar{N}}(2N + 1134)) + B_{\bar{N}}(2N + 1136 - B_{\bar{N}}(2N + 1133)) \\
&= B_{\bar{N}}(2N + 1136 - (N + 1806)) + B_{\bar{N}}(2N + 1136 - (2N + 1045)) + B_{\bar{N}}(2N + 1136 - (N + 1802)) \\
&= B_{\bar{N}}(N - 670) + B_{\bar{N}}(91) + B_{\bar{N}}(N - 666) = (N - 670) + 91 + (N - 666) = \mathbf{2N} - \mathbf{1245} \\
&(N \geq 671)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1137}) &= B_{\bar{N}}(2N + 1137 - B_{\bar{N}}(2N + 1136)) + B_{\bar{N}}(2N + 1137 - B_{\bar{N}}(2N + 1135)) + B_{\bar{N}}(2N + 1137 - B_{\bar{N}}(2N + 1134)) \\
&= B_{\bar{N}}(2N + 1137 - (2N - 1245)) + B_{\bar{N}}(2N + 1137 - (N + 1806)) + B_{\bar{N}}(2N + 1137 - (2N + 1045)) \\
&= B_{\bar{N}}(2382) + B_{\bar{N}}(N - 669) + B_{\bar{N}}(92) = 2382 + (N - 669) + 92 = \mathbf{N} + \mathbf{1805} \\
&(N \geq 2382)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1138}) &= B_{\bar{N}}(2N + 1138 - B_{\bar{N}}(2N + 1137)) + B_{\bar{N}}(2N + 1138 - B_{\bar{N}}(2N + 1136)) + B_{\bar{N}}(2N + 1138 - B_{\bar{N}}(2N + 1135)) \\
&= B_{\bar{N}}(2N + 1138 - (N + 1805)) + B_{\bar{N}}(2N + 1138 - (2N - 1245)) + B_{\bar{N}}(2N + 1138 - (N + 1806)) \\
&= B_{\bar{N}}(N - 667) + B_{\bar{N}}(2383) + B_{\bar{N}}(N - 668) = (N - 667) + 2383 + (N - 668) = \mathbf{2N} + \mathbf{1048} \\
&(N \geq 2383)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1139}) &= B_{\bar{N}}(2N + 1139 - B_{\bar{N}}(2N + 1138)) + B_{\bar{N}}(2N + 1139 - B_{\bar{N}}(2N + 1137)) + B_{\bar{N}}(2N + 1139 - B_{\bar{N}}(2N + 1136)) \\
&= B_{\bar{N}}(2N + 1139 - (2N + 1048)) + B_{\bar{N}}(2N + 1139 - (N + 1805)) + B_{\bar{N}}(2N + 1139 - (2N - 1245)) \\
&= B_{\bar{N}}(91) + B_{\bar{N}}(N - 666) + B_{\bar{N}}(2384) = 91 + (N - 666) + 2384 = \mathbf{N} + \mathbf{1809} \\
&(N \geq 2384)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1140}) &= B_{\bar{N}}(2N + 1140 - B_{\bar{N}}(2N + 1139)) + B_{\bar{N}}(2N + 1140 - B_{\bar{N}}(2N + 1138)) + B_{\bar{N}}(2N + 1140 - B_{\bar{N}}(2N + 1137)) \\
&= B_{\bar{N}}(2N + 1140 - (N + 1809)) + B_{\bar{N}}(2N + 1140 - (2N + 1048)) + B_{\bar{N}}(2N + 1140 - (N + 1805)) \\
&= B_{\bar{N}}(N - 669) + B_{\bar{N}}(92) + B_{\bar{N}}(N - 665) = (N - 669) + 92 + (N - 665) = \mathbf{2N} - \mathbf{1242} \\
&(N \geq 670)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1141}) &= B_{\bar{N}}(2N + 1141 - B_{\bar{N}}(2N + 1140)) + B_{\bar{N}}(2N + 1141 - B_{\bar{N}}(2N + 1139)) + B_{\bar{N}}(2N + 1141 - B_{\bar{N}}(2N + 1138)) \\
&= B_{\bar{N}}(2N + 1141 - (2N - 1242)) + B_{\bar{N}}(2N + 1141 - (N + 1809)) + B_{\bar{N}}(2N + 1141 - (2N + 1048)) \\
&= B_{\bar{N}}(2383) + B_{\bar{N}}(N - 668) + B_{\bar{N}}(93) = 2383 + (N - 668) + 93 = \mathbf{N} + \mathbf{1808} \\
&(N \geq 2383)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1142}) &= B_{\bar{N}}(2N + 1142 - B_{\bar{N}}(2N + 1141)) + B_{\bar{N}}(2N + 1142 - B_{\bar{N}}(2N + 1140)) + B_{\bar{N}}(2N + 1142 - B_{\bar{N}}(2N + 1139)) \\
&= B_{\bar{N}}(2N + 1142 - (N + 1808)) + B_{\bar{N}}(2N + 1142 - (2N - 1242)) + B_{\bar{N}}(2N + 1142 - (N + 1809)) \\
&= B_{\bar{N}}(N - 666) + B_{\bar{N}}(2384) + B_{\bar{N}}(N - 667) = (N - 666) + 2384 + (N - 667) = \mathbf{2N} + \mathbf{1051} \\
&(N \geq 2384)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1143}) &= B_{\bar{N}}(2N + 1143 - B_{\bar{N}}(2N + 1142)) + B_{\bar{N}}(2N + 1143 - B_{\bar{N}}(2N + 1141)) + B_{\bar{N}}(2N + 1143 - B_{\bar{N}}(2N + 1140)) \\
&= B_{\bar{N}}(2N + 1143 - (2N + 1051)) + B_{\bar{N}}(2N + 1143 - (N + 1808)) + B_{\bar{N}}(2N + 1143 - (2N - 1242)) \\
&= B_{\bar{N}}(92) + B_{\bar{N}}(N - 665) + B_{\bar{N}}(2385) = 92 + (N - 665) + 2385 = \mathbf{N} + \mathbf{1812} \\
&(N \geq 2385)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1144}) &= B_{\bar{N}}(2N + 1144 - B_{\bar{N}}(2N + 1143)) + B_{\bar{N}}(2N + 1144 - B_{\bar{N}}(2N + 1142)) + B_{\bar{N}}(2N + 1144 - B_{\bar{N}}(2N + 1141)) \\
&= B_{\bar{N}}(2N + 1144 - (N + 1812)) + B_{\bar{N}}(2N + 1144 - (2N + 1051)) + B_{\bar{N}}(2N + 1144 - (N + 1808)) \\
&= B_{\bar{N}}(N - 668) + B_{\bar{N}}(93) + B_{\bar{N}}(N - 664) = (N - 668) + 93 + (N - 664) = \mathbf{2N} - \mathbf{1239} \\
&(N \geq 669)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1145}) &= B_{\bar{N}}(2N + 1145 - B_{\bar{N}}(2N + 1144)) + B_{\bar{N}}(2N + 1145 - B_{\bar{N}}(2N + 1143)) + B_{\bar{N}}(2N + 1145 - B_{\bar{N}}(2N + 1142)) \\
&= B_{\bar{N}}(2N + 1145 - (2N - 1239)) + B_{\bar{N}}(2N + 1145 - (N + 1812)) + B_{\bar{N}}(2N + 1145 - (2N + 1051)) \\
&= B_{\bar{N}}(2384) + B_{\bar{N}}(N - 667) + B_{\bar{N}}(94) = 2384 + (N - 667) + 94 = \mathbf{N} + \mathbf{1811} \\
&(N \geq 2384)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1146}) &= B_{\bar{N}}(2N + 1146 - B_{\bar{N}}(2N + 1145)) + B_{\bar{N}}(2N + 1146 - B_{\bar{N}}(2N + 1144)) + B_{\bar{N}}(2N + 1146 - B_{\bar{N}}(2N + 1143)) \\
&= B_{\bar{N}}(2N + 1146 - (N + 1811)) + B_{\bar{N}}(2N + 1146 - (2N - 1239)) + B_{\bar{N}}(2N + 1146 - (N + 1812)) \\
&= B_{\bar{N}}(N - 665) + B_{\bar{N}}(2385) + B_{\bar{N}}(N - 666) = (N - 665) + 2385 + (N - 666) = \mathbf{2N} + \mathbf{1054} \\
&(N \geq 2385)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1147}) &= B_{\bar{N}}(2N + 1147 - B_{\bar{N}}(2N + 1146)) + B_{\bar{N}}(2N + 1147 - B_{\bar{N}}(2N + 1145)) + B_{\bar{N}}(2N + 1147 - B_{\bar{N}}(2N + 1144)) \\
&= B_{\bar{N}}(2N + 1147 - (2N + 1054)) + B_{\bar{N}}(2N + 1147 - (N + 1811)) + B_{\bar{N}}(2N + 1147 - (2N - 1239)) \\
&= B_{\bar{N}}(93) + B_{\bar{N}}(N - 664) + B_{\bar{N}}(2386) = 93 + (N - 664) + 2386 = \mathbf{N} + \mathbf{1815} \\
&(N \geq 2386)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1148}) &= B_{\bar{N}}(2N + 1148 - B_{\bar{N}}(2N + 1147)) + B_{\bar{N}}(2N + 1148 - B_{\bar{N}}(2N + 1146)) + B_{\bar{N}}(2N + 1148 - B_{\bar{N}}(2N + 1145)) \\
&= B_{\bar{N}}(2N + 1148 - (N + 1815)) + B_{\bar{N}}(2N + 1148 - (2N + 1054)) + B_{\bar{N}}(2N + 1148 - (N + 1811)) \\
&= B_{\bar{N}}(N - 667) + B_{\bar{N}}(94) + B_{\bar{N}}(N - 663) = (N - 667) + 94 + (N - 663) = \mathbf{2N} - \mathbf{1236} \\
&(N \geq 668)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1149}) &= B_{\bar{N}}(2N + 1149 - B_{\bar{N}}(2N + 1148)) + B_{\bar{N}}(2N + 1149 - B_{\bar{N}}(2N + 1147)) + B_{\bar{N}}(2N + 1149 - B_{\bar{N}}(2N + 1146)) \\
&= B_{\bar{N}}(2N + 1149 - (2N - 1236)) + B_{\bar{N}}(2N + 1149 - (N + 1815)) + B_{\bar{N}}(2N + 1149 - (2N + 1054)) \\
&= B_{\bar{N}}(2385) + B_{\bar{N}}(N - 666) + B_{\bar{N}}(95) = 2385 + (N - 666) + 95 = \mathbf{N} + \mathbf{1814} \\
&(N \geq 2385)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1150}) &= B_{\bar{N}}(2N + 1150 - B_{\bar{N}}(2N + 1149)) + B_{\bar{N}}(2N + 1150 - B_{\bar{N}}(2N + 1148)) + B_{\bar{N}}(2N + 1150 - B_{\bar{N}}(2N + 1147)) \\
&= B_{\bar{N}}(2N + 1150 - (N + 1814)) + B_{\bar{N}}(2N + 1150 - (2N - 1236)) + B_{\bar{N}}(2N + 1150 - (N + 1815)) \\
&= B_{\bar{N}}(N - 664) + B_{\bar{N}}(2386) + B_{\bar{N}}(N - 665) = (N - 664) + 2386 + (N - 665) = \mathbf{2N} + \mathbf{1057} \\
&(N \geq 2386)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1151}) &= B_{\bar{N}}(2N + 1151 - B_{\bar{N}}(2N + 1150)) + B_{\bar{N}}(2N + 1151 - B_{\bar{N}}(2N + 1149)) + B_{\bar{N}}(2N + 1151 - B_{\bar{N}}(2N + 1148)) \\
&= B_{\bar{N}}(2N + 1151 - (2N + 1057)) + B_{\bar{N}}(2N + 1151 - (N + 1814)) + B_{\bar{N}}(2N + 1151 - (2N - 1236)) \\
&= B_{\bar{N}}(94) + B_{\bar{N}}(N - 663) + B_{\bar{N}}(2387) = 94 + (N - 663) + 2387 = \mathbf{N} + \mathbf{1818} \\
&(N \geq 2387)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1152}) &= B_{\bar{N}}(2N + 1152 - B_{\bar{N}}(2N + 1151)) + B_{\bar{N}}(2N + 1152 - B_{\bar{N}}(2N + 1150)) + B_{\bar{N}}(2N + 1152 - B_{\bar{N}}(2N + 1149)) \\
&= B_{\bar{N}}(2N + 1152 - (N + 1818)) + B_{\bar{N}}(2N + 1152 - (2N + 1057)) + B_{\bar{N}}(2N + 1152 - (N + 1814)) \\
&= B_{\bar{N}}(N - 666) + B_{\bar{N}}(95) + B_{\bar{N}}(N - 662) = (N - 666) + 95 + (N - 662) = \mathbf{2N} - \mathbf{1233} \\
&(N \geq 667)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1153}) &= B_{\bar{N}}(2N + 1153 - B_{\bar{N}}(2N + 1152)) + B_{\bar{N}}(2N + 1153 - B_{\bar{N}}(2N + 1151)) + B_{\bar{N}}(2N + 1153 - B_{\bar{N}}(2N + 1150)) \\
&= B_{\bar{N}}(2N + 1153 - (2N - 1233)) + B_{\bar{N}}(2N + 1153 - (N + 1818)) + B_{\bar{N}}(2N + 1153 - (2N + 1057)) \\
&= B_{\bar{N}}(2386) + B_{\bar{N}}(N - 665) + B_{\bar{N}}(96) = 2386 + (N - 665) + 96 = \mathbf{N} + \mathbf{1817} \\
&(N \geq 2386)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1154}) &= B_{\bar{N}}(2N + 1154 - B_{\bar{N}}(2N + 1153)) + B_{\bar{N}}(2N + 1154 - B_{\bar{N}}(2N + 1152)) + B_{\bar{N}}(2N + 1154 - B_{\bar{N}}(2N + 1151)) \\
&= B_{\bar{N}}(2N + 1154 - (N + 1817)) + B_{\bar{N}}(2N + 1154 - (2N - 1233)) + B_{\bar{N}}(2N + 1154 - (N + 1818)) \\
&= B_{\bar{N}}(N - 663) + B_{\bar{N}}(2387) + B_{\bar{N}}(N - 664) = (N - 663) + 2387 + (N - 664) = \mathbf{2N} + \mathbf{1060} \\
&(N \geq 2387)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1155}) &= B_{\bar{N}}(2N + 1155 - B_{\bar{N}}(2N + 1154)) + B_{\bar{N}}(2N + 1155 - B_{\bar{N}}(2N + 1153)) + B_{\bar{N}}(2N + 1155 - B_{\bar{N}}(2N + 1152)) \\
&= B_{\bar{N}}(2N + 1155 - (2N + 1060)) + B_{\bar{N}}(2N + 1155 - (N + 1817)) + B_{\bar{N}}(2N + 1155 - (2N - 1233)) \\
&= B_{\bar{N}}(95) + B_{\bar{N}}(N - 662) + B_{\bar{N}}(2388) = 95 + (N - 662) + 2388 = \mathbf{N} + \mathbf{1821} \\
&(N \geq 2388)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1156}) &= B_{\bar{N}}(2N + 1156 - B_{\bar{N}}(2N + 1155)) + B_{\bar{N}}(2N + 1156 - B_{\bar{N}}(2N + 1154)) + B_{\bar{N}}(2N + 1156 - B_{\bar{N}}(2N + 1153)) \\
&= B_{\bar{N}}(2N + 1156 - (N + 1821)) + B_{\bar{N}}(2N + 1156 - (2N + 1060)) + B_{\bar{N}}(2N + 1156 - (N + 1817)) \\
&= B_{\bar{N}}(N - 665) + B_{\bar{N}}(96) + B_{\bar{N}}(N - 661) = (N - 665) + 96 + (N - 661) = \mathbf{2N} - \mathbf{1230} \\
&(N \geq 666)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1157}) &= B_{\bar{N}}(2N + 1157 - B_{\bar{N}}(2N + 1156)) + B_{\bar{N}}(2N + 1157 - B_{\bar{N}}(2N + 1155)) + B_{\bar{N}}(2N + 1157 - B_{\bar{N}}(2N + 1154)) \\
&= B_{\bar{N}}(2N + 1157 - (2N - 1230)) + B_{\bar{N}}(2N + 1157 - (N + 1821)) + B_{\bar{N}}(2N + 1157 - (2N + 1060)) \\
&= B_{\bar{N}}(2387) + B_{\bar{N}}(N - 664) + B_{\bar{N}}(97) = 2387 + (N - 664) + 97 = \mathbf{N} + \mathbf{1820} \\
&(N \geq 2387)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1158}) &= B_{\bar{N}}(2N + 1158 - B_{\bar{N}}(2N + 1157)) + B_{\bar{N}}(2N + 1158 - B_{\bar{N}}(2N + 1156)) + B_{\bar{N}}(2N + 1158 - B_{\bar{N}}(2N + 1155)) \\
&= B_{\bar{N}}(2N + 1158 - (N + 1820)) + B_{\bar{N}}(2N + 1158 - (2N - 1230)) + B_{\bar{N}}(2N + 1158 - (N + 1821)) \\
&= B_{\bar{N}}(N - 662) + B_{\bar{N}}(2388) + B_{\bar{N}}(N - 663) = (N - 662) + 2388 + (N - 663) = \mathbf{2N} + \mathbf{1063} \\
&(N \geq 2388)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1159}) &= B_{\bar{N}}(2N + 1159 - B_{\bar{N}}(2N + 1158)) + B_{\bar{N}}(2N + 1159 - B_{\bar{N}}(2N + 1157)) + B_{\bar{N}}(2N + 1159 - B_{\bar{N}}(2N + 1156)) \\
&= B_{\bar{N}}(2N + 1159 - (2N + 1063)) + B_{\bar{N}}(2N + 1159 - (N + 1820)) + B_{\bar{N}}(2N + 1159 - (2N - 1230)) \\
&= B_{\bar{N}}(96) + B_{\bar{N}}(N - 661) + B_{\bar{N}}(2389) = 96 + (N - 661) + 2389 = \mathbf{N} + \mathbf{1824} \\
&(N \geq 2389)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1160}) &= B_{\bar{N}}(2N + 1160 - B_{\bar{N}}(2N + 1159)) + B_{\bar{N}}(2N + 1160 - B_{\bar{N}}(2N + 1158)) + B_{\bar{N}}(2N + 1160 - B_{\bar{N}}(2N + 1157)) \\
&= B_{\bar{N}}(2N + 1160 - (N + 1824)) + B_{\bar{N}}(2N + 1160 - (2N + 1063)) + B_{\bar{N}}(2N + 1160 - (N + 1820)) \\
&= B_{\bar{N}}(N - 664) + B_{\bar{N}}(97) + B_{\bar{N}}(N - 660) = (N - 664) + 97 + (N - 660) = \mathbf{2N} - \mathbf{1227} \\
&(N \geq 665)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1161}) &= B_{\bar{N}}(2N + 1161 - B_{\bar{N}}(2N + 1160)) + B_{\bar{N}}(2N + 1161 - B_{\bar{N}}(2N + 1159)) + B_{\bar{N}}(2N + 1161 - B_{\bar{N}}(2N + 1158)) \\
&= B_{\bar{N}}(2N + 1161 - (2N - 1227)) + B_{\bar{N}}(2N + 1161 - (N + 1824)) + B_{\bar{N}}(2N + 1161 - (2N + 1063)) \\
&= B_{\bar{N}}(2388) + B_{\bar{N}}(N - 663) + B_{\bar{N}}(98) = 2388 + (N - 663) + 98 = \mathbf{N} + \mathbf{1823} \\
&(N \geq 2388)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1162}) &= B_{\bar{N}}(2N + 1162 - B_{\bar{N}}(2N + 1161)) + B_{\bar{N}}(2N + 1162 - B_{\bar{N}}(2N + 1160)) + B_{\bar{N}}(2N + 1162 - B_{\bar{N}}(2N + 1159)) \\
&= B_{\bar{N}}(2N + 1162 - (N + 1823)) + B_{\bar{N}}(2N + 1162 - (2N - 1227)) + B_{\bar{N}}(2N + 1162 - (N + 1824)) \\
&= B_{\bar{N}}(N - 661) + B_{\bar{N}}(2389) + B_{\bar{N}}(N - 662) = (N - 661) + 2389 + (N - 662) = \mathbf{2N} + \mathbf{1066} \\
&(N \geq 2389)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1163}) &= B_{\bar{N}}(2N + 1163 - B_{\bar{N}}(2N + 1162)) + B_{\bar{N}}(2N + 1163 - B_{\bar{N}}(2N + 1161)) + B_{\bar{N}}(2N + 1163 - B_{\bar{N}}(2N + 1160)) \\
&= B_{\bar{N}}(2N + 1163 - (2N + 1066)) + B_{\bar{N}}(2N + 1163 - (N + 1823)) + B_{\bar{N}}(2N + 1163 - (2N - 1227)) \\
&= B_{\bar{N}}(97) + B_{\bar{N}}(N - 660) + B_{\bar{N}}(2390) = 97 + (N - 660) + 2390 = \mathbf{N} + \mathbf{1827} \\
&(N \geq 2390)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1164}) &= B_{\bar{N}}(2N + 1164 - B_{\bar{N}}(2N + 1163)) + B_{\bar{N}}(2N + 1164 - B_{\bar{N}}(2N + 1162)) + B_{\bar{N}}(2N + 1164 - B_{\bar{N}}(2N + 1161)) \\
&= B_{\bar{N}}(2N + 1164 - (N + 1827)) + B_{\bar{N}}(2N + 1164 - (2N + 1066)) + B_{\bar{N}}(2N + 1164 - (N + 1823)) \\
&= B_{\bar{N}}(N - 663) + B_{\bar{N}}(98) + B_{\bar{N}}(N - 659) = (N - 663) + 98 + (N - 659) = \mathbf{2N} - \mathbf{1224} \\
&(N \geq 664)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1165}) &= B_{\bar{N}}(2N + 1165 - B_{\bar{N}}(2N + 1164)) + B_{\bar{N}}(2N + 1165 - B_{\bar{N}}(2N + 1163)) + B_{\bar{N}}(2N + 1165 - B_{\bar{N}}(2N + 1162)) \\
&= B_{\bar{N}}(2N + 1165 - (2N - 1224)) + B_{\bar{N}}(2N + 1165 - (N + 1827)) + B_{\bar{N}}(2N + 1165 - (2N + 1066)) \\
&= B_{\bar{N}}(2389) + B_{\bar{N}}(N - 662) + B_{\bar{N}}(99) = 2389 + (N - 662) + 99 = \mathbf{N} + \mathbf{1826} \\
&(N \geq 2389)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1166}) &= B_{\bar{N}}(2N + 1166 - B_{\bar{N}}(2N + 1165)) + B_{\bar{N}}(2N + 1166 - B_{\bar{N}}(2N + 1164)) + B_{\bar{N}}(2N + 1166 - B_{\bar{N}}(2N + 1163)) \\
&= B_{\bar{N}}(2N + 1166 - (N + 1826)) + B_{\bar{N}}(2N + 1166 - (2N - 1224)) + B_{\bar{N}}(2N + 1166 - (N + 1827)) \\
&= B_{\bar{N}}(N - 660) + B_{\bar{N}}(2390) + B_{\bar{N}}(N - 661) = (N - 660) + 2390 + (N - 661) = \mathbf{2N} + \mathbf{1069} \\
&(N \geq 2390)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1167}) &= B_{\bar{N}}(2N + 1167 - B_{\bar{N}}(2N + 1166)) + B_{\bar{N}}(2N + 1167 - B_{\bar{N}}(2N + 1165)) + B_{\bar{N}}(2N + 1167 - B_{\bar{N}}(2N + 1164)) \\
&= B_{\bar{N}}(2N + 1167 - (2N + 1069)) + B_{\bar{N}}(2N + 1167 - (N + 1826)) + B_{\bar{N}}(2N + 1167 - (2N - 1224)) \\
&= B_{\bar{N}}(98) + B_{\bar{N}}(N - 659) + B_{\bar{N}}(2391) = 98 + (N - 659) + 2391 = \mathbf{N} + \mathbf{1830} \\
&(N \geq 2391)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1168}) &= B_{\bar{N}}(2N + 1168 - B_{\bar{N}}(2N + 1167)) + B_{\bar{N}}(2N + 1168 - B_{\bar{N}}(2N + 1166)) + B_{\bar{N}}(2N + 1168 - B_{\bar{N}}(2N + 1165)) \\
&= B_{\bar{N}}(2N + 1168 - (N + 1830)) + B_{\bar{N}}(2N + 1168 - (2N + 1069)) + B_{\bar{N}}(2N + 1168 - (N + 1826)) \\
&= B_{\bar{N}}(N - 662) + B_{\bar{N}}(99) + B_{\bar{N}}(N - 658) = (N - 662) + 99 + (N - 658) = \mathbf{2N} - \mathbf{1221} \\
&(N \geq 663)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1169}) &= B_{\bar{N}}(2N + 1169 - B_{\bar{N}}(2N + 1168)) + B_{\bar{N}}(2N + 1169 - B_{\bar{N}}(2N + 1167)) + B_{\bar{N}}(2N + 1169 - B_{\bar{N}}(2N + 1166)) \\
&= B_{\bar{N}}(2N + 1169 - (2N - 1221)) + B_{\bar{N}}(2N + 1169 - (N + 1830)) + B_{\bar{N}}(2N + 1169 - (2N + 1069)) \\
&= B_{\bar{N}}(2390) + B_{\bar{N}}(N - 661) + B_{\bar{N}}(100) = 2390 + (N - 661) + 100 = \mathbf{N} + \mathbf{1829} \\
&(N \geq 2390)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1170}) &= B_{\bar{N}}(2N + 1170 - B_{\bar{N}}(2N + 1169)) + B_{\bar{N}}(2N + 1170 - B_{\bar{N}}(2N + 1168)) + B_{\bar{N}}(2N + 1170 - B_{\bar{N}}(2N + 1167)) \\
&= B_{\bar{N}}(2N + 1170 - (N + 1829)) + B_{\bar{N}}(2N + 1170 - (2N - 1221)) + B_{\bar{N}}(2N + 1170 - (N + 1830)) \\
&= B_{\bar{N}}(N - 659) + B_{\bar{N}}(2391) + B_{\bar{N}}(N - 660) = (N - 659) + 2391 + (N - 660) = \mathbf{2N} + \mathbf{1072} \\
&(N \geq 2391)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1171}) &= B_{\bar{N}}(2N + 1171 - B_{\bar{N}}(2N + 1170)) + B_{\bar{N}}(2N + 1171 - B_{\bar{N}}(2N + 1169)) + B_{\bar{N}}(2N + 1171 - B_{\bar{N}}(2N + 1168)) \\
&= B_{\bar{N}}(2N + 1171 - (2N + 1072)) + B_{\bar{N}}(2N + 1171 - (N + 1829)) + B_{\bar{N}}(2N + 1171 - (2N - 1221)) \\
&= B_{\bar{N}}(99) + B_{\bar{N}}(N - 658) + B_{\bar{N}}(2392) = 99 + (N - 658) + 2392 = \mathbf{N} + \mathbf{1833} \\
&(N \geq 2392)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1172}) &= B_{\bar{N}}(2N + 1172 - B_{\bar{N}}(2N + 1171)) + B_{\bar{N}}(2N + 1172 - B_{\bar{N}}(2N + 1170)) + B_{\bar{N}}(2N + 1172 - B_{\bar{N}}(2N + 1169)) \\
&= B_{\bar{N}}(2N + 1172 - (N + 1833)) + B_{\bar{N}}(2N + 1172 - (2N + 1072)) + B_{\bar{N}}(2N + 1172 - (N + 1829)) \\
&= B_{\bar{N}}(N - 661) + B_{\bar{N}}(100) + B_{\bar{N}}(N - 657) = (N - 661) + 100 + (N - 657) = \mathbf{2N} - \mathbf{1218} \\
&(N \geq 662)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1173}) &= B_{\bar{N}}(2N + 1173 - B_{\bar{N}}(2N + 1172)) + B_{\bar{N}}(2N + 1173 - B_{\bar{N}}(2N + 1171)) + B_{\bar{N}}(2N + 1173 - B_{\bar{N}}(2N + 1170)) \\
&= B_{\bar{N}}(2N + 1173 - (2N - 1218)) + B_{\bar{N}}(2N + 1173 - (N + 1833)) + B_{\bar{N}}(2N + 1173 - (2N + 1072)) \\
&= B_{\bar{N}}(2391) + B_{\bar{N}}(N - 660) + B_{\bar{N}}(101) = 2391 + (N - 660) + 101 = \mathbf{N} + \mathbf{1832} \\
&(N \geq 2391)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1174}) &= B_{\bar{N}}(2N + 1174 - B_{\bar{N}}(2N + 1173)) + B_{\bar{N}}(2N + 1174 - B_{\bar{N}}(2N + 1172)) + B_{\bar{N}}(2N + 1174 - B_{\bar{N}}(2N + 1171)) \\
&= B_{\bar{N}}(2N + 1174 - (N + 1832)) + B_{\bar{N}}(2N + 1174 - (2N - 1218)) + B_{\bar{N}}(2N + 1174 - (N + 1833)) \\
&= B_{\bar{N}}(N - 658) + B_{\bar{N}}(2392) + B_{\bar{N}}(N - 659) = (N - 658) + 2392 + (N - 659) = \mathbf{2N} + \mathbf{1075} \\
&(N \geq 2392)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1175}) &= B_{\bar{N}}(2N + 1175 - B_{\bar{N}}(2N + 1174)) + B_{\bar{N}}(2N + 1175 - B_{\bar{N}}(2N + 1173)) + B_{\bar{N}}(2N + 1175 - B_{\bar{N}}(2N + 1172)) \\
&= B_{\bar{N}}(2N + 1175 - (2N + 1075)) + B_{\bar{N}}(2N + 1175 - (N + 1832)) + B_{\bar{N}}(2N + 1175 - (2N - 1218)) \\
&= B_{\bar{N}}(100) + B_{\bar{N}}(N - 657) + B_{\bar{N}}(2393) = 100 + (N - 657) + 2393 = \mathbf{N} + \mathbf{1836} \\
&(N \geq 2393)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1176}) &= B_{\bar{N}}(2N + 1176 - B_{\bar{N}}(2N + 1175)) + B_{\bar{N}}(2N + 1176 - B_{\bar{N}}(2N + 1174)) + B_{\bar{N}}(2N + 1176 - B_{\bar{N}}(2N + 1173)) \\
&= B_{\bar{N}}(2N + 1176 - (N + 1836)) + B_{\bar{N}}(2N + 1176 - (2N + 1075)) + B_{\bar{N}}(2N + 1176 - (N + 1832)) \\
&= B_{\bar{N}}(N - 660) + B_{\bar{N}}(101) + B_{\bar{N}}(N - 656) = (N - 660) + 101 + (N - 656) = \mathbf{2N} - \mathbf{1215} \\
&(N \geq 661)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1177}) &= B_{\bar{N}}(2N + 1177 - B_{\bar{N}}(2N + 1176)) + B_{\bar{N}}(2N + 1177 - B_{\bar{N}}(2N + 1175)) + B_{\bar{N}}(2N + 1177 - B_{\bar{N}}(2N + 1174)) \\
&= B_{\bar{N}}(2N + 1177 - (2N - 1215)) + B_{\bar{N}}(2N + 1177 - (N + 1836)) + B_{\bar{N}}(2N + 1177 - (2N + 1075)) \\
&= B_{\bar{N}}(2392) + B_{\bar{N}}(N - 659) + B_{\bar{N}}(102) = 2392 + (N - 659) + 102 = \mathbf{N} + \mathbf{1835} \\
&(N \geq 2392)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1178}) &= B_{\bar{N}}(2N + 1178 - B_{\bar{N}}(2N + 1177)) + B_{\bar{N}}(2N + 1178 - B_{\bar{N}}(2N + 1176)) + B_{\bar{N}}(2N + 1178 - B_{\bar{N}}(2N + 1175)) \\
&= B_{\bar{N}}(2N + 1178 - (N + 1835)) + B_{\bar{N}}(2N + 1178 - (2N - 1215)) + B_{\bar{N}}(2N + 1178 - (N + 1836)) \\
&= B_{\bar{N}}(N - 657) + B_{\bar{N}}(2393) + B_{\bar{N}}(N - 658) = (N - 657) + 2393 + (N - 658) = \mathbf{2N} + \mathbf{1078} \\
&(N \geq 2393)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1179}) &= B_{\bar{N}}(2N + 1179 - B_{\bar{N}}(2N + 1178)) + B_{\bar{N}}(2N + 1179 - B_{\bar{N}}(2N + 1177)) + B_{\bar{N}}(2N + 1179 - B_{\bar{N}}(2N + 1176)) \\
&= B_{\bar{N}}(2N + 1179 - (2N + 1078)) + B_{\bar{N}}(2N + 1179 - (N + 1835)) + B_{\bar{N}}(2N + 1179 - (2N - 1215)) \\
&= B_{\bar{N}}(101) + B_{\bar{N}}(N - 656) + B_{\bar{N}}(2394) = 101 + (N - 656) + 2394 = \mathbf{N} + \mathbf{1839} \\
&(N \geq 2394)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1180}) &= B_{\bar{N}}(2N + 1180 - B_{\bar{N}}(2N + 1179)) + B_{\bar{N}}(2N + 1180 - B_{\bar{N}}(2N + 1178)) + B_{\bar{N}}(2N + 1180 - B_{\bar{N}}(2N + 1177)) \\
&= B_{\bar{N}}(2N + 1180 - (N + 1839)) + B_{\bar{N}}(2N + 1180 - (2N + 1078)) + B_{\bar{N}}(2N + 1180 - (N + 1835)) \\
&= B_{\bar{N}}(N - 659) + B_{\bar{N}}(102) + B_{\bar{N}}(N - 655) = (N - 659) + 102 + (N - 655) = \mathbf{2N} - \mathbf{1212} \\
&(N \geq 660)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1181}) &= B_{\bar{N}}(2N + 1181 - B_{\bar{N}}(2N + 1180)) + B_{\bar{N}}(2N + 1181 - B_{\bar{N}}(2N + 1179)) + B_{\bar{N}}(2N + 1181 - B_{\bar{N}}(2N + 1178)) \\
&= B_{\bar{N}}(2N + 1181 - (2N - 1212)) + B_{\bar{N}}(2N + 1181 - (N + 1839)) + B_{\bar{N}}(2N + 1181 - (2N + 1078)) \\
&= B_{\bar{N}}(2393) + B_{\bar{N}}(N - 658) + B_{\bar{N}}(103) = 2393 + (N - 658) + 103 = \mathbf{N} + \mathbf{1838} \\
&(N \geq 2393)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1182}) &= B_{\bar{N}}(2N + 1182 - B_{\bar{N}}(2N + 1181)) + B_{\bar{N}}(2N + 1182 - B_{\bar{N}}(2N + 1180)) + B_{\bar{N}}(2N + 1182 - B_{\bar{N}}(2N + 1179)) \\
&= B_{\bar{N}}(2N + 1182 - (N + 1838)) + B_{\bar{N}}(2N + 1182 - (2N - 1212)) + B_{\bar{N}}(2N + 1182 - (N + 1839)) \\
&= B_{\bar{N}}(N - 656) + B_{\bar{N}}(2394) + B_{\bar{N}}(N - 657) = (N - 656) + 2394 + (N - 657) = \mathbf{2N} + \mathbf{1081} \\
&(N \geq 2394)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1183}) &= B_{\bar{N}}(2N + 1183 - B_{\bar{N}}(2N + 1182)) + B_{\bar{N}}(2N + 1183 - B_{\bar{N}}(2N + 1181)) + B_{\bar{N}}(2N + 1183 - B_{\bar{N}}(2N + 1180)) \\
&= B_{\bar{N}}(2N + 1183 - (2N + 1081)) + B_{\bar{N}}(2N + 1183 - (N + 1838)) + B_{\bar{N}}(2N + 1183 - (2N - 1212)) \\
&= B_{\bar{N}}(102) + B_{\bar{N}}(N - 655) + B_{\bar{N}}(2395) = 102 + (N - 655) + 2395 = \mathbf{N} + \mathbf{1842} \\
&(N \geq 2395)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1184}) &= B_{\bar{N}}(2N + 1184 - B_{\bar{N}}(2N + 1183)) + B_{\bar{N}}(2N + 1184 - B_{\bar{N}}(2N + 1182)) + B_{\bar{N}}(2N + 1184 - B_{\bar{N}}(2N + 1181)) \\
&= B_{\bar{N}}(2N + 1184 - (N + 1842)) + B_{\bar{N}}(2N + 1184 - (2N + 1081)) + B_{\bar{N}}(2N + 1184 - (N + 1838)) \\
&= B_{\bar{N}}(N - 658) + B_{\bar{N}}(103) + B_{\bar{N}}(N - 654) = (N - 658) + 103 + (N - 654) = \mathbf{2N} - \mathbf{1209} \\
&(N \geq 659)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1185}) &= B_{\bar{N}}(2N + 1185 - B_{\bar{N}}(2N + 1184)) + B_{\bar{N}}(2N + 1185 - B_{\bar{N}}(2N + 1183)) + B_{\bar{N}}(2N + 1185 - B_{\bar{N}}(2N + 1182)) \\
&= B_{\bar{N}}(2N + 1185 - (2N - 1209)) + B_{\bar{N}}(2N + 1185 - (N + 1842)) + B_{\bar{N}}(2N + 1185 - (2N + 1081)) \\
&= B_{\bar{N}}(2394) + B_{\bar{N}}(N - 657) + B_{\bar{N}}(104) = 2394 + (N - 657) + 104 = \mathbf{N} + \mathbf{1841} \\
&(N \geq 2394)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1186}) &= B_{\bar{N}}(2N + 1186 - B_{\bar{N}}(2N + 1185)) + B_{\bar{N}}(2N + 1186 - B_{\bar{N}}(2N + 1184)) + B_{\bar{N}}(2N + 1186 - B_{\bar{N}}(2N + 1183)) \\
&= B_{\bar{N}}(2N + 1186 - (N + 1841)) + B_{\bar{N}}(2N + 1186 - (2N - 1209)) + B_{\bar{N}}(2N + 1186 - (N + 1842)) \\
&= B_{\bar{N}}(N - 655) + B_{\bar{N}}(2395) + B_{\bar{N}}(N - 656) = (N - 655) + 2395 + (N - 656) = \mathbf{2N} + \mathbf{1084} \\
&(N \geq 2395)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1187}) &= B_{\bar{N}}(2N + 1187 - B_{\bar{N}}(2N + 1186)) + B_{\bar{N}}(2N + 1187 - B_{\bar{N}}(2N + 1185)) + B_{\bar{N}}(2N + 1187 - B_{\bar{N}}(2N + 1184)) \\
&= B_{\bar{N}}(2N + 1187 - (2N + 1084)) + B_{\bar{N}}(2N + 1187 - (N + 1841)) + B_{\bar{N}}(2N + 1187 - (2N - 1209)) \\
&= B_{\bar{N}}(103) + B_{\bar{N}}(N - 654) + B_{\bar{N}}(2396) = 103 + (N - 654) + 2396 = \mathbf{N} + \mathbf{1845} \\
&(N \geq 2396)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1188}) &= B_{\bar{N}}(2N + 1188 - B_{\bar{N}}(2N + 1187)) + B_{\bar{N}}(2N + 1188 - B_{\bar{N}}(2N + 1186)) + B_{\bar{N}}(2N + 1188 - B_{\bar{N}}(2N + 1185)) \\
&= B_{\bar{N}}(2N + 1188 - (N + 1845)) + B_{\bar{N}}(2N + 1188 - (2N + 1084)) + B_{\bar{N}}(2N + 1188 - (N + 1841)) \\
&= B_{\bar{N}}(N - 657) + B_{\bar{N}}(104) + B_{\bar{N}}(N - 653) = (N - 657) + 104 + (N - 653) = \mathbf{2N} - \mathbf{1206} \\
&(N \geq 658)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1189}) &= B_{\bar{N}}(2N + 1189 - B_{\bar{N}}(2N + 1188)) + B_{\bar{N}}(2N + 1189 - B_{\bar{N}}(2N + 1187)) + B_{\bar{N}}(2N + 1189 - B_{\bar{N}}(2N + 1186)) \\
&= B_{\bar{N}}(2N + 1189 - (2N - 1206)) + B_{\bar{N}}(2N + 1189 - (N + 1845)) + B_{\bar{N}}(2N + 1189 - (2N + 1084)) \\
&= B_{\bar{N}}(2395) + B_{\bar{N}}(N - 656) + B_{\bar{N}}(105) = 2395 + (N - 656) + 105 = \mathbf{N} + \mathbf{1844} \\
&(N \geq 2395)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1190}) &= B_{\bar{N}}(2N + 1190 - B_{\bar{N}}(2N + 1189)) + B_{\bar{N}}(2N + 1190 - B_{\bar{N}}(2N + 1188)) + B_{\bar{N}}(2N + 1190 - B_{\bar{N}}(2N + 1187)) \\
&= B_{\bar{N}}(2N + 1190 - (N + 1844)) + B_{\bar{N}}(2N + 1190 - (2N - 1206)) + B_{\bar{N}}(2N + 1190 - (N + 1845)) \\
&= B_{\bar{N}}(N - 654) + B_{\bar{N}}(2396) + B_{\bar{N}}(N - 655) = (N - 654) + 2396 + (N - 655) = \mathbf{2N} + \mathbf{1087} \\
&(N \geq 2396)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1191}) &= B_{\bar{N}}(2N + 1191 - B_{\bar{N}}(2N + 1190)) + B_{\bar{N}}(2N + 1191 - B_{\bar{N}}(2N + 1189)) + B_{\bar{N}}(2N + 1191 - B_{\bar{N}}(2N + 1188)) \\
&= B_{\bar{N}}(2N + 1191 - (2N + 1087)) + B_{\bar{N}}(2N + 1191 - (N + 1844)) + B_{\bar{N}}(2N + 1191 - (2N - 1206)) \\
&= B_{\bar{N}}(104) + B_{\bar{N}}(N - 653) + B_{\bar{N}}(2397) = 104 + (N - 653) + 2397 = \mathbf{N} + \mathbf{1848} \\
&(N \geq 2397)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1192}) &= B_{\bar{N}}(2N + 1192 - B_{\bar{N}}(2N + 1191)) + B_{\bar{N}}(2N + 1192 - B_{\bar{N}}(2N + 1190)) + B_{\bar{N}}(2N + 1192 - B_{\bar{N}}(2N + 1189)) \\
&= B_{\bar{N}}(2N + 1192 - (N + 1848)) + B_{\bar{N}}(2N + 1192 - (2N + 1087)) + B_{\bar{N}}(2N + 1192 - (N + 1844)) \\
&= B_{\bar{N}}(N - 656) + B_{\bar{N}}(105) + B_{\bar{N}}(N - 652) = (N - 656) + 105 + (N - 652) = \mathbf{2N} - \mathbf{1203} \\
&(N \geq 657)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1193}) &= B_{\bar{N}}(2N + 1193 - B_{\bar{N}}(2N + 1192)) + B_{\bar{N}}(2N + 1193 - B_{\bar{N}}(2N + 1191)) + B_{\bar{N}}(2N + 1193 - B_{\bar{N}}(2N + 1190)) \\
&= B_{\bar{N}}(2N + 1193 - (2N - 1203)) + B_{\bar{N}}(2N + 1193 - (N + 1848)) + B_{\bar{N}}(2N + 1193 - (2N + 1087)) \\
&= B_{\bar{N}}(2396) + B_{\bar{N}}(N - 655) + B_{\bar{N}}(106) = 2396 + (N - 655) + 106 = \mathbf{N} + \mathbf{1847} \\
&(N \geq 2396)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1194}) &= B_{\bar{N}}(2N + 1194 - B_{\bar{N}}(2N + 1193)) + B_{\bar{N}}(2N + 1194 - B_{\bar{N}}(2N + 1192)) + B_{\bar{N}}(2N + 1194 - B_{\bar{N}}(2N + 1191)) \\
&= B_{\bar{N}}(2N + 1194 - (N + 1847)) + B_{\bar{N}}(2N + 1194 - (2N - 1203)) + B_{\bar{N}}(2N + 1194 - (N + 1848)) \\
&= B_{\bar{N}}(N - 653) + B_{\bar{N}}(2397) + B_{\bar{N}}(N - 654) = (N - 653) + 2397 + (N - 654) = \mathbf{2N} + \mathbf{1090} \\
&(N \geq 2397)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1195}) &= B_{\bar{N}}(2N + 1195 - B_{\bar{N}}(2N + 1194)) + B_{\bar{N}}(2N + 1195 - B_{\bar{N}}(2N + 1193)) + B_{\bar{N}}(2N + 1195 - B_{\bar{N}}(2N + 1192)) \\
&= B_{\bar{N}}(2N + 1195 - (2N + 1090)) + B_{\bar{N}}(2N + 1195 - (N + 1847)) + B_{\bar{N}}(2N + 1195 - (2N - 1203)) \\
&= B_{\bar{N}}(105) + B_{\bar{N}}(N - 652) + B_{\bar{N}}(2398) = 105 + (N - 652) + 2398 = \mathbf{N} + \mathbf{1851} \\
&(N \geq 2398)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1196}) &= B_{\bar{N}}(2N + 1196 - B_{\bar{N}}(2N + 1195)) + B_{\bar{N}}(2N + 1196 - B_{\bar{N}}(2N + 1194)) + B_{\bar{N}}(2N + 1196 - B_{\bar{N}}(2N + 1193)) \\
&= B_{\bar{N}}(2N + 1196 - (N + 1851)) + B_{\bar{N}}(2N + 1196 - (2N + 1090)) + B_{\bar{N}}(2N + 1196 - (N + 1847)) \\
&= B_{\bar{N}}(N - 655) + B_{\bar{N}}(106) + B_{\bar{N}}(N - 651) = (N - 655) + 106 + (N - 651) = \mathbf{2N} - \mathbf{1200} \\
&(N \geq 656)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1197}) &= B_{\bar{N}}(2N + 1197 - B_{\bar{N}}(2N + 1196)) + B_{\bar{N}}(2N + 1197 - B_{\bar{N}}(2N + 1195)) + B_{\bar{N}}(2N + 1197 - B_{\bar{N}}(2N + 1194)) \\
&= B_{\bar{N}}(2N + 1197 - (2N - 1200)) + B_{\bar{N}}(2N + 1197 - (N + 1851)) + B_{\bar{N}}(2N + 1197 - (2N + 1090)) \\
&= B_{\bar{N}}(2397) + B_{\bar{N}}(N - 654) + B_{\bar{N}}(107) = 2397 + (N - 654) + 107 = \mathbf{N} + \mathbf{1850} \\
&(N \geq 2397)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1198}) &= B_{\bar{N}}(2N + 1198 - B_{\bar{N}}(2N + 1197)) + B_{\bar{N}}(2N + 1198 - B_{\bar{N}}(2N + 1196)) + B_{\bar{N}}(2N + 1198 - B_{\bar{N}}(2N + 1195)) \\
&= B_{\bar{N}}(2N + 1198 - (N + 1850)) + B_{\bar{N}}(2N + 1198 - (2N - 1200)) + B_{\bar{N}}(2N + 1198 - (N + 1851)) \\
&= B_{\bar{N}}(N - 652) + B_{\bar{N}}(2398) + B_{\bar{N}}(N - 653) = (N - 652) + 2398 + (N - 653) = \mathbf{2N} + \mathbf{1093} \\
&(N \geq 2398)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1199}) &= B_{\bar{N}}(2N + 1199 - B_{\bar{N}}(2N + 1198)) + B_{\bar{N}}(2N + 1199 - B_{\bar{N}}(2N + 1197)) + B_{\bar{N}}(2N + 1199 - B_{\bar{N}}(2N + 1196)) \\
&= B_{\bar{N}}(2N + 1199 - (2N + 1093)) + B_{\bar{N}}(2N + 1199 - (N + 1850)) + B_{\bar{N}}(2N + 1199 - (2N - 1200)) \\
&= B_{\bar{N}}(106) + B_{\bar{N}}(N - 651) + B_{\bar{N}}(2399) = 106 + (N - 651) + 2399 = \mathbf{N} + \mathbf{1854} \\
&(N \geq 2399)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1200}) &= B_{\bar{N}}(2N + 1200 - B_{\bar{N}}(2N + 1199)) + B_{\bar{N}}(2N + 1200 - B_{\bar{N}}(2N + 1198)) + B_{\bar{N}}(2N + 1200 - B_{\bar{N}}(2N + 1197)) \\
&= B_{\bar{N}}(2N + 1200 - (N + 1854)) + B_{\bar{N}}(2N + 1200 - (2N + 1093)) + B_{\bar{N}}(2N + 1200 - (N + 1850)) \\
&= B_{\bar{N}}(N - 654) + B_{\bar{N}}(107) + B_{\bar{N}}(N - 650) = (N - 654) + 107 + (N - 650) = \mathbf{2N} - \mathbf{1197} \\
&(N \geq 655)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1201}) &= B_{\bar{N}}(2N + 1201 - B_{\bar{N}}(2N + 1200)) + B_{\bar{N}}(2N + 1201 - B_{\bar{N}}(2N + 1199)) + B_{\bar{N}}(2N + 1201 - B_{\bar{N}}(2N + 1198)) \\
&= B_{\bar{N}}(2N + 1201 - (2N - 1197)) + B_{\bar{N}}(2N + 1201 - (N + 1854)) + B_{\bar{N}}(2N + 1201 - (2N + 1093)) \\
&= B_{\bar{N}}(2398) + B_{\bar{N}}(N - 653) + B_{\bar{N}}(108) = 2398 + (N - 653) + 108 = \mathbf{N} + \mathbf{1853} \\
&(N \geq 2398)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1202}) &= B_{\bar{N}}(2N + 1202 - B_{\bar{N}}(2N + 1201)) + B_{\bar{N}}(2N + 1202 - B_{\bar{N}}(2N + 1200)) + B_{\bar{N}}(2N + 1202 - B_{\bar{N}}(2N + 1199)) \\
&= B_{\bar{N}}(2N + 1202 - (N + 1853)) + B_{\bar{N}}(2N + 1202 - (2N - 1197)) + B_{\bar{N}}(2N + 1202 - (N + 1854)) \\
&= B_{\bar{N}}(N - 651) + B_{\bar{N}}(2399) + B_{\bar{N}}(N - 652) = (N - 651) + 2399 + (N - 652) = \mathbf{2N} + \mathbf{1096} \\
&(N \geq 2399)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1203}) &= B_{\bar{N}}(2N + 1203 - B_{\bar{N}}(2N + 1202)) + B_{\bar{N}}(2N + 1203 - B_{\bar{N}}(2N + 1201)) + B_{\bar{N}}(2N + 1203 - B_{\bar{N}}(2N + 1200)) \\
&= B_{\bar{N}}(2N + 1203 - (2N + 1096)) + B_{\bar{N}}(2N + 1203 - (N + 1853)) + B_{\bar{N}}(2N + 1203 - (2N - 1197)) \\
&= B_{\bar{N}}(107) + B_{\bar{N}}(N - 650) + B_{\bar{N}}(2400) = 107 + (N - 650) + 2400 = \mathbf{N} + \mathbf{1857} \\
&(N \geq 2400)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1204}) &= B_{\bar{N}}(2N + 1204 - B_{\bar{N}}(2N + 1203)) + B_{\bar{N}}(2N + 1204 - B_{\bar{N}}(2N + 1202)) + B_{\bar{N}}(2N + 1204 - B_{\bar{N}}(2N + 1201)) \\
&= B_{\bar{N}}(2N + 1204 - (N + 1857)) + B_{\bar{N}}(2N + 1204 - (2N + 1096)) + B_{\bar{N}}(2N + 1204 - (N + 1853)) \\
&= B_{\bar{N}}(N - 653) + B_{\bar{N}}(108) + B_{\bar{N}}(N - 649) = (N - 653) + 108 + (N - 649) = \mathbf{2N} - \mathbf{1194} \\
&(N \geq 654)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1205}) &= B_{\bar{N}}(2N + 1205 - B_{\bar{N}}(2N + 1204)) + B_{\bar{N}}(2N + 1205 - B_{\bar{N}}(2N + 1203)) + B_{\bar{N}}(2N + 1205 - B_{\bar{N}}(2N + 1202)) \\
&= B_{\bar{N}}(2N + 1205 - (2N - 1194)) + B_{\bar{N}}(2N + 1205 - (N + 1857)) + B_{\bar{N}}(2N + 1205 - (2N + 1096)) \\
&= B_{\bar{N}}(2399) + B_{\bar{N}}(N - 652) + B_{\bar{N}}(109) = 2399 + (N - 652) + 109 = \mathbf{N} + \mathbf{1856} \\
&(N \geq 2399)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1206}) &= B_{\bar{N}}(2N + 1206 - B_{\bar{N}}(2N + 1205)) + B_{\bar{N}}(2N + 1206 - B_{\bar{N}}(2N + 1204)) + B_{\bar{N}}(2N + 1206 - B_{\bar{N}}(2N + 1203)) \\
&= B_{\bar{N}}(2N + 1206 - (N + 1856)) + B_{\bar{N}}(2N + 1206 - (2N - 1194)) + B_{\bar{N}}(2N + 1206 - (N + 1857)) \\
&= B_{\bar{N}}(N - 650) + B_{\bar{N}}(2400) + B_{\bar{N}}(N - 651) = (N - 650) + 2400 + (N - 651) = \mathbf{2N} + \mathbf{1099} \\
&(N \geq 2400)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1207}) &= B_{\bar{N}}(2N + 1207 - B_{\bar{N}}(2N + 1206)) + B_{\bar{N}}(2N + 1207 - B_{\bar{N}}(2N + 1205)) + B_{\bar{N}}(2N + 1207 - B_{\bar{N}}(2N + 1204)) \\
&= B_{\bar{N}}(2N + 1207 - (2N + 1099)) + B_{\bar{N}}(2N + 1207 - (N + 1856)) + B_{\bar{N}}(2N + 1207 - (2N - 1194)) \\
&= B_{\bar{N}}(108) + B_{\bar{N}}(N - 649) + B_{\bar{N}}(2401) = 108 + (N - 649) + 2401 = \mathbf{N} + \mathbf{1860} \\
&(N \geq 2401)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1208}) &= B_{\bar{N}}(2N + 1208 - B_{\bar{N}}(2N + 1207)) + B_{\bar{N}}(2N + 1208 - B_{\bar{N}}(2N + 1206)) + B_{\bar{N}}(2N + 1208 - B_{\bar{N}}(2N + 1205)) \\
&= B_{\bar{N}}(2N + 1208 - (N + 1860)) + B_{\bar{N}}(2N + 1208 - (2N + 1099)) + B_{\bar{N}}(2N + 1208 - (N + 1856)) \\
&= B_{\bar{N}}(N - 652) + B_{\bar{N}}(109) + B_{\bar{N}}(N - 648) = (N - 652) + 109 + (N - 648) = \mathbf{2N} - \mathbf{1191} \\
&(N \geq 653)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1209}) &= B_{\bar{N}}(2N + 1209 - B_{\bar{N}}(2N + 1208)) + B_{\bar{N}}(2N + 1209 - B_{\bar{N}}(2N + 1207)) + B_{\bar{N}}(2N + 1209 - B_{\bar{N}}(2N + 1206)) \\
&= B_{\bar{N}}(2N + 1209 - (2N - 1191)) + B_{\bar{N}}(2N + 1209 - (N + 1860)) + B_{\bar{N}}(2N + 1209 - (2N + 1099)) \\
&= B_{\bar{N}}(2400) + B_{\bar{N}}(N - 651) + B_{\bar{N}}(110) = 2400 + (N - 651) + 110 = \mathbf{N} + \mathbf{1859} \\
&(N \geq 2400)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1210}) &= B_{\bar{N}}(2N + 1210 - B_{\bar{N}}(2N + 1209)) + B_{\bar{N}}(2N + 1210 - B_{\bar{N}}(2N + 1208)) + B_{\bar{N}}(2N + 1210 - B_{\bar{N}}(2N + 1207)) \\
&= B_{\bar{N}}(2N + 1210 - (N + 1859)) + B_{\bar{N}}(2N + 1210 - (2N - 1191)) + B_{\bar{N}}(2N + 1210 - (N + 1860)) \\
&= B_{\bar{N}}(N - 649) + B_{\bar{N}}(2401) + B_{\bar{N}}(N - 650) = (N - 649) + 2401 + (N - 650) = \mathbf{2N} + \mathbf{1102} \\
&(N \geq 2401)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1211}) &= B_{\bar{N}}(2N + 1211 - B_{\bar{N}}(2N + 1210)) + B_{\bar{N}}(2N + 1211 - B_{\bar{N}}(2N + 1209)) + B_{\bar{N}}(2N + 1211 - B_{\bar{N}}(2N + 1208)) \\
&= B_{\bar{N}}(2N + 1211 - (2N + 1102)) + B_{\bar{N}}(2N + 1211 - (N + 1859)) + B_{\bar{N}}(2N + 1211 - (2N - 1191)) \\
&= B_{\bar{N}}(109) + B_{\bar{N}}(N - 648) + B_{\bar{N}}(2402) = 109 + (N - 648) + 2402 = \mathbf{N} + \mathbf{1863} \\
&(N \geq 2402)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1212}) &= B_{\bar{N}}(2N + 1212 - B_{\bar{N}}(2N + 1211)) + B_{\bar{N}}(2N + 1212 - B_{\bar{N}}(2N + 1210)) + B_{\bar{N}}(2N + 1212 - B_{\bar{N}}(2N + 1209)) \\
&= B_{\bar{N}}(2N + 1212 - (N + 1863)) + B_{\bar{N}}(2N + 1212 - (2N + 1102)) + B_{\bar{N}}(2N + 1212 - (N + 1859)) \\
&= B_{\bar{N}}(N - 651) + B_{\bar{N}}(110) + B_{\bar{N}}(N - 647) = (N - 651) + 110 + (N - 647) = \mathbf{2N} - \mathbf{1188} \\
&(N \geq 652)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1213}) &= B_{\bar{N}}(2N + 1213 - B_{\bar{N}}(2N + 1212)) + B_{\bar{N}}(2N + 1213 - B_{\bar{N}}(2N + 1211)) + B_{\bar{N}}(2N + 1213 - B_{\bar{N}}(2N + 1210)) \\
&= B_{\bar{N}}(2N + 1213 - (2N - 1188)) + B_{\bar{N}}(2N + 1213 - (N + 1863)) + B_{\bar{N}}(2N + 1213 - (2N + 1102)) \\
&= B_{\bar{N}}(2401) + B_{\bar{N}}(N - 650) + B_{\bar{N}}(111) = 2401 + (N - 650) + 111 = \mathbf{N} + \mathbf{1862} \\
&(N \geq 2401)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1214}) &= B_{\bar{N}}(2N + 1214 - B_{\bar{N}}(2N + 1213)) + B_{\bar{N}}(2N + 1214 - B_{\bar{N}}(2N + 1212)) + B_{\bar{N}}(2N + 1214 - B_{\bar{N}}(2N + 1211)) \\
&= B_{\bar{N}}(2N + 1214 - (N + 1862)) + B_{\bar{N}}(2N + 1214 - (2N - 1188)) + B_{\bar{N}}(2N + 1214 - (N + 1863)) \\
&= B_{\bar{N}}(N - 648) + B_{\bar{N}}(2402) + B_{\bar{N}}(N - 649) = (N - 648) + 2402 + (N - 649) = \mathbf{2N} + \mathbf{1105} \\
&(N \geq 2402)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1215}) &= B_{\bar{N}}(2N + 1215 - B_{\bar{N}}(2N + 1214)) + B_{\bar{N}}(2N + 1215 - B_{\bar{N}}(2N + 1213)) + B_{\bar{N}}(2N + 1215 - B_{\bar{N}}(2N + 1212)) \\
&= B_{\bar{N}}(2N + 1215 - (2N + 1105)) + B_{\bar{N}}(2N + 1215 - (N + 1862)) + B_{\bar{N}}(2N + 1215 - (2N - 1188)) \\
&= B_{\bar{N}}(110) + B_{\bar{N}}(N - 647) + B_{\bar{N}}(2403) = 110 + (N - 647) + 2403 = \mathbf{N} + \mathbf{1866} \\
&(N \geq 2403)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1216}) &= B_{\bar{N}}(2N + 1216 - B_{\bar{N}}(2N + 1215)) + B_{\bar{N}}(2N + 1216 - B_{\bar{N}}(2N + 1214)) + B_{\bar{N}}(2N + 1216 - B_{\bar{N}}(2N + 1213)) \\
&= B_{\bar{N}}(2N + 1216 - (N + 1866)) + B_{\bar{N}}(2N + 1216 - (2N + 1105)) + B_{\bar{N}}(2N + 1216 - (N + 1862)) \\
&= B_{\bar{N}}(N - 650) + B_{\bar{N}}(111) + B_{\bar{N}}(N - 646) = (N - 650) + 111 + (N - 646) = \mathbf{2N} - \mathbf{1185} \\
&(N \geq 651)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1217}) &= B_{\bar{N}}(2N + 1217 - B_{\bar{N}}(2N + 1216)) + B_{\bar{N}}(2N + 1217 - B_{\bar{N}}(2N + 1215)) + B_{\bar{N}}(2N + 1217 - B_{\bar{N}}(2N + 1214)) \\
&= B_{\bar{N}}(2N + 1217 - (2N - 1185)) + B_{\bar{N}}(2N + 1217 - (N + 1866)) + B_{\bar{N}}(2N + 1217 - (2N + 1105)) \\
&= B_{\bar{N}}(2402) + B_{\bar{N}}(N - 649) + B_{\bar{N}}(112) = 2402 + (N - 649) + 112 = \mathbf{N} + \mathbf{1865} \\
&(N \geq 2402)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1218}) &= B_{\bar{N}}(2N + 1218 - B_{\bar{N}}(2N + 1217)) + B_{\bar{N}}(2N + 1218 - B_{\bar{N}}(2N + 1216)) + B_{\bar{N}}(2N + 1218 - B_{\bar{N}}(2N + 1215)) \\
&= B_{\bar{N}}(2N + 1218 - (N + 1865)) + B_{\bar{N}}(2N + 1218 - (2N - 1185)) + B_{\bar{N}}(2N + 1218 - (N + 1866)) \\
&= B_{\bar{N}}(N - 647) + B_{\bar{N}}(2403) + B_{\bar{N}}(N - 648) = (N - 647) + 2403 + (N - 648) = \mathbf{2N} + \mathbf{1108} \\
&(N \geq 2403)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1219}) &= B_{\bar{N}}(2N + 1219 - B_{\bar{N}}(2N + 1218)) + B_{\bar{N}}(2N + 1219 - B_{\bar{N}}(2N + 1217)) + B_{\bar{N}}(2N + 1219 - B_{\bar{N}}(2N + 1216)) \\
&= B_{\bar{N}}(2N + 1219 - (2N + 1108)) + B_{\bar{N}}(2N + 1219 - (N + 1865)) + B_{\bar{N}}(2N + 1219 - (2N - 1185)) \\
&= B_{\bar{N}}(111) + B_{\bar{N}}(N - 646) + B_{\bar{N}}(2404) = 111 + (N - 646) + 2404 = \mathbf{N} + \mathbf{1869} \\
&(N \geq 2404)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1220}) &= B_{\bar{N}}(2N + 1220 - B_{\bar{N}}(2N + 1219)) + B_{\bar{N}}(2N + 1220 - B_{\bar{N}}(2N + 1218)) + B_{\bar{N}}(2N + 1220 - B_{\bar{N}}(2N + 1217)) \\
&= B_{\bar{N}}(2N + 1220 - (N + 1869)) + B_{\bar{N}}(2N + 1220 - (2N + 1108)) + B_{\bar{N}}(2N + 1220 - (N + 1865)) \\
&= B_{\bar{N}}(N - 649) + B_{\bar{N}}(112) + B_{\bar{N}}(N - 645) = (N - 649) + 112 + (N - 645) = \mathbf{2N} - \mathbf{1182} \\
&(N \geq 650)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1221}) &= B_{\bar{N}}(2N + 1221 - B_{\bar{N}}(2N + 1220)) + B_{\bar{N}}(2N + 1221 - B_{\bar{N}}(2N + 1219)) + B_{\bar{N}}(2N + 1221 - B_{\bar{N}}(2N + 1218)) \\
&= B_{\bar{N}}(2N + 1221 - (2N - 1182)) + B_{\bar{N}}(2N + 1221 - (N + 1869)) + B_{\bar{N}}(2N + 1221 - (2N + 1108)) \\
&= B_{\bar{N}}(2403) + B_{\bar{N}}(N - 648) + B_{\bar{N}}(113) = 2403 + (N - 648) + 113 = \mathbf{N} + \mathbf{1868} \\
&(N \geq 2403)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1222}) &= B_{\bar{N}}(2N + 1222 - B_{\bar{N}}(2N + 1221)) + B_{\bar{N}}(2N + 1222 - B_{\bar{N}}(2N + 1220)) + B_{\bar{N}}(2N + 1222 - B_{\bar{N}}(2N + 1219)) \\
&= B_{\bar{N}}(2N + 1222 - (N + 1868)) + B_{\bar{N}}(2N + 1222 - (2N - 1182)) + B_{\bar{N}}(2N + 1222 - (N + 1869)) \\
&= B_{\bar{N}}(N - 646) + B_{\bar{N}}(2404) + B_{\bar{N}}(N - 647) = (N - 646) + 2404 + (N - 647) = \mathbf{2N} + \mathbf{1111} \\
&(N \geq 2404)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1223}) &= B_{\bar{N}}(2N + 1223 - B_{\bar{N}}(2N + 1222)) + B_{\bar{N}}(2N + 1223 - B_{\bar{N}}(2N + 1221)) + B_{\bar{N}}(2N + 1223 - B_{\bar{N}}(2N + 1220)) \\
&= B_{\bar{N}}(2N + 1223 - (2N + 1111)) + B_{\bar{N}}(2N + 1223 - (N + 1868)) + B_{\bar{N}}(2N + 1223 - (2N - 1182)) \\
&= B_{\bar{N}}(112) + B_{\bar{N}}(N - 645) + B_{\bar{N}}(2405) = 112 + (N - 645) + 2405 = \mathbf{N} + \mathbf{1872} \\
&(N \geq 2405)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1224}) &= B_{\bar{N}}(2N + 1224 - B_{\bar{N}}(2N + 1223)) + B_{\bar{N}}(2N + 1224 - B_{\bar{N}}(2N + 1222)) + B_{\bar{N}}(2N + 1224 - B_{\bar{N}}(2N + 1221)) \\
&= B_{\bar{N}}(2N + 1224 - (N + 1872)) + B_{\bar{N}}(2N + 1224 - (2N + 1111)) + B_{\bar{N}}(2N + 1224 - (N + 1868)) \\
&= B_{\bar{N}}(N - 648) + B_{\bar{N}}(113) + B_{\bar{N}}(N - 644) = (N - 648) + 113 + (N - 644) = \mathbf{2N} - \mathbf{1179} \\
&(N \geq 649)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1225}) &= B_{\bar{N}}(2N + 1225 - B_{\bar{N}}(2N + 1224)) + B_{\bar{N}}(2N + 1225 - B_{\bar{N}}(2N + 1223)) + B_{\bar{N}}(2N + 1225 - B_{\bar{N}}(2N + 1222)) \\
&= B_{\bar{N}}(2N + 1225 - (2N - 1179)) + B_{\bar{N}}(2N + 1225 - (N + 1872)) + B_{\bar{N}}(2N + 1225 - (2N + 1111)) \\
&= B_{\bar{N}}(2404) + B_{\bar{N}}(N - 647) + B_{\bar{N}}(114) = 2404 + (N - 647) + 114 = \mathbf{N} + \mathbf{1871} \\
&(N \geq 2404)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1226}) &= B_{\bar{N}}(2N + 1226 - B_{\bar{N}}(2N + 1225)) + B_{\bar{N}}(2N + 1226 - B_{\bar{N}}(2N + 1224)) + B_{\bar{N}}(2N + 1226 - B_{\bar{N}}(2N + 1223)) \\
&= B_{\bar{N}}(2N + 1226 - (N + 1871)) + B_{\bar{N}}(2N + 1226 - (2N - 1179)) + B_{\bar{N}}(2N + 1226 - (N + 1872)) \\
&= B_{\bar{N}}(N - 645) + B_{\bar{N}}(2405) + B_{\bar{N}}(N - 646) = (N - 645) + 2405 + (N - 646) = \mathbf{2N} + \mathbf{1114} \\
&(N \geq 2405)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1227}) &= B_{\bar{N}}(2N + 1227 - B_{\bar{N}}(2N + 1226)) + B_{\bar{N}}(2N + 1227 - B_{\bar{N}}(2N + 1225)) + B_{\bar{N}}(2N + 1227 - B_{\bar{N}}(2N + 1224)) \\
&= B_{\bar{N}}(2N + 1227 - (2N + 1114)) + B_{\bar{N}}(2N + 1227 - (N + 1871)) + B_{\bar{N}}(2N + 1227 - (2N - 1179)) \\
&= B_{\bar{N}}(113) + B_{\bar{N}}(N - 644) + B_{\bar{N}}(2406) = 113 + (N - 644) + 2406 = \mathbf{N} + \mathbf{1875} \\
&(N \geq 2406)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1228}) &= B_{\bar{N}}(2N + 1228 - B_{\bar{N}}(2N + 1227)) + B_{\bar{N}}(2N + 1228 - B_{\bar{N}}(2N + 1226)) + B_{\bar{N}}(2N + 1228 - B_{\bar{N}}(2N + 1225)) \\
&= B_{\bar{N}}(2N + 1228 - (N + 1875)) + B_{\bar{N}}(2N + 1228 - (2N + 1114)) + B_{\bar{N}}(2N + 1228 - (N + 1871)) \\
&= B_{\bar{N}}(N - 647) + B_{\bar{N}}(114) + B_{\bar{N}}(N - 643) = (N - 647) + 114 + (N - 643) = \mathbf{2N} - \mathbf{1176} \\
&(N \geq 648)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1229}) &= B_{\bar{N}}(2N + 1229 - B_{\bar{N}}(2N + 1228)) + B_{\bar{N}}(2N + 1229 - B_{\bar{N}}(2N + 1227)) + B_{\bar{N}}(2N + 1229 - B_{\bar{N}}(2N + 1226)) \\
&= B_{\bar{N}}(2N + 1229 - (2N - 1176)) + B_{\bar{N}}(2N + 1229 - (N + 1875)) + B_{\bar{N}}(2N + 1229 - (2N + 1114)) \\
&= B_{\bar{N}}(2405) + B_{\bar{N}}(N - 646) + B_{\bar{N}}(115) = 2405 + (N - 646) + 115 = \mathbf{N} + \mathbf{1874} \\
&(N \geq 2405)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1230}) &= B_{\bar{N}}(2N + 1230 - B_{\bar{N}}(2N + 1229)) + B_{\bar{N}}(2N + 1230 - B_{\bar{N}}(2N + 1228)) + B_{\bar{N}}(2N + 1230 - B_{\bar{N}}(2N + 1227)) \\
&= B_{\bar{N}}(2N + 1230 - (N + 1874)) + B_{\bar{N}}(2N + 1230 - (2N - 1176)) + B_{\bar{N}}(2N + 1230 - (N + 1875)) \\
&= B_{\bar{N}}(N - 644) + B_{\bar{N}}(2406) + B_{\bar{N}}(N - 645) = (N - 644) + 2406 + (N - 645) = \mathbf{2N} + \mathbf{1117} \\
&(N \geq 2406)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1231}) &= B_{\bar{N}}(2N + 1231 - B_{\bar{N}}(2N + 1230)) + B_{\bar{N}}(2N + 1231 - B_{\bar{N}}(2N + 1229)) + B_{\bar{N}}(2N + 1231 - B_{\bar{N}}(2N + 1228)) \\
&= B_{\bar{N}}(2N + 1231 - (2N + 1117)) + B_{\bar{N}}(2N + 1231 - (N + 1874)) + B_{\bar{N}}(2N + 1231 - (2N - 1176)) \\
&= B_{\bar{N}}(114) + B_{\bar{N}}(N - 643) + B_{\bar{N}}(2407) = 114 + (N - 643) + 2407 = \mathbf{N} + \mathbf{1878} \\
&(N \geq 2407)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1232}) &= B_{\bar{N}}(2N + 1232 - B_{\bar{N}}(2N + 1231)) + B_{\bar{N}}(2N + 1232 - B_{\bar{N}}(2N + 1230)) + B_{\bar{N}}(2N + 1232 - B_{\bar{N}}(2N + 1229)) \\
&= B_{\bar{N}}(2N + 1232 - (N + 1878)) + B_{\bar{N}}(2N + 1232 - (2N + 1117)) + B_{\bar{N}}(2N + 1232 - (N + 1874)) \\
&= B_{\bar{N}}(N - 646) + B_{\bar{N}}(115) + B_{\bar{N}}(N - 642) = (N - 646) + 115 + (N - 642) = \mathbf{2N} - \mathbf{1173} \\
&(N \geq 647)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1233}) &= B_{\bar{N}}(2N + 1233 - B_{\bar{N}}(2N + 1232)) + B_{\bar{N}}(2N + 1233 - B_{\bar{N}}(2N + 1231)) + B_{\bar{N}}(2N + 1233 - B_{\bar{N}}(2N + 1230)) \\
&= B_{\bar{N}}(2N + 1233 - (2N - 1173)) + B_{\bar{N}}(2N + 1233 - (N + 1878)) + B_{\bar{N}}(2N + 1233 - (2N + 1117)) \\
&= B_{\bar{N}}(2406) + B_{\bar{N}}(N - 645) + B_{\bar{N}}(116) = 2406 + (N - 645) + 116 = \mathbf{N} + \mathbf{1877} \\
&(N \geq 2406)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1234}) &= B_{\bar{N}}(2N + 1234 - B_{\bar{N}}(2N + 1233)) + B_{\bar{N}}(2N + 1234 - B_{\bar{N}}(2N + 1232)) + B_{\bar{N}}(2N + 1234 - B_{\bar{N}}(2N + 1231)) \\
&= B_{\bar{N}}(2N + 1234 - (N + 1877)) + B_{\bar{N}}(2N + 1234 - (2N - 1173)) + B_{\bar{N}}(2N + 1234 - (N + 1878)) \\
&= B_{\bar{N}}(N - 643) + B_{\bar{N}}(2407) + B_{\bar{N}}(N - 644) = (N - 643) + 2407 + (N - 644) = \mathbf{2N} + \mathbf{1120} \\
&(N \geq 2407)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1235}) &= B_{\bar{N}}(2N + 1235 - B_{\bar{N}}(2N + 1234)) + B_{\bar{N}}(2N + 1235 - B_{\bar{N}}(2N + 1233)) + B_{\bar{N}}(2N + 1235 - B_{\bar{N}}(2N + 1232)) \\
&= B_{\bar{N}}(2N + 1235 - (2N + 1120)) + B_{\bar{N}}(2N + 1235 - (N + 1877)) + B_{\bar{N}}(2N + 1235 - (2N - 1173)) \\
&= B_{\bar{N}}(115) + B_{\bar{N}}(N - 642) + B_{\bar{N}}(2408) = 115 + (N - 642) + 2408 = \mathbf{N} + \mathbf{1881} \\
&(N \geq 2408)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1236}) &= B_{\bar{N}}(2N + 1236 - B_{\bar{N}}(2N + 1235)) + B_{\bar{N}}(2N + 1236 - B_{\bar{N}}(2N + 1234)) + B_{\bar{N}}(2N + 1236 - B_{\bar{N}}(2N + 1233)) \\
&= B_{\bar{N}}(2N + 1236 - (N + 1881)) + B_{\bar{N}}(2N + 1236 - (2N + 1120)) + B_{\bar{N}}(2N + 1236 - (N + 1877)) \\
&= B_{\bar{N}}(N - 645) + B_{\bar{N}}(116) + B_{\bar{N}}(N - 641) = (N - 645) + 116 + (N - 641) = \mathbf{2N} - \mathbf{1170} \\
&(N \geq 646)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1237}) &= B_{\bar{N}}(2N + 1237 - B_{\bar{N}}(2N + 1236)) + B_{\bar{N}}(2N + 1237 - B_{\bar{N}}(2N + 1235)) + B_{\bar{N}}(2N + 1237 - B_{\bar{N}}(2N + 1234)) \\
&= B_{\bar{N}}(2N + 1237 - (2N - 1170)) + B_{\bar{N}}(2N + 1237 - (N + 1881)) + B_{\bar{N}}(2N + 1237 - (2N + 1120)) \\
&= B_{\bar{N}}(2407) + B_{\bar{N}}(N - 644) + B_{\bar{N}}(117) = 2407 + (N - 644) + 117 = \mathbf{N} + \mathbf{1880} \\
&(N \geq 2407)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1238}) &= B_{\bar{N}}(2N + 1238 - B_{\bar{N}}(2N + 1237)) + B_{\bar{N}}(2N + 1238 - B_{\bar{N}}(2N + 1236)) + B_{\bar{N}}(2N + 1238 - B_{\bar{N}}(2N + 1235)) \\
&= B_{\bar{N}}(2N + 1238 - (N + 1880)) + B_{\bar{N}}(2N + 1238 - (2N - 1170)) + B_{\bar{N}}(2N + 1238 - (N + 1881)) \\
&= B_{\bar{N}}(N - 642) + B_{\bar{N}}(2408) + B_{\bar{N}}(N - 643) = (N - 642) + 2408 + (N - 643) = \mathbf{2N} + \mathbf{1123} \\
&(N \geq 2408)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1239}) &= B_{\bar{N}}(2N + 1239 - B_{\bar{N}}(2N + 1238)) + B_{\bar{N}}(2N + 1239 - B_{\bar{N}}(2N + 1237)) + B_{\bar{N}}(2N + 1239 - B_{\bar{N}}(2N + 1236)) \\
&= B_{\bar{N}}(2N + 1239 - (2N + 1123)) + B_{\bar{N}}(2N + 1239 - (N + 1880)) + B_{\bar{N}}(2N + 1239 - (2N - 1170)) \\
&= B_{\bar{N}}(116) + B_{\bar{N}}(N - 641) + B_{\bar{N}}(2409) = 116 + (N - 641) + 2409 = \mathbf{N} + \mathbf{1884} \\
&(N \geq 2409)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1240}) &= B_{\bar{N}}(2N + 1240 - B_{\bar{N}}(2N + 1239)) + B_{\bar{N}}(2N + 1240 - B_{\bar{N}}(2N + 1238)) + B_{\bar{N}}(2N + 1240 - B_{\bar{N}}(2N + 1237)) \\
&= B_{\bar{N}}(2N + 1240 - (N + 1884)) + B_{\bar{N}}(2N + 1240 - (2N + 1123)) + B_{\bar{N}}(2N + 1240 - (N + 1880)) \\
&= B_{\bar{N}}(N - 644) + B_{\bar{N}}(117) + B_{\bar{N}}(N - 640) = (N - 644) + 117 + (N - 640) = \mathbf{2N} - \mathbf{1167} \\
&(N \geq 645)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1241}) &= B_{\bar{N}}(2N + 1241 - B_{\bar{N}}(2N + 1240)) + B_{\bar{N}}(2N + 1241 - B_{\bar{N}}(2N + 1239)) + B_{\bar{N}}(2N + 1241 - B_{\bar{N}}(2N + 1238)) \\
&= B_{\bar{N}}(2N + 1241 - (2N - 1167)) + B_{\bar{N}}(2N + 1241 - (N + 1884)) + B_{\bar{N}}(2N + 1241 - (2N + 1123)) \\
&= B_{\bar{N}}(2408) + B_{\bar{N}}(N - 643) + B_{\bar{N}}(118) = 2408 + (N - 643) + 118 = \mathbf{N} + \mathbf{1883} \\
&(N \geq 2408)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1242}) &= B_{\bar{N}}(2N + 1242 - B_{\bar{N}}(2N + 1241)) + B_{\bar{N}}(2N + 1242 - B_{\bar{N}}(2N + 1240)) + B_{\bar{N}}(2N + 1242 - B_{\bar{N}}(2N + 1239)) \\
&= B_{\bar{N}}(2N + 1242 - (N + 1883)) + B_{\bar{N}}(2N + 1242 - (2N - 1167)) + B_{\bar{N}}(2N + 1242 - (N + 1884)) \\
&= B_{\bar{N}}(N - 641) + B_{\bar{N}}(2409) + B_{\bar{N}}(N - 642) = (N - 641) + 2409 + (N - 642) = \mathbf{2N} + \mathbf{1126} \\
&(N \geq 2409)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1243}) &= B_{\bar{N}}(2N + 1243 - B_{\bar{N}}(2N + 1242)) + B_{\bar{N}}(2N + 1243 - B_{\bar{N}}(2N + 1241)) + B_{\bar{N}}(2N + 1243 - B_{\bar{N}}(2N + 1240)) \\
&= B_{\bar{N}}(2N + 1243 - (2N + 1126)) + B_{\bar{N}}(2N + 1243 - (N + 1883)) + B_{\bar{N}}(2N + 1243 - (2N - 1167)) \\
&= B_{\bar{N}}(117) + B_{\bar{N}}(N - 640) + B_{\bar{N}}(2410) = 117 + (N - 640) + 2410 = \mathbf{N} + \mathbf{1887} \\
&(N \geq 2410)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1244}) &= B_{\bar{N}}(2N + 1244 - B_{\bar{N}}(2N + 1243)) + B_{\bar{N}}(2N + 1244 - B_{\bar{N}}(2N + 1242)) + B_{\bar{N}}(2N + 1244 - B_{\bar{N}}(2N + 1241)) \\
&= B_{\bar{N}}(2N + 1244 - (N + 1887)) + B_{\bar{N}}(2N + 1244 - (2N + 1126)) + B_{\bar{N}}(2N + 1244 - (N + 1883)) \\
&= B_{\bar{N}}(N - 643) + B_{\bar{N}}(118) + B_{\bar{N}}(N - 639) = (N - 643) + 118 + (N - 639) = \mathbf{2N} - \mathbf{1164} \\
&(N \geq 644)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1245}) &= B_{\bar{N}}(2N + 1245 - B_{\bar{N}}(2N + 1244)) + B_{\bar{N}}(2N + 1245 - B_{\bar{N}}(2N + 1243)) + B_{\bar{N}}(2N + 1245 - B_{\bar{N}}(2N + 1242)) \\
&= B_{\bar{N}}(2N + 1245 - (2N - 1164)) + B_{\bar{N}}(2N + 1245 - (N + 1887)) + B_{\bar{N}}(2N + 1245 - (2N + 1126)) \\
&= B_{\bar{N}}(2409) + B_{\bar{N}}(N - 642) + B_{\bar{N}}(119) = 2409 + (N - 642) + 119 = \mathbf{N} + \mathbf{1886} \\
&(N \geq 2409)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1246}) &= B_{\bar{N}}(2N + 1246 - B_{\bar{N}}(2N + 1245)) + B_{\bar{N}}(2N + 1246 - B_{\bar{N}}(2N + 1244)) + B_{\bar{N}}(2N + 1246 - B_{\bar{N}}(2N + 1243)) \\
&= B_{\bar{N}}(2N + 1246 - (N + 1886)) + B_{\bar{N}}(2N + 1246 - (2N - 1164)) + B_{\bar{N}}(2N + 1246 - (N + 1887)) \\
&= B_{\bar{N}}(N - 640) + B_{\bar{N}}(2410) + B_{\bar{N}}(N - 641) = (N - 640) + 2410 + (N - 641) = \mathbf{2N} + \mathbf{1129} \\
&(N \geq 2410)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1247}) &= B_{\bar{N}}(2N + 1247 - B_{\bar{N}}(2N + 1246)) + B_{\bar{N}}(2N + 1247 - B_{\bar{N}}(2N + 1245)) + B_{\bar{N}}(2N + 1247 - B_{\bar{N}}(2N + 1244)) \\
&= B_{\bar{N}}(2N + 1247 - (2N + 1129)) + B_{\bar{N}}(2N + 1247 - (N + 1886)) + B_{\bar{N}}(2N + 1247 - (2N - 1164)) \\
&= B_{\bar{N}}(118) + B_{\bar{N}}(N - 639) + B_{\bar{N}}(2411) = 118 + (N - 639) + 2411 = \mathbf{N} + \mathbf{1890} \\
&(N \geq 2411)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1248}) &= B_{\bar{N}}(2N + 1248 - B_{\bar{N}}(2N + 1247)) + B_{\bar{N}}(2N + 1248 - B_{\bar{N}}(2N + 1246)) + B_{\bar{N}}(2N + 1248 - B_{\bar{N}}(2N + 1245)) \\
&= B_{\bar{N}}(2N + 1248 - (N + 1890)) + B_{\bar{N}}(2N + 1248 - (2N + 1129)) + B_{\bar{N}}(2N + 1248 - (N + 1886)) \\
&= B_{\bar{N}}(N - 642) + B_{\bar{N}}(119) + B_{\bar{N}}(N - 638) = (N - 642) + 119 + (N - 638) = \mathbf{2N} - \mathbf{1161} \\
&(N \geq 643)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1249}) &= B_{\bar{N}}(2N + 1249 - B_{\bar{N}}(2N + 1248)) + B_{\bar{N}}(2N + 1249 - B_{\bar{N}}(2N + 1247)) + B_{\bar{N}}(2N + 1249 - B_{\bar{N}}(2N + 1246)) \\
&= B_{\bar{N}}(2N + 1249 - (2N - 1161)) + B_{\bar{N}}(2N + 1249 - (N + 1890)) + B_{\bar{N}}(2N + 1249 - (2N + 1129)) \\
&= B_{\bar{N}}(2410) + B_{\bar{N}}(N - 641) + B_{\bar{N}}(120) = 2410 + (N - 641) + 120 = \mathbf{N} + \mathbf{1889} \\
&(N \geq 2410)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1250}) &= B_{\bar{N}}(2N + 1250 - B_{\bar{N}}(2N + 1249)) + B_{\bar{N}}(2N + 1250 - B_{\bar{N}}(2N + 1248)) + B_{\bar{N}}(2N + 1250 - B_{\bar{N}}(2N + 1247)) \\
&= B_{\bar{N}}(2N + 1250 - (N + 1889)) + B_{\bar{N}}(2N + 1250 - (2N - 1161)) + B_{\bar{N}}(2N + 1250 - (N + 1890)) \\
&= B_{\bar{N}}(N - 639) + B_{\bar{N}}(2411) + B_{\bar{N}}(N - 640) = (N - 639) + 2411 + (N - 640) = \mathbf{2N} + \mathbf{1132} \\
&(N \geq 2411)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1251}) &= B_{\bar{N}}(2N + 1251 - B_{\bar{N}}(2N + 1250)) + B_{\bar{N}}(2N + 1251 - B_{\bar{N}}(2N + 1249)) + B_{\bar{N}}(2N + 1251 - B_{\bar{N}}(2N + 1248)) \\
&= B_{\bar{N}}(2N + 1251 - (2N + 1132)) + B_{\bar{N}}(2N + 1251 - (N + 1889)) + B_{\bar{N}}(2N + 1251 - (2N - 1161)) \\
&= B_{\bar{N}}(119) + B_{\bar{N}}(N - 638) + B_{\bar{N}}(2412) = 119 + (N - 638) + 2412 = \mathbf{N} + \mathbf{1893} \\
&(N \geq 2412)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1252}) &= B_{\bar{N}}(2N + 1252 - B_{\bar{N}}(2N + 1251)) + B_{\bar{N}}(2N + 1252 - B_{\bar{N}}(2N + 1250)) + B_{\bar{N}}(2N + 1252 - B_{\bar{N}}(2N + 1249)) \\
&= B_{\bar{N}}(2N + 1252 - (N + 1893)) + B_{\bar{N}}(2N + 1252 - (2N + 1132)) + B_{\bar{N}}(2N + 1252 - (N + 1889)) \\
&= B_{\bar{N}}(N - 641) + B_{\bar{N}}(120) + B_{\bar{N}}(N - 637) = (N - 641) + 120 + (N - 637) = \mathbf{2N} - \mathbf{1158} \\
&(N \geq 642)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1253}) &= B_{\bar{N}}(2N + 1253 - B_{\bar{N}}(2N + 1252)) + B_{\bar{N}}(2N + 1253 - B_{\bar{N}}(2N + 1251)) + B_{\bar{N}}(2N + 1253 - B_{\bar{N}}(2N + 1250)) \\
&= B_{\bar{N}}(2N + 1253 - (2N - 1158)) + B_{\bar{N}}(2N + 1253 - (N + 1893)) + B_{\bar{N}}(2N + 1253 - (2N + 1132)) \\
&= B_{\bar{N}}(2411) + B_{\bar{N}}(N - 640) + B_{\bar{N}}(121) = 2411 + (N - 640) + 121 = \mathbf{N} + \mathbf{1892} \\
&(N \geq 2411)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1254}) &= B_{\bar{N}}(2N + 1254 - B_{\bar{N}}(2N + 1253)) + B_{\bar{N}}(2N + 1254 - B_{\bar{N}}(2N + 1252)) + B_{\bar{N}}(2N + 1254 - B_{\bar{N}}(2N + 1251)) \\
&= B_{\bar{N}}(2N + 1254 - (N + 1892)) + B_{\bar{N}}(2N + 1254 - (2N - 1158)) + B_{\bar{N}}(2N + 1254 - (N + 1893)) \\
&= B_{\bar{N}}(N - 638) + B_{\bar{N}}(2412) + B_{\bar{N}}(N - 639) = (N - 638) + 2412 + (N - 639) = \mathbf{2N} + \mathbf{1135} \\
&(N \geq 2412)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1255}) &= B_{\bar{N}}(2N + 1255 - B_{\bar{N}}(2N + 1254)) + B_{\bar{N}}(2N + 1255 - B_{\bar{N}}(2N + 1253)) + B_{\bar{N}}(2N + 1255 - B_{\bar{N}}(2N + 1252)) \\
&= B_{\bar{N}}(2N + 1255 - (2N + 1135)) + B_{\bar{N}}(2N + 1255 - (N + 1892)) + B_{\bar{N}}(2N + 1255 - (2N - 1158)) \\
&= B_{\bar{N}}(120) + B_{\bar{N}}(N - 637) + B_{\bar{N}}(2413) = 120 + (N - 637) + 2413 = \mathbf{N} + \mathbf{1896} \\
&(N \geq 2413)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1256}) &= B_{\bar{N}}(2N + 1256 - B_{\bar{N}}(2N + 1255)) + B_{\bar{N}}(2N + 1256 - B_{\bar{N}}(2N + 1254)) + B_{\bar{N}}(2N + 1256 - B_{\bar{N}}(2N + 1253)) \\
&= B_{\bar{N}}(2N + 1256 - (N + 1896)) + B_{\bar{N}}(2N + 1256 - (2N + 1135)) + B_{\bar{N}}(2N + 1256 - (N + 1892)) \\
&= B_{\bar{N}}(N - 640) + B_{\bar{N}}(121) + B_{\bar{N}}(N - 636) = (N - 640) + 121 + (N - 636) = \mathbf{2N} - \mathbf{1155} \\
&(N \geq 641)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1257}) &= B_{\bar{N}}(2N + 1257 - B_{\bar{N}}(2N + 1256)) + B_{\bar{N}}(2N + 1257 - B_{\bar{N}}(2N + 1255)) + B_{\bar{N}}(2N + 1257 - B_{\bar{N}}(2N + 1254)) \\
&= B_{\bar{N}}(2N + 1257 - (2N - 1155)) + B_{\bar{N}}(2N + 1257 - (N + 1896)) + B_{\bar{N}}(2N + 1257 - (2N + 1135)) \\
&= B_{\bar{N}}(2412) + B_{\bar{N}}(N - 639) + B_{\bar{N}}(122) = 2412 + (N - 639) + 122 = \mathbf{N} + \mathbf{1895} \\
&(N \geq 2412)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1258}) &= B_{\bar{N}}(2N + 1258 - B_{\bar{N}}(2N + 1257)) + B_{\bar{N}}(2N + 1258 - B_{\bar{N}}(2N + 1256)) + B_{\bar{N}}(2N + 1258 - B_{\bar{N}}(2N + 1255)) \\
&= B_{\bar{N}}(2N + 1258 - (N + 1895)) + B_{\bar{N}}(2N + 1258 - (2N - 1155)) + B_{\bar{N}}(2N + 1258 - (N + 1896)) \\
&= B_{\bar{N}}(N - 637) + B_{\bar{N}}(2413) + B_{\bar{N}}(N - 638) = (N - 637) + 2413 + (N - 638) = \mathbf{2N} + \mathbf{1138} \\
&(N \geq 2413)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1259}) &= B_{\bar{N}}(2N + 1259 - B_{\bar{N}}(2N + 1258)) + B_{\bar{N}}(2N + 1259 - B_{\bar{N}}(2N + 1257)) + B_{\bar{N}}(2N + 1259 - B_{\bar{N}}(2N + 1256)) \\
&= B_{\bar{N}}(2N + 1259 - (2N + 1138)) + B_{\bar{N}}(2N + 1259 - (N + 1895)) + B_{\bar{N}}(2N + 1259 - (2N - 1155)) \\
&= B_{\bar{N}}(121) + B_{\bar{N}}(N - 636) + B_{\bar{N}}(2414) = 121 + (N - 636) + 2414 = \mathbf{N} + \mathbf{1899} \\
&(N \geq 2414)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1260}) &= B_{\bar{N}}(2N + 1260 - B_{\bar{N}}(2N + 1259)) + B_{\bar{N}}(2N + 1260 - B_{\bar{N}}(2N + 1258)) + B_{\bar{N}}(2N + 1260 - B_{\bar{N}}(2N + 1257)) \\
&= B_{\bar{N}}(2N + 1260 - (N + 1899)) + B_{\bar{N}}(2N + 1260 - (2N + 1138)) + B_{\bar{N}}(2N + 1260 - (N + 1895)) \\
&= B_{\bar{N}}(N - 639) + B_{\bar{N}}(122) + B_{\bar{N}}(N - 635) = (N - 639) + 122 + (N - 635) = \mathbf{2N} - \mathbf{1152} \\
&(N \geq 640)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1261}) &= B_{\bar{N}}(2N + 1261 - B_{\bar{N}}(2N + 1260)) + B_{\bar{N}}(2N + 1261 - B_{\bar{N}}(2N + 1259)) + B_{\bar{N}}(2N + 1261 - B_{\bar{N}}(2N + 1258)) \\
&= B_{\bar{N}}(2N + 1261 - (2N - 1152)) + B_{\bar{N}}(2N + 1261 - (N + 1899)) + B_{\bar{N}}(2N + 1261 - (2N + 1138)) \\
&= B_{\bar{N}}(2413) + B_{\bar{N}}(N - 638) + B_{\bar{N}}(123) = 2413 + (N - 638) + 123 = \mathbf{N} + \mathbf{1898} \\
&(N \geq 2413)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1262}) &= B_{\bar{N}}(2N + 1262 - B_{\bar{N}}(2N + 1261)) + B_{\bar{N}}(2N + 1262 - B_{\bar{N}}(2N + 1260)) + B_{\bar{N}}(2N + 1262 - B_{\bar{N}}(2N + 1259)) \\
&= B_{\bar{N}}(2N + 1262 - (N + 1898)) + B_{\bar{N}}(2N + 1262 - (2N - 1152)) + B_{\bar{N}}(2N + 1262 - (N + 1899)) \\
&= B_{\bar{N}}(N - 636) + B_{\bar{N}}(2414) + B_{\bar{N}}(N - 637) = (N - 636) + 2414 + (N - 637) = \mathbf{2N} + \mathbf{1141} \\
&(N \geq 2414)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1263}) &= B_{\bar{N}}(2N + 1263 - B_{\bar{N}}(2N + 1262)) + B_{\bar{N}}(2N + 1263 - B_{\bar{N}}(2N + 1261)) + B_{\bar{N}}(2N + 1263 - B_{\bar{N}}(2N + 1260)) \\
&= B_{\bar{N}}(2N + 1263 - (2N + 1141)) + B_{\bar{N}}(2N + 1263 - (N + 1898)) + B_{\bar{N}}(2N + 1263 - (2N - 1152)) \\
&= B_{\bar{N}}(122) + B_{\bar{N}}(N - 635) + B_{\bar{N}}(2415) = 122 + (N - 635) + 2415 = \mathbf{N} + \mathbf{1902} \\
&(N \geq 2415)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1264}) &= B_{\bar{N}}(2N + 1264 - B_{\bar{N}}(2N + 1263)) + B_{\bar{N}}(2N + 1264 - B_{\bar{N}}(2N + 1262)) + B_{\bar{N}}(2N + 1264 - B_{\bar{N}}(2N + 1261)) \\
&= B_{\bar{N}}(2N + 1264 - (N + 1902)) + B_{\bar{N}}(2N + 1264 - (2N + 1141)) + B_{\bar{N}}(2N + 1264 - (N + 1898)) \\
&= B_{\bar{N}}(N - 638) + B_{\bar{N}}(123) + B_{\bar{N}}(N - 634) = (N - 638) + 123 + (N - 634) = \mathbf{2N} - \mathbf{1149} \\
&(N \geq 639)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1265}) &= B_{\bar{N}}(2N + 1265 - B_{\bar{N}}(2N + 1264)) + B_{\bar{N}}(2N + 1265 - B_{\bar{N}}(2N + 1263)) + B_{\bar{N}}(2N + 1265 - B_{\bar{N}}(2N + 1262)) \\
&= B_{\bar{N}}(2N + 1265 - (2N - 1149)) + B_{\bar{N}}(2N + 1265 - (N + 1902)) + B_{\bar{N}}(2N + 1265 - (2N + 1141)) \\
&= B_{\bar{N}}(2414) + B_{\bar{N}}(N - 637) + B_{\bar{N}}(124) = 2414 + (N - 637) + 124 = \mathbf{N} + \mathbf{1901} \\
&(N \geq 2414)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1266}) &= B_{\bar{N}}(2N + 1266 - B_{\bar{N}}(2N + 1265)) + B_{\bar{N}}(2N + 1266 - B_{\bar{N}}(2N + 1264)) + B_{\bar{N}}(2N + 1266 - B_{\bar{N}}(2N + 1263)) \\
&= B_{\bar{N}}(2N + 1266 - (N + 1901)) + B_{\bar{N}}(2N + 1266 - (2N - 1149)) + B_{\bar{N}}(2N + 1266 - (N + 1902)) \\
&= B_{\bar{N}}(N - 635) + B_{\bar{N}}(2415) + B_{\bar{N}}(N - 636) = (N - 635) + 2415 + (N - 636) = \mathbf{2N} + \mathbf{1144} \\
&(N \geq 2415)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1267}) &= B_{\bar{N}}(2N + 1267 - B_{\bar{N}}(2N + 1266)) + B_{\bar{N}}(2N + 1267 - B_{\bar{N}}(2N + 1265)) + B_{\bar{N}}(2N + 1267 - B_{\bar{N}}(2N + 1264)) \\
&= B_{\bar{N}}(2N + 1267 - (2N + 1144)) + B_{\bar{N}}(2N + 1267 - (N + 1901)) + B_{\bar{N}}(2N + 1267 - (2N - 1149)) \\
&= B_{\bar{N}}(123) + B_{\bar{N}}(N - 634) + B_{\bar{N}}(2416) = 123 + (N - 634) + 2416 = \mathbf{N} + \mathbf{1905} \\
&(N \geq 2416)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1268}) &= B_{\bar{N}}(2N + 1268 - B_{\bar{N}}(2N + 1267)) + B_{\bar{N}}(2N + 1268 - B_{\bar{N}}(2N + 1266)) + B_{\bar{N}}(2N + 1268 - B_{\bar{N}}(2N + 1265)) \\
&= B_{\bar{N}}(2N + 1268 - (N + 1905)) + B_{\bar{N}}(2N + 1268 - (2N + 1144)) + B_{\bar{N}}(2N + 1268 - (N + 1901)) \\
&= B_{\bar{N}}(N - 637) + B_{\bar{N}}(124) + B_{\bar{N}}(N - 633) = (N - 637) + 124 + (N - 633) = \mathbf{2N} - \mathbf{1146} \\
&(N \geq 638)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1269}) &= B_{\bar{N}}(2N + 1269 - B_{\bar{N}}(2N + 1268)) + B_{\bar{N}}(2N + 1269 - B_{\bar{N}}(2N + 1267)) + B_{\bar{N}}(2N + 1269 - B_{\bar{N}}(2N + 1266)) \\
&= B_{\bar{N}}(2N + 1269 - (2N - 1146)) + B_{\bar{N}}(2N + 1269 - (N + 1905)) + B_{\bar{N}}(2N + 1269 - (2N + 1144)) \\
&= B_{\bar{N}}(2415) + B_{\bar{N}}(N - 636) + B_{\bar{N}}(125) = 2415 + (N - 636) + 125 = \mathbf{N} + \mathbf{1904} \\
&(N \geq 2415)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1270}) &= B_{\bar{N}}(2N + 1270 - B_{\bar{N}}(2N + 1269)) + B_{\bar{N}}(2N + 1270 - B_{\bar{N}}(2N + 1268)) + B_{\bar{N}}(2N + 1270 - B_{\bar{N}}(2N + 1267)) \\
&= B_{\bar{N}}(2N + 1270 - (N + 1904)) + B_{\bar{N}}(2N + 1270 - (2N - 1146)) + B_{\bar{N}}(2N + 1270 - (N + 1905)) \\
&= B_{\bar{N}}(N - 634) + B_{\bar{N}}(2416) + B_{\bar{N}}(N - 635) = (N - 634) + 2416 + (N - 635) = \mathbf{2N} + \mathbf{1147} \\
&(N \geq 2416)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1271}) &= B_{\bar{N}}(2N + 1271 - B_{\bar{N}}(2N + 1270)) + B_{\bar{N}}(2N + 1271 - B_{\bar{N}}(2N + 1269)) + B_{\bar{N}}(2N + 1271 - B_{\bar{N}}(2N + 1268)) \\
&= B_{\bar{N}}(2N + 1271 - (2N + 1147)) + B_{\bar{N}}(2N + 1271 - (N + 1904)) + B_{\bar{N}}(2N + 1271 - (2N - 1146)) \\
&= B_{\bar{N}}(124) + B_{\bar{N}}(N - 633) + B_{\bar{N}}(2417) = 124 + (N - 633) + 2417 = \mathbf{N} + \mathbf{1908} \\
&(N \geq 2417)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1272}) &= B_{\bar{N}}(2N + 1272 - B_{\bar{N}}(2N + 1271)) + B_{\bar{N}}(2N + 1272 - B_{\bar{N}}(2N + 1270)) + B_{\bar{N}}(2N + 1272 - B_{\bar{N}}(2N + 1269)) \\
&= B_{\bar{N}}(2N + 1272 - (N + 1908)) + B_{\bar{N}}(2N + 1272 - (2N + 1147)) + B_{\bar{N}}(2N + 1272 - (N + 1904)) \\
&= B_{\bar{N}}(N - 636) + B_{\bar{N}}(125) + B_{\bar{N}}(N - 632) = (N - 636) + 125 + (N - 632) = \mathbf{2N} - \mathbf{1143} \\
&(N \geq 637)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1273}) &= B_{\bar{N}}(2N + 1273 - B_{\bar{N}}(2N + 1272)) + B_{\bar{N}}(2N + 1273 - B_{\bar{N}}(2N + 1271)) + B_{\bar{N}}(2N + 1273 - B_{\bar{N}}(2N + 1270)) \\
&= B_{\bar{N}}(2N + 1273 - (2N - 1143)) + B_{\bar{N}}(2N + 1273 - (N + 1908)) + B_{\bar{N}}(2N + 1273 - (2N + 1147)) \\
&= B_{\bar{N}}(2416) + B_{\bar{N}}(N - 635) + B_{\bar{N}}(126) = 2416 + (N - 635) + 126 = \mathbf{N} + \mathbf{1907} \\
&(N \geq 2416)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1274}) &= B_{\bar{N}}(2N + 1274 - B_{\bar{N}}(2N + 1273)) + B_{\bar{N}}(2N + 1274 - B_{\bar{N}}(2N + 1272)) + B_{\bar{N}}(2N + 1274 - B_{\bar{N}}(2N + 1271)) \\
&= B_{\bar{N}}(2N + 1274 - (N + 1907)) + B_{\bar{N}}(2N + 1274 - (2N - 1143)) + B_{\bar{N}}(2N + 1274 - (N + 1908)) \\
&= B_{\bar{N}}(N - 633) + B_{\bar{N}}(2417) + B_{\bar{N}}(N - 634) = (N - 633) + 2417 + (N - 634) = \mathbf{2N} + \mathbf{1150} \\
&(N \geq 2417)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1275}) &= B_{\bar{N}}(2N + 1275 - B_{\bar{N}}(2N + 1274)) + B_{\bar{N}}(2N + 1275 - B_{\bar{N}}(2N + 1273)) + B_{\bar{N}}(2N + 1275 - B_{\bar{N}}(2N + 1272)) \\
&= B_{\bar{N}}(2N + 1275 - (2N + 1150)) + B_{\bar{N}}(2N + 1275 - (N + 1907)) + B_{\bar{N}}(2N + 1275 - (2N - 1143)) \\
&= B_{\bar{N}}(125) + B_{\bar{N}}(N - 632) + B_{\bar{N}}(2418) = 125 + (N - 632) + 2418 = \mathbf{N} + \mathbf{1911} \\
&(N \geq 2418)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1276}) &= B_{\bar{N}}(2N + 1276 - B_{\bar{N}}(2N + 1275)) + B_{\bar{N}}(2N + 1276 - B_{\bar{N}}(2N + 1274)) + B_{\bar{N}}(2N + 1276 - B_{\bar{N}}(2N + 1273)) \\
&= B_{\bar{N}}(2N + 1276 - (N + 1911)) + B_{\bar{N}}(2N + 1276 - (2N + 1150)) + B_{\bar{N}}(2N + 1276 - (N + 1907)) \\
&= B_{\bar{N}}(N - 635) + B_{\bar{N}}(126) + B_{\bar{N}}(N - 631) = (N - 635) + 126 + (N - 631) = \mathbf{2N} - \mathbf{1140} \\
&(N \geq 636)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1277}) &= B_{\bar{N}}(2N + 1277 - B_{\bar{N}}(2N + 1276)) + B_{\bar{N}}(2N + 1277 - B_{\bar{N}}(2N + 1275)) + B_{\bar{N}}(2N + 1277 - B_{\bar{N}}(2N + 1274)) \\
&= B_{\bar{N}}(2N + 1277 - (2N - 1140)) + B_{\bar{N}}(2N + 1277 - (N + 1911)) + B_{\bar{N}}(2N + 1277 - (2N + 1150)) \\
&= B_{\bar{N}}(2417) + B_{\bar{N}}(N - 634) + B_{\bar{N}}(127) = 2417 + (N - 634) + 127 = \mathbf{N} + \mathbf{1910} \\
&(N \geq 2417)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1278}) &= B_{\bar{N}}(2N + 1278 - B_{\bar{N}}(2N + 1277)) + B_{\bar{N}}(2N + 1278 - B_{\bar{N}}(2N + 1276)) + B_{\bar{N}}(2N + 1278 - B_{\bar{N}}(2N + 1275)) \\
&= B_{\bar{N}}(2N + 1278 - (N + 1910)) + B_{\bar{N}}(2N + 1278 - (2N - 1140)) + B_{\bar{N}}(2N + 1278 - (N + 1911)) \\
&= B_{\bar{N}}(N - 632) + B_{\bar{N}}(2418) + B_{\bar{N}}(N - 633) = (N - 632) + 2418 + (N - 633) = \mathbf{2N} + \mathbf{1153} \\
&(N \geq 2418)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1279}) &= B_{\bar{N}}(2N + 1279 - B_{\bar{N}}(2N + 1278)) + B_{\bar{N}}(2N + 1279 - B_{\bar{N}}(2N + 1277)) + B_{\bar{N}}(2N + 1279 - B_{\bar{N}}(2N + 1276)) \\
&= B_{\bar{N}}(2N + 1279 - (2N + 1153)) + B_{\bar{N}}(2N + 1279 - (N + 1910)) + B_{\bar{N}}(2N + 1279 - (2N - 1140)) \\
&= B_{\bar{N}}(126) + B_{\bar{N}}(N - 631) + B_{\bar{N}}(2419) = 126 + (N - 631) + 2419 = \mathbf{N} + \mathbf{1914} \\
&(N \geq 2419)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1280}) &= B_{\bar{N}}(2N + 1280 - B_{\bar{N}}(2N + 1279)) + B_{\bar{N}}(2N + 1280 - B_{\bar{N}}(2N + 1278)) + B_{\bar{N}}(2N + 1280 - B_{\bar{N}}(2N + 1277)) \\
&= B_{\bar{N}}(2N + 1280 - (N + 1914)) + B_{\bar{N}}(2N + 1280 - (2N + 1153)) + B_{\bar{N}}(2N + 1280 - (N + 1910)) \\
&= B_{\bar{N}}(N - 634) + B_{\bar{N}}(127) + B_{\bar{N}}(N - 630) = (N - 634) + 127 + (N - 630) = \mathbf{2N} - \mathbf{1137} \\
&(N \geq 635)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1281}) &= B_{\bar{N}}(2N + 1281 - B_{\bar{N}}(2N + 1280)) + B_{\bar{N}}(2N + 1281 - B_{\bar{N}}(2N + 1279)) + B_{\bar{N}}(2N + 1281 - B_{\bar{N}}(2N + 1278)) \\
&= B_{\bar{N}}(2N + 1281 - (2N - 1137)) + B_{\bar{N}}(2N + 1281 - (N + 1914)) + B_{\bar{N}}(2N + 1281 - (2N + 1153)) \\
&= B_{\bar{N}}(2418) + B_{\bar{N}}(N - 633) + B_{\bar{N}}(128) = 2418 + (N - 633) + 128 = \mathbf{N} + \mathbf{1913} \\
&(N \geq 2418)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1282}) &= B_{\bar{N}}(2N + 1282 - B_{\bar{N}}(2N + 1281)) + B_{\bar{N}}(2N + 1282 - B_{\bar{N}}(2N + 1280)) + B_{\bar{N}}(2N + 1282 - B_{\bar{N}}(2N + 1279)) \\
&= B_{\bar{N}}(2N + 1282 - (N + 1913)) + B_{\bar{N}}(2N + 1282 - (2N - 1137)) + B_{\bar{N}}(2N + 1282 - (N + 1914)) \\
&= B_{\bar{N}}(N - 631) + B_{\bar{N}}(2419) + B_{\bar{N}}(N - 632) = (N - 631) + 2419 + (N - 632) = \mathbf{2N} + \mathbf{1156} \\
&(N \geq 2419)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1283}) &= B_{\bar{N}}(2N + 1283 - B_{\bar{N}}(2N + 1282)) + B_{\bar{N}}(2N + 1283 - B_{\bar{N}}(2N + 1281)) + B_{\bar{N}}(2N + 1283 - B_{\bar{N}}(2N + 1280)) \\
&= B_{\bar{N}}(2N + 1283 - (2N + 1156)) + B_{\bar{N}}(2N + 1283 - (N + 1913)) + B_{\bar{N}}(2N + 1283 - (2N - 1137)) \\
&= B_{\bar{N}}(127) + B_{\bar{N}}(N - 630) + B_{\bar{N}}(2420) = 127 + (N - 630) + 2420 = \mathbf{N} + \mathbf{1917} \\
&(N \geq 2420)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1284}) &= B_{\bar{N}}(2N + 1284 - B_{\bar{N}}(2N + 1283)) + B_{\bar{N}}(2N + 1284 - B_{\bar{N}}(2N + 1282)) + B_{\bar{N}}(2N + 1284 - B_{\bar{N}}(2N + 1281)) \\
&= B_{\bar{N}}(2N + 1284 - (N + 1917)) + B_{\bar{N}}(2N + 1284 - (2N + 1156)) + B_{\bar{N}}(2N + 1284 - (N + 1913)) \\
&= B_{\bar{N}}(N - 633) + B_{\bar{N}}(128) + B_{\bar{N}}(N - 629) = (N - 633) + 128 + (N - 629) = \mathbf{2N} - \mathbf{1134} \\
&(N \geq 634)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1285}) &= B_{\bar{N}}(2N + 1285 - B_{\bar{N}}(2N + 1284)) + B_{\bar{N}}(2N + 1285 - B_{\bar{N}}(2N + 1283)) + B_{\bar{N}}(2N + 1285 - B_{\bar{N}}(2N + 1282)) \\
&= B_{\bar{N}}(2N + 1285 - (2N - 1134)) + B_{\bar{N}}(2N + 1285 - (N + 1917)) + B_{\bar{N}}(2N + 1285 - (2N + 1156)) \\
&= B_{\bar{N}}(2419) + B_{\bar{N}}(N - 632) + B_{\bar{N}}(129) = 2419 + (N - 632) + 129 = \mathbf{N} + \mathbf{1916} \\
&(N \geq 2419)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1286}) &= B_{\bar{N}}(2N + 1286 - B_{\bar{N}}(2N + 1285)) + B_{\bar{N}}(2N + 1286 - B_{\bar{N}}(2N + 1284)) + B_{\bar{N}}(2N + 1286 - B_{\bar{N}}(2N + 1283)) \\
&= B_{\bar{N}}(2N + 1286 - (N + 1916)) + B_{\bar{N}}(2N + 1286 - (2N - 1134)) + B_{\bar{N}}(2N + 1286 - (N + 1917)) \\
&= B_{\bar{N}}(N - 630) + B_{\bar{N}}(2420) + B_{\bar{N}}(N - 631) = (N - 630) + 2420 + (N - 631) = \mathbf{2N} + \mathbf{1159} \\
&(N \geq 2420)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1287}) &= B_{\bar{N}}(2N + 1287 - B_{\bar{N}}(2N + 1286)) + B_{\bar{N}}(2N + 1287 - B_{\bar{N}}(2N + 1285)) + B_{\bar{N}}(2N + 1287 - B_{\bar{N}}(2N + 1284)) \\
&= B_{\bar{N}}(2N + 1287 - (2N + 1159)) + B_{\bar{N}}(2N + 1287 - (N + 1916)) + B_{\bar{N}}(2N + 1287 - (2N - 1134)) \\
&= B_{\bar{N}}(128) + B_{\bar{N}}(N - 629) + B_{\bar{N}}(2421) = 128 + (N - 629) + 2421 = \mathbf{N} + \mathbf{1920} \\
&(N \geq 2421)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1288}) &= B_{\bar{N}}(2N + 1288 - B_{\bar{N}}(2N + 1287)) + B_{\bar{N}}(2N + 1288 - B_{\bar{N}}(2N + 1286)) + B_{\bar{N}}(2N + 1288 - B_{\bar{N}}(2N + 1285)) \\
&= B_{\bar{N}}(2N + 1288 - (N + 1920)) + B_{\bar{N}}(2N + 1288 - (2N + 1159)) + B_{\bar{N}}(2N + 1288 - (N + 1916)) \\
&= B_{\bar{N}}(N - 632) + B_{\bar{N}}(129) + B_{\bar{N}}(N - 628) = (N - 632) + 129 + (N - 628) = \mathbf{2N} - \mathbf{1131} \\
&(N \geq 633)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1289}) &= B_{\bar{N}}(2N + 1289 - B_{\bar{N}}(2N + 1288)) + B_{\bar{N}}(2N + 1289 - B_{\bar{N}}(2N + 1287)) + B_{\bar{N}}(2N + 1289 - B_{\bar{N}}(2N + 1286)) \\
&= B_{\bar{N}}(2N + 1289 - (2N - 1131)) + B_{\bar{N}}(2N + 1289 - (N + 1920)) + B_{\bar{N}}(2N + 1289 - (2N + 1159)) \\
&= B_{\bar{N}}(2420) + B_{\bar{N}}(N - 631) + B_{\bar{N}}(130) = 2420 + (N - 631) + 130 = \mathbf{N} + \mathbf{1919} \\
&(N \geq 2420)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1290}) &= B_{\bar{N}}(2N + 1290 - B_{\bar{N}}(2N + 1289)) + B_{\bar{N}}(2N + 1290 - B_{\bar{N}}(2N + 1288)) + B_{\bar{N}}(2N + 1290 - B_{\bar{N}}(2N + 1287)) \\
&= B_{\bar{N}}(2N + 1290 - (N + 1919)) + B_{\bar{N}}(2N + 1290 - (2N - 1131)) + B_{\bar{N}}(2N + 1290 - (N + 1920)) \\
&= B_{\bar{N}}(N - 629) + B_{\bar{N}}(2421) + B_{\bar{N}}(N - 630) = (N - 629) + 2421 + (N - 630) = \mathbf{2N} + \mathbf{1162} \\
&(N \geq 2421)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1291}) &= B_{\bar{N}}(2N + 1291 - B_{\bar{N}}(2N + 1290)) + B_{\bar{N}}(2N + 1291 - B_{\bar{N}}(2N + 1289)) + B_{\bar{N}}(2N + 1291 - B_{\bar{N}}(2N + 1288)) \\
&= B_{\bar{N}}(2N + 1291 - (2N + 1162)) + B_{\bar{N}}(2N + 1291 - (N + 1919)) + B_{\bar{N}}(2N + 1291 - (2N - 1131)) \\
&= B_{\bar{N}}(129) + B_{\bar{N}}(N - 628) + B_{\bar{N}}(2422) = 129 + (N - 628) + 2422 = \mathbf{N} + \mathbf{1923} \\
&(N \geq 2422)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1292}) &= B_{\bar{N}}(2N + 1292 - B_{\bar{N}}(2N + 1291)) + B_{\bar{N}}(2N + 1292 - B_{\bar{N}}(2N + 1290)) + B_{\bar{N}}(2N + 1292 - B_{\bar{N}}(2N + 1289)) \\
&= B_{\bar{N}}(2N + 1292 - (N + 1923)) + B_{\bar{N}}(2N + 1292 - (2N + 1162)) + B_{\bar{N}}(2N + 1292 - (N + 1919)) \\
&= B_{\bar{N}}(N - 631) + B_{\bar{N}}(130) + B_{\bar{N}}(N - 627) = (N - 631) + 130 + (N - 627) = \mathbf{2N} - \mathbf{1128} \\
&(N \geq 632)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1293}) &= B_{\bar{N}}(2N + 1293 - B_{\bar{N}}(2N + 1292)) + B_{\bar{N}}(2N + 1293 - B_{\bar{N}}(2N + 1291)) + B_{\bar{N}}(2N + 1293 - B_{\bar{N}}(2N + 1290)) \\
&= B_{\bar{N}}(2N + 1293 - (2N - 1128)) + B_{\bar{N}}(2N + 1293 - (N + 1923)) + B_{\bar{N}}(2N + 1293 - (2N + 1162)) \\
&= B_{\bar{N}}(2421) + B_{\bar{N}}(N - 630) + B_{\bar{N}}(131) = 2421 + (N - 630) + 131 = \mathbf{N} + \mathbf{1922} \\
&(N \geq 2421)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1294}) &= B_{\bar{N}}(2N + 1294 - B_{\bar{N}}(2N + 1293)) + B_{\bar{N}}(2N + 1294 - B_{\bar{N}}(2N + 1292)) + B_{\bar{N}}(2N + 1294 - B_{\bar{N}}(2N + 1291)) \\
&= B_{\bar{N}}(2N + 1294 - (N + 1922)) + B_{\bar{N}}(2N + 1294 - (2N - 1128)) + B_{\bar{N}}(2N + 1294 - (N + 1923)) \\
&= B_{\bar{N}}(N - 628) + B_{\bar{N}}(2422) + B_{\bar{N}}(N - 629) = (N - 628) + 2422 + (N - 629) = \mathbf{2N} + \mathbf{1165} \\
&(N \geq 2422)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1295}) &= B_{\bar{N}}(2N + 1295 - B_{\bar{N}}(2N + 1294)) + B_{\bar{N}}(2N + 1295 - B_{\bar{N}}(2N + 1293)) + B_{\bar{N}}(2N + 1295 - B_{\bar{N}}(2N + 1292)) \\
&= B_{\bar{N}}(2N + 1295 - (2N + 1165)) + B_{\bar{N}}(2N + 1295 - (N + 1922)) + B_{\bar{N}}(2N + 1295 - (2N - 1128)) \\
&= B_{\bar{N}}(130) + B_{\bar{N}}(N - 627) + B_{\bar{N}}(2423) = 130 + (N - 627) + 2423 = \mathbf{N} + \mathbf{1926} \\
&(N \geq 2423)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1296}) &= B_{\bar{N}}(2N + 1296 - B_{\bar{N}}(2N + 1295)) + B_{\bar{N}}(2N + 1296 - B_{\bar{N}}(2N + 1294)) + B_{\bar{N}}(2N + 1296 - B_{\bar{N}}(2N + 1293)) \\
&= B_{\bar{N}}(2N + 1296 - (N + 1926)) + B_{\bar{N}}(2N + 1296 - (2N + 1165)) + B_{\bar{N}}(2N + 1296 - (N + 1922)) \\
&= B_{\bar{N}}(N - 630) + B_{\bar{N}}(131) + B_{\bar{N}}(N - 626) = (N - 630) + 131 + (N - 626) = \mathbf{2N} - \mathbf{1125} \\
&(N \geq 631)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1297}) &= B_{\bar{N}}(2N + 1297 - B_{\bar{N}}(2N + 1296)) + B_{\bar{N}}(2N + 1297 - B_{\bar{N}}(2N + 1295)) + B_{\bar{N}}(2N + 1297 - B_{\bar{N}}(2N + 1294)) \\
&= B_{\bar{N}}(2N + 1297 - (2N - 1125)) + B_{\bar{N}}(2N + 1297 - (N + 1926)) + B_{\bar{N}}(2N + 1297 - (2N + 1165)) \\
&= B_{\bar{N}}(2422) + B_{\bar{N}}(N - 629) + B_{\bar{N}}(132) = 2422 + (N - 629) + 132 = \mathbf{N} + \mathbf{1925} \\
&(N \geq 2422)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1298}) &= B_{\bar{N}}(2N + 1298 - B_{\bar{N}}(2N + 1297)) + B_{\bar{N}}(2N + 1298 - B_{\bar{N}}(2N + 1296)) + B_{\bar{N}}(2N + 1298 - B_{\bar{N}}(2N + 1295)) \\
&= B_{\bar{N}}(2N + 1298 - (N + 1925)) + B_{\bar{N}}(2N + 1298 - (2N - 1125)) + B_{\bar{N}}(2N + 1298 - (N + 1926)) \\
&= B_{\bar{N}}(N - 627) + B_{\bar{N}}(2423) + B_{\bar{N}}(N - 628) = (N - 627) + 2423 + (N - 628) = \mathbf{2N} + \mathbf{1168} \\
&(N \geq 2423)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1299}) &= B_{\bar{N}}(2N + 1299 - B_{\bar{N}}(2N + 1298)) + B_{\bar{N}}(2N + 1299 - B_{\bar{N}}(2N + 1297)) + B_{\bar{N}}(2N + 1299 - B_{\bar{N}}(2N + 1296)) \\
&= B_{\bar{N}}(2N + 1299 - (2N + 1168)) + B_{\bar{N}}(2N + 1299 - (N + 1925)) + B_{\bar{N}}(2N + 1299 - (2N - 1125)) \\
&= B_{\bar{N}}(131) + B_{\bar{N}}(N - 626) + B_{\bar{N}}(2424) = 131 + (N - 626) + 2424 = \mathbf{N} + \mathbf{1929} \\
&(N \geq 2424)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1300}) &= B_{\bar{N}}(2N + 1300 - B_{\bar{N}}(2N + 1299)) + B_{\bar{N}}(2N + 1300 - B_{\bar{N}}(2N + 1298)) + B_{\bar{N}}(2N + 1300 - B_{\bar{N}}(2N + 1297)) \\
&= B_{\bar{N}}(2N + 1300 - (N + 1929)) + B_{\bar{N}}(2N + 1300 - (2N + 1168)) + B_{\bar{N}}(2N + 1300 - (N + 1925)) \\
&= B_{\bar{N}}(N - 629) + B_{\bar{N}}(132) + B_{\bar{N}}(N - 625) = (N - 629) + 132 + (N - 625) = \mathbf{2N} - \mathbf{1122} \\
&(N \geq 630)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1301}) &= B_{\bar{N}}(2N + 1301 - B_{\bar{N}}(2N + 1300)) + B_{\bar{N}}(2N + 1301 - B_{\bar{N}}(2N + 1299)) + B_{\bar{N}}(2N + 1301 - B_{\bar{N}}(2N + 1298)) \\
&= B_{\bar{N}}(2N + 1301 - (2N - 1122)) + B_{\bar{N}}(2N + 1301 - (N + 1929)) + B_{\bar{N}}(2N + 1301 - (2N + 1168)) \\
&= B_{\bar{N}}(2423) + B_{\bar{N}}(N - 628) + B_{\bar{N}}(133) = 2423 + (N - 628) + 133 = \mathbf{N} + \mathbf{1928} \\
&(N \geq 2423)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1302}) &= B_{\bar{N}}(2N + 1302 - B_{\bar{N}}(2N + 1301)) + B_{\bar{N}}(2N + 1302 - B_{\bar{N}}(2N + 1300)) + B_{\bar{N}}(2N + 1302 - B_{\bar{N}}(2N + 1299)) \\
&= B_{\bar{N}}(2N + 1302 - (N + 1928)) + B_{\bar{N}}(2N + 1302 - (2N - 1122)) + B_{\bar{N}}(2N + 1302 - (N + 1929)) \\
&= B_{\bar{N}}(N - 626) + B_{\bar{N}}(2424) + B_{\bar{N}}(N - 627) = (N - 626) + 2424 + (N - 627) = \mathbf{2N} + \mathbf{1171} \\
&(N \geq 2424)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1303}) &= B_{\bar{N}}(2N + 1303 - B_{\bar{N}}(2N + 1302)) + B_{\bar{N}}(2N + 1303 - B_{\bar{N}}(2N + 1301)) + B_{\bar{N}}(2N + 1303 - B_{\bar{N}}(2N + 1300)) \\
&= B_{\bar{N}}(2N + 1303 - (2N + 1171)) + B_{\bar{N}}(2N + 1303 - (N + 1928)) + B_{\bar{N}}(2N + 1303 - (2N - 1122)) \\
&= B_{\bar{N}}(132) + B_{\bar{N}}(N - 625) + B_{\bar{N}}(2425) = 132 + (N - 625) + 2425 = \mathbf{N} + \mathbf{1932} \\
&(N \geq 2425)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1304}) &= B_{\bar{N}}(2N + 1304 - B_{\bar{N}}(2N + 1303)) + B_{\bar{N}}(2N + 1304 - B_{\bar{N}}(2N + 1302)) + B_{\bar{N}}(2N + 1304 - B_{\bar{N}}(2N + 1301)) \\
&= B_{\bar{N}}(2N + 1304 - (N + 1932)) + B_{\bar{N}}(2N + 1304 - (2N + 1171)) + B_{\bar{N}}(2N + 1304 - (N + 1928)) \\
&= B_{\bar{N}}(N - 628) + B_{\bar{N}}(133) + B_{\bar{N}}(N - 624) = (N - 628) + 133 + (N - 624) = \mathbf{2N} - \mathbf{1119} \\
&(N \geq 629)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1305}) &= B_{\bar{N}}(2N + 1305 - B_{\bar{N}}(2N + 1304)) + B_{\bar{N}}(2N + 1305 - B_{\bar{N}}(2N + 1303)) + B_{\bar{N}}(2N + 1305 - B_{\bar{N}}(2N + 1302)) \\
&= B_{\bar{N}}(2N + 1305 - (2N - 1119)) + B_{\bar{N}}(2N + 1305 - (N + 1932)) + B_{\bar{N}}(2N + 1305 - (2N + 1171)) \\
&= B_{\bar{N}}(2424) + B_{\bar{N}}(N - 627) + B_{\bar{N}}(134) = 2424 + (N - 627) + 134 = \mathbf{N} + \mathbf{1931} \\
&(N \geq 2424)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1306}) &= B_{\bar{N}}(2N + 1306 - B_{\bar{N}}(2N + 1305)) + B_{\bar{N}}(2N + 1306 - B_{\bar{N}}(2N + 1304)) + B_{\bar{N}}(2N + 1306 - B_{\bar{N}}(2N + 1303)) \\
&= B_{\bar{N}}(2N + 1306 - (N + 1931)) + B_{\bar{N}}(2N + 1306 - (2N - 1119)) + B_{\bar{N}}(2N + 1306 - (N + 1932)) \\
&= B_{\bar{N}}(N - 625) + B_{\bar{N}}(2425) + B_{\bar{N}}(N - 626) = (N - 625) + 2425 + (N - 626) = \mathbf{2N} + \mathbf{1174} \\
&(N \geq 2425)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1307}) &= B_{\bar{N}}(2N + 1307 - B_{\bar{N}}(2N + 1306)) + B_{\bar{N}}(2N + 1307 - B_{\bar{N}}(2N + 1305)) + B_{\bar{N}}(2N + 1307 - B_{\bar{N}}(2N + 1304)) \\
&= B_{\bar{N}}(2N + 1307 - (2N + 1174)) + B_{\bar{N}}(2N + 1307 - (N + 1931)) + B_{\bar{N}}(2N + 1307 - (2N - 1119)) \\
&= B_{\bar{N}}(133) + B_{\bar{N}}(N - 624) + B_{\bar{N}}(2426) = 133 + (N - 624) + 2426 = \mathbf{N} + \mathbf{1935} \\
&(N \geq 2426)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1308}) &= B_{\bar{N}}(2N + 1308 - B_{\bar{N}}(2N + 1307)) + B_{\bar{N}}(2N + 1308 - B_{\bar{N}}(2N + 1306)) + B_{\bar{N}}(2N + 1308 - B_{\bar{N}}(2N + 1305)) \\
&= B_{\bar{N}}(2N + 1308 - (N + 1935)) + B_{\bar{N}}(2N + 1308 - (2N + 1174)) + B_{\bar{N}}(2N + 1308 - (N + 1931)) \\
&= B_{\bar{N}}(N - 627) + B_{\bar{N}}(134) + B_{\bar{N}}(N - 623) = (N - 627) + 134 + (N - 623) = \mathbf{2N} - \mathbf{1116} \\
&(N \geq 628)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1309}) &= B_{\bar{N}}(2N + 1309 - B_{\bar{N}}(2N + 1308)) + B_{\bar{N}}(2N + 1309 - B_{\bar{N}}(2N + 1307)) + B_{\bar{N}}(2N + 1309 - B_{\bar{N}}(2N + 1306)) \\
&= B_{\bar{N}}(2N + 1309 - (2N - 1116)) + B_{\bar{N}}(2N + 1309 - (N + 1935)) + B_{\bar{N}}(2N + 1309 - (2N + 1174)) \\
&= B_{\bar{N}}(2425) + B_{\bar{N}}(N - 626) + B_{\bar{N}}(135) = 2425 + (N - 626) + 135 = \mathbf{N} + \mathbf{1934} \\
&(N \geq 2425)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1310}) &= B_{\bar{N}}(2N + 1310 - B_{\bar{N}}(2N + 1309)) + B_{\bar{N}}(2N + 1310 - B_{\bar{N}}(2N + 1308)) + B_{\bar{N}}(2N + 1310 - B_{\bar{N}}(2N + 1307)) \\
&= B_{\bar{N}}(2N + 1310 - (N + 1934)) + B_{\bar{N}}(2N + 1310 - (2N - 1116)) + B_{\bar{N}}(2N + 1310 - (N + 1935)) \\
&= B_{\bar{N}}(N - 624) + B_{\bar{N}}(2426) + B_{\bar{N}}(N - 625) = (N - 624) + 2426 + (N - 625) = \mathbf{2N} + \mathbf{1177} \\
&(N \geq 2426)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1311}) &= B_{\bar{N}}(2N + 1311 - B_{\bar{N}}(2N + 1310)) + B_{\bar{N}}(2N + 1311 - B_{\bar{N}}(2N + 1309)) + B_{\bar{N}}(2N + 1311 - B_{\bar{N}}(2N + 1308)) \\
&= B_{\bar{N}}(2N + 1311 - (2N + 1177)) + B_{\bar{N}}(2N + 1311 - (N + 1934)) + B_{\bar{N}}(2N + 1311 - (2N - 1116)) \\
&= B_{\bar{N}}(134) + B_{\bar{N}}(N - 623) + B_{\bar{N}}(2427) = 134 + (N - 623) + 2427 = \mathbf{N} + \mathbf{1938} \\
&(N \geq 2427)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1312}) &= B_{\bar{N}}(2N + 1312 - B_{\bar{N}}(2N + 1311)) + B_{\bar{N}}(2N + 1312 - B_{\bar{N}}(2N + 1310)) + B_{\bar{N}}(2N + 1312 - B_{\bar{N}}(2N + 1309)) \\
&= B_{\bar{N}}(2N + 1312 - (N + 1938)) + B_{\bar{N}}(2N + 1312 - (2N + 1177)) + B_{\bar{N}}(2N + 1312 - (N + 1934)) \\
&= B_{\bar{N}}(N - 626) + B_{\bar{N}}(135) + B_{\bar{N}}(N - 622) = (N - 626) + 135 + (N - 622) = \mathbf{2N} - \mathbf{1113} \\
&(N \geq 627)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1313}) &= B_{\bar{N}}(2N + 1313 - B_{\bar{N}}(2N + 1312)) + B_{\bar{N}}(2N + 1313 - B_{\bar{N}}(2N + 1311)) + B_{\bar{N}}(2N + 1313 - B_{\bar{N}}(2N + 1310)) \\
&= B_{\bar{N}}(2N + 1313 - (2N - 1113)) + B_{\bar{N}}(2N + 1313 - (N + 1938)) + B_{\bar{N}}(2N + 1313 - (2N + 1177)) \\
&= B_{\bar{N}}(2426) + B_{\bar{N}}(N - 625) + B_{\bar{N}}(136) = 2426 + (N - 625) + 136 = \mathbf{N} + \mathbf{1937} \\
&(N \geq 2426)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1314}) &= B_{\bar{N}}(2N + 1314 - B_{\bar{N}}(2N + 1313)) + B_{\bar{N}}(2N + 1314 - B_{\bar{N}}(2N + 1312)) + B_{\bar{N}}(2N + 1314 - B_{\bar{N}}(2N + 1311)) \\
&= B_{\bar{N}}(2N + 1314 - (N + 1937)) + B_{\bar{N}}(2N + 1314 - (2N - 1113)) + B_{\bar{N}}(2N + 1314 - (N + 1938)) \\
&= B_{\bar{N}}(N - 623) + B_{\bar{N}}(2427) + B_{\bar{N}}(N - 624) = (N - 623) + 2427 + (N - 624) = \mathbf{2N} + \mathbf{1180} \\
&(N \geq 2427)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1315}) &= B_{\bar{N}}(2N + 1315 - B_{\bar{N}}(2N + 1314)) + B_{\bar{N}}(2N + 1315 - B_{\bar{N}}(2N + 1313)) + B_{\bar{N}}(2N + 1315 - B_{\bar{N}}(2N + 1312)) \\
&= B_{\bar{N}}(2N + 1315 - (2N + 1180)) + B_{\bar{N}}(2N + 1315 - (N + 1937)) + B_{\bar{N}}(2N + 1315 - (2N - 1113)) \\
&= B_{\bar{N}}(135) + B_{\bar{N}}(N - 622) + B_{\bar{N}}(2428) = 135 + (N - 622) + 2428 = \mathbf{N} + \mathbf{1941} \\
&(N \geq 2428)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1316}) &= B_{\bar{N}}(2N + 1316 - B_{\bar{N}}(2N + 1315)) + B_{\bar{N}}(2N + 1316 - B_{\bar{N}}(2N + 1314)) + B_{\bar{N}}(2N + 1316 - B_{\bar{N}}(2N + 1313)) \\
&= B_{\bar{N}}(2N + 1316 - (N + 1941)) + B_{\bar{N}}(2N + 1316 - (2N + 1180)) + B_{\bar{N}}(2N + 1316 - (N + 1937)) \\
&= B_{\bar{N}}(N - 625) + B_{\bar{N}}(136) + B_{\bar{N}}(N - 621) = (N - 625) + 136 + (N - 621) = \mathbf{2N} - \mathbf{1110} \\
&(N \geq 626)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1317}) &= B_{\bar{N}}(2N + 1317 - B_{\bar{N}}(2N + 1316)) + B_{\bar{N}}(2N + 1317 - B_{\bar{N}}(2N + 1315)) + B_{\bar{N}}(2N + 1317 - B_{\bar{N}}(2N + 1314)) \\
&= B_{\bar{N}}(2N + 1317 - (2N - 1110)) + B_{\bar{N}}(2N + 1317 - (N + 1941)) + B_{\bar{N}}(2N + 1317 - (2N + 1180)) \\
&= B_{\bar{N}}(2427) + B_{\bar{N}}(N - 624) + B_{\bar{N}}(137) = 2427 + (N - 624) + 137 = \mathbf{N} + \mathbf{1940} \\
&(N \geq 2427)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1318}) &= B_{\bar{N}}(2N + 1318 - B_{\bar{N}}(2N + 1317)) + B_{\bar{N}}(2N + 1318 - B_{\bar{N}}(2N + 1316)) + B_{\bar{N}}(2N + 1318 - B_{\bar{N}}(2N + 1315)) \\
&= B_{\bar{N}}(2N + 1318 - (N + 1940)) + B_{\bar{N}}(2N + 1318 - (2N - 1110)) + B_{\bar{N}}(2N + 1318 - (N + 1941)) \\
&= B_{\bar{N}}(N - 622) + B_{\bar{N}}(2428) + B_{\bar{N}}(N - 623) = (N - 622) + 2428 + (N - 623) = \mathbf{2N} + \mathbf{1183} \\
&(N \geq 2428)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1319}) &= B_{\bar{N}}(2N + 1319 - B_{\bar{N}}(2N + 1318)) + B_{\bar{N}}(2N + 1319 - B_{\bar{N}}(2N + 1317)) + B_{\bar{N}}(2N + 1319 - B_{\bar{N}}(2N + 1316)) \\
&= B_{\bar{N}}(2N + 1319 - (2N + 1183)) + B_{\bar{N}}(2N + 1319 - (N + 1940)) + B_{\bar{N}}(2N + 1319 - (2N - 1110)) \\
&= B_{\bar{N}}(136) + B_{\bar{N}}(N - 621) + B_{\bar{N}}(2429) = 136 + (N - 621) + 2429 = \mathbf{N} + \mathbf{1944} \\
&(N \geq 2429)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1320}) &= B_{\bar{N}}(2N + 1320 - B_{\bar{N}}(2N + 1319)) + B_{\bar{N}}(2N + 1320 - B_{\bar{N}}(2N + 1318)) + B_{\bar{N}}(2N + 1320 - B_{\bar{N}}(2N + 1317)) \\
&= B_{\bar{N}}(2N + 1320 - (N + 1944)) + B_{\bar{N}}(2N + 1320 - (2N + 1183)) + B_{\bar{N}}(2N + 1320 - (N + 1940)) \\
&= B_{\bar{N}}(N - 624) + B_{\bar{N}}(137) + B_{\bar{N}}(N - 620) = (N - 624) + 137 + (N - 620) = \mathbf{2N} - \mathbf{1107} \\
&(N \geq 625)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1321}) &= B_{\bar{N}}(2N + 1321 - B_{\bar{N}}(2N + 1320)) + B_{\bar{N}}(2N + 1321 - B_{\bar{N}}(2N + 1319)) + B_{\bar{N}}(2N + 1321 - B_{\bar{N}}(2N + 1318)) \\
&= B_{\bar{N}}(2N + 1321 - (2N - 1107)) + B_{\bar{N}}(2N + 1321 - (N + 1944)) + B_{\bar{N}}(2N + 1321 - (2N + 1183)) \\
&= B_{\bar{N}}(2428) + B_{\bar{N}}(N - 623) + B_{\bar{N}}(138) = 2428 + (N - 623) + 138 = \mathbf{N} + \mathbf{1943} \\
&(N \geq 2428)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1322}) &= B_{\bar{N}}(2N + 1322 - B_{\bar{N}}(2N + 1321)) + B_{\bar{N}}(2N + 1322 - B_{\bar{N}}(2N + 1320)) + B_{\bar{N}}(2N + 1322 - B_{\bar{N}}(2N + 1319)) \\
&= B_{\bar{N}}(2N + 1322 - (N + 1943)) + B_{\bar{N}}(2N + 1322 - (2N - 1107)) + B_{\bar{N}}(2N + 1322 - (N + 1944)) \\
&= B_{\bar{N}}(N - 621) + B_{\bar{N}}(2429) + B_{\bar{N}}(N - 622) = (N - 621) + 2429 + (N - 622) = \mathbf{2N} + \mathbf{1186} \\
&(N \geq 2429)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1323}) &= B_{\bar{N}}(2N + 1323 - B_{\bar{N}}(2N + 1322)) + B_{\bar{N}}(2N + 1323 - B_{\bar{N}}(2N + 1321)) + B_{\bar{N}}(2N + 1323 - B_{\bar{N}}(2N + 1320)) \\
&= B_{\bar{N}}(2N + 1323 - (2N + 1186)) + B_{\bar{N}}(2N + 1323 - (N + 1943)) + B_{\bar{N}}(2N + 1323 - (2N - 1107)) \\
&= B_{\bar{N}}(137) + B_{\bar{N}}(N - 620) + B_{\bar{N}}(2430) = 137 + (N - 620) + 2430 = \mathbf{N} + \mathbf{1947} \\
&(N \geq 2430)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1324}) &= B_{\bar{N}}(2N + 1324 - B_{\bar{N}}(2N + 1323)) + B_{\bar{N}}(2N + 1324 - B_{\bar{N}}(2N + 1322)) + B_{\bar{N}}(2N + 1324 - B_{\bar{N}}(2N + 1321)) \\
&= B_{\bar{N}}(2N + 1324 - (N + 1947)) + B_{\bar{N}}(2N + 1324 - (2N + 1186)) + B_{\bar{N}}(2N + 1324 - (N + 1943)) \\
&= B_{\bar{N}}(N - 623) + B_{\bar{N}}(138) + B_{\bar{N}}(N - 619) = (N - 623) + 138 + (N - 619) = \mathbf{2N} - \mathbf{1104} \\
&(N \geq 624)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1325}) &= B_{\bar{N}}(2N + 1325 - B_{\bar{N}}(2N + 1324)) + B_{\bar{N}}(2N + 1325 - B_{\bar{N}}(2N + 1323)) + B_{\bar{N}}(2N + 1325 - B_{\bar{N}}(2N + 1322)) \\
&= B_{\bar{N}}(2N + 1325 - (2N - 1104)) + B_{\bar{N}}(2N + 1325 - (N + 1947)) + B_{\bar{N}}(2N + 1325 - (2N + 1186)) \\
&= B_{\bar{N}}(2429) + B_{\bar{N}}(N - 622) + B_{\bar{N}}(139) = 2429 + (N - 622) + 139 = \mathbf{N} + \mathbf{1946} \\
&(N \geq 2429)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1326}) &= B_{\bar{N}}(2N + 1326 - B_{\bar{N}}(2N + 1325)) + B_{\bar{N}}(2N + 1326 - B_{\bar{N}}(2N + 1324)) + B_{\bar{N}}(2N + 1326 - B_{\bar{N}}(2N + 1323)) \\
&= B_{\bar{N}}(2N + 1326 - (N + 1946)) + B_{\bar{N}}(2N + 1326 - (2N - 1104)) + B_{\bar{N}}(2N + 1326 - (N + 1947)) \\
&= B_{\bar{N}}(N - 620) + B_{\bar{N}}(2430) + B_{\bar{N}}(N - 621) = (N - 620) + 2430 + (N - 621) = \mathbf{2N} + \mathbf{1189} \\
&(N \geq 2430)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1327}) &= B_{\bar{N}}(2N + 1327 - B_{\bar{N}}(2N + 1326)) + B_{\bar{N}}(2N + 1327 - B_{\bar{N}}(2N + 1325)) + B_{\bar{N}}(2N + 1327 - B_{\bar{N}}(2N + 1324)) \\
&= B_{\bar{N}}(2N + 1327 - (2N + 1189)) + B_{\bar{N}}(2N + 1327 - (N + 1946)) + B_{\bar{N}}(2N + 1327 - (2N - 1104)) \\
&= B_{\bar{N}}(138) + B_{\bar{N}}(N - 619) + B_{\bar{N}}(2431) = 138 + (N - 619) + 2431 = \mathbf{N} + \mathbf{1950} \\
&(N \geq 2431)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1328}) &= B_{\bar{N}}(2N + 1328 - B_{\bar{N}}(2N + 1327)) + B_{\bar{N}}(2N + 1328 - B_{\bar{N}}(2N + 1326)) + B_{\bar{N}}(2N + 1328 - B_{\bar{N}}(2N + 1325)) \\
&= B_{\bar{N}}(2N + 1328 - (N + 1950)) + B_{\bar{N}}(2N + 1328 - (2N + 1189)) + B_{\bar{N}}(2N + 1328 - (N + 1946)) \\
&= B_{\bar{N}}(N - 622) + B_{\bar{N}}(139) + B_{\bar{N}}(N - 618) = (N - 622) + 139 + (N - 618) = \mathbf{2N} - \mathbf{1101} \\
&(N \geq 623)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1329}) &= B_{\bar{N}}(2N + 1329 - B_{\bar{N}}(2N + 1328)) + B_{\bar{N}}(2N + 1329 - B_{\bar{N}}(2N + 1327)) + B_{\bar{N}}(2N + 1329 - B_{\bar{N}}(2N + 1326)) \\
&= B_{\bar{N}}(2N + 1329 - (2N - 1101)) + B_{\bar{N}}(2N + 1329 - (N + 1950)) + B_{\bar{N}}(2N + 1329 - (2N + 1189)) \\
&= B_{\bar{N}}(2430) + B_{\bar{N}}(N - 621) + B_{\bar{N}}(140) = 2430 + (N - 621) + 140 = \mathbf{N} + \mathbf{1949} \\
&(N \geq 2430)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1330}) &= B_{\bar{N}}(2N + 1330 - B_{\bar{N}}(2N + 1329)) + B_{\bar{N}}(2N + 1330 - B_{\bar{N}}(2N + 1328)) + B_{\bar{N}}(2N + 1330 - B_{\bar{N}}(2N + 1327)) \\
&= B_{\bar{N}}(2N + 1330 - (N + 1949)) + B_{\bar{N}}(2N + 1330 - (2N - 1101)) + B_{\bar{N}}(2N + 1330 - (N + 1950)) \\
&= B_{\bar{N}}(N - 619) + B_{\bar{N}}(2431) + B_{\bar{N}}(N - 620) = (N - 619) + 2431 + (N - 620) = \mathbf{2N} + \mathbf{1192} \\
&(N \geq 2431)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1331}) &= B_{\bar{N}}(2N + 1331 - B_{\bar{N}}(2N + 1330)) + B_{\bar{N}}(2N + 1331 - B_{\bar{N}}(2N + 1329)) + B_{\bar{N}}(2N + 1331 - B_{\bar{N}}(2N + 1328)) \\
&= B_{\bar{N}}(2N + 1331 - (2N + 1192)) + B_{\bar{N}}(2N + 1331 - (N + 1949)) + B_{\bar{N}}(2N + 1331 - (2N - 1101)) \\
&= B_{\bar{N}}(139) + B_{\bar{N}}(N - 618) + B_{\bar{N}}(2432) = 139 + (N - 618) + 2432 = \mathbf{N} + \mathbf{1953} \\
&(N \geq 2432)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1332}) &= B_{\bar{N}}(2N + 1332 - B_{\bar{N}}(2N + 1331)) + B_{\bar{N}}(2N + 1332 - B_{\bar{N}}(2N + 1330)) + B_{\bar{N}}(2N + 1332 - B_{\bar{N}}(2N + 1329)) \\
&= B_{\bar{N}}(2N + 1332 - (N + 1953)) + B_{\bar{N}}(2N + 1332 - (2N + 1192)) + B_{\bar{N}}(2N + 1332 - (N + 1949)) \\
&= B_{\bar{N}}(N - 621) + B_{\bar{N}}(140) + B_{\bar{N}}(N - 617) = (N - 621) + 140 + (N - 617) = \mathbf{2N} - \mathbf{1098} \\
&(N \geq 622)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1333}) &= B_{\bar{N}}(2N + 1333 - B_{\bar{N}}(2N + 1332)) + B_{\bar{N}}(2N + 1333 - B_{\bar{N}}(2N + 1331)) + B_{\bar{N}}(2N + 1333 - B_{\bar{N}}(2N + 1330)) \\
&= B_{\bar{N}}(2N + 1333 - (2N - 1098)) + B_{\bar{N}}(2N + 1333 - (N + 1953)) + B_{\bar{N}}(2N + 1333 - (2N + 1192)) \\
&= B_{\bar{N}}(2431) + B_{\bar{N}}(N - 620) + B_{\bar{N}}(141) = 2431 + (N - 620) + 141 = \mathbf{N} + \mathbf{1952} \\
&(N \geq 2431)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1334}) &= B_{\bar{N}}(2N + 1334 - B_{\bar{N}}(2N + 1333)) + B_{\bar{N}}(2N + 1334 - B_{\bar{N}}(2N + 1332)) + B_{\bar{N}}(2N + 1334 - B_{\bar{N}}(2N + 1331)) \\
&= B_{\bar{N}}(2N + 1334 - (N + 1952)) + B_{\bar{N}}(2N + 1334 - (2N - 1098)) + B_{\bar{N}}(2N + 1334 - (N + 1953)) \\
&= B_{\bar{N}}(N - 618) + B_{\bar{N}}(2432) + B_{\bar{N}}(N - 619) = (N - 618) + 2432 + (N - 619) = \mathbf{2N} + \mathbf{1195} \\
&(N \geq 2432)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1335}) &= B_{\bar{N}}(2N + 1335 - B_{\bar{N}}(2N + 1334)) + B_{\bar{N}}(2N + 1335 - B_{\bar{N}}(2N + 1333)) + B_{\bar{N}}(2N + 1335 - B_{\bar{N}}(2N + 1332)) \\
&= B_{\bar{N}}(2N + 1335 - (2N + 1195)) + B_{\bar{N}}(2N + 1335 - (N + 1952)) + B_{\bar{N}}(2N + 1335 - (2N - 1098)) \\
&= B_{\bar{N}}(140) + B_{\bar{N}}(N - 617) + B_{\bar{N}}(2433) = 140 + (N - 617) + 2433 = \mathbf{N} + \mathbf{1956} \\
&(N \geq 2433)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1336}) &= B_{\bar{N}}(2N + 1336 - B_{\bar{N}}(2N + 1335)) + B_{\bar{N}}(2N + 1336 - B_{\bar{N}}(2N + 1334)) + B_{\bar{N}}(2N + 1336 - B_{\bar{N}}(2N + 1333)) \\
&= B_{\bar{N}}(2N + 1336 - (N + 1956)) + B_{\bar{N}}(2N + 1336 - (2N + 1195)) + B_{\bar{N}}(2N + 1336 - (N + 1952)) \\
&= B_{\bar{N}}(N - 620) + B_{\bar{N}}(141) + B_{\bar{N}}(N - 616) = (N - 620) + 141 + (N - 616) = \mathbf{2N} - \mathbf{1095} \\
&(N \geq 621)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1337}) &= B_{\bar{N}}(2N + 1337 - B_{\bar{N}}(2N + 1336)) + B_{\bar{N}}(2N + 1337 - B_{\bar{N}}(2N + 1335)) + B_{\bar{N}}(2N + 1337 - B_{\bar{N}}(2N + 1334)) \\
&= B_{\bar{N}}(2N + 1337 - (2N - 1095)) + B_{\bar{N}}(2N + 1337 - (N + 1956)) + B_{\bar{N}}(2N + 1337 - (2N + 1195)) \\
&= B_{\bar{N}}(2432) + B_{\bar{N}}(N - 619) + B_{\bar{N}}(142) = 2432 + (N - 619) + 142 = \mathbf{N} + \mathbf{1955} \\
&(N \geq 2432)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1338}) &= B_{\bar{N}}(2N + 1338 - B_{\bar{N}}(2N + 1337)) + B_{\bar{N}}(2N + 1338 - B_{\bar{N}}(2N + 1336)) + B_{\bar{N}}(2N + 1338 - B_{\bar{N}}(2N + 1335)) \\
&= B_{\bar{N}}(2N + 1338 - (N + 1955)) + B_{\bar{N}}(2N + 1338 - (2N - 1095)) + B_{\bar{N}}(2N + 1338 - (N + 1956)) \\
&= B_{\bar{N}}(N - 617) + B_{\bar{N}}(2433) + B_{\bar{N}}(N - 618) = (N - 617) + 2433 + (N - 618) = \mathbf{2N} + \mathbf{1198} \\
&(N \geq 2433)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1339}) &= B_{\bar{N}}(2N + 1339 - B_{\bar{N}}(2N + 1338)) + B_{\bar{N}}(2N + 1339 - B_{\bar{N}}(2N + 1337)) + B_{\bar{N}}(2N + 1339 - B_{\bar{N}}(2N + 1336)) \\
&= B_{\bar{N}}(2N + 1339 - (2N + 1198)) + B_{\bar{N}}(2N + 1339 - (N + 1955)) + B_{\bar{N}}(2N + 1339 - (2N - 1095)) \\
&= B_{\bar{N}}(141) + B_{\bar{N}}(N - 616) + B_{\bar{N}}(2434) = 141 + (N - 616) + 2434 = \mathbf{N} + \mathbf{1959} \\
&(N \geq 2434)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1340}) &= B_{\bar{N}}(2N + 1340 - B_{\bar{N}}(2N + 1339)) + B_{\bar{N}}(2N + 1340 - B_{\bar{N}}(2N + 1338)) + B_{\bar{N}}(2N + 1340 - B_{\bar{N}}(2N + 1337)) \\
&= B_{\bar{N}}(2N + 1340 - (N + 1959)) + B_{\bar{N}}(2N + 1340 - (2N + 1198)) + B_{\bar{N}}(2N + 1340 - (N + 1955)) \\
&= B_{\bar{N}}(N - 619) + B_{\bar{N}}(142) + B_{\bar{N}}(N - 615) = (N - 619) + 142 + (N - 615) = \mathbf{2N} - \mathbf{1092} \\
&(N \geq 620)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1341}) &= B_{\bar{N}}(2N + 1341 - B_{\bar{N}}(2N + 1340)) + B_{\bar{N}}(2N + 1341 - B_{\bar{N}}(2N + 1339)) + B_{\bar{N}}(2N + 1341 - B_{\bar{N}}(2N + 1338)) \\
&= B_{\bar{N}}(2N + 1341 - (2N - 1092)) + B_{\bar{N}}(2N + 1341 - (N + 1959)) + B_{\bar{N}}(2N + 1341 - (2N + 1198)) \\
&= B_{\bar{N}}(2433) + B_{\bar{N}}(N - 618) + B_{\bar{N}}(143) = 2433 + (N - 618) + 143 = \mathbf{N} + \mathbf{1958} \\
&(N \geq 2433)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1342}) &= B_{\bar{N}}(2N + 1342 - B_{\bar{N}}(2N + 1341)) + B_{\bar{N}}(2N + 1342 - B_{\bar{N}}(2N + 1340)) + B_{\bar{N}}(2N + 1342 - B_{\bar{N}}(2N + 1339)) \\
&= B_{\bar{N}}(2N + 1342 - (N + 1958)) + B_{\bar{N}}(2N + 1342 - (2N - 1092)) + B_{\bar{N}}(2N + 1342 - (N + 1959)) \\
&= B_{\bar{N}}(N - 616) + B_{\bar{N}}(2434) + B_{\bar{N}}(N - 617) = (N - 616) + 2434 + (N - 617) = \mathbf{2N} + \mathbf{1201} \\
&(N \geq 2434)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1343}) &= B_{\bar{N}}(2N + 1343 - B_{\bar{N}}(2N + 1342)) + B_{\bar{N}}(2N + 1343 - B_{\bar{N}}(2N + 1341)) + B_{\bar{N}}(2N + 1343 - B_{\bar{N}}(2N + 1340)) \\
&= B_{\bar{N}}(2N + 1343 - (2N + 1201)) + B_{\bar{N}}(2N + 1343 - (N + 1958)) + B_{\bar{N}}(2N + 1343 - (2N - 1092)) \\
&= B_{\bar{N}}(142) + B_{\bar{N}}(N - 615) + B_{\bar{N}}(2435) = 142 + (N - 615) + 2435 = \mathbf{N} + \mathbf{1962} \\
&(N \geq 2435)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1344}) &= B_{\bar{N}}(2N + 1344 - B_{\bar{N}}(2N + 1343)) + B_{\bar{N}}(2N + 1344 - B_{\bar{N}}(2N + 1342)) + B_{\bar{N}}(2N + 1344 - B_{\bar{N}}(2N + 1341)) \\
&= B_{\bar{N}}(2N + 1344 - (N + 1962)) + B_{\bar{N}}(2N + 1344 - (2N + 1201)) + B_{\bar{N}}(2N + 1344 - (N + 1958)) \\
&= B_{\bar{N}}(N - 618) + B_{\bar{N}}(143) + B_{\bar{N}}(N - 614) = (N - 618) + 143 + (N - 614) = \mathbf{2N} - \mathbf{1089} \\
&(N \geq 619)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1345}) &= B_{\bar{N}}(2N + 1345 - B_{\bar{N}}(2N + 1344)) + B_{\bar{N}}(2N + 1345 - B_{\bar{N}}(2N + 1343)) + B_{\bar{N}}(2N + 1345 - B_{\bar{N}}(2N + 1342)) \\
&= B_{\bar{N}}(2N + 1345 - (2N - 1089)) + B_{\bar{N}}(2N + 1345 - (N + 1962)) + B_{\bar{N}}(2N + 1345 - (2N + 1201)) \\
&= B_{\bar{N}}(2434) + B_{\bar{N}}(N - 617) + B_{\bar{N}}(144) = 2434 + (N - 617) + 144 = \mathbf{N} + \mathbf{1961} \\
&(N \geq 2434)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1346}) &= B_{\bar{N}}(2N + 1346 - B_{\bar{N}}(2N + 1345)) + B_{\bar{N}}(2N + 1346 - B_{\bar{N}}(2N + 1344)) + B_{\bar{N}}(2N + 1346 - B_{\bar{N}}(2N + 1343)) \\
&= B_{\bar{N}}(2N + 1346 - (N + 1961)) + B_{\bar{N}}(2N + 1346 - (2N - 1089)) + B_{\bar{N}}(2N + 1346 - (N + 1962)) \\
&= B_{\bar{N}}(N - 615) + B_{\bar{N}}(2435) + B_{\bar{N}}(N - 616) = (N - 615) + 2435 + (N - 616) = \mathbf{2N} + \mathbf{1204} \\
&(N \geq 2435)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1347}) &= B_{\bar{N}}(2N + 1347 - B_{\bar{N}}(2N + 1346)) + B_{\bar{N}}(2N + 1347 - B_{\bar{N}}(2N + 1345)) + B_{\bar{N}}(2N + 1347 - B_{\bar{N}}(2N + 1344)) \\
&= B_{\bar{N}}(2N + 1347 - (2N + 1204)) + B_{\bar{N}}(2N + 1347 - (N + 1961)) + B_{\bar{N}}(2N + 1347 - (2N - 1089)) \\
&= B_{\bar{N}}(143) + B_{\bar{N}}(N - 614) + B_{\bar{N}}(2436) = 143 + (N - 614) + 2436 = \mathbf{N} + \mathbf{1965} \\
&(N \geq 2436)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1348}) &= B_{\bar{N}}(2N + 1348 - B_{\bar{N}}(2N + 1347)) + B_{\bar{N}}(2N + 1348 - B_{\bar{N}}(2N + 1346)) + B_{\bar{N}}(2N + 1348 - B_{\bar{N}}(2N + 1345)) \\
&= B_{\bar{N}}(2N + 1348 - (N + 1965)) + B_{\bar{N}}(2N + 1348 - (2N + 1204)) + B_{\bar{N}}(2N + 1348 - (N + 1961)) \\
&= B_{\bar{N}}(N - 617) + B_{\bar{N}}(144) + B_{\bar{N}}(N - 613) = (N - 617) + 144 + (N - 613) = \mathbf{2N} - \mathbf{1086} \\
&(N \geq 618)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1349}) &= B_{\bar{N}}(2N + 1349 - B_{\bar{N}}(2N + 1348)) + B_{\bar{N}}(2N + 1349 - B_{\bar{N}}(2N + 1347)) + B_{\bar{N}}(2N + 1349 - B_{\bar{N}}(2N + 1346)) \\
&= B_{\bar{N}}(2N + 1349 - (2N - 1086)) + B_{\bar{N}}(2N + 1349 - (N + 1965)) + B_{\bar{N}}(2N + 1349 - (2N + 1204)) \\
&= B_{\bar{N}}(2435) + B_{\bar{N}}(N - 616) + B_{\bar{N}}(145) = 2435 + (N - 616) + 145 = \mathbf{N} + \mathbf{1964} \\
&(N \geq 2435)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1350}) &= B_{\bar{N}}(2N + 1350 - B_{\bar{N}}(2N + 1349)) + B_{\bar{N}}(2N + 1350 - B_{\bar{N}}(2N + 1348)) + B_{\bar{N}}(2N + 1350 - B_{\bar{N}}(2N + 1347)) \\
&= B_{\bar{N}}(2N + 1350 - (N + 1964)) + B_{\bar{N}}(2N + 1350 - (2N - 1086)) + B_{\bar{N}}(2N + 1350 - (N + 1965)) \\
&= B_{\bar{N}}(N - 614) + B_{\bar{N}}(2436) + B_{\bar{N}}(N - 615) = (N - 614) + 2436 + (N - 615) = \mathbf{2N} + \mathbf{1207} \\
&(N \geq 2436)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1351}) &= B_{\bar{N}}(2N + 1351 - B_{\bar{N}}(2N + 1350)) + B_{\bar{N}}(2N + 1351 - B_{\bar{N}}(2N + 1349)) + B_{\bar{N}}(2N + 1351 - B_{\bar{N}}(2N + 1348)) \\
&= B_{\bar{N}}(2N + 1351 - (2N + 1207)) + B_{\bar{N}}(2N + 1351 - (N + 1964)) + B_{\bar{N}}(2N + 1351 - (2N - 1086)) \\
&= B_{\bar{N}}(144) + B_{\bar{N}}(N - 613) + B_{\bar{N}}(2437) = 144 + (N - 613) + 2437 = \mathbf{N} + \mathbf{1968} \\
&(N \geq 2437)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1352}) &= B_{\bar{N}}(2N + 1352 - B_{\bar{N}}(2N + 1351)) + B_{\bar{N}}(2N + 1352 - B_{\bar{N}}(2N + 1350)) + B_{\bar{N}}(2N + 1352 - B_{\bar{N}}(2N + 1349)) \\
&= B_{\bar{N}}(2N + 1352 - (N + 1968)) + B_{\bar{N}}(2N + 1352 - (2N + 1207)) + B_{\bar{N}}(2N + 1352 - (N + 1964)) \\
&= B_{\bar{N}}(N - 616) + B_{\bar{N}}(145) + B_{\bar{N}}(N - 612) = (N - 616) + 145 + (N - 612) = \mathbf{2N} - \mathbf{1083} \\
&(N \geq 617)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1353}) &= B_{\bar{N}}(2N + 1353 - B_{\bar{N}}(2N + 1352)) + B_{\bar{N}}(2N + 1353 - B_{\bar{N}}(2N + 1351)) + B_{\bar{N}}(2N + 1353 - B_{\bar{N}}(2N + 1350)) \\
&= B_{\bar{N}}(2N + 1353 - (2N - 1083)) + B_{\bar{N}}(2N + 1353 - (N + 1968)) + B_{\bar{N}}(2N + 1353 - (2N + 1207)) \\
&= B_{\bar{N}}(2436) + B_{\bar{N}}(N - 615) + B_{\bar{N}}(146) = 2436 + (N - 615) + 146 = \mathbf{N} + \mathbf{1967} \\
&(N \geq 2436)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1354}) &= B_{\bar{N}}(2N + 1354 - B_{\bar{N}}(2N + 1353)) + B_{\bar{N}}(2N + 1354 - B_{\bar{N}}(2N + 1352)) + B_{\bar{N}}(2N + 1354 - B_{\bar{N}}(2N + 1351)) \\
&= B_{\bar{N}}(2N + 1354 - (N + 1967)) + B_{\bar{N}}(2N + 1354 - (2N - 1083)) + B_{\bar{N}}(2N + 1354 - (N + 1968)) \\
&= B_{\bar{N}}(N - 613) + B_{\bar{N}}(2437) + B_{\bar{N}}(N - 614) = (N - 613) + 2437 + (N - 614) = \mathbf{2N} + \mathbf{1210} \\
&(N \geq 2437)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1355}) &= B_{\bar{N}}(2N + 1355 - B_{\bar{N}}(2N + 1354)) + B_{\bar{N}}(2N + 1355 - B_{\bar{N}}(2N + 1353)) + B_{\bar{N}}(2N + 1355 - B_{\bar{N}}(2N + 1352)) \\
&= B_{\bar{N}}(2N + 1355 - (2N + 1210)) + B_{\bar{N}}(2N + 1355 - (N + 1967)) + B_{\bar{N}}(2N + 1355 - (2N - 1083)) \\
&= B_{\bar{N}}(145) + B_{\bar{N}}(N - 612) + B_{\bar{N}}(2438) = 145 + (N - 612) + 2438 = \mathbf{N} + \mathbf{1971} \\
&(N \geq 2438)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1356}) &= B_{\bar{N}}(2N + 1356 - B_{\bar{N}}(2N + 1355)) + B_{\bar{N}}(2N + 1356 - B_{\bar{N}}(2N + 1354)) + B_{\bar{N}}(2N + 1356 - B_{\bar{N}}(2N + 1353)) \\
&= B_{\bar{N}}(2N + 1356 - (N + 1971)) + B_{\bar{N}}(2N + 1356 - (2N + 1210)) + B_{\bar{N}}(2N + 1356 - (N + 1967)) \\
&= B_{\bar{N}}(N - 615) + B_{\bar{N}}(146) + B_{\bar{N}}(N - 611) = (N - 615) + 146 + (N - 611) = \mathbf{2N} - \mathbf{1080} \\
&(N \geq 616)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1357}) &= B_{\bar{N}}(2N + 1357 - B_{\bar{N}}(2N + 1356)) + B_{\bar{N}}(2N + 1357 - B_{\bar{N}}(2N + 1355)) + B_{\bar{N}}(2N + 1357 - B_{\bar{N}}(2N + 1354)) \\
&= B_{\bar{N}}(2N + 1357 - (2N - 1080)) + B_{\bar{N}}(2N + 1357 - (N + 1971)) + B_{\bar{N}}(2N + 1357 - (2N + 1210)) \\
&= B_{\bar{N}}(2437) + B_{\bar{N}}(N - 614) + B_{\bar{N}}(147) = 2437 + (N - 614) + 147 = \mathbf{N} + \mathbf{1970} \\
&(N \geq 2437)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1358}) &= B_{\bar{N}}(2N + 1358 - B_{\bar{N}}(2N + 1357)) + B_{\bar{N}}(2N + 1358 - B_{\bar{N}}(2N + 1356)) + B_{\bar{N}}(2N + 1358 - B_{\bar{N}}(2N + 1355)) \\
&= B_{\bar{N}}(2N + 1358 - (N + 1970)) + B_{\bar{N}}(2N + 1358 - (2N - 1080)) + B_{\bar{N}}(2N + 1358 - (N + 1971)) \\
&= B_{\bar{N}}(N - 612) + B_{\bar{N}}(2438) + B_{\bar{N}}(N - 613) = (N - 612) + 2438 + (N - 613) = \mathbf{2N} + \mathbf{1213} \\
&(N \geq 2438)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1359}) &= B_{\bar{N}}(2N + 1359 - B_{\bar{N}}(2N + 1358)) + B_{\bar{N}}(2N + 1359 - B_{\bar{N}}(2N + 1357)) + B_{\bar{N}}(2N + 1359 - B_{\bar{N}}(2N + 1356)) \\
&= B_{\bar{N}}(2N + 1359 - (2N + 1213)) + B_{\bar{N}}(2N + 1359 - (N + 1970)) + B_{\bar{N}}(2N + 1359 - (2N - 1080)) \\
&= B_{\bar{N}}(146) + B_{\bar{N}}(N - 611) + B_{\bar{N}}(2439) = 146 + (N - 611) + 2439 = \mathbf{N} + \mathbf{1974} \\
&(N \geq 2439)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1360}) &= B_{\bar{N}}(2N + 1360 - B_{\bar{N}}(2N + 1359)) + B_{\bar{N}}(2N + 1360 - B_{\bar{N}}(2N + 1358)) + B_{\bar{N}}(2N + 1360 - B_{\bar{N}}(2N + 1357)) \\
&= B_{\bar{N}}(2N + 1360 - (N + 1974)) + B_{\bar{N}}(2N + 1360 - (2N + 1213)) + B_{\bar{N}}(2N + 1360 - (N + 1970)) \\
&= B_{\bar{N}}(N - 614) + B_{\bar{N}}(147) + B_{\bar{N}}(N - 610) = (N - 614) + 147 + (N - 610) = \mathbf{2N} - \mathbf{1077} \\
&(N \geq 615)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1361}) &= B_{\bar{N}}(2N + 1361 - B_{\bar{N}}(2N + 1360)) + B_{\bar{N}}(2N + 1361 - B_{\bar{N}}(2N + 1359)) + B_{\bar{N}}(2N + 1361 - B_{\bar{N}}(2N + 1358)) \\
&= B_{\bar{N}}(2N + 1361 - (2N - 1077)) + B_{\bar{N}}(2N + 1361 - (N + 1974)) + B_{\bar{N}}(2N + 1361 - (2N + 1213)) \\
&= B_{\bar{N}}(2438) + B_{\bar{N}}(N - 613) + B_{\bar{N}}(148) = 2438 + (N - 613) + 148 = \mathbf{N} + \mathbf{1973} \\
&(N \geq 2438)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1362}) &= B_{\bar{N}}(2N + 1362 - B_{\bar{N}}(2N + 1361)) + B_{\bar{N}}(2N + 1362 - B_{\bar{N}}(2N + 1360)) + B_{\bar{N}}(2N + 1362 - B_{\bar{N}}(2N + 1359)) \\
&= B_{\bar{N}}(2N + 1362 - (N + 1973)) + B_{\bar{N}}(2N + 1362 - (2N - 1077)) + B_{\bar{N}}(2N + 1362 - (N + 1974)) \\
&= B_{\bar{N}}(N - 611) + B_{\bar{N}}(2439) + B_{\bar{N}}(N - 612) = (N - 611) + 2439 + (N - 612) = \mathbf{2N} + \mathbf{1216} \\
&(N \geq 2439)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1363}) &= B_{\bar{N}}(2N + 1363 - B_{\bar{N}}(2N + 1362)) + B_{\bar{N}}(2N + 1363 - B_{\bar{N}}(2N + 1361)) + B_{\bar{N}}(2N + 1363 - B_{\bar{N}}(2N + 1360)) \\
&= B_{\bar{N}}(2N + 1363 - (2N + 1216)) + B_{\bar{N}}(2N + 1363 - (N + 1973)) + B_{\bar{N}}(2N + 1363 - (2N - 1077)) \\
&= B_{\bar{N}}(147) + B_{\bar{N}}(N - 610) + B_{\bar{N}}(2440) = 147 + (N - 610) + 2440 = \mathbf{N} + \mathbf{1977} \\
&(N \geq 2440)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1364}) &= B_{\bar{N}}(2N + 1364 - B_{\bar{N}}(2N + 1363)) + B_{\bar{N}}(2N + 1364 - B_{\bar{N}}(2N + 1362)) + B_{\bar{N}}(2N + 1364 - B_{\bar{N}}(2N + 1361)) \\
&= B_{\bar{N}}(2N + 1364 - (N + 1977)) + B_{\bar{N}}(2N + 1364 - (2N + 1216)) + B_{\bar{N}}(2N + 1364 - (N + 1973)) \\
&= B_{\bar{N}}(N - 613) + B_{\bar{N}}(148) + B_{\bar{N}}(N - 609) = (N - 613) + 148 + (N - 609) = \mathbf{2N} - \mathbf{1074} \\
&(N \geq 614)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1365}) &= B_{\bar{N}}(2N + 1365 - B_{\bar{N}}(2N + 1364)) + B_{\bar{N}}(2N + 1365 - B_{\bar{N}}(2N + 1363)) + B_{\bar{N}}(2N + 1365 - B_{\bar{N}}(2N + 1362)) \\
&= B_{\bar{N}}(2N + 1365 - (2N - 1074)) + B_{\bar{N}}(2N + 1365 - (N + 1977)) + B_{\bar{N}}(2N + 1365 - (2N + 1216)) \\
&= B_{\bar{N}}(2439) + B_{\bar{N}}(N - 612) + B_{\bar{N}}(149) = 2439 + (N - 612) + 149 = \mathbf{N} + \mathbf{1976} \\
&(N \geq 2439)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1366}) &= B_{\bar{N}}(2N + 1366 - B_{\bar{N}}(2N + 1365)) + B_{\bar{N}}(2N + 1366 - B_{\bar{N}}(2N + 1364)) + B_{\bar{N}}(2N + 1366 - B_{\bar{N}}(2N + 1363)) \\
&= B_{\bar{N}}(2N + 1366 - (N + 1976)) + B_{\bar{N}}(2N + 1366 - (2N - 1074)) + B_{\bar{N}}(2N + 1366 - (N + 1977)) \\
&= B_{\bar{N}}(N - 610) + B_{\bar{N}}(2440) + B_{\bar{N}}(N - 611) = (N - 610) + 2440 + (N - 611) = \mathbf{2N} + \mathbf{1219} \\
&(N \geq 2440)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1367}) &= B_{\bar{N}}(2N + 1367 - B_{\bar{N}}(2N + 1366)) + B_{\bar{N}}(2N + 1367 - B_{\bar{N}}(2N + 1365)) + B_{\bar{N}}(2N + 1367 - B_{\bar{N}}(2N + 1364)) \\
&= B_{\bar{N}}(2N + 1367 - (2N + 1219)) + B_{\bar{N}}(2N + 1367 - (N + 1976)) + B_{\bar{N}}(2N + 1367 - (2N - 1074)) \\
&= B_{\bar{N}}(148) + B_{\bar{N}}(N - 609) + B_{\bar{N}}(2441) = 148 + (N - 609) + 2441 = \mathbf{N} + \mathbf{1980} \\
&(N \geq 2441)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1368}) &= B_{\bar{N}}(2N + 1368 - B_{\bar{N}}(2N + 1367)) + B_{\bar{N}}(2N + 1368 - B_{\bar{N}}(2N + 1366)) + B_{\bar{N}}(2N + 1368 - B_{\bar{N}}(2N + 1365)) \\
&= B_{\bar{N}}(2N + 1368 - (N + 1980)) + B_{\bar{N}}(2N + 1368 - (2N + 1219)) + B_{\bar{N}}(2N + 1368 - (N + 1976)) \\
&= B_{\bar{N}}(N - 612) + B_{\bar{N}}(149) + B_{\bar{N}}(N - 608) = (N - 612) + 149 + (N - 608) = \mathbf{2N} - \mathbf{1071} \\
&(N \geq 613)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1369}) &= B_{\bar{N}}(2N + 1369 - B_{\bar{N}}(2N + 1368)) + B_{\bar{N}}(2N + 1369 - B_{\bar{N}}(2N + 1367)) + B_{\bar{N}}(2N + 1369 - B_{\bar{N}}(2N + 1366)) \\
&= B_{\bar{N}}(2N + 1369 - (2N - 1071)) + B_{\bar{N}}(2N + 1369 - (N + 1980)) + B_{\bar{N}}(2N + 1369 - (2N + 1219)) \\
&= B_{\bar{N}}(2440) + B_{\bar{N}}(N - 611) + B_{\bar{N}}(150) = 2440 + (N - 611) + 150 = \mathbf{N} + \mathbf{1979} \\
&(N \geq 2440)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1370}) &= B_{\bar{N}}(2N + 1370 - B_{\bar{N}}(2N + 1369)) + B_{\bar{N}}(2N + 1370 - B_{\bar{N}}(2N + 1368)) + B_{\bar{N}}(2N + 1370 - B_{\bar{N}}(2N + 1367)) \\
&= B_{\bar{N}}(2N + 1370 - (N + 1979)) + B_{\bar{N}}(2N + 1370 - (2N - 1071)) + B_{\bar{N}}(2N + 1370 - (N + 1980)) \\
&= B_{\bar{N}}(N - 609) + B_{\bar{N}}(2441) + B_{\bar{N}}(N - 610) = (N - 609) + 2441 + (N - 610) = \mathbf{2N} + \mathbf{1222} \\
&(N \geq 2441)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1371}) &= B_{\bar{N}}(2N + 1371 - B_{\bar{N}}(2N + 1370)) + B_{\bar{N}}(2N + 1371 - B_{\bar{N}}(2N + 1369)) + B_{\bar{N}}(2N + 1371 - B_{\bar{N}}(2N + 1368)) \\
&= B_{\bar{N}}(2N + 1371 - (2N + 1222)) + B_{\bar{N}}(2N + 1371 - (N + 1979)) + B_{\bar{N}}(2N + 1371 - (2N - 1071)) \\
&= B_{\bar{N}}(149) + B_{\bar{N}}(N - 608) + B_{\bar{N}}(2442) = 149 + (N - 608) + 2442 = \mathbf{N} + \mathbf{1983} \\
&(N \geq 2442)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1372}) &= B_{\bar{N}}(2N + 1372 - B_{\bar{N}}(2N + 1371)) + B_{\bar{N}}(2N + 1372 - B_{\bar{N}}(2N + 1370)) + B_{\bar{N}}(2N + 1372 - B_{\bar{N}}(2N + 1369)) \\
&= B_{\bar{N}}(2N + 1372 - (N + 1983)) + B_{\bar{N}}(2N + 1372 - (2N + 1222)) + B_{\bar{N}}(2N + 1372 - (N + 1979)) \\
&= B_{\bar{N}}(N - 611) + B_{\bar{N}}(150) + B_{\bar{N}}(N - 607) = (N - 611) + 150 + (N - 607) = \mathbf{2N} - \mathbf{1068} \\
&(N \geq 612)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1373}) &= B_{\bar{N}}(2N + 1373 - B_{\bar{N}}(2N + 1372)) + B_{\bar{N}}(2N + 1373 - B_{\bar{N}}(2N + 1371)) + B_{\bar{N}}(2N + 1373 - B_{\bar{N}}(2N + 1370)) \\
&= B_{\bar{N}}(2N + 1373 - (2N - 1068)) + B_{\bar{N}}(2N + 1373 - (N + 1983)) + B_{\bar{N}}(2N + 1373 - (2N + 1222)) \\
&= B_{\bar{N}}(2441) + B_{\bar{N}}(N - 610) + B_{\bar{N}}(151) = 2441 + (N - 610) + 151 = \mathbf{N} + \mathbf{1982} \\
&(N \geq 2441)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1374}) &= B_{\bar{N}}(2N + 1374 - B_{\bar{N}}(2N + 1373)) + B_{\bar{N}}(2N + 1374 - B_{\bar{N}}(2N + 1372)) + B_{\bar{N}}(2N + 1374 - B_{\bar{N}}(2N + 1371)) \\
&= B_{\bar{N}}(2N + 1374 - (N + 1982)) + B_{\bar{N}}(2N + 1374 - (2N - 1068)) + B_{\bar{N}}(2N + 1374 - (N + 1983)) \\
&= B_{\bar{N}}(N - 608) + B_{\bar{N}}(2442) + B_{\bar{N}}(N - 609) = (N - 608) + 2442 + (N - 609) = \mathbf{2N} + \mathbf{1225} \\
&(N \geq 2442)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1375}) &= B_{\bar{N}}(2N + 1375 - B_{\bar{N}}(2N + 1374)) + B_{\bar{N}}(2N + 1375 - B_{\bar{N}}(2N + 1373)) + B_{\bar{N}}(2N + 1375 - B_{\bar{N}}(2N + 1372)) \\
&= B_{\bar{N}}(2N + 1375 - (2N + 1225)) + B_{\bar{N}}(2N + 1375 - (N + 1982)) + B_{\bar{N}}(2N + 1375 - (2N - 1068)) \\
&= B_{\bar{N}}(150) + B_{\bar{N}}(N - 607) + B_{\bar{N}}(2443) = 150 + (N - 607) + 2443 = \mathbf{N} + \mathbf{1986} \\
&(N \geq 2443)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1376}) &= B_{\bar{N}}(2N + 1376 - B_{\bar{N}}(2N + 1375)) + B_{\bar{N}}(2N + 1376 - B_{\bar{N}}(2N + 1374)) + B_{\bar{N}}(2N + 1376 - B_{\bar{N}}(2N + 1373)) \\
&= B_{\bar{N}}(2N + 1376 - (N + 1986)) + B_{\bar{N}}(2N + 1376 - (2N + 1225)) + B_{\bar{N}}(2N + 1376 - (N + 1982)) \\
&= B_{\bar{N}}(N - 610) + B_{\bar{N}}(151) + B_{\bar{N}}(N - 606) = (N - 610) + 151 + (N - 606) = \mathbf{2N} - \mathbf{1065} \\
&(N \geq 611)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1377}) &= B_{\bar{N}}(2N + 1377 - B_{\bar{N}}(2N + 1376)) + B_{\bar{N}}(2N + 1377 - B_{\bar{N}}(2N + 1375)) + B_{\bar{N}}(2N + 1377 - B_{\bar{N}}(2N + 1374)) \\
&= B_{\bar{N}}(2N + 1377 - (2N - 1065)) + B_{\bar{N}}(2N + 1377 - (N + 1986)) + B_{\bar{N}}(2N + 1377 - (2N + 1225)) \\
&= B_{\bar{N}}(2442) + B_{\bar{N}}(N - 609) + B_{\bar{N}}(152) = 2442 + (N - 609) + 152 = \mathbf{N} + \mathbf{1985} \\
&(N \geq 2442)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1378}) &= B_{\bar{N}}(2N + 1378 - B_{\bar{N}}(2N + 1377)) + B_{\bar{N}}(2N + 1378 - B_{\bar{N}}(2N + 1376)) + B_{\bar{N}}(2N + 1378 - B_{\bar{N}}(2N + 1375)) \\
&= B_{\bar{N}}(2N + 1378 - (N + 1985)) + B_{\bar{N}}(2N + 1378 - (2N - 1065)) + B_{\bar{N}}(2N + 1378 - (N + 1986)) \\
&= B_{\bar{N}}(N - 607) + B_{\bar{N}}(2443) + B_{\bar{N}}(N - 608) = (N - 607) + 2443 + (N - 608) = \mathbf{2N} + \mathbf{1228} \\
&(N \geq 2443)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1379}) &= B_{\bar{N}}(2N + 1379 - B_{\bar{N}}(2N + 1378)) + B_{\bar{N}}(2N + 1379 - B_{\bar{N}}(2N + 1377)) + B_{\bar{N}}(2N + 1379 - B_{\bar{N}}(2N + 1376)) \\
&= B_{\bar{N}}(2N + 1379 - (2N + 1228)) + B_{\bar{N}}(2N + 1379 - (N + 1985)) + B_{\bar{N}}(2N + 1379 - (2N - 1065)) \\
&= B_{\bar{N}}(151) + B_{\bar{N}}(N - 606) + B_{\bar{N}}(2444) = 151 + (N - 606) + 2444 = \mathbf{N} + \mathbf{1989} \\
&(N \geq 2444)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1380}) &= B_{\bar{N}}(2N + 1380 - B_{\bar{N}}(2N + 1379)) + B_{\bar{N}}(2N + 1380 - B_{\bar{N}}(2N + 1378)) + B_{\bar{N}}(2N + 1380 - B_{\bar{N}}(2N + 1377)) \\
&= B_{\bar{N}}(2N + 1380 - (N + 1989)) + B_{\bar{N}}(2N + 1380 - (2N + 1228)) + B_{\bar{N}}(2N + 1380 - (N + 1985)) \\
&= B_{\bar{N}}(N - 609) + B_{\bar{N}}(152) + B_{\bar{N}}(N - 605) = (N - 609) + 152 + (N - 605) = \mathbf{2N} - \mathbf{1062} \\
&(N \geq 610)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1381}) &= B_{\bar{N}}(2N + 1381 - B_{\bar{N}}(2N + 1380)) + B_{\bar{N}}(2N + 1381 - B_{\bar{N}}(2N + 1379)) + B_{\bar{N}}(2N + 1381 - B_{\bar{N}}(2N + 1378)) \\
&= B_{\bar{N}}(2N + 1381 - (2N - 1062)) + B_{\bar{N}}(2N + 1381 - (N + 1989)) + B_{\bar{N}}(2N + 1381 - (2N + 1228)) \\
&= B_{\bar{N}}(2443) + B_{\bar{N}}(N - 608) + B_{\bar{N}}(153) = 2443 + (N - 608) + 153 = \mathbf{N} + \mathbf{1988} \\
&(N \geq 2443)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1382}) &= B_{\bar{N}}(2N + 1382 - B_{\bar{N}}(2N + 1381)) + B_{\bar{N}}(2N + 1382 - B_{\bar{N}}(2N + 1380)) + B_{\bar{N}}(2N + 1382 - B_{\bar{N}}(2N + 1379)) \\
&= B_{\bar{N}}(2N + 1382 - (N + 1988)) + B_{\bar{N}}(2N + 1382 - (2N - 1062)) + B_{\bar{N}}(2N + 1382 - (N + 1989)) \\
&= B_{\bar{N}}(N - 606) + B_{\bar{N}}(2444) + B_{\bar{N}}(N - 607) = (N - 606) + 2444 + (N - 607) = \mathbf{2N} + \mathbf{1231} \\
&(N \geq 2444)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1383}) &= B_{\bar{N}}(2N + 1383 - B_{\bar{N}}(2N + 1382)) + B_{\bar{N}}(2N + 1383 - B_{\bar{N}}(2N + 1381)) + B_{\bar{N}}(2N + 1383 - B_{\bar{N}}(2N + 1380)) \\
&= B_{\bar{N}}(2N + 1383 - (2N + 1231)) + B_{\bar{N}}(2N + 1383 - (N + 1988)) + B_{\bar{N}}(2N + 1383 - (2N - 1062)) \\
&= B_{\bar{N}}(152) + B_{\bar{N}}(N - 605) + B_{\bar{N}}(2445) = 152 + (N - 605) + 2445 = \mathbf{N} + \mathbf{1992} \\
&(N \geq 2445)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1384}) &= B_{\bar{N}}(2N + 1384 - B_{\bar{N}}(2N + 1383)) + B_{\bar{N}}(2N + 1384 - B_{\bar{N}}(2N + 1382)) + B_{\bar{N}}(2N + 1384 - B_{\bar{N}}(2N + 1381)) \\
&= B_{\bar{N}}(2N + 1384 - (N + 1992)) + B_{\bar{N}}(2N + 1384 - (2N + 1231)) + B_{\bar{N}}(2N + 1384 - (N + 1988)) \\
&= B_{\bar{N}}(N - 608) + B_{\bar{N}}(153) + B_{\bar{N}}(N - 604) = (N - 608) + 153 + (N - 604) = \mathbf{2N} - \mathbf{1059} \\
&(N \geq 609)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1385}) &= B_{\bar{N}}(2N + 1385 - B_{\bar{N}}(2N + 1384)) + B_{\bar{N}}(2N + 1385 - B_{\bar{N}}(2N + 1383)) + B_{\bar{N}}(2N + 1385 - B_{\bar{N}}(2N + 1382)) \\
&= B_{\bar{N}}(2N + 1385 - (2N - 1059)) + B_{\bar{N}}(2N + 1385 - (N + 1992)) + B_{\bar{N}}(2N + 1385 - (2N + 1231)) \\
&= B_{\bar{N}}(2444) + B_{\bar{N}}(N - 607) + B_{\bar{N}}(154) = 2444 + (N - 607) + 154 = \mathbf{N} + \mathbf{1991} \\
&(N \geq 2444)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1386}) &= B_{\bar{N}}(2N + 1386 - B_{\bar{N}}(2N + 1385)) + B_{\bar{N}}(2N + 1386 - B_{\bar{N}}(2N + 1384)) + B_{\bar{N}}(2N + 1386 - B_{\bar{N}}(2N + 1383)) \\
&= B_{\bar{N}}(2N + 1386 - (N + 1991)) + B_{\bar{N}}(2N + 1386 - (2N - 1059)) + B_{\bar{N}}(2N + 1386 - (N + 1992)) \\
&= B_{\bar{N}}(N - 605) + B_{\bar{N}}(2445) + B_{\bar{N}}(N - 606) = (N - 605) + 2445 + (N - 606) = \mathbf{2N} + \mathbf{1234} \\
&(N \geq 2445)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1387}) &= B_{\bar{N}}(2N + 1387 - B_{\bar{N}}(2N + 1386)) + B_{\bar{N}}(2N + 1387 - B_{\bar{N}}(2N + 1385)) + B_{\bar{N}}(2N + 1387 - B_{\bar{N}}(2N + 1384)) \\
&= B_{\bar{N}}(2N + 1387 - (2N + 1234)) + B_{\bar{N}}(2N + 1387 - (N + 1991)) + B_{\bar{N}}(2N + 1387 - (2N - 1059)) \\
&= B_{\bar{N}}(153) + B_{\bar{N}}(N - 604) + B_{\bar{N}}(2446) = 153 + (N - 604) + 2446 = \mathbf{N} + \mathbf{1995} \\
&(N \geq 2446)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1388}) &= B_{\bar{N}}(2N + 1388 - B_{\bar{N}}(2N + 1387)) + B_{\bar{N}}(2N + 1388 - B_{\bar{N}}(2N + 1386)) + B_{\bar{N}}(2N + 1388 - B_{\bar{N}}(2N + 1385)) \\
&= B_{\bar{N}}(2N + 1388 - (N + 1995)) + B_{\bar{N}}(2N + 1388 - (2N + 1234)) + B_{\bar{N}}(2N + 1388 - (N + 1991)) \\
&= B_{\bar{N}}(N - 607) + B_{\bar{N}}(154) + B_{\bar{N}}(N - 603) = (N - 607) + 154 + (N - 603) = \mathbf{2N} - \mathbf{1056} \\
&(N \geq 608)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1389}) &= B_{\bar{N}}(2N + 1389 - B_{\bar{N}}(2N + 1388)) + B_{\bar{N}}(2N + 1389 - B_{\bar{N}}(2N + 1387)) + B_{\bar{N}}(2N + 1389 - B_{\bar{N}}(2N + 1386)) \\
&= B_{\bar{N}}(2N + 1389 - (2N - 1056)) + B_{\bar{N}}(2N + 1389 - (N + 1995)) + B_{\bar{N}}(2N + 1389 - (2N + 1234)) \\
&= B_{\bar{N}}(2445) + B_{\bar{N}}(N - 606) + B_{\bar{N}}(155) = 2445 + (N - 606) + 155 = \mathbf{N} + \mathbf{1994} \\
&(N \geq 2445)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1390}) &= B_{\bar{N}}(2N + 1390 - B_{\bar{N}}(2N + 1389)) + B_{\bar{N}}(2N + 1390 - B_{\bar{N}}(2N + 1388)) + B_{\bar{N}}(2N + 1390 - B_{\bar{N}}(2N + 1387)) \\
&= B_{\bar{N}}(2N + 1390 - (N + 1994)) + B_{\bar{N}}(2N + 1390 - (2N - 1056)) + B_{\bar{N}}(2N + 1390 - (N + 1995)) \\
&= B_{\bar{N}}(N - 604) + B_{\bar{N}}(2446) + B_{\bar{N}}(N - 605) = (N - 604) + 2446 + (N - 605) = \mathbf{2N} + \mathbf{1237} \\
&(N \geq 2446)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1391}) &= B_{\bar{N}}(2N + 1391 - B_{\bar{N}}(2N + 1390)) + B_{\bar{N}}(2N + 1391 - B_{\bar{N}}(2N + 1389)) + B_{\bar{N}}(2N + 1391 - B_{\bar{N}}(2N + 1388)) \\
&= B_{\bar{N}}(2N + 1391 - (2N + 1237)) + B_{\bar{N}}(2N + 1391 - (N + 1994)) + B_{\bar{N}}(2N + 1391 - (2N - 1056)) \\
&= B_{\bar{N}}(154) + B_{\bar{N}}(N - 603) + B_{\bar{N}}(2447) = 154 + (N - 603) + 2447 = \mathbf{N} + \mathbf{1998} \\
&(N \geq 2447)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1392}) &= B_{\bar{N}}(2N + 1392 - B_{\bar{N}}(2N + 1391)) + B_{\bar{N}}(2N + 1392 - B_{\bar{N}}(2N + 1390)) + B_{\bar{N}}(2N + 1392 - B_{\bar{N}}(2N + 1389)) \\
&= B_{\bar{N}}(2N + 1392 - (N + 1998)) + B_{\bar{N}}(2N + 1392 - (2N + 1237)) + B_{\bar{N}}(2N + 1392 - (N + 1994)) \\
&= B_{\bar{N}}(N - 606) + B_{\bar{N}}(155) + B_{\bar{N}}(N - 602) = (N - 606) + 155 + (N - 602) = \mathbf{2N} - \mathbf{1053} \\
&(N \geq 607)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1393}) &= B_{\bar{N}}(2N + 1393 - B_{\bar{N}}(2N + 1392)) + B_{\bar{N}}(2N + 1393 - B_{\bar{N}}(2N + 1391)) + B_{\bar{N}}(2N + 1393 - B_{\bar{N}}(2N + 1390)) \\
&= B_{\bar{N}}(2N + 1393 - (2N - 1053)) + B_{\bar{N}}(2N + 1393 - (N + 1998)) + B_{\bar{N}}(2N + 1393 - (2N + 1237)) \\
&= B_{\bar{N}}(2446) + B_{\bar{N}}(N - 605) + B_{\bar{N}}(156) = 2446 + (N - 605) + 156 = \mathbf{N} + \mathbf{1997} \\
&(N \geq 2446)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1394}) &= B_{\bar{N}}(2N + 1394 - B_{\bar{N}}(2N + 1393)) + B_{\bar{N}}(2N + 1394 - B_{\bar{N}}(2N + 1392)) + B_{\bar{N}}(2N + 1394 - B_{\bar{N}}(2N + 1391)) \\
&= B_{\bar{N}}(2N + 1394 - (N + 1997)) + B_{\bar{N}}(2N + 1394 - (2N - 1053)) + B_{\bar{N}}(2N + 1394 - (N + 1998)) \\
&= B_{\bar{N}}(N - 603) + B_{\bar{N}}(2447) + B_{\bar{N}}(N - 604) = (N - 603) + 2447 + (N - 604) = \mathbf{2N} + \mathbf{1240} \\
&(N \geq 2447)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1395}) &= B_{\bar{N}}(2N + 1395 - B_{\bar{N}}(2N + 1394)) + B_{\bar{N}}(2N + 1395 - B_{\bar{N}}(2N + 1393)) + B_{\bar{N}}(2N + 1395 - B_{\bar{N}}(2N + 1392)) \\
&= B_{\bar{N}}(2N + 1395 - (2N + 1240)) + B_{\bar{N}}(2N + 1395 - (N + 1997)) + B_{\bar{N}}(2N + 1395 - (2N - 1053)) \\
&= B_{\bar{N}}(155) + B_{\bar{N}}(N - 602) + B_{\bar{N}}(2448) = 155 + (N - 602) + 2448 = \mathbf{N} + \mathbf{2001} \\
&(N \geq 2448)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1396}) &= B_{\bar{N}}(2N + 1396 - B_{\bar{N}}(2N + 1395)) + B_{\bar{N}}(2N + 1396 - B_{\bar{N}}(2N + 1394)) + B_{\bar{N}}(2N + 1396 - B_{\bar{N}}(2N + 1393)) \\
&= B_{\bar{N}}(2N + 1396 - (N + 2001)) + B_{\bar{N}}(2N + 1396 - (2N + 1240)) + B_{\bar{N}}(2N + 1396 - (N + 1997)) \\
&= B_{\bar{N}}(N - 605) + B_{\bar{N}}(156) + B_{\bar{N}}(N - 601) = (N - 605) + 156 + (N - 601) = \mathbf{2N} - \mathbf{1050} \\
&(N \geq 606)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1397}) &= B_{\bar{N}}(2N + 1397 - B_{\bar{N}}(2N + 1396)) + B_{\bar{N}}(2N + 1397 - B_{\bar{N}}(2N + 1395)) + B_{\bar{N}}(2N + 1397 - B_{\bar{N}}(2N + 1394)) \\
&= B_{\bar{N}}(2N + 1397 - (2N - 1050)) + B_{\bar{N}}(2N + 1397 - (N + 2001)) + B_{\bar{N}}(2N + 1397 - (2N + 1240)) \\
&= B_{\bar{N}}(2447) + B_{\bar{N}}(N - 604) + B_{\bar{N}}(157) = 2447 + (N - 604) + 157 = \mathbf{N} + \mathbf{2000} \\
&(N \geq 2447)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1398}) &= B_{\bar{N}}(2N + 1398 - B_{\bar{N}}(2N + 1397)) + B_{\bar{N}}(2N + 1398 - B_{\bar{N}}(2N + 1396)) + B_{\bar{N}}(2N + 1398 - B_{\bar{N}}(2N + 1395)) \\
&= B_{\bar{N}}(2N + 1398 - (N + 2000)) + B_{\bar{N}}(2N + 1398 - (2N - 1050)) + B_{\bar{N}}(2N + 1398 - (N + 2001)) \\
&= B_{\bar{N}}(N - 602) + B_{\bar{N}}(2448) + B_{\bar{N}}(N - 603) = (N - 602) + 2448 + (N - 603) = \mathbf{2N} + \mathbf{1243} \\
&(N \geq 2448)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1399}) &= B_{\bar{N}}(2N + 1399 - B_{\bar{N}}(2N + 1398)) + B_{\bar{N}}(2N + 1399 - B_{\bar{N}}(2N + 1397)) + B_{\bar{N}}(2N + 1399 - B_{\bar{N}}(2N + 1396)) \\
&= B_{\bar{N}}(2N + 1399 - (2N + 1243)) + B_{\bar{N}}(2N + 1399 - (N + 2000)) + B_{\bar{N}}(2N + 1399 - (2N - 1050)) \\
&= B_{\bar{N}}(156) + B_{\bar{N}}(N - 601) + B_{\bar{N}}(2449) = 156 + (N - 601) + 2449 = \mathbf{N} + \mathbf{2004} \\
&(N \geq 2449)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1400}) &= B_{\bar{N}}(2N + 1400 - B_{\bar{N}}(2N + 1399)) + B_{\bar{N}}(2N + 1400 - B_{\bar{N}}(2N + 1398)) + B_{\bar{N}}(2N + 1400 - B_{\bar{N}}(2N + 1397)) \\
&= B_{\bar{N}}(2N + 1400 - (N + 2004)) + B_{\bar{N}}(2N + 1400 - (2N + 1243)) + B_{\bar{N}}(2N + 1400 - (N + 2000)) \\
&= B_{\bar{N}}(N - 604) + B_{\bar{N}}(157) + B_{\bar{N}}(N - 600) = (N - 604) + 157 + (N - 600) = \mathbf{2N} - \mathbf{1047} \\
&(N \geq 605)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1401}) &= B_{\bar{N}}(2N + 1401 - B_{\bar{N}}(2N + 1400)) + B_{\bar{N}}(2N + 1401 - B_{\bar{N}}(2N + 1399)) + B_{\bar{N}}(2N + 1401 - B_{\bar{N}}(2N + 1398)) \\
&= B_{\bar{N}}(2N + 1401 - (2N - 1047)) + B_{\bar{N}}(2N + 1401 - (N + 2004)) + B_{\bar{N}}(2N + 1401 - (2N + 1243)) \\
&= B_{\bar{N}}(2448) + B_{\bar{N}}(N - 603) + B_{\bar{N}}(158) = 2448 + (N - 603) + 158 = \mathbf{N} + \mathbf{2003} \\
&(N \geq 2448)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1402}) &= B_{\bar{N}}(2N + 1402 - B_{\bar{N}}(2N + 1401)) + B_{\bar{N}}(2N + 1402 - B_{\bar{N}}(2N + 1400)) + B_{\bar{N}}(2N + 1402 - B_{\bar{N}}(2N + 1399)) \\
&= B_{\bar{N}}(2N + 1402 - (N + 2003)) + B_{\bar{N}}(2N + 1402 - (2N - 1047)) + B_{\bar{N}}(2N + 1402 - (N + 2004)) \\
&= B_{\bar{N}}(N - 601) + B_{\bar{N}}(2449) + B_{\bar{N}}(N - 602) = (N - 601) + 2449 + (N - 602) = \mathbf{2N} + \mathbf{1246} \\
&(N \geq 2449)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1403}) &= B_{\bar{N}}(2N + 1403 - B_{\bar{N}}(2N + 1402)) + B_{\bar{N}}(2N + 1403 - B_{\bar{N}}(2N + 1401)) + B_{\bar{N}}(2N + 1403 - B_{\bar{N}}(2N + 1400)) \\
&= B_{\bar{N}}(2N + 1403 - (2N + 1246)) + B_{\bar{N}}(2N + 1403 - (N + 2003)) + B_{\bar{N}}(2N + 1403 - (2N - 1047)) \\
&= B_{\bar{N}}(157) + B_{\bar{N}}(N - 600) + B_{\bar{N}}(2450) = 157 + (N - 600) + 2450 = \mathbf{N} + \mathbf{2007} \\
&(N \geq 2450)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1404}) &= B_{\bar{N}}(2N + 1404 - B_{\bar{N}}(2N + 1403)) + B_{\bar{N}}(2N + 1404 - B_{\bar{N}}(2N + 1402)) + B_{\bar{N}}(2N + 1404 - B_{\bar{N}}(2N + 1401)) \\
&= B_{\bar{N}}(2N + 1404 - (N + 2007)) + B_{\bar{N}}(2N + 1404 - (2N + 1246)) + B_{\bar{N}}(2N + 1404 - (N + 2003)) \\
&= B_{\bar{N}}(N - 603) + B_{\bar{N}}(158) + B_{\bar{N}}(N - 599) = (N - 603) + 158 + (N - 599) = \mathbf{2N} - \mathbf{1044} \\
&(N \geq 604)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1405}) &= B_{\bar{N}}(2N + 1405 - B_{\bar{N}}(2N + 1404)) + B_{\bar{N}}(2N + 1405 - B_{\bar{N}}(2N + 1403)) + B_{\bar{N}}(2N + 1405 - B_{\bar{N}}(2N + 1402)) \\
&= B_{\bar{N}}(2N + 1405 - (2N - 1044)) + B_{\bar{N}}(2N + 1405 - (N + 2007)) + B_{\bar{N}}(2N + 1405 - (2N + 1246)) \\
&= B_{\bar{N}}(2449) + B_{\bar{N}}(N - 602) + B_{\bar{N}}(159) = 2449 + (N - 602) + 159 = \mathbf{N} + \mathbf{2006} \\
&(N \geq 2449)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1406}) &= B_{\bar{N}}(2N + 1406 - B_{\bar{N}}(2N + 1405)) + B_{\bar{N}}(2N + 1406 - B_{\bar{N}}(2N + 1404)) + B_{\bar{N}}(2N + 1406 - B_{\bar{N}}(2N + 1403)) \\
&= B_{\bar{N}}(2N + 1406 - (N + 2006)) + B_{\bar{N}}(2N + 1406 - (2N - 1044)) + B_{\bar{N}}(2N + 1406 - (N + 2007)) \\
&= B_{\bar{N}}(N - 600) + B_{\bar{N}}(2450) + B_{\bar{N}}(N - 601) = (N - 600) + 2450 + (N - 601) = \mathbf{2N} + \mathbf{1249} \\
&(N \geq 2450)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1407}) &= B_{\bar{N}}(2N + 1407 - B_{\bar{N}}(2N + 1406)) + B_{\bar{N}}(2N + 1407 - B_{\bar{N}}(2N + 1405)) + B_{\bar{N}}(2N + 1407 - B_{\bar{N}}(2N + 1404)) \\
&= B_{\bar{N}}(2N + 1407 - (2N + 1249)) + B_{\bar{N}}(2N + 1407 - (N + 2006)) + B_{\bar{N}}(2N + 1407 - (2N - 1044)) \\
&= B_{\bar{N}}(158) + B_{\bar{N}}(N - 599) + B_{\bar{N}}(2451) = 158 + (N - 599) + 2451 = \mathbf{N} + \mathbf{2010} \\
&(N \geq 2451)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1408}) &= B_{\bar{N}}(2N + 1408 - B_{\bar{N}}(2N + 1407)) + B_{\bar{N}}(2N + 1408 - B_{\bar{N}}(2N + 1406)) + B_{\bar{N}}(2N + 1408 - B_{\bar{N}}(2N + 1405)) \\
&= B_{\bar{N}}(2N + 1408 - (N + 2010)) + B_{\bar{N}}(2N + 1408 - (2N + 1249)) + B_{\bar{N}}(2N + 1408 - (N + 2006)) \\
&= B_{\bar{N}}(N - 602) + B_{\bar{N}}(159) + B_{\bar{N}}(N - 598) = (N - 602) + 159 + (N - 598) = \mathbf{2N} - \mathbf{1041} \\
&(N \geq 603)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1409}) &= B_{\bar{N}}(2N + 1409 - B_{\bar{N}}(2N + 1408)) + B_{\bar{N}}(2N + 1409 - B_{\bar{N}}(2N + 1407)) + B_{\bar{N}}(2N + 1409 - B_{\bar{N}}(2N + 1406)) \\
&= B_{\bar{N}}(2N + 1409 - (2N - 1041)) + B_{\bar{N}}(2N + 1409 - (N + 2010)) + B_{\bar{N}}(2N + 1409 - (2N + 1249)) \\
&= B_{\bar{N}}(2450) + B_{\bar{N}}(N - 601) + B_{\bar{N}}(160) = 2450 + (N - 601) + 160 = \mathbf{N} + \mathbf{2009} \\
&(N \geq 2450)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1410}) &= B_{\bar{N}}(2N + 1410 - B_{\bar{N}}(2N + 1409)) + B_{\bar{N}}(2N + 1410 - B_{\bar{N}}(2N + 1408)) + B_{\bar{N}}(2N + 1410 - B_{\bar{N}}(2N + 1407)) \\
&= B_{\bar{N}}(2N + 1410 - (N + 2009)) + B_{\bar{N}}(2N + 1410 - (2N - 1041)) + B_{\bar{N}}(2N + 1410 - (N + 2010)) \\
&= B_{\bar{N}}(N - 599) + B_{\bar{N}}(2451) + B_{\bar{N}}(N - 600) = (N - 599) + 2451 + (N - 600) = \mathbf{2N} + \mathbf{1252} \\
&(N \geq 2451)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1411}) &= B_{\bar{N}}(2N + 1411 - B_{\bar{N}}(2N + 1410)) + B_{\bar{N}}(2N + 1411 - B_{\bar{N}}(2N + 1409)) + B_{\bar{N}}(2N + 1411 - B_{\bar{N}}(2N + 1408)) \\
&= B_{\bar{N}}(2N + 1411 - (2N + 1252)) + B_{\bar{N}}(2N + 1411 - (N + 2009)) + B_{\bar{N}}(2N + 1411 - (2N - 1041)) \\
&= B_{\bar{N}}(159) + B_{\bar{N}}(N - 598) + B_{\bar{N}}(2452) = 159 + (N - 598) + 2452 = \mathbf{N} + \mathbf{2013} \\
&(N \geq 2452)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1412}) &= B_{\bar{N}}(2N + 1412 - B_{\bar{N}}(2N + 1411)) + B_{\bar{N}}(2N + 1412 - B_{\bar{N}}(2N + 1410)) + B_{\bar{N}}(2N + 1412 - B_{\bar{N}}(2N + 1409)) \\
&= B_{\bar{N}}(2N + 1412 - (N + 2013)) + B_{\bar{N}}(2N + 1412 - (2N + 1252)) + B_{\bar{N}}(2N + 1412 - (N + 2009)) \\
&= B_{\bar{N}}(N - 601) + B_{\bar{N}}(160) + B_{\bar{N}}(N - 597) = (N - 601) + 160 + (N - 597) = \mathbf{2N} - \mathbf{1038} \\
&(N \geq 602)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1413}) &= B_{\bar{N}}(2N + 1413 - B_{\bar{N}}(2N + 1412)) + B_{\bar{N}}(2N + 1413 - B_{\bar{N}}(2N + 1411)) + B_{\bar{N}}(2N + 1413 - B_{\bar{N}}(2N + 1410)) \\
&= B_{\bar{N}}(2N + 1413 - (2N - 1038)) + B_{\bar{N}}(2N + 1413 - (N + 2013)) + B_{\bar{N}}(2N + 1413 - (2N + 1252)) \\
&= B_{\bar{N}}(2451) + B_{\bar{N}}(N - 600) + B_{\bar{N}}(161) = 2451 + (N - 600) + 161 = \mathbf{N} + \mathbf{2012} \\
&(N \geq 2451)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1414}) &= B_{\bar{N}}(2N + 1414 - B_{\bar{N}}(2N + 1413)) + B_{\bar{N}}(2N + 1414 - B_{\bar{N}}(2N + 1412)) + B_{\bar{N}}(2N + 1414 - B_{\bar{N}}(2N + 1411)) \\
&= B_{\bar{N}}(2N + 1414 - (N + 2012)) + B_{\bar{N}}(2N + 1414 - (2N - 1038)) + B_{\bar{N}}(2N + 1414 - (N + 2013)) \\
&= B_{\bar{N}}(N - 598) + B_{\bar{N}}(2452) + B_{\bar{N}}(N - 599) = (N - 598) + 2452 + (N - 599) = \mathbf{2N} + \mathbf{1255} \\
&(N \geq 2452)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1415}) &= B_{\bar{N}}(2N + 1415 - B_{\bar{N}}(2N + 1414)) + B_{\bar{N}}(2N + 1415 - B_{\bar{N}}(2N + 1413)) + B_{\bar{N}}(2N + 1415 - B_{\bar{N}}(2N + 1412)) \\
&= B_{\bar{N}}(2N + 1415 - (2N + 1255)) + B_{\bar{N}}(2N + 1415 - (N + 2012)) + B_{\bar{N}}(2N + 1415 - (2N - 1038)) \\
&= B_{\bar{N}}(160) + B_{\bar{N}}(N - 597) + B_{\bar{N}}(2453) = 160 + (N - 597) + 2453 = \mathbf{N} + \mathbf{2016} \\
&(N \geq 2453)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1416}) &= B_{\bar{N}}(2N + 1416 - B_{\bar{N}}(2N + 1415)) + B_{\bar{N}}(2N + 1416 - B_{\bar{N}}(2N + 1414)) + B_{\bar{N}}(2N + 1416 - B_{\bar{N}}(2N + 1413)) \\
&= B_{\bar{N}}(2N + 1416 - (N + 2016)) + B_{\bar{N}}(2N + 1416 - (2N + 1255)) + B_{\bar{N}}(2N + 1416 - (N + 2012)) \\
&= B_{\bar{N}}(N - 600) + B_{\bar{N}}(161) + B_{\bar{N}}(N - 596) = (N - 600) + 161 + (N - 596) = \mathbf{2N} - \mathbf{1035} \\
&(N \geq 601)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1417}) &= B_{\bar{N}}(2N + 1417 - B_{\bar{N}}(2N + 1416)) + B_{\bar{N}}(2N + 1417 - B_{\bar{N}}(2N + 1415)) + B_{\bar{N}}(2N + 1417 - B_{\bar{N}}(2N + 1414)) \\
&= B_{\bar{N}}(2N + 1417 - (2N - 1035)) + B_{\bar{N}}(2N + 1417 - (N + 2016)) + B_{\bar{N}}(2N + 1417 - (2N + 1255)) \\
&= B_{\bar{N}}(2452) + B_{\bar{N}}(N - 599) + B_{\bar{N}}(162) = 2452 + (N - 599) + 162 = \mathbf{N} + \mathbf{2015} \\
&(N \geq 2452)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1418}) &= B_{\bar{N}}(2N + 1418 - B_{\bar{N}}(2N + 1417)) + B_{\bar{N}}(2N + 1418 - B_{\bar{N}}(2N + 1416)) + B_{\bar{N}}(2N + 1418 - B_{\bar{N}}(2N + 1415)) \\
&= B_{\bar{N}}(2N + 1418 - (N + 2015)) + B_{\bar{N}}(2N + 1418 - (2N - 1035)) + B_{\bar{N}}(2N + 1418 - (N + 2016)) \\
&= B_{\bar{N}}(N - 597) + B_{\bar{N}}(2453) + B_{\bar{N}}(N - 598) = (N - 597) + 2453 + (N - 598) = \mathbf{2N} + \mathbf{1258} \\
&(N \geq 2453)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1419}) &= B_{\bar{N}}(2N + 1419 - B_{\bar{N}}(2N + 1418)) + B_{\bar{N}}(2N + 1419 - B_{\bar{N}}(2N + 1417)) + B_{\bar{N}}(2N + 1419 - B_{\bar{N}}(2N + 1416)) \\
&= B_{\bar{N}}(2N + 1419 - (2N + 1258)) + B_{\bar{N}}(2N + 1419 - (N + 2015)) + B_{\bar{N}}(2N + 1419 - (2N - 1035)) \\
&= B_{\bar{N}}(161) + B_{\bar{N}}(N - 596) + B_{\bar{N}}(2454) = 161 + (N - 596) + 2454 = \mathbf{N} + \mathbf{2019} \\
&(N \geq 2454)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1420}) &= B_{\bar{N}}(2N + 1420 - B_{\bar{N}}(2N + 1419)) + B_{\bar{N}}(2N + 1420 - B_{\bar{N}}(2N + 1418)) + B_{\bar{N}}(2N + 1420 - B_{\bar{N}}(2N + 1417)) \\
&= B_{\bar{N}}(2N + 1420 - (N + 2019)) + B_{\bar{N}}(2N + 1420 - (2N + 1258)) + B_{\bar{N}}(2N + 1420 - (N + 2015)) \\
&= B_{\bar{N}}(N - 599) + B_{\bar{N}}(162) + B_{\bar{N}}(N - 595) = (N - 599) + 162 + (N - 595) = \mathbf{2N} - \mathbf{1032} \\
&(N \geq 600)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1421}) &= B_{\bar{N}}(2N + 1421 - B_{\bar{N}}(2N + 1420)) + B_{\bar{N}}(2N + 1421 - B_{\bar{N}}(2N + 1419)) + B_{\bar{N}}(2N + 1421 - B_{\bar{N}}(2N + 1418)) \\
&= B_{\bar{N}}(2N + 1421 - (2N - 1032)) + B_{\bar{N}}(2N + 1421 - (N + 2019)) + B_{\bar{N}}(2N + 1421 - (2N + 1258)) \\
&= B_{\bar{N}}(2453) + B_{\bar{N}}(N - 598) + B_{\bar{N}}(163) = 2453 + (N - 598) + 163 = \mathbf{N} + \mathbf{2018} \\
&(N \geq 2453)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1422}) &= B_{\bar{N}}(2N + 1422 - B_{\bar{N}}(2N + 1421)) + B_{\bar{N}}(2N + 1422 - B_{\bar{N}}(2N + 1420)) + B_{\bar{N}}(2N + 1422 - B_{\bar{N}}(2N + 1419)) \\
&= B_{\bar{N}}(2N + 1422 - (N + 2018)) + B_{\bar{N}}(2N + 1422 - (2N - 1032)) + B_{\bar{N}}(2N + 1422 - (N + 2019)) \\
&= B_{\bar{N}}(N - 596) + B_{\bar{N}}(2454) + B_{\bar{N}}(N - 597) = (N - 596) + 2454 + (N - 597) = \mathbf{2N} + \mathbf{1261} \\
&(N \geq 2454)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1423}) &= B_{\bar{N}}(2N + 1423 - B_{\bar{N}}(2N + 1422)) + B_{\bar{N}}(2N + 1423 - B_{\bar{N}}(2N + 1421)) + B_{\bar{N}}(2N + 1423 - B_{\bar{N}}(2N + 1420)) \\
&= B_{\bar{N}}(2N + 1423 - (2N + 1261)) + B_{\bar{N}}(2N + 1423 - (N + 2018)) + B_{\bar{N}}(2N + 1423 - (2N - 1032)) \\
&= B_{\bar{N}}(162) + B_{\bar{N}}(N - 595) + B_{\bar{N}}(2455) = 162 + (N - 595) + 2455 = \mathbf{N} + \mathbf{2022} \\
&(N \geq 2455)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1424}) &= B_{\bar{N}}(2N + 1424 - B_{\bar{N}}(2N + 1423)) + B_{\bar{N}}(2N + 1424 - B_{\bar{N}}(2N + 1422)) + B_{\bar{N}}(2N + 1424 - B_{\bar{N}}(2N + 1421)) \\
&= B_{\bar{N}}(2N + 1424 - (N + 2022)) + B_{\bar{N}}(2N + 1424 - (2N + 1261)) + B_{\bar{N}}(2N + 1424 - (N + 2018)) \\
&= B_{\bar{N}}(N - 598) + B_{\bar{N}}(163) + B_{\bar{N}}(N - 594) = (N - 598) + 163 + (N - 594) = \mathbf{2N} - \mathbf{1029} \\
&(N \geq 599)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1425}) &= B_{\bar{N}}(2N + 1425 - B_{\bar{N}}(2N + 1424)) + B_{\bar{N}}(2N + 1425 - B_{\bar{N}}(2N + 1423)) + B_{\bar{N}}(2N + 1425 - B_{\bar{N}}(2N + 1422)) \\
&= B_{\bar{N}}(2N + 1425 - (2N - 1029)) + B_{\bar{N}}(2N + 1425 - (N + 2022)) + B_{\bar{N}}(2N + 1425 - (2N + 1261)) \\
&= B_{\bar{N}}(2454) + B_{\bar{N}}(N - 597) + B_{\bar{N}}(164) = 2454 + (N - 597) + 164 = \mathbf{N} + \mathbf{2021} \\
&(N \geq 2454)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1426}) &= B_{\bar{N}}(2N + 1426 - B_{\bar{N}}(2N + 1425)) + B_{\bar{N}}(2N + 1426 - B_{\bar{N}}(2N + 1424)) + B_{\bar{N}}(2N + 1426 - B_{\bar{N}}(2N + 1423)) \\
&= B_{\bar{N}}(2N + 1426 - (N + 2021)) + B_{\bar{N}}(2N + 1426 - (2N - 1029)) + B_{\bar{N}}(2N + 1426 - (N + 2022)) \\
&= B_{\bar{N}}(N - 595) + B_{\bar{N}}(2455) + B_{\bar{N}}(N - 596) = (N - 595) + 2455 + (N - 596) = \mathbf{2N} + \mathbf{1264} \\
&(N \geq 2455)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1427}) &= B_{\bar{N}}(2N + 1427 - B_{\bar{N}}(2N + 1426)) + B_{\bar{N}}(2N + 1427 - B_{\bar{N}}(2N + 1425)) + B_{\bar{N}}(2N + 1427 - B_{\bar{N}}(2N + 1424)) \\
&= B_{\bar{N}}(2N + 1427 - (2N + 1264)) + B_{\bar{N}}(2N + 1427 - (N + 2021)) + B_{\bar{N}}(2N + 1427 - (2N - 1029)) \\
&= B_{\bar{N}}(163) + B_{\bar{N}}(N - 594) + B_{\bar{N}}(2456) = 163 + (N - 594) + 2456 = \mathbf{N} + \mathbf{2025} \\
&(N \geq 2456)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1428}) &= B_{\bar{N}}(2N + 1428 - B_{\bar{N}}(2N + 1427)) + B_{\bar{N}}(2N + 1428 - B_{\bar{N}}(2N + 1426)) + B_{\bar{N}}(2N + 1428 - B_{\bar{N}}(2N + 1425)) \\
&= B_{\bar{N}}(2N + 1428 - (N + 2025)) + B_{\bar{N}}(2N + 1428 - (2N + 1264)) + B_{\bar{N}}(2N + 1428 - (N + 2021)) \\
&= B_{\bar{N}}(N - 597) + B_{\bar{N}}(164) + B_{\bar{N}}(N - 593) = (N - 597) + 164 + (N - 593) = \mathbf{2N} - \mathbf{1026} \\
&(N \geq 598)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1429}) &= B_{\bar{N}}(2N + 1429 - B_{\bar{N}}(2N + 1428)) + B_{\bar{N}}(2N + 1429 - B_{\bar{N}}(2N + 1427)) + B_{\bar{N}}(2N + 1429 - B_{\bar{N}}(2N + 1426)) \\
&= B_{\bar{N}}(2N + 1429 - (2N - 1026)) + B_{\bar{N}}(2N + 1429 - (N + 2025)) + B_{\bar{N}}(2N + 1429 - (2N + 1264)) \\
&= B_{\bar{N}}(2455) + B_{\bar{N}}(N - 596) + B_{\bar{N}}(165) = 2455 + (N - 596) + 165 = \mathbf{N} + \mathbf{2024} \\
&(N \geq 2455)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1430}) &= B_{\bar{N}}(2N + 1430 - B_{\bar{N}}(2N + 1429)) + B_{\bar{N}}(2N + 1430 - B_{\bar{N}}(2N + 1428)) + B_{\bar{N}}(2N + 1430 - B_{\bar{N}}(2N + 1427)) \\
&= B_{\bar{N}}(2N + 1430 - (N + 2024)) + B_{\bar{N}}(2N + 1430 - (2N - 1026)) + B_{\bar{N}}(2N + 1430 - (N + 2025)) \\
&= B_{\bar{N}}(N - 594) + B_{\bar{N}}(2456) + B_{\bar{N}}(N - 595) = (N - 594) + 2456 + (N - 595) = \mathbf{2N} + \mathbf{1267} \\
&(N \geq 2456)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1431}) &= B_{\bar{N}}(2N + 1431 - B_{\bar{N}}(2N + 1430)) + B_{\bar{N}}(2N + 1431 - B_{\bar{N}}(2N + 1429)) + B_{\bar{N}}(2N + 1431 - B_{\bar{N}}(2N + 1428)) \\
&= B_{\bar{N}}(2N + 1431 - (2N + 1267)) + B_{\bar{N}}(2N + 1431 - (N + 2024)) + B_{\bar{N}}(2N + 1431 - (2N - 1026)) \\
&= B_{\bar{N}}(164) + B_{\bar{N}}(N - 593) + B_{\bar{N}}(2457) = 164 + (N - 593) + 2457 = \mathbf{N} + \mathbf{2028} \\
&(N \geq 2457)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1432}) &= B_{\bar{N}}(2N + 1432 - B_{\bar{N}}(2N + 1431)) + B_{\bar{N}}(2N + 1432 - B_{\bar{N}}(2N + 1430)) + B_{\bar{N}}(2N + 1432 - B_{\bar{N}}(2N + 1429)) \\
&= B_{\bar{N}}(2N + 1432 - (N + 2028)) + B_{\bar{N}}(2N + 1432 - (2N + 1267)) + B_{\bar{N}}(2N + 1432 - (N + 2024)) \\
&= B_{\bar{N}}(N - 596) + B_{\bar{N}}(165) + B_{\bar{N}}(N - 592) = (N - 596) + 165 + (N - 592) = \mathbf{2N} - \mathbf{1023} \\
&(N \geq 597)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1433}) &= B_{\bar{N}}(2N + 1433 - B_{\bar{N}}(2N + 1432)) + B_{\bar{N}}(2N + 1433 - B_{\bar{N}}(2N + 1431)) + B_{\bar{N}}(2N + 1433 - B_{\bar{N}}(2N + 1430)) \\
&= B_{\bar{N}}(2N + 1433 - (2N - 1023)) + B_{\bar{N}}(2N + 1433 - (N + 2028)) + B_{\bar{N}}(2N + 1433 - (2N + 1267)) \\
&= B_{\bar{N}}(2456) + B_{\bar{N}}(N - 595) + B_{\bar{N}}(166) = 2456 + (N - 595) + 166 = \mathbf{N} + \mathbf{2027} \\
&(N \geq 2456)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1434}) &= B_{\bar{N}}(2N + 1434 - B_{\bar{N}}(2N + 1433)) + B_{\bar{N}}(2N + 1434 - B_{\bar{N}}(2N + 1432)) + B_{\bar{N}}(2N + 1434 - B_{\bar{N}}(2N + 1431)) \\
&= B_{\bar{N}}(2N + 1434 - (N + 2027)) + B_{\bar{N}}(2N + 1434 - (2N - 1023)) + B_{\bar{N}}(2N + 1434 - (N + 2028)) \\
&= B_{\bar{N}}(N - 593) + B_{\bar{N}}(2457) + B_{\bar{N}}(N - 594) = (N - 593) + 2457 + (N - 594) = \mathbf{2N} + \mathbf{1270} \\
&(N \geq 2457)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1435}) &= B_{\bar{N}}(2N + 1435 - B_{\bar{N}}(2N + 1434)) + B_{\bar{N}}(2N + 1435 - B_{\bar{N}}(2N + 1433)) + B_{\bar{N}}(2N + 1435 - B_{\bar{N}}(2N + 1432)) \\
&= B_{\bar{N}}(2N + 1435 - (2N + 1270)) + B_{\bar{N}}(2N + 1435 - (N + 2027)) + B_{\bar{N}}(2N + 1435 - (2N - 1023)) \\
&= B_{\bar{N}}(165) + B_{\bar{N}}(N - 592) + B_{\bar{N}}(2458) = 165 + (N - 592) + 2458 = \mathbf{N} + \mathbf{2031} \\
&(N \geq 2458)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1436}) &= B_{\bar{N}}(2N + 1436 - B_{\bar{N}}(2N + 1435)) + B_{\bar{N}}(2N + 1436 - B_{\bar{N}}(2N + 1434)) + B_{\bar{N}}(2N + 1436 - B_{\bar{N}}(2N + 1433)) \\
&= B_{\bar{N}}(2N + 1436 - (N + 2031)) + B_{\bar{N}}(2N + 1436 - (2N + 1270)) + B_{\bar{N}}(2N + 1436 - (N + 2027)) \\
&= B_{\bar{N}}(N - 595) + B_{\bar{N}}(166) + B_{\bar{N}}(N - 591) = (N - 595) + 166 + (N - 591) = \mathbf{2N} - \mathbf{1020} \\
&(N \geq 596)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1437}) &= B_{\bar{N}}(2N + 1437 - B_{\bar{N}}(2N + 1436)) + B_{\bar{N}}(2N + 1437 - B_{\bar{N}}(2N + 1435)) + B_{\bar{N}}(2N + 1437 - B_{\bar{N}}(2N + 1434)) \\
&= B_{\bar{N}}(2N + 1437 - (2N - 1020)) + B_{\bar{N}}(2N + 1437 - (N + 2031)) + B_{\bar{N}}(2N + 1437 - (2N + 1270)) \\
&= B_{\bar{N}}(2457) + B_{\bar{N}}(N - 594) + B_{\bar{N}}(167) = 2457 + (N - 594) + 167 = \mathbf{N} + \mathbf{2030} \\
&(N \geq 2457)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1438}) &= B_{\bar{N}}(2N + 1438 - B_{\bar{N}}(2N + 1437)) + B_{\bar{N}}(2N + 1438 - B_{\bar{N}}(2N + 1436)) + B_{\bar{N}}(2N + 1438 - B_{\bar{N}}(2N + 1435)) \\
&= B_{\bar{N}}(2N + 1438 - (N + 2030)) + B_{\bar{N}}(2N + 1438 - (2N - 1020)) + B_{\bar{N}}(2N + 1438 - (N + 2031)) \\
&= B_{\bar{N}}(N - 592) + B_{\bar{N}}(2458) + B_{\bar{N}}(N - 593) = (N - 592) + 2458 + (N - 593) = \mathbf{2N} + \mathbf{1273} \\
&(N \geq 2458)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1439}) &= B_{\bar{N}}(2N + 1439 - B_{\bar{N}}(2N + 1438)) + B_{\bar{N}}(2N + 1439 - B_{\bar{N}}(2N + 1437)) + B_{\bar{N}}(2N + 1439 - B_{\bar{N}}(2N + 1436)) \\
&= B_{\bar{N}}(2N + 1439 - (2N + 1273)) + B_{\bar{N}}(2N + 1439 - (N + 2030)) + B_{\bar{N}}(2N + 1439 - (2N - 1020)) \\
&= B_{\bar{N}}(166) + B_{\bar{N}}(N - 591) + B_{\bar{N}}(2459) = 166 + (N - 591) + 2459 = \mathbf{N} + \mathbf{2034} \\
&(N \geq 2459)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1440}) &= B_{\bar{N}}(2N + 1440 - B_{\bar{N}}(2N + 1439)) + B_{\bar{N}}(2N + 1440 - B_{\bar{N}}(2N + 1438)) + B_{\bar{N}}(2N + 1440 - B_{\bar{N}}(2N + 1437)) \\
&= B_{\bar{N}}(2N + 1440 - (N + 2034)) + B_{\bar{N}}(2N + 1440 - (2N + 1273)) + B_{\bar{N}}(2N + 1440 - (N + 2030)) \\
&= B_{\bar{N}}(N - 594) + B_{\bar{N}}(167) + B_{\bar{N}}(N - 590) = (N - 594) + 167 + (N - 590) = \mathbf{2N} - \mathbf{1017} \\
&(N \geq 595)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1441}) &= B_{\bar{N}}(2N + 1441 - B_{\bar{N}}(2N + 1440)) + B_{\bar{N}}(2N + 1441 - B_{\bar{N}}(2N + 1439)) + B_{\bar{N}}(2N + 1441 - B_{\bar{N}}(2N + 1438)) \\
&= B_{\bar{N}}(2N + 1441 - (2N - 1017)) + B_{\bar{N}}(2N + 1441 - (N + 2034)) + B_{\bar{N}}(2N + 1441 - (2N + 1273)) \\
&= B_{\bar{N}}(2458) + B_{\bar{N}}(N - 593) + B_{\bar{N}}(168) = 2458 + (N - 593) + 168 = \mathbf{N} + \mathbf{2033} \\
&(N \geq 2458)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1442}) &= B_{\bar{N}}(2N + 1442 - B_{\bar{N}}(2N + 1441)) + B_{\bar{N}}(2N + 1442 - B_{\bar{N}}(2N + 1440)) + B_{\bar{N}}(2N + 1442 - B_{\bar{N}}(2N + 1439)) \\
&= B_{\bar{N}}(2N + 1442 - (N + 2033)) + B_{\bar{N}}(2N + 1442 - (2N - 1017)) + B_{\bar{N}}(2N + 1442 - (N + 2034)) \\
&= B_{\bar{N}}(N - 591) + B_{\bar{N}}(2459) + B_{\bar{N}}(N - 592) = (N - 591) + 2459 + (N - 592) = \mathbf{2N} + \mathbf{1276} \\
&(N \geq 2459)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1443}) &= B_{\bar{N}}(2N + 1443 - B_{\bar{N}}(2N + 1442)) + B_{\bar{N}}(2N + 1443 - B_{\bar{N}}(2N + 1441)) + B_{\bar{N}}(2N + 1443 - B_{\bar{N}}(2N + 1440)) \\
&= B_{\bar{N}}(2N + 1443 - (2N + 1276)) + B_{\bar{N}}(2N + 1443 - (N + 2033)) + B_{\bar{N}}(2N + 1443 - (2N - 1017)) \\
&= B_{\bar{N}}(167) + B_{\bar{N}}(N - 590) + B_{\bar{N}}(2460) = 167 + (N - 590) + 2460 = \mathbf{N} + \mathbf{2037} \\
&(N \geq 2460)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1444}) &= B_{\bar{N}}(2N + 1444 - B_{\bar{N}}(2N + 1443)) + B_{\bar{N}}(2N + 1444 - B_{\bar{N}}(2N + 1442)) + B_{\bar{N}}(2N + 1444 - B_{\bar{N}}(2N + 1441)) \\
&= B_{\bar{N}}(2N + 1444 - (N + 2037)) + B_{\bar{N}}(2N + 1444 - (2N + 1276)) + B_{\bar{N}}(2N + 1444 - (N + 2033)) \\
&= B_{\bar{N}}(N - 593) + B_{\bar{N}}(168) + B_{\bar{N}}(N - 589) = (N - 593) + 168 + (N - 589) = \mathbf{2N} - \mathbf{1014} \\
&(N \geq 594)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1445}) &= B_{\bar{N}}(2N + 1445 - B_{\bar{N}}(2N + 1444)) + B_{\bar{N}}(2N + 1445 - B_{\bar{N}}(2N + 1443)) + B_{\bar{N}}(2N + 1445 - B_{\bar{N}}(2N + 1442)) \\
&= B_{\bar{N}}(2N + 1445 - (2N - 1014)) + B_{\bar{N}}(2N + 1445 - (N + 2037)) + B_{\bar{N}}(2N + 1445 - (2N + 1276)) \\
&= B_{\bar{N}}(2459) + B_{\bar{N}}(N - 592) + B_{\bar{N}}(169) = 2459 + (N - 592) + 169 = \mathbf{N} + \mathbf{2036} \\
&(N \geq 2459)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1446}) &= B_{\bar{N}}(2N + 1446 - B_{\bar{N}}(2N + 1445)) + B_{\bar{N}}(2N + 1446 - B_{\bar{N}}(2N + 1444)) + B_{\bar{N}}(2N + 1446 - B_{\bar{N}}(2N + 1443)) \\
&= B_{\bar{N}}(2N + 1446 - (N + 2036)) + B_{\bar{N}}(2N + 1446 - (2N - 1014)) + B_{\bar{N}}(2N + 1446 - (N + 2037)) \\
&= B_{\bar{N}}(N - 590) + B_{\bar{N}}(2460) + B_{\bar{N}}(N - 591) = (N - 590) + 2460 + (N - 591) = \mathbf{2N} + \mathbf{1279} \\
&(N \geq 2460)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1447}) &= B_{\bar{N}}(2N + 1447 - B_{\bar{N}}(2N + 1446)) + B_{\bar{N}}(2N + 1447 - B_{\bar{N}}(2N + 1445)) + B_{\bar{N}}(2N + 1447 - B_{\bar{N}}(2N + 1444)) \\
&= B_{\bar{N}}(2N + 1447 - (2N + 1279)) + B_{\bar{N}}(2N + 1447 - (N + 2036)) + B_{\bar{N}}(2N + 1447 - (2N - 1014)) \\
&= B_{\bar{N}}(168) + B_{\bar{N}}(N - 589) + B_{\bar{N}}(2461) = 168 + (N - 589) + 2461 = \mathbf{N} + \mathbf{2040} \\
&(N \geq 2461)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1448}) &= B_{\bar{N}}(2N + 1448 - B_{\bar{N}}(2N + 1447)) + B_{\bar{N}}(2N + 1448 - B_{\bar{N}}(2N + 1446)) + B_{\bar{N}}(2N + 1448 - B_{\bar{N}}(2N + 1445)) \\
&= B_{\bar{N}}(2N + 1448 - (N + 2040)) + B_{\bar{N}}(2N + 1448 - (2N + 1279)) + B_{\bar{N}}(2N + 1448 - (N + 2036)) \\
&= B_{\bar{N}}(N - 592) + B_{\bar{N}}(169) + B_{\bar{N}}(N - 588) = (N - 592) + 169 + (N - 588) = \mathbf{2N} - \mathbf{1011} \\
&(N \geq 593)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1449}) &= B_{\bar{N}}(2N + 1449 - B_{\bar{N}}(2N + 1448)) + B_{\bar{N}}(2N + 1449 - B_{\bar{N}}(2N + 1447)) + B_{\bar{N}}(2N + 1449 - B_{\bar{N}}(2N + 1446)) \\
&= B_{\bar{N}}(2N + 1449 - (2N - 1011)) + B_{\bar{N}}(2N + 1449 - (N + 2040)) + B_{\bar{N}}(2N + 1449 - (2N + 1279)) \\
&= B_{\bar{N}}(2460) + B_{\bar{N}}(N - 591) + B_{\bar{N}}(170) = 2460 + (N - 591) + 170 = \mathbf{N} + \mathbf{2039} \\
&(N \geq 2460)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1450}) &= B_{\bar{N}}(2N + 1450 - B_{\bar{N}}(2N + 1449)) + B_{\bar{N}}(2N + 1450 - B_{\bar{N}}(2N + 1448)) + B_{\bar{N}}(2N + 1450 - B_{\bar{N}}(2N + 1447)) \\
&= B_{\bar{N}}(2N + 1450 - (N + 2039)) + B_{\bar{N}}(2N + 1450 - (2N - 1011)) + B_{\bar{N}}(2N + 1450 - (N + 2040)) \\
&= B_{\bar{N}}(N - 589) + B_{\bar{N}}(2461) + B_{\bar{N}}(N - 590) = (N - 589) + 2461 + (N - 590) = \mathbf{2N} + \mathbf{1282} \\
&(N \geq 2461)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1451}) &= B_{\bar{N}}(2N + 1451 - B_{\bar{N}}(2N + 1450)) + B_{\bar{N}}(2N + 1451 - B_{\bar{N}}(2N + 1449)) + B_{\bar{N}}(2N + 1451 - B_{\bar{N}}(2N + 1448)) \\
&= B_{\bar{N}}(2N + 1451 - (2N + 1282)) + B_{\bar{N}}(2N + 1451 - (N + 2039)) + B_{\bar{N}}(2N + 1451 - (2N - 1011)) \\
&= B_{\bar{N}}(169) + B_{\bar{N}}(N - 588) + B_{\bar{N}}(2462) = 169 + (N - 588) + 2462 = \mathbf{N} + \mathbf{2043} \\
&(N \geq 2462)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1452}) &= B_{\bar{N}}(2N + 1452 - B_{\bar{N}}(2N + 1451)) + B_{\bar{N}}(2N + 1452 - B_{\bar{N}}(2N + 1450)) + B_{\bar{N}}(2N + 1452 - B_{\bar{N}}(2N + 1449)) \\
&= B_{\bar{N}}(2N + 1452 - (N + 2043)) + B_{\bar{N}}(2N + 1452 - (2N + 1282)) + B_{\bar{N}}(2N + 1452 - (N + 2039)) \\
&= B_{\bar{N}}(N - 591) + B_{\bar{N}}(170) + B_{\bar{N}}(N - 587) = (N - 591) + 170 + (N - 587) = \mathbf{2N} - \mathbf{1008} \\
&(N \geq 592)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1453}) &= B_{\bar{N}}(2N + 1453 - B_{\bar{N}}(2N + 1452)) + B_{\bar{N}}(2N + 1453 - B_{\bar{N}}(2N + 1451)) + B_{\bar{N}}(2N + 1453 - B_{\bar{N}}(2N + 1450)) \\
&= B_{\bar{N}}(2N + 1453 - (2N - 1008)) + B_{\bar{N}}(2N + 1453 - (N + 2043)) + B_{\bar{N}}(2N + 1453 - (2N + 1282)) \\
&= B_{\bar{N}}(2461) + B_{\bar{N}}(N - 590) + B_{\bar{N}}(171) = 2461 + (N - 590) + 171 = \mathbf{N} + \mathbf{2042} \\
&(N \geq 2461)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1454}) &= B_{\bar{N}}(2N + 1454 - B_{\bar{N}}(2N + 1453)) + B_{\bar{N}}(2N + 1454 - B_{\bar{N}}(2N + 1452)) + B_{\bar{N}}(2N + 1454 - B_{\bar{N}}(2N + 1451)) \\
&= B_{\bar{N}}(2N + 1454 - (N + 2042)) + B_{\bar{N}}(2N + 1454 - (2N - 1008)) + B_{\bar{N}}(2N + 1454 - (N + 2043)) \\
&= B_{\bar{N}}(N - 588) + B_{\bar{N}}(2462) + B_{\bar{N}}(N - 589) = (N - 588) + 2462 + (N - 589) = \mathbf{2N} + \mathbf{1285} \\
&(N \geq 2462)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1455}) &= B_{\bar{N}}(2N + 1455 - B_{\bar{N}}(2N + 1454)) + B_{\bar{N}}(2N + 1455 - B_{\bar{N}}(2N + 1453)) + B_{\bar{N}}(2N + 1455 - B_{\bar{N}}(2N + 1452)) \\
&= B_{\bar{N}}(2N + 1455 - (2N + 1285)) + B_{\bar{N}}(2N + 1455 - (N + 2042)) + B_{\bar{N}}(2N + 1455 - (2N - 1008)) \\
&= B_{\bar{N}}(170) + B_{\bar{N}}(N - 587) + B_{\bar{N}}(2463) = 170 + (N - 587) + 2463 = \mathbf{N} + \mathbf{2046} \\
&(N \geq 2463)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1456}) &= B_{\bar{N}}(2N + 1456 - B_{\bar{N}}(2N + 1455)) + B_{\bar{N}}(2N + 1456 - B_{\bar{N}}(2N + 1454)) + B_{\bar{N}}(2N + 1456 - B_{\bar{N}}(2N + 1453)) \\
&= B_{\bar{N}}(2N + 1456 - (N + 2046)) + B_{\bar{N}}(2N + 1456 - (2N + 1285)) + B_{\bar{N}}(2N + 1456 - (N + 2042)) \\
&= B_{\bar{N}}(N - 590) + B_{\bar{N}}(171) + B_{\bar{N}}(N - 586) = (N - 590) + 171 + (N - 586) = \mathbf{2N} - \mathbf{1005} \\
&(N \geq 591)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1457}) &= B_{\bar{N}}(2N + 1457 - B_{\bar{N}}(2N + 1456)) + B_{\bar{N}}(2N + 1457 - B_{\bar{N}}(2N + 1455)) + B_{\bar{N}}(2N + 1457 - B_{\bar{N}}(2N + 1454)) \\
&= B_{\bar{N}}(2N + 1457 - (2N - 1005)) + B_{\bar{N}}(2N + 1457 - (N + 2046)) + B_{\bar{N}}(2N + 1457 - (2N + 1285)) \\
&= B_{\bar{N}}(2462) + B_{\bar{N}}(N - 589) + B_{\bar{N}}(172) = 2462 + (N - 589) + 172 = \mathbf{N} + \mathbf{2045} \\
&(N \geq 2462)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1458}) &= B_{\bar{N}}(2N + 1458 - B_{\bar{N}}(2N + 1457)) + B_{\bar{N}}(2N + 1458 - B_{\bar{N}}(2N + 1456)) + B_{\bar{N}}(2N + 1458 - B_{\bar{N}}(2N + 1455)) \\
&= B_{\bar{N}}(2N + 1458 - (N + 2045)) + B_{\bar{N}}(2N + 1458 - (2N - 1005)) + B_{\bar{N}}(2N + 1458 - (N + 2046)) \\
&= B_{\bar{N}}(N - 587) + B_{\bar{N}}(2463) + B_{\bar{N}}(N - 588) = (N - 587) + 2463 + (N - 588) = \mathbf{2N} + \mathbf{1288} \\
&(N \geq 2463)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1459}) &= B_{\bar{N}}(2N + 1459 - B_{\bar{N}}(2N + 1458)) + B_{\bar{N}}(2N + 1459 - B_{\bar{N}}(2N + 1457)) + B_{\bar{N}}(2N + 1459 - B_{\bar{N}}(2N + 1456)) \\
&= B_{\bar{N}}(2N + 1459 - (2N + 1288)) + B_{\bar{N}}(2N + 1459 - (N + 2045)) + B_{\bar{N}}(2N + 1459 - (2N - 1005)) \\
&= B_{\bar{N}}(171) + B_{\bar{N}}(N - 586) + B_{\bar{N}}(2464) = 171 + (N - 586) + 2464 = \mathbf{N} + \mathbf{2049} \\
&(N \geq 2464)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1460}) &= B_{\bar{N}}(2N + 1460 - B_{\bar{N}}(2N + 1459)) + B_{\bar{N}}(2N + 1460 - B_{\bar{N}}(2N + 1458)) + B_{\bar{N}}(2N + 1460 - B_{\bar{N}}(2N + 1457)) \\
&= B_{\bar{N}}(2N + 1460 - (N + 2049)) + B_{\bar{N}}(2N + 1460 - (2N + 1288)) + B_{\bar{N}}(2N + 1460 - (N + 2045)) \\
&= B_{\bar{N}}(N - 589) + B_{\bar{N}}(172) + B_{\bar{N}}(N - 585) = (N - 589) + 172 + (N - 585) = \mathbf{2N} - \mathbf{1002} \\
&(N \geq 590)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1461}) &= B_{\bar{N}}(2N + 1461 - B_{\bar{N}}(2N + 1460)) + B_{\bar{N}}(2N + 1461 - B_{\bar{N}}(2N + 1459)) + B_{\bar{N}}(2N + 1461 - B_{\bar{N}}(2N + 1458)) \\
&= B_{\bar{N}}(2N + 1461 - (2N - 1002)) + B_{\bar{N}}(2N + 1461 - (N + 2049)) + B_{\bar{N}}(2N + 1461 - (2N + 1288)) \\
&= B_{\bar{N}}(2463) + B_{\bar{N}}(N - 588) + B_{\bar{N}}(173) = 2463 + (N - 588) + 173 = \mathbf{N} + \mathbf{2048} \\
&(N \geq 2463)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1462}) &= B_{\bar{N}}(2N + 1462 - B_{\bar{N}}(2N + 1461)) + B_{\bar{N}}(2N + 1462 - B_{\bar{N}}(2N + 1460)) + B_{\bar{N}}(2N + 1462 - B_{\bar{N}}(2N + 1459)) \\
&= B_{\bar{N}}(2N + 1462 - (N + 2048)) + B_{\bar{N}}(2N + 1462 - (2N - 1002)) + B_{\bar{N}}(2N + 1462 - (N + 2049)) \\
&= B_{\bar{N}}(N - 586) + B_{\bar{N}}(2464) + B_{\bar{N}}(N - 587) = (N - 586) + 2464 + (N - 587) = \mathbf{2N} + \mathbf{1291} \\
&(N \geq 2464)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1463}) &= B_{\bar{N}}(2N + 1463 - B_{\bar{N}}(2N + 1462)) + B_{\bar{N}}(2N + 1463 - B_{\bar{N}}(2N + 1461)) + B_{\bar{N}}(2N + 1463 - B_{\bar{N}}(2N + 1460)) \\
&= B_{\bar{N}}(2N + 1463 - (2N + 1291)) + B_{\bar{N}}(2N + 1463 - (N + 2048)) + B_{\bar{N}}(2N + 1463 - (2N - 1002)) \\
&= B_{\bar{N}}(172) + B_{\bar{N}}(N - 585) + B_{\bar{N}}(2465) = 172 + (N - 585) + 2465 = \mathbf{N} + \mathbf{2052} \\
&(N \geq 2465)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1464}) &= B_{\bar{N}}(2N + 1464 - B_{\bar{N}}(2N + 1463)) + B_{\bar{N}}(2N + 1464 - B_{\bar{N}}(2N + 1462)) + B_{\bar{N}}(2N + 1464 - B_{\bar{N}}(2N + 1461)) \\
&= B_{\bar{N}}(2N + 1464 - (N + 2052)) + B_{\bar{N}}(2N + 1464 - (2N + 1291)) + B_{\bar{N}}(2N + 1464 - (N + 2048)) \\
&= B_{\bar{N}}(N - 588) + B_{\bar{N}}(173) + B_{\bar{N}}(N - 584) = (N - 588) + 173 + (N - 584) = \mathbf{2N} - \mathbf{999} \\
&(N \geq 589)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1465}) &= B_{\bar{N}}(2N + 1465 - B_{\bar{N}}(2N + 1464)) + B_{\bar{N}}(2N + 1465 - B_{\bar{N}}(2N + 1463)) + B_{\bar{N}}(2N + 1465 - B_{\bar{N}}(2N + 1462)) \\
&= B_{\bar{N}}(2N + 1465 - (2N - 999)) + B_{\bar{N}}(2N + 1465 - (N + 2052)) + B_{\bar{N}}(2N + 1465 - (2N + 1291)) \\
&= B_{\bar{N}}(2464) + B_{\bar{N}}(N - 587) + B_{\bar{N}}(174) = 2464 + (N - 587) + 174 = \mathbf{N} + \mathbf{2051} \\
&(N \geq 2464)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1466}) &= B_{\bar{N}}(2N + 1466 - B_{\bar{N}}(2N + 1465)) + B_{\bar{N}}(2N + 1466 - B_{\bar{N}}(2N + 1464)) + B_{\bar{N}}(2N + 1466 - B_{\bar{N}}(2N + 1463)) \\
&= B_{\bar{N}}(2N + 1466 - (N + 2051)) + B_{\bar{N}}(2N + 1466 - (2N - 999)) + B_{\bar{N}}(2N + 1466 - (N + 2052)) \\
&= B_{\bar{N}}(N - 585) + B_{\bar{N}}(2465) + B_{\bar{N}}(N - 586) = (N - 585) + 2465 + (N - 586) = \mathbf{2N} + \mathbf{1294} \\
&(N \geq 2465)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1467}) &= B_{\bar{N}}(2N + 1467 - B_{\bar{N}}(2N + 1466)) + B_{\bar{N}}(2N + 1467 - B_{\bar{N}}(2N + 1465)) + B_{\bar{N}}(2N + 1467 - B_{\bar{N}}(2N + 1464)) \\
&= B_{\bar{N}}(2N + 1467 - (2N + 1294)) + B_{\bar{N}}(2N + 1467 - (N + 2051)) + B_{\bar{N}}(2N + 1467 - (2N - 999)) \\
&= B_{\bar{N}}(173) + B_{\bar{N}}(N - 584) + B_{\bar{N}}(2466) = 173 + (N - 584) + 2466 = \mathbf{N} + \mathbf{2055} \\
&(N \geq 2466)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1468}) &= B_{\bar{N}}(2N + 1468 - B_{\bar{N}}(2N + 1467)) + B_{\bar{N}}(2N + 1468 - B_{\bar{N}}(2N + 1466)) + B_{\bar{N}}(2N + 1468 - B_{\bar{N}}(2N + 1465)) \\
&= B_{\bar{N}}(2N + 1468 - (N + 2055)) + B_{\bar{N}}(2N + 1468 - (2N + 1294)) + B_{\bar{N}}(2N + 1468 - (N + 2051)) \\
&= B_{\bar{N}}(N - 587) + B_{\bar{N}}(174) + B_{\bar{N}}(N - 583) = (N - 587) + 174 + (N - 583) = \mathbf{2N} - \mathbf{996} \\
&(N \geq 588)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1469}) &= B_{\bar{N}}(2N + 1469 - B_{\bar{N}}(2N + 1468)) + B_{\bar{N}}(2N + 1469 - B_{\bar{N}}(2N + 1467)) + B_{\bar{N}}(2N + 1469 - B_{\bar{N}}(2N + 1466)) \\
&= B_{\bar{N}}(2N + 1469 - (2N - 996)) + B_{\bar{N}}(2N + 1469 - (N + 2055)) + B_{\bar{N}}(2N + 1469 - (2N + 1294)) \\
&= B_{\bar{N}}(2465) + B_{\bar{N}}(N - 586) + B_{\bar{N}}(175) = 2465 + (N - 586) + 175 = \mathbf{N} + \mathbf{2054} \\
&(N \geq 2465)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1470}) &= B_{\bar{N}}(2N + 1470 - B_{\bar{N}}(2N + 1469)) + B_{\bar{N}}(2N + 1470 - B_{\bar{N}}(2N + 1468)) + B_{\bar{N}}(2N + 1470 - B_{\bar{N}}(2N + 1467)) \\
&= B_{\bar{N}}(2N + 1470 - (N + 2054)) + B_{\bar{N}}(2N + 1470 - (2N - 996)) + B_{\bar{N}}(2N + 1470 - (N + 2055)) \\
&= B_{\bar{N}}(N - 584) + B_{\bar{N}}(2466) + B_{\bar{N}}(N - 585) = (N - 584) + 2466 + (N - 585) = \mathbf{2N} + \mathbf{1297} \\
&(N \geq 2466)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1471}) &= B_{\bar{N}}(2N + 1471 - B_{\bar{N}}(2N + 1470)) + B_{\bar{N}}(2N + 1471 - B_{\bar{N}}(2N + 1469)) + B_{\bar{N}}(2N + 1471 - B_{\bar{N}}(2N + 1468)) \\
&= B_{\bar{N}}(2N + 1471 - (2N + 1297)) + B_{\bar{N}}(2N + 1471 - (N + 2054)) + B_{\bar{N}}(2N + 1471 - (2N - 996)) \\
&= B_{\bar{N}}(174) + B_{\bar{N}}(N - 583) + B_{\bar{N}}(2467) = 174 + (N - 583) + 2467 = \mathbf{N} + \mathbf{2058} \\
&(N \geq 2467)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1472}) &= B_{\bar{N}}(2N + 1472 - B_{\bar{N}}(2N + 1471)) + B_{\bar{N}}(2N + 1472 - B_{\bar{N}}(2N + 1470)) + B_{\bar{N}}(2N + 1472 - B_{\bar{N}}(2N + 1469)) \\
&= B_{\bar{N}}(2N + 1472 - (N + 2058)) + B_{\bar{N}}(2N + 1472 - (2N + 1297)) + B_{\bar{N}}(2N + 1472 - (N + 2054)) \\
&= B_{\bar{N}}(N - 586) + B_{\bar{N}}(175) + B_{\bar{N}}(N - 582) = (N - 586) + 175 + (N - 582) = \mathbf{2N} - \mathbf{993} \\
&(N \geq 587)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1473}) &= B_{\bar{N}}(2N + 1473 - B_{\bar{N}}(2N + 1472)) + B_{\bar{N}}(2N + 1473 - B_{\bar{N}}(2N + 1471)) + B_{\bar{N}}(2N + 1473 - B_{\bar{N}}(2N + 1470)) \\
&= B_{\bar{N}}(2N + 1473 - (2N - 993)) + B_{\bar{N}}(2N + 1473 - (N + 2058)) + B_{\bar{N}}(2N + 1473 - (2N + 1297)) \\
&= B_{\bar{N}}(2466) + B_{\bar{N}}(N - 585) + B_{\bar{N}}(176) = 2466 + (N - 585) + 176 = \mathbf{N} + \mathbf{2057} \\
&(N \geq 2466)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1474}) &= B_{\bar{N}}(2N + 1474 - B_{\bar{N}}(2N + 1473)) + B_{\bar{N}}(2N + 1474 - B_{\bar{N}}(2N + 1472)) + B_{\bar{N}}(2N + 1474 - B_{\bar{N}}(2N + 1471)) \\
&= B_{\bar{N}}(2N + 1474 - (N + 2057)) + B_{\bar{N}}(2N + 1474 - (2N - 993)) + B_{\bar{N}}(2N + 1474 - (N + 2058)) \\
&= B_{\bar{N}}(N - 583) + B_{\bar{N}}(2467) + B_{\bar{N}}(N - 584) = (N - 583) + 2467 + (N - 584) = \mathbf{2N} + \mathbf{1300} \\
&(N \geq 2467)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1475}) &= B_{\bar{N}}(2N + 1475 - B_{\bar{N}}(2N + 1474)) + B_{\bar{N}}(2N + 1475 - B_{\bar{N}}(2N + 1473)) + B_{\bar{N}}(2N + 1475 - B_{\bar{N}}(2N + 1472)) \\
&= B_{\bar{N}}(2N + 1475 - (2N + 1300)) + B_{\bar{N}}(2N + 1475 - (N + 2057)) + B_{\bar{N}}(2N + 1475 - (2N - 993)) \\
&= B_{\bar{N}}(175) + B_{\bar{N}}(N - 582) + B_{\bar{N}}(2468) = 175 + (N - 582) + 2468 = \mathbf{N} + \mathbf{2061} \\
&(N \geq 2468)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1476}) &= B_{\bar{N}}(2N + 1476 - B_{\bar{N}}(2N + 1475)) + B_{\bar{N}}(2N + 1476 - B_{\bar{N}}(2N + 1474)) + B_{\bar{N}}(2N + 1476 - B_{\bar{N}}(2N + 1473)) \\
&= B_{\bar{N}}(2N + 1476 - (N + 2061)) + B_{\bar{N}}(2N + 1476 - (2N + 1300)) + B_{\bar{N}}(2N + 1476 - (N + 2057)) \\
&= B_{\bar{N}}(N - 585) + B_{\bar{N}}(176) + B_{\bar{N}}(N - 581) = (N - 585) + 176 + (N - 581) = \mathbf{2N} - \mathbf{990} \\
&(N \geq 586)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1477}) &= B_{\bar{N}}(2N + 1477 - B_{\bar{N}}(2N + 1476)) + B_{\bar{N}}(2N + 1477 - B_{\bar{N}}(2N + 1475)) + B_{\bar{N}}(2N + 1477 - B_{\bar{N}}(2N + 1474)) \\
&= B_{\bar{N}}(2N + 1477 - (2N - 990)) + B_{\bar{N}}(2N + 1477 - (N + 2061)) + B_{\bar{N}}(2N + 1477 - (2N + 1300)) \\
&= B_{\bar{N}}(2467) + B_{\bar{N}}(N - 584) + B_{\bar{N}}(177) = 2467 + (N - 584) + 177 = \mathbf{N} + \mathbf{2060} \\
&(N \geq 2467)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1478}) &= B_{\bar{N}}(2N + 1478 - B_{\bar{N}}(2N + 1477)) + B_{\bar{N}}(2N + 1478 - B_{\bar{N}}(2N + 1476)) + B_{\bar{N}}(2N + 1478 - B_{\bar{N}}(2N + 1475)) \\
&= B_{\bar{N}}(2N + 1478 - (N + 2060)) + B_{\bar{N}}(2N + 1478 - (2N - 990)) + B_{\bar{N}}(2N + 1478 - (N + 2061)) \\
&= B_{\bar{N}}(N - 582) + B_{\bar{N}}(2468) + B_{\bar{N}}(N - 583) = (N - 582) + 2468 + (N - 583) = \mathbf{2N} + \mathbf{1303} \\
&(N \geq 2468)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1479}) &= B_{\bar{N}}(2N + 1479 - B_{\bar{N}}(2N + 1478)) + B_{\bar{N}}(2N + 1479 - B_{\bar{N}}(2N + 1477)) + B_{\bar{N}}(2N + 1479 - B_{\bar{N}}(2N + 1476)) \\
&= B_{\bar{N}}(2N + 1479 - (2N + 1303)) + B_{\bar{N}}(2N + 1479 - (N + 2060)) + B_{\bar{N}}(2N + 1479 - (2N - 990)) \\
&= B_{\bar{N}}(176) + B_{\bar{N}}(N - 581) + B_{\bar{N}}(2469) = 176 + (N - 581) + 2469 = \mathbf{N} + \mathbf{2064} \\
&(N \geq 2469)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1480}) &= B_{\bar{N}}(2N + 1480 - B_{\bar{N}}(2N + 1479)) + B_{\bar{N}}(2N + 1480 - B_{\bar{N}}(2N + 1478)) + B_{\bar{N}}(2N + 1480 - B_{\bar{N}}(2N + 1477)) \\
&= B_{\bar{N}}(2N + 1480 - (N + 2064)) + B_{\bar{N}}(2N + 1480 - (2N + 1303)) + B_{\bar{N}}(2N + 1480 - (N + 2060)) \\
&= B_{\bar{N}}(N - 584) + B_{\bar{N}}(177) + B_{\bar{N}}(N - 580) = (N - 584) + 177 + (N - 580) = \mathbf{2N} - \mathbf{987} \\
&(N \geq 585)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1481}) &= B_{\bar{N}}(2N + 1481 - B_{\bar{N}}(2N + 1480)) + B_{\bar{N}}(2N + 1481 - B_{\bar{N}}(2N + 1479)) + B_{\bar{N}}(2N + 1481 - B_{\bar{N}}(2N + 1478)) \\
&= B_{\bar{N}}(2N + 1481 - (2N - 987)) + B_{\bar{N}}(2N + 1481 - (N + 2064)) + B_{\bar{N}}(2N + 1481 - (2N + 1303)) \\
&= B_{\bar{N}}(2468) + B_{\bar{N}}(N - 583) + B_{\bar{N}}(178) = 2468 + (N - 583) + 178 = \mathbf{N} + \mathbf{2063} \\
&(N \geq 2468)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1482}) &= B_{\bar{N}}(2N + 1482 - B_{\bar{N}}(2N + 1481)) + B_{\bar{N}}(2N + 1482 - B_{\bar{N}}(2N + 1480)) + B_{\bar{N}}(2N + 1482 - B_{\bar{N}}(2N + 1479)) \\
&= B_{\bar{N}}(2N + 1482 - (N + 2063)) + B_{\bar{N}}(2N + 1482 - (2N - 987)) + B_{\bar{N}}(2N + 1482 - (N + 2064)) \\
&= B_{\bar{N}}(N - 581) + B_{\bar{N}}(2469) + B_{\bar{N}}(N - 582) = (N - 581) + 2469 + (N - 582) = \mathbf{2N} + \mathbf{1306} \\
&(N \geq 2469)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1483}) &= B_{\bar{N}}(2N + 1483 - B_{\bar{N}}(2N + 1482)) + B_{\bar{N}}(2N + 1483 - B_{\bar{N}}(2N + 1481)) + B_{\bar{N}}(2N + 1483 - B_{\bar{N}}(2N + 1480)) \\
&= B_{\bar{N}}(2N + 1483 - (2N + 1306)) + B_{\bar{N}}(2N + 1483 - (N + 2063)) + B_{\bar{N}}(2N + 1483 - (2N - 987)) \\
&= B_{\bar{N}}(177) + B_{\bar{N}}(N - 580) + B_{\bar{N}}(2470) = 177 + (N - 580) + 2470 = \mathbf{N} + \mathbf{2067} \\
&(N \geq 2470)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1484}) &= B_{\bar{N}}(2N + 1484 - B_{\bar{N}}(2N + 1483)) + B_{\bar{N}}(2N + 1484 - B_{\bar{N}}(2N + 1482)) + B_{\bar{N}}(2N + 1484 - B_{\bar{N}}(2N + 1481)) \\
&= B_{\bar{N}}(2N + 1484 - (N + 2067)) + B_{\bar{N}}(2N + 1484 - (2N + 1306)) + B_{\bar{N}}(2N + 1484 - (N + 2063)) \\
&= B_{\bar{N}}(N - 583) + B_{\bar{N}}(178) + B_{\bar{N}}(N - 579) = (N - 583) + 178 + (N - 579) = \mathbf{2N} - \mathbf{984} \\
&(N \geq 584)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1485}) &= B_{\bar{N}}(2N + 1485 - B_{\bar{N}}(2N + 1484)) + B_{\bar{N}}(2N + 1485 - B_{\bar{N}}(2N + 1483)) + B_{\bar{N}}(2N + 1485 - B_{\bar{N}}(2N + 1482)) \\
&= B_{\bar{N}}(2N + 1485 - (2N - 984)) + B_{\bar{N}}(2N + 1485 - (N + 2067)) + B_{\bar{N}}(2N + 1485 - (2N + 1306)) \\
&= B_{\bar{N}}(2469) + B_{\bar{N}}(N - 582) + B_{\bar{N}}(179) = 2469 + (N - 582) + 179 = \mathbf{N} + \mathbf{2066} \\
&(N \geq 2469)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1486}) &= B_{\bar{N}}(2N + 1486 - B_{\bar{N}}(2N + 1485)) + B_{\bar{N}}(2N + 1486 - B_{\bar{N}}(2N + 1484)) + B_{\bar{N}}(2N + 1486 - B_{\bar{N}}(2N + 1483)) \\
&= B_{\bar{N}}(2N + 1486 - (N + 2066)) + B_{\bar{N}}(2N + 1486 - (2N - 984)) + B_{\bar{N}}(2N + 1486 - (N + 2067)) \\
&= B_{\bar{N}}(N - 580) + B_{\bar{N}}(2470) + B_{\bar{N}}(N - 581) = (N - 580) + 2470 + (N - 581) = \mathbf{2N} + \mathbf{1309} \\
&(N \geq 2470)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1487}) &= B_{\bar{N}}(2N + 1487 - B_{\bar{N}}(2N + 1486)) + B_{\bar{N}}(2N + 1487 - B_{\bar{N}}(2N + 1485)) + B_{\bar{N}}(2N + 1487 - B_{\bar{N}}(2N + 1484)) \\
&= B_{\bar{N}}(2N + 1487 - (2N + 1309)) + B_{\bar{N}}(2N + 1487 - (N + 2066)) + B_{\bar{N}}(2N + 1487 - (2N - 984)) \\
&= B_{\bar{N}}(178) + B_{\bar{N}}(N - 579) + B_{\bar{N}}(2471) = 178 + (N - 579) + 2471 = \mathbf{N} + \mathbf{2070} \\
&(N \geq 2471)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1488}) &= B_{\bar{N}}(2N + 1488 - B_{\bar{N}}(2N + 1487)) + B_{\bar{N}}(2N + 1488 - B_{\bar{N}}(2N + 1486)) + B_{\bar{N}}(2N + 1488 - B_{\bar{N}}(2N + 1485)) \\
&= B_{\bar{N}}(2N + 1488 - (N + 2070)) + B_{\bar{N}}(2N + 1488 - (2N + 1309)) + B_{\bar{N}}(2N + 1488 - (N + 2066)) \\
&= B_{\bar{N}}(N - 582) + B_{\bar{N}}(179) + B_{\bar{N}}(N - 578) = (N - 582) + 179 + (N - 578) = \mathbf{2N} - \mathbf{981} \\
&(N \geq 583)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1489}) &= B_{\bar{N}}(2N + 1489 - B_{\bar{N}}(2N + 1488)) + B_{\bar{N}}(2N + 1489 - B_{\bar{N}}(2N + 1487)) + B_{\bar{N}}(2N + 1489 - B_{\bar{N}}(2N + 1486)) \\
&= B_{\bar{N}}(2N + 1489 - (2N - 981)) + B_{\bar{N}}(2N + 1489 - (N + 2070)) + B_{\bar{N}}(2N + 1489 - (2N + 1309)) \\
&= B_{\bar{N}}(2470) + B_{\bar{N}}(N - 581) + B_{\bar{N}}(180) = 2470 + (N - 581) + 180 = \mathbf{N} + \mathbf{2069} \\
&(N \geq 2470)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1490}) &= B_{\bar{N}}(2N + 1490 - B_{\bar{N}}(2N + 1489)) + B_{\bar{N}}(2N + 1490 - B_{\bar{N}}(2N + 1488)) + B_{\bar{N}}(2N + 1490 - B_{\bar{N}}(2N + 1487)) \\
&= B_{\bar{N}}(2N + 1490 - (N + 2069)) + B_{\bar{N}}(2N + 1490 - (2N - 981)) + B_{\bar{N}}(2N + 1490 - (N + 2070)) \\
&= B_{\bar{N}}(N - 579) + B_{\bar{N}}(2471) + B_{\bar{N}}(N - 580) = (N - 579) + 2471 + (N - 580) = \mathbf{2N} + \mathbf{1312} \\
&(N \geq 2471)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1491}) &= B_{\bar{N}}(2N + 1491 - B_{\bar{N}}(2N + 1490)) + B_{\bar{N}}(2N + 1491 - B_{\bar{N}}(2N + 1489)) + B_{\bar{N}}(2N + 1491 - B_{\bar{N}}(2N + 1488)) \\
&= B_{\bar{N}}(2N + 1491 - (2N + 1312)) + B_{\bar{N}}(2N + 1491 - (N + 2069)) + B_{\bar{N}}(2N + 1491 - (2N - 981)) \\
&= B_{\bar{N}}(179) + B_{\bar{N}}(N - 578) + B_{\bar{N}}(2472) = 179 + (N - 578) + 2472 = \mathbf{N} + \mathbf{2073} \\
&(N \geq 2472)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1492}) &= B_{\bar{N}}(2N + 1492 - B_{\bar{N}}(2N + 1491)) + B_{\bar{N}}(2N + 1492 - B_{\bar{N}}(2N + 1490)) + B_{\bar{N}}(2N + 1492 - B_{\bar{N}}(2N + 1489)) \\
&= B_{\bar{N}}(2N + 1492 - (N + 2073)) + B_{\bar{N}}(2N + 1492 - (2N + 1312)) + B_{\bar{N}}(2N + 1492 - (N + 2069)) \\
&= B_{\bar{N}}(N - 581) + B_{\bar{N}}(180) + B_{\bar{N}}(N - 577) = (N - 581) + 180 + (N - 577) = \mathbf{2N} - \mathbf{978} \\
&(N \geq 582)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1493}) &= B_{\bar{N}}(2N + 1493 - B_{\bar{N}}(2N + 1492)) + B_{\bar{N}}(2N + 1493 - B_{\bar{N}}(2N + 1491)) + B_{\bar{N}}(2N + 1493 - B_{\bar{N}}(2N + 1490)) \\
&= B_{\bar{N}}(2N + 1493 - (2N - 978)) + B_{\bar{N}}(2N + 1493 - (N + 2073)) + B_{\bar{N}}(2N + 1493 - (2N + 1312)) \\
&= B_{\bar{N}}(2471) + B_{\bar{N}}(N - 580) + B_{\bar{N}}(181) = 2471 + (N - 580) + 181 = \mathbf{N} + \mathbf{2072} \\
&(N \geq 2471)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1494}) &= B_{\bar{N}}(2N + 1494 - B_{\bar{N}}(2N + 1493)) + B_{\bar{N}}(2N + 1494 - B_{\bar{N}}(2N + 1492)) + B_{\bar{N}}(2N + 1494 - B_{\bar{N}}(2N + 1491)) \\
&= B_{\bar{N}}(2N + 1494 - (N + 2072)) + B_{\bar{N}}(2N + 1494 - (2N - 978)) + B_{\bar{N}}(2N + 1494 - (N + 2073)) \\
&= B_{\bar{N}}(N - 578) + B_{\bar{N}}(2472) + B_{\bar{N}}(N - 579) = (N - 578) + 2472 + (N - 579) = \mathbf{2N} + \mathbf{1315} \\
&(N \geq 2472)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1495}) &= B_{\bar{N}}(2N + 1495 - B_{\bar{N}}(2N + 1494)) + B_{\bar{N}}(2N + 1495 - B_{\bar{N}}(2N + 1493)) + B_{\bar{N}}(2N + 1495 - B_{\bar{N}}(2N + 1492)) \\
&= B_{\bar{N}}(2N + 1495 - (2N + 1315)) + B_{\bar{N}}(2N + 1495 - (N + 2072)) + B_{\bar{N}}(2N + 1495 - (2N - 978)) \\
&= B_{\bar{N}}(180) + B_{\bar{N}}(N - 577) + B_{\bar{N}}(2473) = 180 + (N - 577) + 2473 = \mathbf{N} + \mathbf{2076} \\
&(N \geq 2473)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1496}) &= B_{\bar{N}}(2N + 1496 - B_{\bar{N}}(2N + 1495)) + B_{\bar{N}}(2N + 1496 - B_{\bar{N}}(2N + 1494)) + B_{\bar{N}}(2N + 1496 - B_{\bar{N}}(2N + 1493)) \\
&= B_{\bar{N}}(2N + 1496 - (N + 2076)) + B_{\bar{N}}(2N + 1496 - (2N + 1315)) + B_{\bar{N}}(2N + 1496 - (N + 2072)) \\
&= B_{\bar{N}}(N - 580) + B_{\bar{N}}(181) + B_{\bar{N}}(N - 576) = (N - 580) + 181 + (N - 576) = \mathbf{2N} - \mathbf{975} \\
&(N \geq 581)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1497}) &= B_{\bar{N}}(2N + 1497 - B_{\bar{N}}(2N + 1496)) + B_{\bar{N}}(2N + 1497 - B_{\bar{N}}(2N + 1495)) + B_{\bar{N}}(2N + 1497 - B_{\bar{N}}(2N + 1494)) \\
&= B_{\bar{N}}(2N + 1497 - (2N - 975)) + B_{\bar{N}}(2N + 1497 - (N + 2076)) + B_{\bar{N}}(2N + 1497 - (2N + 1315)) \\
&= B_{\bar{N}}(2472) + B_{\bar{N}}(N - 579) + B_{\bar{N}}(182) = 2472 + (N - 579) + 182 = \mathbf{N} + \mathbf{2075} \\
&(N \geq 2472)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1498}) &= B_{\bar{N}}(2N + 1498 - B_{\bar{N}}(2N + 1497)) + B_{\bar{N}}(2N + 1498 - B_{\bar{N}}(2N + 1496)) + B_{\bar{N}}(2N + 1498 - B_{\bar{N}}(2N + 1495)) \\
&= B_{\bar{N}}(2N + 1498 - (N + 2075)) + B_{\bar{N}}(2N + 1498 - (2N - 975)) + B_{\bar{N}}(2N + 1498 - (N + 2076)) \\
&= B_{\bar{N}}(N - 577) + B_{\bar{N}}(2473) + B_{\bar{N}}(N - 578) = (N - 577) + 2473 + (N - 578) = \mathbf{2N} + \mathbf{1318} \\
&(N \geq 2473)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1499}) &= B_{\bar{N}}(2N + 1499 - B_{\bar{N}}(2N + 1498)) + B_{\bar{N}}(2N + 1499 - B_{\bar{N}}(2N + 1497)) + B_{\bar{N}}(2N + 1499 - B_{\bar{N}}(2N + 1496)) \\
&= B_{\bar{N}}(2N + 1499 - (2N + 1318)) + B_{\bar{N}}(2N + 1499 - (N + 2075)) + B_{\bar{N}}(2N + 1499 - (2N - 975)) \\
&= B_{\bar{N}}(181) + B_{\bar{N}}(N - 576) + B_{\bar{N}}(2474) = 181 + (N - 576) + 2474 = \mathbf{N} + \mathbf{2079} \\
&(N \geq 2474)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1500}) &= B_{\bar{N}}(2N + 1500 - B_{\bar{N}}(2N + 1499)) + B_{\bar{N}}(2N + 1500 - B_{\bar{N}}(2N + 1498)) + B_{\bar{N}}(2N + 1500 - B_{\bar{N}}(2N + 1497)) \\
&= B_{\bar{N}}(2N + 1500 - (N + 2079)) + B_{\bar{N}}(2N + 1500 - (2N + 1318)) + B_{\bar{N}}(2N + 1500 - (N + 2075)) \\
&= B_{\bar{N}}(N - 579) + B_{\bar{N}}(182) + B_{\bar{N}}(N - 575) = (N - 579) + 182 + (N - 575) = \mathbf{2N} - \mathbf{972} \\
&(N \geq 580)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1501}) &= B_{\bar{N}}(2N + 1501 - B_{\bar{N}}(2N + 1500)) + B_{\bar{N}}(2N + 1501 - B_{\bar{N}}(2N + 1499)) + B_{\bar{N}}(2N + 1501 - B_{\bar{N}}(2N + 1498)) \\
&= B_{\bar{N}}(2N + 1501 - (2N - 972)) + B_{\bar{N}}(2N + 1501 - (N + 2079)) + B_{\bar{N}}(2N + 1501 - (2N + 1318)) \\
&= B_{\bar{N}}(2473) + B_{\bar{N}}(N - 578) + B_{\bar{N}}(183) = 2473 + (N - 578) + 183 = \mathbf{N} + \mathbf{2078} \\
&(N \geq 2473)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1502}) &= B_{\bar{N}}(2N + 1502 - B_{\bar{N}}(2N + 1501)) + B_{\bar{N}}(2N + 1502 - B_{\bar{N}}(2N + 1500)) + B_{\bar{N}}(2N + 1502 - B_{\bar{N}}(2N + 1499)) \\
&= B_{\bar{N}}(2N + 1502 - (N + 2078)) + B_{\bar{N}}(2N + 1502 - (2N - 972)) + B_{\bar{N}}(2N + 1502 - (N + 2079)) \\
&= B_{\bar{N}}(N - 576) + B_{\bar{N}}(2474) + B_{\bar{N}}(N - 577) = (N - 576) + 2474 + (N - 577) = \mathbf{2N} + \mathbf{1321} \\
&(N \geq 2474)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1503}) &= B_{\bar{N}}(2N + 1503 - B_{\bar{N}}(2N + 1502)) + B_{\bar{N}}(2N + 1503 - B_{\bar{N}}(2N + 1501)) + B_{\bar{N}}(2N + 1503 - B_{\bar{N}}(2N + 1500)) \\
&= B_{\bar{N}}(2N + 1503 - (2N + 1321)) + B_{\bar{N}}(2N + 1503 - (N + 2078)) + B_{\bar{N}}(2N + 1503 - (2N - 972)) \\
&= B_{\bar{N}}(182) + B_{\bar{N}}(N - 575) + B_{\bar{N}}(2475) = 182 + (N - 575) + 2475 = \mathbf{N} + \mathbf{2082} \\
&(N \geq 2475)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1504}) &= B_{\bar{N}}(2N + 1504 - B_{\bar{N}}(2N + 1503)) + B_{\bar{N}}(2N + 1504 - B_{\bar{N}}(2N + 1502)) + B_{\bar{N}}(2N + 1504 - B_{\bar{N}}(2N + 1501)) \\
&= B_{\bar{N}}(2N + 1504 - (N + 2082)) + B_{\bar{N}}(2N + 1504 - (2N + 1321)) + B_{\bar{N}}(2N + 1504 - (N + 2078)) \\
&= B_{\bar{N}}(N - 578) + B_{\bar{N}}(183) + B_{\bar{N}}(N - 574) = (N - 578) + 183 + (N - 574) = \mathbf{2N} - \mathbf{969} \\
&(N \geq 579)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1505}) &= B_{\bar{N}}(2N + 1505 - B_{\bar{N}}(2N + 1504)) + B_{\bar{N}}(2N + 1505 - B_{\bar{N}}(2N + 1503)) + B_{\bar{N}}(2N + 1505 - B_{\bar{N}}(2N + 1502)) \\
&= B_{\bar{N}}(2N + 1505 - (2N - 969)) + B_{\bar{N}}(2N + 1505 - (N + 2082)) + B_{\bar{N}}(2N + 1505 - (2N + 1321)) \\
&= B_{\bar{N}}(2474) + B_{\bar{N}}(N - 577) + B_{\bar{N}}(184) = 2474 + (N - 577) + 184 = \mathbf{N} + \mathbf{2081} \\
&(N \geq 2474)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1506}) &= B_{\bar{N}}(2N + 1506 - B_{\bar{N}}(2N + 1505)) + B_{\bar{N}}(2N + 1506 - B_{\bar{N}}(2N + 1504)) + B_{\bar{N}}(2N + 1506 - B_{\bar{N}}(2N + 1503)) \\
&= B_{\bar{N}}(2N + 1506 - (N + 2081)) + B_{\bar{N}}(2N + 1506 - (2N - 969)) + B_{\bar{N}}(2N + 1506 - (N + 2082)) \\
&= B_{\bar{N}}(N - 575) + B_{\bar{N}}(2475) + B_{\bar{N}}(N - 576) = (N - 575) + 2475 + (N - 576) = \mathbf{2N} + \mathbf{1324} \\
&(N \geq 2475)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1507}) &= B_{\bar{N}}(2N + 1507 - B_{\bar{N}}(2N + 1506)) + B_{\bar{N}}(2N + 1507 - B_{\bar{N}}(2N + 1505)) + B_{\bar{N}}(2N + 1507 - B_{\bar{N}}(2N + 1504)) \\
&= B_{\bar{N}}(2N + 1507 - (2N + 1324)) + B_{\bar{N}}(2N + 1507 - (N + 2081)) + B_{\bar{N}}(2N + 1507 - (2N - 969)) \\
&= B_{\bar{N}}(183) + B_{\bar{N}}(N - 574) + B_{\bar{N}}(2476) = 183 + (N - 574) + 2476 = \mathbf{N} + \mathbf{2085} \\
&(N \geq 2476)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1508}) &= B_{\bar{N}}(2N + 1508 - B_{\bar{N}}(2N + 1507)) + B_{\bar{N}}(2N + 1508 - B_{\bar{N}}(2N + 1506)) + B_{\bar{N}}(2N + 1508 - B_{\bar{N}}(2N + 1505)) \\
&= B_{\bar{N}}(2N + 1508 - (N + 2085)) + B_{\bar{N}}(2N + 1508 - (2N + 1324)) + B_{\bar{N}}(2N + 1508 - (N + 2081)) \\
&= B_{\bar{N}}(N - 577) + B_{\bar{N}}(184) + B_{\bar{N}}(N - 573) = (N - 577) + 184 + (N - 573) = \mathbf{2N} - \mathbf{966} \\
&(N \geq 578)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1509}) &= B_{\bar{N}}(2N + 1509 - B_{\bar{N}}(2N + 1508)) + B_{\bar{N}}(2N + 1509 - B_{\bar{N}}(2N + 1507)) + B_{\bar{N}}(2N + 1509 - B_{\bar{N}}(2N + 1506)) \\
&= B_{\bar{N}}(2N + 1509 - (2N - 966)) + B_{\bar{N}}(2N + 1509 - (N + 2085)) + B_{\bar{N}}(2N + 1509 - (2N + 1324)) \\
&= B_{\bar{N}}(2475) + B_{\bar{N}}(N - 576) + B_{\bar{N}}(185) = 2475 + (N - 576) + 185 = \mathbf{N} + \mathbf{2084} \\
&(N \geq 2475)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1510}) &= B_{\bar{N}}(2N + 1510 - B_{\bar{N}}(2N + 1509)) + B_{\bar{N}}(2N + 1510 - B_{\bar{N}}(2N + 1508)) + B_{\bar{N}}(2N + 1510 - B_{\bar{N}}(2N + 1507)) \\
&= B_{\bar{N}}(2N + 1510 - (N + 2084)) + B_{\bar{N}}(2N + 1510 - (2N - 966)) + B_{\bar{N}}(2N + 1510 - (N + 2085)) \\
&= B_{\bar{N}}(N - 574) + B_{\bar{N}}(2476) + B_{\bar{N}}(N - 575) = (N - 574) + 2476 + (N - 575) = \mathbf{2N} + \mathbf{1327} \\
&(N \geq 2476)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1511}) &= B_{\bar{N}}(2N + 1511 - B_{\bar{N}}(2N + 1510)) + B_{\bar{N}}(2N + 1511 - B_{\bar{N}}(2N + 1509)) + B_{\bar{N}}(2N + 1511 - B_{\bar{N}}(2N + 1508)) \\
&= B_{\bar{N}}(2N + 1511 - (2N + 1327)) + B_{\bar{N}}(2N + 1511 - (N + 2084)) + B_{\bar{N}}(2N + 1511 - (2N - 966)) \\
&= B_{\bar{N}}(184) + B_{\bar{N}}(N - 573) + B_{\bar{N}}(2477) = 184 + (N - 573) + 2477 = \mathbf{N} + \mathbf{2088} \\
&(N \geq 2477)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1512}) &= B_{\bar{N}}(2N + 1512 - B_{\bar{N}}(2N + 1511)) + B_{\bar{N}}(2N + 1512 - B_{\bar{N}}(2N + 1510)) + B_{\bar{N}}(2N + 1512 - B_{\bar{N}}(2N + 1509)) \\
&= B_{\bar{N}}(2N + 1512 - (N + 2088)) + B_{\bar{N}}(2N + 1512 - (2N + 1327)) + B_{\bar{N}}(2N + 1512 - (N + 2084)) \\
&= B_{\bar{N}}(N - 576) + B_{\bar{N}}(185) + B_{\bar{N}}(N - 572) = (N - 576) + 185 + (N - 572) = \mathbf{2N} - \mathbf{963} \\
&(N \geq 577)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1513}) &= B_{\bar{N}}(2N + 1513 - B_{\bar{N}}(2N + 1512)) + B_{\bar{N}}(2N + 1513 - B_{\bar{N}}(2N + 1511)) + B_{\bar{N}}(2N + 1513 - B_{\bar{N}}(2N + 1510)) \\
&= B_{\bar{N}}(2N + 1513 - (2N - 963)) + B_{\bar{N}}(2N + 1513 - (N + 2088)) + B_{\bar{N}}(2N + 1513 - (2N + 1327)) \\
&= B_{\bar{N}}(2476) + B_{\bar{N}}(N - 575) + B_{\bar{N}}(186) = 2476 + (N - 575) + 186 = \mathbf{N} + \mathbf{2087} \\
&(N \geq 2476)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1514}) &= B_{\bar{N}}(2N + 1514 - B_{\bar{N}}(2N + 1513)) + B_{\bar{N}}(2N + 1514 - B_{\bar{N}}(2N + 1512)) + B_{\bar{N}}(2N + 1514 - B_{\bar{N}}(2N + 1511)) \\
&= B_{\bar{N}}(2N + 1514 - (N + 2087)) + B_{\bar{N}}(2N + 1514 - (2N - 963)) + B_{\bar{N}}(2N + 1514 - (N + 2088)) \\
&= B_{\bar{N}}(N - 573) + B_{\bar{N}}(2477) + B_{\bar{N}}(N - 574) = (N - 573) + 2477 + (N - 574) = \mathbf{2N} + \mathbf{1330} \\
&(N \geq 2477)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1515}) &= B_{\bar{N}}(2N + 1515 - B_{\bar{N}}(2N + 1514)) + B_{\bar{N}}(2N + 1515 - B_{\bar{N}}(2N + 1513)) + B_{\bar{N}}(2N + 1515 - B_{\bar{N}}(2N + 1512)) \\
&= B_{\bar{N}}(2N + 1515 - (2N + 1330)) + B_{\bar{N}}(2N + 1515 - (N + 2087)) + B_{\bar{N}}(2N + 1515 - (2N - 963)) \\
&= B_{\bar{N}}(185) + B_{\bar{N}}(N - 572) + B_{\bar{N}}(2478) = 185 + (N - 572) + 2478 = \mathbf{N} + \mathbf{2091} \\
&(N \geq 2478)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1516}) &= B_{\bar{N}}(2N + 1516 - B_{\bar{N}}(2N + 1515)) + B_{\bar{N}}(2N + 1516 - B_{\bar{N}}(2N + 1514)) + B_{\bar{N}}(2N + 1516 - B_{\bar{N}}(2N + 1513)) \\
&= B_{\bar{N}}(2N + 1516 - (N + 2091)) + B_{\bar{N}}(2N + 1516 - (2N + 1330)) + B_{\bar{N}}(2N + 1516 - (N + 2087)) \\
&= B_{\bar{N}}(N - 575) + B_{\bar{N}}(186) + B_{\bar{N}}(N - 571) = (N - 575) + 186 + (N - 571) = \mathbf{2N} - \mathbf{960} \\
&(N \geq 576)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1517}) &= B_{\bar{N}}(2N + 1517 - B_{\bar{N}}(2N + 1516)) + B_{\bar{N}}(2N + 1517 - B_{\bar{N}}(2N + 1515)) + B_{\bar{N}}(2N + 1517 - B_{\bar{N}}(2N + 1514)) \\
&= B_{\bar{N}}(2N + 1517 - (2N - 960)) + B_{\bar{N}}(2N + 1517 - (N + 2091)) + B_{\bar{N}}(2N + 1517 - (2N + 1330)) \\
&= B_{\bar{N}}(2477) + B_{\bar{N}}(N - 574) + B_{\bar{N}}(187) = 2477 + (N - 574) + 187 = \mathbf{N} + \mathbf{2090} \\
&(N \geq 2477)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1518}) &= B_{\bar{N}}(2N + 1518 - B_{\bar{N}}(2N + 1517)) + B_{\bar{N}}(2N + 1518 - B_{\bar{N}}(2N + 1516)) + B_{\bar{N}}(2N + 1518 - B_{\bar{N}}(2N + 1515)) \\
&= B_{\bar{N}}(2N + 1518 - (N + 2090)) + B_{\bar{N}}(2N + 1518 - (2N - 960)) + B_{\bar{N}}(2N + 1518 - (N + 2091)) \\
&= B_{\bar{N}}(N - 572) + B_{\bar{N}}(2478) + B_{\bar{N}}(N - 573) = (N - 572) + 2478 + (N - 573) = \mathbf{2N} + \mathbf{1333} \\
&(N \geq 2478)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1519}) &= B_{\bar{N}}(2N + 1519 - B_{\bar{N}}(2N + 1518)) + B_{\bar{N}}(2N + 1519 - B_{\bar{N}}(2N + 1517)) + B_{\bar{N}}(2N + 1519 - B_{\bar{N}}(2N + 1516)) \\
&= B_{\bar{N}}(2N + 1519 - (2N + 1333)) + B_{\bar{N}}(2N + 1519 - (N + 2090)) + B_{\bar{N}}(2N + 1519 - (2N - 960)) \\
&= B_{\bar{N}}(186) + B_{\bar{N}}(N - 571) + B_{\bar{N}}(2479) = 186 + (N - 571) + 2479 = \mathbf{N} + \mathbf{2094} \\
&(N \geq 2479)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1520}) &= B_{\bar{N}}(2N + 1520 - B_{\bar{N}}(2N + 1519)) + B_{\bar{N}}(2N + 1520 - B_{\bar{N}}(2N + 1518)) + B_{\bar{N}}(2N + 1520 - B_{\bar{N}}(2N + 1517)) \\
&= B_{\bar{N}}(2N + 1520 - (N + 2094)) + B_{\bar{N}}(2N + 1520 - (2N + 1333)) + B_{\bar{N}}(2N + 1520 - (N + 2090)) \\
&= B_{\bar{N}}(N - 574) + B_{\bar{N}}(187) + B_{\bar{N}}(N - 570) = (N - 574) + 187 + (N - 570) = \mathbf{2N} - \mathbf{957} \\
&(N \geq 575)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1521}) &= B_{\bar{N}}(2N + 1521 - B_{\bar{N}}(2N + 1520)) + B_{\bar{N}}(2N + 1521 - B_{\bar{N}}(2N + 1519)) + B_{\bar{N}}(2N + 1521 - B_{\bar{N}}(2N + 1518)) \\
&= B_{\bar{N}}(2N + 1521 - (2N - 957)) + B_{\bar{N}}(2N + 1521 - (N + 2094)) + B_{\bar{N}}(2N + 1521 - (2N + 1333)) \\
&= B_{\bar{N}}(2478) + B_{\bar{N}}(N - 573) + B_{\bar{N}}(188) = 2478 + (N - 573) + 188 = \mathbf{N} + \mathbf{2093} \\
&(N \geq 2478)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1522}) &= B_{\bar{N}}(2N + 1522 - B_{\bar{N}}(2N + 1521)) + B_{\bar{N}}(2N + 1522 - B_{\bar{N}}(2N + 1520)) + B_{\bar{N}}(2N + 1522 - B_{\bar{N}}(2N + 1519)) \\
&= B_{\bar{N}}(2N + 1522 - (N + 2093)) + B_{\bar{N}}(2N + 1522 - (2N - 957)) + B_{\bar{N}}(2N + 1522 - (N + 2094)) \\
&= B_{\bar{N}}(N - 571) + B_{\bar{N}}(2479) + B_{\bar{N}}(N - 572) = (N - 571) + 2479 + (N - 572) = \mathbf{2N} + \mathbf{1336} \\
&(N \geq 2479)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1523}) &= B_{\bar{N}}(2N + 1523 - B_{\bar{N}}(2N + 1522)) + B_{\bar{N}}(2N + 1523 - B_{\bar{N}}(2N + 1521)) + B_{\bar{N}}(2N + 1523 - B_{\bar{N}}(2N + 1520)) \\
&= B_{\bar{N}}(2N + 1523 - (2N + 1336)) + B_{\bar{N}}(2N + 1523 - (N + 2093)) + B_{\bar{N}}(2N + 1523 - (2N - 957)) \\
&= B_{\bar{N}}(187) + B_{\bar{N}}(N - 570) + B_{\bar{N}}(2480) = 187 + (N - 570) + 2480 = \mathbf{N} + \mathbf{2097} \\
&(N \geq 2480)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1524}) &= B_{\bar{N}}(2N + 1524 - B_{\bar{N}}(2N + 1523)) + B_{\bar{N}}(2N + 1524 - B_{\bar{N}}(2N + 1522)) + B_{\bar{N}}(2N + 1524 - B_{\bar{N}}(2N + 1521)) \\
&= B_{\bar{N}}(2N + 1524 - (N + 2097)) + B_{\bar{N}}(2N + 1524 - (2N + 1336)) + B_{\bar{N}}(2N + 1524 - (N + 2093)) \\
&= B_{\bar{N}}(N - 573) + B_{\bar{N}}(188) + B_{\bar{N}}(N - 569) = (N - 573) + 188 + (N - 569) = \mathbf{2N} - \mathbf{954} \\
&(N \geq 574)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1525}) &= B_{\bar{N}}(2N + 1525 - B_{\bar{N}}(2N + 1524)) + B_{\bar{N}}(2N + 1525 - B_{\bar{N}}(2N + 1523)) + B_{\bar{N}}(2N + 1525 - B_{\bar{N}}(2N + 1522)) \\
&= B_{\bar{N}}(2N + 1525 - (2N - 954)) + B_{\bar{N}}(2N + 1525 - (N + 2097)) + B_{\bar{N}}(2N + 1525 - (2N + 1336)) \\
&= B_{\bar{N}}(2479) + B_{\bar{N}}(N - 572) + B_{\bar{N}}(189) = 2479 + (N - 572) + 189 = \mathbf{N} + \mathbf{2096} \\
&(N \geq 2479)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1526}) &= B_{\bar{N}}(2N + 1526 - B_{\bar{N}}(2N + 1525)) + B_{\bar{N}}(2N + 1526 - B_{\bar{N}}(2N + 1524)) + B_{\bar{N}}(2N + 1526 - B_{\bar{N}}(2N + 1523)) \\
&= B_{\bar{N}}(2N + 1526 - (N + 2096)) + B_{\bar{N}}(2N + 1526 - (2N - 954)) + B_{\bar{N}}(2N + 1526 - (N + 2097)) \\
&= B_{\bar{N}}(N - 570) + B_{\bar{N}}(2480) + B_{\bar{N}}(N - 571) = (N - 570) + 2480 + (N - 571) = \mathbf{2N} + \mathbf{1339} \\
&(N \geq 2480)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1527}) &= B_{\bar{N}}(2N + 1527 - B_{\bar{N}}(2N + 1526)) + B_{\bar{N}}(2N + 1527 - B_{\bar{N}}(2N + 1525)) + B_{\bar{N}}(2N + 1527 - B_{\bar{N}}(2N + 1524)) \\
&= B_{\bar{N}}(2N + 1527 - (2N + 1339)) + B_{\bar{N}}(2N + 1527 - (N + 2096)) + B_{\bar{N}}(2N + 1527 - (2N - 954)) \\
&= B_{\bar{N}}(188) + B_{\bar{N}}(N - 569) + B_{\bar{N}}(2481) = 188 + (N - 569) + 2481 = \mathbf{N} + \mathbf{2100} \\
&(N \geq 2481)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1528}) &= B_{\bar{N}}(2N + 1528 - B_{\bar{N}}(2N + 1527)) + B_{\bar{N}}(2N + 1528 - B_{\bar{N}}(2N + 1526)) + B_{\bar{N}}(2N + 1528 - B_{\bar{N}}(2N + 1525)) \\
&= B_{\bar{N}}(2N + 1528 - (N + 2100)) + B_{\bar{N}}(2N + 1528 - (2N + 1339)) + B_{\bar{N}}(2N + 1528 - (N + 2096)) \\
&= B_{\bar{N}}(N - 572) + B_{\bar{N}}(189) + B_{\bar{N}}(N - 568) = (N - 572) + 189 + (N - 568) = \mathbf{2N} - \mathbf{951} \\
&(N \geq 573)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1529}) &= B_{\bar{N}}(2N + 1529 - B_{\bar{N}}(2N + 1528)) + B_{\bar{N}}(2N + 1529 - B_{\bar{N}}(2N + 1527)) + B_{\bar{N}}(2N + 1529 - B_{\bar{N}}(2N + 1526)) \\
&= B_{\bar{N}}(2N + 1529 - (2N - 951)) + B_{\bar{N}}(2N + 1529 - (N + 2100)) + B_{\bar{N}}(2N + 1529 - (2N + 1339)) \\
&= B_{\bar{N}}(2480) + B_{\bar{N}}(N - 571) + B_{\bar{N}}(190) = 2480 + (N - 571) + 190 = \mathbf{N} + \mathbf{2099} \\
&(N \geq 2480)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1530}) &= B_{\bar{N}}(2N + 1530 - B_{\bar{N}}(2N + 1529)) + B_{\bar{N}}(2N + 1530 - B_{\bar{N}}(2N + 1528)) + B_{\bar{N}}(2N + 1530 - B_{\bar{N}}(2N + 1527)) \\
&= B_{\bar{N}}(2N + 1530 - (N + 2099)) + B_{\bar{N}}(2N + 1530 - (2N - 951)) + B_{\bar{N}}(2N + 1530 - (N + 2100)) \\
&= B_{\bar{N}}(N - 569) + B_{\bar{N}}(2481) + B_{\bar{N}}(N - 570) = (N - 569) + 2481 + (N - 570) = \mathbf{2N} + \mathbf{1342} \\
&(N \geq 2481)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1531}) &= B_{\bar{N}}(2N + 1531 - B_{\bar{N}}(2N + 1530)) + B_{\bar{N}}(2N + 1531 - B_{\bar{N}}(2N + 1529)) + B_{\bar{N}}(2N + 1531 - B_{\bar{N}}(2N + 1528)) \\
&= B_{\bar{N}}(2N + 1531 - (2N + 1342)) + B_{\bar{N}}(2N + 1531 - (N + 2099)) + B_{\bar{N}}(2N + 1531 - (2N - 951)) \\
&= B_{\bar{N}}(189) + B_{\bar{N}}(N - 568) + B_{\bar{N}}(2482) = 189 + (N - 568) + 2482 = \mathbf{N} + \mathbf{2103} \\
&(N \geq 2482)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1532}) &= B_{\bar{N}}(2N + 1532 - B_{\bar{N}}(2N + 1531)) + B_{\bar{N}}(2N + 1532 - B_{\bar{N}}(2N + 1530)) + B_{\bar{N}}(2N + 1532 - B_{\bar{N}}(2N + 1529)) \\
&= B_{\bar{N}}(2N + 1532 - (N + 2103)) + B_{\bar{N}}(2N + 1532 - (2N + 1342)) + B_{\bar{N}}(2N + 1532 - (N + 2099)) \\
&= B_{\bar{N}}(N - 571) + B_{\bar{N}}(190) + B_{\bar{N}}(N - 567) = (N - 571) + 190 + (N - 567) = \mathbf{2N} - \mathbf{948} \\
&(N \geq 572)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1533}) &= B_{\bar{N}}(2N + 1533 - B_{\bar{N}}(2N + 1532)) + B_{\bar{N}}(2N + 1533 - B_{\bar{N}}(2N + 1531)) + B_{\bar{N}}(2N + 1533 - B_{\bar{N}}(2N + 1530)) \\
&= B_{\bar{N}}(2N + 1533 - (2N - 948)) + B_{\bar{N}}(2N + 1533 - (N + 2103)) + B_{\bar{N}}(2N + 1533 - (2N + 1342)) \\
&= B_{\bar{N}}(2481) + B_{\bar{N}}(N - 570) + B_{\bar{N}}(191) = 2481 + (N - 570) + 191 = \mathbf{N} + \mathbf{2102} \\
&(N \geq 2481)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1534}) &= B_{\bar{N}}(2N + 1534 - B_{\bar{N}}(2N + 1533)) + B_{\bar{N}}(2N + 1534 - B_{\bar{N}}(2N + 1532)) + B_{\bar{N}}(2N + 1534 - B_{\bar{N}}(2N + 1531)) \\
&= B_{\bar{N}}(2N + 1534 - (N + 2102)) + B_{\bar{N}}(2N + 1534 - (2N - 948)) + B_{\bar{N}}(2N + 1534 - (N + 2103)) \\
&= B_{\bar{N}}(N - 568) + B_{\bar{N}}(2482) + B_{\bar{N}}(N - 569) = (N - 568) + 2482 + (N - 569) = \mathbf{2N} + \mathbf{1345} \\
&(N \geq 2482)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1535}) &= B_{\bar{N}}(2N + 1535 - B_{\bar{N}}(2N + 1534)) + B_{\bar{N}}(2N + 1535 - B_{\bar{N}}(2N + 1533)) + B_{\bar{N}}(2N + 1535 - B_{\bar{N}}(2N + 1532)) \\
&= B_{\bar{N}}(2N + 1535 - (2N + 1345)) + B_{\bar{N}}(2N + 1535 - (N + 2102)) + B_{\bar{N}}(2N + 1535 - (2N - 948)) \\
&= B_{\bar{N}}(190) + B_{\bar{N}}(N - 567) + B_{\bar{N}}(2483) = 190 + (N - 567) + 2483 = \mathbf{N} + \mathbf{2106} \\
&(N \geq 2483)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1536}) &= B_{\bar{N}}(2N + 1536 - B_{\bar{N}}(2N + 1535)) + B_{\bar{N}}(2N + 1536 - B_{\bar{N}}(2N + 1534)) + B_{\bar{N}}(2N + 1536 - B_{\bar{N}}(2N + 1533)) \\
&= B_{\bar{N}}(2N + 1536 - (N + 2106)) + B_{\bar{N}}(2N + 1536 - (2N + 1345)) + B_{\bar{N}}(2N + 1536 - (N + 2102)) \\
&= B_{\bar{N}}(N - 570) + B_{\bar{N}}(191) + B_{\bar{N}}(N - 566) = (N - 570) + 191 + (N - 566) = \mathbf{2N} - \mathbf{945} \\
&(N \geq 571)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1537}) &= B_{\bar{N}}(2N + 1537 - B_{\bar{N}}(2N + 1536)) + B_{\bar{N}}(2N + 1537 - B_{\bar{N}}(2N + 1535)) + B_{\bar{N}}(2N + 1537 - B_{\bar{N}}(2N + 1534)) \\
&= B_{\bar{N}}(2N + 1537 - (2N - 945)) + B_{\bar{N}}(2N + 1537 - (N + 2106)) + B_{\bar{N}}(2N + 1537 - (2N + 1345)) \\
&= B_{\bar{N}}(2482) + B_{\bar{N}}(N - 569) + B_{\bar{N}}(192) = 2482 + (N - 569) + 192 = \mathbf{N} + \mathbf{2105} \\
&(N \geq 2482)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1538}) &= B_{\bar{N}}(2N + 1538 - B_{\bar{N}}(2N + 1537)) + B_{\bar{N}}(2N + 1538 - B_{\bar{N}}(2N + 1536)) + B_{\bar{N}}(2N + 1538 - B_{\bar{N}}(2N + 1535)) \\
&= B_{\bar{N}}(2N + 1538 - (N + 2105)) + B_{\bar{N}}(2N + 1538 - (2N - 945)) + B_{\bar{N}}(2N + 1538 - (N + 2106)) \\
&= B_{\bar{N}}(N - 567) + B_{\bar{N}}(2483) + B_{\bar{N}}(N - 568) = (N - 567) + 2483 + (N - 568) = \mathbf{2N} + \mathbf{1348} \\
&(N \geq 2483)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1539}) &= B_{\bar{N}}(2N + 1539 - B_{\bar{N}}(2N + 1538)) + B_{\bar{N}}(2N + 1539 - B_{\bar{N}}(2N + 1537)) + B_{\bar{N}}(2N + 1539 - B_{\bar{N}}(2N + 1536)) \\
&= B_{\bar{N}}(2N + 1539 - (2N + 1348)) + B_{\bar{N}}(2N + 1539 - (N + 2105)) + B_{\bar{N}}(2N + 1539 - (2N - 945)) \\
&= B_{\bar{N}}(191) + B_{\bar{N}}(N - 566) + B_{\bar{N}}(2484) = 191 + (N - 566) + 2484 = \mathbf{N} + \mathbf{2109} \\
&(N \geq 2484)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1540}) &= B_{\bar{N}}(2N + 1540 - B_{\bar{N}}(2N + 1539)) + B_{\bar{N}}(2N + 1540 - B_{\bar{N}}(2N + 1538)) + B_{\bar{N}}(2N + 1540 - B_{\bar{N}}(2N + 1537)) \\
&= B_{\bar{N}}(2N + 1540 - (N + 2109)) + B_{\bar{N}}(2N + 1540 - (2N + 1348)) + B_{\bar{N}}(2N + 1540 - (N + 2105)) \\
&= B_{\bar{N}}(N - 569) + B_{\bar{N}}(192) + B_{\bar{N}}(N - 565) = (N - 569) + 192 + (N - 565) = \mathbf{2N} - \mathbf{942} \\
&(N \geq 570)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1541}) &= B_{\bar{N}}(2N + 1541 - B_{\bar{N}}(2N + 1540)) + B_{\bar{N}}(2N + 1541 - B_{\bar{N}}(2N + 1539)) + B_{\bar{N}}(2N + 1541 - B_{\bar{N}}(2N + 1538)) \\
&= B_{\bar{N}}(2N + 1541 - (2N - 942)) + B_{\bar{N}}(2N + 1541 - (N + 2109)) + B_{\bar{N}}(2N + 1541 - (2N + 1348)) \\
&= B_{\bar{N}}(2483) + B_{\bar{N}}(N - 568) + B_{\bar{N}}(193) = 2483 + (N - 568) + 193 = \mathbf{N} + \mathbf{2108} \\
&(N \geq 2483)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1542}) &= B_{\bar{N}}(2N + 1542 - B_{\bar{N}}(2N + 1541)) + B_{\bar{N}}(2N + 1542 - B_{\bar{N}}(2N + 1540)) + B_{\bar{N}}(2N + 1542 - B_{\bar{N}}(2N + 1539)) \\
&= B_{\bar{N}}(2N + 1542 - (N + 2108)) + B_{\bar{N}}(2N + 1542 - (2N - 942)) + B_{\bar{N}}(2N + 1542 - (N + 2109)) \\
&= B_{\bar{N}}(N - 566) + B_{\bar{N}}(2484) + B_{\bar{N}}(N - 567) = (N - 566) + 2484 + (N - 567) = \mathbf{2N} + \mathbf{1351} \\
&(N \geq 2484)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1543}) &= B_{\bar{N}}(2N + 1543 - B_{\bar{N}}(2N + 1542)) + B_{\bar{N}}(2N + 1543 - B_{\bar{N}}(2N + 1541)) + B_{\bar{N}}(2N + 1543 - B_{\bar{N}}(2N + 1540)) \\
&= B_{\bar{N}}(2N + 1543 - (2N + 1351)) + B_{\bar{N}}(2N + 1543 - (N + 2108)) + B_{\bar{N}}(2N + 1543 - (2N - 942)) \\
&= B_{\bar{N}}(192) + B_{\bar{N}}(N - 565) + B_{\bar{N}}(2485) = 192 + (N - 565) + 2485 = \mathbf{N} + \mathbf{2112} \\
&(N \geq 2485)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1544}) &= B_{\bar{N}}(2N + 1544 - B_{\bar{N}}(2N + 1543)) + B_{\bar{N}}(2N + 1544 - B_{\bar{N}}(2N + 1542)) + B_{\bar{N}}(2N + 1544 - B_{\bar{N}}(2N + 1541)) \\
&= B_{\bar{N}}(2N + 1544 - (N + 2112)) + B_{\bar{N}}(2N + 1544 - (2N + 1351)) + B_{\bar{N}}(2N + 1544 - (N + 2108)) \\
&= B_{\bar{N}}(N - 568) + B_{\bar{N}}(193) + B_{\bar{N}}(N - 564) = (N - 568) + 193 + (N - 564) = \mathbf{2N} - \mathbf{939} \\
&(N \geq 569)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1545}) &= B_{\bar{N}}(2N + 1545 - B_{\bar{N}}(2N + 1544)) + B_{\bar{N}}(2N + 1545 - B_{\bar{N}}(2N + 1543)) + B_{\bar{N}}(2N + 1545 - B_{\bar{N}}(2N + 1542)) \\
&= B_{\bar{N}}(2N + 1545 - (2N - 939)) + B_{\bar{N}}(2N + 1545 - (N + 2112)) + B_{\bar{N}}(2N + 1545 - (2N + 1351)) \\
&= B_{\bar{N}}(2484) + B_{\bar{N}}(N - 567) + B_{\bar{N}}(194) = 2484 + (N - 567) + 194 = \mathbf{N} + \mathbf{2111} \\
&(N \geq 2484)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1546}) &= B_{\bar{N}}(2N + 1546 - B_{\bar{N}}(2N + 1545)) + B_{\bar{N}}(2N + 1546 - B_{\bar{N}}(2N + 1544)) + B_{\bar{N}}(2N + 1546 - B_{\bar{N}}(2N + 1543)) \\
&= B_{\bar{N}}(2N + 1546 - (N + 2111)) + B_{\bar{N}}(2N + 1546 - (2N - 939)) + B_{\bar{N}}(2N + 1546 - (N + 2112)) \\
&= B_{\bar{N}}(N - 565) + B_{\bar{N}}(2485) + B_{\bar{N}}(N - 566) = (N - 565) + 2485 + (N - 566) = \mathbf{2N} + \mathbf{1354} \\
&(N \geq 2485)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1547}) &= B_{\bar{N}}(2N + 1547 - B_{\bar{N}}(2N + 1546)) + B_{\bar{N}}(2N + 1547 - B_{\bar{N}}(2N + 1545)) + B_{\bar{N}}(2N + 1547 - B_{\bar{N}}(2N + 1544)) \\
&= B_{\bar{N}}(2N + 1547 - (2N + 1354)) + B_{\bar{N}}(2N + 1547 - (N + 2111)) + B_{\bar{N}}(2N + 1547 - (2N - 939)) \\
&= B_{\bar{N}}(193) + B_{\bar{N}}(N - 564) + B_{\bar{N}}(2486) = 193 + (N - 564) + 2486 = \mathbf{N} + \mathbf{2115} \\
&(N \geq 2486)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1548}) &= B_{\bar{N}}(2N + 1548 - B_{\bar{N}}(2N + 1547)) + B_{\bar{N}}(2N + 1548 - B_{\bar{N}}(2N + 1546)) + B_{\bar{N}}(2N + 1548 - B_{\bar{N}}(2N + 1545)) \\
&= B_{\bar{N}}(2N + 1548 - (N + 2115)) + B_{\bar{N}}(2N + 1548 - (2N + 1354)) + B_{\bar{N}}(2N + 1548 - (N + 2111)) \\
&= B_{\bar{N}}(N - 567) + B_{\bar{N}}(194) + B_{\bar{N}}(N - 563) = (N - 567) + 194 + (N - 563) = \mathbf{2N} - \mathbf{936} \\
&(N \geq 568)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1549}) &= B_{\bar{N}}(2N + 1549 - B_{\bar{N}}(2N + 1548)) + B_{\bar{N}}(2N + 1549 - B_{\bar{N}}(2N + 1547)) + B_{\bar{N}}(2N + 1549 - B_{\bar{N}}(2N + 1546)) \\
&= B_{\bar{N}}(2N + 1549 - (2N - 936)) + B_{\bar{N}}(2N + 1549 - (N + 2115)) + B_{\bar{N}}(2N + 1549 - (2N + 1354)) \\
&= B_{\bar{N}}(2485) + B_{\bar{N}}(N - 566) + B_{\bar{N}}(195) = 2485 + (N - 566) + 195 = \mathbf{N} + \mathbf{2114} \\
&(N \geq 2485)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1550}) &= B_{\bar{N}}(2N + 1550 - B_{\bar{N}}(2N + 1549)) + B_{\bar{N}}(2N + 1550 - B_{\bar{N}}(2N + 1548)) + B_{\bar{N}}(2N + 1550 - B_{\bar{N}}(2N + 1547)) \\
&= B_{\bar{N}}(2N + 1550 - (N + 2114)) + B_{\bar{N}}(2N + 1550 - (2N - 936)) + B_{\bar{N}}(2N + 1550 - (N + 2115)) \\
&= B_{\bar{N}}(N - 564) + B_{\bar{N}}(2486) + B_{\bar{N}}(N - 565) = (N - 564) + 2486 + (N - 565) = \mathbf{2N} + \mathbf{1357} \\
&(N \geq 2486)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1551}) &= B_{\bar{N}}(2N + 1551 - B_{\bar{N}}(2N + 1550)) + B_{\bar{N}}(2N + 1551 - B_{\bar{N}}(2N + 1549)) + B_{\bar{N}}(2N + 1551 - B_{\bar{N}}(2N + 1548)) \\
&= B_{\bar{N}}(2N + 1551 - (2N + 1357)) + B_{\bar{N}}(2N + 1551 - (N + 2114)) + B_{\bar{N}}(2N + 1551 - (2N - 936)) \\
&= B_{\bar{N}}(194) + B_{\bar{N}}(N - 563) + B_{\bar{N}}(2487) = 194 + (N - 563) + 2487 = \mathbf{N} + \mathbf{2118} \\
&(N \geq 2487)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1552}) &= B_{\bar{N}}(2N + 1552 - B_{\bar{N}}(2N + 1551)) + B_{\bar{N}}(2N + 1552 - B_{\bar{N}}(2N + 1550)) + B_{\bar{N}}(2N + 1552 - B_{\bar{N}}(2N + 1549)) \\
&= B_{\bar{N}}(2N + 1552 - (N + 2118)) + B_{\bar{N}}(2N + 1552 - (2N + 1357)) + B_{\bar{N}}(2N + 1552 - (N + 2114)) \\
&= B_{\bar{N}}(N - 566) + B_{\bar{N}}(195) + B_{\bar{N}}(N - 562) = (N - 566) + 195 + (N - 562) = \mathbf{2N} - \mathbf{933} \\
&(N \geq 567)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1553}) &= B_{\bar{N}}(2N + 1553 - B_{\bar{N}}(2N + 1552)) + B_{\bar{N}}(2N + 1553 - B_{\bar{N}}(2N + 1551)) + B_{\bar{N}}(2N + 1553 - B_{\bar{N}}(2N + 1550)) \\
&= B_{\bar{N}}(2N + 1553 - (2N - 933)) + B_{\bar{N}}(2N + 1553 - (N + 2118)) + B_{\bar{N}}(2N + 1553 - (2N + 1357)) \\
&= B_{\bar{N}}(2486) + B_{\bar{N}}(N - 565) + B_{\bar{N}}(196) = 2486 + (N - 565) + 196 = \mathbf{N} + \mathbf{2117} \\
&(N \geq 2486)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1554}) &= B_{\bar{N}}(2N + 1554 - B_{\bar{N}}(2N + 1553)) + B_{\bar{N}}(2N + 1554 - B_{\bar{N}}(2N + 1552)) + B_{\bar{N}}(2N + 1554 - B_{\bar{N}}(2N + 1551)) \\
&= B_{\bar{N}}(2N + 1554 - (N + 2117)) + B_{\bar{N}}(2N + 1554 - (2N - 933)) + B_{\bar{N}}(2N + 1554 - (N + 2118)) \\
&= B_{\bar{N}}(N - 563) + B_{\bar{N}}(2487) + B_{\bar{N}}(N - 564) = (N - 563) + 2487 + (N - 564) = \mathbf{2N} + \mathbf{1360} \\
&(N \geq 2487)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1555}) &= B_{\bar{N}}(2N + 1555 - B_{\bar{N}}(2N + 1554)) + B_{\bar{N}}(2N + 1555 - B_{\bar{N}}(2N + 1553)) + B_{\bar{N}}(2N + 1555 - B_{\bar{N}}(2N + 1552)) \\
&= B_{\bar{N}}(2N + 1555 - (2N + 1360)) + B_{\bar{N}}(2N + 1555 - (N + 2117)) + B_{\bar{N}}(2N + 1555 - (2N - 933)) \\
&= B_{\bar{N}}(195) + B_{\bar{N}}(N - 562) + B_{\bar{N}}(2488) = 195 + (N - 562) + 2488 = \mathbf{N} + \mathbf{2121} \\
&(N \geq 2488)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1556}) &= B_{\bar{N}}(2N + 1556 - B_{\bar{N}}(2N + 1555)) + B_{\bar{N}}(2N + 1556 - B_{\bar{N}}(2N + 1554)) + B_{\bar{N}}(2N + 1556 - B_{\bar{N}}(2N + 1553)) \\
&= B_{\bar{N}}(2N + 1556 - (N + 2121)) + B_{\bar{N}}(2N + 1556 - (2N + 1360)) + B_{\bar{N}}(2N + 1556 - (N + 2117)) \\
&= B_{\bar{N}}(N - 565) + B_{\bar{N}}(196) + B_{\bar{N}}(N - 561) = (N - 565) + 196 + (N - 561) = \mathbf{2N} - \mathbf{930} \\
&(N \geq 566)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1557}) &= B_{\bar{N}}(2N + 1557 - B_{\bar{N}}(2N + 1556)) + B_{\bar{N}}(2N + 1557 - B_{\bar{N}}(2N + 1555)) + B_{\bar{N}}(2N + 1557 - B_{\bar{N}}(2N + 1554)) \\
&= B_{\bar{N}}(2N + 1557 - (2N - 930)) + B_{\bar{N}}(2N + 1557 - (N + 2121)) + B_{\bar{N}}(2N + 1557 - (2N + 1360)) \\
&= B_{\bar{N}}(2487) + B_{\bar{N}}(N - 564) + B_{\bar{N}}(197) = 2487 + (N - 564) + 197 = \mathbf{N} + \mathbf{2120} \\
&(N \geq 2487)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1558}) &= B_{\bar{N}}(2N + 1558 - B_{\bar{N}}(2N + 1557)) + B_{\bar{N}}(2N + 1558 - B_{\bar{N}}(2N + 1556)) + B_{\bar{N}}(2N + 1558 - B_{\bar{N}}(2N + 1555)) \\
&= B_{\bar{N}}(2N + 1558 - (N + 2120)) + B_{\bar{N}}(2N + 1558 - (2N - 930)) + B_{\bar{N}}(2N + 1558 - (N + 2121)) \\
&= B_{\bar{N}}(N - 562) + B_{\bar{N}}(2488) + B_{\bar{N}}(N - 563) = (N - 562) + 2488 + (N - 563) = \mathbf{2N} + \mathbf{1363} \\
&(N \geq 2488)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1559}) &= B_{\bar{N}}(2N + 1559 - B_{\bar{N}}(2N + 1558)) + B_{\bar{N}}(2N + 1559 - B_{\bar{N}}(2N + 1557)) + B_{\bar{N}}(2N + 1559 - B_{\bar{N}}(2N + 1556)) \\
&= B_{\bar{N}}(2N + 1559 - (2N + 1363)) + B_{\bar{N}}(2N + 1559 - (N + 2120)) + B_{\bar{N}}(2N + 1559 - (2N - 930)) \\
&= B_{\bar{N}}(196) + B_{\bar{N}}(N - 561) + B_{\bar{N}}(2489) = 196 + (N - 561) + 2489 = \mathbf{N} + \mathbf{2124} \\
&(N \geq 2489)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1560}) &= B_{\bar{N}}(2N + 1560 - B_{\bar{N}}(2N + 1559)) + B_{\bar{N}}(2N + 1560 - B_{\bar{N}}(2N + 1558)) + B_{\bar{N}}(2N + 1560 - B_{\bar{N}}(2N + 1557)) \\
&= B_{\bar{N}}(2N + 1560 - (N + 2124)) + B_{\bar{N}}(2N + 1560 - (2N + 1363)) + B_{\bar{N}}(2N + 1560 - (N + 2120)) \\
&= B_{\bar{N}}(N - 564) + B_{\bar{N}}(197) + B_{\bar{N}}(N - 560) = (N - 564) + 197 + (N - 560) = \mathbf{2N} - \mathbf{927} \\
&(N \geq 565)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1561}) &= B_{\bar{N}}(2N + 1561 - B_{\bar{N}}(2N + 1560)) + B_{\bar{N}}(2N + 1561 - B_{\bar{N}}(2N + 1559)) + B_{\bar{N}}(2N + 1561 - B_{\bar{N}}(2N + 1558)) \\
&= B_{\bar{N}}(2N + 1561 - (2N - 927)) + B_{\bar{N}}(2N + 1561 - (N + 2124)) + B_{\bar{N}}(2N + 1561 - (2N + 1363)) \\
&= B_{\bar{N}}(2488) + B_{\bar{N}}(N - 563) + B_{\bar{N}}(198) = 2488 + (N - 563) + 198 = \mathbf{N} + \mathbf{2123} \\
&(N \geq 2488)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1562}) &= B_{\bar{N}}(2N + 1562 - B_{\bar{N}}(2N + 1561)) + B_{\bar{N}}(2N + 1562 - B_{\bar{N}}(2N + 1560)) + B_{\bar{N}}(2N + 1562 - B_{\bar{N}}(2N + 1559)) \\
&= B_{\bar{N}}(2N + 1562 - (N + 2123)) + B_{\bar{N}}(2N + 1562 - (2N - 927)) + B_{\bar{N}}(2N + 1562 - (N + 2124)) \\
&= B_{\bar{N}}(N - 561) + B_{\bar{N}}(2489) + B_{\bar{N}}(N - 562) = (N - 561) + 2489 + (N - 562) = \mathbf{2N} + \mathbf{1366} \\
&(N \geq 2489)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1563}) &= B_{\bar{N}}(2N + 1563 - B_{\bar{N}}(2N + 1562)) + B_{\bar{N}}(2N + 1563 - B_{\bar{N}}(2N + 1561)) + B_{\bar{N}}(2N + 1563 - B_{\bar{N}}(2N + 1560)) \\
&= B_{\bar{N}}(2N + 1563 - (2N + 1366)) + B_{\bar{N}}(2N + 1563 - (N + 2123)) + B_{\bar{N}}(2N + 1563 - (2N - 927)) \\
&= B_{\bar{N}}(197) + B_{\bar{N}}(N - 560) + B_{\bar{N}}(2490) = 197 + (N - 560) + 2490 = \mathbf{N} + \mathbf{2127} \\
&(N \geq 2490)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1564}) &= B_{\bar{N}}(2N + 1564 - B_{\bar{N}}(2N + 1563)) + B_{\bar{N}}(2N + 1564 - B_{\bar{N}}(2N + 1562)) + B_{\bar{N}}(2N + 1564 - B_{\bar{N}}(2N + 1561)) \\
&= B_{\bar{N}}(2N + 1564 - (N + 2127)) + B_{\bar{N}}(2N + 1564 - (2N + 1366)) + B_{\bar{N}}(2N + 1564 - (N + 2123)) \\
&= B_{\bar{N}}(N - 563) + B_{\bar{N}}(198) + B_{\bar{N}}(N - 559) = (N - 563) + 198 + (N - 559) = \mathbf{2N} - \mathbf{924} \\
&(N \geq 564)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1565}) &= B_{\bar{N}}(2N + 1565 - B_{\bar{N}}(2N + 1564)) + B_{\bar{N}}(2N + 1565 - B_{\bar{N}}(2N + 1563)) + B_{\bar{N}}(2N + 1565 - B_{\bar{N}}(2N + 1562)) \\
&= B_{\bar{N}}(2N + 1565 - (2N - 924)) + B_{\bar{N}}(2N + 1565 - (N + 2127)) + B_{\bar{N}}(2N + 1565 - (2N + 1366)) \\
&= B_{\bar{N}}(2489) + B_{\bar{N}}(N - 562) + B_{\bar{N}}(199) = 2489 + (N - 562) + 199 = \mathbf{N} + \mathbf{2126} \\
&(N \geq 2489)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1566}) &= B_{\bar{N}}(2N + 1566 - B_{\bar{N}}(2N + 1565)) + B_{\bar{N}}(2N + 1566 - B_{\bar{N}}(2N + 1564)) + B_{\bar{N}}(2N + 1566 - B_{\bar{N}}(2N + 1563)) \\
&= B_{\bar{N}}(2N + 1566 - (N + 2126)) + B_{\bar{N}}(2N + 1566 - (2N - 924)) + B_{\bar{N}}(2N + 1566 - (N + 2127)) \\
&= B_{\bar{N}}(N - 560) + B_{\bar{N}}(2490) + B_{\bar{N}}(N - 561) = (N - 560) + 2490 + (N - 561) = \mathbf{2N} + \mathbf{1369} \\
&(N \geq 2490)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1567}) &= B_{\bar{N}}(2N + 1567 - B_{\bar{N}}(2N + 1566)) + B_{\bar{N}}(2N + 1567 - B_{\bar{N}}(2N + 1565)) + B_{\bar{N}}(2N + 1567 - B_{\bar{N}}(2N + 1564)) \\
&= B_{\bar{N}}(2N + 1567 - (2N + 1369)) + B_{\bar{N}}(2N + 1567 - (N + 2126)) + B_{\bar{N}}(2N + 1567 - (2N - 924)) \\
&= B_{\bar{N}}(198) + B_{\bar{N}}(N - 559) + B_{\bar{N}}(2491) = 198 + (N - 559) + 2491 = \mathbf{N} + \mathbf{2130} \\
&(N \geq 2491)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1568}) &= B_{\bar{N}}(2N + 1568 - B_{\bar{N}}(2N + 1567)) + B_{\bar{N}}(2N + 1568 - B_{\bar{N}}(2N + 1566)) + B_{\bar{N}}(2N + 1568 - B_{\bar{N}}(2N + 1565)) \\
&= B_{\bar{N}}(2N + 1568 - (N + 2130)) + B_{\bar{N}}(2N + 1568 - (2N + 1369)) + B_{\bar{N}}(2N + 1568 - (N + 2126)) \\
&= B_{\bar{N}}(N - 562) + B_{\bar{N}}(199) + B_{\bar{N}}(N - 558) = (N - 562) + 199 + (N - 558) = \mathbf{2N} - \mathbf{921} \\
&(N \geq 563)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1569}) &= B_{\bar{N}}(2N + 1569 - B_{\bar{N}}(2N + 1568)) + B_{\bar{N}}(2N + 1569 - B_{\bar{N}}(2N + 1567)) + B_{\bar{N}}(2N + 1569 - B_{\bar{N}}(2N + 1566)) \\
&= B_{\bar{N}}(2N + 1569 - (2N - 921)) + B_{\bar{N}}(2N + 1569 - (N + 2130)) + B_{\bar{N}}(2N + 1569 - (2N + 1369)) \\
&= B_{\bar{N}}(2490) + B_{\bar{N}}(N - 561) + B_{\bar{N}}(200) = 2490 + (N - 561) + 200 = \mathbf{N} + \mathbf{2129} \\
&(N \geq 2490)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1570}) &= B_{\bar{N}}(2N + 1570 - B_{\bar{N}}(2N + 1569)) + B_{\bar{N}}(2N + 1570 - B_{\bar{N}}(2N + 1568)) + B_{\bar{N}}(2N + 1570 - B_{\bar{N}}(2N + 1567)) \\
&= B_{\bar{N}}(2N + 1570 - (N + 2129)) + B_{\bar{N}}(2N + 1570 - (2N - 921)) + B_{\bar{N}}(2N + 1570 - (N + 2130)) \\
&= B_{\bar{N}}(N - 559) + B_{\bar{N}}(2491) + B_{\bar{N}}(N - 560) = (N - 559) + 2491 + (N - 560) = \mathbf{2N} + \mathbf{1372} \\
&(N \geq 2491)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1571}) &= B_{\bar{N}}(2N + 1571 - B_{\bar{N}}(2N + 1570)) + B_{\bar{N}}(2N + 1571 - B_{\bar{N}}(2N + 1569)) + B_{\bar{N}}(2N + 1571 - B_{\bar{N}}(2N + 1568)) \\
&= B_{\bar{N}}(2N + 1571 - (2N + 1372)) + B_{\bar{N}}(2N + 1571 - (N + 2129)) + B_{\bar{N}}(2N + 1571 - (2N - 921)) \\
&= B_{\bar{N}}(199) + B_{\bar{N}}(N - 558) + B_{\bar{N}}(2492) = 199 + (N - 558) + 2492 = \mathbf{N} + \mathbf{2133} \\
&(N \geq 2492)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1572}) &= B_{\bar{N}}(2N + 1572 - B_{\bar{N}}(2N + 1571)) + B_{\bar{N}}(2N + 1572 - B_{\bar{N}}(2N + 1570)) + B_{\bar{N}}(2N + 1572 - B_{\bar{N}}(2N + 1569)) \\
&= B_{\bar{N}}(2N + 1572 - (N + 2133)) + B_{\bar{N}}(2N + 1572 - (2N + 1372)) + B_{\bar{N}}(2N + 1572 - (N + 2129)) \\
&= B_{\bar{N}}(N - 561) + B_{\bar{N}}(200) + B_{\bar{N}}(N - 557) = (N - 561) + 200 + (N - 557) = \mathbf{2N} - \mathbf{918} \\
&(N \geq 562)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1573}) &= B_{\bar{N}}(2N + 1573 - B_{\bar{N}}(2N + 1572)) + B_{\bar{N}}(2N + 1573 - B_{\bar{N}}(2N + 1571)) + B_{\bar{N}}(2N + 1573 - B_{\bar{N}}(2N + 1570)) \\
&= B_{\bar{N}}(2N + 1573 - (2N - 918)) + B_{\bar{N}}(2N + 1573 - (N + 2133)) + B_{\bar{N}}(2N + 1573 - (2N + 1372)) \\
&= B_{\bar{N}}(2491) + B_{\bar{N}}(N - 560) + B_{\bar{N}}(201) = 2491 + (N - 560) + 201 = \mathbf{N} + \mathbf{2132} \\
&(N \geq 2491)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1574}) &= B_{\bar{N}}(2N + 1574 - B_{\bar{N}}(2N + 1573)) + B_{\bar{N}}(2N + 1574 - B_{\bar{N}}(2N + 1572)) + B_{\bar{N}}(2N + 1574 - B_{\bar{N}}(2N + 1571)) \\
&= B_{\bar{N}}(2N + 1574 - (N + 2132)) + B_{\bar{N}}(2N + 1574 - (2N - 918)) + B_{\bar{N}}(2N + 1574 - (N + 2133)) \\
&= B_{\bar{N}}(N - 558) + B_{\bar{N}}(2492) + B_{\bar{N}}(N - 559) = (N - 558) + 2492 + (N - 559) = \mathbf{2N} + \mathbf{1375} \\
&(N \geq 2492)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1575}) &= B_{\bar{N}}(2N + 1575 - B_{\bar{N}}(2N + 1574)) + B_{\bar{N}}(2N + 1575 - B_{\bar{N}}(2N + 1573)) + B_{\bar{N}}(2N + 1575 - B_{\bar{N}}(2N + 1572)) \\
&= B_{\bar{N}}(2N + 1575 - (2N + 1375)) + B_{\bar{N}}(2N + 1575 - (N + 2132)) + B_{\bar{N}}(2N + 1575 - (2N - 918)) \\
&= B_{\bar{N}}(200) + B_{\bar{N}}(N - 557) + B_{\bar{N}}(2493) = 200 + (N - 557) + 2493 = \mathbf{N} + \mathbf{2136} \\
&(N \geq 2493)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1576}) &= B_{\bar{N}}(2N + 1576 - B_{\bar{N}}(2N + 1575)) + B_{\bar{N}}(2N + 1576 - B_{\bar{N}}(2N + 1574)) + B_{\bar{N}}(2N + 1576 - B_{\bar{N}}(2N + 1573)) \\
&= B_{\bar{N}}(2N + 1576 - (N + 2136)) + B_{\bar{N}}(2N + 1576 - (2N + 1375)) + B_{\bar{N}}(2N + 1576 - (N + 2132)) \\
&= B_{\bar{N}}(N - 560) + B_{\bar{N}}(201) + B_{\bar{N}}(N - 556) = (N - 560) + 201 + (N - 556) = \mathbf{2N} - \mathbf{915} \\
&(N \geq 561)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1577}) &= B_{\bar{N}}(2N + 1577 - B_{\bar{N}}(2N + 1576)) + B_{\bar{N}}(2N + 1577 - B_{\bar{N}}(2N + 1575)) + B_{\bar{N}}(2N + 1577 - B_{\bar{N}}(2N + 1574)) \\
&= B_{\bar{N}}(2N + 1577 - (2N - 915)) + B_{\bar{N}}(2N + 1577 - (N + 2136)) + B_{\bar{N}}(2N + 1577 - (2N + 1375)) \\
&= B_{\bar{N}}(2492) + B_{\bar{N}}(N - 559) + B_{\bar{N}}(202) = 2492 + (N - 559) + 202 = \mathbf{N} + \mathbf{2135} \\
&(N \geq 2492)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1578}) &= B_{\bar{N}}(2N + 1578 - B_{\bar{N}}(2N + 1577)) + B_{\bar{N}}(2N + 1578 - B_{\bar{N}}(2N + 1576)) + B_{\bar{N}}(2N + 1578 - B_{\bar{N}}(2N + 1575)) \\
&= B_{\bar{N}}(2N + 1578 - (N + 2135)) + B_{\bar{N}}(2N + 1578 - (2N - 915)) + B_{\bar{N}}(2N + 1578 - (N + 2136)) \\
&= B_{\bar{N}}(N - 557) + B_{\bar{N}}(2493) + B_{\bar{N}}(N - 558) = (N - 557) + 2493 + (N - 558) = \mathbf{2N} + \mathbf{1378} \\
&(N \geq 2493)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1579}) &= B_{\bar{N}}(2N + 1579 - B_{\bar{N}}(2N + 1578)) + B_{\bar{N}}(2N + 1579 - B_{\bar{N}}(2N + 1577)) + B_{\bar{N}}(2N + 1579 - B_{\bar{N}}(2N + 1576)) \\
&= B_{\bar{N}}(2N + 1579 - (2N + 1378)) + B_{\bar{N}}(2N + 1579 - (N + 2135)) + B_{\bar{N}}(2N + 1579 - (2N - 915)) \\
&= B_{\bar{N}}(201) + B_{\bar{N}}(N - 556) + B_{\bar{N}}(2494) = 201 + (N - 556) + 2494 = \mathbf{N} + \mathbf{2139} \\
&(N \geq 2494)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1580}) &= B_{\bar{N}}(2N + 1580 - B_{\bar{N}}(2N + 1579)) + B_{\bar{N}}(2N + 1580 - B_{\bar{N}}(2N + 1578)) + B_{\bar{N}}(2N + 1580 - B_{\bar{N}}(2N + 1577)) \\
&= B_{\bar{N}}(2N + 1580 - (N + 2139)) + B_{\bar{N}}(2N + 1580 - (2N + 1378)) + B_{\bar{N}}(2N + 1580 - (N + 2135)) \\
&= B_{\bar{N}}(N - 559) + B_{\bar{N}}(202) + B_{\bar{N}}(N - 555) = (N - 559) + 202 + (N - 555) = \mathbf{2N} - \mathbf{912} \\
&(N \geq 560)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1581}) &= B_{\bar{N}}(2N + 1581 - B_{\bar{N}}(2N + 1580)) + B_{\bar{N}}(2N + 1581 - B_{\bar{N}}(2N + 1579)) + B_{\bar{N}}(2N + 1581 - B_{\bar{N}}(2N + 1578)) \\
&= B_{\bar{N}}(2N + 1581 - (2N - 912)) + B_{\bar{N}}(2N + 1581 - (N + 2139)) + B_{\bar{N}}(2N + 1581 - (2N + 1378)) \\
&= B_{\bar{N}}(2493) + B_{\bar{N}}(N - 558) + B_{\bar{N}}(203) = 2493 + (N - 558) + 203 = \mathbf{N} + \mathbf{2138} \\
&(N \geq 2493)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1582}) &= B_{\bar{N}}(2N + 1582 - B_{\bar{N}}(2N + 1581)) + B_{\bar{N}}(2N + 1582 - B_{\bar{N}}(2N + 1580)) + B_{\bar{N}}(2N + 1582 - B_{\bar{N}}(2N + 1579)) \\
&= B_{\bar{N}}(2N + 1582 - (N + 2138)) + B_{\bar{N}}(2N + 1582 - (2N - 912)) + B_{\bar{N}}(2N + 1582 - (N + 2139)) \\
&= B_{\bar{N}}(N - 556) + B_{\bar{N}}(2494) + B_{\bar{N}}(N - 557) = (N - 556) + 2494 + (N - 557) = \mathbf{2N} + \mathbf{1381} \\
&(N \geq 2494)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1583}) &= B_{\bar{N}}(2N + 1583 - B_{\bar{N}}(2N + 1582)) + B_{\bar{N}}(2N + 1583 - B_{\bar{N}}(2N + 1581)) + B_{\bar{N}}(2N + 1583 - B_{\bar{N}}(2N + 1580)) \\
&= B_{\bar{N}}(2N + 1583 - (2N + 1381)) + B_{\bar{N}}(2N + 1583 - (N + 2138)) + B_{\bar{N}}(2N + 1583 - (2N - 912)) \\
&= B_{\bar{N}}(202) + B_{\bar{N}}(N - 555) + B_{\bar{N}}(2495) = 202 + (N - 555) + 2495 = \mathbf{N} + \mathbf{2142} \\
&(N \geq 2495)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1584}) &= B_{\bar{N}}(2N + 1584 - B_{\bar{N}}(2N + 1583)) + B_{\bar{N}}(2N + 1584 - B_{\bar{N}}(2N + 1582)) + B_{\bar{N}}(2N + 1584 - B_{\bar{N}}(2N + 1581)) \\
&= B_{\bar{N}}(2N + 1584 - (N + 2142)) + B_{\bar{N}}(2N + 1584 - (2N + 1381)) + B_{\bar{N}}(2N + 1584 - (N + 2138)) \\
&= B_{\bar{N}}(N - 558) + B_{\bar{N}}(203) + B_{\bar{N}}(N - 554) = (N - 558) + 203 + (N - 554) = \mathbf{2N} - \mathbf{909} \\
&(N \geq 559)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1585}) &= B_{\bar{N}}(2N + 1585 - B_{\bar{N}}(2N + 1584)) + B_{\bar{N}}(2N + 1585 - B_{\bar{N}}(2N + 1583)) + B_{\bar{N}}(2N + 1585 - B_{\bar{N}}(2N + 1582)) \\
&= B_{\bar{N}}(2N + 1585 - (2N - 909)) + B_{\bar{N}}(2N + 1585 - (N + 2142)) + B_{\bar{N}}(2N + 1585 - (2N + 1381)) \\
&= B_{\bar{N}}(2494) + B_{\bar{N}}(N - 557) + B_{\bar{N}}(204) = 2494 + (N - 557) + 204 = \mathbf{N} + \mathbf{2141} \\
&(N \geq 2494)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1586}) &= B_{\bar{N}}(2N + 1586 - B_{\bar{N}}(2N + 1585)) + B_{\bar{N}}(2N + 1586 - B_{\bar{N}}(2N + 1584)) + B_{\bar{N}}(2N + 1586 - B_{\bar{N}}(2N + 1583)) \\
&= B_{\bar{N}}(2N + 1586 - (N + 2141)) + B_{\bar{N}}(2N + 1586 - (2N - 909)) + B_{\bar{N}}(2N + 1586 - (N + 2142)) \\
&= B_{\bar{N}}(N - 555) + B_{\bar{N}}(2495) + B_{\bar{N}}(N - 556) = (N - 555) + 2495 + (N - 556) = \mathbf{2N} + \mathbf{1384} \\
&(N \geq 2495)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1587}) &= B_{\bar{N}}(2N + 1587 - B_{\bar{N}}(2N + 1586)) + B_{\bar{N}}(2N + 1587 - B_{\bar{N}}(2N + 1585)) + B_{\bar{N}}(2N + 1587 - B_{\bar{N}}(2N + 1584)) \\
&= B_{\bar{N}}(2N + 1587 - (2N + 1384)) + B_{\bar{N}}(2N + 1587 - (N + 2141)) + B_{\bar{N}}(2N + 1587 - (2N - 909)) \\
&= B_{\bar{N}}(203) + B_{\bar{N}}(N - 554) + B_{\bar{N}}(2496) = 203 + (N - 554) + 2496 = \mathbf{N} + \mathbf{2145} \\
&(N \geq 2496)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1588}) &= B_{\bar{N}}(2N + 1588 - B_{\bar{N}}(2N + 1587)) + B_{\bar{N}}(2N + 1588 - B_{\bar{N}}(2N + 1586)) + B_{\bar{N}}(2N + 1588 - B_{\bar{N}}(2N + 1585)) \\
&= B_{\bar{N}}(2N + 1588 - (N + 2145)) + B_{\bar{N}}(2N + 1588 - (2N + 1384)) + B_{\bar{N}}(2N + 1588 - (N + 2141)) \\
&= B_{\bar{N}}(N - 557) + B_{\bar{N}}(204) + B_{\bar{N}}(N - 553) = (N - 557) + 204 + (N - 553) = \mathbf{2N} - \mathbf{906} \\
&(N \geq 558)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1589}) &= B_{\bar{N}}(2N + 1589 - B_{\bar{N}}(2N + 1588)) + B_{\bar{N}}(2N + 1589 - B_{\bar{N}}(2N + 1587)) + B_{\bar{N}}(2N + 1589 - B_{\bar{N}}(2N + 1586)) \\
&= B_{\bar{N}}(2N + 1589 - (2N - 906)) + B_{\bar{N}}(2N + 1589 - (N + 2145)) + B_{\bar{N}}(2N + 1589 - (2N + 1384)) \\
&= B_{\bar{N}}(2495) + B_{\bar{N}}(N - 556) + B_{\bar{N}}(205) = 2495 + (N - 556) + 205 = \mathbf{N} + \mathbf{2144} \\
&(N \geq 2495)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1590}) &= B_{\bar{N}}(2N + 1590 - B_{\bar{N}}(2N + 1589)) + B_{\bar{N}}(2N + 1590 - B_{\bar{N}}(2N + 1588)) + B_{\bar{N}}(2N + 1590 - B_{\bar{N}}(2N + 1587)) \\
&= B_{\bar{N}}(2N + 1590 - (N + 2144)) + B_{\bar{N}}(2N + 1590 - (2N - 906)) + B_{\bar{N}}(2N + 1590 - (N + 2145)) \\
&= B_{\bar{N}}(N - 554) + B_{\bar{N}}(2496) + B_{\bar{N}}(N - 555) = (N - 554) + 2496 + (N - 555) = \mathbf{2N} + \mathbf{1387} \\
&(N \geq 2496)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1591}) &= B_{\bar{N}}(2N + 1591 - B_{\bar{N}}(2N + 1590)) + B_{\bar{N}}(2N + 1591 - B_{\bar{N}}(2N + 1589)) + B_{\bar{N}}(2N + 1591 - B_{\bar{N}}(2N + 1588)) \\
&= B_{\bar{N}}(2N + 1591 - (2N + 1387)) + B_{\bar{N}}(2N + 1591 - (N + 2144)) + B_{\bar{N}}(2N + 1591 - (2N - 906)) \\
&= B_{\bar{N}}(204) + B_{\bar{N}}(N - 553) + B_{\bar{N}}(2497) = 204 + (N - 553) + 2497 = \mathbf{N} + \mathbf{2148} \\
&(N \geq 2497)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1592}) &= B_{\bar{N}}(2N + 1592 - B_{\bar{N}}(2N + 1591)) + B_{\bar{N}}(2N + 1592 - B_{\bar{N}}(2N + 1590)) + B_{\bar{N}}(2N + 1592 - B_{\bar{N}}(2N + 1589)) \\
&= B_{\bar{N}}(2N + 1592 - (N + 2148)) + B_{\bar{N}}(2N + 1592 - (2N + 1387)) + B_{\bar{N}}(2N + 1592 - (N + 2144)) \\
&= B_{\bar{N}}(N - 556) + B_{\bar{N}}(205) + B_{\bar{N}}(N - 552) = (N - 556) + 205 + (N - 552) = \mathbf{2N} - \mathbf{903} \\
&(N \geq 557)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1593}) &= B_{\bar{N}}(2N + 1593 - B_{\bar{N}}(2N + 1592)) + B_{\bar{N}}(2N + 1593 - B_{\bar{N}}(2N + 1591)) + B_{\bar{N}}(2N + 1593 - B_{\bar{N}}(2N + 1590)) \\
&= B_{\bar{N}}(2N + 1593 - (2N - 903)) + B_{\bar{N}}(2N + 1593 - (N + 2148)) + B_{\bar{N}}(2N + 1593 - (2N + 1387)) \\
&= B_{\bar{N}}(2496) + B_{\bar{N}}(N - 555) + B_{\bar{N}}(206) = 2496 + (N - 555) + 206 = \mathbf{N} + \mathbf{2147} \\
&(N \geq 2496)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1594}) &= B_{\bar{N}}(2N + 1594 - B_{\bar{N}}(2N + 1593)) + B_{\bar{N}}(2N + 1594 - B_{\bar{N}}(2N + 1592)) + B_{\bar{N}}(2N + 1594 - B_{\bar{N}}(2N + 1591)) \\
&= B_{\bar{N}}(2N + 1594 - (N + 2147)) + B_{\bar{N}}(2N + 1594 - (2N - 903)) + B_{\bar{N}}(2N + 1594 - (N + 2148)) \\
&= B_{\bar{N}}(N - 553) + B_{\bar{N}}(2497) + B_{\bar{N}}(N - 554) = (N - 553) + 2497 + (N - 554) = \mathbf{2N} + \mathbf{1390} \\
&(N \geq 2497)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1595}) &= B_{\bar{N}}(2N + 1595 - B_{\bar{N}}(2N + 1594)) + B_{\bar{N}}(2N + 1595 - B_{\bar{N}}(2N + 1593)) + B_{\bar{N}}(2N + 1595 - B_{\bar{N}}(2N + 1592)) \\
&= B_{\bar{N}}(2N + 1595 - (2N + 1390)) + B_{\bar{N}}(2N + 1595 - (N + 2147)) + B_{\bar{N}}(2N + 1595 - (2N - 903)) \\
&= B_{\bar{N}}(205) + B_{\bar{N}}(N - 552) + B_{\bar{N}}(2498) = 205 + (N - 552) + 2498 = \mathbf{N} + \mathbf{2151} \\
&(N \geq 2498)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1596}) &= B_{\bar{N}}(2N + 1596 - B_{\bar{N}}(2N + 1595)) + B_{\bar{N}}(2N + 1596 - B_{\bar{N}}(2N + 1594)) + B_{\bar{N}}(2N + 1596 - B_{\bar{N}}(2N + 1593)) \\
&= B_{\bar{N}}(2N + 1596 - (N + 2151)) + B_{\bar{N}}(2N + 1596 - (2N + 1390)) + B_{\bar{N}}(2N + 1596 - (N + 2147)) \\
&= B_{\bar{N}}(N - 555) + B_{\bar{N}}(206) + B_{\bar{N}}(N - 551) = (N - 555) + 206 + (N - 551) = \mathbf{2N} - \mathbf{900} \\
&(N \geq 556)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1597}) &= B_{\bar{N}}(2N + 1597 - B_{\bar{N}}(2N + 1596)) + B_{\bar{N}}(2N + 1597 - B_{\bar{N}}(2N + 1595)) + B_{\bar{N}}(2N + 1597 - B_{\bar{N}}(2N + 1594)) \\
&= B_{\bar{N}}(2N + 1597 - (2N - 900)) + B_{\bar{N}}(2N + 1597 - (N + 2151)) + B_{\bar{N}}(2N + 1597 - (2N + 1390)) \\
&= B_{\bar{N}}(2497) + B_{\bar{N}}(N - 554) + B_{\bar{N}}(207) = 2497 + (N - 554) + 207 = \mathbf{N} + \mathbf{2150} \\
&(N \geq 2497)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1598}) &= B_{\bar{N}}(2N + 1598 - B_{\bar{N}}(2N + 1597)) + B_{\bar{N}}(2N + 1598 - B_{\bar{N}}(2N + 1596)) + B_{\bar{N}}(2N + 1598 - B_{\bar{N}}(2N + 1595)) \\
&= B_{\bar{N}}(2N + 1598 - (N + 2150)) + B_{\bar{N}}(2N + 1598 - (2N - 900)) + B_{\bar{N}}(2N + 1598 - (N + 2151)) \\
&= B_{\bar{N}}(N - 552) + B_{\bar{N}}(2498) + B_{\bar{N}}(N - 553) = (N - 552) + 2498 + (N - 553) = \mathbf{2N} + \mathbf{1393} \\
&(N \geq 2498)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1599}) &= B_{\bar{N}}(2N + 1599 - B_{\bar{N}}(2N + 1598)) + B_{\bar{N}}(2N + 1599 - B_{\bar{N}}(2N + 1597)) + B_{\bar{N}}(2N + 1599 - B_{\bar{N}}(2N + 1596)) \\
&= B_{\bar{N}}(2N + 1599 - (2N + 1393)) + B_{\bar{N}}(2N + 1599 - (N + 2150)) + B_{\bar{N}}(2N + 1599 - (2N - 900)) \\
&= B_{\bar{N}}(206) + B_{\bar{N}}(N - 551) + B_{\bar{N}}(2499) = 206 + (N - 551) + 2499 = \mathbf{N} + \mathbf{2154} \\
&(N \geq 2499)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1600}) &= B_{\bar{N}}(2N + 1600 - B_{\bar{N}}(2N + 1599)) + B_{\bar{N}}(2N + 1600 - B_{\bar{N}}(2N + 1598)) + B_{\bar{N}}(2N + 1600 - B_{\bar{N}}(2N + 1597)) \\
&= B_{\bar{N}}(2N + 1600 - (N + 2154)) + B_{\bar{N}}(2N + 1600 - (2N + 1393)) + B_{\bar{N}}(2N + 1600 - (N + 2150)) \\
&= B_{\bar{N}}(N - 554) + B_{\bar{N}}(207) + B_{\bar{N}}(N - 550) = (N - 554) + 207 + (N - 550) = \mathbf{2N} - \mathbf{897} \\
&(N \geq 555)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1601}) &= B_{\bar{N}}(2N + 1601 - B_{\bar{N}}(2N + 1600)) + B_{\bar{N}}(2N + 1601 - B_{\bar{N}}(2N + 1599)) + B_{\bar{N}}(2N + 1601 - B_{\bar{N}}(2N + 1598)) \\
&= B_{\bar{N}}(2N + 1601 - (2N - 897)) + B_{\bar{N}}(2N + 1601 - (N + 2154)) + B_{\bar{N}}(2N + 1601 - (2N + 1393)) \\
&= B_{\bar{N}}(2498) + B_{\bar{N}}(N - 553) + B_{\bar{N}}(208) = 2498 + (N - 553) + 208 = \mathbf{N} + \mathbf{2153} \\
&(N \geq 2498)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1602}) &= B_{\bar{N}}(2N + 1602 - B_{\bar{N}}(2N + 1601)) + B_{\bar{N}}(2N + 1602 - B_{\bar{N}}(2N + 1600)) + B_{\bar{N}}(2N + 1602 - B_{\bar{N}}(2N + 1599)) \\
&= B_{\bar{N}}(2N + 1602 - (N + 2153)) + B_{\bar{N}}(2N + 1602 - (2N - 897)) + B_{\bar{N}}(2N + 1602 - (N + 2154)) \\
&= B_{\bar{N}}(N - 551) + B_{\bar{N}}(2499) + B_{\bar{N}}(N - 552) = (N - 551) + 2499 + (N - 552) = \mathbf{2N} + \mathbf{1396} \\
&(N \geq 2499)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1603}) &= B_{\bar{N}}(2N + 1603 - B_{\bar{N}}(2N + 1602)) + B_{\bar{N}}(2N + 1603 - B_{\bar{N}}(2N + 1601)) + B_{\bar{N}}(2N + 1603 - B_{\bar{N}}(2N + 1600)) \\
&= B_{\bar{N}}(2N + 1603 - (2N + 1396)) + B_{\bar{N}}(2N + 1603 - (N + 2153)) + B_{\bar{N}}(2N + 1603 - (2N - 897)) \\
&= B_{\bar{N}}(207) + B_{\bar{N}}(N - 550) + B_{\bar{N}}(2500) = 207 + (N - 550) + 2500 = \mathbf{N} + \mathbf{2157} \\
&(N \geq 2500)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1604}) &= B_{\bar{N}}(2N + 1604 - B_{\bar{N}}(2N + 1603)) + B_{\bar{N}}(2N + 1604 - B_{\bar{N}}(2N + 1602)) + B_{\bar{N}}(2N + 1604 - B_{\bar{N}}(2N + 1601)) \\
&= B_{\bar{N}}(2N + 1604 - (N + 2157)) + B_{\bar{N}}(2N + 1604 - (2N + 1396)) + B_{\bar{N}}(2N + 1604 - (N + 2153)) \\
&= B_{\bar{N}}(N - 553) + B_{\bar{N}}(208) + B_{\bar{N}}(N - 549) = (N - 553) + 208 + (N - 549) = \mathbf{2N} - \mathbf{894} \\
&(N \geq 554)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1605}) &= B_{\bar{N}}(2N + 1605 - B_{\bar{N}}(2N + 1604)) + B_{\bar{N}}(2N + 1605 - B_{\bar{N}}(2N + 1603)) + B_{\bar{N}}(2N + 1605 - B_{\bar{N}}(2N + 1602)) \\
&= B_{\bar{N}}(2N + 1605 - (2N - 894)) + B_{\bar{N}}(2N + 1605 - (N + 2157)) + B_{\bar{N}}(2N + 1605 - (2N + 1396)) \\
&= B_{\bar{N}}(2499) + B_{\bar{N}}(N - 552) + B_{\bar{N}}(209) = 2499 + (N - 552) + 209 = \mathbf{N} + \mathbf{2156} \\
&(N \geq 2499)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1606}) &= B_{\bar{N}}(2N + 1606 - B_{\bar{N}}(2N + 1605)) + B_{\bar{N}}(2N + 1606 - B_{\bar{N}}(2N + 1604)) + B_{\bar{N}}(2N + 1606 - B_{\bar{N}}(2N + 1603)) \\
&= B_{\bar{N}}(2N + 1606 - (N + 2156)) + B_{\bar{N}}(2N + 1606 - (2N - 894)) + B_{\bar{N}}(2N + 1606 - (N + 2157)) \\
&= B_{\bar{N}}(N - 550) + B_{\bar{N}}(2500) + B_{\bar{N}}(N - 551) = (N - 550) + 2500 + (N - 551) = \mathbf{2N} + \mathbf{1399} \\
&(N \geq 2500)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1607}) &= B_{\bar{N}}(2N + 1607 - B_{\bar{N}}(2N + 1606)) + B_{\bar{N}}(2N + 1607 - B_{\bar{N}}(2N + 1605)) + B_{\bar{N}}(2N + 1607 - B_{\bar{N}}(2N + 1604)) \\
&= B_{\bar{N}}(2N + 1607 - (2N + 1399)) + B_{\bar{N}}(2N + 1607 - (N + 2156)) + B_{\bar{N}}(2N + 1607 - (2N - 894)) \\
&= B_{\bar{N}}(208) + B_{\bar{N}}(N - 549) + B_{\bar{N}}(2501) = 208 + (N - 549) + 2501 = \mathbf{N} + \mathbf{2160} \\
&(N \geq 2501)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1608}) &= B_{\bar{N}}(2N + 1608 - B_{\bar{N}}(2N + 1607)) + B_{\bar{N}}(2N + 1608 - B_{\bar{N}}(2N + 1606)) + B_{\bar{N}}(2N + 1608 - B_{\bar{N}}(2N + 1605)) \\
&= B_{\bar{N}}(2N + 1608 - (N + 2160)) + B_{\bar{N}}(2N + 1608 - (2N + 1399)) + B_{\bar{N}}(2N + 1608 - (N + 2156)) \\
&= B_{\bar{N}}(N - 552) + B_{\bar{N}}(209) + B_{\bar{N}}(N - 548) = (N - 552) + 209 + (N - 548) = \mathbf{2N} - \mathbf{891} \\
&(N \geq 553)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1609}) &= B_{\bar{N}}(2N + 1609 - B_{\bar{N}}(2N + 1608)) + B_{\bar{N}}(2N + 1609 - B_{\bar{N}}(2N + 1607)) + B_{\bar{N}}(2N + 1609 - B_{\bar{N}}(2N + 1606)) \\
&= B_{\bar{N}}(2N + 1609 - (2N - 891)) + B_{\bar{N}}(2N + 1609 - (N + 2160)) + B_{\bar{N}}(2N + 1609 - (2N + 1399)) \\
&= B_{\bar{N}}(2500) + B_{\bar{N}}(N - 551) + B_{\bar{N}}(210) = 2500 + (N - 551) + 210 = \mathbf{N} + \mathbf{2159} \\
&(N \geq 2500)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1610}) &= B_{\bar{N}}(2N + 1610 - B_{\bar{N}}(2N + 1609)) + B_{\bar{N}}(2N + 1610 - B_{\bar{N}}(2N + 1608)) + B_{\bar{N}}(2N + 1610 - B_{\bar{N}}(2N + 1607)) \\
&= B_{\bar{N}}(2N + 1610 - (N + 2159)) + B_{\bar{N}}(2N + 1610 - (2N - 891)) + B_{\bar{N}}(2N + 1610 - (N + 2160)) \\
&= B_{\bar{N}}(N - 549) + B_{\bar{N}}(2501) + B_{\bar{N}}(N - 550) = (N - 549) + 2501 + (N - 550) = \mathbf{2N} + \mathbf{1402} \\
&(N \geq 2501)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1611}) &= B_{\bar{N}}(2N + 1611 - B_{\bar{N}}(2N + 1610)) + B_{\bar{N}}(2N + 1611 - B_{\bar{N}}(2N + 1609)) + B_{\bar{N}}(2N + 1611 - B_{\bar{N}}(2N + 1608)) \\
&= B_{\bar{N}}(2N + 1611 - (2N + 1402)) + B_{\bar{N}}(2N + 1611 - (N + 2159)) + B_{\bar{N}}(2N + 1611 - (2N - 891)) \\
&= B_{\bar{N}}(209) + B_{\bar{N}}(N - 548) + B_{\bar{N}}(2502) = 209 + (N - 548) + 2502 = \mathbf{N} + \mathbf{2163} \\
&(N \geq 2502)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1612}) &= B_{\bar{N}}(2N + 1612 - B_{\bar{N}}(2N + 1611)) + B_{\bar{N}}(2N + 1612 - B_{\bar{N}}(2N + 1610)) + B_{\bar{N}}(2N + 1612 - B_{\bar{N}}(2N + 1609)) \\
&= B_{\bar{N}}(2N + 1612 - (N + 2163)) + B_{\bar{N}}(2N + 1612 - (2N + 1402)) + B_{\bar{N}}(2N + 1612 - (N + 2159)) \\
&= B_{\bar{N}}(N - 551) + B_{\bar{N}}(210) + B_{\bar{N}}(N - 547) = (N - 551) + 210 + (N - 547) = \mathbf{2N} - \mathbf{888} \\
&(N \geq 552)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1613}) &= B_{\bar{N}}(2N + 1613 - B_{\bar{N}}(2N + 1612)) + B_{\bar{N}}(2N + 1613 - B_{\bar{N}}(2N + 1611)) + B_{\bar{N}}(2N + 1613 - B_{\bar{N}}(2N + 1610)) \\
&= B_{\bar{N}}(2N + 1613 - (2N - 888)) + B_{\bar{N}}(2N + 1613 - (N + 2163)) + B_{\bar{N}}(2N + 1613 - (2N + 1402)) \\
&= B_{\bar{N}}(2501) + B_{\bar{N}}(N - 550) + B_{\bar{N}}(211) = 2501 + (N - 550) + 211 = \mathbf{N} + \mathbf{2162} \\
&(N \geq 2501)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1614}) &= B_{\bar{N}}(2N + 1614 - B_{\bar{N}}(2N + 1613)) + B_{\bar{N}}(2N + 1614 - B_{\bar{N}}(2N + 1612)) + B_{\bar{N}}(2N + 1614 - B_{\bar{N}}(2N + 1611)) \\
&= B_{\bar{N}}(2N + 1614 - (N + 2162)) + B_{\bar{N}}(2N + 1614 - (2N - 888)) + B_{\bar{N}}(2N + 1614 - (N + 2163)) \\
&= B_{\bar{N}}(N - 548) + B_{\bar{N}}(2502) + B_{\bar{N}}(N - 549) = (N - 548) + 2502 + (N - 549) = \mathbf{2N} + \mathbf{1405} \\
&(N \geq 2502)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1615}) &= B_{\bar{N}}(2N + 1615 - B_{\bar{N}}(2N + 1614)) + B_{\bar{N}}(2N + 1615 - B_{\bar{N}}(2N + 1613)) + B_{\bar{N}}(2N + 1615 - B_{\bar{N}}(2N + 1612)) \\
&= B_{\bar{N}}(2N + 1615 - (2N + 1405)) + B_{\bar{N}}(2N + 1615 - (N + 2162)) + B_{\bar{N}}(2N + 1615 - (2N - 888)) \\
&= B_{\bar{N}}(210) + B_{\bar{N}}(N - 547) + B_{\bar{N}}(2503) = 210 + (N - 547) + 2503 = \mathbf{N} + \mathbf{2166} \\
&(N \geq 2503)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1616}) &= B_{\bar{N}}(2N + 1616 - B_{\bar{N}}(2N + 1615)) + B_{\bar{N}}(2N + 1616 - B_{\bar{N}}(2N + 1614)) + B_{\bar{N}}(2N + 1616 - B_{\bar{N}}(2N + 1613)) \\
&= B_{\bar{N}}(2N + 1616 - (N + 2166)) + B_{\bar{N}}(2N + 1616 - (2N + 1405)) + B_{\bar{N}}(2N + 1616 - (N + 2162)) \\
&= B_{\bar{N}}(N - 550) + B_{\bar{N}}(211) + B_{\bar{N}}(N - 546) = (N - 550) + 211 + (N - 546) = \mathbf{2N} - \mathbf{885} \\
&(N \geq 551)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1617}) &= B_{\bar{N}}(2N + 1617 - B_{\bar{N}}(2N + 1616)) + B_{\bar{N}}(2N + 1617 - B_{\bar{N}}(2N + 1615)) + B_{\bar{N}}(2N + 1617 - B_{\bar{N}}(2N + 1614)) \\
&= B_{\bar{N}}(2N + 1617 - (2N - 885)) + B_{\bar{N}}(2N + 1617 - (N + 2166)) + B_{\bar{N}}(2N + 1617 - (2N + 1405)) \\
&= B_{\bar{N}}(2502) + B_{\bar{N}}(N - 549) + B_{\bar{N}}(212) = 2502 + (N - 549) + 212 = \mathbf{N} + \mathbf{2165} \\
&(N \geq 2502)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1618}) &= B_{\bar{N}}(2N + 1618 - B_{\bar{N}}(2N + 1617)) + B_{\bar{N}}(2N + 1618 - B_{\bar{N}}(2N + 1616)) + B_{\bar{N}}(2N + 1618 - B_{\bar{N}}(2N + 1615)) \\
&= B_{\bar{N}}(2N + 1618 - (N + 2165)) + B_{\bar{N}}(2N + 1618 - (2N - 885)) + B_{\bar{N}}(2N + 1618 - (N + 2166)) \\
&= B_{\bar{N}}(N - 547) + B_{\bar{N}}(2503) + B_{\bar{N}}(N - 548) = (N - 547) + 2503 + (N - 548) = \mathbf{2N} + \mathbf{1408} \\
&(N \geq 2503)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1619}) &= B_{\bar{N}}(2N + 1619 - B_{\bar{N}}(2N + 1618)) + B_{\bar{N}}(2N + 1619 - B_{\bar{N}}(2N + 1617)) + B_{\bar{N}}(2N + 1619 - B_{\bar{N}}(2N + 1616)) \\
&= B_{\bar{N}}(2N + 1619 - (2N + 1408)) + B_{\bar{N}}(2N + 1619 - (N + 2165)) + B_{\bar{N}}(2N + 1619 - (2N - 885)) \\
&= B_{\bar{N}}(211) + B_{\bar{N}}(N - 546) + B_{\bar{N}}(2504) = 211 + (N - 546) + 2504 = \mathbf{N} + \mathbf{2169} \\
&(N \geq 2504)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1620}) &= B_{\bar{N}}(2N + 1620 - B_{\bar{N}}(2N + 1619)) + B_{\bar{N}}(2N + 1620 - B_{\bar{N}}(2N + 1618)) + B_{\bar{N}}(2N + 1620 - B_{\bar{N}}(2N + 1617)) \\
&= B_{\bar{N}}(2N + 1620 - (N + 2169)) + B_{\bar{N}}(2N + 1620 - (2N + 1408)) + B_{\bar{N}}(2N + 1620 - (N + 2165)) \\
&= B_{\bar{N}}(N - 549) + B_{\bar{N}}(212) + B_{\bar{N}}(N - 545) = (N - 549) + 212 + (N - 545) = \mathbf{2N} - \mathbf{882} \\
&(N \geq 550)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1621}) &= B_{\bar{N}}(2N + 1621 - B_{\bar{N}}(2N + 1620)) + B_{\bar{N}}(2N + 1621 - B_{\bar{N}}(2N + 1619)) + B_{\bar{N}}(2N + 1621 - B_{\bar{N}}(2N + 1618)) \\
&= B_{\bar{N}}(2N + 1621 - (2N - 882)) + B_{\bar{N}}(2N + 1621 - (N + 2169)) + B_{\bar{N}}(2N + 1621 - (2N + 1408)) \\
&= B_{\bar{N}}(2503) + B_{\bar{N}}(N - 548) + B_{\bar{N}}(213) = 2503 + (N - 548) + 213 = \mathbf{N} + \mathbf{2168} \\
&(N \geq 2503)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1622}) &= B_{\bar{N}}(2N + 1622 - B_{\bar{N}}(2N + 1621)) + B_{\bar{N}}(2N + 1622 - B_{\bar{N}}(2N + 1620)) + B_{\bar{N}}(2N + 1622 - B_{\bar{N}}(2N + 1619)) \\
&= B_{\bar{N}}(2N + 1622 - (N + 2168)) + B_{\bar{N}}(2N + 1622 - (2N - 882)) + B_{\bar{N}}(2N + 1622 - (N + 2169)) \\
&= B_{\bar{N}}(N - 546) + B_{\bar{N}}(2504) + B_{\bar{N}}(N - 547) = (N - 546) + 2504 + (N - 547) = \mathbf{2N} + \mathbf{1411} \\
&(N \geq 2504)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1623}) &= B_{\bar{N}}(2N + 1623 - B_{\bar{N}}(2N + 1622)) + B_{\bar{N}}(2N + 1623 - B_{\bar{N}}(2N + 1621)) + B_{\bar{N}}(2N + 1623 - B_{\bar{N}}(2N + 1620)) \\
&= B_{\bar{N}}(2N + 1623 - (2N + 1411)) + B_{\bar{N}}(2N + 1623 - (N + 2168)) + B_{\bar{N}}(2N + 1623 - (2N - 882)) \\
&= B_{\bar{N}}(212) + B_{\bar{N}}(N - 545) + B_{\bar{N}}(2505) = 212 + (N - 545) + 2505 = \mathbf{N} + \mathbf{2172} \\
&(N \geq 2505)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1624}) &= B_{\bar{N}}(2N + 1624 - B_{\bar{N}}(2N + 1623)) + B_{\bar{N}}(2N + 1624 - B_{\bar{N}}(2N + 1622)) + B_{\bar{N}}(2N + 1624 - B_{\bar{N}}(2N + 1621)) \\
&= B_{\bar{N}}(2N + 1624 - (N + 2172)) + B_{\bar{N}}(2N + 1624 - (2N + 1411)) + B_{\bar{N}}(2N + 1624 - (N + 2168)) \\
&= B_{\bar{N}}(N - 548) + B_{\bar{N}}(213) + B_{\bar{N}}(N - 544) = (N - 548) + 213 + (N - 544) = \mathbf{2N} - \mathbf{879} \\
&(N \geq 549)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1625}) &= B_{\bar{N}}(2N + 1625 - B_{\bar{N}}(2N + 1624)) + B_{\bar{N}}(2N + 1625 - B_{\bar{N}}(2N + 1623)) + B_{\bar{N}}(2N + 1625 - B_{\bar{N}}(2N + 1622)) \\
&= B_{\bar{N}}(2N + 1625 - (2N - 879)) + B_{\bar{N}}(2N + 1625 - (N + 2172)) + B_{\bar{N}}(2N + 1625 - (2N + 1411)) \\
&= B_{\bar{N}}(2504) + B_{\bar{N}}(N - 547) + B_{\bar{N}}(214) = 2504 + (N - 547) + 214 = \mathbf{N} + \mathbf{2171} \\
&(N \geq 2504)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1626}) &= B_{\bar{N}}(2N + 1626 - B_{\bar{N}}(2N + 1625)) + B_{\bar{N}}(2N + 1626 - B_{\bar{N}}(2N + 1624)) + B_{\bar{N}}(2N + 1626 - B_{\bar{N}}(2N + 1623)) \\
&= B_{\bar{N}}(2N + 1626 - (N + 2171)) + B_{\bar{N}}(2N + 1626 - (2N - 879)) + B_{\bar{N}}(2N + 1626 - (N + 2172)) \\
&= B_{\bar{N}}(N - 545) + B_{\bar{N}}(2505) + B_{\bar{N}}(N - 546) = (N - 545) + 2505 + (N - 546) = \mathbf{2N} + \mathbf{1414} \\
&(N \geq 2505)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1627}) &= B_{\bar{N}}(2N + 1627 - B_{\bar{N}}(2N + 1626)) + B_{\bar{N}}(2N + 1627 - B_{\bar{N}}(2N + 1625)) + B_{\bar{N}}(2N + 1627 - B_{\bar{N}}(2N + 1624)) \\
&= B_{\bar{N}}(2N + 1627 - (2N + 1414)) + B_{\bar{N}}(2N + 1627 - (N + 2171)) + B_{\bar{N}}(2N + 1627 - (2N - 879)) \\
&= B_{\bar{N}}(213) + B_{\bar{N}}(N - 544) + B_{\bar{N}}(2506) = 213 + (N - 544) + 2506 = \mathbf{N} + \mathbf{2175} \\
&(N \geq 2506)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1628}) &= B_{\bar{N}}(2N + 1628 - B_{\bar{N}}(2N + 1627)) + B_{\bar{N}}(2N + 1628 - B_{\bar{N}}(2N + 1626)) + B_{\bar{N}}(2N + 1628 - B_{\bar{N}}(2N + 1625)) \\
&= B_{\bar{N}}(2N + 1628 - (N + 2175)) + B_{\bar{N}}(2N + 1628 - (2N + 1414)) + B_{\bar{N}}(2N + 1628 - (N + 2171)) \\
&= B_{\bar{N}}(N - 547) + B_{\bar{N}}(214) + B_{\bar{N}}(N - 543) = (N - 547) + 214 + (N - 543) = \mathbf{2N} - \mathbf{876} \\
&(N \geq 548)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1629}) &= B_{\bar{N}}(2N + 1629 - B_{\bar{N}}(2N + 1628)) + B_{\bar{N}}(2N + 1629 - B_{\bar{N}}(2N + 1627)) + B_{\bar{N}}(2N + 1629 - B_{\bar{N}}(2N + 1626)) \\
&= B_{\bar{N}}(2N + 1629 - (2N - 876)) + B_{\bar{N}}(2N + 1629 - (N + 2175)) + B_{\bar{N}}(2N + 1629 - (2N + 1414)) \\
&= B_{\bar{N}}(2505) + B_{\bar{N}}(N - 546) + B_{\bar{N}}(215) = 2505 + (N - 546) + 215 = \mathbf{N} + \mathbf{2174} \\
&(N \geq 2505)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1630}) &= B_{\bar{N}}(2N + 1630 - B_{\bar{N}}(2N + 1629)) + B_{\bar{N}}(2N + 1630 - B_{\bar{N}}(2N + 1628)) + B_{\bar{N}}(2N + 1630 - B_{\bar{N}}(2N + 1627)) \\
&= B_{\bar{N}}(2N + 1630 - (N + 2174)) + B_{\bar{N}}(2N + 1630 - (2N - 876)) + B_{\bar{N}}(2N + 1630 - (N + 2175)) \\
&= B_{\bar{N}}(N - 544) + B_{\bar{N}}(2506) + B_{\bar{N}}(N - 545) = (N - 544) + 2506 + (N - 545) = \mathbf{2N} + \mathbf{1417} \\
&(N \geq 2506)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1631}) &= B_{\bar{N}}(2N + 1631 - B_{\bar{N}}(2N + 1630)) + B_{\bar{N}}(2N + 1631 - B_{\bar{N}}(2N + 1629)) + B_{\bar{N}}(2N + 1631 - B_{\bar{N}}(2N + 1628)) \\
&= B_{\bar{N}}(2N + 1631 - (2N + 1417)) + B_{\bar{N}}(2N + 1631 - (N + 2174)) + B_{\bar{N}}(2N + 1631 - (2N - 876)) \\
&= B_{\bar{N}}(214) + B_{\bar{N}}(N - 543) + B_{\bar{N}}(2507) = 214 + (N - 543) + 2507 = \mathbf{N} + \mathbf{2178} \\
&(N \geq 2507)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1632}) &= B_{\bar{N}}(2N + 1632 - B_{\bar{N}}(2N + 1631)) + B_{\bar{N}}(2N + 1632 - B_{\bar{N}}(2N + 1630)) + B_{\bar{N}}(2N + 1632 - B_{\bar{N}}(2N + 1629)) \\
&= B_{\bar{N}}(2N + 1632 - (N + 2178)) + B_{\bar{N}}(2N + 1632 - (2N + 1417)) + B_{\bar{N}}(2N + 1632 - (N + 2174)) \\
&= B_{\bar{N}}(N - 546) + B_{\bar{N}}(215) + B_{\bar{N}}(N - 542) = (N - 546) + 215 + (N - 542) = \mathbf{2N} - \mathbf{873} \\
&(N \geq 547)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1633}) &= B_{\bar{N}}(2N + 1633 - B_{\bar{N}}(2N + 1632)) + B_{\bar{N}}(2N + 1633 - B_{\bar{N}}(2N + 1631)) + B_{\bar{N}}(2N + 1633 - B_{\bar{N}}(2N + 1630)) \\
&= B_{\bar{N}}(2N + 1633 - (2N - 873)) + B_{\bar{N}}(2N + 1633 - (N + 2178)) + B_{\bar{N}}(2N + 1633 - (2N + 1417)) \\
&= B_{\bar{N}}(2506) + B_{\bar{N}}(N - 545) + B_{\bar{N}}(216) = 2506 + (N - 545) + 216 = \mathbf{N} + \mathbf{2177} \\
&(N \geq 2506)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1634}) &= B_{\bar{N}}(2N + 1634 - B_{\bar{N}}(2N + 1633)) + B_{\bar{N}}(2N + 1634 - B_{\bar{N}}(2N + 1632)) + B_{\bar{N}}(2N + 1634 - B_{\bar{N}}(2N + 1631)) \\
&= B_{\bar{N}}(2N + 1634 - (N + 2177)) + B_{\bar{N}}(2N + 1634 - (2N - 873)) + B_{\bar{N}}(2N + 1634 - (N + 2178)) \\
&= B_{\bar{N}}(N - 543) + B_{\bar{N}}(2507) + B_{\bar{N}}(N - 544) = (N - 543) + 2507 + (N - 544) = \mathbf{2N} + \mathbf{1420} \\
&(N \geq 2507)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1635}) &= B_{\bar{N}}(2N + 1635 - B_{\bar{N}}(2N + 1634)) + B_{\bar{N}}(2N + 1635 - B_{\bar{N}}(2N + 1633)) + B_{\bar{N}}(2N + 1635 - B_{\bar{N}}(2N + 1632)) \\
&= B_{\bar{N}}(2N + 1635 - (2N + 1420)) + B_{\bar{N}}(2N + 1635 - (N + 2177)) + B_{\bar{N}}(2N + 1635 - (2N - 873)) \\
&= B_{\bar{N}}(215) + B_{\bar{N}}(N - 542) + B_{\bar{N}}(2508) = 215 + (N - 542) + 2508 = \mathbf{N} + \mathbf{2181} \\
&(N \geq 2508)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1636}) &= B_{\bar{N}}(2N + 1636 - B_{\bar{N}}(2N + 1635)) + B_{\bar{N}}(2N + 1636 - B_{\bar{N}}(2N + 1634)) + B_{\bar{N}}(2N + 1636 - B_{\bar{N}}(2N + 1633)) \\
&= B_{\bar{N}}(2N + 1636 - (N + 2181)) + B_{\bar{N}}(2N + 1636 - (2N + 1420)) + B_{\bar{N}}(2N + 1636 - (N + 2177)) \\
&= B_{\bar{N}}(N - 545) + B_{\bar{N}}(216) + B_{\bar{N}}(N - 541) = (N - 545) + 216 + (N - 541) = \mathbf{2N} - \mathbf{870} \\
&(N \geq 546)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1637}) &= B_{\bar{N}}(2N + 1637 - B_{\bar{N}}(2N + 1636)) + B_{\bar{N}}(2N + 1637 - B_{\bar{N}}(2N + 1635)) + B_{\bar{N}}(2N + 1637 - B_{\bar{N}}(2N + 1634)) \\
&= B_{\bar{N}}(2N + 1637 - (2N - 870)) + B_{\bar{N}}(2N + 1637 - (N + 2181)) + B_{\bar{N}}(2N + 1637 - (2N + 1420)) \\
&= B_{\bar{N}}(2507) + B_{\bar{N}}(N - 544) + B_{\bar{N}}(217) = 2507 + (N - 544) + 217 = \mathbf{N} + \mathbf{2180} \\
&(N \geq 2507)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1638}) &= B_{\bar{N}}(2N + 1638 - B_{\bar{N}}(2N + 1637)) + B_{\bar{N}}(2N + 1638 - B_{\bar{N}}(2N + 1636)) + B_{\bar{N}}(2N + 1638 - B_{\bar{N}}(2N + 1635)) \\
&= B_{\bar{N}}(2N + 1638 - (N + 2180)) + B_{\bar{N}}(2N + 1638 - (2N - 870)) + B_{\bar{N}}(2N + 1638 - (N + 2181)) \\
&= B_{\bar{N}}(N - 542) + B_{\bar{N}}(2508) + B_{\bar{N}}(N - 543) = (N - 542) + 2508 + (N - 543) = \mathbf{2N} + \mathbf{1423} \\
&(N \geq 2508)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1639}) &= B_{\bar{N}}(2N + 1639 - B_{\bar{N}}(2N + 1638)) + B_{\bar{N}}(2N + 1639 - B_{\bar{N}}(2N + 1637)) + B_{\bar{N}}(2N + 1639 - B_{\bar{N}}(2N + 1636)) \\
&= B_{\bar{N}}(2N + 1639 - (2N + 1423)) + B_{\bar{N}}(2N + 1639 - (N + 2180)) + B_{\bar{N}}(2N + 1639 - (2N - 870)) \\
&= B_{\bar{N}}(216) + B_{\bar{N}}(N - 541) + B_{\bar{N}}(2509) = 216 + (N - 541) + 2509 = \mathbf{N} + \mathbf{2184} \\
&(N \geq 2509)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1640}) &= B_{\bar{N}}(2N + 1640 - B_{\bar{N}}(2N + 1639)) + B_{\bar{N}}(2N + 1640 - B_{\bar{N}}(2N + 1638)) + B_{\bar{N}}(2N + 1640 - B_{\bar{N}}(2N + 1637)) \\
&= B_{\bar{N}}(2N + 1640 - (N + 2184)) + B_{\bar{N}}(2N + 1640 - (2N + 1423)) + B_{\bar{N}}(2N + 1640 - (N + 2180)) \\
&= B_{\bar{N}}(N - 544) + B_{\bar{N}}(217) + B_{\bar{N}}(N - 540) = (N - 544) + 217 + (N - 540) = \mathbf{2N} - \mathbf{867} \\
&(N \geq 545)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1641}) &= B_{\bar{N}}(2N + 1641 - B_{\bar{N}}(2N + 1640)) + B_{\bar{N}}(2N + 1641 - B_{\bar{N}}(2N + 1639)) + B_{\bar{N}}(2N + 1641 - B_{\bar{N}}(2N + 1638)) \\
&= B_{\bar{N}}(2N + 1641 - (2N - 867)) + B_{\bar{N}}(2N + 1641 - (N + 2184)) + B_{\bar{N}}(2N + 1641 - (2N + 1423)) \\
&= B_{\bar{N}}(2508) + B_{\bar{N}}(N - 543) + B_{\bar{N}}(218) = 2508 + (N - 543) + 218 = \mathbf{N} + \mathbf{2183} \\
&(N \geq 2508)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1642}) &= B_{\bar{N}}(2N + 1642 - B_{\bar{N}}(2N + 1641)) + B_{\bar{N}}(2N + 1642 - B_{\bar{N}}(2N + 1640)) + B_{\bar{N}}(2N + 1642 - B_{\bar{N}}(2N + 1639)) \\
&= B_{\bar{N}}(2N + 1642 - (N + 2183)) + B_{\bar{N}}(2N + 1642 - (2N - 867)) + B_{\bar{N}}(2N + 1642 - (N + 2184)) \\
&= B_{\bar{N}}(N - 541) + B_{\bar{N}}(2509) + B_{\bar{N}}(N - 542) = (N - 541) + 2509 + (N - 542) = \mathbf{2N} + \mathbf{1426} \\
&(N \geq 2509)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1643}) &= B_{\bar{N}}(2N + 1643 - B_{\bar{N}}(2N + 1642)) + B_{\bar{N}}(2N + 1643 - B_{\bar{N}}(2N + 1641)) + B_{\bar{N}}(2N + 1643 - B_{\bar{N}}(2N + 1640)) \\
&= B_{\bar{N}}(2N + 1643 - (2N + 1426)) + B_{\bar{N}}(2N + 1643 - (N + 2183)) + B_{\bar{N}}(2N + 1643 - (2N - 867)) \\
&= B_{\bar{N}}(217) + B_{\bar{N}}(N - 540) + B_{\bar{N}}(2510) = 217 + (N - 540) + 2510 = \mathbf{N} + \mathbf{2187} \\
&(N \geq 2510)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1644}) &= B_{\bar{N}}(2N + 1644 - B_{\bar{N}}(2N + 1643)) + B_{\bar{N}}(2N + 1644 - B_{\bar{N}}(2N + 1642)) + B_{\bar{N}}(2N + 1644 - B_{\bar{N}}(2N + 1641)) \\
&= B_{\bar{N}}(2N + 1644 - (N + 2187)) + B_{\bar{N}}(2N + 1644 - (2N + 1426)) + B_{\bar{N}}(2N + 1644 - (N + 2183)) \\
&= B_{\bar{N}}(N - 543) + B_{\bar{N}}(218) + B_{\bar{N}}(N - 539) = (N - 543) + 218 + (N - 539) = \mathbf{2N} - \mathbf{864} \\
&(N \geq 544)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1645}) &= B_{\bar{N}}(2N + 1645 - B_{\bar{N}}(2N + 1644)) + B_{\bar{N}}(2N + 1645 - B_{\bar{N}}(2N + 1643)) + B_{\bar{N}}(2N + 1645 - B_{\bar{N}}(2N + 1642)) \\
&= B_{\bar{N}}(2N + 1645 - (2N - 864)) + B_{\bar{N}}(2N + 1645 - (N + 2187)) + B_{\bar{N}}(2N + 1645 - (2N + 1426)) \\
&= B_{\bar{N}}(2509) + B_{\bar{N}}(N - 542) + B_{\bar{N}}(219) = 2509 + (N - 542) + 219 = \mathbf{N} + \mathbf{2186} \\
&(N \geq 2509)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1646}) &= B_{\bar{N}}(2N + 1646 - B_{\bar{N}}(2N + 1645)) + B_{\bar{N}}(2N + 1646 - B_{\bar{N}}(2N + 1644)) + B_{\bar{N}}(2N + 1646 - B_{\bar{N}}(2N + 1643)) \\
&= B_{\bar{N}}(2N + 1646 - (N + 2186)) + B_{\bar{N}}(2N + 1646 - (2N - 864)) + B_{\bar{N}}(2N + 1646 - (N + 2187)) \\
&= B_{\bar{N}}(N - 540) + B_{\bar{N}}(2510) + B_{\bar{N}}(N - 541) = (N - 540) + 2510 + (N - 541) = \mathbf{2N} + \mathbf{1429} \\
&(N \geq 2510)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1647}) &= B_{\bar{N}}(2N + 1647 - B_{\bar{N}}(2N + 1646)) + B_{\bar{N}}(2N + 1647 - B_{\bar{N}}(2N + 1645)) + B_{\bar{N}}(2N + 1647 - B_{\bar{N}}(2N + 1644)) \\
&= B_{\bar{N}}(2N + 1647 - (2N + 1429)) + B_{\bar{N}}(2N + 1647 - (N + 2186)) + B_{\bar{N}}(2N + 1647 - (2N - 864)) \\
&= B_{\bar{N}}(218) + B_{\bar{N}}(N - 539) + B_{\bar{N}}(2511) = 218 + (N - 539) + 2511 = \mathbf{N} + \mathbf{2190} \\
&(N \geq 2511)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1648}) &= B_{\bar{N}}(2N + 1648 - B_{\bar{N}}(2N + 1647)) + B_{\bar{N}}(2N + 1648 - B_{\bar{N}}(2N + 1646)) + B_{\bar{N}}(2N + 1648 - B_{\bar{N}}(2N + 1645)) \\
&= B_{\bar{N}}(2N + 1648 - (N + 2190)) + B_{\bar{N}}(2N + 1648 - (2N + 1429)) + B_{\bar{N}}(2N + 1648 - (N + 2186)) \\
&= B_{\bar{N}}(N - 542) + B_{\bar{N}}(219) + B_{\bar{N}}(N - 538) = (N - 542) + 219 + (N - 538) = \mathbf{2N} - \mathbf{861} \\
&(N \geq 543)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1649}) &= B_{\bar{N}}(2N + 1649 - B_{\bar{N}}(2N + 1648)) + B_{\bar{N}}(2N + 1649 - B_{\bar{N}}(2N + 1647)) + B_{\bar{N}}(2N + 1649 - B_{\bar{N}}(2N + 1646)) \\
&= B_{\bar{N}}(2N + 1649 - (2N - 861)) + B_{\bar{N}}(2N + 1649 - (N + 2190)) + B_{\bar{N}}(2N + 1649 - (2N + 1429)) \\
&= B_{\bar{N}}(2510) + B_{\bar{N}}(N - 541) + B_{\bar{N}}(220) = 2510 + (N - 541) + 220 = \mathbf{N} + \mathbf{2189} \\
&(N \geq 2510)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1650}) &= B_{\bar{N}}(2N + 1650 - B_{\bar{N}}(2N + 1649)) + B_{\bar{N}}(2N + 1650 - B_{\bar{N}}(2N + 1648)) + B_{\bar{N}}(2N + 1650 - B_{\bar{N}}(2N + 1647)) \\
&= B_{\bar{N}}(2N + 1650 - (N + 2189)) + B_{\bar{N}}(2N + 1650 - (2N - 861)) + B_{\bar{N}}(2N + 1650 - (N + 2190)) \\
&= B_{\bar{N}}(N - 539) + B_{\bar{N}}(2511) + B_{\bar{N}}(N - 540) = (N - 539) + 2511 + (N - 540) = \mathbf{2N} + \mathbf{1432} \\
&(N \geq 2511)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1651}) &= B_{\bar{N}}(2N + 1651 - B_{\bar{N}}(2N + 1650)) + B_{\bar{N}}(2N + 1651 - B_{\bar{N}}(2N + 1649)) + B_{\bar{N}}(2N + 1651 - B_{\bar{N}}(2N + 1648)) \\
&= B_{\bar{N}}(2N + 1651 - (2N + 1432)) + B_{\bar{N}}(2N + 1651 - (N + 2189)) + B_{\bar{N}}(2N + 1651 - (2N - 861)) \\
&= B_{\bar{N}}(219) + B_{\bar{N}}(N - 538) + B_{\bar{N}}(2512) = 219 + (N - 538) + 2512 = \mathbf{N} + \mathbf{2193} \\
&(N \geq 2512)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1652}) &= B_{\bar{N}}(2N + 1652 - B_{\bar{N}}(2N + 1651)) + B_{\bar{N}}(2N + 1652 - B_{\bar{N}}(2N + 1650)) + B_{\bar{N}}(2N + 1652 - B_{\bar{N}}(2N + 1649)) \\
&= B_{\bar{N}}(2N + 1652 - (N + 2193)) + B_{\bar{N}}(2N + 1652 - (2N + 1432)) + B_{\bar{N}}(2N + 1652 - (N + 2189)) \\
&= B_{\bar{N}}(N - 541) + B_{\bar{N}}(220) + B_{\bar{N}}(N - 537) = (N - 541) + 220 + (N - 537) = \mathbf{2N} - \mathbf{858} \\
&(N \geq 542)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1653}) &= B_{\bar{N}}(2N + 1653 - B_{\bar{N}}(2N + 1652)) + B_{\bar{N}}(2N + 1653 - B_{\bar{N}}(2N + 1651)) + B_{\bar{N}}(2N + 1653 - B_{\bar{N}}(2N + 1650)) \\
&= B_{\bar{N}}(2N + 1653 - (2N - 858)) + B_{\bar{N}}(2N + 1653 - (N + 2193)) + B_{\bar{N}}(2N + 1653 - (2N + 1432)) \\
&= B_{\bar{N}}(2511) + B_{\bar{N}}(N - 540) + B_{\bar{N}}(221) = 2511 + (N - 540) + 221 = \mathbf{N} + \mathbf{2192} \\
&(N \geq 2511)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1654}) &= B_{\bar{N}}(2N + 1654 - B_{\bar{N}}(2N + 1653)) + B_{\bar{N}}(2N + 1654 - B_{\bar{N}}(2N + 1652)) + B_{\bar{N}}(2N + 1654 - B_{\bar{N}}(2N + 1651)) \\
&= B_{\bar{N}}(2N + 1654 - (N + 2192)) + B_{\bar{N}}(2N + 1654 - (2N - 858)) + B_{\bar{N}}(2N + 1654 - (N + 2193)) \\
&= B_{\bar{N}}(N - 538) + B_{\bar{N}}(2512) + B_{\bar{N}}(N - 539) = (N - 538) + 2512 + (N - 539) = \mathbf{2N} + \mathbf{1435} \\
&(N \geq 2512)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1655}) &= B_{\bar{N}}(2N + 1655 - B_{\bar{N}}(2N + 1654)) + B_{\bar{N}}(2N + 1655 - B_{\bar{N}}(2N + 1653)) + B_{\bar{N}}(2N + 1655 - B_{\bar{N}}(2N + 1652)) \\
&= B_{\bar{N}}(2N + 1655 - (2N + 1435)) + B_{\bar{N}}(2N + 1655 - (N + 2192)) + B_{\bar{N}}(2N + 1655 - (2N - 858)) \\
&= B_{\bar{N}}(220) + B_{\bar{N}}(N - 537) + B_{\bar{N}}(2513) = 220 + (N - 537) + 2513 = \mathbf{N} + \mathbf{2196} \\
&(N \geq 2513)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1656}) &= B_{\bar{N}}(2N + 1656 - B_{\bar{N}}(2N + 1655)) + B_{\bar{N}}(2N + 1656 - B_{\bar{N}}(2N + 1654)) + B_{\bar{N}}(2N + 1656 - B_{\bar{N}}(2N + 1653)) \\
&= B_{\bar{N}}(2N + 1656 - (N + 2196)) + B_{\bar{N}}(2N + 1656 - (2N + 1435)) + B_{\bar{N}}(2N + 1656 - (N + 2192)) \\
&= B_{\bar{N}}(N - 540) + B_{\bar{N}}(221) + B_{\bar{N}}(N - 536) = (N - 540) + 221 + (N - 536) = \mathbf{2N} - \mathbf{855} \\
&(N \geq 541)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1657}) &= B_{\bar{N}}(2N + 1657 - B_{\bar{N}}(2N + 1656)) + B_{\bar{N}}(2N + 1657 - B_{\bar{N}}(2N + 1655)) + B_{\bar{N}}(2N + 1657 - B_{\bar{N}}(2N + 1654)) \\
&= B_{\bar{N}}(2N + 1657 - (2N - 855)) + B_{\bar{N}}(2N + 1657 - (N + 2196)) + B_{\bar{N}}(2N + 1657 - (2N + 1435)) \\
&= B_{\bar{N}}(2512) + B_{\bar{N}}(N - 539) + B_{\bar{N}}(222) = 2512 + (N - 539) + 222 = \mathbf{N} + \mathbf{2195} \\
&(N \geq 2512)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1658}) &= B_{\bar{N}}(2N + 1658 - B_{\bar{N}}(2N + 1657)) + B_{\bar{N}}(2N + 1658 - B_{\bar{N}}(2N + 1656)) + B_{\bar{N}}(2N + 1658 - B_{\bar{N}}(2N + 1655)) \\
&= B_{\bar{N}}(2N + 1658 - (N + 2195)) + B_{\bar{N}}(2N + 1658 - (2N - 855)) + B_{\bar{N}}(2N + 1658 - (N + 2196)) \\
&= B_{\bar{N}}(N - 537) + B_{\bar{N}}(2513) + B_{\bar{N}}(N - 538) = (N - 537) + 2513 + (N - 538) = \mathbf{2N} + \mathbf{1438} \\
&(N \geq 2513)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1659}) &= B_{\bar{N}}(2N + 1659 - B_{\bar{N}}(2N + 1658)) + B_{\bar{N}}(2N + 1659 - B_{\bar{N}}(2N + 1657)) + B_{\bar{N}}(2N + 1659 - B_{\bar{N}}(2N + 1656)) \\
&= B_{\bar{N}}(2N + 1659 - (2N + 1438)) + B_{\bar{N}}(2N + 1659 - (N + 2195)) + B_{\bar{N}}(2N + 1659 - (2N - 855)) \\
&= B_{\bar{N}}(221) + B_{\bar{N}}(N - 536) + B_{\bar{N}}(2514) = 221 + (N - 536) + 2514 = \mathbf{N} + \mathbf{2199} \\
&(N \geq 2514)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1660}) &= B_{\bar{N}}(2N + 1660 - B_{\bar{N}}(2N + 1659)) + B_{\bar{N}}(2N + 1660 - B_{\bar{N}}(2N + 1658)) + B_{\bar{N}}(2N + 1660 - B_{\bar{N}}(2N + 1657)) \\
&= B_{\bar{N}}(2N + 1660 - (N + 2199)) + B_{\bar{N}}(2N + 1660 - (2N + 1438)) + B_{\bar{N}}(2N + 1660 - (N + 2195)) \\
&= B_{\bar{N}}(N - 539) + B_{\bar{N}}(222) + B_{\bar{N}}(N - 535) = (N - 539) + 222 + (N - 535) = \mathbf{2N} - \mathbf{852} \\
&(N \geq 540)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1661}) &= B_{\bar{N}}(2N + 1661 - B_{\bar{N}}(2N + 1660)) + B_{\bar{N}}(2N + 1661 - B_{\bar{N}}(2N + 1659)) + B_{\bar{N}}(2N + 1661 - B_{\bar{N}}(2N + 1658)) \\
&= B_{\bar{N}}(2N + 1661 - (2N - 852)) + B_{\bar{N}}(2N + 1661 - (N + 2199)) + B_{\bar{N}}(2N + 1661 - (2N + 1438)) \\
&= B_{\bar{N}}(2513) + B_{\bar{N}}(N - 538) + B_{\bar{N}}(223) = 2513 + (N - 538) + 223 = \mathbf{N} + \mathbf{2198} \\
&(N \geq 2513)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1662}) &= B_{\bar{N}}(2N + 1662 - B_{\bar{N}}(2N + 1661)) + B_{\bar{N}}(2N + 1662 - B_{\bar{N}}(2N + 1660)) + B_{\bar{N}}(2N + 1662 - B_{\bar{N}}(2N + 1659)) \\
&= B_{\bar{N}}(2N + 1662 - (N + 2198)) + B_{\bar{N}}(2N + 1662 - (2N - 852)) + B_{\bar{N}}(2N + 1662 - (N + 2199)) \\
&= B_{\bar{N}}(N - 536) + B_{\bar{N}}(2514) + B_{\bar{N}}(N - 537) = (N - 536) + 2514 + (N - 537) = \mathbf{2N} + \mathbf{1441} \\
&(N \geq 2514)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1663}) &= B_{\bar{N}}(2N + 1663 - B_{\bar{N}}(2N + 1662)) + B_{\bar{N}}(2N + 1663 - B_{\bar{N}}(2N + 1661)) + B_{\bar{N}}(2N + 1663 - B_{\bar{N}}(2N + 1660)) \\
&= B_{\bar{N}}(2N + 1663 - (2N + 1441)) + B_{\bar{N}}(2N + 1663 - (N + 2198)) + B_{\bar{N}}(2N + 1663 - (2N - 852)) \\
&= B_{\bar{N}}(222) + B_{\bar{N}}(N - 535) + B_{\bar{N}}(2515) = 222 + (N - 535) + 2515 = \mathbf{N} + \mathbf{2202} \\
&(N \geq 2515)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1664}) &= B_{\bar{N}}(2N + 1664 - B_{\bar{N}}(2N + 1663)) + B_{\bar{N}}(2N + 1664 - B_{\bar{N}}(2N + 1662)) + B_{\bar{N}}(2N + 1664 - B_{\bar{N}}(2N + 1661)) \\
&= B_{\bar{N}}(2N + 1664 - (N + 2202)) + B_{\bar{N}}(2N + 1664 - (2N + 1441)) + B_{\bar{N}}(2N + 1664 - (N + 2198)) \\
&= B_{\bar{N}}(N - 538) + B_{\bar{N}}(223) + B_{\bar{N}}(N - 534) = (N - 538) + 223 + (N - 534) = \mathbf{2N} - \mathbf{849} \\
&(N \geq 539)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1665}) &= B_{\bar{N}}(2N + 1665 - B_{\bar{N}}(2N + 1664)) + B_{\bar{N}}(2N + 1665 - B_{\bar{N}}(2N + 1663)) + B_{\bar{N}}(2N + 1665 - B_{\bar{N}}(2N + 1662)) \\
&= B_{\bar{N}}(2N + 1665 - (2N - 849)) + B_{\bar{N}}(2N + 1665 - (N + 2202)) + B_{\bar{N}}(2N + 1665 - (2N + 1441)) \\
&= B_{\bar{N}}(2514) + B_{\bar{N}}(N - 537) + B_{\bar{N}}(224) = 2514 + (N - 537) + 224 = \mathbf{N} + \mathbf{2201} \\
&(N \geq 2514)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1666}) &= B_{\bar{N}}(2N + 1666 - B_{\bar{N}}(2N + 1665)) + B_{\bar{N}}(2N + 1666 - B_{\bar{N}}(2N + 1664)) + B_{\bar{N}}(2N + 1666 - B_{\bar{N}}(2N + 1663)) \\
&= B_{\bar{N}}(2N + 1666 - (N + 2201)) + B_{\bar{N}}(2N + 1666 - (2N - 849)) + B_{\bar{N}}(2N + 1666 - (N + 2202)) \\
&= B_{\bar{N}}(N - 535) + B_{\bar{N}}(2515) + B_{\bar{N}}(N - 536) = (N - 535) + 2515 + (N - 536) = \mathbf{2N} + \mathbf{1444} \\
&(N \geq 2515)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1667}) &= B_{\bar{N}}(2N + 1667 - B_{\bar{N}}(2N + 1666)) + B_{\bar{N}}(2N + 1667 - B_{\bar{N}}(2N + 1665)) + B_{\bar{N}}(2N + 1667 - B_{\bar{N}}(2N + 1664)) \\
&= B_{\bar{N}}(2N + 1667 - (2N + 1444)) + B_{\bar{N}}(2N + 1667 - (N + 2201)) + B_{\bar{N}}(2N + 1667 - (2N - 849)) \\
&= B_{\bar{N}}(223) + B_{\bar{N}}(N - 534) + B_{\bar{N}}(2516) = 223 + (N - 534) + 2516 = \mathbf{N} + \mathbf{2205} \\
&(N \geq 2516)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1668}) &= B_{\bar{N}}(2N + 1668 - B_{\bar{N}}(2N + 1667)) + B_{\bar{N}}(2N + 1668 - B_{\bar{N}}(2N + 1666)) + B_{\bar{N}}(2N + 1668 - B_{\bar{N}}(2N + 1665)) \\
&= B_{\bar{N}}(2N + 1668 - (N + 2205)) + B_{\bar{N}}(2N + 1668 - (2N + 1444)) + B_{\bar{N}}(2N + 1668 - (N + 2201)) \\
&= B_{\bar{N}}(N - 537) + B_{\bar{N}}(224) + B_{\bar{N}}(N - 533) = (N - 537) + 224 + (N - 533) = \mathbf{2N} - \mathbf{846} \\
&(N \geq 538)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1669}) &= B_{\bar{N}}(2N + 1669 - B_{\bar{N}}(2N + 1668)) + B_{\bar{N}}(2N + 1669 - B_{\bar{N}}(2N + 1667)) + B_{\bar{N}}(2N + 1669 - B_{\bar{N}}(2N + 1666)) \\
&= B_{\bar{N}}(2N + 1669 - (2N - 846)) + B_{\bar{N}}(2N + 1669 - (N + 2205)) + B_{\bar{N}}(2N + 1669 - (2N + 1444)) \\
&= B_{\bar{N}}(2515) + B_{\bar{N}}(N - 536) + B_{\bar{N}}(225) = 2515 + (N - 536) + 225 = \mathbf{N} + \mathbf{2204} \\
&(N \geq 2515)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1670}) &= B_{\bar{N}}(2N + 1670 - B_{\bar{N}}(2N + 1669)) + B_{\bar{N}}(2N + 1670 - B_{\bar{N}}(2N + 1668)) + B_{\bar{N}}(2N + 1670 - B_{\bar{N}}(2N + 1667)) \\
&= B_{\bar{N}}(2N + 1670 - (N + 2204)) + B_{\bar{N}}(2N + 1670 - (2N - 846)) + B_{\bar{N}}(2N + 1670 - (N + 2205)) \\
&= B_{\bar{N}}(N - 534) + B_{\bar{N}}(2516) + B_{\bar{N}}(N - 535) = (N - 534) + 2516 + (N - 535) = \mathbf{2N} + \mathbf{1447} \\
&(N \geq 2516)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1671}) &= B_{\bar{N}}(2N + 1671 - B_{\bar{N}}(2N + 1670)) + B_{\bar{N}}(2N + 1671 - B_{\bar{N}}(2N + 1669)) + B_{\bar{N}}(2N + 1671 - B_{\bar{N}}(2N + 1668)) \\
&= B_{\bar{N}}(2N + 1671 - (2N + 1447)) + B_{\bar{N}}(2N + 1671 - (N + 2204)) + B_{\bar{N}}(2N + 1671 - (2N - 846)) \\
&= B_{\bar{N}}(224) + B_{\bar{N}}(N - 533) + B_{\bar{N}}(2517) = 224 + (N - 533) + 2517 = \mathbf{N} + \mathbf{2208} \\
&(N \geq 2517)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1672}) &= B_{\bar{N}}(2N + 1672 - B_{\bar{N}}(2N + 1671)) + B_{\bar{N}}(2N + 1672 - B_{\bar{N}}(2N + 1670)) + B_{\bar{N}}(2N + 1672 - B_{\bar{N}}(2N + 1669)) \\
&= B_{\bar{N}}(2N + 1672 - (N + 2208)) + B_{\bar{N}}(2N + 1672 - (2N + 1447)) + B_{\bar{N}}(2N + 1672 - (N + 2204)) \\
&= B_{\bar{N}}(N - 536) + B_{\bar{N}}(225) + B_{\bar{N}}(N - 532) = (N - 536) + 225 + (N - 532) = \mathbf{2N} - \mathbf{843} \\
&(N \geq 537)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1673}) &= B_{\bar{N}}(2N + 1673 - B_{\bar{N}}(2N + 1672)) + B_{\bar{N}}(2N + 1673 - B_{\bar{N}}(2N + 1671)) + B_{\bar{N}}(2N + 1673 - B_{\bar{N}}(2N + 1670)) \\
&= B_{\bar{N}}(2N + 1673 - (2N - 843)) + B_{\bar{N}}(2N + 1673 - (N + 2208)) + B_{\bar{N}}(2N + 1673 - (2N + 1447)) \\
&= B_{\bar{N}}(2516) + B_{\bar{N}}(N - 535) + B_{\bar{N}}(226) = 2516 + (N - 535) + 226 = \mathbf{N} + \mathbf{2207} \\
&(N \geq 2516)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1674}) &= B_{\bar{N}}(2N + 1674 - B_{\bar{N}}(2N + 1673)) + B_{\bar{N}}(2N + 1674 - B_{\bar{N}}(2N + 1672)) + B_{\bar{N}}(2N + 1674 - B_{\bar{N}}(2N + 1671)) \\
&= B_{\bar{N}}(2N + 1674 - (N + 2207)) + B_{\bar{N}}(2N + 1674 - (2N - 843)) + B_{\bar{N}}(2N + 1674 - (N + 2208)) \\
&= B_{\bar{N}}(N - 533) + B_{\bar{N}}(2517) + B_{\bar{N}}(N - 534) = (N - 533) + 2517 + (N - 534) = \mathbf{2N} + \mathbf{1450} \\
&(N \geq 2517)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1675}) &= B_{\bar{N}}(2N + 1675 - B_{\bar{N}}(2N + 1674)) + B_{\bar{N}}(2N + 1675 - B_{\bar{N}}(2N + 1673)) + B_{\bar{N}}(2N + 1675 - B_{\bar{N}}(2N + 1672)) \\
&= B_{\bar{N}}(2N + 1675 - (2N + 1450)) + B_{\bar{N}}(2N + 1675 - (N + 2207)) + B_{\bar{N}}(2N + 1675 - (2N - 843)) \\
&= B_{\bar{N}}(225) + B_{\bar{N}}(N - 532) + B_{\bar{N}}(2518) = 225 + (N - 532) + 2518 = \mathbf{N} + \mathbf{2211} \\
&(N \geq 2518)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1676}) &= B_{\bar{N}}(2N + 1676 - B_{\bar{N}}(2N + 1675)) + B_{\bar{N}}(2N + 1676 - B_{\bar{N}}(2N + 1674)) + B_{\bar{N}}(2N + 1676 - B_{\bar{N}}(2N + 1673)) \\
&= B_{\bar{N}}(2N + 1676 - (N + 2211)) + B_{\bar{N}}(2N + 1676 - (2N + 1450)) + B_{\bar{N}}(2N + 1676 - (N + 2207)) \\
&= B_{\bar{N}}(N - 535) + B_{\bar{N}}(226) + B_{\bar{N}}(N - 531) = (N - 535) + 226 + (N - 531) = \mathbf{2N} - \mathbf{840} \\
&(N \geq 536)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1677}) &= B_{\bar{N}}(2N + 1677 - B_{\bar{N}}(2N + 1676)) + B_{\bar{N}}(2N + 1677 - B_{\bar{N}}(2N + 1675)) + B_{\bar{N}}(2N + 1677 - B_{\bar{N}}(2N + 1674)) \\
&= B_{\bar{N}}(2N + 1677 - (2N - 840)) + B_{\bar{N}}(2N + 1677 - (N + 2211)) + B_{\bar{N}}(2N + 1677 - (2N + 1450)) \\
&= B_{\bar{N}}(2517) + B_{\bar{N}}(N - 534) + B_{\bar{N}}(227) = 2517 + (N - 534) + 227 = \mathbf{N} + \mathbf{2210} \\
&(N \geq 2517)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1678}) &= B_{\bar{N}}(2N + 1678 - B_{\bar{N}}(2N + 1677)) + B_{\bar{N}}(2N + 1678 - B_{\bar{N}}(2N + 1676)) + B_{\bar{N}}(2N + 1678 - B_{\bar{N}}(2N + 1675)) \\
&= B_{\bar{N}}(2N + 1678 - (N + 2210)) + B_{\bar{N}}(2N + 1678 - (2N - 840)) + B_{\bar{N}}(2N + 1678 - (N + 2211)) \\
&= B_{\bar{N}}(N - 532) + B_{\bar{N}}(2518) + B_{\bar{N}}(N - 533) = (N - 532) + 2518 + (N - 533) = \mathbf{2N} + \mathbf{1453} \\
&(N \geq 2518)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1679}) &= B_{\bar{N}}(2N + 1679 - B_{\bar{N}}(2N + 1678)) + B_{\bar{N}}(2N + 1679 - B_{\bar{N}}(2N + 1677)) + B_{\bar{N}}(2N + 1679 - B_{\bar{N}}(2N + 1676)) \\
&= B_{\bar{N}}(2N + 1679 - (2N + 1453)) + B_{\bar{N}}(2N + 1679 - (N + 2210)) + B_{\bar{N}}(2N + 1679 - (2N - 840)) \\
&= B_{\bar{N}}(226) + B_{\bar{N}}(N - 531) + B_{\bar{N}}(2519) = 226 + (N - 531) + 2519 = \mathbf{N} + \mathbf{2214} \\
&(N \geq 2519)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1680}) &= B_{\bar{N}}(2N + 1680 - B_{\bar{N}}(2N + 1679)) + B_{\bar{N}}(2N + 1680 - B_{\bar{N}}(2N + 1678)) + B_{\bar{N}}(2N + 1680 - B_{\bar{N}}(2N + 1677)) \\
&= B_{\bar{N}}(2N + 1680 - (N + 2214)) + B_{\bar{N}}(2N + 1680 - (2N + 1453)) + B_{\bar{N}}(2N + 1680 - (N + 2210)) \\
&= B_{\bar{N}}(N - 534) + B_{\bar{N}}(227) + B_{\bar{N}}(N - 530) = (N - 534) + 227 + (N - 530) = \mathbf{2N} - \mathbf{837} \\
&(N \geq 535)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1681}) &= B_{\bar{N}}(2N + 1681 - B_{\bar{N}}(2N + 1680)) + B_{\bar{N}}(2N + 1681 - B_{\bar{N}}(2N + 1679)) + B_{\bar{N}}(2N + 1681 - B_{\bar{N}}(2N + 1678)) \\
&= B_{\bar{N}}(2N + 1681 - (2N - 837)) + B_{\bar{N}}(2N + 1681 - (N + 2214)) + B_{\bar{N}}(2N + 1681 - (2N + 1453)) \\
&= B_{\bar{N}}(2518) + B_{\bar{N}}(N - 533) + B_{\bar{N}}(228) = 2518 + (N - 533) + 228 = \mathbf{N} + \mathbf{2213} \\
&(N \geq 2518)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1682}) &= B_{\bar{N}}(2N + 1682 - B_{\bar{N}}(2N + 1681)) + B_{\bar{N}}(2N + 1682 - B_{\bar{N}}(2N + 1680)) + B_{\bar{N}}(2N + 1682 - B_{\bar{N}}(2N + 1679)) \\
&= B_{\bar{N}}(2N + 1682 - (N + 2213)) + B_{\bar{N}}(2N + 1682 - (2N - 837)) + B_{\bar{N}}(2N + 1682 - (N + 2214)) \\
&= B_{\bar{N}}(N - 531) + B_{\bar{N}}(2519) + B_{\bar{N}}(N - 532) = (N - 531) + 2519 + (N - 532) = \mathbf{2N} + \mathbf{1456} \\
&(N \geq 2519)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1683}) &= B_{\bar{N}}(2N + 1683 - B_{\bar{N}}(2N + 1682)) + B_{\bar{N}}(2N + 1683 - B_{\bar{N}}(2N + 1681)) + B_{\bar{N}}(2N + 1683 - B_{\bar{N}}(2N + 1680)) \\
&= B_{\bar{N}}(2N + 1683 - (2N + 1456)) + B_{\bar{N}}(2N + 1683 - (N + 2213)) + B_{\bar{N}}(2N + 1683 - (2N - 837)) \\
&= B_{\bar{N}}(227) + B_{\bar{N}}(N - 530) + B_{\bar{N}}(2520) = 227 + (N - 530) + 2520 = \mathbf{N} + \mathbf{2217} \\
&(N \geq 2520)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1684}) &= B_{\bar{N}}(2N + 1684 - B_{\bar{N}}(2N + 1683)) + B_{\bar{N}}(2N + 1684 - B_{\bar{N}}(2N + 1682)) + B_{\bar{N}}(2N + 1684 - B_{\bar{N}}(2N + 1681)) \\
&= B_{\bar{N}}(2N + 1684 - (N + 2217)) + B_{\bar{N}}(2N + 1684 - (2N + 1456)) + B_{\bar{N}}(2N + 1684 - (N + 2213)) \\
&= B_{\bar{N}}(N - 533) + B_{\bar{N}}(228) + B_{\bar{N}}(N - 529) = (N - 533) + 228 + (N - 529) = \mathbf{2N} - \mathbf{834} \\
&(N \geq 534)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1685}) &= B_{\bar{N}}(2N + 1685 - B_{\bar{N}}(2N + 1684)) + B_{\bar{N}}(2N + 1685 - B_{\bar{N}}(2N + 1683)) + B_{\bar{N}}(2N + 1685 - B_{\bar{N}}(2N + 1682)) \\
&= B_{\bar{N}}(2N + 1685 - (2N - 834)) + B_{\bar{N}}(2N + 1685 - (N + 2217)) + B_{\bar{N}}(2N + 1685 - (2N + 1456)) \\
&= B_{\bar{N}}(2519) + B_{\bar{N}}(N - 532) + B_{\bar{N}}(229) = 2519 + (N - 532) + 229 = \mathbf{N} + \mathbf{2216} \\
&(N \geq 2519)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1686}) &= B_{\bar{N}}(2N + 1686 - B_{\bar{N}}(2N + 1685)) + B_{\bar{N}}(2N + 1686 - B_{\bar{N}}(2N + 1684)) + B_{\bar{N}}(2N + 1686 - B_{\bar{N}}(2N + 1683)) \\
&= B_{\bar{N}}(2N + 1686 - (N + 2216)) + B_{\bar{N}}(2N + 1686 - (2N - 834)) + B_{\bar{N}}(2N + 1686 - (N + 2217)) \\
&= B_{\bar{N}}(N - 530) + B_{\bar{N}}(2520) + B_{\bar{N}}(N - 531) = (N - 530) + 2520 + (N - 531) = \mathbf{2N} + \mathbf{1459} \\
&(N \geq 2520)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1687}) &= B_{\bar{N}}(2N + 1687 - B_{\bar{N}}(2N + 1686)) + B_{\bar{N}}(2N + 1687 - B_{\bar{N}}(2N + 1685)) + B_{\bar{N}}(2N + 1687 - B_{\bar{N}}(2N + 1684)) \\
&= B_{\bar{N}}(2N + 1687 - (2N + 1459)) + B_{\bar{N}}(2N + 1687 - (N + 2216)) + B_{\bar{N}}(2N + 1687 - (2N - 834)) \\
&= B_{\bar{N}}(228) + B_{\bar{N}}(N - 529) + B_{\bar{N}}(2521) = 228 + (N - 529) + 2521 = \mathbf{N} + \mathbf{2220} \\
&(N \geq 2521)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1688}) &= B_{\bar{N}}(2N + 1688 - B_{\bar{N}}(2N + 1687)) + B_{\bar{N}}(2N + 1688 - B_{\bar{N}}(2N + 1686)) + B_{\bar{N}}(2N + 1688 - B_{\bar{N}}(2N + 1685)) \\
&= B_{\bar{N}}(2N + 1688 - (N + 2220)) + B_{\bar{N}}(2N + 1688 - (2N + 1459)) + B_{\bar{N}}(2N + 1688 - (N + 2216)) \\
&= B_{\bar{N}}(N - 532) + B_{\bar{N}}(229) + B_{\bar{N}}(N - 528) = (N - 532) + 229 + (N - 528) = \mathbf{2N} - \mathbf{831} \\
&(N \geq 533)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1689}) &= B_{\bar{N}}(2N + 1689 - B_{\bar{N}}(2N + 1688)) + B_{\bar{N}}(2N + 1689 - B_{\bar{N}}(2N + 1687)) + B_{\bar{N}}(2N + 1689 - B_{\bar{N}}(2N + 1686)) \\
&= B_{\bar{N}}(2N + 1689 - (2N - 831)) + B_{\bar{N}}(2N + 1689 - (N + 2220)) + B_{\bar{N}}(2N + 1689 - (2N + 1459)) \\
&= B_{\bar{N}}(2520) + B_{\bar{N}}(N - 531) + B_{\bar{N}}(230) = 2520 + (N - 531) + 230 = \mathbf{N} + \mathbf{2219} \\
&(N \geq 2520)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1690}) &= B_{\bar{N}}(2N + 1690 - B_{\bar{N}}(2N + 1689)) + B_{\bar{N}}(2N + 1690 - B_{\bar{N}}(2N + 1688)) + B_{\bar{N}}(2N + 1690 - B_{\bar{N}}(2N + 1687)) \\
&= B_{\bar{N}}(2N + 1690 - (N + 2219)) + B_{\bar{N}}(2N + 1690 - (2N - 831)) + B_{\bar{N}}(2N + 1690 - (N + 2220)) \\
&= B_{\bar{N}}(N - 529) + B_{\bar{N}}(2521) + B_{\bar{N}}(N - 530) = (N - 529) + 2521 + (N - 530) = \mathbf{2N} + \mathbf{1462} \\
&(N \geq 2521)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1691}) &= B_{\bar{N}}(2N + 1691 - B_{\bar{N}}(2N + 1690)) + B_{\bar{N}}(2N + 1691 - B_{\bar{N}}(2N + 1689)) + B_{\bar{N}}(2N + 1691 - B_{\bar{N}}(2N + 1688)) \\
&= B_{\bar{N}}(2N + 1691 - (2N + 1462)) + B_{\bar{N}}(2N + 1691 - (N + 2219)) + B_{\bar{N}}(2N + 1691 - (2N - 831)) \\
&= B_{\bar{N}}(229) + B_{\bar{N}}(N - 528) + B_{\bar{N}}(2522) = 229 + (N - 528) + 2522 = \mathbf{N} + \mathbf{2223} \\
&(N \geq 2522)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1692}) &= B_{\bar{N}}(2N + 1692 - B_{\bar{N}}(2N + 1691)) + B_{\bar{N}}(2N + 1692 - B_{\bar{N}}(2N + 1690)) + B_{\bar{N}}(2N + 1692 - B_{\bar{N}}(2N + 1689)) \\
&= B_{\bar{N}}(2N + 1692 - (N + 2223)) + B_{\bar{N}}(2N + 1692 - (2N + 1462)) + B_{\bar{N}}(2N + 1692 - (N + 2219)) \\
&= B_{\bar{N}}(N - 531) + B_{\bar{N}}(230) + B_{\bar{N}}(N - 527) = (N - 531) + 230 + (N - 527) = \mathbf{2N} - \mathbf{828} \\
&(N \geq 532)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1693}) &= B_{\bar{N}}(2N + 1693 - B_{\bar{N}}(2N + 1692)) + B_{\bar{N}}(2N + 1693 - B_{\bar{N}}(2N + 1691)) + B_{\bar{N}}(2N + 1693 - B_{\bar{N}}(2N + 1690)) \\
&= B_{\bar{N}}(2N + 1693 - (2N - 828)) + B_{\bar{N}}(2N + 1693 - (N + 2223)) + B_{\bar{N}}(2N + 1693 - (2N + 1462)) \\
&= B_{\bar{N}}(2521) + B_{\bar{N}}(N - 530) + B_{\bar{N}}(231) = 2521 + (N - 530) + 231 = \mathbf{N} + \mathbf{2222} \\
&(N \geq 2521)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1694}) &= B_{\bar{N}}(2N + 1694 - B_{\bar{N}}(2N + 1693)) + B_{\bar{N}}(2N + 1694 - B_{\bar{N}}(2N + 1692)) + B_{\bar{N}}(2N + 1694 - B_{\bar{N}}(2N + 1691)) \\
&= B_{\bar{N}}(2N + 1694 - (N + 2222)) + B_{\bar{N}}(2N + 1694 - (2N - 828)) + B_{\bar{N}}(2N + 1694 - (N + 2223)) \\
&= B_{\bar{N}}(N - 528) + B_{\bar{N}}(2522) + B_{\bar{N}}(N - 529) = (N - 528) + 2522 + (N - 529) = \mathbf{2N} + \mathbf{1465} \\
&(N \geq 2522)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1695}) &= B_{\bar{N}}(2N + 1695 - B_{\bar{N}}(2N + 1694)) + B_{\bar{N}}(2N + 1695 - B_{\bar{N}}(2N + 1693)) + B_{\bar{N}}(2N + 1695 - B_{\bar{N}}(2N + 1692)) \\
&= B_{\bar{N}}(2N + 1695 - (2N + 1465)) + B_{\bar{N}}(2N + 1695 - (N + 2222)) + B_{\bar{N}}(2N + 1695 - (2N - 828)) \\
&= B_{\bar{N}}(230) + B_{\bar{N}}(N - 527) + B_{\bar{N}}(2523) = 230 + (N - 527) + 2523 = \mathbf{N} + \mathbf{2226} \\
&(N \geq 2523)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1696}) &= B_{\bar{N}}(2N + 1696 - B_{\bar{N}}(2N + 1695)) + B_{\bar{N}}(2N + 1696 - B_{\bar{N}}(2N + 1694)) + B_{\bar{N}}(2N + 1696 - B_{\bar{N}}(2N + 1693)) \\
&= B_{\bar{N}}(2N + 1696 - (N + 2226)) + B_{\bar{N}}(2N + 1696 - (2N + 1465)) + B_{\bar{N}}(2N + 1696 - (N + 2222)) \\
&= B_{\bar{N}}(N - 530) + B_{\bar{N}}(231) + B_{\bar{N}}(N - 526) = (N - 530) + 231 + (N - 526) = \mathbf{2N} - \mathbf{825} \\
&(N \geq 531)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1697}) &= B_{\bar{N}}(2N + 1697 - B_{\bar{N}}(2N + 1696)) + B_{\bar{N}}(2N + 1697 - B_{\bar{N}}(2N + 1695)) + B_{\bar{N}}(2N + 1697 - B_{\bar{N}}(2N + 1694)) \\
&= B_{\bar{N}}(2N + 1697 - (2N - 825)) + B_{\bar{N}}(2N + 1697 - (N + 2226)) + B_{\bar{N}}(2N + 1697 - (2N + 1465)) \\
&= B_{\bar{N}}(2522) + B_{\bar{N}}(N - 529) + B_{\bar{N}}(232) = 2522 + (N - 529) + 232 = \mathbf{N} + \mathbf{2225} \\
&(N \geq 2522)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1698}) &= B_{\bar{N}}(2N + 1698 - B_{\bar{N}}(2N + 1697)) + B_{\bar{N}}(2N + 1698 - B_{\bar{N}}(2N + 1696)) + B_{\bar{N}}(2N + 1698 - B_{\bar{N}}(2N + 1695)) \\
&= B_{\bar{N}}(2N + 1698 - (N + 2225)) + B_{\bar{N}}(2N + 1698 - (2N - 825)) + B_{\bar{N}}(2N + 1698 - (N + 2226)) \\
&= B_{\bar{N}}(N - 527) + B_{\bar{N}}(2523) + B_{\bar{N}}(N - 528) = (N - 527) + 2523 + (N - 528) = \mathbf{2N} + \mathbf{1468} \\
&(N \geq 2523)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1699}) &= B_{\bar{N}}(2N + 1699 - B_{\bar{N}}(2N + 1698)) + B_{\bar{N}}(2N + 1699 - B_{\bar{N}}(2N + 1697)) + B_{\bar{N}}(2N + 1699 - B_{\bar{N}}(2N + 1696)) \\
&= B_{\bar{N}}(2N + 1699 - (2N + 1468)) + B_{\bar{N}}(2N + 1699 - (N + 2225)) + B_{\bar{N}}(2N + 1699 - (2N - 825)) \\
&= B_{\bar{N}}(231) + B_{\bar{N}}(N - 526) + B_{\bar{N}}(2524) = 231 + (N - 526) + 2524 = \mathbf{N} + \mathbf{2229} \\
&(N \geq 2524)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1700}) &= B_{\bar{N}}(2N + 1700 - B_{\bar{N}}(2N + 1699)) + B_{\bar{N}}(2N + 1700 - B_{\bar{N}}(2N + 1698)) + B_{\bar{N}}(2N + 1700 - B_{\bar{N}}(2N + 1697)) \\
&= B_{\bar{N}}(2N + 1700 - (N + 2229)) + B_{\bar{N}}(2N + 1700 - (2N + 1468)) + B_{\bar{N}}(2N + 1700 - (N + 2225)) \\
&= B_{\bar{N}}(N - 529) + B_{\bar{N}}(232) + B_{\bar{N}}(N - 525) = (N - 529) + 232 + (N - 525) = \mathbf{2N} - \mathbf{822} \\
&(N \geq 530)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1701}) &= B_{\bar{N}}(2N + 1701 - B_{\bar{N}}(2N + 1700)) + B_{\bar{N}}(2N + 1701 - B_{\bar{N}}(2N + 1699)) + B_{\bar{N}}(2N + 1701 - B_{\bar{N}}(2N + 1698)) \\
&= B_{\bar{N}}(2N + 1701 - (2N - 822)) + B_{\bar{N}}(2N + 1701 - (N + 2229)) + B_{\bar{N}}(2N + 1701 - (2N + 1468)) \\
&= B_{\bar{N}}(2523) + B_{\bar{N}}(N - 528) + B_{\bar{N}}(233) = 2523 + (N - 528) + 233 = \mathbf{N} + \mathbf{2228} \\
&(N \geq 2523)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1702}) &= B_{\bar{N}}(2N + 1702 - B_{\bar{N}}(2N + 1701)) + B_{\bar{N}}(2N + 1702 - B_{\bar{N}}(2N + 1700)) + B_{\bar{N}}(2N + 1702 - B_{\bar{N}}(2N + 1699)) \\
&= B_{\bar{N}}(2N + 1702 - (N + 2228)) + B_{\bar{N}}(2N + 1702 - (2N - 822)) + B_{\bar{N}}(2N + 1702 - (N + 2229)) \\
&= B_{\bar{N}}(N - 526) + B_{\bar{N}}(2524) + B_{\bar{N}}(N - 527) = (N - 526) + 2524 + (N - 527) = \mathbf{2N} + \mathbf{1471} \\
&(N \geq 2524)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1703}) &= B_{\bar{N}}(2N + 1703 - B_{\bar{N}}(2N + 1702)) + B_{\bar{N}}(2N + 1703 - B_{\bar{N}}(2N + 1701)) + B_{\bar{N}}(2N + 1703 - B_{\bar{N}}(2N + 1700)) \\
&= B_{\bar{N}}(2N + 1703 - (2N + 1471)) + B_{\bar{N}}(2N + 1703 - (N + 2228)) + B_{\bar{N}}(2N + 1703 - (2N - 822)) \\
&= B_{\bar{N}}(232) + B_{\bar{N}}(N - 525) + B_{\bar{N}}(2525) = 232 + (N - 525) + 2525 = \mathbf{N} + \mathbf{2232} \\
&(N \geq 2525)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1704}) &= B_{\bar{N}}(2N + 1704 - B_{\bar{N}}(2N + 1703)) + B_{\bar{N}}(2N + 1704 - B_{\bar{N}}(2N + 1702)) + B_{\bar{N}}(2N + 1704 - B_{\bar{N}}(2N + 1701)) \\
&= B_{\bar{N}}(2N + 1704 - (N + 2232)) + B_{\bar{N}}(2N + 1704 - (2N + 1471)) + B_{\bar{N}}(2N + 1704 - (N + 2228)) \\
&= B_{\bar{N}}(N - 528) + B_{\bar{N}}(233) + B_{\bar{N}}(N - 524) = (N - 528) + 233 + (N - 524) = \mathbf{2N} - \mathbf{819} \\
&(N \geq 529)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1705}) &= B_{\bar{N}}(2N + 1705 - B_{\bar{N}}(2N + 1704)) + B_{\bar{N}}(2N + 1705 - B_{\bar{N}}(2N + 1703)) + B_{\bar{N}}(2N + 1705 - B_{\bar{N}}(2N + 1702)) \\
&= B_{\bar{N}}(2N + 1705 - (2N - 819)) + B_{\bar{N}}(2N + 1705 - (N + 2232)) + B_{\bar{N}}(2N + 1705 - (2N + 1471)) \\
&= B_{\bar{N}}(2524) + B_{\bar{N}}(N - 527) + B_{\bar{N}}(234) = 2524 + (N - 527) + 234 = \mathbf{N} + \mathbf{2231} \\
&(N \geq 2524)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1706}) &= B_{\bar{N}}(2N + 1706 - B_{\bar{N}}(2N + 1705)) + B_{\bar{N}}(2N + 1706 - B_{\bar{N}}(2N + 1704)) + B_{\bar{N}}(2N + 1706 - B_{\bar{N}}(2N + 1703)) \\
&= B_{\bar{N}}(2N + 1706 - (N + 2231)) + B_{\bar{N}}(2N + 1706 - (2N - 819)) + B_{\bar{N}}(2N + 1706 - (N + 2232)) \\
&= B_{\bar{N}}(N - 525) + B_{\bar{N}}(2525) + B_{\bar{N}}(N - 526) = (N - 525) + 2525 + (N - 526) = \mathbf{2N} + \mathbf{1474} \\
&(N \geq 2525)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1707}) &= B_{\bar{N}}(2N + 1707 - B_{\bar{N}}(2N + 1706)) + B_{\bar{N}}(2N + 1707 - B_{\bar{N}}(2N + 1705)) + B_{\bar{N}}(2N + 1707 - B_{\bar{N}}(2N + 1704)) \\
&= B_{\bar{N}}(2N + 1707 - (2N + 1474)) + B_{\bar{N}}(2N + 1707 - (N + 2231)) + B_{\bar{N}}(2N + 1707 - (2N - 819)) \\
&= B_{\bar{N}}(233) + B_{\bar{N}}(N - 524) + B_{\bar{N}}(2526) = 233 + (N - 524) + 2526 = \mathbf{N} + \mathbf{2235} \\
&(N \geq 2526)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1708}) &= B_{\bar{N}}(2N + 1708 - B_{\bar{N}}(2N + 1707)) + B_{\bar{N}}(2N + 1708 - B_{\bar{N}}(2N + 1706)) + B_{\bar{N}}(2N + 1708 - B_{\bar{N}}(2N + 1705)) \\
&= B_{\bar{N}}(2N + 1708 - (N + 2235)) + B_{\bar{N}}(2N + 1708 - (2N + 1474)) + B_{\bar{N}}(2N + 1708 - (N + 2231)) \\
&= B_{\bar{N}}(N - 527) + B_{\bar{N}}(234) + B_{\bar{N}}(N - 523) = (N - 527) + 234 + (N - 523) = \mathbf{2N} - \mathbf{816} \\
&(N \geq 528)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1709}) &= B_{\bar{N}}(2N + 1709 - B_{\bar{N}}(2N + 1708)) + B_{\bar{N}}(2N + 1709 - B_{\bar{N}}(2N + 1707)) + B_{\bar{N}}(2N + 1709 - B_{\bar{N}}(2N + 1706)) \\
&= B_{\bar{N}}(2N + 1709 - (2N - 816)) + B_{\bar{N}}(2N + 1709 - (N + 2235)) + B_{\bar{N}}(2N + 1709 - (2N + 1474)) \\
&= B_{\bar{N}}(2525) + B_{\bar{N}}(N - 526) + B_{\bar{N}}(235) = 2525 + (N - 526) + 235 = \mathbf{N} + \mathbf{2234} \\
&(N \geq 2525)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1710}) &= B_{\bar{N}}(2N + 1710 - B_{\bar{N}}(2N + 1709)) + B_{\bar{N}}(2N + 1710 - B_{\bar{N}}(2N + 1708)) + B_{\bar{N}}(2N + 1710 - B_{\bar{N}}(2N + 1707)) \\
&= B_{\bar{N}}(2N + 1710 - (N + 2234)) + B_{\bar{N}}(2N + 1710 - (2N - 816)) + B_{\bar{N}}(2N + 1710 - (N + 2235)) \\
&= B_{\bar{N}}(N - 524) + B_{\bar{N}}(2526) + B_{\bar{N}}(N - 525) = (N - 524) + 2526 + (N - 525) = \mathbf{2N} + \mathbf{1477} \\
&(N \geq 2526)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1711}) &= B_{\bar{N}}(2N + 1711 - B_{\bar{N}}(2N + 1710)) + B_{\bar{N}}(2N + 1711 - B_{\bar{N}}(2N + 1709)) + B_{\bar{N}}(2N + 1711 - B_{\bar{N}}(2N + 1708)) \\
&= B_{\bar{N}}(2N + 1711 - (2N + 1477)) + B_{\bar{N}}(2N + 1711 - (N + 2234)) + B_{\bar{N}}(2N + 1711 - (2N - 816)) \\
&= B_{\bar{N}}(234) + B_{\bar{N}}(N - 523) + B_{\bar{N}}(2527) = 234 + (N - 523) + 2527 = \mathbf{N} + \mathbf{2238} \\
&(N \geq 2527)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1712}) &= B_{\bar{N}}(2N + 1712 - B_{\bar{N}}(2N + 1711)) + B_{\bar{N}}(2N + 1712 - B_{\bar{N}}(2N + 1710)) + B_{\bar{N}}(2N + 1712 - B_{\bar{N}}(2N + 1709)) \\
&= B_{\bar{N}}(2N + 1712 - (N + 2238)) + B_{\bar{N}}(2N + 1712 - (2N + 1477)) + B_{\bar{N}}(2N + 1712 - (N + 2234)) \\
&= B_{\bar{N}}(N - 526) + B_{\bar{N}}(235) + B_{\bar{N}}(N - 522) = (N - 526) + 235 + (N - 522) = \mathbf{2N} - \mathbf{813} \\
&(N \geq 527)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1713}) &= B_{\bar{N}}(2N + 1713 - B_{\bar{N}}(2N + 1712)) + B_{\bar{N}}(2N + 1713 - B_{\bar{N}}(2N + 1711)) + B_{\bar{N}}(2N + 1713 - B_{\bar{N}}(2N + 1710)) \\
&= B_{\bar{N}}(2N + 1713 - (2N - 813)) + B_{\bar{N}}(2N + 1713 - (N + 2238)) + B_{\bar{N}}(2N + 1713 - (2N + 1477)) \\
&= B_{\bar{N}}(2526) + B_{\bar{N}}(N - 525) + B_{\bar{N}}(236) = 2526 + (N - 525) + 236 = \mathbf{N} + \mathbf{2237} \\
&(N \geq 2526)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1714}) &= B_{\bar{N}}(2N + 1714 - B_{\bar{N}}(2N + 1713)) + B_{\bar{N}}(2N + 1714 - B_{\bar{N}}(2N + 1712)) + B_{\bar{N}}(2N + 1714 - B_{\bar{N}}(2N + 1711)) \\
&= B_{\bar{N}}(2N + 1714 - (N + 2237)) + B_{\bar{N}}(2N + 1714 - (2N - 813)) + B_{\bar{N}}(2N + 1714 - (N + 2238)) \\
&= B_{\bar{N}}(N - 523) + B_{\bar{N}}(2527) + B_{\bar{N}}(N - 524) = (N - 523) + 2527 + (N - 524) = \mathbf{2N} + \mathbf{1480} \\
&(N \geq 2527)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1715}) &= B_{\bar{N}}(2N + 1715 - B_{\bar{N}}(2N + 1714)) + B_{\bar{N}}(2N + 1715 - B_{\bar{N}}(2N + 1713)) + B_{\bar{N}}(2N + 1715 - B_{\bar{N}}(2N + 1712)) \\
&= B_{\bar{N}}(2N + 1715 - (2N + 1480)) + B_{\bar{N}}(2N + 1715 - (N + 2237)) + B_{\bar{N}}(2N + 1715 - (2N - 813)) \\
&= B_{\bar{N}}(235) + B_{\bar{N}}(N - 522) + B_{\bar{N}}(2528) = 235 + (N - 522) + 2528 = \mathbf{N} + \mathbf{2241} \\
&(N \geq 2528)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1716}) &= B_{\bar{N}}(2N + 1716 - B_{\bar{N}}(2N + 1715)) + B_{\bar{N}}(2N + 1716 - B_{\bar{N}}(2N + 1714)) + B_{\bar{N}}(2N + 1716 - B_{\bar{N}}(2N + 1713)) \\
&= B_{\bar{N}}(2N + 1716 - (N + 2241)) + B_{\bar{N}}(2N + 1716 - (2N + 1480)) + B_{\bar{N}}(2N + 1716 - (N + 2237)) \\
&= B_{\bar{N}}(N - 525) + B_{\bar{N}}(236) + B_{\bar{N}}(N - 521) = (N - 525) + 236 + (N - 521) = \mathbf{2N} - \mathbf{810} \\
&(N \geq 526)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1717}) &= B_{\bar{N}}(2N + 1717 - B_{\bar{N}}(2N + 1716)) + B_{\bar{N}}(2N + 1717 - B_{\bar{N}}(2N + 1715)) + B_{\bar{N}}(2N + 1717 - B_{\bar{N}}(2N + 1714)) \\
&= B_{\bar{N}}(2N + 1717 - (2N - 810)) + B_{\bar{N}}(2N + 1717 - (N + 2241)) + B_{\bar{N}}(2N + 1717 - (2N + 1480)) \\
&= B_{\bar{N}}(2527) + B_{\bar{N}}(N - 524) + B_{\bar{N}}(237) = 2527 + (N - 524) + 237 = \mathbf{N} + \mathbf{2240} \\
&(N \geq 2527)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1718}) &= B_{\bar{N}}(2N + 1718 - B_{\bar{N}}(2N + 1717)) + B_{\bar{N}}(2N + 1718 - B_{\bar{N}}(2N + 1716)) + B_{\bar{N}}(2N + 1718 - B_{\bar{N}}(2N + 1715)) \\
&= B_{\bar{N}}(2N + 1718 - (N + 2240)) + B_{\bar{N}}(2N + 1718 - (2N - 810)) + B_{\bar{N}}(2N + 1718 - (N + 2241)) \\
&= B_{\bar{N}}(N - 522) + B_{\bar{N}}(2528) + B_{\bar{N}}(N - 523) = (N - 522) + 2528 + (N - 523) = \mathbf{2N} + \mathbf{1483} \\
&(N \geq 2528)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1719}) &= B_{\bar{N}}(2N + 1719 - B_{\bar{N}}(2N + 1718)) + B_{\bar{N}}(2N + 1719 - B_{\bar{N}}(2N + 1717)) + B_{\bar{N}}(2N + 1719 - B_{\bar{N}}(2N + 1716)) \\
&= B_{\bar{N}}(2N + 1719 - (2N + 1483)) + B_{\bar{N}}(2N + 1719 - (N + 2240)) + B_{\bar{N}}(2N + 1719 - (2N - 810)) \\
&= B_{\bar{N}}(236) + B_{\bar{N}}(N - 521) + B_{\bar{N}}(2529) = 236 + (N - 521) + 2529 = \mathbf{N} + \mathbf{2244} \\
&(N \geq 2529)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1720}) &= B_{\bar{N}}(2N + 1720 - B_{\bar{N}}(2N + 1719)) + B_{\bar{N}}(2N + 1720 - B_{\bar{N}}(2N + 1718)) + B_{\bar{N}}(2N + 1720 - B_{\bar{N}}(2N + 1717)) \\
&= B_{\bar{N}}(2N + 1720 - (N + 2244)) + B_{\bar{N}}(2N + 1720 - (2N + 1483)) + B_{\bar{N}}(2N + 1720 - (N + 2240)) \\
&= B_{\bar{N}}(N - 524) + B_{\bar{N}}(237) + B_{\bar{N}}(N - 520) = (N - 524) + 237 + (N - 520) = \mathbf{2N} - \mathbf{807} \\
&(N \geq 525)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1721}) &= B_{\bar{N}}(2N + 1721 - B_{\bar{N}}(2N + 1720)) + B_{\bar{N}}(2N + 1721 - B_{\bar{N}}(2N + 1719)) + B_{\bar{N}}(2N + 1721 - B_{\bar{N}}(2N + 1718)) \\
&= B_{\bar{N}}(2N + 1721 - (2N - 807)) + B_{\bar{N}}(2N + 1721 - (N + 2244)) + B_{\bar{N}}(2N + 1721 - (2N + 1483)) \\
&= B_{\bar{N}}(2528) + B_{\bar{N}}(N - 523) + B_{\bar{N}}(238) = 2528 + (N - 523) + 238 = \mathbf{N} + \mathbf{2243} \\
&(N \geq 2528)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1722}) &= B_{\bar{N}}(2N + 1722 - B_{\bar{N}}(2N + 1721)) + B_{\bar{N}}(2N + 1722 - B_{\bar{N}}(2N + 1720)) + B_{\bar{N}}(2N + 1722 - B_{\bar{N}}(2N + 1719)) \\
&= B_{\bar{N}}(2N + 1722 - (N + 2243)) + B_{\bar{N}}(2N + 1722 - (2N - 807)) + B_{\bar{N}}(2N + 1722 - (N + 2244)) \\
&= B_{\bar{N}}(N - 521) + B_{\bar{N}}(2529) + B_{\bar{N}}(N - 522) = (N - 521) + 2529 + (N - 522) = \mathbf{2N} + \mathbf{1486} \\
&(N \geq 2529)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1723}) &= B_{\bar{N}}(2N + 1723 - B_{\bar{N}}(2N + 1722)) + B_{\bar{N}}(2N + 1723 - B_{\bar{N}}(2N + 1721)) + B_{\bar{N}}(2N + 1723 - B_{\bar{N}}(2N + 1720)) \\
&= B_{\bar{N}}(2N + 1723 - (2N + 1486)) + B_{\bar{N}}(2N + 1723 - (N + 2243)) + B_{\bar{N}}(2N + 1723 - (2N - 807)) \\
&= B_{\bar{N}}(237) + B_{\bar{N}}(N - 520) + B_{\bar{N}}(2530) = 237 + (N - 520) + 2530 = \mathbf{N} + \mathbf{2247} \\
&(N \geq 2530)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1724}) &= B_{\bar{N}}(2N + 1724 - B_{\bar{N}}(2N + 1723)) + B_{\bar{N}}(2N + 1724 - B_{\bar{N}}(2N + 1722)) + B_{\bar{N}}(2N + 1724 - B_{\bar{N}}(2N + 1721)) \\
&= B_{\bar{N}}(2N + 1724 - (N + 2247)) + B_{\bar{N}}(2N + 1724 - (2N + 1486)) + B_{\bar{N}}(2N + 1724 - (N + 2243)) \\
&= B_{\bar{N}}(N - 523) + B_{\bar{N}}(238) + B_{\bar{N}}(N - 519) = (N - 523) + 238 + (N - 519) = \mathbf{2N} - \mathbf{804} \\
&(N \geq 524)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1725}) &= B_{\bar{N}}(2N + 1725 - B_{\bar{N}}(2N + 1724)) + B_{\bar{N}}(2N + 1725 - B_{\bar{N}}(2N + 1723)) + B_{\bar{N}}(2N + 1725 - B_{\bar{N}}(2N + 1722)) \\
&= B_{\bar{N}}(2N + 1725 - (2N - 804)) + B_{\bar{N}}(2N + 1725 - (N + 2247)) + B_{\bar{N}}(2N + 1725 - (2N + 1486)) \\
&= B_{\bar{N}}(2529) + B_{\bar{N}}(N - 522) + B_{\bar{N}}(239) = 2529 + (N - 522) + 239 = \mathbf{N} + \mathbf{2246} \\
&(N \geq 2529)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1726}) &= B_{\bar{N}}(2N + 1726 - B_{\bar{N}}(2N + 1725)) + B_{\bar{N}}(2N + 1726 - B_{\bar{N}}(2N + 1724)) + B_{\bar{N}}(2N + 1726 - B_{\bar{N}}(2N + 1723)) \\
&= B_{\bar{N}}(2N + 1726 - (N + 2246)) + B_{\bar{N}}(2N + 1726 - (2N - 804)) + B_{\bar{N}}(2N + 1726 - (N + 2247)) \\
&= B_{\bar{N}}(N - 520) + B_{\bar{N}}(2530) + B_{\bar{N}}(N - 521) = (N - 520) + 2530 + (N - 521) = \mathbf{2N} + \mathbf{1489} \\
&(N \geq 2530)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1727}) &= B_{\bar{N}}(2N + 1727 - B_{\bar{N}}(2N + 1726)) + B_{\bar{N}}(2N + 1727 - B_{\bar{N}}(2N + 1725)) + B_{\bar{N}}(2N + 1727 - B_{\bar{N}}(2N + 1724)) \\
&= B_{\bar{N}}(2N + 1727 - (2N + 1489)) + B_{\bar{N}}(2N + 1727 - (N + 2246)) + B_{\bar{N}}(2N + 1727 - (2N - 804)) \\
&= B_{\bar{N}}(238) + B_{\bar{N}}(N - 519) + B_{\bar{N}}(2531) = 238 + (N - 519) + 2531 = \mathbf{N} + \mathbf{2250} \\
&(N \geq 2531)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1728}) &= B_{\bar{N}}(2N + 1728 - B_{\bar{N}}(2N + 1727)) + B_{\bar{N}}(2N + 1728 - B_{\bar{N}}(2N + 1726)) + B_{\bar{N}}(2N + 1728 - B_{\bar{N}}(2N + 1725)) \\
&= B_{\bar{N}}(2N + 1728 - (N + 2250)) + B_{\bar{N}}(2N + 1728 - (2N + 1489)) + B_{\bar{N}}(2N + 1728 - (N + 2246)) \\
&= B_{\bar{N}}(N - 522) + B_{\bar{N}}(239) + B_{\bar{N}}(N - 518) = (N - 522) + 239 + (N - 518) = \mathbf{2N} - \mathbf{801} \\
&(N \geq 523)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1729}) &= B_{\bar{N}}(2N + 1729 - B_{\bar{N}}(2N + 1728)) + B_{\bar{N}}(2N + 1729 - B_{\bar{N}}(2N + 1727)) + B_{\bar{N}}(2N + 1729 - B_{\bar{N}}(2N + 1726)) \\
&= B_{\bar{N}}(2N + 1729 - (2N - 801)) + B_{\bar{N}}(2N + 1729 - (N + 2250)) + B_{\bar{N}}(2N + 1729 - (2N + 1489)) \\
&= B_{\bar{N}}(2530) + B_{\bar{N}}(N - 521) + B_{\bar{N}}(240) = 2530 + (N - 521) + 240 = \mathbf{N} + \mathbf{2249} \\
&(N \geq 2530)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1730}) &= B_{\bar{N}}(2N + 1730 - B_{\bar{N}}(2N + 1729)) + B_{\bar{N}}(2N + 1730 - B_{\bar{N}}(2N + 1728)) + B_{\bar{N}}(2N + 1730 - B_{\bar{N}}(2N + 1727)) \\
&= B_{\bar{N}}(2N + 1730 - (N + 2249)) + B_{\bar{N}}(2N + 1730 - (2N - 801)) + B_{\bar{N}}(2N + 1730 - (N + 2250)) \\
&= B_{\bar{N}}(N - 519) + B_{\bar{N}}(2531) + B_{\bar{N}}(N - 520) = (N - 519) + 2531 + (N - 520) = \mathbf{2N} + \mathbf{1492} \\
&(N \geq 2531)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1731}) &= B_{\bar{N}}(2N + 1731 - B_{\bar{N}}(2N + 1730)) + B_{\bar{N}}(2N + 1731 - B_{\bar{N}}(2N + 1729)) + B_{\bar{N}}(2N + 1731 - B_{\bar{N}}(2N + 1728)) \\
&= B_{\bar{N}}(2N + 1731 - (2N + 1492)) + B_{\bar{N}}(2N + 1731 - (N + 2249)) + B_{\bar{N}}(2N + 1731 - (2N - 801)) \\
&= B_{\bar{N}}(239) + B_{\bar{N}}(N - 518) + B_{\bar{N}}(2532) = 239 + (N - 518) + 2532 = \mathbf{N} + \mathbf{2253} \\
&(N \geq 2532)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1732}) &= B_{\bar{N}}(2N + 1732 - B_{\bar{N}}(2N + 1731)) + B_{\bar{N}}(2N + 1732 - B_{\bar{N}}(2N + 1730)) + B_{\bar{N}}(2N + 1732 - B_{\bar{N}}(2N + 1729)) \\
&= B_{\bar{N}}(2N + 1732 - (N + 2253)) + B_{\bar{N}}(2N + 1732 - (2N + 1492)) + B_{\bar{N}}(2N + 1732 - (N + 2249)) \\
&= B_{\bar{N}}(N - 521) + B_{\bar{N}}(240) + B_{\bar{N}}(N - 517) = (N - 521) + 240 + (N - 517) = \mathbf{2N} - \mathbf{798} \\
&(N \geq 522)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1733}) &= B_{\bar{N}}(2N + 1733 - B_{\bar{N}}(2N + 1732)) + B_{\bar{N}}(2N + 1733 - B_{\bar{N}}(2N + 1731)) + B_{\bar{N}}(2N + 1733 - B_{\bar{N}}(2N + 1730)) \\
&= B_{\bar{N}}(2N + 1733 - (2N - 798)) + B_{\bar{N}}(2N + 1733 - (N + 2253)) + B_{\bar{N}}(2N + 1733 - (2N + 1492)) \\
&= B_{\bar{N}}(2531) + B_{\bar{N}}(N - 520) + B_{\bar{N}}(241) = 2531 + (N - 520) + 241 = \mathbf{N} + \mathbf{2252} \\
&(N \geq 2531)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1734}) &= B_{\bar{N}}(2N + 1734 - B_{\bar{N}}(2N + 1733)) + B_{\bar{N}}(2N + 1734 - B_{\bar{N}}(2N + 1732)) + B_{\bar{N}}(2N + 1734 - B_{\bar{N}}(2N + 1731)) \\
&= B_{\bar{N}}(2N + 1734 - (N + 2252)) + B_{\bar{N}}(2N + 1734 - (2N - 798)) + B_{\bar{N}}(2N + 1734 - (N + 2253)) \\
&= B_{\bar{N}}(N - 518) + B_{\bar{N}}(2532) + B_{\bar{N}}(N - 519) = (N - 518) + 2532 + (N - 519) = \mathbf{2N} + \mathbf{1495} \\
&(N \geq 2532)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1735}) &= B_{\bar{N}}(2N + 1735 - B_{\bar{N}}(2N + 1734)) + B_{\bar{N}}(2N + 1735 - B_{\bar{N}}(2N + 1733)) + B_{\bar{N}}(2N + 1735 - B_{\bar{N}}(2N + 1732)) \\
&= B_{\bar{N}}(2N + 1735 - (2N + 1495)) + B_{\bar{N}}(2N + 1735 - (N + 2252)) + B_{\bar{N}}(2N + 1735 - (2N - 798)) \\
&= B_{\bar{N}}(240) + B_{\bar{N}}(N - 517) + B_{\bar{N}}(2533) = 240 + (N - 517) + 2533 = \mathbf{N} + \mathbf{2256} \\
&(N \geq 2533)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1736}) &= B_{\bar{N}}(2N + 1736 - B_{\bar{N}}(2N + 1735)) + B_{\bar{N}}(2N + 1736 - B_{\bar{N}}(2N + 1734)) + B_{\bar{N}}(2N + 1736 - B_{\bar{N}}(2N + 1733)) \\
&= B_{\bar{N}}(2N + 1736 - (N + 2256)) + B_{\bar{N}}(2N + 1736 - (2N + 1495)) + B_{\bar{N}}(2N + 1736 - (N + 2252)) \\
&= B_{\bar{N}}(N - 520) + B_{\bar{N}}(241) + B_{\bar{N}}(N - 516) = (N - 520) + 241 + (N - 516) = \mathbf{2N} - \mathbf{795} \\
&(N \geq 521)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1737}) &= B_{\bar{N}}(2N + 1737 - B_{\bar{N}}(2N + 1736)) + B_{\bar{N}}(2N + 1737 - B_{\bar{N}}(2N + 1735)) + B_{\bar{N}}(2N + 1737 - B_{\bar{N}}(2N + 1734)) \\
&= B_{\bar{N}}(2N + 1737 - (2N - 795)) + B_{\bar{N}}(2N + 1737 - (N + 2256)) + B_{\bar{N}}(2N + 1737 - (2N + 1495)) \\
&= B_{\bar{N}}(2532) + B_{\bar{N}}(N - 519) + B_{\bar{N}}(242) = 2532 + (N - 519) + 242 = \mathbf{N} + \mathbf{2255} \\
&(N \geq 2532)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1738}) &= B_{\bar{N}}(2N + 1738 - B_{\bar{N}}(2N + 1737)) + B_{\bar{N}}(2N + 1738 - B_{\bar{N}}(2N + 1736)) + B_{\bar{N}}(2N + 1738 - B_{\bar{N}}(2N + 1735)) \\
&= B_{\bar{N}}(2N + 1738 - (N + 2255)) + B_{\bar{N}}(2N + 1738 - (2N - 795)) + B_{\bar{N}}(2N + 1738 - (N + 2256)) \\
&= B_{\bar{N}}(N - 517) + B_{\bar{N}}(2533) + B_{\bar{N}}(N - 518) = (N - 517) + 2533 + (N - 518) = \mathbf{2N} + \mathbf{1498} \\
&(N \geq 2533)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1739}) &= B_{\bar{N}}(2N + 1739 - B_{\bar{N}}(2N + 1738)) + B_{\bar{N}}(2N + 1739 - B_{\bar{N}}(2N + 1737)) + B_{\bar{N}}(2N + 1739 - B_{\bar{N}}(2N + 1736)) \\
&= B_{\bar{N}}(2N + 1739 - (2N + 1498)) + B_{\bar{N}}(2N + 1739 - (N + 2255)) + B_{\bar{N}}(2N + 1739 - (2N - 795)) \\
&= B_{\bar{N}}(241) + B_{\bar{N}}(N - 516) + B_{\bar{N}}(2534) = 241 + (N - 516) + 2534 = \mathbf{N} + \mathbf{2259} \\
&(N \geq 2534)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1740}) &= B_{\bar{N}}(2N + 1740 - B_{\bar{N}}(2N + 1739)) + B_{\bar{N}}(2N + 1740 - B_{\bar{N}}(2N + 1738)) + B_{\bar{N}}(2N + 1740 - B_{\bar{N}}(2N + 1737)) \\
&= B_{\bar{N}}(2N + 1740 - (N + 2259)) + B_{\bar{N}}(2N + 1740 - (2N + 1498)) + B_{\bar{N}}(2N + 1740 - (N + 2255)) \\
&= B_{\bar{N}}(N - 519) + B_{\bar{N}}(242) + B_{\bar{N}}(N - 515) = (N - 519) + 242 + (N - 515) = \mathbf{2N} - \mathbf{792} \\
&(N \geq 520)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1741}) &= B_{\bar{N}}(2N + 1741 - B_{\bar{N}}(2N + 1740)) + B_{\bar{N}}(2N + 1741 - B_{\bar{N}}(2N + 1739)) + B_{\bar{N}}(2N + 1741 - B_{\bar{N}}(2N + 1738)) \\
&= B_{\bar{N}}(2N + 1741 - (2N - 792)) + B_{\bar{N}}(2N + 1741 - (N + 2259)) + B_{\bar{N}}(2N + 1741 - (2N + 1498)) \\
&= B_{\bar{N}}(2533) + B_{\bar{N}}(N - 518) + B_{\bar{N}}(243) = 2533 + (N - 518) + 243 = \mathbf{N} + \mathbf{2258} \\
&(N \geq 2533)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1742}) &= B_{\bar{N}}(2N + 1742 - B_{\bar{N}}(2N + 1741)) + B_{\bar{N}}(2N + 1742 - B_{\bar{N}}(2N + 1740)) + B_{\bar{N}}(2N + 1742 - B_{\bar{N}}(2N + 1739)) \\
&= B_{\bar{N}}(2N + 1742 - (N + 2258)) + B_{\bar{N}}(2N + 1742 - (2N - 792)) + B_{\bar{N}}(2N + 1742 - (N + 2259)) \\
&= B_{\bar{N}}(N - 516) + B_{\bar{N}}(2534) + B_{\bar{N}}(N - 517) = (N - 516) + 2534 + (N - 517) = \mathbf{2N} + \mathbf{1501} \\
&(N \geq 2534)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1743}) &= B_{\bar{N}}(2N + 1743 - B_{\bar{N}}(2N + 1742)) + B_{\bar{N}}(2N + 1743 - B_{\bar{N}}(2N + 1741)) + B_{\bar{N}}(2N + 1743 - B_{\bar{N}}(2N + 1740)) \\
&= B_{\bar{N}}(2N + 1743 - (2N + 1501)) + B_{\bar{N}}(2N + 1743 - (N + 2258)) + B_{\bar{N}}(2N + 1743 - (2N - 792)) \\
&= B_{\bar{N}}(242) + B_{\bar{N}}(N - 515) + B_{\bar{N}}(2535) = 242 + (N - 515) + 2535 = \mathbf{N} + \mathbf{2262} \\
&(N \geq 2535)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1744}) &= B_{\bar{N}}(2N + 1744 - B_{\bar{N}}(2N + 1743)) + B_{\bar{N}}(2N + 1744 - B_{\bar{N}}(2N + 1742)) + B_{\bar{N}}(2N + 1744 - B_{\bar{N}}(2N + 1741)) \\
&= B_{\bar{N}}(2N + 1744 - (N + 2262)) + B_{\bar{N}}(2N + 1744 - (2N + 1501)) + B_{\bar{N}}(2N + 1744 - (N + 2258)) \\
&= B_{\bar{N}}(N - 518) + B_{\bar{N}}(243) + B_{\bar{N}}(N - 514) = (N - 518) + 243 + (N - 514) = \mathbf{2N} - \mathbf{789} \\
&(N \geq 519)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1745}) &= B_{\bar{N}}(2N + 1745 - B_{\bar{N}}(2N + 1744)) + B_{\bar{N}}(2N + 1745 - B_{\bar{N}}(2N + 1743)) + B_{\bar{N}}(2N + 1745 - B_{\bar{N}}(2N + 1742)) \\
&= B_{\bar{N}}(2N + 1745 - (2N - 789)) + B_{\bar{N}}(2N + 1745 - (N + 2262)) + B_{\bar{N}}(2N + 1745 - (2N + 1501)) \\
&= B_{\bar{N}}(2534) + B_{\bar{N}}(N - 517) + B_{\bar{N}}(244) = 2534 + (N - 517) + 244 = \mathbf{N} + \mathbf{2261} \\
&(N \geq 2534)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1746}) &= B_{\bar{N}}(2N + 1746 - B_{\bar{N}}(2N + 1745)) + B_{\bar{N}}(2N + 1746 - B_{\bar{N}}(2N + 1744)) + B_{\bar{N}}(2N + 1746 - B_{\bar{N}}(2N + 1743)) \\
&= B_{\bar{N}}(2N + 1746 - (N + 2261)) + B_{\bar{N}}(2N + 1746 - (2N - 789)) + B_{\bar{N}}(2N + 1746 - (N + 2262)) \\
&= B_{\bar{N}}(N - 515) + B_{\bar{N}}(2535) + B_{\bar{N}}(N - 516) = (N - 515) + 2535 + (N - 516) = \mathbf{2N} + \mathbf{1504} \\
&(N \geq 2535)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1747}) &= B_{\bar{N}}(2N + 1747 - B_{\bar{N}}(2N + 1746)) + B_{\bar{N}}(2N + 1747 - B_{\bar{N}}(2N + 1745)) + B_{\bar{N}}(2N + 1747 - B_{\bar{N}}(2N + 1744)) \\
&= B_{\bar{N}}(2N + 1747 - (2N + 1504)) + B_{\bar{N}}(2N + 1747 - (N + 2261)) + B_{\bar{N}}(2N + 1747 - (2N - 789)) \\
&= B_{\bar{N}}(243) + B_{\bar{N}}(N - 514) + B_{\bar{N}}(2536) = 243 + (N - 514) + 2536 = \mathbf{N} + \mathbf{2265} \\
&(N \geq 2536)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1748}) &= B_{\bar{N}}(2N + 1748 - B_{\bar{N}}(2N + 1747)) + B_{\bar{N}}(2N + 1748 - B_{\bar{N}}(2N + 1746)) + B_{\bar{N}}(2N + 1748 - B_{\bar{N}}(2N + 1745)) \\
&= B_{\bar{N}}(2N + 1748 - (N + 2265)) + B_{\bar{N}}(2N + 1748 - (2N + 1504)) + B_{\bar{N}}(2N + 1748 - (N + 2261)) \\
&= B_{\bar{N}}(N - 517) + B_{\bar{N}}(244) + B_{\bar{N}}(N - 513) = (N - 517) + 244 + (N - 513) = \mathbf{2N} - \mathbf{786} \\
&(N \geq 518)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1749}) &= B_{\bar{N}}(2N + 1749 - B_{\bar{N}}(2N + 1748)) + B_{\bar{N}}(2N + 1749 - B_{\bar{N}}(2N + 1747)) + B_{\bar{N}}(2N + 1749 - B_{\bar{N}}(2N + 1746)) \\
&= B_{\bar{N}}(2N + 1749 - (2N - 786)) + B_{\bar{N}}(2N + 1749 - (N + 2265)) + B_{\bar{N}}(2N + 1749 - (2N + 1504)) \\
&= B_{\bar{N}}(2535) + B_{\bar{N}}(N - 516) + B_{\bar{N}}(245) = 2535 + (N - 516) + 245 = \mathbf{N} + \mathbf{2264} \\
&(N \geq 2535)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1750}) &= B_{\bar{N}}(2N + 1750 - B_{\bar{N}}(2N + 1749)) + B_{\bar{N}}(2N + 1750 - B_{\bar{N}}(2N + 1748)) + B_{\bar{N}}(2N + 1750 - B_{\bar{N}}(2N + 1747)) \\
&= B_{\bar{N}}(2N + 1750 - (N + 2264)) + B_{\bar{N}}(2N + 1750 - (2N - 786)) + B_{\bar{N}}(2N + 1750 - (N + 2265)) \\
&= B_{\bar{N}}(N - 514) + B_{\bar{N}}(2536) + B_{\bar{N}}(N - 515) = (N - 514) + 2536 + (N - 515) = \mathbf{2N} + \mathbf{1507} \\
&(N \geq 2536)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1751}) &= B_{\bar{N}}(2N + 1751 - B_{\bar{N}}(2N + 1750)) + B_{\bar{N}}(2N + 1751 - B_{\bar{N}}(2N + 1749)) + B_{\bar{N}}(2N + 1751 - B_{\bar{N}}(2N + 1748)) \\
&= B_{\bar{N}}(2N + 1751 - (2N + 1507)) + B_{\bar{N}}(2N + 1751 - (N + 2264)) + B_{\bar{N}}(2N + 1751 - (2N - 786)) \\
&= B_{\bar{N}}(244) + B_{\bar{N}}(N - 513) + B_{\bar{N}}(2537) = 244 + (N - 513) + 2537 = \mathbf{N} + \mathbf{2268} \\
&(N \geq 2537)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1752}) &= B_{\bar{N}}(2N + 1752 - B_{\bar{N}}(2N + 1751)) + B_{\bar{N}}(2N + 1752 - B_{\bar{N}}(2N + 1750)) + B_{\bar{N}}(2N + 1752 - B_{\bar{N}}(2N + 1749)) \\
&= B_{\bar{N}}(2N + 1752 - (N + 2268)) + B_{\bar{N}}(2N + 1752 - (2N + 1507)) + B_{\bar{N}}(2N + 1752 - (N + 2264)) \\
&= B_{\bar{N}}(N - 516) + B_{\bar{N}}(245) + B_{\bar{N}}(N - 512) = (N - 516) + 245 + (N - 512) = \mathbf{2N} - \mathbf{783} \\
&(N \geq 517)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1753}) &= B_{\bar{N}}(2N + 1753 - B_{\bar{N}}(2N + 1752)) + B_{\bar{N}}(2N + 1753 - B_{\bar{N}}(2N + 1751)) + B_{\bar{N}}(2N + 1753 - B_{\bar{N}}(2N + 1750)) \\
&= B_{\bar{N}}(2N + 1753 - (2N - 783)) + B_{\bar{N}}(2N + 1753 - (N + 2268)) + B_{\bar{N}}(2N + 1753 - (2N + 1507)) \\
&= B_{\bar{N}}(2536) + B_{\bar{N}}(N - 515) + B_{\bar{N}}(246) = 2536 + (N - 515) + 246 = \mathbf{N} + \mathbf{2267} \\
&(N \geq 2536)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1754}) &= B_{\bar{N}}(2N + 1754 - B_{\bar{N}}(2N + 1753)) + B_{\bar{N}}(2N + 1754 - B_{\bar{N}}(2N + 1752)) + B_{\bar{N}}(2N + 1754 - B_{\bar{N}}(2N + 1751)) \\
&= B_{\bar{N}}(2N + 1754 - (N + 2267)) + B_{\bar{N}}(2N + 1754 - (2N - 783)) + B_{\bar{N}}(2N + 1754 - (N + 2268)) \\
&= B_{\bar{N}}(N - 513) + B_{\bar{N}}(2537) + B_{\bar{N}}(N - 514) = (N - 513) + 2537 + (N - 514) = \mathbf{2N} + \mathbf{1510} \\
&(N \geq 2537)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1755}) &= B_{\bar{N}}(2N + 1755 - B_{\bar{N}}(2N + 1754)) + B_{\bar{N}}(2N + 1755 - B_{\bar{N}}(2N + 1753)) + B_{\bar{N}}(2N + 1755 - B_{\bar{N}}(2N + 1752)) \\
&= B_{\bar{N}}(2N + 1755 - (2N + 1510)) + B_{\bar{N}}(2N + 1755 - (N + 2267)) + B_{\bar{N}}(2N + 1755 - (2N - 783)) \\
&= B_{\bar{N}}(245) + B_{\bar{N}}(N - 512) + B_{\bar{N}}(2538) = 245 + (N - 512) + 2538 = \mathbf{N} + \mathbf{2271} \\
&(N \geq 2538)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1756}) &= B_{\bar{N}}(2N + 1756 - B_{\bar{N}}(2N + 1755)) + B_{\bar{N}}(2N + 1756 - B_{\bar{N}}(2N + 1754)) + B_{\bar{N}}(2N + 1756 - B_{\bar{N}}(2N + 1753)) \\
&= B_{\bar{N}}(2N + 1756 - (N + 2271)) + B_{\bar{N}}(2N + 1756 - (2N + 1510)) + B_{\bar{N}}(2N + 1756 - (N + 2267)) \\
&= B_{\bar{N}}(N - 515) + B_{\bar{N}}(246) + B_{\bar{N}}(N - 511) = (N - 515) + 246 + (N - 511) = \mathbf{2N} - \mathbf{780} \\
&(N \geq 516)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1757}) &= B_{\bar{N}}(2N + 1757 - B_{\bar{N}}(2N + 1756)) + B_{\bar{N}}(2N + 1757 - B_{\bar{N}}(2N + 1755)) + B_{\bar{N}}(2N + 1757 - B_{\bar{N}}(2N + 1754)) \\
&= B_{\bar{N}}(2N + 1757 - (2N - 780)) + B_{\bar{N}}(2N + 1757 - (N + 2271)) + B_{\bar{N}}(2N + 1757 - (2N + 1510)) \\
&= B_{\bar{N}}(2537) + B_{\bar{N}}(N - 514) + B_{\bar{N}}(247) = 2537 + (N - 514) + 247 = \mathbf{N} + \mathbf{2270} \\
&(N \geq 2537)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1758}) &= B_{\bar{N}}(2N + 1758 - B_{\bar{N}}(2N + 1757)) + B_{\bar{N}}(2N + 1758 - B_{\bar{N}}(2N + 1756)) + B_{\bar{N}}(2N + 1758 - B_{\bar{N}}(2N + 1755)) \\
&= B_{\bar{N}}(2N + 1758 - (N + 2270)) + B_{\bar{N}}(2N + 1758 - (2N - 780)) + B_{\bar{N}}(2N + 1758 - (N + 2271)) \\
&= B_{\bar{N}}(N - 512) + B_{\bar{N}}(2538) + B_{\bar{N}}(N - 513) = (N - 512) + 2538 + (N - 513) = \mathbf{2N} + \mathbf{1513} \\
&(N \geq 2538)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1759}) &= B_{\bar{N}}(2N + 1759 - B_{\bar{N}}(2N + 1758)) + B_{\bar{N}}(2N + 1759 - B_{\bar{N}}(2N + 1757)) + B_{\bar{N}}(2N + 1759 - B_{\bar{N}}(2N + 1756)) \\
&= B_{\bar{N}}(2N + 1759 - (2N + 1513)) + B_{\bar{N}}(2N + 1759 - (N + 2270)) + B_{\bar{N}}(2N + 1759 - (2N - 780)) \\
&= B_{\bar{N}}(246) + B_{\bar{N}}(N - 511) + B_{\bar{N}}(2539) = 246 + (N - 511) + 2539 = \mathbf{N} + \mathbf{2274} \\
&(N \geq 2539)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1760}) &= B_{\bar{N}}(2N + 1760 - B_{\bar{N}}(2N + 1759)) + B_{\bar{N}}(2N + 1760 - B_{\bar{N}}(2N + 1758)) + B_{\bar{N}}(2N + 1760 - B_{\bar{N}}(2N + 1757)) \\
&= B_{\bar{N}}(2N + 1760 - (N + 2274)) + B_{\bar{N}}(2N + 1760 - (2N + 1513)) + B_{\bar{N}}(2N + 1760 - (N + 2270)) \\
&= B_{\bar{N}}(N - 514) + B_{\bar{N}}(247) + B_{\bar{N}}(N - 510) = (N - 514) + 247 + (N - 510) = \mathbf{2N} - \mathbf{777} \\
&(N \geq 515)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1761}) &= B_{\bar{N}}(2N + 1761 - B_{\bar{N}}(2N + 1760)) + B_{\bar{N}}(2N + 1761 - B_{\bar{N}}(2N + 1759)) + B_{\bar{N}}(2N + 1761 - B_{\bar{N}}(2N + 1758)) \\
&= B_{\bar{N}}(2N + 1761 - (2N - 777)) + B_{\bar{N}}(2N + 1761 - (N + 2274)) + B_{\bar{N}}(2N + 1761 - (2N + 1513)) \\
&= B_{\bar{N}}(2538) + B_{\bar{N}}(N - 513) + B_{\bar{N}}(248) = 2538 + (N - 513) + 248 = \mathbf{N} + \mathbf{2273} \\
&(N \geq 2538)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1762}) &= B_{\bar{N}}(2N + 1762 - B_{\bar{N}}(2N + 1761)) + B_{\bar{N}}(2N + 1762 - B_{\bar{N}}(2N + 1760)) + B_{\bar{N}}(2N + 1762 - B_{\bar{N}}(2N + 1759)) \\
&= B_{\bar{N}}(2N + 1762 - (N + 2273)) + B_{\bar{N}}(2N + 1762 - (2N - 777)) + B_{\bar{N}}(2N + 1762 - (N + 2274)) \\
&= B_{\bar{N}}(N - 511) + B_{\bar{N}}(2539) + B_{\bar{N}}(N - 512) = (N - 511) + 2539 + (N - 512) = \mathbf{2N} + \mathbf{1516} \\
&(N \geq 2539)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1763}) &= B_{\bar{N}}(2N + 1763 - B_{\bar{N}}(2N + 1762)) + B_{\bar{N}}(2N + 1763 - B_{\bar{N}}(2N + 1761)) + B_{\bar{N}}(2N + 1763 - B_{\bar{N}}(2N + 1760)) \\
&= B_{\bar{N}}(2N + 1763 - (2N + 1516)) + B_{\bar{N}}(2N + 1763 - (N + 2273)) + B_{\bar{N}}(2N + 1763 - (2N - 777)) \\
&= B_{\bar{N}}(247) + B_{\bar{N}}(N - 510) + B_{\bar{N}}(2540) = 247 + (N - 510) + 2540 = \mathbf{N} + \mathbf{2277} \\
&(N \geq 2540)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1764}) &= B_{\bar{N}}(2N + 1764 - B_{\bar{N}}(2N + 1763)) + B_{\bar{N}}(2N + 1764 - B_{\bar{N}}(2N + 1762)) + B_{\bar{N}}(2N + 1764 - B_{\bar{N}}(2N + 1761)) \\
&= B_{\bar{N}}(2N + 1764 - (N + 2277)) + B_{\bar{N}}(2N + 1764 - (2N + 1516)) + B_{\bar{N}}(2N + 1764 - (N + 2273)) \\
&= B_{\bar{N}}(N - 513) + B_{\bar{N}}(248) + B_{\bar{N}}(N - 509) = (N - 513) + 248 + (N - 509) = \mathbf{2N} - \mathbf{774} \\
&(N \geq 514)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1765}) &= B_{\bar{N}}(2N + 1765 - B_{\bar{N}}(2N + 1764)) + B_{\bar{N}}(2N + 1765 - B_{\bar{N}}(2N + 1763)) + B_{\bar{N}}(2N + 1765 - B_{\bar{N}}(2N + 1762)) \\
&= B_{\bar{N}}(2N + 1765 - (2N - 774)) + B_{\bar{N}}(2N + 1765 - (N + 2277)) + B_{\bar{N}}(2N + 1765 - (2N + 1516)) \\
&= B_{\bar{N}}(2539) + B_{\bar{N}}(N - 512) + B_{\bar{N}}(249) = 2539 + (N - 512) + 249 = \mathbf{N} + \mathbf{2276} \\
&(N \geq 2539)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1766}) &= B_{\bar{N}}(2N + 1766 - B_{\bar{N}}(2N + 1765)) + B_{\bar{N}}(2N + 1766 - B_{\bar{N}}(2N + 1764)) + B_{\bar{N}}(2N + 1766 - B_{\bar{N}}(2N + 1763)) \\
&= B_{\bar{N}}(2N + 1766 - (N + 2276)) + B_{\bar{N}}(2N + 1766 - (2N - 774)) + B_{\bar{N}}(2N + 1766 - (N + 2277)) \\
&= B_{\bar{N}}(N - 510) + B_{\bar{N}}(2540) + B_{\bar{N}}(N - 511) = (N - 510) + 2540 + (N - 511) = \mathbf{2N} + \mathbf{1519} \\
&(N \geq 2540)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1767}) &= B_{\bar{N}}(2N + 1767 - B_{\bar{N}}(2N + 1766)) + B_{\bar{N}}(2N + 1767 - B_{\bar{N}}(2N + 1765)) + B_{\bar{N}}(2N + 1767 - B_{\bar{N}}(2N + 1764)) \\
&= B_{\bar{N}}(2N + 1767 - (2N + 1519)) + B_{\bar{N}}(2N + 1767 - (N + 2276)) + B_{\bar{N}}(2N + 1767 - (2N - 774)) \\
&= B_{\bar{N}}(248) + B_{\bar{N}}(N - 509) + B_{\bar{N}}(2541) = 248 + (N - 509) + 2541 = \mathbf{N} + \mathbf{2280} \\
&(N \geq 2541)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1768}) &= B_{\bar{N}}(2N + 1768 - B_{\bar{N}}(2N + 1767)) + B_{\bar{N}}(2N + 1768 - B_{\bar{N}}(2N + 1766)) + B_{\bar{N}}(2N + 1768 - B_{\bar{N}}(2N + 1765)) \\
&= B_{\bar{N}}(2N + 1768 - (N + 2280)) + B_{\bar{N}}(2N + 1768 - (2N + 1519)) + B_{\bar{N}}(2N + 1768 - (N + 2276)) \\
&= B_{\bar{N}}(N - 512) + B_{\bar{N}}(249) + B_{\bar{N}}(N - 508) = (N - 512) + 249 + (N - 508) = \mathbf{2N} - \mathbf{771} \\
&(N \geq 513)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1769}) &= B_{\bar{N}}(2N + 1769 - B_{\bar{N}}(2N + 1768)) + B_{\bar{N}}(2N + 1769 - B_{\bar{N}}(2N + 1767)) + B_{\bar{N}}(2N + 1769 - B_{\bar{N}}(2N + 1766)) \\
&= B_{\bar{N}}(2N + 1769 - (2N - 771)) + B_{\bar{N}}(2N + 1769 - (N + 2280)) + B_{\bar{N}}(2N + 1769 - (2N + 1519)) \\
&= B_{\bar{N}}(2540) + B_{\bar{N}}(N - 511) + B_{\bar{N}}(250) = 2540 + (N - 511) + 250 = \mathbf{N} + \mathbf{2279} \\
&(N \geq 2540)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1770}) &= B_{\bar{N}}(2N + 1770 - B_{\bar{N}}(2N + 1769)) + B_{\bar{N}}(2N + 1770 - B_{\bar{N}}(2N + 1768)) + B_{\bar{N}}(2N + 1770 - B_{\bar{N}}(2N + 1767)) \\
&= B_{\bar{N}}(2N + 1770 - (N + 2279)) + B_{\bar{N}}(2N + 1770 - (2N - 771)) + B_{\bar{N}}(2N + 1770 - (N + 2280)) \\
&= B_{\bar{N}}(N - 509) + B_{\bar{N}}(2541) + B_{\bar{N}}(N - 510) = (N - 509) + 2541 + (N - 510) = \mathbf{2N} + \mathbf{1522} \\
&(N \geq 2541)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1771}) &= B_{\bar{N}}(2N + 1771 - B_{\bar{N}}(2N + 1770)) + B_{\bar{N}}(2N + 1771 - B_{\bar{N}}(2N + 1769)) + B_{\bar{N}}(2N + 1771 - B_{\bar{N}}(2N + 1768)) \\
&= B_{\bar{N}}(2N + 1771 - (2N + 1522)) + B_{\bar{N}}(2N + 1771 - (N + 2279)) + B_{\bar{N}}(2N + 1771 - (2N - 771)) \\
&= B_{\bar{N}}(249) + B_{\bar{N}}(N - 508) + B_{\bar{N}}(2542) = 249 + (N - 508) + 2542 = \mathbf{N} + \mathbf{2283} \\
&(N \geq 2542)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1772}) &= B_{\bar{N}}(2N + 1772 - B_{\bar{N}}(2N + 1771)) + B_{\bar{N}}(2N + 1772 - B_{\bar{N}}(2N + 1770)) + B_{\bar{N}}(2N + 1772 - B_{\bar{N}}(2N + 1769)) \\
&= B_{\bar{N}}(2N + 1772 - (N + 2283)) + B_{\bar{N}}(2N + 1772 - (2N + 1522)) + B_{\bar{N}}(2N + 1772 - (N + 2279)) \\
&= B_{\bar{N}}(N - 511) + B_{\bar{N}}(250) + B_{\bar{N}}(N - 507) = (N - 511) + 250 + (N - 507) = \mathbf{2N} - \mathbf{768} \\
&(N \geq 512)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1773}) &= B_{\bar{N}}(2N + 1773 - B_{\bar{N}}(2N + 1772)) + B_{\bar{N}}(2N + 1773 - B_{\bar{N}}(2N + 1771)) + B_{\bar{N}}(2N + 1773 - B_{\bar{N}}(2N + 1770)) \\
&= B_{\bar{N}}(2N + 1773 - (2N - 768)) + B_{\bar{N}}(2N + 1773 - (N + 2283)) + B_{\bar{N}}(2N + 1773 - (2N + 1522)) \\
&= B_{\bar{N}}(2541) + B_{\bar{N}}(N - 510) + B_{\bar{N}}(251) = 2541 + (N - 510) + 251 = \mathbf{N} + \mathbf{2282} \\
&(N \geq 2541)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1774}) &= B_{\bar{N}}(2N + 1774 - B_{\bar{N}}(2N + 1773)) + B_{\bar{N}}(2N + 1774 - B_{\bar{N}}(2N + 1772)) + B_{\bar{N}}(2N + 1774 - B_{\bar{N}}(2N + 1771)) \\
&= B_{\bar{N}}(2N + 1774 - (N + 2282)) + B_{\bar{N}}(2N + 1774 - (2N - 768)) + B_{\bar{N}}(2N + 1774 - (N + 2283)) \\
&= B_{\bar{N}}(N - 508) + B_{\bar{N}}(2542) + B_{\bar{N}}(N - 509) = (N - 508) + 2542 + (N - 509) = \mathbf{2N} + \mathbf{1525} \\
&(N \geq 2542)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1775}) &= B_{\bar{N}}(2N + 1775 - B_{\bar{N}}(2N + 1774)) + B_{\bar{N}}(2N + 1775 - B_{\bar{N}}(2N + 1773)) + B_{\bar{N}}(2N + 1775 - B_{\bar{N}}(2N + 1772)) \\
&= B_{\bar{N}}(2N + 1775 - (2N + 1525)) + B_{\bar{N}}(2N + 1775 - (N + 2282)) + B_{\bar{N}}(2N + 1775 - (2N - 768)) \\
&= B_{\bar{N}}(250) + B_{\bar{N}}(N - 507) + B_{\bar{N}}(2543) = 250 + (N - 507) + 2543 = \mathbf{N} + \mathbf{2286} \\
&(N \geq 2543)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1776}) &= B_{\bar{N}}(2N + 1776 - B_{\bar{N}}(2N + 1775)) + B_{\bar{N}}(2N + 1776 - B_{\bar{N}}(2N + 1774)) + B_{\bar{N}}(2N + 1776 - B_{\bar{N}}(2N + 1773)) \\
&= B_{\bar{N}}(2N + 1776 - (N + 2286)) + B_{\bar{N}}(2N + 1776 - (2N + 1525)) + B_{\bar{N}}(2N + 1776 - (N + 2282)) \\
&= B_{\bar{N}}(N - 510) + B_{\bar{N}}(251) + B_{\bar{N}}(N - 506) = (N - 510) + 251 + (N - 506) = \mathbf{2N} - \mathbf{765} \\
&(N \geq 511)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1777}) &= B_{\bar{N}}(2N + 1777 - B_{\bar{N}}(2N + 1776)) + B_{\bar{N}}(2N + 1777 - B_{\bar{N}}(2N + 1775)) + B_{\bar{N}}(2N + 1777 - B_{\bar{N}}(2N + 1774)) \\
&= B_{\bar{N}}(2N + 1777 - (2N - 765)) + B_{\bar{N}}(2N + 1777 - (N + 2286)) + B_{\bar{N}}(2N + 1777 - (2N + 1525)) \\
&= B_{\bar{N}}(2542) + B_{\bar{N}}(N - 509) + B_{\bar{N}}(252) = 2542 + (N - 509) + 252 = \mathbf{N} + \mathbf{2285} \\
&(N \geq 2542)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1778}) &= B_{\bar{N}}(2N + 1778 - B_{\bar{N}}(2N + 1777)) + B_{\bar{N}}(2N + 1778 - B_{\bar{N}}(2N + 1776)) + B_{\bar{N}}(2N + 1778 - B_{\bar{N}}(2N + 1775)) \\
&= B_{\bar{N}}(2N + 1778 - (N + 2285)) + B_{\bar{N}}(2N + 1778 - (2N - 765)) + B_{\bar{N}}(2N + 1778 - (N + 2286)) \\
&= B_{\bar{N}}(N - 507) + B_{\bar{N}}(2543) + B_{\bar{N}}(N - 508) = (N - 507) + 2543 + (N - 508) = \mathbf{2N} + \mathbf{1528} \\
&(N \geq 2543)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1779}) &= B_{\bar{N}}(2N + 1779 - B_{\bar{N}}(2N + 1778)) + B_{\bar{N}}(2N + 1779 - B_{\bar{N}}(2N + 1777)) + B_{\bar{N}}(2N + 1779 - B_{\bar{N}}(2N + 1776)) \\
&= B_{\bar{N}}(2N + 1779 - (2N + 1528)) + B_{\bar{N}}(2N + 1779 - (N + 2285)) + B_{\bar{N}}(2N + 1779 - (2N - 765)) \\
&= B_{\bar{N}}(251) + B_{\bar{N}}(N - 506) + B_{\bar{N}}(2544) = 251 + (N - 506) + 2544 = \mathbf{N} + \mathbf{2289} \\
&(N \geq 2544)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1780}) &= B_{\bar{N}}(2N + 1780 - B_{\bar{N}}(2N + 1779)) + B_{\bar{N}}(2N + 1780 - B_{\bar{N}}(2N + 1778)) + B_{\bar{N}}(2N + 1780 - B_{\bar{N}}(2N + 1777)) \\
&= B_{\bar{N}}(2N + 1780 - (N + 2289)) + B_{\bar{N}}(2N + 1780 - (2N + 1528)) + B_{\bar{N}}(2N + 1780 - (N + 2285)) \\
&= B_{\bar{N}}(N - 509) + B_{\bar{N}}(252) + B_{\bar{N}}(N - 505) = (N - 509) + 252 + (N - 505) = \mathbf{2N} - \mathbf{762} \\
&(N \geq 510)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1781}) &= B_{\bar{N}}(2N + 1781 - B_{\bar{N}}(2N + 1780)) + B_{\bar{N}}(2N + 1781 - B_{\bar{N}}(2N + 1779)) + B_{\bar{N}}(2N + 1781 - B_{\bar{N}}(2N + 1778)) \\
&= B_{\bar{N}}(2N + 1781 - (2N - 762)) + B_{\bar{N}}(2N + 1781 - (N + 2289)) + B_{\bar{N}}(2N + 1781 - (2N + 1528)) \\
&= B_{\bar{N}}(2543) + B_{\bar{N}}(N - 508) + B_{\bar{N}}(253) = 2543 + (N - 508) + 253 = \mathbf{N} + \mathbf{2288} \\
&(N \geq 2543)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1782}) &= B_{\bar{N}}(2N + 1782 - B_{\bar{N}}(2N + 1781)) + B_{\bar{N}}(2N + 1782 - B_{\bar{N}}(2N + 1780)) + B_{\bar{N}}(2N + 1782 - B_{\bar{N}}(2N + 1779)) \\
&= B_{\bar{N}}(2N + 1782 - (N + 2288)) + B_{\bar{N}}(2N + 1782 - (2N - 762)) + B_{\bar{N}}(2N + 1782 - (N + 2289)) \\
&= B_{\bar{N}}(N - 506) + B_{\bar{N}}(2544) + B_{\bar{N}}(N - 507) = (N - 506) + 2544 + (N - 507) = \mathbf{2N} + \mathbf{1531} \\
&(N \geq 2544)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1783}) &= B_{\bar{N}}(2N + 1783 - B_{\bar{N}}(2N + 1782)) + B_{\bar{N}}(2N + 1783 - B_{\bar{N}}(2N + 1781)) + B_{\bar{N}}(2N + 1783 - B_{\bar{N}}(2N + 1780)) \\
&= B_{\bar{N}}(2N + 1783 - (2N + 1531)) + B_{\bar{N}}(2N + 1783 - (N + 2288)) + B_{\bar{N}}(2N + 1783 - (2N - 762)) \\
&= B_{\bar{N}}(252) + B_{\bar{N}}(N - 505) + B_{\bar{N}}(2545) = 252 + (N - 505) + 2545 = \mathbf{N} + \mathbf{2292} \\
&(N \geq 2545)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1784}) &= B_{\bar{N}}(2N + 1784 - B_{\bar{N}}(2N + 1783)) + B_{\bar{N}}(2N + 1784 - B_{\bar{N}}(2N + 1782)) + B_{\bar{N}}(2N + 1784 - B_{\bar{N}}(2N + 1781)) \\
&= B_{\bar{N}}(2N + 1784 - (N + 2292)) + B_{\bar{N}}(2N + 1784 - (2N + 1531)) + B_{\bar{N}}(2N + 1784 - (N + 2288)) \\
&= B_{\bar{N}}(N - 508) + B_{\bar{N}}(253) + B_{\bar{N}}(N - 504) = (N - 508) + 253 + (N - 504) = \mathbf{2N} - \mathbf{759} \\
&(N \geq 509)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1785}) &= B_{\bar{N}}(2N + 1785 - B_{\bar{N}}(2N + 1784)) + B_{\bar{N}}(2N + 1785 - B_{\bar{N}}(2N + 1783)) + B_{\bar{N}}(2N + 1785 - B_{\bar{N}}(2N + 1782)) \\
&= B_{\bar{N}}(2N + 1785 - (2N - 759)) + B_{\bar{N}}(2N + 1785 - (N + 2292)) + B_{\bar{N}}(2N + 1785 - (2N + 1531)) \\
&= B_{\bar{N}}(2544) + B_{\bar{N}}(N - 507) + B_{\bar{N}}(254) = 2544 + (N - 507) + 254 = \mathbf{N} + \mathbf{2291} \\
&(N \geq 2544)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1786}) &= B_{\bar{N}}(2N + 1786 - B_{\bar{N}}(2N + 1785)) + B_{\bar{N}}(2N + 1786 - B_{\bar{N}}(2N + 1784)) + B_{\bar{N}}(2N + 1786 - B_{\bar{N}}(2N + 1783)) \\
&= B_{\bar{N}}(2N + 1786 - (N + 2291)) + B_{\bar{N}}(2N + 1786 - (2N - 759)) + B_{\bar{N}}(2N + 1786 - (N + 2292)) \\
&= B_{\bar{N}}(N - 505) + B_{\bar{N}}(2545) + B_{\bar{N}}(N - 506) = (N - 505) + 2545 + (N - 506) = \mathbf{2N} + \mathbf{1534} \\
&(N \geq 2545)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1787}) &= B_{\bar{N}}(2N + 1787 - B_{\bar{N}}(2N + 1786)) + B_{\bar{N}}(2N + 1787 - B_{\bar{N}}(2N + 1785)) + B_{\bar{N}}(2N + 1787 - B_{\bar{N}}(2N + 1784)) \\
&= B_{\bar{N}}(2N + 1787 - (2N + 1534)) + B_{\bar{N}}(2N + 1787 - (N + 2291)) + B_{\bar{N}}(2N + 1787 - (2N - 759)) \\
&= B_{\bar{N}}(253) + B_{\bar{N}}(N - 504) + B_{\bar{N}}(2546) = 253 + (N - 504) + 2546 = \mathbf{N} + \mathbf{2295} \\
&(N \geq 2546)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1788}) &= B_{\bar{N}}(2N + 1788 - B_{\bar{N}}(2N + 1787)) + B_{\bar{N}}(2N + 1788 - B_{\bar{N}}(2N + 1786)) + B_{\bar{N}}(2N + 1788 - B_{\bar{N}}(2N + 1785)) \\
&= B_{\bar{N}}(2N + 1788 - (N + 2295)) + B_{\bar{N}}(2N + 1788 - (2N + 1534)) + B_{\bar{N}}(2N + 1788 - (N + 2291)) \\
&= B_{\bar{N}}(N - 507) + B_{\bar{N}}(254) + B_{\bar{N}}(N - 503) = (N - 507) + 254 + (N - 503) = \mathbf{2N} - \mathbf{756} \\
&(N \geq 508)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1789}) &= B_{\bar{N}}(2N + 1789 - B_{\bar{N}}(2N + 1788)) + B_{\bar{N}}(2N + 1789 - B_{\bar{N}}(2N + 1787)) + B_{\bar{N}}(2N + 1789 - B_{\bar{N}}(2N + 1786)) \\
&= B_{\bar{N}}(2N + 1789 - (2N - 756)) + B_{\bar{N}}(2N + 1789 - (N + 2295)) + B_{\bar{N}}(2N + 1789 - (2N + 1534)) \\
&= B_{\bar{N}}(2545) + B_{\bar{N}}(N - 506) + B_{\bar{N}}(255) = 2545 + (N - 506) + 255 = \mathbf{N} + \mathbf{2294} \\
&(N \geq 2545)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1790}) &= B_{\bar{N}}(2N + 1790 - B_{\bar{N}}(2N + 1789)) + B_{\bar{N}}(2N + 1790 - B_{\bar{N}}(2N + 1788)) + B_{\bar{N}}(2N + 1790 - B_{\bar{N}}(2N + 1787)) \\
&= B_{\bar{N}}(2N + 1790 - (N + 2294)) + B_{\bar{N}}(2N + 1790 - (2N - 756)) + B_{\bar{N}}(2N + 1790 - (N + 2295)) \\
&= B_{\bar{N}}(N - 504) + B_{\bar{N}}(2546) + B_{\bar{N}}(N - 505) = (N - 504) + 2546 + (N - 505) = \mathbf{2N} + \mathbf{1537} \\
&(N \geq 2546)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1791}) &= B_{\bar{N}}(2N + 1791 - B_{\bar{N}}(2N + 1790)) + B_{\bar{N}}(2N + 1791 - B_{\bar{N}}(2N + 1789)) + B_{\bar{N}}(2N + 1791 - B_{\bar{N}}(2N + 1788)) \\
&= B_{\bar{N}}(2N + 1791 - (2N + 1537)) + B_{\bar{N}}(2N + 1791 - (N + 2294)) + B_{\bar{N}}(2N + 1791 - (2N - 756)) \\
&= B_{\bar{N}}(254) + B_{\bar{N}}(N - 503) + B_{\bar{N}}(2547) = 254 + (N - 503) + 2547 = \mathbf{N} + \mathbf{2298} \\
&(N \geq 2547)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1792}) &= B_{\bar{N}}(2N + 1792 - B_{\bar{N}}(2N + 1791)) + B_{\bar{N}}(2N + 1792 - B_{\bar{N}}(2N + 1790)) + B_{\bar{N}}(2N + 1792 - B_{\bar{N}}(2N + 1789)) \\
&= B_{\bar{N}}(2N + 1792 - (N + 2298)) + B_{\bar{N}}(2N + 1792 - (2N + 1537)) + B_{\bar{N}}(2N + 1792 - (N + 2294)) \\
&= B_{\bar{N}}(N - 506) + B_{\bar{N}}(255) + B_{\bar{N}}(N - 502) = (N - 506) + 255 + (N - 502) = \mathbf{2N} - \mathbf{753} \\
&(N \geq 507)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1793}) &= B_{\bar{N}}(2N + 1793 - B_{\bar{N}}(2N + 1792)) + B_{\bar{N}}(2N + 1793 - B_{\bar{N}}(2N + 1791)) + B_{\bar{N}}(2N + 1793 - B_{\bar{N}}(2N + 1790)) \\
&= B_{\bar{N}}(2N + 1793 - (2N - 753)) + B_{\bar{N}}(2N + 1793 - (N + 2298)) + B_{\bar{N}}(2N + 1793 - (2N + 1537)) \\
&= B_{\bar{N}}(2546) + B_{\bar{N}}(N - 505) + B_{\bar{N}}(256) = 2546 + (N - 505) + 256 = \mathbf{N} + \mathbf{2297} \\
&(N \geq 2546)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1794}) &= B_{\bar{N}}(2N + 1794 - B_{\bar{N}}(2N + 1793)) + B_{\bar{N}}(2N + 1794 - B_{\bar{N}}(2N + 1792)) + B_{\bar{N}}(2N + 1794 - B_{\bar{N}}(2N + 1791)) \\
&= B_{\bar{N}}(2N + 1794 - (N + 2297)) + B_{\bar{N}}(2N + 1794 - (2N - 753)) + B_{\bar{N}}(2N + 1794 - (N + 2298)) \\
&= B_{\bar{N}}(N - 503) + B_{\bar{N}}(2547) + B_{\bar{N}}(N - 504) = (N - 503) + 2547 + (N - 504) = \mathbf{2N} + \mathbf{1540} \\
&(N \geq 2547)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1795}) &= B_{\bar{N}}(2N + 1795 - B_{\bar{N}}(2N + 1794)) + B_{\bar{N}}(2N + 1795 - B_{\bar{N}}(2N + 1793)) + B_{\bar{N}}(2N + 1795 - B_{\bar{N}}(2N + 1792)) \\
&= B_{\bar{N}}(2N + 1795 - (2N + 1540)) + B_{\bar{N}}(2N + 1795 - (N + 2297)) + B_{\bar{N}}(2N + 1795 - (2N - 753)) \\
&= B_{\bar{N}}(255) + B_{\bar{N}}(N - 502) + B_{\bar{N}}(2548) = 255 + (N - 502) + 2548 = \mathbf{N} + \mathbf{2301} \\
&(N \geq 2548)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1796}) &= B_{\bar{N}}(2N + 1796 - B_{\bar{N}}(2N + 1795)) + B_{\bar{N}}(2N + 1796 - B_{\bar{N}}(2N + 1794)) + B_{\bar{N}}(2N + 1796 - B_{\bar{N}}(2N + 1793)) \\
&= B_{\bar{N}}(2N + 1796 - (N + 2301)) + B_{\bar{N}}(2N + 1796 - (2N + 1540)) + B_{\bar{N}}(2N + 1796 - (N + 2297)) \\
&= B_{\bar{N}}(N - 505) + B_{\bar{N}}(256) + B_{\bar{N}}(N - 501) = (N - 505) + 256 + (N - 501) = \mathbf{2N} - \mathbf{750} \\
&(N \geq 506)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1797}) &= B_{\bar{N}}(2N + 1797 - B_{\bar{N}}(2N + 1796)) + B_{\bar{N}}(2N + 1797 - B_{\bar{N}}(2N + 1795)) + B_{\bar{N}}(2N + 1797 - B_{\bar{N}}(2N + 1794)) \\
&= B_{\bar{N}}(2N + 1797 - (2N - 750)) + B_{\bar{N}}(2N + 1797 - (N + 2301)) + B_{\bar{N}}(2N + 1797 - (2N + 1540)) \\
&= B_{\bar{N}}(2547) + B_{\bar{N}}(N - 504) + B_{\bar{N}}(257) = 2547 + (N - 504) + 257 = \mathbf{N} + \mathbf{2300} \\
&(N \geq 2547)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1798}) &= B_{\bar{N}}(2N + 1798 - B_{\bar{N}}(2N + 1797)) + B_{\bar{N}}(2N + 1798 - B_{\bar{N}}(2N + 1796)) + B_{\bar{N}}(2N + 1798 - B_{\bar{N}}(2N + 1795)) \\
&= B_{\bar{N}}(2N + 1798 - (N + 2300)) + B_{\bar{N}}(2N + 1798 - (2N - 750)) + B_{\bar{N}}(2N + 1798 - (N + 2301)) \\
&= B_{\bar{N}}(N - 502) + B_{\bar{N}}(2548) + B_{\bar{N}}(N - 503) = (N - 502) + 2548 + (N - 503) = \mathbf{2N} + \mathbf{1543} \\
&(N \geq 2548)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1799}) &= B_{\bar{N}}(2N + 1799 - B_{\bar{N}}(2N + 1798)) + B_{\bar{N}}(2N + 1799 - B_{\bar{N}}(2N + 1797)) + B_{\bar{N}}(2N + 1799 - B_{\bar{N}}(2N + 1796)) \\
&= B_{\bar{N}}(2N + 1799 - (2N + 1543)) + B_{\bar{N}}(2N + 1799 - (N + 2300)) + B_{\bar{N}}(2N + 1799 - (2N - 750)) \\
&= B_{\bar{N}}(256) + B_{\bar{N}}(N - 501) + B_{\bar{N}}(2549) = 256 + (N - 501) + 2549 = \mathbf{N} + \mathbf{2304} \\
&(N \geq 2549)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1800}) &= B_{\bar{N}}(2N + 1800 - B_{\bar{N}}(2N + 1799)) + B_{\bar{N}}(2N + 1800 - B_{\bar{N}}(2N + 1798)) + B_{\bar{N}}(2N + 1800 - B_{\bar{N}}(2N + 1797)) \\
&= B_{\bar{N}}(2N + 1800 - (N + 2304)) + B_{\bar{N}}(2N + 1800 - (2N + 1543)) + B_{\bar{N}}(2N + 1800 - (N + 2300)) \\
&= B_{\bar{N}}(N - 504) + B_{\bar{N}}(257) + B_{\bar{N}}(N - 500) = (N - 504) + 257 + (N - 500) = \mathbf{2N} - \mathbf{747} \\
&(N \geq 505)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1801}) &= B_{\bar{N}}(2N + 1801 - B_{\bar{N}}(2N + 1800)) + B_{\bar{N}}(2N + 1801 - B_{\bar{N}}(2N + 1799)) + B_{\bar{N}}(2N + 1801 - B_{\bar{N}}(2N + 1798)) \\
&= B_{\bar{N}}(2N + 1801 - (2N - 747)) + B_{\bar{N}}(2N + 1801 - (N + 2304)) + B_{\bar{N}}(2N + 1801 - (2N + 1543)) \\
&= B_{\bar{N}}(2548) + B_{\bar{N}}(N - 503) + B_{\bar{N}}(258) = 2548 + (N - 503) + 258 = \mathbf{N} + \mathbf{2303} \\
&(N \geq 2548)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1802}) &= B_{\bar{N}}(2N + 1802 - B_{\bar{N}}(2N + 1801)) + B_{\bar{N}}(2N + 1802 - B_{\bar{N}}(2N + 1800)) + B_{\bar{N}}(2N + 1802 - B_{\bar{N}}(2N + 1799)) \\
&= B_{\bar{N}}(2N + 1802 - (N + 2303)) + B_{\bar{N}}(2N + 1802 - (2N - 747)) + B_{\bar{N}}(2N + 1802 - (N + 2304)) \\
&= B_{\bar{N}}(N - 501) + B_{\bar{N}}(2549) + B_{\bar{N}}(N - 502) = (N - 501) + 2549 + (N - 502) = \mathbf{2N} + \mathbf{1546} \\
&(N \geq 2549)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1803}) &= B_{\bar{N}}(2N + 1803 - B_{\bar{N}}(2N + 1802)) + B_{\bar{N}}(2N + 1803 - B_{\bar{N}}(2N + 1801)) + B_{\bar{N}}(2N + 1803 - B_{\bar{N}}(2N + 1800)) \\
&= B_{\bar{N}}(2N + 1803 - (2N + 1546)) + B_{\bar{N}}(2N + 1803 - (N + 2303)) + B_{\bar{N}}(2N + 1803 - (2N - 747)) \\
&= B_{\bar{N}}(257) + B_{\bar{N}}(N - 500) + B_{\bar{N}}(2550) = 257 + (N - 500) + 2550 = \mathbf{N} + \mathbf{2307} \\
&(N \geq 2550)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1804}) &= B_{\bar{N}}(2N + 1804 - B_{\bar{N}}(2N + 1803)) + B_{\bar{N}}(2N + 1804 - B_{\bar{N}}(2N + 1802)) + B_{\bar{N}}(2N + 1804 - B_{\bar{N}}(2N + 1801)) \\
&= B_{\bar{N}}(2N + 1804 - (N + 2307)) + B_{\bar{N}}(2N + 1804 - (2N + 1546)) + B_{\bar{N}}(2N + 1804 - (N + 2303)) \\
&= B_{\bar{N}}(N - 503) + B_{\bar{N}}(258) + B_{\bar{N}}(N - 499) = (N - 503) + 258 + (N - 499) = \mathbf{2N} - \mathbf{744} \\
&(N \geq 504)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1805}) &= B_{\bar{N}}(2N + 1805 - B_{\bar{N}}(2N + 1804)) + B_{\bar{N}}(2N + 1805 - B_{\bar{N}}(2N + 1803)) + B_{\bar{N}}(2N + 1805 - B_{\bar{N}}(2N + 1802)) \\
&= B_{\bar{N}}(2N + 1805 - (2N - 744)) + B_{\bar{N}}(2N + 1805 - (N + 2307)) + B_{\bar{N}}(2N + 1805 - (2N + 1546)) \\
&= B_{\bar{N}}(2549) + B_{\bar{N}}(N - 502) + B_{\bar{N}}(259) = 2549 + (N - 502) + 259 = \mathbf{N} + \mathbf{2306} \\
&(N \geq 2549)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1806}) &= B_{\bar{N}}(2N + 1806 - B_{\bar{N}}(2N + 1805)) + B_{\bar{N}}(2N + 1806 - B_{\bar{N}}(2N + 1804)) + B_{\bar{N}}(2N + 1806 - B_{\bar{N}}(2N + 1803)) \\
&= B_{\bar{N}}(2N + 1806 - (N + 2306)) + B_{\bar{N}}(2N + 1806 - (2N - 744)) + B_{\bar{N}}(2N + 1806 - (N + 2307)) \\
&= B_{\bar{N}}(N - 500) + B_{\bar{N}}(2550) + B_{\bar{N}}(N - 501) = (N - 500) + 2550 + (N - 501) = \mathbf{2N} + \mathbf{1549} \\
&(N \geq 2550)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1807}) &= B_{\bar{N}}(2N + 1807 - B_{\bar{N}}(2N + 1806)) + B_{\bar{N}}(2N + 1807 - B_{\bar{N}}(2N + 1805)) + B_{\bar{N}}(2N + 1807 - B_{\bar{N}}(2N + 1804)) \\
&= B_{\bar{N}}(2N + 1807 - (2N + 1549)) + B_{\bar{N}}(2N + 1807 - (N + 2306)) + B_{\bar{N}}(2N + 1807 - (2N - 744)) \\
&= B_{\bar{N}}(258) + B_{\bar{N}}(N - 499) + B_{\bar{N}}(2551) = 258 + (N - 499) + 2551 = \mathbf{N} + \mathbf{2310} \\
&(N \geq 2551)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1808}) &= B_{\bar{N}}(2N + 1808 - B_{\bar{N}}(2N + 1807)) + B_{\bar{N}}(2N + 1808 - B_{\bar{N}}(2N + 1806)) + B_{\bar{N}}(2N + 1808 - B_{\bar{N}}(2N + 1805)) \\
&= B_{\bar{N}}(2N + 1808 - (N + 2310)) + B_{\bar{N}}(2N + 1808 - (2N + 1549)) + B_{\bar{N}}(2N + 1808 - (N + 2306)) \\
&= B_{\bar{N}}(N - 502) + B_{\bar{N}}(259) + B_{\bar{N}}(N - 498) = (N - 502) + 259 + (N - 498) = \mathbf{2N} - \mathbf{741} \\
&(N \geq 503)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1809}) &= B_{\bar{N}}(2N + 1809 - B_{\bar{N}}(2N + 1808)) + B_{\bar{N}}(2N + 1809 - B_{\bar{N}}(2N + 1807)) + B_{\bar{N}}(2N + 1809 - B_{\bar{N}}(2N + 1806)) \\
&= B_{\bar{N}}(2N + 1809 - (2N - 741)) + B_{\bar{N}}(2N + 1809 - (N + 2310)) + B_{\bar{N}}(2N + 1809 - (2N + 1549)) \\
&= B_{\bar{N}}(2550) + B_{\bar{N}}(N - 501) + B_{\bar{N}}(260) = 2550 + (N - 501) + 260 = \mathbf{N} + \mathbf{2309} \\
&(N \geq 2550)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1810}) &= B_{\bar{N}}(2N + 1810 - B_{\bar{N}}(2N + 1809)) + B_{\bar{N}}(2N + 1810 - B_{\bar{N}}(2N + 1808)) + B_{\bar{N}}(2N + 1810 - B_{\bar{N}}(2N + 1807)) \\
&= B_{\bar{N}}(2N + 1810 - (N + 2309)) + B_{\bar{N}}(2N + 1810 - (2N - 741)) + B_{\bar{N}}(2N + 1810 - (N + 2310)) \\
&= B_{\bar{N}}(N - 499) + B_{\bar{N}}(2551) + B_{\bar{N}}(N - 500) = (N - 499) + 2551 + (N - 500) = \mathbf{2N} + \mathbf{1552} \\
&(N \geq 2551)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1811}) &= B_{\bar{N}}(2N + 1811 - B_{\bar{N}}(2N + 1810)) + B_{\bar{N}}(2N + 1811 - B_{\bar{N}}(2N + 1809)) + B_{\bar{N}}(2N + 1811 - B_{\bar{N}}(2N + 1808)) \\
&= B_{\bar{N}}(2N + 1811 - (2N + 1552)) + B_{\bar{N}}(2N + 1811 - (N + 2309)) + B_{\bar{N}}(2N + 1811 - (2N - 741)) \\
&= B_{\bar{N}}(259) + B_{\bar{N}}(N - 498) + B_{\bar{N}}(2552) = 259 + (N - 498) + 2552 = \mathbf{N} + \mathbf{2313} \\
&(N \geq 2552)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1812}) &= B_{\bar{N}}(2N + 1812 - B_{\bar{N}}(2N + 1811)) + B_{\bar{N}}(2N + 1812 - B_{\bar{N}}(2N + 1810)) + B_{\bar{N}}(2N + 1812 - B_{\bar{N}}(2N + 1809)) \\
&= B_{\bar{N}}(2N + 1812 - (N + 2313)) + B_{\bar{N}}(2N + 1812 - (2N + 1552)) + B_{\bar{N}}(2N + 1812 - (N + 2309)) \\
&= B_{\bar{N}}(N - 501) + B_{\bar{N}}(260) + B_{\bar{N}}(N - 497) = (N - 501) + 260 + (N - 497) = \mathbf{2N} - \mathbf{738} \\
&(N \geq 502)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1813}) &= B_{\bar{N}}(2N + 1813 - B_{\bar{N}}(2N + 1812)) + B_{\bar{N}}(2N + 1813 - B_{\bar{N}}(2N + 1811)) + B_{\bar{N}}(2N + 1813 - B_{\bar{N}}(2N + 1810)) \\
&= B_{\bar{N}}(2N + 1813 - (2N - 738)) + B_{\bar{N}}(2N + 1813 - (N + 2313)) + B_{\bar{N}}(2N + 1813 - (2N + 1552)) \\
&= B_{\bar{N}}(2551) + B_{\bar{N}}(N - 500) + B_{\bar{N}}(261) = 2551 + (N - 500) + 261 = \mathbf{N} + \mathbf{2312} \\
&(N \geq 2551)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1814}) &= B_{\bar{N}}(2N + 1814 - B_{\bar{N}}(2N + 1813)) + B_{\bar{N}}(2N + 1814 - B_{\bar{N}}(2N + 1812)) + B_{\bar{N}}(2N + 1814 - B_{\bar{N}}(2N + 1811)) \\
&= B_{\bar{N}}(2N + 1814 - (N + 2312)) + B_{\bar{N}}(2N + 1814 - (2N - 738)) + B_{\bar{N}}(2N + 1814 - (N + 2313)) \\
&= B_{\bar{N}}(N - 498) + B_{\bar{N}}(2552) + B_{\bar{N}}(N - 499) = (N - 498) + 2552 + (N - 499) = \mathbf{2N} + \mathbf{1555} \\
&(N \geq 2552)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1815}) &= B_{\bar{N}}(2N + 1815 - B_{\bar{N}}(2N + 1814)) + B_{\bar{N}}(2N + 1815 - B_{\bar{N}}(2N + 1813)) + B_{\bar{N}}(2N + 1815 - B_{\bar{N}}(2N + 1812)) \\
&= B_{\bar{N}}(2N + 1815 - (2N + 1555)) + B_{\bar{N}}(2N + 1815 - (N + 2312)) + B_{\bar{N}}(2N + 1815 - (2N - 738)) \\
&= B_{\bar{N}}(260) + B_{\bar{N}}(N - 497) + B_{\bar{N}}(2553) = 260 + (N - 497) + 2553 = \mathbf{N} + \mathbf{2316} \\
&(N \geq 2553)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1816}) &= B_{\bar{N}}(2N + 1816 - B_{\bar{N}}(2N + 1815)) + B_{\bar{N}}(2N + 1816 - B_{\bar{N}}(2N + 1814)) + B_{\bar{N}}(2N + 1816 - B_{\bar{N}}(2N + 1813)) \\
&= B_{\bar{N}}(2N + 1816 - (N + 2316)) + B_{\bar{N}}(2N + 1816 - (2N + 1555)) + B_{\bar{N}}(2N + 1816 - (N + 2312)) \\
&= B_{\bar{N}}(N - 500) + B_{\bar{N}}(261) + B_{\bar{N}}(N - 496) = (N - 500) + 261 + (N - 496) = \mathbf{2N} - \mathbf{735} \\
&(N \geq 501)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1817}) &= B_{\bar{N}}(2N + 1817 - B_{\bar{N}}(2N + 1816)) + B_{\bar{N}}(2N + 1817 - B_{\bar{N}}(2N + 1815)) + B_{\bar{N}}(2N + 1817 - B_{\bar{N}}(2N + 1814)) \\
&= B_{\bar{N}}(2N + 1817 - (2N - 735)) + B_{\bar{N}}(2N + 1817 - (N + 2316)) + B_{\bar{N}}(2N + 1817 - (2N + 1555)) \\
&= B_{\bar{N}}(2552) + B_{\bar{N}}(N - 499) + B_{\bar{N}}(262) = 2552 + (N - 499) + 262 = \mathbf{N} + \mathbf{2315} \\
&(N \geq 2552)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1818}) &= B_{\bar{N}}(2N + 1818 - B_{\bar{N}}(2N + 1817)) + B_{\bar{N}}(2N + 1818 - B_{\bar{N}}(2N + 1816)) + B_{\bar{N}}(2N + 1818 - B_{\bar{N}}(2N + 1815)) \\
&= B_{\bar{N}}(2N + 1818 - (N + 2315)) + B_{\bar{N}}(2N + 1818 - (2N - 735)) + B_{\bar{N}}(2N + 1818 - (N + 2316)) \\
&= B_{\bar{N}}(N - 497) + B_{\bar{N}}(2553) + B_{\bar{N}}(N - 498) = (N - 497) + 2553 + (N - 498) = \mathbf{2N} + \mathbf{1558} \\
&(N \geq 2553)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1819}) &= B_{\bar{N}}(2N + 1819 - B_{\bar{N}}(2N + 1818)) + B_{\bar{N}}(2N + 1819 - B_{\bar{N}}(2N + 1817)) + B_{\bar{N}}(2N + 1819 - B_{\bar{N}}(2N + 1816)) \\
&= B_{\bar{N}}(2N + 1819 - (2N + 1558)) + B_{\bar{N}}(2N + 1819 - (N + 2315)) + B_{\bar{N}}(2N + 1819 - (2N - 735)) \\
&= B_{\bar{N}}(261) + B_{\bar{N}}(N - 496) + B_{\bar{N}}(2554) = 261 + (N - 496) + 2554 = \mathbf{N} + \mathbf{2319} \\
&(N \geq 2554)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1820}) &= B_{\bar{N}}(2N + 1820 - B_{\bar{N}}(2N + 1819)) + B_{\bar{N}}(2N + 1820 - B_{\bar{N}}(2N + 1818)) + B_{\bar{N}}(2N + 1820 - B_{\bar{N}}(2N + 1817)) \\
&= B_{\bar{N}}(2N + 1820 - (N + 2319)) + B_{\bar{N}}(2N + 1820 - (2N + 1558)) + B_{\bar{N}}(2N + 1820 - (N + 2315)) \\
&= B_{\bar{N}}(N - 499) + B_{\bar{N}}(262) + B_{\bar{N}}(N - 495) = (N - 499) + 262 + (N - 495) = \mathbf{2N} - \mathbf{732} \\
&(N \geq 500)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1821}) &= B_{\bar{N}}(2N + 1821 - B_{\bar{N}}(2N + 1820)) + B_{\bar{N}}(2N + 1821 - B_{\bar{N}}(2N + 1819)) + B_{\bar{N}}(2N + 1821 - B_{\bar{N}}(2N + 1818)) \\
&= B_{\bar{N}}(2N + 1821 - (2N - 732)) + B_{\bar{N}}(2N + 1821 - (N + 2319)) + B_{\bar{N}}(2N + 1821 - (2N + 1558)) \\
&= B_{\bar{N}}(2553) + B_{\bar{N}}(N - 498) + B_{\bar{N}}(263) = 2553 + (N - 498) + 263 = \mathbf{N} + \mathbf{2318} \\
&(N \geq 2553)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1822}) &= B_{\bar{N}}(2N + 1822 - B_{\bar{N}}(2N + 1821)) + B_{\bar{N}}(2N + 1822 - B_{\bar{N}}(2N + 1820)) + B_{\bar{N}}(2N + 1822 - B_{\bar{N}}(2N + 1819)) \\
&= B_{\bar{N}}(2N + 1822 - (N + 2318)) + B_{\bar{N}}(2N + 1822 - (2N - 732)) + B_{\bar{N}}(2N + 1822 - (N + 2319)) \\
&= B_{\bar{N}}(N - 496) + B_{\bar{N}}(2554) + B_{\bar{N}}(N - 497) = (N - 496) + 2554 + (N - 497) = \mathbf{2N} + \mathbf{1561} \\
&(N \geq 2554)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1823}) &= B_{\bar{N}}(2N + 1823 - B_{\bar{N}}(2N + 1822)) + B_{\bar{N}}(2N + 1823 - B_{\bar{N}}(2N + 1821)) + B_{\bar{N}}(2N + 1823 - B_{\bar{N}}(2N + 1820)) \\
&= B_{\bar{N}}(2N + 1823 - (2N + 1561)) + B_{\bar{N}}(2N + 1823 - (N + 2318)) + B_{\bar{N}}(2N + 1823 - (2N - 732)) \\
&= B_{\bar{N}}(262) + B_{\bar{N}}(N - 495) + B_{\bar{N}}(2555) = 262 + (N - 495) + 2555 = \mathbf{N} + \mathbf{2322} \\
&(N \geq 2555)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1824}) &= B_{\bar{N}}(2N + 1824 - B_{\bar{N}}(2N + 1823)) + B_{\bar{N}}(2N + 1824 - B_{\bar{N}}(2N + 1822)) + B_{\bar{N}}(2N + 1824 - B_{\bar{N}}(2N + 1821)) \\
&= B_{\bar{N}}(2N + 1824 - (N + 2322)) + B_{\bar{N}}(2N + 1824 - (2N + 1561)) + B_{\bar{N}}(2N + 1824 - (N + 2318)) \\
&= B_{\bar{N}}(N - 498) + B_{\bar{N}}(263) + B_{\bar{N}}(N - 494) = (N - 498) + 263 + (N - 494) = \mathbf{2N} - \mathbf{729} \\
&(N \geq 499)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1825}) &= B_{\bar{N}}(2N + 1825 - B_{\bar{N}}(2N + 1824)) + B_{\bar{N}}(2N + 1825 - B_{\bar{N}}(2N + 1823)) + B_{\bar{N}}(2N + 1825 - B_{\bar{N}}(2N + 1822)) \\
&= B_{\bar{N}}(2N + 1825 - (2N - 729)) + B_{\bar{N}}(2N + 1825 - (N + 2322)) + B_{\bar{N}}(2N + 1825 - (2N + 1561)) \\
&= B_{\bar{N}}(2554) + B_{\bar{N}}(N - 497) + B_{\bar{N}}(264) = 2554 + (N - 497) + 264 = \mathbf{N} + \mathbf{2321} \\
&(N \geq 2554)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1826}) &= B_{\bar{N}}(2N + 1826 - B_{\bar{N}}(2N + 1825)) + B_{\bar{N}}(2N + 1826 - B_{\bar{N}}(2N + 1824)) + B_{\bar{N}}(2N + 1826 - B_{\bar{N}}(2N + 1823)) \\
&= B_{\bar{N}}(2N + 1826 - (N + 2321)) + B_{\bar{N}}(2N + 1826 - (2N - 729)) + B_{\bar{N}}(2N + 1826 - (N + 2322)) \\
&= B_{\bar{N}}(N - 495) + B_{\bar{N}}(2555) + B_{\bar{N}}(N - 496) = (N - 495) + 2555 + (N - 496) = \mathbf{2N} + \mathbf{1564} \\
&(N \geq 2555)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1827}) &= B_{\bar{N}}(2N + 1827 - B_{\bar{N}}(2N + 1826)) + B_{\bar{N}}(2N + 1827 - B_{\bar{N}}(2N + 1825)) + B_{\bar{N}}(2N + 1827 - B_{\bar{N}}(2N + 1824)) \\
&= B_{\bar{N}}(2N + 1827 - (2N + 1564)) + B_{\bar{N}}(2N + 1827 - (N + 2321)) + B_{\bar{N}}(2N + 1827 - (2N - 729)) \\
&= B_{\bar{N}}(263) + B_{\bar{N}}(N - 494) + B_{\bar{N}}(2556) = 263 + (N - 494) + 2556 = \mathbf{N} + \mathbf{2325} \\
&(N \geq 2556)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1828}) &= B_{\bar{N}}(2N + 1828 - B_{\bar{N}}(2N + 1827)) + B_{\bar{N}}(2N + 1828 - B_{\bar{N}}(2N + 1826)) + B_{\bar{N}}(2N + 1828 - B_{\bar{N}}(2N + 1825)) \\
&= B_{\bar{N}}(2N + 1828 - (N + 2325)) + B_{\bar{N}}(2N + 1828 - (2N + 1564)) + B_{\bar{N}}(2N + 1828 - (N + 2321)) \\
&= B_{\bar{N}}(N - 497) + B_{\bar{N}}(264) + B_{\bar{N}}(N - 493) = (N - 497) + 264 + (N - 493) = \mathbf{2N} - \mathbf{726} \\
&(N \geq 498)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1829}) &= B_{\bar{N}}(2N + 1829 - B_{\bar{N}}(2N + 1828)) + B_{\bar{N}}(2N + 1829 - B_{\bar{N}}(2N + 1827)) + B_{\bar{N}}(2N + 1829 - B_{\bar{N}}(2N + 1826)) \\
&= B_{\bar{N}}(2N + 1829 - (2N - 726)) + B_{\bar{N}}(2N + 1829 - (N + 2325)) + B_{\bar{N}}(2N + 1829 - (2N + 1564)) \\
&= B_{\bar{N}}(2555) + B_{\bar{N}}(N - 496) + B_{\bar{N}}(265) = 2555 + (N - 496) + 265 = \mathbf{N} + \mathbf{2324} \\
&(N \geq 2555)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1830}) &= B_{\bar{N}}(2N + 1830 - B_{\bar{N}}(2N + 1829)) + B_{\bar{N}}(2N + 1830 - B_{\bar{N}}(2N + 1828)) + B_{\bar{N}}(2N + 1830 - B_{\bar{N}}(2N + 1827)) \\
&= B_{\bar{N}}(2N + 1830 - (N + 2324)) + B_{\bar{N}}(2N + 1830 - (2N - 726)) + B_{\bar{N}}(2N + 1830 - (N + 2325)) \\
&= B_{\bar{N}}(N - 494) + B_{\bar{N}}(2556) + B_{\bar{N}}(N - 495) = (N - 494) + 2556 + (N - 495) = \mathbf{2N} + \mathbf{1567} \\
&(N \geq 2556)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1831}) &= B_{\bar{N}}(2N + 1831 - B_{\bar{N}}(2N + 1830)) + B_{\bar{N}}(2N + 1831 - B_{\bar{N}}(2N + 1829)) + B_{\bar{N}}(2N + 1831 - B_{\bar{N}}(2N + 1828)) \\
&= B_{\bar{N}}(2N + 1831 - (2N + 1567)) + B_{\bar{N}}(2N + 1831 - (N + 2324)) + B_{\bar{N}}(2N + 1831 - (2N - 726)) \\
&= B_{\bar{N}}(264) + B_{\bar{N}}(N - 493) + B_{\bar{N}}(2557) = 264 + (N - 493) + 2557 = \mathbf{N} + \mathbf{2328} \\
&(N \geq 2557)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1832}) &= B_{\bar{N}}(2N + 1832 - B_{\bar{N}}(2N + 1831)) + B_{\bar{N}}(2N + 1832 - B_{\bar{N}}(2N + 1830)) + B_{\bar{N}}(2N + 1832 - B_{\bar{N}}(2N + 1829)) \\
&= B_{\bar{N}}(2N + 1832 - (N + 2328)) + B_{\bar{N}}(2N + 1832 - (2N + 1567)) + B_{\bar{N}}(2N + 1832 - (N + 2324)) \\
&= B_{\bar{N}}(N - 496) + B_{\bar{N}}(265) + B_{\bar{N}}(N - 492) = (N - 496) + 265 + (N - 492) = \mathbf{2N} - \mathbf{723} \\
&(N \geq 497)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1833}) &= B_{\bar{N}}(2N + 1833 - B_{\bar{N}}(2N + 1832)) + B_{\bar{N}}(2N + 1833 - B_{\bar{N}}(2N + 1831)) + B_{\bar{N}}(2N + 1833 - B_{\bar{N}}(2N + 1830)) \\
&= B_{\bar{N}}(2N + 1833 - (2N - 723)) + B_{\bar{N}}(2N + 1833 - (N + 2328)) + B_{\bar{N}}(2N + 1833 - (2N + 1567)) \\
&= B_{\bar{N}}(2556) + B_{\bar{N}}(N - 495) + B_{\bar{N}}(266) = 2556 + (N - 495) + 266 = \mathbf{N} + \mathbf{2327} \\
&(N \geq 2556)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1834}) &= B_{\bar{N}}(2N + 1834 - B_{\bar{N}}(2N + 1833)) + B_{\bar{N}}(2N + 1834 - B_{\bar{N}}(2N + 1832)) + B_{\bar{N}}(2N + 1834 - B_{\bar{N}}(2N + 1831)) \\
&= B_{\bar{N}}(2N + 1834 - (N + 2327)) + B_{\bar{N}}(2N + 1834 - (2N - 723)) + B_{\bar{N}}(2N + 1834 - (N + 2328)) \\
&= B_{\bar{N}}(N - 493) + B_{\bar{N}}(2557) + B_{\bar{N}}(N - 494) = (N - 493) + 2557 + (N - 494) = \mathbf{2N} + \mathbf{1570} \\
&(N \geq 2557)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1835}) &= B_{\bar{N}}(2N + 1835 - B_{\bar{N}}(2N + 1834)) + B_{\bar{N}}(2N + 1835 - B_{\bar{N}}(2N + 1833)) + B_{\bar{N}}(2N + 1835 - B_{\bar{N}}(2N + 1832)) \\
&= B_{\bar{N}}(2N + 1835 - (2N + 1570)) + B_{\bar{N}}(2N + 1835 - (N + 2327)) + B_{\bar{N}}(2N + 1835 - (2N - 723)) \\
&= B_{\bar{N}}(265) + B_{\bar{N}}(N - 492) + B_{\bar{N}}(2558) = 265 + (N - 492) + 2558 = \mathbf{N} + \mathbf{2331} \\
&(N \geq 2558)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1836}) &= B_{\bar{N}}(2N + 1836 - B_{\bar{N}}(2N + 1835)) + B_{\bar{N}}(2N + 1836 - B_{\bar{N}}(2N + 1834)) + B_{\bar{N}}(2N + 1836 - B_{\bar{N}}(2N + 1833)) \\
&= B_{\bar{N}}(2N + 1836 - (N + 2331)) + B_{\bar{N}}(2N + 1836 - (2N + 1570)) + B_{\bar{N}}(2N + 1836 - (N + 2327)) \\
&= B_{\bar{N}}(N - 495) + B_{\bar{N}}(266) + B_{\bar{N}}(N - 491) = (N - 495) + 266 + (N - 491) = \mathbf{2N} - \mathbf{720} \\
&(N \geq 496)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1837}) &= B_{\bar{N}}(2N + 1837 - B_{\bar{N}}(2N + 1836)) + B_{\bar{N}}(2N + 1837 - B_{\bar{N}}(2N + 1835)) + B_{\bar{N}}(2N + 1837 - B_{\bar{N}}(2N + 1834)) \\
&= B_{\bar{N}}(2N + 1837 - (2N - 720)) + B_{\bar{N}}(2N + 1837 - (N + 2331)) + B_{\bar{N}}(2N + 1837 - (2N + 1570)) \\
&= B_{\bar{N}}(2557) + B_{\bar{N}}(N - 494) + B_{\bar{N}}(267) = 2557 + (N - 494) + 267 = \mathbf{N} + \mathbf{2330} \\
&(N \geq 2557)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1838}) &= B_{\bar{N}}(2N + 1838 - B_{\bar{N}}(2N + 1837)) + B_{\bar{N}}(2N + 1838 - B_{\bar{N}}(2N + 1836)) + B_{\bar{N}}(2N + 1838 - B_{\bar{N}}(2N + 1835)) \\
&= B_{\bar{N}}(2N + 1838 - (N + 2330)) + B_{\bar{N}}(2N + 1838 - (2N - 720)) + B_{\bar{N}}(2N + 1838 - (N + 2331)) \\
&= B_{\bar{N}}(N - 492) + B_{\bar{N}}(2558) + B_{\bar{N}}(N - 493) = (N - 492) + 2558 + (N - 493) = \mathbf{2N} + \mathbf{1573} \\
&(N \geq 2558)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1839}) &= B_{\bar{N}}(2N + 1839 - B_{\bar{N}}(2N + 1838)) + B_{\bar{N}}(2N + 1839 - B_{\bar{N}}(2N + 1837)) + B_{\bar{N}}(2N + 1839 - B_{\bar{N}}(2N + 1836)) \\
&= B_{\bar{N}}(2N + 1839 - (2N + 1573)) + B_{\bar{N}}(2N + 1839 - (N + 2330)) + B_{\bar{N}}(2N + 1839 - (2N - 720)) \\
&= B_{\bar{N}}(266) + B_{\bar{N}}(N - 491) + B_{\bar{N}}(2559) = 266 + (N - 491) + 2559 = \mathbf{N} + \mathbf{2334} \\
&(N \geq 2559)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1840}) &= B_{\bar{N}}(2N + 1840 - B_{\bar{N}}(2N + 1839)) + B_{\bar{N}}(2N + 1840 - B_{\bar{N}}(2N + 1838)) + B_{\bar{N}}(2N + 1840 - B_{\bar{N}}(2N + 1837)) \\
&= B_{\bar{N}}(2N + 1840 - (N + 2334)) + B_{\bar{N}}(2N + 1840 - (2N + 1573)) + B_{\bar{N}}(2N + 1840 - (N + 2330)) \\
&= B_{\bar{N}}(N - 494) + B_{\bar{N}}(267) + B_{\bar{N}}(N - 490) = (N - 494) + 267 + (N - 490) = \mathbf{2N} - \mathbf{717} \\
&(N \geq 495)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1841}) &= B_{\bar{N}}(2N + 1841 - B_{\bar{N}}(2N + 1840)) + B_{\bar{N}}(2N + 1841 - B_{\bar{N}}(2N + 1839)) + B_{\bar{N}}(2N + 1841 - B_{\bar{N}}(2N + 1838)) \\
&= B_{\bar{N}}(2N + 1841 - (2N - 717)) + B_{\bar{N}}(2N + 1841 - (N + 2334)) + B_{\bar{N}}(2N + 1841 - (2N + 1573)) \\
&= B_{\bar{N}}(2558) + B_{\bar{N}}(N - 493) + B_{\bar{N}}(268) = 2558 + (N - 493) + 268 = \mathbf{N} + \mathbf{2333} \\
&(N \geq 2558)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1842}) &= B_{\bar{N}}(2N + 1842 - B_{\bar{N}}(2N + 1841)) + B_{\bar{N}}(2N + 1842 - B_{\bar{N}}(2N + 1840)) + B_{\bar{N}}(2N + 1842 - B_{\bar{N}}(2N + 1839)) \\
&= B_{\bar{N}}(2N + 1842 - (N + 2333)) + B_{\bar{N}}(2N + 1842 - (2N - 717)) + B_{\bar{N}}(2N + 1842 - (N + 2334)) \\
&= B_{\bar{N}}(N - 491) + B_{\bar{N}}(2559) + B_{\bar{N}}(N - 492) = (N - 491) + 2559 + (N - 492) = \mathbf{2N} + \mathbf{1576} \\
&(N \geq 2559)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1843}) &= B_{\bar{N}}(2N + 1843 - B_{\bar{N}}(2N + 1842)) + B_{\bar{N}}(2N + 1843 - B_{\bar{N}}(2N + 1841)) + B_{\bar{N}}(2N + 1843 - B_{\bar{N}}(2N + 1840)) \\
&= B_{\bar{N}}(2N + 1843 - (2N + 1576)) + B_{\bar{N}}(2N + 1843 - (N + 2333)) + B_{\bar{N}}(2N + 1843 - (2N - 717)) \\
&= B_{\bar{N}}(267) + B_{\bar{N}}(N - 490) + B_{\bar{N}}(2560) = 267 + (N - 490) + 2560 = \mathbf{N} + \mathbf{2337} \\
&(N \geq 2560)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1844}) &= B_{\bar{N}}(2N + 1844 - B_{\bar{N}}(2N + 1843)) + B_{\bar{N}}(2N + 1844 - B_{\bar{N}}(2N + 1842)) + B_{\bar{N}}(2N + 1844 - B_{\bar{N}}(2N + 1841)) \\
&= B_{\bar{N}}(2N + 1844 - (N + 2337)) + B_{\bar{N}}(2N + 1844 - (2N + 1576)) + B_{\bar{N}}(2N + 1844 - (N + 2333)) \\
&= B_{\bar{N}}(N - 493) + B_{\bar{N}}(268) + B_{\bar{N}}(N - 489) = (N - 493) + 268 + (N - 489) = \mathbf{2N} - \mathbf{714} \\
&(N \geq 494)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1845}) &= B_{\bar{N}}(2N + 1845 - B_{\bar{N}}(2N + 1844)) + B_{\bar{N}}(2N + 1845 - B_{\bar{N}}(2N + 1843)) + B_{\bar{N}}(2N + 1845 - B_{\bar{N}}(2N + 1842)) \\
&= B_{\bar{N}}(2N + 1845 - (2N - 714)) + B_{\bar{N}}(2N + 1845 - (N + 2337)) + B_{\bar{N}}(2N + 1845 - (2N + 1576)) \\
&= B_{\bar{N}}(2559) + B_{\bar{N}}(N - 492) + B_{\bar{N}}(269) = 2559 + (N - 492) + 269 = \mathbf{N} + \mathbf{2336} \\
&(N \geq 2559)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1846}) &= B_{\bar{N}}(2N + 1846 - B_{\bar{N}}(2N + 1845)) + B_{\bar{N}}(2N + 1846 - B_{\bar{N}}(2N + 1844)) + B_{\bar{N}}(2N + 1846 - B_{\bar{N}}(2N + 1843)) \\
&= B_{\bar{N}}(2N + 1846 - (N + 2336)) + B_{\bar{N}}(2N + 1846 - (2N - 714)) + B_{\bar{N}}(2N + 1846 - (N + 2337)) \\
&= B_{\bar{N}}(N - 490) + B_{\bar{N}}(2560) + B_{\bar{N}}(N - 491) = (N - 490) + 2560 + (N - 491) = \mathbf{2N} + \mathbf{1579} \\
&(N \geq 2560)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1847}) &= B_{\bar{N}}(2N + 1847 - B_{\bar{N}}(2N + 1846)) + B_{\bar{N}}(2N + 1847 - B_{\bar{N}}(2N + 1845)) + B_{\bar{N}}(2N + 1847 - B_{\bar{N}}(2N + 1844)) \\
&= B_{\bar{N}}(2N + 1847 - (2N + 1579)) + B_{\bar{N}}(2N + 1847 - (N + 2336)) + B_{\bar{N}}(2N + 1847 - (2N - 714)) \\
&= B_{\bar{N}}(268) + B_{\bar{N}}(N - 489) + B_{\bar{N}}(2561) = 268 + (N - 489) + 2561 = \mathbf{N} + \mathbf{2340} \\
&(N \geq 2561)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1848}) &= B_{\bar{N}}(2N + 1848 - B_{\bar{N}}(2N + 1847)) + B_{\bar{N}}(2N + 1848 - B_{\bar{N}}(2N + 1846)) + B_{\bar{N}}(2N + 1848 - B_{\bar{N}}(2N + 1845)) \\
&= B_{\bar{N}}(2N + 1848 - (N + 2340)) + B_{\bar{N}}(2N + 1848 - (2N + 1579)) + B_{\bar{N}}(2N + 1848 - (N + 2336)) \\
&= B_{\bar{N}}(N - 492) + B_{\bar{N}}(269) + B_{\bar{N}}(N - 488) = (N - 492) + 269 + (N - 488) = \mathbf{2N} - \mathbf{711} \\
&(N \geq 493)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1849}) &= B_{\bar{N}}(2N + 1849 - B_{\bar{N}}(2N + 1848)) + B_{\bar{N}}(2N + 1849 - B_{\bar{N}}(2N + 1847)) + B_{\bar{N}}(2N + 1849 - B_{\bar{N}}(2N + 1846)) \\
&= B_{\bar{N}}(2N + 1849 - (2N - 711)) + B_{\bar{N}}(2N + 1849 - (N + 2340)) + B_{\bar{N}}(2N + 1849 - (2N + 1579)) \\
&= B_{\bar{N}}(2560) + B_{\bar{N}}(N - 491) + B_{\bar{N}}(270) = 2560 + (N - 491) + 270 = \mathbf{N} + \mathbf{2339} \\
&(N \geq 2560)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1850}) &= B_{\bar{N}}(2N + 1850 - B_{\bar{N}}(2N + 1849)) + B_{\bar{N}}(2N + 1850 - B_{\bar{N}}(2N + 1848)) + B_{\bar{N}}(2N + 1850 - B_{\bar{N}}(2N + 1847)) \\
&= B_{\bar{N}}(2N + 1850 - (N + 2339)) + B_{\bar{N}}(2N + 1850 - (2N - 711)) + B_{\bar{N}}(2N + 1850 - (N + 2340)) \\
&= B_{\bar{N}}(N - 489) + B_{\bar{N}}(2561) + B_{\bar{N}}(N - 490) = (N - 489) + 2561 + (N - 490) = \mathbf{2N} + \mathbf{1582} \\
&(N \geq 2561)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1851}) &= B_{\bar{N}}(2N + 1851 - B_{\bar{N}}(2N + 1850)) + B_{\bar{N}}(2N + 1851 - B_{\bar{N}}(2N + 1849)) + B_{\bar{N}}(2N + 1851 - B_{\bar{N}}(2N + 1848)) \\
&= B_{\bar{N}}(2N + 1851 - (2N + 1582)) + B_{\bar{N}}(2N + 1851 - (N + 2339)) + B_{\bar{N}}(2N + 1851 - (2N - 711)) \\
&= B_{\bar{N}}(269) + B_{\bar{N}}(N - 488) + B_{\bar{N}}(2562) = 269 + (N - 488) + 2562 = \mathbf{N} + \mathbf{2343} \\
&(N \geq 2562)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1852}) &= B_{\bar{N}}(2N + 1852 - B_{\bar{N}}(2N + 1851)) + B_{\bar{N}}(2N + 1852 - B_{\bar{N}}(2N + 1850)) + B_{\bar{N}}(2N + 1852 - B_{\bar{N}}(2N + 1849)) \\
&= B_{\bar{N}}(2N + 1852 - (N + 2343)) + B_{\bar{N}}(2N + 1852 - (2N + 1582)) + B_{\bar{N}}(2N + 1852 - (N + 2339)) \\
&= B_{\bar{N}}(N - 491) + B_{\bar{N}}(270) + B_{\bar{N}}(N - 487) = (N - 491) + 270 + (N - 487) = \mathbf{2N} - \mathbf{708} \\
&(N \geq 492)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1853}) &= B_{\bar{N}}(2N + 1853 - B_{\bar{N}}(2N + 1852)) + B_{\bar{N}}(2N + 1853 - B_{\bar{N}}(2N + 1851)) + B_{\bar{N}}(2N + 1853 - B_{\bar{N}}(2N + 1850)) \\
&= B_{\bar{N}}(2N + 1853 - (2N - 708)) + B_{\bar{N}}(2N + 1853 - (N + 2343)) + B_{\bar{N}}(2N + 1853 - (2N + 1582)) \\
&= B_{\bar{N}}(2561) + B_{\bar{N}}(N - 490) + B_{\bar{N}}(271) = 2561 + (N - 490) + 271 = \mathbf{N} + \mathbf{2342} \\
&(N \geq 2561)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1854}) &= B_{\bar{N}}(2N + 1854 - B_{\bar{N}}(2N + 1853)) + B_{\bar{N}}(2N + 1854 - B_{\bar{N}}(2N + 1852)) + B_{\bar{N}}(2N + 1854 - B_{\bar{N}}(2N + 1851)) \\
&= B_{\bar{N}}(2N + 1854 - (N + 2342)) + B_{\bar{N}}(2N + 1854 - (2N - 708)) + B_{\bar{N}}(2N + 1854 - (N + 2343)) \\
&= B_{\bar{N}}(N - 488) + B_{\bar{N}}(2562) + B_{\bar{N}}(N - 489) = (N - 488) + 2562 + (N - 489) = \mathbf{2N} + \mathbf{1585} \\
&(N \geq 2562)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1855}) &= B_{\bar{N}}(2N + 1855 - B_{\bar{N}}(2N + 1854)) + B_{\bar{N}}(2N + 1855 - B_{\bar{N}}(2N + 1853)) + B_{\bar{N}}(2N + 1855 - B_{\bar{N}}(2N + 1852)) \\
&= B_{\bar{N}}(2N + 1855 - (2N + 1585)) + B_{\bar{N}}(2N + 1855 - (N + 2342)) + B_{\bar{N}}(2N + 1855 - (2N - 708)) \\
&= B_{\bar{N}}(270) + B_{\bar{N}}(N - 487) + B_{\bar{N}}(2563) = 270 + (N - 487) + 2563 = \mathbf{N} + \mathbf{2346} \\
&(N \geq 2563)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1856}) &= B_{\bar{N}}(2N + 1856 - B_{\bar{N}}(2N + 1855)) + B_{\bar{N}}(2N + 1856 - B_{\bar{N}}(2N + 1854)) + B_{\bar{N}}(2N + 1856 - B_{\bar{N}}(2N + 1853)) \\
&= B_{\bar{N}}(2N + 1856 - (N + 2346)) + B_{\bar{N}}(2N + 1856 - (2N + 1585)) + B_{\bar{N}}(2N + 1856 - (N + 2342)) \\
&= B_{\bar{N}}(N - 490) + B_{\bar{N}}(271) + B_{\bar{N}}(N - 486) = (N - 490) + 271 + (N - 486) = \mathbf{2N} - \mathbf{705} \\
&(N \geq 491)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1857}) &= B_{\bar{N}}(2N + 1857 - B_{\bar{N}}(2N + 1856)) + B_{\bar{N}}(2N + 1857 - B_{\bar{N}}(2N + 1855)) + B_{\bar{N}}(2N + 1857 - B_{\bar{N}}(2N + 1854)) \\
&= B_{\bar{N}}(2N + 1857 - (2N - 705)) + B_{\bar{N}}(2N + 1857 - (N + 2346)) + B_{\bar{N}}(2N + 1857 - (2N + 1585)) \\
&= B_{\bar{N}}(2562) + B_{\bar{N}}(N - 489) + B_{\bar{N}}(272) = 2562 + (N - 489) + 272 = \mathbf{N} + \mathbf{2345} \\
&(N \geq 2562)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1858}) &= B_{\bar{N}}(2N + 1858 - B_{\bar{N}}(2N + 1857)) + B_{\bar{N}}(2N + 1858 - B_{\bar{N}}(2N + 1856)) + B_{\bar{N}}(2N + 1858 - B_{\bar{N}}(2N + 1855)) \\
&= B_{\bar{N}}(2N + 1858 - (N + 2345)) + B_{\bar{N}}(2N + 1858 - (2N - 705)) + B_{\bar{N}}(2N + 1858 - (N + 2346)) \\
&= B_{\bar{N}}(N - 487) + B_{\bar{N}}(2563) + B_{\bar{N}}(N - 488) = (N - 487) + 2563 + (N - 488) = \mathbf{2N} + \mathbf{1588} \\
&(N \geq 2563)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1859}) &= B_{\bar{N}}(2N + 1859 - B_{\bar{N}}(2N + 1858)) + B_{\bar{N}}(2N + 1859 - B_{\bar{N}}(2N + 1857)) + B_{\bar{N}}(2N + 1859 - B_{\bar{N}}(2N + 1856)) \\
&= B_{\bar{N}}(2N + 1859 - (2N + 1588)) + B_{\bar{N}}(2N + 1859 - (N + 2345)) + B_{\bar{N}}(2N + 1859 - (2N - 705)) \\
&= B_{\bar{N}}(271) + B_{\bar{N}}(N - 486) + B_{\bar{N}}(2564) = 271 + (N - 486) + 2564 = \mathbf{N} + \mathbf{2349} \\
&(N \geq 2564)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1860}) &= B_{\bar{N}}(2N + 1860 - B_{\bar{N}}(2N + 1859)) + B_{\bar{N}}(2N + 1860 - B_{\bar{N}}(2N + 1858)) + B_{\bar{N}}(2N + 1860 - B_{\bar{N}}(2N + 1857)) \\
&= B_{\bar{N}}(2N + 1860 - (N + 2349)) + B_{\bar{N}}(2N + 1860 - (2N + 1588)) + B_{\bar{N}}(2N + 1860 - (N + 2345)) \\
&= B_{\bar{N}}(N - 489) + B_{\bar{N}}(272) + B_{\bar{N}}(N - 485) = (N - 489) + 272 + (N - 485) = \mathbf{2N} - \mathbf{702} \\
&(N \geq 490)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1861}) &= B_{\bar{N}}(2N + 1861 - B_{\bar{N}}(2N + 1860)) + B_{\bar{N}}(2N + 1861 - B_{\bar{N}}(2N + 1859)) + B_{\bar{N}}(2N + 1861 - B_{\bar{N}}(2N + 1858)) \\
&= B_{\bar{N}}(2N + 1861 - (2N - 702)) + B_{\bar{N}}(2N + 1861 - (N + 2349)) + B_{\bar{N}}(2N + 1861 - (2N + 1588)) \\
&= B_{\bar{N}}(2563) + B_{\bar{N}}(N - 488) + B_{\bar{N}}(273) = 2563 + (N - 488) + 273 = \mathbf{N} + \mathbf{2348} \\
&(N \geq 2563)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1862}) &= B_{\bar{N}}(2N + 1862 - B_{\bar{N}}(2N + 1861)) + B_{\bar{N}}(2N + 1862 - B_{\bar{N}}(2N + 1860)) + B_{\bar{N}}(2N + 1862 - B_{\bar{N}}(2N + 1859)) \\
&= B_{\bar{N}}(2N + 1862 - (N + 2348)) + B_{\bar{N}}(2N + 1862 - (2N - 702)) + B_{\bar{N}}(2N + 1862 - (N + 2349)) \\
&= B_{\bar{N}}(N - 486) + B_{\bar{N}}(2564) + B_{\bar{N}}(N - 487) = (N - 486) + 2564 + (N - 487) = \mathbf{2N} + \mathbf{1591} \\
&(N \geq 2564)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1863}) &= B_{\bar{N}}(2N + 1863 - B_{\bar{N}}(2N + 1862)) + B_{\bar{N}}(2N + 1863 - B_{\bar{N}}(2N + 1861)) + B_{\bar{N}}(2N + 1863 - B_{\bar{N}}(2N + 1860)) \\
&= B_{\bar{N}}(2N + 1863 - (2N + 1591)) + B_{\bar{N}}(2N + 1863 - (N + 2348)) + B_{\bar{N}}(2N + 1863 - (2N - 702)) \\
&= B_{\bar{N}}(272) + B_{\bar{N}}(N - 485) + B_{\bar{N}}(2565) = 272 + (N - 485) + 2565 = \mathbf{N} + \mathbf{2352} \\
&(N \geq 2565)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1864}) &= B_{\bar{N}}(2N + 1864 - B_{\bar{N}}(2N + 1863)) + B_{\bar{N}}(2N + 1864 - B_{\bar{N}}(2N + 1862)) + B_{\bar{N}}(2N + 1864 - B_{\bar{N}}(2N + 1861)) \\
&= B_{\bar{N}}(2N + 1864 - (N + 2352)) + B_{\bar{N}}(2N + 1864 - (2N + 1591)) + B_{\bar{N}}(2N + 1864 - (N + 2348)) \\
&= B_{\bar{N}}(N - 488) + B_{\bar{N}}(273) + B_{\bar{N}}(N - 484) = (N - 488) + 273 + (N - 484) = \mathbf{2N} - \mathbf{699} \\
&(N \geq 489)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1865}) &= B_{\bar{N}}(2N + 1865 - B_{\bar{N}}(2N + 1864)) + B_{\bar{N}}(2N + 1865 - B_{\bar{N}}(2N + 1863)) + B_{\bar{N}}(2N + 1865 - B_{\bar{N}}(2N + 1862)) \\
&= B_{\bar{N}}(2N + 1865 - (2N - 699)) + B_{\bar{N}}(2N + 1865 - (N + 2352)) + B_{\bar{N}}(2N + 1865 - (2N + 1591)) \\
&= B_{\bar{N}}(2564) + B_{\bar{N}}(N - 487) + B_{\bar{N}}(274) = 2564 + (N - 487) + 274 = \mathbf{N} + \mathbf{2351} \\
&(N \geq 2564)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1866}) &= B_{\bar{N}}(2N + 1866 - B_{\bar{N}}(2N + 1865)) + B_{\bar{N}}(2N + 1866 - B_{\bar{N}}(2N + 1864)) + B_{\bar{N}}(2N + 1866 - B_{\bar{N}}(2N + 1863)) \\
&= B_{\bar{N}}(2N + 1866 - (N + 2351)) + B_{\bar{N}}(2N + 1866 - (2N - 699)) + B_{\bar{N}}(2N + 1866 - (N + 2352)) \\
&= B_{\bar{N}}(N - 485) + B_{\bar{N}}(2565) + B_{\bar{N}}(N - 486) = (N - 485) + 2565 + (N - 486) = \mathbf{2N} + \mathbf{1594} \\
&(N \geq 2565)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1867}) &= B_{\bar{N}}(2N + 1867 - B_{\bar{N}}(2N + 1866)) + B_{\bar{N}}(2N + 1867 - B_{\bar{N}}(2N + 1865)) + B_{\bar{N}}(2N + 1867 - B_{\bar{N}}(2N + 1864)) \\
&= B_{\bar{N}}(2N + 1867 - (2N + 1594)) + B_{\bar{N}}(2N + 1867 - (N + 2351)) + B_{\bar{N}}(2N + 1867 - (2N - 699)) \\
&= B_{\bar{N}}(273) + B_{\bar{N}}(N - 484) + B_{\bar{N}}(2566) = 273 + (N - 484) + 2566 = \mathbf{N} + \mathbf{2355} \\
&(N \geq 2566)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1868}) &= B_{\bar{N}}(2N + 1868 - B_{\bar{N}}(2N + 1867)) + B_{\bar{N}}(2N + 1868 - B_{\bar{N}}(2N + 1866)) + B_{\bar{N}}(2N + 1868 - B_{\bar{N}}(2N + 1865)) \\
&= B_{\bar{N}}(2N + 1868 - (N + 2355)) + B_{\bar{N}}(2N + 1868 - (2N + 1594)) + B_{\bar{N}}(2N + 1868 - (N + 2351)) \\
&= B_{\bar{N}}(N - 487) + B_{\bar{N}}(274) + B_{\bar{N}}(N - 483) = (N - 487) + 274 + (N - 483) = \mathbf{2N} - \mathbf{696} \\
&(N \geq 488)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1869}) &= B_{\bar{N}}(2N + 1869 - B_{\bar{N}}(2N + 1868)) + B_{\bar{N}}(2N + 1869 - B_{\bar{N}}(2N + 1867)) + B_{\bar{N}}(2N + 1869 - B_{\bar{N}}(2N + 1866)) \\
&= B_{\bar{N}}(2N + 1869 - (2N - 696)) + B_{\bar{N}}(2N + 1869 - (N + 2355)) + B_{\bar{N}}(2N + 1869 - (2N + 1594)) \\
&= B_{\bar{N}}(2565) + B_{\bar{N}}(N - 486) + B_{\bar{N}}(275) = 2565 + (N - 486) + 275 = \mathbf{N} + \mathbf{2354} \\
&(N \geq 2565)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1870}) &= B_{\bar{N}}(2N + 1870 - B_{\bar{N}}(2N + 1869)) + B_{\bar{N}}(2N + 1870 - B_{\bar{N}}(2N + 1868)) + B_{\bar{N}}(2N + 1870 - B_{\bar{N}}(2N + 1867)) \\
&= B_{\bar{N}}(2N + 1870 - (N + 2354)) + B_{\bar{N}}(2N + 1870 - (2N - 696)) + B_{\bar{N}}(2N + 1870 - (N + 2355)) \\
&= B_{\bar{N}}(N - 484) + B_{\bar{N}}(2566) + B_{\bar{N}}(N - 485) = (N - 484) + 2566 + (N - 485) = \mathbf{2N} + \mathbf{1597} \\
&(N \geq 2566)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1871}) &= B_{\bar{N}}(2N + 1871 - B_{\bar{N}}(2N + 1870)) + B_{\bar{N}}(2N + 1871 - B_{\bar{N}}(2N + 1869)) + B_{\bar{N}}(2N + 1871 - B_{\bar{N}}(2N + 1868)) \\
&= B_{\bar{N}}(2N + 1871 - (2N + 1597)) + B_{\bar{N}}(2N + 1871 - (N + 2354)) + B_{\bar{N}}(2N + 1871 - (2N - 696)) \\
&= B_{\bar{N}}(274) + B_{\bar{N}}(N - 483) + B_{\bar{N}}(2567) = 274 + (N - 483) + 2567 = \mathbf{N} + \mathbf{2358} \\
&(N \geq 2567)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1872}) &= B_{\bar{N}}(2N + 1872 - B_{\bar{N}}(2N + 1871)) + B_{\bar{N}}(2N + 1872 - B_{\bar{N}}(2N + 1870)) + B_{\bar{N}}(2N + 1872 - B_{\bar{N}}(2N + 1869)) \\
&= B_{\bar{N}}(2N + 1872 - (N + 2358)) + B_{\bar{N}}(2N + 1872 - (2N + 1597)) + B_{\bar{N}}(2N + 1872 - (N + 2354)) \\
&= B_{\bar{N}}(N - 486) + B_{\bar{N}}(275) + B_{\bar{N}}(N - 482) = (N - 486) + 275 + (N - 482) = \mathbf{2N} - \mathbf{693} \\
&(N \geq 487)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1873}) &= B_{\bar{N}}(2N + 1873 - B_{\bar{N}}(2N + 1872)) + B_{\bar{N}}(2N + 1873 - B_{\bar{N}}(2N + 1871)) + B_{\bar{N}}(2N + 1873 - B_{\bar{N}}(2N + 1870)) \\
&= B_{\bar{N}}(2N + 1873 - (2N - 693)) + B_{\bar{N}}(2N + 1873 - (N + 2358)) + B_{\bar{N}}(2N + 1873 - (2N + 1597)) \\
&= B_{\bar{N}}(2566) + B_{\bar{N}}(N - 485) + B_{\bar{N}}(276) = 2566 + (N - 485) + 276 = \mathbf{N} + \mathbf{2357} \\
&(N \geq 2566)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1874}) &= B_{\bar{N}}(2N + 1874 - B_{\bar{N}}(2N + 1873)) + B_{\bar{N}}(2N + 1874 - B_{\bar{N}}(2N + 1872)) + B_{\bar{N}}(2N + 1874 - B_{\bar{N}}(2N + 1871)) \\
&= B_{\bar{N}}(2N + 1874 - (N + 2357)) + B_{\bar{N}}(2N + 1874 - (2N - 693)) + B_{\bar{N}}(2N + 1874 - (N + 2358)) \\
&= B_{\bar{N}}(N - 483) + B_{\bar{N}}(2567) + B_{\bar{N}}(N - 484) = (N - 483) + 2567 + (N - 484) = \mathbf{2N} + \mathbf{1600} \\
&(N \geq 2567)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1875}) &= B_{\bar{N}}(2N + 1875 - B_{\bar{N}}(2N + 1874)) + B_{\bar{N}}(2N + 1875 - B_{\bar{N}}(2N + 1873)) + B_{\bar{N}}(2N + 1875 - B_{\bar{N}}(2N + 1872)) \\
&= B_{\bar{N}}(2N + 1875 - (2N + 1600)) + B_{\bar{N}}(2N + 1875 - (N + 2357)) + B_{\bar{N}}(2N + 1875 - (2N - 693)) \\
&= B_{\bar{N}}(275) + B_{\bar{N}}(N - 482) + B_{\bar{N}}(2568) = 275 + (N - 482) + 2568 = \mathbf{N} + \mathbf{2361} \\
&(N \geq 2568)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1876}) &= B_{\bar{N}}(2N + 1876 - B_{\bar{N}}(2N + 1875)) + B_{\bar{N}}(2N + 1876 - B_{\bar{N}}(2N + 1874)) + B_{\bar{N}}(2N + 1876 - B_{\bar{N}}(2N + 1873)) \\
&= B_{\bar{N}}(2N + 1876 - (N + 2361)) + B_{\bar{N}}(2N + 1876 - (2N + 1600)) + B_{\bar{N}}(2N + 1876 - (N + 2357)) \\
&= B_{\bar{N}}(N - 485) + B_{\bar{N}}(276) + B_{\bar{N}}(N - 481) = (N - 485) + 276 + (N - 481) = \mathbf{2N} - \mathbf{690} \\
&(N \geq 486)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1877}) &= B_{\bar{N}}(2N + 1877 - B_{\bar{N}}(2N + 1876)) + B_{\bar{N}}(2N + 1877 - B_{\bar{N}}(2N + 1875)) + B_{\bar{N}}(2N + 1877 - B_{\bar{N}}(2N + 1874)) \\
&= B_{\bar{N}}(2N + 1877 - (2N - 690)) + B_{\bar{N}}(2N + 1877 - (N + 2361)) + B_{\bar{N}}(2N + 1877 - (2N + 1600)) \\
&= B_{\bar{N}}(2567) + B_{\bar{N}}(N - 484) + B_{\bar{N}}(277) = 2567 + (N - 484) + 277 = \mathbf{N} + \mathbf{2360} \\
&(N \geq 2567)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1878}) &= B_{\bar{N}}(2N + 1878 - B_{\bar{N}}(2N + 1877)) + B_{\bar{N}}(2N + 1878 - B_{\bar{N}}(2N + 1876)) + B_{\bar{N}}(2N + 1878 - B_{\bar{N}}(2N + 1875)) \\
&= B_{\bar{N}}(2N + 1878 - (N + 2360)) + B_{\bar{N}}(2N + 1878 - (2N - 690)) + B_{\bar{N}}(2N + 1878 - (N + 2361)) \\
&= B_{\bar{N}}(N - 482) + B_{\bar{N}}(2568) + B_{\bar{N}}(N - 483) = (N - 482) + 2568 + (N - 483) = \mathbf{2N} + \mathbf{1603} \\
&(N \geq 2568)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1879}) &= B_{\bar{N}}(2N + 1879 - B_{\bar{N}}(2N + 1878)) + B_{\bar{N}}(2N + 1879 - B_{\bar{N}}(2N + 1877)) + B_{\bar{N}}(2N + 1879 - B_{\bar{N}}(2N + 1876)) \\
&= B_{\bar{N}}(2N + 1879 - (2N + 1603)) + B_{\bar{N}}(2N + 1879 - (N + 2360)) + B_{\bar{N}}(2N + 1879 - (2N - 690)) \\
&= B_{\bar{N}}(276) + B_{\bar{N}}(N - 481) + B_{\bar{N}}(2569) = 276 + (N - 481) + 2569 = \mathbf{N} + \mathbf{2364} \\
&(N \geq 2569)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1880}) &= B_{\bar{N}}(2N + 1880 - B_{\bar{N}}(2N + 1879)) + B_{\bar{N}}(2N + 1880 - B_{\bar{N}}(2N + 1878)) + B_{\bar{N}}(2N + 1880 - B_{\bar{N}}(2N + 1877)) \\
&= B_{\bar{N}}(2N + 1880 - (N + 2364)) + B_{\bar{N}}(2N + 1880 - (2N + 1603)) + B_{\bar{N}}(2N + 1880 - (N + 2360)) \\
&= B_{\bar{N}}(N - 484) + B_{\bar{N}}(277) + B_{\bar{N}}(N - 480) = (N - 484) + 277 + (N - 480) = \mathbf{2N} - \mathbf{687} \\
&(N \geq 485)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1881}) &= B_{\bar{N}}(2N + 1881 - B_{\bar{N}}(2N + 1880)) + B_{\bar{N}}(2N + 1881 - B_{\bar{N}}(2N + 1879)) + B_{\bar{N}}(2N + 1881 - B_{\bar{N}}(2N + 1878)) \\
&= B_{\bar{N}}(2N + 1881 - (2N - 687)) + B_{\bar{N}}(2N + 1881 - (N + 2364)) + B_{\bar{N}}(2N + 1881 - (2N + 1603)) \\
&= B_{\bar{N}}(2568) + B_{\bar{N}}(N - 483) + B_{\bar{N}}(278) = 2568 + (N - 483) + 278 = \mathbf{N} + \mathbf{2363} \\
&(N \geq 2568)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1882}) &= B_{\bar{N}}(2N + 1882 - B_{\bar{N}}(2N + 1881)) + B_{\bar{N}}(2N + 1882 - B_{\bar{N}}(2N + 1880)) + B_{\bar{N}}(2N + 1882 - B_{\bar{N}}(2N + 1879)) \\
&= B_{\bar{N}}(2N + 1882 - (N + 2363)) + B_{\bar{N}}(2N + 1882 - (2N - 687)) + B_{\bar{N}}(2N + 1882 - (N + 2364)) \\
&= B_{\bar{N}}(N - 481) + B_{\bar{N}}(2569) + B_{\bar{N}}(N - 482) = (N - 481) + 2569 + (N - 482) = \mathbf{2N} + \mathbf{1606} \\
&(N \geq 2569)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1883}) &= B_{\bar{N}}(2N + 1883 - B_{\bar{N}}(2N + 1882)) + B_{\bar{N}}(2N + 1883 - B_{\bar{N}}(2N + 1881)) + B_{\bar{N}}(2N + 1883 - B_{\bar{N}}(2N + 1880)) \\
&= B_{\bar{N}}(2N + 1883 - (2N + 1606)) + B_{\bar{N}}(2N + 1883 - (N + 2363)) + B_{\bar{N}}(2N + 1883 - (2N - 687)) \\
&= B_{\bar{N}}(277) + B_{\bar{N}}(N - 480) + B_{\bar{N}}(2570) = 277 + (N - 480) + 2570 = \mathbf{N} + \mathbf{2367} \\
&(N \geq 2570)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1884}) &= B_{\bar{N}}(2N + 1884 - B_{\bar{N}}(2N + 1883)) + B_{\bar{N}}(2N + 1884 - B_{\bar{N}}(2N + 1882)) + B_{\bar{N}}(2N + 1884 - B_{\bar{N}}(2N + 1881)) \\
&= B_{\bar{N}}(2N + 1884 - (N + 2367)) + B_{\bar{N}}(2N + 1884 - (2N + 1606)) + B_{\bar{N}}(2N + 1884 - (N + 2363)) \\
&= B_{\bar{N}}(N - 483) + B_{\bar{N}}(278) + B_{\bar{N}}(N - 479) = (N - 483) + 278 + (N - 479) = \mathbf{2N} - \mathbf{684} \\
&(N \geq 484)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1885}) &= B_{\bar{N}}(2N + 1885 - B_{\bar{N}}(2N + 1884)) + B_{\bar{N}}(2N + 1885 - B_{\bar{N}}(2N + 1883)) + B_{\bar{N}}(2N + 1885 - B_{\bar{N}}(2N + 1882)) \\
&= B_{\bar{N}}(2N + 1885 - (2N - 684)) + B_{\bar{N}}(2N + 1885 - (N + 2367)) + B_{\bar{N}}(2N + 1885 - (2N + 1606)) \\
&= B_{\bar{N}}(2569) + B_{\bar{N}}(N - 482) + B_{\bar{N}}(279) = 2569 + (N - 482) + 279 = \mathbf{N} + \mathbf{2366} \\
&(N \geq 2569)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1886}) &= B_{\bar{N}}(2N + 1886 - B_{\bar{N}}(2N + 1885)) + B_{\bar{N}}(2N + 1886 - B_{\bar{N}}(2N + 1884)) + B_{\bar{N}}(2N + 1886 - B_{\bar{N}}(2N + 1883)) \\
&= B_{\bar{N}}(2N + 1886 - (N + 2366)) + B_{\bar{N}}(2N + 1886 - (2N - 684)) + B_{\bar{N}}(2N + 1886 - (N + 2367)) \\
&= B_{\bar{N}}(N - 480) + B_{\bar{N}}(2570) + B_{\bar{N}}(N - 481) = (N - 480) + 2570 + (N - 481) = \mathbf{2N} + \mathbf{1609} \\
&(N \geq 2570)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1887}) &= B_{\bar{N}}(2N + 1887 - B_{\bar{N}}(2N + 1886)) + B_{\bar{N}}(2N + 1887 - B_{\bar{N}}(2N + 1885)) + B_{\bar{N}}(2N + 1887 - B_{\bar{N}}(2N + 1884)) \\
&= B_{\bar{N}}(2N + 1887 - (2N + 1609)) + B_{\bar{N}}(2N + 1887 - (N + 2366)) + B_{\bar{N}}(2N + 1887 - (2N - 684)) \\
&= B_{\bar{N}}(278) + B_{\bar{N}}(N - 479) + B_{\bar{N}}(2571) = 278 + (N - 479) + 2571 = \mathbf{N} + \mathbf{2370} \\
&(N \geq 2571)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1888}) &= B_{\bar{N}}(2N + 1888 - B_{\bar{N}}(2N + 1887)) + B_{\bar{N}}(2N + 1888 - B_{\bar{N}}(2N + 1886)) + B_{\bar{N}}(2N + 1888 - B_{\bar{N}}(2N + 1885)) \\
&= B_{\bar{N}}(2N + 1888 - (N + 2370)) + B_{\bar{N}}(2N + 1888 - (2N + 1609)) + B_{\bar{N}}(2N + 1888 - (N + 2366)) \\
&= B_{\bar{N}}(N - 482) + B_{\bar{N}}(279) + B_{\bar{N}}(N - 478) = (N - 482) + 279 + (N - 478) = \mathbf{2N} - \mathbf{681} \\
&(N \geq 483)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1889}) &= B_{\bar{N}}(2N + 1889 - B_{\bar{N}}(2N + 1888)) + B_{\bar{N}}(2N + 1889 - B_{\bar{N}}(2N + 1887)) + B_{\bar{N}}(2N + 1889 - B_{\bar{N}}(2N + 1886)) \\
&= B_{\bar{N}}(2N + 1889 - (2N - 681)) + B_{\bar{N}}(2N + 1889 - (N + 2370)) + B_{\bar{N}}(2N + 1889 - (2N + 1609)) \\
&= B_{\bar{N}}(2570) + B_{\bar{N}}(N - 481) + B_{\bar{N}}(280) = 2570 + (N - 481) + 280 = \mathbf{N} + \mathbf{2369} \\
&(N \geq 2570)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1890}) &= B_{\bar{N}}(2N + 1890 - B_{\bar{N}}(2N + 1889)) + B_{\bar{N}}(2N + 1890 - B_{\bar{N}}(2N + 1888)) + B_{\bar{N}}(2N + 1890 - B_{\bar{N}}(2N + 1887)) \\
&= B_{\bar{N}}(2N + 1890 - (N + 2369)) + B_{\bar{N}}(2N + 1890 - (2N - 681)) + B_{\bar{N}}(2N + 1890 - (N + 2370)) \\
&= B_{\bar{N}}(N - 479) + B_{\bar{N}}(2571) + B_{\bar{N}}(N - 480) = (N - 479) + 2571 + (N - 480) = \mathbf{2N} + \mathbf{1612} \\
&(N \geq 2571)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1891}) &= B_{\bar{N}}(2N + 1891 - B_{\bar{N}}(2N + 1890)) + B_{\bar{N}}(2N + 1891 - B_{\bar{N}}(2N + 1889)) + B_{\bar{N}}(2N + 1891 - B_{\bar{N}}(2N + 1888)) \\
&= B_{\bar{N}}(2N + 1891 - (2N + 1612)) + B_{\bar{N}}(2N + 1891 - (N + 2369)) + B_{\bar{N}}(2N + 1891 - (2N - 681)) \\
&= B_{\bar{N}}(279) + B_{\bar{N}}(N - 478) + B_{\bar{N}}(2572) = 279 + (N - 478) + 2572 = \mathbf{N} + \mathbf{2373} \\
&(N \geq 2572)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1892}) &= B_{\bar{N}}(2N + 1892 - B_{\bar{N}}(2N + 1891)) + B_{\bar{N}}(2N + 1892 - B_{\bar{N}}(2N + 1890)) + B_{\bar{N}}(2N + 1892 - B_{\bar{N}}(2N + 1889)) \\
&= B_{\bar{N}}(2N + 1892 - (N + 2373)) + B_{\bar{N}}(2N + 1892 - (2N + 1612)) + B_{\bar{N}}(2N + 1892 - (N + 2369)) \\
&= B_{\bar{N}}(N - 481) + B_{\bar{N}}(280) + B_{\bar{N}}(N - 477) = (N - 481) + 280 + (N - 477) = \mathbf{2N} - \mathbf{678} \\
&(N \geq 482)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1893}) &= B_{\bar{N}}(2N + 1893 - B_{\bar{N}}(2N + 1892)) + B_{\bar{N}}(2N + 1893 - B_{\bar{N}}(2N + 1891)) + B_{\bar{N}}(2N + 1893 - B_{\bar{N}}(2N + 1890)) \\
&= B_{\bar{N}}(2N + 1893 - (2N - 678)) + B_{\bar{N}}(2N + 1893 - (N + 2373)) + B_{\bar{N}}(2N + 1893 - (2N + 1612)) \\
&= B_{\bar{N}}(2571) + B_{\bar{N}}(N - 480) + B_{\bar{N}}(281) = 2571 + (N - 480) + 281 = \mathbf{N} + \mathbf{2372} \\
&(N \geq 2571)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1894}) &= B_{\bar{N}}(2N + 1894 - B_{\bar{N}}(2N + 1893)) + B_{\bar{N}}(2N + 1894 - B_{\bar{N}}(2N + 1892)) + B_{\bar{N}}(2N + 1894 - B_{\bar{N}}(2N + 1891)) \\
&= B_{\bar{N}}(2N + 1894 - (N + 2372)) + B_{\bar{N}}(2N + 1894 - (2N - 678)) + B_{\bar{N}}(2N + 1894 - (N + 2373)) \\
&= B_{\bar{N}}(N - 478) + B_{\bar{N}}(2572) + B_{\bar{N}}(N - 479) = (N - 478) + 2572 + (N - 479) = \mathbf{2N} + \mathbf{1615} \\
&(N \geq 2572)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1895}) &= B_{\bar{N}}(2N + 1895 - B_{\bar{N}}(2N + 1894)) + B_{\bar{N}}(2N + 1895 - B_{\bar{N}}(2N + 1893)) + B_{\bar{N}}(2N + 1895 - B_{\bar{N}}(2N + 1892)) \\
&= B_{\bar{N}}(2N + 1895 - (2N + 1615)) + B_{\bar{N}}(2N + 1895 - (N + 2372)) + B_{\bar{N}}(2N + 1895 - (2N - 678)) \\
&= B_{\bar{N}}(280) + B_{\bar{N}}(N - 477) + B_{\bar{N}}(2573) = 280 + (N - 477) + 2573 = \mathbf{N} + \mathbf{2376} \\
&(N \geq 2573)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1896}) &= B_{\bar{N}}(2N + 1896 - B_{\bar{N}}(2N + 1895)) + B_{\bar{N}}(2N + 1896 - B_{\bar{N}}(2N + 1894)) + B_{\bar{N}}(2N + 1896 - B_{\bar{N}}(2N + 1893)) \\
&= B_{\bar{N}}(2N + 1896 - (N + 2376)) + B_{\bar{N}}(2N + 1896 - (2N + 1615)) + B_{\bar{N}}(2N + 1896 - (N + 2372)) \\
&= B_{\bar{N}}(N - 480) + B_{\bar{N}}(281) + B_{\bar{N}}(N - 476) = (N - 480) + 281 + (N - 476) = \mathbf{2N} - \mathbf{675} \\
&(N \geq 481)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1897}) &= B_{\bar{N}}(2N + 1897 - B_{\bar{N}}(2N + 1896)) + B_{\bar{N}}(2N + 1897 - B_{\bar{N}}(2N + 1895)) + B_{\bar{N}}(2N + 1897 - B_{\bar{N}}(2N + 1894)) \\
&= B_{\bar{N}}(2N + 1897 - (2N - 675)) + B_{\bar{N}}(2N + 1897 - (N + 2376)) + B_{\bar{N}}(2N + 1897 - (2N + 1615)) \\
&= B_{\bar{N}}(2572) + B_{\bar{N}}(N - 479) + B_{\bar{N}}(282) = 2572 + (N - 479) + 282 = \mathbf{N} + \mathbf{2375} \\
&(N \geq 2572)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1898}) &= B_{\bar{N}}(2N + 1898 - B_{\bar{N}}(2N + 1897)) + B_{\bar{N}}(2N + 1898 - B_{\bar{N}}(2N + 1896)) + B_{\bar{N}}(2N + 1898 - B_{\bar{N}}(2N + 1895)) \\
&= B_{\bar{N}}(2N + 1898 - (N + 2375)) + B_{\bar{N}}(2N + 1898 - (2N - 675)) + B_{\bar{N}}(2N + 1898 - (N + 2376)) \\
&= B_{\bar{N}}(N - 477) + B_{\bar{N}}(2573) + B_{\bar{N}}(N - 478) = (N - 477) + 2573 + (N - 478) = \mathbf{2N} + \mathbf{1618} \\
&(N \geq 2573)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1899}) &= B_{\bar{N}}(2N + 1899 - B_{\bar{N}}(2N + 1898)) + B_{\bar{N}}(2N + 1899 - B_{\bar{N}}(2N + 1897)) + B_{\bar{N}}(2N + 1899 - B_{\bar{N}}(2N + 1896)) \\
&= B_{\bar{N}}(2N + 1899 - (2N + 1618)) + B_{\bar{N}}(2N + 1899 - (N + 2375)) + B_{\bar{N}}(2N + 1899 - (2N - 675)) \\
&= B_{\bar{N}}(281) + B_{\bar{N}}(N - 476) + B_{\bar{N}}(2574) = 281 + (N - 476) + 2574 = \mathbf{N} + \mathbf{2379} \\
&(N \geq 2574)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1900}) &= B_{\bar{N}}(2N + 1900 - B_{\bar{N}}(2N + 1899)) + B_{\bar{N}}(2N + 1900 - B_{\bar{N}}(2N + 1898)) + B_{\bar{N}}(2N + 1900 - B_{\bar{N}}(2N + 1897)) \\
&= B_{\bar{N}}(2N + 1900 - (N + 2379)) + B_{\bar{N}}(2N + 1900 - (2N + 1618)) + B_{\bar{N}}(2N + 1900 - (N + 2375)) \\
&= B_{\bar{N}}(N - 479) + B_{\bar{N}}(282) + B_{\bar{N}}(N - 475) = (N - 479) + 282 + (N - 475) = \mathbf{2N} - \mathbf{672} \\
&(N \geq 480)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1901}) &= B_{\bar{N}}(2N + 1901 - B_{\bar{N}}(2N + 1900)) + B_{\bar{N}}(2N + 1901 - B_{\bar{N}}(2N + 1899)) + B_{\bar{N}}(2N + 1901 - B_{\bar{N}}(2N + 1898)) \\
&= B_{\bar{N}}(2N + 1901 - (2N - 672)) + B_{\bar{N}}(2N + 1901 - (N + 2379)) + B_{\bar{N}}(2N + 1901 - (2N + 1618)) \\
&= B_{\bar{N}}(2573) + B_{\bar{N}}(N - 478) + B_{\bar{N}}(283) = 2573 + (N - 478) + 283 = \mathbf{N} + \mathbf{2378} \\
&(N \geq 2573)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1902}) &= B_{\bar{N}}(2N + 1902 - B_{\bar{N}}(2N + 1901)) + B_{\bar{N}}(2N + 1902 - B_{\bar{N}}(2N + 1900)) + B_{\bar{N}}(2N + 1902 - B_{\bar{N}}(2N + 1899)) \\
&= B_{\bar{N}}(2N + 1902 - (N + 2378)) + B_{\bar{N}}(2N + 1902 - (2N - 672)) + B_{\bar{N}}(2N + 1902 - (N + 2379)) \\
&= B_{\bar{N}}(N - 476) + B_{\bar{N}}(2574) + B_{\bar{N}}(N - 477) = (N - 476) + 2574 + (N - 477) = \mathbf{2N} + \mathbf{1621} \\
&(N \geq 2574)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1903}) &= B_{\bar{N}}(2N + 1903 - B_{\bar{N}}(2N + 1902)) + B_{\bar{N}}(2N + 1903 - B_{\bar{N}}(2N + 1901)) + B_{\bar{N}}(2N + 1903 - B_{\bar{N}}(2N + 1900)) \\
&= B_{\bar{N}}(2N + 1903 - (2N + 1621)) + B_{\bar{N}}(2N + 1903 - (N + 2378)) + B_{\bar{N}}(2N + 1903 - (2N - 672)) \\
&= B_{\bar{N}}(282) + B_{\bar{N}}(N - 475) + B_{\bar{N}}(2575) = 282 + (N - 475) + 2575 = \mathbf{N} + \mathbf{2382} \\
&(N \geq 2575)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1904}) &= B_{\bar{N}}(2N + 1904 - B_{\bar{N}}(2N + 1903)) + B_{\bar{N}}(2N + 1904 - B_{\bar{N}}(2N + 1902)) + B_{\bar{N}}(2N + 1904 - B_{\bar{N}}(2N + 1901)) \\
&= B_{\bar{N}}(2N + 1904 - (N + 2382)) + B_{\bar{N}}(2N + 1904 - (2N + 1621)) + B_{\bar{N}}(2N + 1904 - (N + 2378)) \\
&= B_{\bar{N}}(N - 478) + B_{\bar{N}}(283) + B_{\bar{N}}(N - 474) = (N - 478) + 283 + (N - 474) = \mathbf{2N} - \mathbf{669} \\
&(N \geq 479)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1905}) &= B_{\bar{N}}(2N + 1905 - B_{\bar{N}}(2N + 1904)) + B_{\bar{N}}(2N + 1905 - B_{\bar{N}}(2N + 1903)) + B_{\bar{N}}(2N + 1905 - B_{\bar{N}}(2N + 1902)) \\
&= B_{\bar{N}}(2N + 1905 - (2N - 669)) + B_{\bar{N}}(2N + 1905 - (N + 2382)) + B_{\bar{N}}(2N + 1905 - (2N + 1621)) \\
&= B_{\bar{N}}(2574) + B_{\bar{N}}(N - 477) + B_{\bar{N}}(284) = 2574 + (N - 477) + 284 = \mathbf{N} + \mathbf{2381} \\
&(N \geq 2574)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1906}) &= B_{\bar{N}}(2N + 1906 - B_{\bar{N}}(2N + 1905)) + B_{\bar{N}}(2N + 1906 - B_{\bar{N}}(2N + 1904)) + B_{\bar{N}}(2N + 1906 - B_{\bar{N}}(2N + 1903)) \\
&= B_{\bar{N}}(2N + 1906 - (N + 2381)) + B_{\bar{N}}(2N + 1906 - (2N - 669)) + B_{\bar{N}}(2N + 1906 - (N + 2382)) \\
&= B_{\bar{N}}(N - 475) + B_{\bar{N}}(2575) + B_{\bar{N}}(N - 476) = (N - 475) + 2575 + (N - 476) = \mathbf{2N} + \mathbf{1624} \\
&(N \geq 2575)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1907}) &= B_{\bar{N}}(2N + 1907 - B_{\bar{N}}(2N + 1906)) + B_{\bar{N}}(2N + 1907 - B_{\bar{N}}(2N + 1905)) + B_{\bar{N}}(2N + 1907 - B_{\bar{N}}(2N + 1904)) \\
&= B_{\bar{N}}(2N + 1907 - (2N + 1624)) + B_{\bar{N}}(2N + 1907 - (N + 2381)) + B_{\bar{N}}(2N + 1907 - (2N - 669)) \\
&= B_{\bar{N}}(283) + B_{\bar{N}}(N - 474) + B_{\bar{N}}(2576) = 283 + (N - 474) + 2576 = \mathbf{N} + \mathbf{2385} \\
&(N \geq 2576)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1908}) &= B_{\bar{N}}(2N + 1908 - B_{\bar{N}}(2N + 1907)) + B_{\bar{N}}(2N + 1908 - B_{\bar{N}}(2N + 1906)) + B_{\bar{N}}(2N + 1908 - B_{\bar{N}}(2N + 1905)) \\
&= B_{\bar{N}}(2N + 1908 - (N + 2385)) + B_{\bar{N}}(2N + 1908 - (2N + 1624)) + B_{\bar{N}}(2N + 1908 - (N + 2381)) \\
&= B_{\bar{N}}(N - 477) + B_{\bar{N}}(284) + B_{\bar{N}}(N - 473) = (N - 477) + 284 + (N - 473) = \mathbf{2N} - \mathbf{666} \\
&(N \geq 478)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1909}) &= B_{\bar{N}}(2N + 1909 - B_{\bar{N}}(2N + 1908)) + B_{\bar{N}}(2N + 1909 - B_{\bar{N}}(2N + 1907)) + B_{\bar{N}}(2N + 1909 - B_{\bar{N}}(2N + 1906)) \\
&= B_{\bar{N}}(2N + 1909 - (2N - 666)) + B_{\bar{N}}(2N + 1909 - (N + 2385)) + B_{\bar{N}}(2N + 1909 - (2N + 1624)) \\
&= B_{\bar{N}}(2575) + B_{\bar{N}}(N - 476) + B_{\bar{N}}(285) = 2575 + (N - 476) + 285 = \mathbf{N} + \mathbf{2384} \\
&(N \geq 2575)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1910}) &= B_{\bar{N}}(2N + 1910 - B_{\bar{N}}(2N + 1909)) + B_{\bar{N}}(2N + 1910 - B_{\bar{N}}(2N + 1908)) + B_{\bar{N}}(2N + 1910 - B_{\bar{N}}(2N + 1907)) \\
&= B_{\bar{N}}(2N + 1910 - (N + 2384)) + B_{\bar{N}}(2N + 1910 - (2N - 666)) + B_{\bar{N}}(2N + 1910 - (N + 2385)) \\
&= B_{\bar{N}}(N - 474) + B_{\bar{N}}(2576) + B_{\bar{N}}(N - 475) = (N - 474) + 2576 + (N - 475) = \mathbf{2N} + \mathbf{1627} \\
&(N \geq 2576)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1911}) &= B_{\bar{N}}(2N + 1911 - B_{\bar{N}}(2N + 1910)) + B_{\bar{N}}(2N + 1911 - B_{\bar{N}}(2N + 1909)) + B_{\bar{N}}(2N + 1911 - B_{\bar{N}}(2N + 1908)) \\
&= B_{\bar{N}}(2N + 1911 - (2N + 1627)) + B_{\bar{N}}(2N + 1911 - (N + 2384)) + B_{\bar{N}}(2N + 1911 - (2N - 666)) \\
&= B_{\bar{N}}(284) + B_{\bar{N}}(N - 473) + B_{\bar{N}}(2577) = 284 + (N - 473) + 2577 = \mathbf{N} + \mathbf{2388} \\
&(N \geq 2577)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1912}) &= B_{\bar{N}}(2N + 1912 - B_{\bar{N}}(2N + 1911)) + B_{\bar{N}}(2N + 1912 - B_{\bar{N}}(2N + 1910)) + B_{\bar{N}}(2N + 1912 - B_{\bar{N}}(2N + 1909)) \\
&= B_{\bar{N}}(2N + 1912 - (N + 2388)) + B_{\bar{N}}(2N + 1912 - (2N + 1627)) + B_{\bar{N}}(2N + 1912 - (N + 2384)) \\
&= B_{\bar{N}}(N - 476) + B_{\bar{N}}(285) + B_{\bar{N}}(N - 472) = (N - 476) + 285 + (N - 472) = \mathbf{2N} - \mathbf{663} \\
&(N \geq 477)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1913}) &= B_{\bar{N}}(2N + 1913 - B_{\bar{N}}(2N + 1912)) + B_{\bar{N}}(2N + 1913 - B_{\bar{N}}(2N + 1911)) + B_{\bar{N}}(2N + 1913 - B_{\bar{N}}(2N + 1910)) \\
&= B_{\bar{N}}(2N + 1913 - (2N - 663)) + B_{\bar{N}}(2N + 1913 - (N + 2388)) + B_{\bar{N}}(2N + 1913 - (2N + 1627)) \\
&= B_{\bar{N}}(2576) + B_{\bar{N}}(N - 475) + B_{\bar{N}}(286) = 2576 + (N - 475) + 286 = \mathbf{N} + \mathbf{2387} \\
&(N \geq 2576)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1914}) &= B_{\bar{N}}(2N + 1914 - B_{\bar{N}}(2N + 1913)) + B_{\bar{N}}(2N + 1914 - B_{\bar{N}}(2N + 1912)) + B_{\bar{N}}(2N + 1914 - B_{\bar{N}}(2N + 1911)) \\
&= B_{\bar{N}}(2N + 1914 - (N + 2387)) + B_{\bar{N}}(2N + 1914 - (2N - 663)) + B_{\bar{N}}(2N + 1914 - (N + 2388)) \\
&= B_{\bar{N}}(N - 473) + B_{\bar{N}}(2577) + B_{\bar{N}}(N - 474) = (N - 473) + 2577 + (N - 474) = \mathbf{2N} + \mathbf{1630} \\
&(N \geq 2577)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1915}) &= B_{\bar{N}}(2N + 1915 - B_{\bar{N}}(2N + 1914)) + B_{\bar{N}}(2N + 1915 - B_{\bar{N}}(2N + 1913)) + B_{\bar{N}}(2N + 1915 - B_{\bar{N}}(2N + 1912)) \\
&= B_{\bar{N}}(2N + 1915 - (2N + 1630)) + B_{\bar{N}}(2N + 1915 - (N + 2387)) + B_{\bar{N}}(2N + 1915 - (2N - 663)) \\
&= B_{\bar{N}}(285) + B_{\bar{N}}(N - 472) + B_{\bar{N}}(2578) = 285 + (N - 472) + 2578 = \mathbf{N} + \mathbf{2391} \\
&(N \geq 2578)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1916}) &= B_{\bar{N}}(2N + 1916 - B_{\bar{N}}(2N + 1915)) + B_{\bar{N}}(2N + 1916 - B_{\bar{N}}(2N + 1914)) + B_{\bar{N}}(2N + 1916 - B_{\bar{N}}(2N + 1913)) \\
&= B_{\bar{N}}(2N + 1916 - (N + 2391)) + B_{\bar{N}}(2N + 1916 - (2N + 1630)) + B_{\bar{N}}(2N + 1916 - (N + 2387)) \\
&= B_{\bar{N}}(N - 475) + B_{\bar{N}}(286) + B_{\bar{N}}(N - 471) = (N - 475) + 286 + (N - 471) = \mathbf{2N} - \mathbf{660} \\
&(N \geq 476)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1917}) &= B_{\bar{N}}(2N + 1917 - B_{\bar{N}}(2N + 1916)) + B_{\bar{N}}(2N + 1917 - B_{\bar{N}}(2N + 1915)) + B_{\bar{N}}(2N + 1917 - B_{\bar{N}}(2N + 1914)) \\
&= B_{\bar{N}}(2N + 1917 - (2N - 660)) + B_{\bar{N}}(2N + 1917 - (N + 2391)) + B_{\bar{N}}(2N + 1917 - (2N + 1630)) \\
&= B_{\bar{N}}(2577) + B_{\bar{N}}(N - 474) + B_{\bar{N}}(287) = 2577 + (N - 474) + 287 = \mathbf{N} + \mathbf{2390} \\
&(N \geq 2577)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1918}) &= B_{\bar{N}}(2N + 1918 - B_{\bar{N}}(2N + 1917)) + B_{\bar{N}}(2N + 1918 - B_{\bar{N}}(2N + 1916)) + B_{\bar{N}}(2N + 1918 - B_{\bar{N}}(2N + 1915)) \\
&= B_{\bar{N}}(2N + 1918 - (N + 2390)) + B_{\bar{N}}(2N + 1918 - (2N - 660)) + B_{\bar{N}}(2N + 1918 - (N + 2391)) \\
&= B_{\bar{N}}(N - 472) + B_{\bar{N}}(2578) + B_{\bar{N}}(N - 473) = (N - 472) + 2578 + (N - 473) = \mathbf{2N} + \mathbf{1633} \\
&(N \geq 2578)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1919}) &= B_{\bar{N}}(2N + 1919 - B_{\bar{N}}(2N + 1918)) + B_{\bar{N}}(2N + 1919 - B_{\bar{N}}(2N + 1917)) + B_{\bar{N}}(2N + 1919 - B_{\bar{N}}(2N + 1916)) \\
&= B_{\bar{N}}(2N + 1919 - (2N + 1633)) + B_{\bar{N}}(2N + 1919 - (N + 2390)) + B_{\bar{N}}(2N + 1919 - (2N - 660)) \\
&= B_{\bar{N}}(286) + B_{\bar{N}}(N - 471) + B_{\bar{N}}(2579) = 286 + (N - 471) + 2579 = \mathbf{N} + \mathbf{2394} \\
&(N \geq 2579)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1920}) &= B_{\bar{N}}(2N + 1920 - B_{\bar{N}}(2N + 1919)) + B_{\bar{N}}(2N + 1920 - B_{\bar{N}}(2N + 1918)) + B_{\bar{N}}(2N + 1920 - B_{\bar{N}}(2N + 1917)) \\
&= B_{\bar{N}}(2N + 1920 - (N + 2394)) + B_{\bar{N}}(2N + 1920 - (2N + 1633)) + B_{\bar{N}}(2N + 1920 - (N + 2390)) \\
&= B_{\bar{N}}(N - 474) + B_{\bar{N}}(287) + B_{\bar{N}}(N - 470) = (N - 474) + 287 + (N - 470) = \mathbf{2N} - \mathbf{657} \\
&(N \geq 475)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1921}) &= B_{\bar{N}}(2N + 1921 - B_{\bar{N}}(2N + 1920)) + B_{\bar{N}}(2N + 1921 - B_{\bar{N}}(2N + 1919)) + B_{\bar{N}}(2N + 1921 - B_{\bar{N}}(2N + 1918)) \\
&= B_{\bar{N}}(2N + 1921 - (2N - 657)) + B_{\bar{N}}(2N + 1921 - (N + 2394)) + B_{\bar{N}}(2N + 1921 - (2N + 1633)) \\
&= B_{\bar{N}}(2578) + B_{\bar{N}}(N - 473) + B_{\bar{N}}(288) = 2578 + (N - 473) + 288 = \mathbf{N} + \mathbf{2393} \\
&(N \geq 2578)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1922}) &= B_{\bar{N}}(2N + 1922 - B_{\bar{N}}(2N + 1921)) + B_{\bar{N}}(2N + 1922 - B_{\bar{N}}(2N + 1920)) + B_{\bar{N}}(2N + 1922 - B_{\bar{N}}(2N + 1919)) \\
&= B_{\bar{N}}(2N + 1922 - (N + 2393)) + B_{\bar{N}}(2N + 1922 - (2N - 657)) + B_{\bar{N}}(2N + 1922 - (N + 2394)) \\
&= B_{\bar{N}}(N - 471) + B_{\bar{N}}(2579) + B_{\bar{N}}(N - 472) = (N - 471) + 2579 + (N - 472) = \mathbf{2N} + \mathbf{1636} \\
&(N \geq 2579)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1923}) &= B_{\bar{N}}(2N + 1923 - B_{\bar{N}}(2N + 1922)) + B_{\bar{N}}(2N + 1923 - B_{\bar{N}}(2N + 1921)) + B_{\bar{N}}(2N + 1923 - B_{\bar{N}}(2N + 1920)) \\
&= B_{\bar{N}}(2N + 1923 - (2N + 1636)) + B_{\bar{N}}(2N + 1923 - (N + 2393)) + B_{\bar{N}}(2N + 1923 - (2N - 657)) \\
&= B_{\bar{N}}(287) + B_{\bar{N}}(N - 470) + B_{\bar{N}}(2580) = 287 + (N - 470) + 2580 = \mathbf{N} + \mathbf{2397} \\
&(N \geq 2580)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1924}) &= B_{\bar{N}}(2N + 1924 - B_{\bar{N}}(2N + 1923)) + B_{\bar{N}}(2N + 1924 - B_{\bar{N}}(2N + 1922)) + B_{\bar{N}}(2N + 1924 - B_{\bar{N}}(2N + 1921)) \\
&= B_{\bar{N}}(2N + 1924 - (N + 2397)) + B_{\bar{N}}(2N + 1924 - (2N + 1636)) + B_{\bar{N}}(2N + 1924 - (N + 2393)) \\
&= B_{\bar{N}}(N - 473) + B_{\bar{N}}(288) + B_{\bar{N}}(N - 469) = (N - 473) + 288 + (N - 469) = \mathbf{2N} - \mathbf{654} \\
&(N \geq 474)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1925}) &= B_{\bar{N}}(2N + 1925 - B_{\bar{N}}(2N + 1924)) + B_{\bar{N}}(2N + 1925 - B_{\bar{N}}(2N + 1923)) + B_{\bar{N}}(2N + 1925 - B_{\bar{N}}(2N + 1922)) \\
&= B_{\bar{N}}(2N + 1925 - (2N - 654)) + B_{\bar{N}}(2N + 1925 - (N + 2397)) + B_{\bar{N}}(2N + 1925 - (2N + 1636)) \\
&= B_{\bar{N}}(2579) + B_{\bar{N}}(N - 472) + B_{\bar{N}}(289) = 2579 + (N - 472) + 289 = \mathbf{N} + \mathbf{2396} \\
&(N \geq 2579)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1926}) &= B_{\bar{N}}(2N + 1926 - B_{\bar{N}}(2N + 1925)) + B_{\bar{N}}(2N + 1926 - B_{\bar{N}}(2N + 1924)) + B_{\bar{N}}(2N + 1926 - B_{\bar{N}}(2N + 1923)) \\
&= B_{\bar{N}}(2N + 1926 - (N + 2396)) + B_{\bar{N}}(2N + 1926 - (2N - 654)) + B_{\bar{N}}(2N + 1926 - (N + 2397)) \\
&= B_{\bar{N}}(N - 470) + B_{\bar{N}}(2580) + B_{\bar{N}}(N - 471) = (N - 470) + 2580 + (N - 471) = \mathbf{2N} + \mathbf{1639} \\
&(N \geq 2580)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1927}) &= B_{\bar{N}}(2N + 1927 - B_{\bar{N}}(2N + 1926)) + B_{\bar{N}}(2N + 1927 - B_{\bar{N}}(2N + 1925)) + B_{\bar{N}}(2N + 1927 - B_{\bar{N}}(2N + 1924)) \\
&= B_{\bar{N}}(2N + 1927 - (2N + 1639)) + B_{\bar{N}}(2N + 1927 - (N + 2396)) + B_{\bar{N}}(2N + 1927 - (2N - 654)) \\
&= B_{\bar{N}}(288) + B_{\bar{N}}(N - 469) + B_{\bar{N}}(2581) = 288 + (N - 469) + 2581 = \mathbf{N} + \mathbf{2400} \\
&(N \geq 2581)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1928}) &= B_{\bar{N}}(2N + 1928 - B_{\bar{N}}(2N + 1927)) + B_{\bar{N}}(2N + 1928 - B_{\bar{N}}(2N + 1926)) + B_{\bar{N}}(2N + 1928 - B_{\bar{N}}(2N + 1925)) \\
&= B_{\bar{N}}(2N + 1928 - (N + 2400)) + B_{\bar{N}}(2N + 1928 - (2N + 1639)) + B_{\bar{N}}(2N + 1928 - (N + 2396)) \\
&= B_{\bar{N}}(N - 472) + B_{\bar{N}}(289) + B_{\bar{N}}(N - 468) = (N - 472) + 289 + (N - 468) = \mathbf{2N} - \mathbf{651} \\
&(N \geq 473)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1929}) &= B_{\bar{N}}(2N + 1929 - B_{\bar{N}}(2N + 1928)) + B_{\bar{N}}(2N + 1929 - B_{\bar{N}}(2N + 1927)) + B_{\bar{N}}(2N + 1929 - B_{\bar{N}}(2N + 1926)) \\
&= B_{\bar{N}}(2N + 1929 - (2N - 651)) + B_{\bar{N}}(2N + 1929 - (N + 2400)) + B_{\bar{N}}(2N + 1929 - (2N + 1639)) \\
&= B_{\bar{N}}(2580) + B_{\bar{N}}(N - 471) + B_{\bar{N}}(290) = 2580 + (N - 471) + 290 = \mathbf{N} + \mathbf{2399} \\
&(N \geq 2580)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1930}) &= B_{\bar{N}}(2N + 1930 - B_{\bar{N}}(2N + 1929)) + B_{\bar{N}}(2N + 1930 - B_{\bar{N}}(2N + 1928)) + B_{\bar{N}}(2N + 1930 - B_{\bar{N}}(2N + 1927)) \\
&= B_{\bar{N}}(2N + 1930 - (N + 2399)) + B_{\bar{N}}(2N + 1930 - (2N - 651)) + B_{\bar{N}}(2N + 1930 - (N + 2400)) \\
&= B_{\bar{N}}(N - 469) + B_{\bar{N}}(2581) + B_{\bar{N}}(N - 470) = (N - 469) + 2581 + (N - 470) = \mathbf{2N} + \mathbf{1642} \\
&(N \geq 2581)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1931}) &= B_{\bar{N}}(2N + 1931 - B_{\bar{N}}(2N + 1930)) + B_{\bar{N}}(2N + 1931 - B_{\bar{N}}(2N + 1929)) + B_{\bar{N}}(2N + 1931 - B_{\bar{N}}(2N + 1928)) \\
&= B_{\bar{N}}(2N + 1931 - (2N + 1642)) + B_{\bar{N}}(2N + 1931 - (N + 2399)) + B_{\bar{N}}(2N + 1931 - (2N - 651)) \\
&= B_{\bar{N}}(289) + B_{\bar{N}}(N - 468) + B_{\bar{N}}(2582) = 289 + (N - 468) + 2582 = \mathbf{N} + \mathbf{2403} \\
&(N \geq 2582)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1932}) &= B_{\bar{N}}(2N + 1932 - B_{\bar{N}}(2N + 1931)) + B_{\bar{N}}(2N + 1932 - B_{\bar{N}}(2N + 1930)) + B_{\bar{N}}(2N + 1932 - B_{\bar{N}}(2N + 1929)) \\
&= B_{\bar{N}}(2N + 1932 - (N + 2403)) + B_{\bar{N}}(2N + 1932 - (2N + 1642)) + B_{\bar{N}}(2N + 1932 - (N + 2399)) \\
&= B_{\bar{N}}(N - 471) + B_{\bar{N}}(290) + B_{\bar{N}}(N - 467) = (N - 471) + 290 + (N - 467) = \mathbf{2N} - \mathbf{648} \\
&(N \geq 472)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1933}) &= B_{\bar{N}}(2N + 1933 - B_{\bar{N}}(2N + 1932)) + B_{\bar{N}}(2N + 1933 - B_{\bar{N}}(2N + 1931)) + B_{\bar{N}}(2N + 1933 - B_{\bar{N}}(2N + 1930)) \\
&= B_{\bar{N}}(2N + 1933 - (2N - 648)) + B_{\bar{N}}(2N + 1933 - (N + 2403)) + B_{\bar{N}}(2N + 1933 - (2N + 1642)) \\
&= B_{\bar{N}}(2581) + B_{\bar{N}}(N - 470) + B_{\bar{N}}(291) = 2581 + (N - 470) + 291 = \mathbf{N} + \mathbf{2402} \\
&(N \geq 2581)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1934}) &= B_{\bar{N}}(2N + 1934 - B_{\bar{N}}(2N + 1933)) + B_{\bar{N}}(2N + 1934 - B_{\bar{N}}(2N + 1932)) + B_{\bar{N}}(2N + 1934 - B_{\bar{N}}(2N + 1931)) \\
&= B_{\bar{N}}(2N + 1934 - (N + 2402)) + B_{\bar{N}}(2N + 1934 - (2N - 648)) + B_{\bar{N}}(2N + 1934 - (N + 2403)) \\
&= B_{\bar{N}}(N - 468) + B_{\bar{N}}(2582) + B_{\bar{N}}(N - 469) = (N - 468) + 2582 + (N - 469) = \mathbf{2N} + \mathbf{1645} \\
&(N \geq 2582)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1935}) &= B_{\bar{N}}(2N + 1935 - B_{\bar{N}}(2N + 1934)) + B_{\bar{N}}(2N + 1935 - B_{\bar{N}}(2N + 1933)) + B_{\bar{N}}(2N + 1935 - B_{\bar{N}}(2N + 1932)) \\
&= B_{\bar{N}}(2N + 1935 - (2N + 1645)) + B_{\bar{N}}(2N + 1935 - (N + 2402)) + B_{\bar{N}}(2N + 1935 - (2N - 648)) \\
&= B_{\bar{N}}(290) + B_{\bar{N}}(N - 467) + B_{\bar{N}}(2583) = 290 + (N - 467) + 2583 = \mathbf{N} + \mathbf{2406} \\
&(N \geq 2583)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1936}) &= B_{\bar{N}}(2N + 1936 - B_{\bar{N}}(2N + 1935)) + B_{\bar{N}}(2N + 1936 - B_{\bar{N}}(2N + 1934)) + B_{\bar{N}}(2N + 1936 - B_{\bar{N}}(2N + 1933)) \\
&= B_{\bar{N}}(2N + 1936 - (N + 2406)) + B_{\bar{N}}(2N + 1936 - (2N + 1645)) + B_{\bar{N}}(2N + 1936 - (N + 2402)) \\
&= B_{\bar{N}}(N - 470) + B_{\bar{N}}(291) + B_{\bar{N}}(N - 466) = (N - 470) + 291 + (N - 466) = \mathbf{2N} - \mathbf{645} \\
&(N \geq 471)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1937}) &= B_{\bar{N}}(2N + 1937 - B_{\bar{N}}(2N + 1936)) + B_{\bar{N}}(2N + 1937 - B_{\bar{N}}(2N + 1935)) + B_{\bar{N}}(2N + 1937 - B_{\bar{N}}(2N + 1934)) \\
&= B_{\bar{N}}(2N + 1937 - (2N - 645)) + B_{\bar{N}}(2N + 1937 - (N + 2406)) + B_{\bar{N}}(2N + 1937 - (2N + 1645)) \\
&= B_{\bar{N}}(2582) + B_{\bar{N}}(N - 469) + B_{\bar{N}}(292) = 2582 + (N - 469) + 292 = \mathbf{N} + \mathbf{2405} \\
&(N \geq 2582)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1938}) &= B_{\bar{N}}(2N + 1938 - B_{\bar{N}}(2N + 1937)) + B_{\bar{N}}(2N + 1938 - B_{\bar{N}}(2N + 1936)) + B_{\bar{N}}(2N + 1938 - B_{\bar{N}}(2N + 1935)) \\
&= B_{\bar{N}}(2N + 1938 - (N + 2405)) + B_{\bar{N}}(2N + 1938 - (2N - 645)) + B_{\bar{N}}(2N + 1938 - (N + 2406)) \\
&= B_{\bar{N}}(N - 467) + B_{\bar{N}}(2583) + B_{\bar{N}}(N - 468) = (N - 467) + 2583 + (N - 468) = \mathbf{2N} + \mathbf{1648} \\
&(N \geq 2583)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1939}) &= B_{\bar{N}}(2N + 1939 - B_{\bar{N}}(2N + 1938)) + B_{\bar{N}}(2N + 1939 - B_{\bar{N}}(2N + 1937)) + B_{\bar{N}}(2N + 1939 - B_{\bar{N}}(2N + 1936)) \\
&= B_{\bar{N}}(2N + 1939 - (2N + 1648)) + B_{\bar{N}}(2N + 1939 - (N + 2405)) + B_{\bar{N}}(2N + 1939 - (2N - 645)) \\
&= B_{\bar{N}}(291) + B_{\bar{N}}(N - 466) + B_{\bar{N}}(2584) = 291 + (N - 466) + 2584 = \mathbf{N} + \mathbf{2409} \\
&(N \geq 2584)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1940}) &= B_{\bar{N}}(2N + 1940 - B_{\bar{N}}(2N + 1939)) + B_{\bar{N}}(2N + 1940 - B_{\bar{N}}(2N + 1938)) + B_{\bar{N}}(2N + 1940 - B_{\bar{N}}(2N + 1937)) \\
&= B_{\bar{N}}(2N + 1940 - (N + 2409)) + B_{\bar{N}}(2N + 1940 - (2N + 1648)) + B_{\bar{N}}(2N + 1940 - (N + 2405)) \\
&= B_{\bar{N}}(N - 469) + B_{\bar{N}}(292) + B_{\bar{N}}(N - 465) = (N - 469) + 292 + (N - 465) = \mathbf{2N} - \mathbf{642} \\
&(N \geq 470)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1941}) &= B_{\bar{N}}(2N + 1941 - B_{\bar{N}}(2N + 1940)) + B_{\bar{N}}(2N + 1941 - B_{\bar{N}}(2N + 1939)) + B_{\bar{N}}(2N + 1941 - B_{\bar{N}}(2N + 1938)) \\
&= B_{\bar{N}}(2N + 1941 - (2N - 642)) + B_{\bar{N}}(2N + 1941 - (N + 2409)) + B_{\bar{N}}(2N + 1941 - (2N + 1648)) \\
&= B_{\bar{N}}(2583) + B_{\bar{N}}(N - 468) + B_{\bar{N}}(293) = 2583 + (N - 468) + 293 = \mathbf{N} + \mathbf{2408} \\
&(N \geq 2583)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1942}) &= B_{\bar{N}}(2N + 1942 - B_{\bar{N}}(2N + 1941)) + B_{\bar{N}}(2N + 1942 - B_{\bar{N}}(2N + 1940)) + B_{\bar{N}}(2N + 1942 - B_{\bar{N}}(2N + 1939)) \\
&= B_{\bar{N}}(2N + 1942 - (N + 2408)) + B_{\bar{N}}(2N + 1942 - (2N - 642)) + B_{\bar{N}}(2N + 1942 - (N + 2409)) \\
&= B_{\bar{N}}(N - 466) + B_{\bar{N}}(2584) + B_{\bar{N}}(N - 467) = (N - 466) + 2584 + (N - 467) = \mathbf{2N} + \mathbf{1651} \\
&(N \geq 2584)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1943}) &= B_{\bar{N}}(2N + 1943 - B_{\bar{N}}(2N + 1942)) + B_{\bar{N}}(2N + 1943 - B_{\bar{N}}(2N + 1941)) + B_{\bar{N}}(2N + 1943 - B_{\bar{N}}(2N + 1940)) \\
&= B_{\bar{N}}(2N + 1943 - (2N + 1651)) + B_{\bar{N}}(2N + 1943 - (N + 2408)) + B_{\bar{N}}(2N + 1943 - (2N - 642)) \\
&= B_{\bar{N}}(292) + B_{\bar{N}}(N - 465) + B_{\bar{N}}(2585) = 292 + (N - 465) + 2585 = \mathbf{N} + \mathbf{2412} \\
&(N \geq 2585)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1944}) &= B_{\bar{N}}(2N + 1944 - B_{\bar{N}}(2N + 1943)) + B_{\bar{N}}(2N + 1944 - B_{\bar{N}}(2N + 1942)) + B_{\bar{N}}(2N + 1944 - B_{\bar{N}}(2N + 1941)) \\
&= B_{\bar{N}}(2N + 1944 - (N + 2412)) + B_{\bar{N}}(2N + 1944 - (2N + 1651)) + B_{\bar{N}}(2N + 1944 - (N + 2408)) \\
&= B_{\bar{N}}(N - 468) + B_{\bar{N}}(293) + B_{\bar{N}}(N - 464) = (N - 468) + 293 + (N - 464) = \mathbf{2N} - \mathbf{639} \\
&(N \geq 469)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1945}) &= B_{\bar{N}}(2N + 1945 - B_{\bar{N}}(2N + 1944)) + B_{\bar{N}}(2N + 1945 - B_{\bar{N}}(2N + 1943)) + B_{\bar{N}}(2N + 1945 - B_{\bar{N}}(2N + 1942)) \\
&= B_{\bar{N}}(2N + 1945 - (2N - 639)) + B_{\bar{N}}(2N + 1945 - (N + 2412)) + B_{\bar{N}}(2N + 1945 - (2N + 1651)) \\
&= B_{\bar{N}}(2584) + B_{\bar{N}}(N - 467) + B_{\bar{N}}(294) = 2584 + (N - 467) + 294 = \mathbf{N} + \mathbf{2411} \\
&(N \geq 2584)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1946}) &= B_{\bar{N}}(2N + 1946 - B_{\bar{N}}(2N + 1945)) + B_{\bar{N}}(2N + 1946 - B_{\bar{N}}(2N + 1944)) + B_{\bar{N}}(2N + 1946 - B_{\bar{N}}(2N + 1943)) \\
&= B_{\bar{N}}(2N + 1946 - (N + 2411)) + B_{\bar{N}}(2N + 1946 - (2N - 639)) + B_{\bar{N}}(2N + 1946 - (N + 2412)) \\
&= B_{\bar{N}}(N - 465) + B_{\bar{N}}(2585) + B_{\bar{N}}(N - 466) = (N - 465) + 2585 + (N - 466) = \mathbf{2N} + \mathbf{1654} \\
&(N \geq 2585)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1947}) &= B_{\bar{N}}(2N + 1947 - B_{\bar{N}}(2N + 1946)) + B_{\bar{N}}(2N + 1947 - B_{\bar{N}}(2N + 1945)) + B_{\bar{N}}(2N + 1947 - B_{\bar{N}}(2N + 1944)) \\
&= B_{\bar{N}}(2N + 1947 - (2N + 1654)) + B_{\bar{N}}(2N + 1947 - (N + 2411)) + B_{\bar{N}}(2N + 1947 - (2N - 639)) \\
&= B_{\bar{N}}(293) + B_{\bar{N}}(N - 464) + B_{\bar{N}}(2586) = 293 + (N - 464) + 2586 = \mathbf{N} + \mathbf{2415} \\
&(N \geq 2586)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1948}) &= B_{\bar{N}}(2N + 1948 - B_{\bar{N}}(2N + 1947)) + B_{\bar{N}}(2N + 1948 - B_{\bar{N}}(2N + 1946)) + B_{\bar{N}}(2N + 1948 - B_{\bar{N}}(2N + 1945)) \\
&= B_{\bar{N}}(2N + 1948 - (N + 2415)) + B_{\bar{N}}(2N + 1948 - (2N + 1654)) + B_{\bar{N}}(2N + 1948 - (N + 2411)) \\
&= B_{\bar{N}}(N - 467) + B_{\bar{N}}(294) + B_{\bar{N}}(N - 463) = (N - 467) + 294 + (N - 463) = \mathbf{2N} - \mathbf{636} \\
&(N \geq 468)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1949}) &= B_{\bar{N}}(2N + 1949 - B_{\bar{N}}(2N + 1948)) + B_{\bar{N}}(2N + 1949 - B_{\bar{N}}(2N + 1947)) + B_{\bar{N}}(2N + 1949 - B_{\bar{N}}(2N + 1946)) \\
&= B_{\bar{N}}(2N + 1949 - (2N - 636)) + B_{\bar{N}}(2N + 1949 - (N + 2415)) + B_{\bar{N}}(2N + 1949 - (2N + 1654)) \\
&= B_{\bar{N}}(2585) + B_{\bar{N}}(N - 466) + B_{\bar{N}}(295) = 2585 + (N - 466) + 295 = \mathbf{N} + \mathbf{2414} \\
&(N \geq 2585)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1950}) &= B_{\bar{N}}(2N + 1950 - B_{\bar{N}}(2N + 1949)) + B_{\bar{N}}(2N + 1950 - B_{\bar{N}}(2N + 1948)) + B_{\bar{N}}(2N + 1950 - B_{\bar{N}}(2N + 1947)) \\
&= B_{\bar{N}}(2N + 1950 - (N + 2414)) + B_{\bar{N}}(2N + 1950 - (2N - 636)) + B_{\bar{N}}(2N + 1950 - (N + 2415)) \\
&= B_{\bar{N}}(N - 464) + B_{\bar{N}}(2586) + B_{\bar{N}}(N - 465) = (N - 464) + 2586 + (N - 465) = \mathbf{2N} + \mathbf{1657} \\
&(N \geq 2586)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1951}) &= B_{\bar{N}}(2N + 1951 - B_{\bar{N}}(2N + 1950)) + B_{\bar{N}}(2N + 1951 - B_{\bar{N}}(2N + 1949)) + B_{\bar{N}}(2N + 1951 - B_{\bar{N}}(2N + 1948)) \\
&= B_{\bar{N}}(2N + 1951 - (2N + 1657)) + B_{\bar{N}}(2N + 1951 - (N + 2414)) + B_{\bar{N}}(2N + 1951 - (2N - 636)) \\
&= B_{\bar{N}}(294) + B_{\bar{N}}(N - 463) + B_{\bar{N}}(2587) = 294 + (N - 463) + 2587 = \mathbf{N} + \mathbf{2418} \\
&(N \geq 2587)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1952}) &= B_{\bar{N}}(2N + 1952 - B_{\bar{N}}(2N + 1951)) + B_{\bar{N}}(2N + 1952 - B_{\bar{N}}(2N + 1950)) + B_{\bar{N}}(2N + 1952 - B_{\bar{N}}(2N + 1949)) \\
&= B_{\bar{N}}(2N + 1952 - (N + 2418)) + B_{\bar{N}}(2N + 1952 - (2N + 1657)) + B_{\bar{N}}(2N + 1952 - (N + 2414)) \\
&= B_{\bar{N}}(N - 466) + B_{\bar{N}}(295) + B_{\bar{N}}(N - 462) = (N - 466) + 295 + (N - 462) = \mathbf{2N} - \mathbf{633} \\
&(N \geq 467)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1953}) &= B_{\bar{N}}(2N + 1953 - B_{\bar{N}}(2N + 1952)) + B_{\bar{N}}(2N + 1953 - B_{\bar{N}}(2N + 1951)) + B_{\bar{N}}(2N + 1953 - B_{\bar{N}}(2N + 1950)) \\
&= B_{\bar{N}}(2N + 1953 - (2N - 633)) + B_{\bar{N}}(2N + 1953 - (N + 2418)) + B_{\bar{N}}(2N + 1953 - (2N + 1657)) \\
&= B_{\bar{N}}(2586) + B_{\bar{N}}(N - 465) + B_{\bar{N}}(296) = 2586 + (N - 465) + 296 = \mathbf{N} + \mathbf{2417} \\
&(N \geq 2586)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1954}) &= B_{\bar{N}}(2N + 1954 - B_{\bar{N}}(2N + 1953)) + B_{\bar{N}}(2N + 1954 - B_{\bar{N}}(2N + 1952)) + B_{\bar{N}}(2N + 1954 - B_{\bar{N}}(2N + 1951)) \\
&= B_{\bar{N}}(2N + 1954 - (N + 2417)) + B_{\bar{N}}(2N + 1954 - (2N - 633)) + B_{\bar{N}}(2N + 1954 - (N + 2418)) \\
&= B_{\bar{N}}(N - 463) + B_{\bar{N}}(2587) + B_{\bar{N}}(N - 464) = (N - 463) + 2587 + (N - 464) = \mathbf{2N} + \mathbf{1660} \\
&(N \geq 2587)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1955}) &= B_{\bar{N}}(2N + 1955 - B_{\bar{N}}(2N + 1954)) + B_{\bar{N}}(2N + 1955 - B_{\bar{N}}(2N + 1953)) + B_{\bar{N}}(2N + 1955 - B_{\bar{N}}(2N + 1952)) \\
&= B_{\bar{N}}(2N + 1955 - (2N + 1660)) + B_{\bar{N}}(2N + 1955 - (N + 2417)) + B_{\bar{N}}(2N + 1955 - (2N - 633)) \\
&= B_{\bar{N}}(295) + B_{\bar{N}}(N - 462) + B_{\bar{N}}(2588) = 295 + (N - 462) + 2588 = \mathbf{N} + \mathbf{2421} \\
&(N \geq 2588)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1956}) &= B_{\bar{N}}(2N + 1956 - B_{\bar{N}}(2N + 1955)) + B_{\bar{N}}(2N + 1956 - B_{\bar{N}}(2N + 1954)) + B_{\bar{N}}(2N + 1956 - B_{\bar{N}}(2N + 1953)) \\
&= B_{\bar{N}}(2N + 1956 - (N + 2421)) + B_{\bar{N}}(2N + 1956 - (2N + 1660)) + B_{\bar{N}}(2N + 1956 - (N + 2417)) \\
&= B_{\bar{N}}(N - 465) + B_{\bar{N}}(296) + B_{\bar{N}}(N - 461) = (N - 465) + 296 + (N - 461) = \mathbf{2N} - \mathbf{630} \\
&(N \geq 466)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1957}) &= B_{\bar{N}}(2N + 1957 - B_{\bar{N}}(2N + 1956)) + B_{\bar{N}}(2N + 1957 - B_{\bar{N}}(2N + 1955)) + B_{\bar{N}}(2N + 1957 - B_{\bar{N}}(2N + 1954)) \\
&= B_{\bar{N}}(2N + 1957 - (2N - 630)) + B_{\bar{N}}(2N + 1957 - (N + 2421)) + B_{\bar{N}}(2N + 1957 - (2N + 1660)) \\
&= B_{\bar{N}}(2587) + B_{\bar{N}}(N - 464) + B_{\bar{N}}(297) = 2587 + (N - 464) + 297 = \mathbf{N} + \mathbf{2420} \\
&(N \geq 2587)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1958}) &= B_{\bar{N}}(2N + 1958 - B_{\bar{N}}(2N + 1957)) + B_{\bar{N}}(2N + 1958 - B_{\bar{N}}(2N + 1956)) + B_{\bar{N}}(2N + 1958 - B_{\bar{N}}(2N + 1955)) \\
&= B_{\bar{N}}(2N + 1958 - (N + 2420)) + B_{\bar{N}}(2N + 1958 - (2N - 630)) + B_{\bar{N}}(2N + 1958 - (N + 2421)) \\
&= B_{\bar{N}}(N - 462) + B_{\bar{N}}(2588) + B_{\bar{N}}(N - 463) = (N - 462) + 2588 + (N - 463) = \mathbf{2N} + \mathbf{1663} \\
&(N \geq 2588)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1959}) &= B_{\bar{N}}(2N + 1959 - B_{\bar{N}}(2N + 1958)) + B_{\bar{N}}(2N + 1959 - B_{\bar{N}}(2N + 1957)) + B_{\bar{N}}(2N + 1959 - B_{\bar{N}}(2N + 1956)) \\
&= B_{\bar{N}}(2N + 1959 - (2N + 1663)) + B_{\bar{N}}(2N + 1959 - (N + 2420)) + B_{\bar{N}}(2N + 1959 - (2N - 630)) \\
&= B_{\bar{N}}(296) + B_{\bar{N}}(N - 461) + B_{\bar{N}}(2589) = 296 + (N - 461) + 2589 = \mathbf{N} + \mathbf{2424} \\
&(N \geq 2589)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1960}) &= B_{\bar{N}}(2N + 1960 - B_{\bar{N}}(2N + 1959)) + B_{\bar{N}}(2N + 1960 - B_{\bar{N}}(2N + 1958)) + B_{\bar{N}}(2N + 1960 - B_{\bar{N}}(2N + 1957)) \\
&= B_{\bar{N}}(2N + 1960 - (N + 2424)) + B_{\bar{N}}(2N + 1960 - (2N + 1663)) + B_{\bar{N}}(2N + 1960 - (N + 2420)) \\
&= B_{\bar{N}}(N - 464) + B_{\bar{N}}(297) + B_{\bar{N}}(N - 460) = (N - 464) + 297 + (N - 460) = \mathbf{2N} - \mathbf{627} \\
&(N \geq 465)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1961}) &= B_{\bar{N}}(2N + 1961 - B_{\bar{N}}(2N + 1960)) + B_{\bar{N}}(2N + 1961 - B_{\bar{N}}(2N + 1959)) + B_{\bar{N}}(2N + 1961 - B_{\bar{N}}(2N + 1958)) \\
&= B_{\bar{N}}(2N + 1961 - (2N - 627)) + B_{\bar{N}}(2N + 1961 - (N + 2424)) + B_{\bar{N}}(2N + 1961 - (2N + 1663)) \\
&= B_{\bar{N}}(2588) + B_{\bar{N}}(N - 463) + B_{\bar{N}}(298) = 2588 + (N - 463) + 298 = \mathbf{N} + \mathbf{2423} \\
&(N \geq 2588)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1962}) &= B_{\bar{N}}(2N + 1962 - B_{\bar{N}}(2N + 1961)) + B_{\bar{N}}(2N + 1962 - B_{\bar{N}}(2N + 1960)) + B_{\bar{N}}(2N + 1962 - B_{\bar{N}}(2N + 1959)) \\
&= B_{\bar{N}}(2N + 1962 - (N + 2423)) + B_{\bar{N}}(2N + 1962 - (2N - 627)) + B_{\bar{N}}(2N + 1962 - (N + 2424)) \\
&= B_{\bar{N}}(N - 461) + B_{\bar{N}}(2589) + B_{\bar{N}}(N - 462) = (N - 461) + 2589 + (N - 462) = \mathbf{2N} + \mathbf{1666} \\
&(N \geq 2589)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1963}) &= B_{\bar{N}}(2N + 1963 - B_{\bar{N}}(2N + 1962)) + B_{\bar{N}}(2N + 1963 - B_{\bar{N}}(2N + 1961)) + B_{\bar{N}}(2N + 1963 - B_{\bar{N}}(2N + 1960)) \\
&= B_{\bar{N}}(2N + 1963 - (2N + 1666)) + B_{\bar{N}}(2N + 1963 - (N + 2423)) + B_{\bar{N}}(2N + 1963 - (2N - 627)) \\
&= B_{\bar{N}}(297) + B_{\bar{N}}(N - 460) + B_{\bar{N}}(2590) = 297 + (N - 460) + 2590 = \mathbf{N} + \mathbf{2427} \\
&(N \geq 2590)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1964}) &= B_{\bar{N}}(2N + 1964 - B_{\bar{N}}(2N + 1963)) + B_{\bar{N}}(2N + 1964 - B_{\bar{N}}(2N + 1962)) + B_{\bar{N}}(2N + 1964 - B_{\bar{N}}(2N + 1961)) \\
&= B_{\bar{N}}(2N + 1964 - (N + 2427)) + B_{\bar{N}}(2N + 1964 - (2N + 1666)) + B_{\bar{N}}(2N + 1964 - (N + 2423)) \\
&= B_{\bar{N}}(N - 463) + B_{\bar{N}}(298) + B_{\bar{N}}(N - 459) = (N - 463) + 298 + (N - 459) = \mathbf{2N} - \mathbf{624} \\
&(N \geq 464)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1965}) &= B_{\bar{N}}(2N + 1965 - B_{\bar{N}}(2N + 1964)) + B_{\bar{N}}(2N + 1965 - B_{\bar{N}}(2N + 1963)) + B_{\bar{N}}(2N + 1965 - B_{\bar{N}}(2N + 1962)) \\
&= B_{\bar{N}}(2N + 1965 - (2N - 624)) + B_{\bar{N}}(2N + 1965 - (N + 2427)) + B_{\bar{N}}(2N + 1965 - (2N + 1666)) \\
&= B_{\bar{N}}(2589) + B_{\bar{N}}(N - 462) + B_{\bar{N}}(299) = 2589 + (N - 462) + 299 = \mathbf{N} + \mathbf{2426} \\
&(N \geq 2589)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1966}) &= B_{\bar{N}}(2N + 1966 - B_{\bar{N}}(2N + 1965)) + B_{\bar{N}}(2N + 1966 - B_{\bar{N}}(2N + 1964)) + B_{\bar{N}}(2N + 1966 - B_{\bar{N}}(2N + 1963)) \\
&= B_{\bar{N}}(2N + 1966 - (N + 2426)) + B_{\bar{N}}(2N + 1966 - (2N - 624)) + B_{\bar{N}}(2N + 1966 - (N + 2427)) \\
&= B_{\bar{N}}(N - 460) + B_{\bar{N}}(2590) + B_{\bar{N}}(N - 461) = (N - 460) + 2590 + (N - 461) = \mathbf{2N} + \mathbf{1669} \\
&(N \geq 2590)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1967}) &= B_{\bar{N}}(2N + 1967 - B_{\bar{N}}(2N + 1966)) + B_{\bar{N}}(2N + 1967 - B_{\bar{N}}(2N + 1965)) + B_{\bar{N}}(2N + 1967 - B_{\bar{N}}(2N + 1964)) \\
&= B_{\bar{N}}(2N + 1967 - (2N + 1669)) + B_{\bar{N}}(2N + 1967 - (N + 2426)) + B_{\bar{N}}(2N + 1967 - (2N - 624)) \\
&= B_{\bar{N}}(298) + B_{\bar{N}}(N - 459) + B_{\bar{N}}(2591) = 298 + (N - 459) + 2591 = \mathbf{N} + \mathbf{2430} \\
&(N \geq 2591)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1968}) &= B_{\bar{N}}(2N + 1968 - B_{\bar{N}}(2N + 1967)) + B_{\bar{N}}(2N + 1968 - B_{\bar{N}}(2N + 1966)) + B_{\bar{N}}(2N + 1968 - B_{\bar{N}}(2N + 1965)) \\
&= B_{\bar{N}}(2N + 1968 - (N + 2430)) + B_{\bar{N}}(2N + 1968 - (2N + 1669)) + B_{\bar{N}}(2N + 1968 - (N + 2426)) \\
&= B_{\bar{N}}(N - 462) + B_{\bar{N}}(299) + B_{\bar{N}}(N - 458) = (N - 462) + 299 + (N - 458) = \mathbf{2N} - \mathbf{621} \\
&(N \geq 463)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1969}) &= B_{\bar{N}}(2N + 1969 - B_{\bar{N}}(2N + 1968)) + B_{\bar{N}}(2N + 1969 - B_{\bar{N}}(2N + 1967)) + B_{\bar{N}}(2N + 1969 - B_{\bar{N}}(2N + 1966)) \\
&= B_{\bar{N}}(2N + 1969 - (2N - 621)) + B_{\bar{N}}(2N + 1969 - (N + 2430)) + B_{\bar{N}}(2N + 1969 - (2N + 1669)) \\
&= B_{\bar{N}}(2590) + B_{\bar{N}}(N - 461) + B_{\bar{N}}(300) = 2590 + (N - 461) + 300 = \mathbf{N} + \mathbf{2429} \\
&(N \geq 2590)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1970}) &= B_{\bar{N}}(2N + 1970 - B_{\bar{N}}(2N + 1969)) + B_{\bar{N}}(2N + 1970 - B_{\bar{N}}(2N + 1968)) + B_{\bar{N}}(2N + 1970 - B_{\bar{N}}(2N + 1967)) \\
&= B_{\bar{N}}(2N + 1970 - (N + 2429)) + B_{\bar{N}}(2N + 1970 - (2N - 621)) + B_{\bar{N}}(2N + 1970 - (N + 2430)) \\
&= B_{\bar{N}}(N - 459) + B_{\bar{N}}(2591) + B_{\bar{N}}(N - 460) = (N - 459) + 2591 + (N - 460) = \mathbf{2N} + \mathbf{1672} \\
&(N \geq 2591)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1971}) &= B_{\bar{N}}(2N + 1971 - B_{\bar{N}}(2N + 1970)) + B_{\bar{N}}(2N + 1971 - B_{\bar{N}}(2N + 1969)) + B_{\bar{N}}(2N + 1971 - B_{\bar{N}}(2N + 1968)) \\
&= B_{\bar{N}}(2N + 1971 - (2N + 1672)) + B_{\bar{N}}(2N + 1971 - (N + 2429)) + B_{\bar{N}}(2N + 1971 - (2N - 621)) \\
&= B_{\bar{N}}(299) + B_{\bar{N}}(N - 458) + B_{\bar{N}}(2592) = 299 + (N - 458) + 2592 = \mathbf{N} + \mathbf{2433} \\
&(N \geq 2592)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1972}) &= B_{\bar{N}}(2N + 1972 - B_{\bar{N}}(2N + 1971)) + B_{\bar{N}}(2N + 1972 - B_{\bar{N}}(2N + 1970)) + B_{\bar{N}}(2N + 1972 - B_{\bar{N}}(2N + 1969)) \\
&= B_{\bar{N}}(2N + 1972 - (N + 2433)) + B_{\bar{N}}(2N + 1972 - (2N + 1672)) + B_{\bar{N}}(2N + 1972 - (N + 2429)) \\
&= B_{\bar{N}}(N - 461) + B_{\bar{N}}(300) + B_{\bar{N}}(N - 457) = (N - 461) + 300 + (N - 457) = \mathbf{2N} - \mathbf{618} \\
&(N \geq 462)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1973}) &= B_{\bar{N}}(2N + 1973 - B_{\bar{N}}(2N + 1972)) + B_{\bar{N}}(2N + 1973 - B_{\bar{N}}(2N + 1971)) + B_{\bar{N}}(2N + 1973 - B_{\bar{N}}(2N + 1970)) \\
&= B_{\bar{N}}(2N + 1973 - (2N - 618)) + B_{\bar{N}}(2N + 1973 - (N + 2433)) + B_{\bar{N}}(2N + 1973 - (2N + 1672)) \\
&= B_{\bar{N}}(2591) + B_{\bar{N}}(N - 460) + B_{\bar{N}}(301) = 2591 + (N - 460) + 301 = \mathbf{N} + \mathbf{2432} \\
&(N \geq 2591)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1974}) &= B_{\bar{N}}(2N + 1974 - B_{\bar{N}}(2N + 1973)) + B_{\bar{N}}(2N + 1974 - B_{\bar{N}}(2N + 1972)) + B_{\bar{N}}(2N + 1974 - B_{\bar{N}}(2N + 1971)) \\
&= B_{\bar{N}}(2N + 1974 - (N + 2432)) + B_{\bar{N}}(2N + 1974 - (2N - 618)) + B_{\bar{N}}(2N + 1974 - (N + 2433)) \\
&= B_{\bar{N}}(N - 458) + B_{\bar{N}}(2592) + B_{\bar{N}}(N - 459) = (N - 458) + 2592 + (N - 459) = \mathbf{2N} + \mathbf{1675} \\
&(N \geq 2592)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1975}) &= B_{\bar{N}}(2N + 1975 - B_{\bar{N}}(2N + 1974)) + B_{\bar{N}}(2N + 1975 - B_{\bar{N}}(2N + 1973)) + B_{\bar{N}}(2N + 1975 - B_{\bar{N}}(2N + 1972)) \\
&= B_{\bar{N}}(2N + 1975 - (2N + 1675)) + B_{\bar{N}}(2N + 1975 - (N + 2432)) + B_{\bar{N}}(2N + 1975 - (2N - 618)) \\
&= B_{\bar{N}}(300) + B_{\bar{N}}(N - 457) + B_{\bar{N}}(2593) = 300 + (N - 457) + 2593 = \mathbf{N} + \mathbf{2436} \\
&(N \geq 2593)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1976}) &= B_{\bar{N}}(2N + 1976 - B_{\bar{N}}(2N + 1975)) + B_{\bar{N}}(2N + 1976 - B_{\bar{N}}(2N + 1974)) + B_{\bar{N}}(2N + 1976 - B_{\bar{N}}(2N + 1973)) \\
&= B_{\bar{N}}(2N + 1976 - (N + 2436)) + B_{\bar{N}}(2N + 1976 - (2N + 1675)) + B_{\bar{N}}(2N + 1976 - (N + 2432)) \\
&= B_{\bar{N}}(N - 460) + B_{\bar{N}}(301) + B_{\bar{N}}(N - 456) = (N - 460) + 301 + (N - 456) = \mathbf{2N} - \mathbf{615} \\
&(N \geq 461)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1977}) &= B_{\bar{N}}(2N + 1977 - B_{\bar{N}}(2N + 1976)) + B_{\bar{N}}(2N + 1977 - B_{\bar{N}}(2N + 1975)) + B_{\bar{N}}(2N + 1977 - B_{\bar{N}}(2N + 1974)) \\
&= B_{\bar{N}}(2N + 1977 - (2N - 615)) + B_{\bar{N}}(2N + 1977 - (N + 2436)) + B_{\bar{N}}(2N + 1977 - (2N + 1675)) \\
&= B_{\bar{N}}(2592) + B_{\bar{N}}(N - 459) + B_{\bar{N}}(302) = 2592 + (N - 459) + 302 = \mathbf{N} + \mathbf{2435} \\
&(N \geq 2592)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1978}) &= B_{\bar{N}}(2N + 1978 - B_{\bar{N}}(2N + 1977)) + B_{\bar{N}}(2N + 1978 - B_{\bar{N}}(2N + 1976)) + B_{\bar{N}}(2N + 1978 - B_{\bar{N}}(2N + 1975)) \\
&= B_{\bar{N}}(2N + 1978 - (N + 2435)) + B_{\bar{N}}(2N + 1978 - (2N - 615)) + B_{\bar{N}}(2N + 1978 - (N + 2436)) \\
&= B_{\bar{N}}(N - 457) + B_{\bar{N}}(2593) + B_{\bar{N}}(N - 458) = (N - 457) + 2593 + (N - 458) = \mathbf{2N} + \mathbf{1678} \\
&(N \geq 2593)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1979}) &= B_{\bar{N}}(2N + 1979 - B_{\bar{N}}(2N + 1978)) + B_{\bar{N}}(2N + 1979 - B_{\bar{N}}(2N + 1977)) + B_{\bar{N}}(2N + 1979 - B_{\bar{N}}(2N + 1976)) \\
&= B_{\bar{N}}(2N + 1979 - (2N + 1678)) + B_{\bar{N}}(2N + 1979 - (N + 2435)) + B_{\bar{N}}(2N + 1979 - (2N - 615)) \\
&= B_{\bar{N}}(301) + B_{\bar{N}}(N - 456) + B_{\bar{N}}(2594) = 301 + (N - 456) + 2594 = \mathbf{N} + \mathbf{2439} \\
&(N \geq 2594)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1980}) &= B_{\bar{N}}(2N + 1980 - B_{\bar{N}}(2N + 1979)) + B_{\bar{N}}(2N + 1980 - B_{\bar{N}}(2N + 1978)) + B_{\bar{N}}(2N + 1980 - B_{\bar{N}}(2N + 1977)) \\
&= B_{\bar{N}}(2N + 1980 - (N + 2439)) + B_{\bar{N}}(2N + 1980 - (2N + 1678)) + B_{\bar{N}}(2N + 1980 - (N + 2435)) \\
&= B_{\bar{N}}(N - 459) + B_{\bar{N}}(302) + B_{\bar{N}}(N - 455) = (N - 459) + 302 + (N - 455) = \mathbf{2N} - \mathbf{612} \\
&(N \geq 460)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1981}) &= B_{\bar{N}}(2N + 1981 - B_{\bar{N}}(2N + 1980)) + B_{\bar{N}}(2N + 1981 - B_{\bar{N}}(2N + 1979)) + B_{\bar{N}}(2N + 1981 - B_{\bar{N}}(2N + 1978)) \\
&= B_{\bar{N}}(2N + 1981 - (2N - 612)) + B_{\bar{N}}(2N + 1981 - (N + 2439)) + B_{\bar{N}}(2N + 1981 - (2N + 1678)) \\
&= B_{\bar{N}}(2593) + B_{\bar{N}}(N - 458) + B_{\bar{N}}(303) = 2593 + (N - 458) + 303 = \mathbf{N} + \mathbf{2438} \\
&(N \geq 2593)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1982}) &= B_{\bar{N}}(2N + 1982 - B_{\bar{N}}(2N + 1981)) + B_{\bar{N}}(2N + 1982 - B_{\bar{N}}(2N + 1980)) + B_{\bar{N}}(2N + 1982 - B_{\bar{N}}(2N + 1979)) \\
&= B_{\bar{N}}(2N + 1982 - (N + 2438)) + B_{\bar{N}}(2N + 1982 - (2N - 612)) + B_{\bar{N}}(2N + 1982 - (N + 2439)) \\
&= B_{\bar{N}}(N - 456) + B_{\bar{N}}(2594) + B_{\bar{N}}(N - 457) = (N - 456) + 2594 + (N - 457) = \mathbf{2N} + \mathbf{1681} \\
&(N \geq 2594)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1983}) &= B_{\bar{N}}(2N + 1983 - B_{\bar{N}}(2N + 1982)) + B_{\bar{N}}(2N + 1983 - B_{\bar{N}}(2N + 1981)) + B_{\bar{N}}(2N + 1983 - B_{\bar{N}}(2N + 1980)) \\
&= B_{\bar{N}}(2N + 1983 - (2N + 1681)) + B_{\bar{N}}(2N + 1983 - (N + 2438)) + B_{\bar{N}}(2N + 1983 - (2N - 612)) \\
&= B_{\bar{N}}(302) + B_{\bar{N}}(N - 455) + B_{\bar{N}}(2595) = 302 + (N - 455) + 2595 = \mathbf{N} + \mathbf{2442} \\
&(N \geq 2595)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1984}) &= B_{\bar{N}}(2N + 1984 - B_{\bar{N}}(2N + 1983)) + B_{\bar{N}}(2N + 1984 - B_{\bar{N}}(2N + 1982)) + B_{\bar{N}}(2N + 1984 - B_{\bar{N}}(2N + 1981)) \\
&= B_{\bar{N}}(2N + 1984 - (N + 2442)) + B_{\bar{N}}(2N + 1984 - (2N + 1681)) + B_{\bar{N}}(2N + 1984 - (N + 2438)) \\
&= B_{\bar{N}}(N - 458) + B_{\bar{N}}(303) + B_{\bar{N}}(N - 454) = (N - 458) + 303 + (N - 454) = \mathbf{2N} - \mathbf{609} \\
&(N \geq 459)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1985}) &= B_{\bar{N}}(2N + 1985 - B_{\bar{N}}(2N + 1984)) + B_{\bar{N}}(2N + 1985 - B_{\bar{N}}(2N + 1983)) + B_{\bar{N}}(2N + 1985 - B_{\bar{N}}(2N + 1982)) \\
&= B_{\bar{N}}(2N + 1985 - (2N - 609)) + B_{\bar{N}}(2N + 1985 - (N + 2442)) + B_{\bar{N}}(2N + 1985 - (2N + 1681)) \\
&= B_{\bar{N}}(2594) + B_{\bar{N}}(N - 457) + B_{\bar{N}}(304) = 2594 + (N - 457) + 304 = \mathbf{N} + \mathbf{2441} \\
&(N \geq 2594)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1986}) &= B_{\bar{N}}(2N + 1986 - B_{\bar{N}}(2N + 1985)) + B_{\bar{N}}(2N + 1986 - B_{\bar{N}}(2N + 1984)) + B_{\bar{N}}(2N + 1986 - B_{\bar{N}}(2N + 1983)) \\
&= B_{\bar{N}}(2N + 1986 - (N + 2441)) + B_{\bar{N}}(2N + 1986 - (2N - 609)) + B_{\bar{N}}(2N + 1986 - (N + 2442)) \\
&= B_{\bar{N}}(N - 455) + B_{\bar{N}}(2595) + B_{\bar{N}}(N - 456) = (N - 455) + 2595 + (N - 456) = \mathbf{2N} + \mathbf{1684} \\
&(N \geq 2595)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1987}) &= B_{\bar{N}}(2N + 1987 - B_{\bar{N}}(2N + 1986)) + B_{\bar{N}}(2N + 1987 - B_{\bar{N}}(2N + 1985)) + B_{\bar{N}}(2N + 1987 - B_{\bar{N}}(2N + 1984)) \\
&= B_{\bar{N}}(2N + 1987 - (2N + 1684)) + B_{\bar{N}}(2N + 1987 - (N + 2441)) + B_{\bar{N}}(2N + 1987 - (2N - 609)) \\
&= B_{\bar{N}}(303) + B_{\bar{N}}(N - 454) + B_{\bar{N}}(2596) = 303 + (N - 454) + 2596 = \mathbf{N} + \mathbf{2445} \\
&(N \geq 2596)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1988}) &= B_{\bar{N}}(2N + 1988 - B_{\bar{N}}(2N + 1987)) + B_{\bar{N}}(2N + 1988 - B_{\bar{N}}(2N + 1986)) + B_{\bar{N}}(2N + 1988 - B_{\bar{N}}(2N + 1985)) \\
&= B_{\bar{N}}(2N + 1988 - (N + 2445)) + B_{\bar{N}}(2N + 1988 - (2N + 1684)) + B_{\bar{N}}(2N + 1988 - (N + 2441)) \\
&= B_{\bar{N}}(N - 457) + B_{\bar{N}}(304) + B_{\bar{N}}(N - 453) = (N - 457) + 304 + (N - 453) = \mathbf{2N} - \mathbf{606} \\
&(N \geq 458)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1989}) &= B_{\bar{N}}(2N + 1989 - B_{\bar{N}}(2N + 1988)) + B_{\bar{N}}(2N + 1989 - B_{\bar{N}}(2N + 1987)) + B_{\bar{N}}(2N + 1989 - B_{\bar{N}}(2N + 1986)) \\
&= B_{\bar{N}}(2N + 1989 - (2N - 606)) + B_{\bar{N}}(2N + 1989 - (N + 2445)) + B_{\bar{N}}(2N + 1989 - (2N + 1684)) \\
&= B_{\bar{N}}(2595) + B_{\bar{N}}(N - 456) + B_{\bar{N}}(305) = 2595 + (N - 456) + 305 = \mathbf{N} + \mathbf{2444} \\
&(N \geq 2595)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1990}) &= B_{\bar{N}}(2N + 1990 - B_{\bar{N}}(2N + 1989)) + B_{\bar{N}}(2N + 1990 - B_{\bar{N}}(2N + 1988)) + B_{\bar{N}}(2N + 1990 - B_{\bar{N}}(2N + 1987)) \\
&= B_{\bar{N}}(2N + 1990 - (N + 2444)) + B_{\bar{N}}(2N + 1990 - (2N - 606)) + B_{\bar{N}}(2N + 1990 - (N + 2445)) \\
&= B_{\bar{N}}(N - 454) + B_{\bar{N}}(2596) + B_{\bar{N}}(N - 455) = (N - 454) + 2596 + (N - 455) = \mathbf{2N} + \mathbf{1687} \\
&(N \geq 2596)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1991}) &= B_{\bar{N}}(2N + 1991 - B_{\bar{N}}(2N + 1990)) + B_{\bar{N}}(2N + 1991 - B_{\bar{N}}(2N + 1989)) + B_{\bar{N}}(2N + 1991 - B_{\bar{N}}(2N + 1988)) \\
&= B_{\bar{N}}(2N + 1991 - (2N + 1687)) + B_{\bar{N}}(2N + 1991 - (N + 2444)) + B_{\bar{N}}(2N + 1991 - (2N - 606)) \\
&= B_{\bar{N}}(304) + B_{\bar{N}}(N - 453) + B_{\bar{N}}(2597) = 304 + (N - 453) + 2597 = \mathbf{N} + \mathbf{2448} \\
&(N \geq 2597)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1992}) &= B_{\bar{N}}(2N + 1992 - B_{\bar{N}}(2N + 1991)) + B_{\bar{N}}(2N + 1992 - B_{\bar{N}}(2N + 1990)) + B_{\bar{N}}(2N + 1992 - B_{\bar{N}}(2N + 1989)) \\
&= B_{\bar{N}}(2N + 1992 - (N + 2448)) + B_{\bar{N}}(2N + 1992 - (2N + 1687)) + B_{\bar{N}}(2N + 1992 - (N + 2444)) \\
&= B_{\bar{N}}(N - 456) + B_{\bar{N}}(305) + B_{\bar{N}}(N - 452) = (N - 456) + 305 + (N - 452) = \mathbf{2N} - \mathbf{603} \\
&(N \geq 457)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1993}) &= B_{\bar{N}}(2N + 1993 - B_{\bar{N}}(2N + 1992)) + B_{\bar{N}}(2N + 1993 - B_{\bar{N}}(2N + 1991)) + B_{\bar{N}}(2N + 1993 - B_{\bar{N}}(2N + 1990)) \\
&= B_{\bar{N}}(2N + 1993 - (2N - 603)) + B_{\bar{N}}(2N + 1993 - (N + 2448)) + B_{\bar{N}}(2N + 1993 - (2N + 1687)) \\
&= B_{\bar{N}}(2596) + B_{\bar{N}}(N - 455) + B_{\bar{N}}(306) = 2596 + (N - 455) + 306 = \mathbf{N} + \mathbf{2447} \\
&(N \geq 2596)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1994}) &= B_{\bar{N}}(2N + 1994 - B_{\bar{N}}(2N + 1993)) + B_{\bar{N}}(2N + 1994 - B_{\bar{N}}(2N + 1992)) + B_{\bar{N}}(2N + 1994 - B_{\bar{N}}(2N + 1991)) \\
&= B_{\bar{N}}(2N + 1994 - (N + 2447)) + B_{\bar{N}}(2N + 1994 - (2N - 603)) + B_{\bar{N}}(2N + 1994 - (N + 2448)) \\
&= B_{\bar{N}}(N - 453) + B_{\bar{N}}(2597) + B_{\bar{N}}(N - 454) = (N - 453) + 2597 + (N - 454) = \mathbf{2N} + \mathbf{1690} \\
&(N \geq 2597)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1995}) &= B_{\bar{N}}(2N + 1995 - B_{\bar{N}}(2N + 1994)) + B_{\bar{N}}(2N + 1995 - B_{\bar{N}}(2N + 1993)) + B_{\bar{N}}(2N + 1995 - B_{\bar{N}}(2N + 1992)) \\
&= B_{\bar{N}}(2N + 1995 - (2N + 1690)) + B_{\bar{N}}(2N + 1995 - (N + 2447)) + B_{\bar{N}}(2N + 1995 - (2N - 603)) \\
&= B_{\bar{N}}(305) + B_{\bar{N}}(N - 452) + B_{\bar{N}}(2598) = 305 + (N - 452) + 2598 = \mathbf{N} + \mathbf{2451} \\
&(N \geq 2598)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1996}) &= B_{\bar{N}}(2N + 1996 - B_{\bar{N}}(2N + 1995)) + B_{\bar{N}}(2N + 1996 - B_{\bar{N}}(2N + 1994)) + B_{\bar{N}}(2N + 1996 - B_{\bar{N}}(2N + 1993)) \\
&= B_{\bar{N}}(2N + 1996 - (N + 2451)) + B_{\bar{N}}(2N + 1996 - (2N + 1690)) + B_{\bar{N}}(2N + 1996 - (N + 2447)) \\
&= B_{\bar{N}}(N - 455) + B_{\bar{N}}(306) + B_{\bar{N}}(N - 451) = (N - 455) + 306 + (N - 451) = \mathbf{2N} - \mathbf{600} \\
&(N \geq 456)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1997}) &= B_{\bar{N}}(2N + 1997 - B_{\bar{N}}(2N + 1996)) + B_{\bar{N}}(2N + 1997 - B_{\bar{N}}(2N + 1995)) + B_{\bar{N}}(2N + 1997 - B_{\bar{N}}(2N + 1994)) \\
&= B_{\bar{N}}(2N + 1997 - (2N - 600)) + B_{\bar{N}}(2N + 1997 - (N + 2451)) + B_{\bar{N}}(2N + 1997 - (2N + 1690)) \\
&= B_{\bar{N}}(2597) + B_{\bar{N}}(N - 454) + B_{\bar{N}}(307) = 2597 + (N - 454) + 307 = \mathbf{N} + \mathbf{2450} \\
&(N \geq 2597)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1998}) &= B_{\bar{N}}(2N + 1998 - B_{\bar{N}}(2N + 1997)) + B_{\bar{N}}(2N + 1998 - B_{\bar{N}}(2N + 1996)) + B_{\bar{N}}(2N + 1998 - B_{\bar{N}}(2N + 1995)) \\
&= B_{\bar{N}}(2N + 1998 - (N + 2450)) + B_{\bar{N}}(2N + 1998 - (2N - 600)) + B_{\bar{N}}(2N + 1998 - (N + 2451)) \\
&= B_{\bar{N}}(N - 452) + B_{\bar{N}}(2598) + B_{\bar{N}}(N - 453) = (N - 452) + 2598 + (N - 453) = \mathbf{2N} + \mathbf{1693} \\
&(N \geq 2598)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{1999}) &= B_{\bar{N}}(2N + 1999 - B_{\bar{N}}(2N + 1998)) + B_{\bar{N}}(2N + 1999 - B_{\bar{N}}(2N + 1997)) + B_{\bar{N}}(2N + 1999 - B_{\bar{N}}(2N + 1996)) \\
&= B_{\bar{N}}(2N + 1999 - (2N + 1693)) + B_{\bar{N}}(2N + 1999 - (N + 2450)) + B_{\bar{N}}(2N + 1999 - (2N - 600)) \\
&= B_{\bar{N}}(306) + B_{\bar{N}}(N - 451) + B_{\bar{N}}(2599) = 306 + (N - 451) + 2599 = \mathbf{N} + \mathbf{2454} \\
&(N \geq 2599)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2000}) &= B_{\bar{N}}(2N + 2000 - B_{\bar{N}}(2N + 1999)) + B_{\bar{N}}(2N + 2000 - B_{\bar{N}}(2N + 1998)) + B_{\bar{N}}(2N + 2000 - B_{\bar{N}}(2N + 1997)) \\
&= B_{\bar{N}}(2N + 2000 - (N + 2454)) + B_{\bar{N}}(2N + 2000 - (2N + 1693)) + B_{\bar{N}}(2N + 2000 - (N + 2450)) \\
&= B_{\bar{N}}(N - 454) + B_{\bar{N}}(307) + B_{\bar{N}}(N - 450) = (N - 454) + 307 + (N - 450) = \mathbf{2N} - \mathbf{597} \\
&(N \geq 455)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2001}) &= B_{\bar{N}}(2N + 2001 - B_{\bar{N}}(2N + 2000)) + B_{\bar{N}}(2N + 2001 - B_{\bar{N}}(2N + 1999)) + B_{\bar{N}}(2N + 2001 - B_{\bar{N}}(2N + 1998)) \\
&= B_{\bar{N}}(2N + 2001 - (2N - 597)) + B_{\bar{N}}(2N + 2001 - (N + 2454)) + B_{\bar{N}}(2N + 2001 - (2N + 1693)) \\
&= B_{\bar{N}}(2598) + B_{\bar{N}}(N - 453) + B_{\bar{N}}(308) = 2598 + (N - 453) + 308 = \mathbf{N} + \mathbf{2453} \\
&(N \geq 2598)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2002}) &= B_{\bar{N}}(2N + 2002 - B_{\bar{N}}(2N + 2001)) + B_{\bar{N}}(2N + 2002 - B_{\bar{N}}(2N + 2000)) + B_{\bar{N}}(2N + 2002 - B_{\bar{N}}(2N + 1999)) \\
&= B_{\bar{N}}(2N + 2002 - (N + 2453)) + B_{\bar{N}}(2N + 2002 - (2N - 597)) + B_{\bar{N}}(2N + 2002 - (N + 2454)) \\
&= B_{\bar{N}}(N - 451) + B_{\bar{N}}(2599) + B_{\bar{N}}(N - 452) = (N - 451) + 2599 + (N - 452) = \mathbf{2N} + \mathbf{1696} \\
&(N \geq 2599)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2003}) &= B_{\bar{N}}(2N + 2003 - B_{\bar{N}}(2N + 2002)) + B_{\bar{N}}(2N + 2003 - B_{\bar{N}}(2N + 2001)) + B_{\bar{N}}(2N + 2003 - B_{\bar{N}}(2N + 2000)) \\
&= B_{\bar{N}}(2N + 2003 - (2N + 1696)) + B_{\bar{N}}(2N + 2003 - (N + 2453)) + B_{\bar{N}}(2N + 2003 - (2N - 597)) \\
&= B_{\bar{N}}(307) + B_{\bar{N}}(N - 450) + B_{\bar{N}}(2600) = 307 + (N - 450) + 2600 = \mathbf{N} + \mathbf{2457} \\
&(N \geq 2600)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2004}) &= B_{\bar{N}}(2N + 2004 - B_{\bar{N}}(2N + 2003)) + B_{\bar{N}}(2N + 2004 - B_{\bar{N}}(2N + 2002)) + B_{\bar{N}}(2N + 2004 - B_{\bar{N}}(2N + 2001)) \\
&= B_{\bar{N}}(2N + 2004 - (N + 2457)) + B_{\bar{N}}(2N + 2004 - (2N + 1696)) + B_{\bar{N}}(2N + 2004 - (N + 2453)) \\
&= B_{\bar{N}}(N - 453) + B_{\bar{N}}(308) + B_{\bar{N}}(N - 449) = (N - 453) + 308 + (N - 449) = \mathbf{2N} - \mathbf{594} \\
&(N \geq 454)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2005}) &= B_{\bar{N}}(2N + 2005 - B_{\bar{N}}(2N + 2004)) + B_{\bar{N}}(2N + 2005 - B_{\bar{N}}(2N + 2003)) + B_{\bar{N}}(2N + 2005 - B_{\bar{N}}(2N + 2002)) \\
&= B_{\bar{N}}(2N + 2005 - (2N - 594)) + B_{\bar{N}}(2N + 2005 - (N + 2457)) + B_{\bar{N}}(2N + 2005 - (2N + 1696)) \\
&= B_{\bar{N}}(2599) + B_{\bar{N}}(N - 452) + B_{\bar{N}}(309) = 2599 + (N - 452) + 309 = \mathbf{N} + \mathbf{2456} \\
&(N \geq 2599)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2006}) &= B_{\bar{N}}(2N + 2006 - B_{\bar{N}}(2N + 2005)) + B_{\bar{N}}(2N + 2006 - B_{\bar{N}}(2N + 2004)) + B_{\bar{N}}(2N + 2006 - B_{\bar{N}}(2N + 2003)) \\
&= B_{\bar{N}}(2N + 2006 - (N + 2456)) + B_{\bar{N}}(2N + 2006 - (2N - 594)) + B_{\bar{N}}(2N + 2006 - (N + 2457)) \\
&= B_{\bar{N}}(N - 450) + B_{\bar{N}}(2600) + B_{\bar{N}}(N - 451) = (N - 450) + 2600 + (N - 451) = \mathbf{2N} + \mathbf{1699} \\
&(N \geq 2600)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2007}) &= B_{\bar{N}}(2N + 2007 - B_{\bar{N}}(2N + 2006)) + B_{\bar{N}}(2N + 2007 - B_{\bar{N}}(2N + 2005)) + B_{\bar{N}}(2N + 2007 - B_{\bar{N}}(2N + 2004)) \\
&= B_{\bar{N}}(2N + 2007 - (2N + 1699)) + B_{\bar{N}}(2N + 2007 - (N + 2456)) + B_{\bar{N}}(2N + 2007 - (2N - 594)) \\
&= B_{\bar{N}}(308) + B_{\bar{N}}(N - 449) + B_{\bar{N}}(2601) = 308 + (N - 449) + 2601 = \mathbf{N} + \mathbf{2460} \\
&(N \geq 2601)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2008}) &= B_{\bar{N}}(2N + 2008 - B_{\bar{N}}(2N + 2007)) + B_{\bar{N}}(2N + 2008 - B_{\bar{N}}(2N + 2006)) + B_{\bar{N}}(2N + 2008 - B_{\bar{N}}(2N + 2005)) \\
&= B_{\bar{N}}(2N + 2008 - (N + 2460)) + B_{\bar{N}}(2N + 2008 - (2N + 1699)) + B_{\bar{N}}(2N + 2008 - (N + 2456)) \\
&= B_{\bar{N}}(N - 452) + B_{\bar{N}}(309) + B_{\bar{N}}(N - 448) = (N - 452) + 309 + (N - 448) = \mathbf{2N} - \mathbf{591} \\
&(N \geq 453)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2009}) &= B_{\bar{N}}(2N + 2009 - B_{\bar{N}}(2N + 2008)) + B_{\bar{N}}(2N + 2009 - B_{\bar{N}}(2N + 2007)) + B_{\bar{N}}(2N + 2009 - B_{\bar{N}}(2N + 2006)) \\
&= B_{\bar{N}}(2N + 2009 - (2N - 591)) + B_{\bar{N}}(2N + 2009 - (N + 2460)) + B_{\bar{N}}(2N + 2009 - (2N + 1699)) \\
&= B_{\bar{N}}(2600) + B_{\bar{N}}(N - 451) + B_{\bar{N}}(310) = 2600 + (N - 451) + 310 = \mathbf{N} + \mathbf{2459} \\
&(N \geq 2600)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2010}) &= B_{\bar{N}}(2N + 2010 - B_{\bar{N}}(2N + 2009)) + B_{\bar{N}}(2N + 2010 - B_{\bar{N}}(2N + 2008)) + B_{\bar{N}}(2N + 2010 - B_{\bar{N}}(2N + 2007)) \\
&= B_{\bar{N}}(2N + 2010 - (N + 2459)) + B_{\bar{N}}(2N + 2010 - (2N - 591)) + B_{\bar{N}}(2N + 2010 - (N + 2460)) \\
&= B_{\bar{N}}(N - 449) + B_{\bar{N}}(2601) + B_{\bar{N}}(N - 450) = (N - 449) + 2601 + (N - 450) = \mathbf{2N} + \mathbf{1702} \\
&(N \geq 2601)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2011}) &= B_{\bar{N}}(2N + 2011 - B_{\bar{N}}(2N + 2010)) + B_{\bar{N}}(2N + 2011 - B_{\bar{N}}(2N + 2009)) + B_{\bar{N}}(2N + 2011 - B_{\bar{N}}(2N + 2008)) \\
&= B_{\bar{N}}(2N + 2011 - (2N + 1702)) + B_{\bar{N}}(2N + 2011 - (N + 2459)) + B_{\bar{N}}(2N + 2011 - (2N - 591)) \\
&= B_{\bar{N}}(309) + B_{\bar{N}}(N - 448) + B_{\bar{N}}(2602) = 309 + (N - 448) + 2602 = \mathbf{N} + \mathbf{2463} \\
&(N \geq 2602)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2012}) &= B_{\bar{N}}(2N + 2012 - B_{\bar{N}}(2N + 2011)) + B_{\bar{N}}(2N + 2012 - B_{\bar{N}}(2N + 2010)) + B_{\bar{N}}(2N + 2012 - B_{\bar{N}}(2N + 2009)) \\
&= B_{\bar{N}}(2N + 2012 - (N + 2463)) + B_{\bar{N}}(2N + 2012 - (2N + 1702)) + B_{\bar{N}}(2N + 2012 - (N + 2459)) \\
&= B_{\bar{N}}(N - 451) + B_{\bar{N}}(310) + B_{\bar{N}}(N - 447) = (N - 451) + 310 + (N - 447) = \mathbf{2N} - \mathbf{588} \\
&(N \geq 452)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2013}) &= B_{\bar{N}}(2N + 2013 - B_{\bar{N}}(2N + 2012)) + B_{\bar{N}}(2N + 2013 - B_{\bar{N}}(2N + 2011)) + B_{\bar{N}}(2N + 2013 - B_{\bar{N}}(2N + 2010)) \\
&= B_{\bar{N}}(2N + 2013 - (2N - 588)) + B_{\bar{N}}(2N + 2013 - (N + 2463)) + B_{\bar{N}}(2N + 2013 - (2N + 1702)) \\
&= B_{\bar{N}}(2601) + B_{\bar{N}}(N - 450) + B_{\bar{N}}(311) = 2601 + (N - 450) + 311 = \mathbf{N} + \mathbf{2462} \\
&(N \geq 2601)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2014}) &= B_{\bar{N}}(2N + 2014 - B_{\bar{N}}(2N + 2013)) + B_{\bar{N}}(2N + 2014 - B_{\bar{N}}(2N + 2012)) + B_{\bar{N}}(2N + 2014 - B_{\bar{N}}(2N + 2011)) \\
&= B_{\bar{N}}(2N + 2014 - (N + 2462)) + B_{\bar{N}}(2N + 2014 - (2N - 588)) + B_{\bar{N}}(2N + 2014 - (N + 2463)) \\
&= B_{\bar{N}}(N - 448) + B_{\bar{N}}(2602) + B_{\bar{N}}(N - 449) = (N - 448) + 2602 + (N - 449) = \mathbf{2N} + \mathbf{1705} \\
&(N \geq 2602)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2015}) &= B_{\bar{N}}(2N + 2015 - B_{\bar{N}}(2N + 2014)) + B_{\bar{N}}(2N + 2015 - B_{\bar{N}}(2N + 2013)) + B_{\bar{N}}(2N + 2015 - B_{\bar{N}}(2N + 2012)) \\
&= B_{\bar{N}}(2N + 2015 - (2N + 1705)) + B_{\bar{N}}(2N + 2015 - (N + 2462)) + B_{\bar{N}}(2N + 2015 - (2N - 588)) \\
&= B_{\bar{N}}(310) + B_{\bar{N}}(N - 447) + B_{\bar{N}}(2603) = 310 + (N - 447) + 2603 = \mathbf{N} + \mathbf{2466} \\
&(N \geq 2603)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2016}) &= B_{\bar{N}}(2N + 2016 - B_{\bar{N}}(2N + 2015)) + B_{\bar{N}}(2N + 2016 - B_{\bar{N}}(2N + 2014)) + B_{\bar{N}}(2N + 2016 - B_{\bar{N}}(2N + 2013)) \\
&= B_{\bar{N}}(2N + 2016 - (N + 2466)) + B_{\bar{N}}(2N + 2016 - (2N + 1705)) + B_{\bar{N}}(2N + 2016 - (N + 2462)) \\
&= B_{\bar{N}}(N - 450) + B_{\bar{N}}(311) + B_{\bar{N}}(N - 446) = (N - 450) + 311 + (N - 446) = \mathbf{2N} - \mathbf{585} \\
&(N \geq 451)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2017}) &= B_{\bar{N}}(2N + 2017 - B_{\bar{N}}(2N + 2016)) + B_{\bar{N}}(2N + 2017 - B_{\bar{N}}(2N + 2015)) + B_{\bar{N}}(2N + 2017 - B_{\bar{N}}(2N + 2014)) \\
&= B_{\bar{N}}(2N + 2017 - (2N - 585)) + B_{\bar{N}}(2N + 2017 - (N + 2466)) + B_{\bar{N}}(2N + 2017 - (2N + 1705)) \\
&= B_{\bar{N}}(2602) + B_{\bar{N}}(N - 449) + B_{\bar{N}}(312) = 2602 + (N - 449) + 312 = \mathbf{N} + \mathbf{2465} \\
&(N \geq 2602)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2018}) &= B_{\bar{N}}(2N + 2018 - B_{\bar{N}}(2N + 2017)) + B_{\bar{N}}(2N + 2018 - B_{\bar{N}}(2N + 2016)) + B_{\bar{N}}(2N + 2018 - B_{\bar{N}}(2N + 2015)) \\
&= B_{\bar{N}}(2N + 2018 - (N + 2465)) + B_{\bar{N}}(2N + 2018 - (2N - 585)) + B_{\bar{N}}(2N + 2018 - (N + 2466)) \\
&= B_{\bar{N}}(N - 447) + B_{\bar{N}}(2603) + B_{\bar{N}}(N - 448) = (N - 447) + 2603 + (N - 448) = \mathbf{2N} + \mathbf{1708} \\
&(N \geq 2603)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2019}) &= B_{\bar{N}}(2N + 2019 - B_{\bar{N}}(2N + 2018)) + B_{\bar{N}}(2N + 2019 - B_{\bar{N}}(2N + 2017)) + B_{\bar{N}}(2N + 2019 - B_{\bar{N}}(2N + 2016)) \\
&= B_{\bar{N}}(2N + 2019 - (2N + 1708)) + B_{\bar{N}}(2N + 2019 - (N + 2465)) + B_{\bar{N}}(2N + 2019 - (2N - 585)) \\
&= B_{\bar{N}}(311) + B_{\bar{N}}(N - 446) + B_{\bar{N}}(2604) = 311 + (N - 446) + 2604 = \mathbf{N} + \mathbf{2469} \\
&(N \geq 2604)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2020}) &= B_{\bar{N}}(2N + 2020 - B_{\bar{N}}(2N + 2019)) + B_{\bar{N}}(2N + 2020 - B_{\bar{N}}(2N + 2018)) + B_{\bar{N}}(2N + 2020 - B_{\bar{N}}(2N + 2017)) \\
&= B_{\bar{N}}(2N + 2020 - (N + 2469)) + B_{\bar{N}}(2N + 2020 - (2N + 1708)) + B_{\bar{N}}(2N + 2020 - (N + 2465)) \\
&= B_{\bar{N}}(N - 449) + B_{\bar{N}}(312) + B_{\bar{N}}(N - 445) = (N - 449) + 312 + (N - 445) = \mathbf{2N} - \mathbf{582} \\
&(N \geq 450)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2021}) &= B_{\bar{N}}(2N + 2021 - B_{\bar{N}}(2N + 2020)) + B_{\bar{N}}(2N + 2021 - B_{\bar{N}}(2N + 2019)) + B_{\bar{N}}(2N + 2021 - B_{\bar{N}}(2N + 2018)) \\
&= B_{\bar{N}}(2N + 2021 - (2N - 582)) + B_{\bar{N}}(2N + 2021 - (N + 2469)) + B_{\bar{N}}(2N + 2021 - (2N + 1708)) \\
&= B_{\bar{N}}(2603) + B_{\bar{N}}(N - 448) + B_{\bar{N}}(313) = 2603 + (N - 448) + 313 = \mathbf{N} + \mathbf{2468} \\
&(N \geq 2603)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2022}) &= B_{\bar{N}}(2N + 2022 - B_{\bar{N}}(2N + 2021)) + B_{\bar{N}}(2N + 2022 - B_{\bar{N}}(2N + 2020)) + B_{\bar{N}}(2N + 2022 - B_{\bar{N}}(2N + 2019)) \\
&= B_{\bar{N}}(2N + 2022 - (N + 2468)) + B_{\bar{N}}(2N + 2022 - (2N - 582)) + B_{\bar{N}}(2N + 2022 - (N + 2469)) \\
&= B_{\bar{N}}(N - 446) + B_{\bar{N}}(2604) + B_{\bar{N}}(N - 447) = (N - 446) + 2604 + (N - 447) = \mathbf{2N} + \mathbf{1711} \\
&(N \geq 2604)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2023}) &= B_{\bar{N}}(2N + 2023 - B_{\bar{N}}(2N + 2022)) + B_{\bar{N}}(2N + 2023 - B_{\bar{N}}(2N + 2021)) + B_{\bar{N}}(2N + 2023 - B_{\bar{N}}(2N + 2020)) \\
&= B_{\bar{N}}(2N + 2023 - (2N + 1711)) + B_{\bar{N}}(2N + 2023 - (N + 2468)) + B_{\bar{N}}(2N + 2023 - (2N - 582)) \\
&= B_{\bar{N}}(312) + B_{\bar{N}}(N - 445) + B_{\bar{N}}(2605) = 312 + (N - 445) + 2605 = \mathbf{N} + \mathbf{2472} \\
&(N \geq 2605)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2024}) &= B_{\bar{N}}(2N + 2024 - B_{\bar{N}}(2N + 2023)) + B_{\bar{N}}(2N + 2024 - B_{\bar{N}}(2N + 2022)) + B_{\bar{N}}(2N + 2024 - B_{\bar{N}}(2N + 2021)) \\
&= B_{\bar{N}}(2N + 2024 - (N + 2472)) + B_{\bar{N}}(2N + 2024 - (2N + 1711)) + B_{\bar{N}}(2N + 2024 - (N + 2468)) \\
&= B_{\bar{N}}(N - 448) + B_{\bar{N}}(313) + B_{\bar{N}}(N - 444) = (N - 448) + 313 + (N - 444) = \mathbf{2N} - \mathbf{579} \\
&(N \geq 449)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2025}) &= B_{\bar{N}}(2N + 2025 - B_{\bar{N}}(2N + 2024)) + B_{\bar{N}}(2N + 2025 - B_{\bar{N}}(2N + 2023)) + B_{\bar{N}}(2N + 2025 - B_{\bar{N}}(2N + 2022)) \\
&= B_{\bar{N}}(2N + 2025 - (2N - 579)) + B_{\bar{N}}(2N + 2025 - (N + 2472)) + B_{\bar{N}}(2N + 2025 - (2N + 1711)) \\
&= B_{\bar{N}}(2604) + B_{\bar{N}}(N - 447) + B_{\bar{N}}(314) = 2604 + (N - 447) + 314 = \mathbf{N} + \mathbf{2471} \\
&(N \geq 2604)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2026}) &= B_{\bar{N}}(2N + 2026 - B_{\bar{N}}(2N + 2025)) + B_{\bar{N}}(2N + 2026 - B_{\bar{N}}(2N + 2024)) + B_{\bar{N}}(2N + 2026 - B_{\bar{N}}(2N + 2023)) \\
&= B_{\bar{N}}(2N + 2026 - (N + 2471)) + B_{\bar{N}}(2N + 2026 - (2N - 579)) + B_{\bar{N}}(2N + 2026 - (N + 2472)) \\
&= B_{\bar{N}}(N - 445) + B_{\bar{N}}(2605) + B_{\bar{N}}(N - 446) = (N - 445) + 2605 + (N - 446) = \mathbf{2N} + \mathbf{1714} \\
&(N \geq 2605)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2027}) &= B_{\bar{N}}(2N + 2027 - B_{\bar{N}}(2N + 2026)) + B_{\bar{N}}(2N + 2027 - B_{\bar{N}}(2N + 2025)) + B_{\bar{N}}(2N + 2027 - B_{\bar{N}}(2N + 2024)) \\
&= B_{\bar{N}}(2N + 2027 - (2N + 1714)) + B_{\bar{N}}(2N + 2027 - (N + 2471)) + B_{\bar{N}}(2N + 2027 - (2N - 579)) \\
&= B_{\bar{N}}(313) + B_{\bar{N}}(N - 444) + B_{\bar{N}}(2606) = 313 + (N - 444) + 2606 = \mathbf{N} + \mathbf{2475} \\
&(N \geq 2606)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2028}) &= B_{\bar{N}}(2N + 2028 - B_{\bar{N}}(2N + 2027)) + B_{\bar{N}}(2N + 2028 - B_{\bar{N}}(2N + 2026)) + B_{\bar{N}}(2N + 2028 - B_{\bar{N}}(2N + 2025)) \\
&= B_{\bar{N}}(2N + 2028 - (N + 2475)) + B_{\bar{N}}(2N + 2028 - (2N + 1714)) + B_{\bar{N}}(2N + 2028 - (N + 2471)) \\
&= B_{\bar{N}}(N - 447) + B_{\bar{N}}(314) + B_{\bar{N}}(N - 443) = (N - 447) + 314 + (N - 443) = \mathbf{2N} - \mathbf{576} \\
&(N \geq 448)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2029}) &= B_{\bar{N}}(2N + 2029 - B_{\bar{N}}(2N + 2028)) + B_{\bar{N}}(2N + 2029 - B_{\bar{N}}(2N + 2027)) + B_{\bar{N}}(2N + 2029 - B_{\bar{N}}(2N + 2026)) \\
&= B_{\bar{N}}(2N + 2029 - (2N - 576)) + B_{\bar{N}}(2N + 2029 - (N + 2475)) + B_{\bar{N}}(2N + 2029 - (2N + 1714)) \\
&= B_{\bar{N}}(2605) + B_{\bar{N}}(N - 446) + B_{\bar{N}}(315) = 2605 + (N - 446) + 315 = \mathbf{N} + \mathbf{2474} \\
&(N \geq 2605)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2030}) &= B_{\bar{N}}(2N + 2030 - B_{\bar{N}}(2N + 2029)) + B_{\bar{N}}(2N + 2030 - B_{\bar{N}}(2N + 2028)) + B_{\bar{N}}(2N + 2030 - B_{\bar{N}}(2N + 2027)) \\
&= B_{\bar{N}}(2N + 2030 - (N + 2474)) + B_{\bar{N}}(2N + 2030 - (2N - 576)) + B_{\bar{N}}(2N + 2030 - (N + 2475)) \\
&= B_{\bar{N}}(N - 444) + B_{\bar{N}}(2606) + B_{\bar{N}}(N - 445) = (N - 444) + 2606 + (N - 445) = \mathbf{2N} + \mathbf{1717} \\
&(N \geq 2606)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2031}) &= B_{\bar{N}}(2N + 2031 - B_{\bar{N}}(2N + 2030)) + B_{\bar{N}}(2N + 2031 - B_{\bar{N}}(2N + 2029)) + B_{\bar{N}}(2N + 2031 - B_{\bar{N}}(2N + 2028)) \\
&= B_{\bar{N}}(2N + 2031 - (2N + 1717)) + B_{\bar{N}}(2N + 2031 - (N + 2474)) + B_{\bar{N}}(2N + 2031 - (2N - 576)) \\
&= B_{\bar{N}}(314) + B_{\bar{N}}(N - 443) + B_{\bar{N}}(2607) = 314 + (N - 443) + 2607 = \mathbf{N} + \mathbf{2478} \\
&(N \geq 2607)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2032}) &= B_{\bar{N}}(2N + 2032 - B_{\bar{N}}(2N + 2031)) + B_{\bar{N}}(2N + 2032 - B_{\bar{N}}(2N + 2030)) + B_{\bar{N}}(2N + 2032 - B_{\bar{N}}(2N + 2029)) \\
&= B_{\bar{N}}(2N + 2032 - (N + 2478)) + B_{\bar{N}}(2N + 2032 - (2N + 1717)) + B_{\bar{N}}(2N + 2032 - (N + 2474)) \\
&= B_{\bar{N}}(N - 446) + B_{\bar{N}}(315) + B_{\bar{N}}(N - 442) = (N - 446) + 315 + (N - 442) = \mathbf{2N} - \mathbf{573} \\
&(N \geq 447)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2033}) &= B_{\bar{N}}(2N + 2033 - B_{\bar{N}}(2N + 2032)) + B_{\bar{N}}(2N + 2033 - B_{\bar{N}}(2N + 2031)) + B_{\bar{N}}(2N + 2033 - B_{\bar{N}}(2N + 2030)) \\
&= B_{\bar{N}}(2N + 2033 - (2N - 573)) + B_{\bar{N}}(2N + 2033 - (N + 2478)) + B_{\bar{N}}(2N + 2033 - (2N + 1717)) \\
&= B_{\bar{N}}(2606) + B_{\bar{N}}(N - 445) + B_{\bar{N}}(316) = 2606 + (N - 445) + 316 = \mathbf{N} + \mathbf{2477} \\
&(N \geq 2606)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2034}) &= B_{\bar{N}}(2N + 2034 - B_{\bar{N}}(2N + 2033)) + B_{\bar{N}}(2N + 2034 - B_{\bar{N}}(2N + 2032)) + B_{\bar{N}}(2N + 2034 - B_{\bar{N}}(2N + 2031)) \\
&= B_{\bar{N}}(2N + 2034 - (N + 2477)) + B_{\bar{N}}(2N + 2034 - (2N - 573)) + B_{\bar{N}}(2N + 2034 - (N + 2478)) \\
&= B_{\bar{N}}(N - 443) + B_{\bar{N}}(2607) + B_{\bar{N}}(N - 444) = (N - 443) + 2607 + (N - 444) = \mathbf{2N} + \mathbf{1720} \\
&(N \geq 2607)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2035}) &= B_{\bar{N}}(2N + 2035 - B_{\bar{N}}(2N + 2034)) + B_{\bar{N}}(2N + 2035 - B_{\bar{N}}(2N + 2033)) + B_{\bar{N}}(2N + 2035 - B_{\bar{N}}(2N + 2032)) \\
&= B_{\bar{N}}(2N + 2035 - (2N + 1720)) + B_{\bar{N}}(2N + 2035 - (N + 2477)) + B_{\bar{N}}(2N + 2035 - (2N - 573)) \\
&= B_{\bar{N}}(315) + B_{\bar{N}}(N - 442) + B_{\bar{N}}(2608) = 315 + (N - 442) + 2608 = \mathbf{N} + \mathbf{2481} \\
&(N \geq 2608)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2036}) &= B_{\bar{N}}(2N + 2036 - B_{\bar{N}}(2N + 2035)) + B_{\bar{N}}(2N + 2036 - B_{\bar{N}}(2N + 2034)) + B_{\bar{N}}(2N + 2036 - B_{\bar{N}}(2N + 2033)) \\
&= B_{\bar{N}}(2N + 2036 - (N + 2481)) + B_{\bar{N}}(2N + 2036 - (2N + 1720)) + B_{\bar{N}}(2N + 2036 - (N + 2477)) \\
&= B_{\bar{N}}(N - 445) + B_{\bar{N}}(316) + B_{\bar{N}}(N - 441) = (N - 445) + 316 + (N - 441) = \mathbf{2N} - \mathbf{570} \\
&(N \geq 446)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2037}) &= B_{\bar{N}}(2N + 2037 - B_{\bar{N}}(2N + 2036)) + B_{\bar{N}}(2N + 2037 - B_{\bar{N}}(2N + 2035)) + B_{\bar{N}}(2N + 2037 - B_{\bar{N}}(2N + 2034)) \\
&= B_{\bar{N}}(2N + 2037 - (2N - 570)) + B_{\bar{N}}(2N + 2037 - (N + 2481)) + B_{\bar{N}}(2N + 2037 - (2N + 1720)) \\
&= B_{\bar{N}}(2607) + B_{\bar{N}}(N - 444) + B_{\bar{N}}(317) = 2607 + (N - 444) + 317 = \mathbf{N} + \mathbf{2480} \\
&(N \geq 2607)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2038}) &= B_{\bar{N}}(2N + 2038 - B_{\bar{N}}(2N + 2037)) + B_{\bar{N}}(2N + 2038 - B_{\bar{N}}(2N + 2036)) + B_{\bar{N}}(2N + 2038 - B_{\bar{N}}(2N + 2035)) \\
&= B_{\bar{N}}(2N + 2038 - (N + 2480)) + B_{\bar{N}}(2N + 2038 - (2N - 570)) + B_{\bar{N}}(2N + 2038 - (N + 2481)) \\
&= B_{\bar{N}}(N - 442) + B_{\bar{N}}(2608) + B_{\bar{N}}(N - 443) = (N - 442) + 2608 + (N - 443) = \mathbf{2N} + \mathbf{1723} \\
&(N \geq 2608)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2039}) &= B_{\bar{N}}(2N + 2039 - B_{\bar{N}}(2N + 2038)) + B_{\bar{N}}(2N + 2039 - B_{\bar{N}}(2N + 2037)) + B_{\bar{N}}(2N + 2039 - B_{\bar{N}}(2N + 2036)) \\
&= B_{\bar{N}}(2N + 2039 - (2N + 1723)) + B_{\bar{N}}(2N + 2039 - (N + 2480)) + B_{\bar{N}}(2N + 2039 - (2N - 570)) \\
&= B_{\bar{N}}(316) + B_{\bar{N}}(N - 441) + B_{\bar{N}}(2609) = 316 + (N - 441) + 2609 = \mathbf{N} + \mathbf{2484} \\
&(N \geq 2609)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2040}) &= B_{\bar{N}}(2N + 2040 - B_{\bar{N}}(2N + 2039)) + B_{\bar{N}}(2N + 2040 - B_{\bar{N}}(2N + 2038)) + B_{\bar{N}}(2N + 2040 - B_{\bar{N}}(2N + 2037)) \\
&= B_{\bar{N}}(2N + 2040 - (N + 2484)) + B_{\bar{N}}(2N + 2040 - (2N + 1723)) + B_{\bar{N}}(2N + 2040 - (N + 2480)) \\
&= B_{\bar{N}}(N - 444) + B_{\bar{N}}(317) + B_{\bar{N}}(N - 440) = (N - 444) + 317 + (N - 440) = \mathbf{2N} - \mathbf{567} \\
&(N \geq 445)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2041}) &= B_{\bar{N}}(2N + 2041 - B_{\bar{N}}(2N + 2040)) + B_{\bar{N}}(2N + 2041 - B_{\bar{N}}(2N + 2039)) + B_{\bar{N}}(2N + 2041 - B_{\bar{N}}(2N + 2038)) \\
&= B_{\bar{N}}(2N + 2041 - (2N - 567)) + B_{\bar{N}}(2N + 2041 - (N + 2484)) + B_{\bar{N}}(2N + 2041 - (2N + 1723)) \\
&= B_{\bar{N}}(2608) + B_{\bar{N}}(N - 443) + B_{\bar{N}}(318) = 2608 + (N - 443) + 318 = \mathbf{N} + \mathbf{2483} \\
&(N \geq 2608)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2042}) &= B_{\bar{N}}(2N + 2042 - B_{\bar{N}}(2N + 2041)) + B_{\bar{N}}(2N + 2042 - B_{\bar{N}}(2N + 2040)) + B_{\bar{N}}(2N + 2042 - B_{\bar{N}}(2N + 2039)) \\
&= B_{\bar{N}}(2N + 2042 - (N + 2483)) + B_{\bar{N}}(2N + 2042 - (2N - 567)) + B_{\bar{N}}(2N + 2042 - (N + 2484)) \\
&= B_{\bar{N}}(N - 441) + B_{\bar{N}}(2609) + B_{\bar{N}}(N - 442) = (N - 441) + 2609 + (N - 442) = \mathbf{2N} + \mathbf{1726} \\
&(N \geq 2609)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2043}) &= B_{\bar{N}}(2N + 2043 - B_{\bar{N}}(2N + 2042)) + B_{\bar{N}}(2N + 2043 - B_{\bar{N}}(2N + 2041)) + B_{\bar{N}}(2N + 2043 - B_{\bar{N}}(2N + 2040)) \\
&= B_{\bar{N}}(2N + 2043 - (2N + 1726)) + B_{\bar{N}}(2N + 2043 - (N + 2483)) + B_{\bar{N}}(2N + 2043 - (2N - 567)) \\
&= B_{\bar{N}}(317) + B_{\bar{N}}(N - 440) + B_{\bar{N}}(2610) = 317 + (N - 440) + 2610 = \mathbf{N} + \mathbf{2487} \\
&(N \geq 2610)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2044}) &= B_{\bar{N}}(2N + 2044 - B_{\bar{N}}(2N + 2043)) + B_{\bar{N}}(2N + 2044 - B_{\bar{N}}(2N + 2042)) + B_{\bar{N}}(2N + 2044 - B_{\bar{N}}(2N + 2041)) \\
&= B_{\bar{N}}(2N + 2044 - (N + 2487)) + B_{\bar{N}}(2N + 2044 - (2N + 1726)) + B_{\bar{N}}(2N + 2044 - (N + 2483)) \\
&= B_{\bar{N}}(N - 443) + B_{\bar{N}}(318) + B_{\bar{N}}(N - 439) = (N - 443) + 318 + (N - 439) = \mathbf{2N} - \mathbf{564} \\
&(N \geq 444)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2045}) &= B_{\bar{N}}(2N + 2045 - B_{\bar{N}}(2N + 2044)) + B_{\bar{N}}(2N + 2045 - B_{\bar{N}}(2N + 2043)) + B_{\bar{N}}(2N + 2045 - B_{\bar{N}}(2N + 2042)) \\
&= B_{\bar{N}}(2N + 2045 - (2N - 564)) + B_{\bar{N}}(2N + 2045 - (N + 2487)) + B_{\bar{N}}(2N + 2045 - (2N + 1726)) \\
&= B_{\bar{N}}(2609) + B_{\bar{N}}(N - 442) + B_{\bar{N}}(319) = 2609 + (N - 442) + 319 = \mathbf{N} + \mathbf{2486} \\
&(N \geq 2609)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2046}) &= B_{\bar{N}}(2N + 2046 - B_{\bar{N}}(2N + 2045)) + B_{\bar{N}}(2N + 2046 - B_{\bar{N}}(2N + 2044)) + B_{\bar{N}}(2N + 2046 - B_{\bar{N}}(2N + 2043)) \\
&= B_{\bar{N}}(2N + 2046 - (N + 2486)) + B_{\bar{N}}(2N + 2046 - (2N - 564)) + B_{\bar{N}}(2N + 2046 - (N + 2487)) \\
&= B_{\bar{N}}(N - 440) + B_{\bar{N}}(2610) + B_{\bar{N}}(N - 441) = (N - 440) + 2610 + (N - 441) = \mathbf{2N} + \mathbf{1729} \\
&(N \geq 2610)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2047}) &= B_{\bar{N}}(2N + 2047 - B_{\bar{N}}(2N + 2046)) + B_{\bar{N}}(2N + 2047 - B_{\bar{N}}(2N + 2045)) + B_{\bar{N}}(2N + 2047 - B_{\bar{N}}(2N + 2044)) \\
&= B_{\bar{N}}(2N + 2047 - (2N + 1729)) + B_{\bar{N}}(2N + 2047 - (N + 2486)) + B_{\bar{N}}(2N + 2047 - (2N - 564)) \\
&= B_{\bar{N}}(318) + B_{\bar{N}}(N - 439) + B_{\bar{N}}(2611) = 318 + (N - 439) + 2611 = \mathbf{N} + \mathbf{2490} \\
&(N \geq 2611)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2048}) &= B_{\bar{N}}(2N + 2048 - B_{\bar{N}}(2N + 2047)) + B_{\bar{N}}(2N + 2048 - B_{\bar{N}}(2N + 2046)) + B_{\bar{N}}(2N + 2048 - B_{\bar{N}}(2N + 2045)) \\
&= B_{\bar{N}}(2N + 2048 - (N + 2490)) + B_{\bar{N}}(2N + 2048 - (2N + 1729)) + B_{\bar{N}}(2N + 2048 - (N + 2486)) \\
&= B_{\bar{N}}(N - 442) + B_{\bar{N}}(319) + B_{\bar{N}}(N - 438) = (N - 442) + 319 + (N - 438) = \mathbf{2N} - \mathbf{561} \\
&(N \geq 443)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2049}) &= B_{\bar{N}}(2N + 2049 - B_{\bar{N}}(2N + 2048)) + B_{\bar{N}}(2N + 2049 - B_{\bar{N}}(2N + 2047)) + B_{\bar{N}}(2N + 2049 - B_{\bar{N}}(2N + 2046)) \\
&= B_{\bar{N}}(2N + 2049 - (2N - 561)) + B_{\bar{N}}(2N + 2049 - (N + 2490)) + B_{\bar{N}}(2N + 2049 - (2N + 1729)) \\
&= B_{\bar{N}}(2610) + B_{\bar{N}}(N - 441) + B_{\bar{N}}(320) = 2610 + (N - 441) + 320 = \mathbf{N} + \mathbf{2489} \\
&(N \geq 2610)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2050}) &= B_{\bar{N}}(2N + 2050 - B_{\bar{N}}(2N + 2049)) + B_{\bar{N}}(2N + 2050 - B_{\bar{N}}(2N + 2048)) + B_{\bar{N}}(2N + 2050 - B_{\bar{N}}(2N + 2047)) \\
&= B_{\bar{N}}(2N + 2050 - (N + 2489)) + B_{\bar{N}}(2N + 2050 - (2N - 561)) + B_{\bar{N}}(2N + 2050 - (N + 2490)) \\
&= B_{\bar{N}}(N - 439) + B_{\bar{N}}(2611) + B_{\bar{N}}(N - 440) = (N - 439) + 2611 + (N - 440) = \mathbf{2N} + \mathbf{1732} \\
&(N \geq 2611)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2051}) &= B_{\bar{N}}(2N + 2051 - B_{\bar{N}}(2N + 2050)) + B_{\bar{N}}(2N + 2051 - B_{\bar{N}}(2N + 2049)) + B_{\bar{N}}(2N + 2051 - B_{\bar{N}}(2N + 2048)) \\
&= B_{\bar{N}}(2N + 2051 - (2N + 1732)) + B_{\bar{N}}(2N + 2051 - (N + 2489)) + B_{\bar{N}}(2N + 2051 - (2N - 561)) \\
&= B_{\bar{N}}(319) + B_{\bar{N}}(N - 438) + B_{\bar{N}}(2612) = 319 + (N - 438) + 2612 = \mathbf{N} + \mathbf{2493} \\
&(N \geq 2612)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2052}) &= B_{\bar{N}}(2N + 2052 - B_{\bar{N}}(2N + 2051)) + B_{\bar{N}}(2N + 2052 - B_{\bar{N}}(2N + 2050)) + B_{\bar{N}}(2N + 2052 - B_{\bar{N}}(2N + 2049)) \\
&= B_{\bar{N}}(2N + 2052 - (N + 2493)) + B_{\bar{N}}(2N + 2052 - (2N + 1732)) + B_{\bar{N}}(2N + 2052 - (N + 2489)) \\
&= B_{\bar{N}}(N - 441) + B_{\bar{N}}(320) + B_{\bar{N}}(N - 437) = (N - 441) + 320 + (N - 437) = \mathbf{2N} - \mathbf{558} \\
&(N \geq 442)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2053}) &= B_{\bar{N}}(2N + 2053 - B_{\bar{N}}(2N + 2052)) + B_{\bar{N}}(2N + 2053 - B_{\bar{N}}(2N + 2051)) + B_{\bar{N}}(2N + 2053 - B_{\bar{N}}(2N + 2050)) \\
&= B_{\bar{N}}(2N + 2053 - (2N - 558)) + B_{\bar{N}}(2N + 2053 - (N + 2493)) + B_{\bar{N}}(2N + 2053 - (2N + 1732)) \\
&= B_{\bar{N}}(2611) + B_{\bar{N}}(N - 440) + B_{\bar{N}}(321) = 2611 + (N - 440) + 321 = \mathbf{N} + \mathbf{2492} \\
&(N \geq 2611)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2054}) &= B_{\bar{N}}(2N + 2054 - B_{\bar{N}}(2N + 2053)) + B_{\bar{N}}(2N + 2054 - B_{\bar{N}}(2N + 2052)) + B_{\bar{N}}(2N + 2054 - B_{\bar{N}}(2N + 2051)) \\
&= B_{\bar{N}}(2N + 2054 - (N + 2492)) + B_{\bar{N}}(2N + 2054 - (2N - 558)) + B_{\bar{N}}(2N + 2054 - (N + 2493)) \\
&= B_{\bar{N}}(N - 438) + B_{\bar{N}}(2612) + B_{\bar{N}}(N - 439) = (N - 438) + 2612 + (N - 439) = \mathbf{2N} + \mathbf{1735} \\
&(N \geq 2612)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2055}) &= B_{\bar{N}}(2N + 2055 - B_{\bar{N}}(2N + 2054)) + B_{\bar{N}}(2N + 2055 - B_{\bar{N}}(2N + 2053)) + B_{\bar{N}}(2N + 2055 - B_{\bar{N}}(2N + 2052)) \\
&= B_{\bar{N}}(2N + 2055 - (2N + 1735)) + B_{\bar{N}}(2N + 2055 - (N + 2492)) + B_{\bar{N}}(2N + 2055 - (2N - 558)) \\
&= B_{\bar{N}}(320) + B_{\bar{N}}(N - 437) + B_{\bar{N}}(2613) = 320 + (N - 437) + 2613 = \mathbf{N} + \mathbf{2496} \\
&(N \geq 2613)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2056}) &= B_{\bar{N}}(2N + 2056 - B_{\bar{N}}(2N + 2055)) + B_{\bar{N}}(2N + 2056 - B_{\bar{N}}(2N + 2054)) + B_{\bar{N}}(2N + 2056 - B_{\bar{N}}(2N + 2053)) \\
&= B_{\bar{N}}(2N + 2056 - (N + 2496)) + B_{\bar{N}}(2N + 2056 - (2N + 1735)) + B_{\bar{N}}(2N + 2056 - (N + 2492)) \\
&= B_{\bar{N}}(N - 440) + B_{\bar{N}}(321) + B_{\bar{N}}(N - 436) = (N - 440) + 321 + (N - 436) = \mathbf{2N} - \mathbf{555} \\
&(N \geq 441)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2057}) &= B_{\bar{N}}(2N + 2057 - B_{\bar{N}}(2N + 2056)) + B_{\bar{N}}(2N + 2057 - B_{\bar{N}}(2N + 2055)) + B_{\bar{N}}(2N + 2057 - B_{\bar{N}}(2N + 2054)) \\
&= B_{\bar{N}}(2N + 2057 - (2N - 555)) + B_{\bar{N}}(2N + 2057 - (N + 2496)) + B_{\bar{N}}(2N + 2057 - (2N + 1735)) \\
&= B_{\bar{N}}(2612) + B_{\bar{N}}(N - 439) + B_{\bar{N}}(322) = 2612 + (N - 439) + 322 = \mathbf{N} + \mathbf{2495} \\
&(N \geq 2612)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2058}) &= B_{\bar{N}}(2N + 2058 - B_{\bar{N}}(2N + 2057)) + B_{\bar{N}}(2N + 2058 - B_{\bar{N}}(2N + 2056)) + B_{\bar{N}}(2N + 2058 - B_{\bar{N}}(2N + 2055)) \\
&= B_{\bar{N}}(2N + 2058 - (N + 2495)) + B_{\bar{N}}(2N + 2058 - (2N - 555)) + B_{\bar{N}}(2N + 2058 - (N + 2496)) \\
&= B_{\bar{N}}(N - 437) + B_{\bar{N}}(2613) + B_{\bar{N}}(N - 438) = (N - 437) + 2613 + (N - 438) = \mathbf{2N} + \mathbf{1738} \\
&(N \geq 2613)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2059}) &= B_{\bar{N}}(2N + 2059 - B_{\bar{N}}(2N + 2058)) + B_{\bar{N}}(2N + 2059 - B_{\bar{N}}(2N + 2057)) + B_{\bar{N}}(2N + 2059 - B_{\bar{N}}(2N + 2056)) \\
&= B_{\bar{N}}(2N + 2059 - (2N + 1738)) + B_{\bar{N}}(2N + 2059 - (N + 2495)) + B_{\bar{N}}(2N + 2059 - (2N - 555)) \\
&= B_{\bar{N}}(321) + B_{\bar{N}}(N - 436) + B_{\bar{N}}(2614) = 321 + (N - 436) + 2614 = \mathbf{N} + \mathbf{2499} \\
&(N \geq 2614)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2060}) &= B_{\bar{N}}(2N + 2060 - B_{\bar{N}}(2N + 2059)) + B_{\bar{N}}(2N + 2060 - B_{\bar{N}}(2N + 2058)) + B_{\bar{N}}(2N + 2060 - B_{\bar{N}}(2N + 2057)) \\
&= B_{\bar{N}}(2N + 2060 - (N + 2499)) + B_{\bar{N}}(2N + 2060 - (2N + 1738)) + B_{\bar{N}}(2N + 2060 - (N + 2495)) \\
&= B_{\bar{N}}(N - 439) + B_{\bar{N}}(322) + B_{\bar{N}}(N - 435) = (N - 439) + 322 + (N - 435) = \mathbf{2N} - \mathbf{552} \\
&(N \geq 440)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2061}) &= B_{\bar{N}}(2N + 2061 - B_{\bar{N}}(2N + 2060)) + B_{\bar{N}}(2N + 2061 - B_{\bar{N}}(2N + 2059)) + B_{\bar{N}}(2N + 2061 - B_{\bar{N}}(2N + 2058)) \\
&= B_{\bar{N}}(2N + 2061 - (2N - 552)) + B_{\bar{N}}(2N + 2061 - (N + 2499)) + B_{\bar{N}}(2N + 2061 - (2N + 1738)) \\
&= B_{\bar{N}}(2613) + B_{\bar{N}}(N - 438) + B_{\bar{N}}(323) = 2613 + (N - 438) + 323 = \mathbf{N} + \mathbf{2498} \\
&(N \geq 2613)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2062}) &= B_{\bar{N}}(2N + 2062 - B_{\bar{N}}(2N + 2061)) + B_{\bar{N}}(2N + 2062 - B_{\bar{N}}(2N + 2060)) + B_{\bar{N}}(2N + 2062 - B_{\bar{N}}(2N + 2059)) \\
&= B_{\bar{N}}(2N + 2062 - (N + 2498)) + B_{\bar{N}}(2N + 2062 - (2N - 552)) + B_{\bar{N}}(2N + 2062 - (N + 2499)) \\
&= B_{\bar{N}}(N - 436) + B_{\bar{N}}(2614) + B_{\bar{N}}(N - 437) = (N - 436) + 2614 + (N - 437) = \mathbf{2N} + \mathbf{1741} \\
&(N \geq 2614)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2063}) &= B_{\bar{N}}(2N + 2063 - B_{\bar{N}}(2N + 2062)) + B_{\bar{N}}(2N + 2063 - B_{\bar{N}}(2N + 2061)) + B_{\bar{N}}(2N + 2063 - B_{\bar{N}}(2N + 2060)) \\
&= B_{\bar{N}}(2N + 2063 - (2N + 1741)) + B_{\bar{N}}(2N + 2063 - (N + 2498)) + B_{\bar{N}}(2N + 2063 - (2N - 552)) \\
&= B_{\bar{N}}(322) + B_{\bar{N}}(N - 435) + B_{\bar{N}}(2615) = 322 + (N - 435) + 2615 = \mathbf{N} + \mathbf{2502} \\
&(N \geq 2615)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2064}) &= B_{\bar{N}}(2N + 2064 - B_{\bar{N}}(2N + 2063)) + B_{\bar{N}}(2N + 2064 - B_{\bar{N}}(2N + 2062)) + B_{\bar{N}}(2N + 2064 - B_{\bar{N}}(2N + 2061)) \\
&= B_{\bar{N}}(2N + 2064 - (N + 2502)) + B_{\bar{N}}(2N + 2064 - (2N + 1741)) + B_{\bar{N}}(2N + 2064 - (N + 2498)) \\
&= B_{\bar{N}}(N - 438) + B_{\bar{N}}(323) + B_{\bar{N}}(N - 434) = (N - 438) + 323 + (N - 434) = \mathbf{2N} - \mathbf{549} \\
&(N \geq 439)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2065}) &= B_{\bar{N}}(2N + 2065 - B_{\bar{N}}(2N + 2064)) + B_{\bar{N}}(2N + 2065 - B_{\bar{N}}(2N + 2063)) + B_{\bar{N}}(2N + 2065 - B_{\bar{N}}(2N + 2062)) \\
&= B_{\bar{N}}(2N + 2065 - (2N - 549)) + B_{\bar{N}}(2N + 2065 - (N + 2502)) + B_{\bar{N}}(2N + 2065 - (2N + 1741)) \\
&= B_{\bar{N}}(2614) + B_{\bar{N}}(N - 437) + B_{\bar{N}}(324) = 2614 + (N - 437) + 324 = \mathbf{N} + \mathbf{2501} \\
&(N \geq 2614)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2066}) &= B_{\bar{N}}(2N + 2066 - B_{\bar{N}}(2N + 2065)) + B_{\bar{N}}(2N + 2066 - B_{\bar{N}}(2N + 2064)) + B_{\bar{N}}(2N + 2066 - B_{\bar{N}}(2N + 2063)) \\
&= B_{\bar{N}}(2N + 2066 - (N + 2501)) + B_{\bar{N}}(2N + 2066 - (2N - 549)) + B_{\bar{N}}(2N + 2066 - (N + 2502)) \\
&= B_{\bar{N}}(N - 435) + B_{\bar{N}}(2615) + B_{\bar{N}}(N - 436) = (N - 435) + 2615 + (N - 436) = \mathbf{2N} + \mathbf{1744} \\
&(N \geq 2615)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2067}) &= B_{\bar{N}}(2N + 2067 - B_{\bar{N}}(2N + 2066)) + B_{\bar{N}}(2N + 2067 - B_{\bar{N}}(2N + 2065)) + B_{\bar{N}}(2N + 2067 - B_{\bar{N}}(2N + 2064)) \\
&= B_{\bar{N}}(2N + 2067 - (2N + 1744)) + B_{\bar{N}}(2N + 2067 - (N + 2501)) + B_{\bar{N}}(2N + 2067 - (2N - 549)) \\
&= B_{\bar{N}}(323) + B_{\bar{N}}(N - 434) + B_{\bar{N}}(2616) = 323 + (N - 434) + 2616 = \mathbf{N} + \mathbf{2505} \\
&(N \geq 2616)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2068}) &= B_{\bar{N}}(2N + 2068 - B_{\bar{N}}(2N + 2067)) + B_{\bar{N}}(2N + 2068 - B_{\bar{N}}(2N + 2066)) + B_{\bar{N}}(2N + 2068 - B_{\bar{N}}(2N + 2065)) \\
&= B_{\bar{N}}(2N + 2068 - (N + 2505)) + B_{\bar{N}}(2N + 2068 - (2N + 1744)) + B_{\bar{N}}(2N + 2068 - (N + 2501)) \\
&= B_{\bar{N}}(N - 437) + B_{\bar{N}}(324) + B_{\bar{N}}(N - 433) = (N - 437) + 324 + (N - 433) = \mathbf{2N} - \mathbf{546} \\
&(N \geq 438)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2069}) &= B_{\bar{N}}(2N + 2069 - B_{\bar{N}}(2N + 2068)) + B_{\bar{N}}(2N + 2069 - B_{\bar{N}}(2N + 2067)) + B_{\bar{N}}(2N + 2069 - B_{\bar{N}}(2N + 2066)) \\
&= B_{\bar{N}}(2N + 2069 - (2N - 546)) + B_{\bar{N}}(2N + 2069 - (N + 2505)) + B_{\bar{N}}(2N + 2069 - (2N + 1744)) \\
&= B_{\bar{N}}(2615) + B_{\bar{N}}(N - 436) + B_{\bar{N}}(325) = 2615 + (N - 436) + 325 = \mathbf{N} + \mathbf{2504} \\
&(N \geq 2615)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2070}) &= B_{\bar{N}}(2N + 2070 - B_{\bar{N}}(2N + 2069)) + B_{\bar{N}}(2N + 2070 - B_{\bar{N}}(2N + 2068)) + B_{\bar{N}}(2N + 2070 - B_{\bar{N}}(2N + 2067)) \\
&= B_{\bar{N}}(2N + 2070 - (N + 2504)) + B_{\bar{N}}(2N + 2070 - (2N - 546)) + B_{\bar{N}}(2N + 2070 - (N + 2505)) \\
&= B_{\bar{N}}(N - 434) + B_{\bar{N}}(2616) + B_{\bar{N}}(N - 435) = (N - 434) + 2616 + (N - 435) = \mathbf{2N} + \mathbf{1747} \\
&(N \geq 2616)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2071}) &= B_{\bar{N}}(2N + 2071 - B_{\bar{N}}(2N + 2070)) + B_{\bar{N}}(2N + 2071 - B_{\bar{N}}(2N + 2069)) + B_{\bar{N}}(2N + 2071 - B_{\bar{N}}(2N + 2068)) \\
&= B_{\bar{N}}(2N + 2071 - (2N + 1747)) + B_{\bar{N}}(2N + 2071 - (N + 2504)) + B_{\bar{N}}(2N + 2071 - (2N - 546)) \\
&= B_{\bar{N}}(324) + B_{\bar{N}}(N - 433) + B_{\bar{N}}(2617) = 324 + (N - 433) + 2617 = \mathbf{N} + \mathbf{2508} \\
&(N \geq 2617)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2072}) &= B_{\bar{N}}(2N + 2072 - B_{\bar{N}}(2N + 2071)) + B_{\bar{N}}(2N + 2072 - B_{\bar{N}}(2N + 2070)) + B_{\bar{N}}(2N + 2072 - B_{\bar{N}}(2N + 2069)) \\
&= B_{\bar{N}}(2N + 2072 - (N + 2508)) + B_{\bar{N}}(2N + 2072 - (2N + 1747)) + B_{\bar{N}}(2N + 2072 - (N + 2504)) \\
&= B_{\bar{N}}(N - 436) + B_{\bar{N}}(325) + B_{\bar{N}}(N - 432) = (N - 436) + 325 + (N - 432) = \mathbf{2N} - \mathbf{543} \\
&(N \geq 437)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2073}) &= B_{\bar{N}}(2N + 2073 - B_{\bar{N}}(2N + 2072)) + B_{\bar{N}}(2N + 2073 - B_{\bar{N}}(2N + 2071)) + B_{\bar{N}}(2N + 2073 - B_{\bar{N}}(2N + 2070)) \\
&= B_{\bar{N}}(2N + 2073 - (2N - 543)) + B_{\bar{N}}(2N + 2073 - (N + 2508)) + B_{\bar{N}}(2N + 2073 - (2N + 1747)) \\
&= B_{\bar{N}}(2616) + B_{\bar{N}}(N - 435) + B_{\bar{N}}(326) = 2616 + (N - 435) + 326 = \mathbf{N} + \mathbf{2507} \\
&(N \geq 2616)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2074}) &= B_{\bar{N}}(2N + 2074 - B_{\bar{N}}(2N + 2073)) + B_{\bar{N}}(2N + 2074 - B_{\bar{N}}(2N + 2072)) + B_{\bar{N}}(2N + 2074 - B_{\bar{N}}(2N + 2071)) \\
&= B_{\bar{N}}(2N + 2074 - (N + 2507)) + B_{\bar{N}}(2N + 2074 - (2N - 543)) + B_{\bar{N}}(2N + 2074 - (N + 2508)) \\
&= B_{\bar{N}}(N - 433) + B_{\bar{N}}(2617) + B_{\bar{N}}(N - 434) = (N - 433) + 2617 + (N - 434) = \mathbf{2N} + \mathbf{1750} \\
&(N \geq 2617)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2075}) &= B_{\bar{N}}(2N + 2075 - B_{\bar{N}}(2N + 2074)) + B_{\bar{N}}(2N + 2075 - B_{\bar{N}}(2N + 2073)) + B_{\bar{N}}(2N + 2075 - B_{\bar{N}}(2N + 2072)) \\
&= B_{\bar{N}}(2N + 2075 - (2N + 1750)) + B_{\bar{N}}(2N + 2075 - (N + 2507)) + B_{\bar{N}}(2N + 2075 - (2N - 543)) \\
&= B_{\bar{N}}(325) + B_{\bar{N}}(N - 432) + B_{\bar{N}}(2618) = 325 + (N - 432) + 2618 = \mathbf{N} + \mathbf{2511} \\
&(N \geq 2618)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2076}) &= B_{\bar{N}}(2N + 2076 - B_{\bar{N}}(2N + 2075)) + B_{\bar{N}}(2N + 2076 - B_{\bar{N}}(2N + 2074)) + B_{\bar{N}}(2N + 2076 - B_{\bar{N}}(2N + 2073)) \\
&= B_{\bar{N}}(2N + 2076 - (N + 2511)) + B_{\bar{N}}(2N + 2076 - (2N + 1750)) + B_{\bar{N}}(2N + 2076 - (N + 2507)) \\
&= B_{\bar{N}}(N - 435) + B_{\bar{N}}(326) + B_{\bar{N}}(N - 431) = (N - 435) + 326 + (N - 431) = \mathbf{2N} - \mathbf{540} \\
&(N \geq 436)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2077}) &= B_{\bar{N}}(2N + 2077 - B_{\bar{N}}(2N + 2076)) + B_{\bar{N}}(2N + 2077 - B_{\bar{N}}(2N + 2075)) + B_{\bar{N}}(2N + 2077 - B_{\bar{N}}(2N + 2074)) \\
&= B_{\bar{N}}(2N + 2077 - (2N - 540)) + B_{\bar{N}}(2N + 2077 - (N + 2511)) + B_{\bar{N}}(2N + 2077 - (2N + 1750)) \\
&= B_{\bar{N}}(2617) + B_{\bar{N}}(N - 434) + B_{\bar{N}}(327) = 2617 + (N - 434) + 327 = \mathbf{N} + \mathbf{2510} \\
&(N \geq 2617)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2078}) &= B_{\bar{N}}(2N + 2078 - B_{\bar{N}}(2N + 2077)) + B_{\bar{N}}(2N + 2078 - B_{\bar{N}}(2N + 2076)) + B_{\bar{N}}(2N + 2078 - B_{\bar{N}}(2N + 2075)) \\
&= B_{\bar{N}}(2N + 2078 - (N + 2510)) + B_{\bar{N}}(2N + 2078 - (2N - 540)) + B_{\bar{N}}(2N + 2078 - (N + 2511)) \\
&= B_{\bar{N}}(N - 432) + B_{\bar{N}}(2618) + B_{\bar{N}}(N - 433) = (N - 432) + 2618 + (N - 433) = \mathbf{2N} + \mathbf{1753} \\
&(N \geq 2618)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2079}) &= B_{\bar{N}}(2N + 2079 - B_{\bar{N}}(2N + 2078)) + B_{\bar{N}}(2N + 2079 - B_{\bar{N}}(2N + 2077)) + B_{\bar{N}}(2N + 2079 - B_{\bar{N}}(2N + 2076)) \\
&= B_{\bar{N}}(2N + 2079 - (2N + 1753)) + B_{\bar{N}}(2N + 2079 - (N + 2510)) + B_{\bar{N}}(2N + 2079 - (2N - 540)) \\
&= B_{\bar{N}}(326) + B_{\bar{N}}(N - 431) + B_{\bar{N}}(2619) = 326 + (N - 431) + 2619 = \mathbf{N} + \mathbf{2514} \\
&(N \geq 2619)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2080}) &= B_{\bar{N}}(2N + 2080 - B_{\bar{N}}(2N + 2079)) + B_{\bar{N}}(2N + 2080 - B_{\bar{N}}(2N + 2078)) + B_{\bar{N}}(2N + 2080 - B_{\bar{N}}(2N + 2077)) \\
&= B_{\bar{N}}(2N + 2080 - (N + 2514)) + B_{\bar{N}}(2N + 2080 - (2N + 1753)) + B_{\bar{N}}(2N + 2080 - (N + 2510)) \\
&= B_{\bar{N}}(N - 434) + B_{\bar{N}}(327) + B_{\bar{N}}(N - 430) = (N - 434) + 327 + (N - 430) = \mathbf{2N} - \mathbf{537} \\
&(N \geq 435)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2081}) &= B_{\bar{N}}(2N + 2081 - B_{\bar{N}}(2N + 2080)) + B_{\bar{N}}(2N + 2081 - B_{\bar{N}}(2N + 2079)) + B_{\bar{N}}(2N + 2081 - B_{\bar{N}}(2N + 2078)) \\
&= B_{\bar{N}}(2N + 2081 - (2N - 537)) + B_{\bar{N}}(2N + 2081 - (N + 2514)) + B_{\bar{N}}(2N + 2081 - (2N + 1753)) \\
&= B_{\bar{N}}(2618) + B_{\bar{N}}(N - 433) + B_{\bar{N}}(328) = 2618 + (N - 433) + 328 = \mathbf{N} + \mathbf{2513} \\
&(N \geq 2618)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2082}) &= B_{\bar{N}}(2N + 2082 - B_{\bar{N}}(2N + 2081)) + B_{\bar{N}}(2N + 2082 - B_{\bar{N}}(2N + 2080)) + B_{\bar{N}}(2N + 2082 - B_{\bar{N}}(2N + 2079)) \\
&= B_{\bar{N}}(2N + 2082 - (N + 2513)) + B_{\bar{N}}(2N + 2082 - (2N - 537)) + B_{\bar{N}}(2N + 2082 - (N + 2514)) \\
&= B_{\bar{N}}(N - 431) + B_{\bar{N}}(2619) + B_{\bar{N}}(N - 432) = (N - 431) + 2619 + (N - 432) = \mathbf{2N} + \mathbf{1756} \\
&(N \geq 2619)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2083}) &= B_{\bar{N}}(2N + 2083 - B_{\bar{N}}(2N + 2082)) + B_{\bar{N}}(2N + 2083 - B_{\bar{N}}(2N + 2081)) + B_{\bar{N}}(2N + 2083 - B_{\bar{N}}(2N + 2080)) \\
&= B_{\bar{N}}(2N + 2083 - (2N + 1756)) + B_{\bar{N}}(2N + 2083 - (N + 2513)) + B_{\bar{N}}(2N + 2083 - (2N - 537)) \\
&= B_{\bar{N}}(327) + B_{\bar{N}}(N - 430) + B_{\bar{N}}(2620) = 327 + (N - 430) + 2620 = \mathbf{N} + \mathbf{2517} \\
&(N \geq 2620)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2084}) &= B_{\bar{N}}(2N + 2084 - B_{\bar{N}}(2N + 2083)) + B_{\bar{N}}(2N + 2084 - B_{\bar{N}}(2N + 2082)) + B_{\bar{N}}(2N + 2084 - B_{\bar{N}}(2N + 2081)) \\
&= B_{\bar{N}}(2N + 2084 - (N + 2517)) + B_{\bar{N}}(2N + 2084 - (2N + 1756)) + B_{\bar{N}}(2N + 2084 - (N + 2513)) \\
&= B_{\bar{N}}(N - 433) + B_{\bar{N}}(328) + B_{\bar{N}}(N - 429) = (N - 433) + 328 + (N - 429) = \mathbf{2N} - \mathbf{534} \\
&(N \geq 434)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2085}) &= B_{\bar{N}}(2N + 2085 - B_{\bar{N}}(2N + 2084)) + B_{\bar{N}}(2N + 2085 - B_{\bar{N}}(2N + 2083)) + B_{\bar{N}}(2N + 2085 - B_{\bar{N}}(2N + 2082)) \\
&= B_{\bar{N}}(2N + 2085 - (2N - 534)) + B_{\bar{N}}(2N + 2085 - (N + 2517)) + B_{\bar{N}}(2N + 2085 - (2N + 1756)) \\
&= B_{\bar{N}}(2619) + B_{\bar{N}}(N - 432) + B_{\bar{N}}(329) = 2619 + (N - 432) + 329 = \mathbf{N} + \mathbf{2516} \\
&(N \geq 2619)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2086}) &= B_{\bar{N}}(2N + 2086 - B_{\bar{N}}(2N + 2085)) + B_{\bar{N}}(2N + 2086 - B_{\bar{N}}(2N + 2084)) + B_{\bar{N}}(2N + 2086 - B_{\bar{N}}(2N + 2083)) \\
&= B_{\bar{N}}(2N + 2086 - (N + 2516)) + B_{\bar{N}}(2N + 2086 - (2N - 534)) + B_{\bar{N}}(2N + 2086 - (N + 2517)) \\
&= B_{\bar{N}}(N - 430) + B_{\bar{N}}(2620) + B_{\bar{N}}(N - 431) = (N - 430) + 2620 + (N - 431) = \mathbf{2N} + \mathbf{1759} \\
&(N \geq 2620)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2087}) &= B_{\bar{N}}(2N + 2087 - B_{\bar{N}}(2N + 2086)) + B_{\bar{N}}(2N + 2087 - B_{\bar{N}}(2N + 2085)) + B_{\bar{N}}(2N + 2087 - B_{\bar{N}}(2N + 2084)) \\
&= B_{\bar{N}}(2N + 2087 - (2N + 1759)) + B_{\bar{N}}(2N + 2087 - (N + 2516)) + B_{\bar{N}}(2N + 2087 - (2N - 534)) \\
&= B_{\bar{N}}(328) + B_{\bar{N}}(N - 429) + B_{\bar{N}}(2621) = 328 + (N - 429) + 2621 = \mathbf{N} + \mathbf{2520} \\
&(N \geq 2621)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2088}) &= B_{\bar{N}}(2N + 2088 - B_{\bar{N}}(2N + 2087)) + B_{\bar{N}}(2N + 2088 - B_{\bar{N}}(2N + 2086)) + B_{\bar{N}}(2N + 2088 - B_{\bar{N}}(2N + 2085)) \\
&= B_{\bar{N}}(2N + 2088 - (N + 2520)) + B_{\bar{N}}(2N + 2088 - (2N + 1759)) + B_{\bar{N}}(2N + 2088 - (N + 2516)) \\
&= B_{\bar{N}}(N - 432) + B_{\bar{N}}(329) + B_{\bar{N}}(N - 428) = (N - 432) + 329 + (N - 428) = \mathbf{2N} - \mathbf{531} \\
&(N \geq 433)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2089}) &= B_{\bar{N}}(2N + 2089 - B_{\bar{N}}(2N + 2088)) + B_{\bar{N}}(2N + 2089 - B_{\bar{N}}(2N + 2087)) + B_{\bar{N}}(2N + 2089 - B_{\bar{N}}(2N + 2086)) \\
&= B_{\bar{N}}(2N + 2089 - (2N - 531)) + B_{\bar{N}}(2N + 2089 - (N + 2520)) + B_{\bar{N}}(2N + 2089 - (2N + 1759)) \\
&= B_{\bar{N}}(2620) + B_{\bar{N}}(N - 431) + B_{\bar{N}}(330) = 2620 + (N - 431) + 330 = \mathbf{N} + \mathbf{2519} \\
&(N \geq 2620)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2090}) &= B_{\bar{N}}(2N + 2090 - B_{\bar{N}}(2N + 2089)) + B_{\bar{N}}(2N + 2090 - B_{\bar{N}}(2N + 2088)) + B_{\bar{N}}(2N + 2090 - B_{\bar{N}}(2N + 2087)) \\
&= B_{\bar{N}}(2N + 2090 - (N + 2519)) + B_{\bar{N}}(2N + 2090 - (2N - 531)) + B_{\bar{N}}(2N + 2090 - (N + 2520)) \\
&= B_{\bar{N}}(N - 429) + B_{\bar{N}}(2621) + B_{\bar{N}}(N - 430) = (N - 429) + 2621 + (N - 430) = \mathbf{2N} + \mathbf{1762} \\
&(N \geq 2621)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2091}) &= B_{\bar{N}}(2N + 2091 - B_{\bar{N}}(2N + 2090)) + B_{\bar{N}}(2N + 2091 - B_{\bar{N}}(2N + 2089)) + B_{\bar{N}}(2N + 2091 - B_{\bar{N}}(2N + 2088)) \\
&= B_{\bar{N}}(2N + 2091 - (2N + 1762)) + B_{\bar{N}}(2N + 2091 - (N + 2519)) + B_{\bar{N}}(2N + 2091 - (2N - 531)) \\
&= B_{\bar{N}}(329) + B_{\bar{N}}(N - 428) + B_{\bar{N}}(2622) = 329 + (N - 428) + 2622 = \mathbf{N} + \mathbf{2523} \\
&(N \geq 2622)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2092}) &= B_{\bar{N}}(2N + 2092 - B_{\bar{N}}(2N + 2091)) + B_{\bar{N}}(2N + 2092 - B_{\bar{N}}(2N + 2090)) + B_{\bar{N}}(2N + 2092 - B_{\bar{N}}(2N + 2089)) \\
&= B_{\bar{N}}(2N + 2092 - (N + 2523)) + B_{\bar{N}}(2N + 2092 - (2N + 1762)) + B_{\bar{N}}(2N + 2092 - (N + 2519)) \\
&= B_{\bar{N}}(N - 431) + B_{\bar{N}}(330) + B_{\bar{N}}(N - 427) = (N - 431) + 330 + (N - 427) = \mathbf{2N} - \mathbf{528} \\
&(N \geq 432)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2093}) &= B_{\bar{N}}(2N + 2093 - B_{\bar{N}}(2N + 2092)) + B_{\bar{N}}(2N + 2093 - B_{\bar{N}}(2N + 2091)) + B_{\bar{N}}(2N + 2093 - B_{\bar{N}}(2N + 2090)) \\
&= B_{\bar{N}}(2N + 2093 - (2N - 528)) + B_{\bar{N}}(2N + 2093 - (N + 2523)) + B_{\bar{N}}(2N + 2093 - (2N + 1762)) \\
&= B_{\bar{N}}(2621) + B_{\bar{N}}(N - 430) + B_{\bar{N}}(331) = 2621 + (N - 430) + 331 = \mathbf{N} + \mathbf{2522} \\
&(N \geq 2621)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2094}) &= B_{\bar{N}}(2N + 2094 - B_{\bar{N}}(2N + 2093)) + B_{\bar{N}}(2N + 2094 - B_{\bar{N}}(2N + 2092)) + B_{\bar{N}}(2N + 2094 - B_{\bar{N}}(2N + 2091)) \\
&= B_{\bar{N}}(2N + 2094 - (N + 2522)) + B_{\bar{N}}(2N + 2094 - (2N - 528)) + B_{\bar{N}}(2N + 2094 - (N + 2523)) \\
&= B_{\bar{N}}(N - 428) + B_{\bar{N}}(2622) + B_{\bar{N}}(N - 429) = (N - 428) + 2622 + (N - 429) = \mathbf{2N} + \mathbf{1765} \\
&(N \geq 2622)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2095}) &= B_{\bar{N}}(2N + 2095 - B_{\bar{N}}(2N + 2094)) + B_{\bar{N}}(2N + 2095 - B_{\bar{N}}(2N + 2093)) + B_{\bar{N}}(2N + 2095 - B_{\bar{N}}(2N + 2092)) \\
&= B_{\bar{N}}(2N + 2095 - (2N + 1765)) + B_{\bar{N}}(2N + 2095 - (N + 2522)) + B_{\bar{N}}(2N + 2095 - (2N - 528)) \\
&= B_{\bar{N}}(330) + B_{\bar{N}}(N - 427) + B_{\bar{N}}(2623) = 330 + (N - 427) + 2623 = \mathbf{N} + \mathbf{2526} \\
&(N \geq 2623)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2096}) &= B_{\bar{N}}(2N + 2096 - B_{\bar{N}}(2N + 2095)) + B_{\bar{N}}(2N + 2096 - B_{\bar{N}}(2N + 2094)) + B_{\bar{N}}(2N + 2096 - B_{\bar{N}}(2N + 2093)) \\
&= B_{\bar{N}}(2N + 2096 - (N + 2526)) + B_{\bar{N}}(2N + 2096 - (2N + 1765)) + B_{\bar{N}}(2N + 2096 - (N + 2522)) \\
&= B_{\bar{N}}(N - 430) + B_{\bar{N}}(331) + B_{\bar{N}}(N - 426) = (N - 430) + 331 + (N - 426) = \mathbf{2N} - \mathbf{525} \\
&(N \geq 431)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2097}) &= B_{\bar{N}}(2N + 2097 - B_{\bar{N}}(2N + 2096)) + B_{\bar{N}}(2N + 2097 - B_{\bar{N}}(2N + 2095)) + B_{\bar{N}}(2N + 2097 - B_{\bar{N}}(2N + 2094)) \\
&= B_{\bar{N}}(2N + 2097 - (2N - 525)) + B_{\bar{N}}(2N + 2097 - (N + 2526)) + B_{\bar{N}}(2N + 2097 - (2N + 1765)) \\
&= B_{\bar{N}}(2622) + B_{\bar{N}}(N - 429) + B_{\bar{N}}(332) = 2622 + (N - 429) + 332 = \mathbf{N} + \mathbf{2525} \\
&(N \geq 2622)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2098}) &= B_{\bar{N}}(2N + 2098 - B_{\bar{N}}(2N + 2097)) + B_{\bar{N}}(2N + 2098 - B_{\bar{N}}(2N + 2096)) + B_{\bar{N}}(2N + 2098 - B_{\bar{N}}(2N + 2095)) \\
&= B_{\bar{N}}(2N + 2098 - (N + 2525)) + B_{\bar{N}}(2N + 2098 - (2N - 525)) + B_{\bar{N}}(2N + 2098 - (N + 2526)) \\
&= B_{\bar{N}}(N - 427) + B_{\bar{N}}(2623) + B_{\bar{N}}(N - 428) = (N - 427) + 2623 + (N - 428) = \mathbf{2N} + \mathbf{1768} \\
&(N \geq 2623)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2099}) &= B_{\bar{N}}(2N + 2099 - B_{\bar{N}}(2N + 2098)) + B_{\bar{N}}(2N + 2099 - B_{\bar{N}}(2N + 2097)) + B_{\bar{N}}(2N + 2099 - B_{\bar{N}}(2N + 2096)) \\
&= B_{\bar{N}}(2N + 2099 - (2N + 1768)) + B_{\bar{N}}(2N + 2099 - (N + 2525)) + B_{\bar{N}}(2N + 2099 - (2N - 525)) \\
&= B_{\bar{N}}(331) + B_{\bar{N}}(N - 426) + B_{\bar{N}}(2624) = 331 + (N - 426) + 2624 = \mathbf{N} + \mathbf{2529} \\
&(N \geq 2624)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2100}) &= B_{\bar{N}}(2N + 2100 - B_{\bar{N}}(2N + 2099)) + B_{\bar{N}}(2N + 2100 - B_{\bar{N}}(2N + 2098)) + B_{\bar{N}}(2N + 2100 - B_{\bar{N}}(2N + 2097)) \\
&= B_{\bar{N}}(2N + 2100 - (N + 2529)) + B_{\bar{N}}(2N + 2100 - (2N + 1768)) + B_{\bar{N}}(2N + 2100 - (N + 2525)) \\
&= B_{\bar{N}}(N - 429) + B_{\bar{N}}(332) + B_{\bar{N}}(N - 425) = (N - 429) + 332 + (N - 425) = \mathbf{2N} - \mathbf{522} \\
&(N \geq 430)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2101}) &= B_{\bar{N}}(2N + 2101 - B_{\bar{N}}(2N + 2100)) + B_{\bar{N}}(2N + 2101 - B_{\bar{N}}(2N + 2099)) + B_{\bar{N}}(2N + 2101 - B_{\bar{N}}(2N + 2098)) \\
&= B_{\bar{N}}(2N + 2101 - (2N - 522)) + B_{\bar{N}}(2N + 2101 - (N + 2529)) + B_{\bar{N}}(2N + 2101 - (2N + 1768)) \\
&= B_{\bar{N}}(2623) + B_{\bar{N}}(N - 428) + B_{\bar{N}}(333) = 2623 + (N - 428) + 333 = \mathbf{N} + \mathbf{2528} \\
&(N \geq 2623)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2102}) &= B_{\bar{N}}(2N + 2102 - B_{\bar{N}}(2N + 2101)) + B_{\bar{N}}(2N + 2102 - B_{\bar{N}}(2N + 2100)) + B_{\bar{N}}(2N + 2102 - B_{\bar{N}}(2N + 2099)) \\
&= B_{\bar{N}}(2N + 2102 - (N + 2528)) + B_{\bar{N}}(2N + 2102 - (2N - 522)) + B_{\bar{N}}(2N + 2102 - (N + 2529)) \\
&= B_{\bar{N}}(N - 426) + B_{\bar{N}}(2624) + B_{\bar{N}}(N - 427) = (N - 426) + 2624 + (N - 427) = \mathbf{2N} + \mathbf{1771} \\
&(N \geq 2624)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2103}) &= B_{\bar{N}}(2N + 2103 - B_{\bar{N}}(2N + 2102)) + B_{\bar{N}}(2N + 2103 - B_{\bar{N}}(2N + 2101)) + B_{\bar{N}}(2N + 2103 - B_{\bar{N}}(2N + 2100)) \\
&= B_{\bar{N}}(2N + 2103 - (2N + 1771)) + B_{\bar{N}}(2N + 2103 - (N + 2528)) + B_{\bar{N}}(2N + 2103 - (2N - 522)) \\
&= B_{\bar{N}}(332) + B_{\bar{N}}(N - 425) + B_{\bar{N}}(2625) = 332 + (N - 425) + 2625 = \mathbf{N} + \mathbf{2532} \\
&(N \geq 2625)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2104}) &= B_{\bar{N}}(2N + 2104 - B_{\bar{N}}(2N + 2103)) + B_{\bar{N}}(2N + 2104 - B_{\bar{N}}(2N + 2102)) + B_{\bar{N}}(2N + 2104 - B_{\bar{N}}(2N + 2101)) \\
&= B_{\bar{N}}(2N + 2104 - (N + 2532)) + B_{\bar{N}}(2N + 2104 - (2N + 1771)) + B_{\bar{N}}(2N + 2104 - (N + 2528)) \\
&= B_{\bar{N}}(N - 428) + B_{\bar{N}}(333) + B_{\bar{N}}(N - 424) = (N - 428) + 333 + (N - 424) = \mathbf{2N} - \mathbf{519} \\
&(N \geq 429)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2105}) &= B_{\bar{N}}(2N + 2105 - B_{\bar{N}}(2N + 2104)) + B_{\bar{N}}(2N + 2105 - B_{\bar{N}}(2N + 2103)) + B_{\bar{N}}(2N + 2105 - B_{\bar{N}}(2N + 2102)) \\
&= B_{\bar{N}}(2N + 2105 - (2N - 519)) + B_{\bar{N}}(2N + 2105 - (N + 2532)) + B_{\bar{N}}(2N + 2105 - (2N + 1771)) \\
&= B_{\bar{N}}(2624) + B_{\bar{N}}(N - 427) + B_{\bar{N}}(334) = 2624 + (N - 427) + 334 = \mathbf{N} + \mathbf{2531} \\
&(N \geq 2624)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2106}) &= B_{\bar{N}}(2N + 2106 - B_{\bar{N}}(2N + 2105)) + B_{\bar{N}}(2N + 2106 - B_{\bar{N}}(2N + 2104)) + B_{\bar{N}}(2N + 2106 - B_{\bar{N}}(2N + 2103)) \\
&= B_{\bar{N}}(2N + 2106 - (N + 2531)) + B_{\bar{N}}(2N + 2106 - (2N - 519)) + B_{\bar{N}}(2N + 2106 - (N + 2532)) \\
&= B_{\bar{N}}(N - 425) + B_{\bar{N}}(2625) + B_{\bar{N}}(N - 426) = (N - 425) + 2625 + (N - 426) = \mathbf{2N} + \mathbf{1774} \\
&(N \geq 2625)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2107}) &= B_{\bar{N}}(2N + 2107 - B_{\bar{N}}(2N + 2106)) + B_{\bar{N}}(2N + 2107 - B_{\bar{N}}(2N + 2105)) + B_{\bar{N}}(2N + 2107 - B_{\bar{N}}(2N + 2104)) \\
&= B_{\bar{N}}(2N + 2107 - (2N + 1774)) + B_{\bar{N}}(2N + 2107 - (N + 2531)) + B_{\bar{N}}(2N + 2107 - (2N - 519)) \\
&= B_{\bar{N}}(333) + B_{\bar{N}}(N - 424) + B_{\bar{N}}(2626) = 333 + (N - 424) + 2626 = \mathbf{N} + \mathbf{2535} \\
&(N \geq 2626)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2108}) &= B_{\bar{N}}(2N + 2108 - B_{\bar{N}}(2N + 2107)) + B_{\bar{N}}(2N + 2108 - B_{\bar{N}}(2N + 2106)) + B_{\bar{N}}(2N + 2108 - B_{\bar{N}}(2N + 2105)) \\
&= B_{\bar{N}}(2N + 2108 - (N + 2535)) + B_{\bar{N}}(2N + 2108 - (2N + 1774)) + B_{\bar{N}}(2N + 2108 - (N + 2531)) \\
&= B_{\bar{N}}(N - 427) + B_{\bar{N}}(334) + B_{\bar{N}}(N - 423) = (N - 427) + 334 + (N - 423) = \mathbf{2N} - \mathbf{516} \\
&(N \geq 428)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2109}) &= B_{\bar{N}}(2N + 2109 - B_{\bar{N}}(2N + 2108)) + B_{\bar{N}}(2N + 2109 - B_{\bar{N}}(2N + 2107)) + B_{\bar{N}}(2N + 2109 - B_{\bar{N}}(2N + 2106)) \\
&= B_{\bar{N}}(2N + 2109 - (2N - 516)) + B_{\bar{N}}(2N + 2109 - (N + 2535)) + B_{\bar{N}}(2N + 2109 - (2N + 1774)) \\
&= B_{\bar{N}}(2625) + B_{\bar{N}}(N - 426) + B_{\bar{N}}(335) = 2625 + (N - 426) + 335 = \mathbf{N} + \mathbf{2534} \\
&(N \geq 2625)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2110}) &= B_{\bar{N}}(2N + 2110 - B_{\bar{N}}(2N + 2109)) + B_{\bar{N}}(2N + 2110 - B_{\bar{N}}(2N + 2108)) + B_{\bar{N}}(2N + 2110 - B_{\bar{N}}(2N + 2107)) \\
&= B_{\bar{N}}(2N + 2110 - (N + 2534)) + B_{\bar{N}}(2N + 2110 - (2N - 516)) + B_{\bar{N}}(2N + 2110 - (N + 2535)) \\
&= B_{\bar{N}}(N - 424) + B_{\bar{N}}(2626) + B_{\bar{N}}(N - 425) = (N - 424) + 2626 + (N - 425) = \mathbf{2N} + \mathbf{1777} \\
&(N \geq 2626)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2111}) &= B_{\bar{N}}(2N + 2111 - B_{\bar{N}}(2N + 2110)) + B_{\bar{N}}(2N + 2111 - B_{\bar{N}}(2N + 2109)) + B_{\bar{N}}(2N + 2111 - B_{\bar{N}}(2N + 2108)) \\
&= B_{\bar{N}}(2N + 2111 - (2N + 1777)) + B_{\bar{N}}(2N + 2111 - (N + 2534)) + B_{\bar{N}}(2N + 2111 - (2N - 516)) \\
&= B_{\bar{N}}(334) + B_{\bar{N}}(N - 423) + B_{\bar{N}}(2627) = 334 + (N - 423) + 2627 = \mathbf{N} + \mathbf{2538} \\
&(N \geq 2627)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2112}) &= B_{\bar{N}}(2N + 2112 - B_{\bar{N}}(2N + 2111)) + B_{\bar{N}}(2N + 2112 - B_{\bar{N}}(2N + 2110)) + B_{\bar{N}}(2N + 2112 - B_{\bar{N}}(2N + 2109)) \\
&= B_{\bar{N}}(2N + 2112 - (N + 2538)) + B_{\bar{N}}(2N + 2112 - (2N + 1777)) + B_{\bar{N}}(2N + 2112 - (N + 2534)) \\
&= B_{\bar{N}}(N - 426) + B_{\bar{N}}(335) + B_{\bar{N}}(N - 422) = (N - 426) + 335 + (N - 422) = \mathbf{2N} - \mathbf{513} \\
&(N \geq 427)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2113}) &= B_{\bar{N}}(2N + 2113 - B_{\bar{N}}(2N + 2112)) + B_{\bar{N}}(2N + 2113 - B_{\bar{N}}(2N + 2111)) + B_{\bar{N}}(2N + 2113 - B_{\bar{N}}(2N + 2110)) \\
&= B_{\bar{N}}(2N + 2113 - (2N - 513)) + B_{\bar{N}}(2N + 2113 - (N + 2538)) + B_{\bar{N}}(2N + 2113 - (2N + 1777)) \\
&= B_{\bar{N}}(2626) + B_{\bar{N}}(N - 425) + B_{\bar{N}}(336) = 2626 + (N - 425) + 336 = \mathbf{N} + \mathbf{2537} \\
&(N \geq 2626)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2114}) &= B_{\bar{N}}(2N + 2114 - B_{\bar{N}}(2N + 2113)) + B_{\bar{N}}(2N + 2114 - B_{\bar{N}}(2N + 2112)) + B_{\bar{N}}(2N + 2114 - B_{\bar{N}}(2N + 2111)) \\
&= B_{\bar{N}}(2N + 2114 - (N + 2537)) + B_{\bar{N}}(2N + 2114 - (2N - 513)) + B_{\bar{N}}(2N + 2114 - (N + 2538)) \\
&= B_{\bar{N}}(N - 423) + B_{\bar{N}}(2627) + B_{\bar{N}}(N - 424) = (N - 423) + 2627 + (N - 424) = \mathbf{2N} + \mathbf{1780} \\
&(N \geq 2627)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2115}) &= B_{\bar{N}}(2N + 2115 - B_{\bar{N}}(2N + 2114)) + B_{\bar{N}}(2N + 2115 - B_{\bar{N}}(2N + 2113)) + B_{\bar{N}}(2N + 2115 - B_{\bar{N}}(2N + 2112)) \\
&= B_{\bar{N}}(2N + 2115 - (2N + 1780)) + B_{\bar{N}}(2N + 2115 - (N + 2537)) + B_{\bar{N}}(2N + 2115 - (2N - 513)) \\
&= B_{\bar{N}}(335) + B_{\bar{N}}(N - 422) + B_{\bar{N}}(2628) = 335 + (N - 422) + 2628 = \mathbf{N} + \mathbf{2541} \\
&(N \geq 2628)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2116}) &= B_{\bar{N}}(2N + 2116 - B_{\bar{N}}(2N + 2115)) + B_{\bar{N}}(2N + 2116 - B_{\bar{N}}(2N + 2114)) + B_{\bar{N}}(2N + 2116 - B_{\bar{N}}(2N + 2113)) \\
&= B_{\bar{N}}(2N + 2116 - (N + 2541)) + B_{\bar{N}}(2N + 2116 - (2N + 1780)) + B_{\bar{N}}(2N + 2116 - (N + 2537)) \\
&= B_{\bar{N}}(N - 425) + B_{\bar{N}}(336) + B_{\bar{N}}(N - 421) = (N - 425) + 336 + (N - 421) = \mathbf{2N} - \mathbf{510} \\
&(N \geq 426)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2117}) &= B_{\bar{N}}(2N + 2117 - B_{\bar{N}}(2N + 2116)) + B_{\bar{N}}(2N + 2117 - B_{\bar{N}}(2N + 2115)) + B_{\bar{N}}(2N + 2117 - B_{\bar{N}}(2N + 2114)) \\
&= B_{\bar{N}}(2N + 2117 - (2N - 510)) + B_{\bar{N}}(2N + 2117 - (N + 2541)) + B_{\bar{N}}(2N + 2117 - (2N + 1780)) \\
&= B_{\bar{N}}(2627) + B_{\bar{N}}(N - 424) + B_{\bar{N}}(337) = 2627 + (N - 424) + 337 = \mathbf{N} + \mathbf{2540} \\
&(N \geq 2627)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2118}) &= B_{\bar{N}}(2N + 2118 - B_{\bar{N}}(2N + 2117)) + B_{\bar{N}}(2N + 2118 - B_{\bar{N}}(2N + 2116)) + B_{\bar{N}}(2N + 2118 - B_{\bar{N}}(2N + 2115)) \\
&= B_{\bar{N}}(2N + 2118 - (N + 2540)) + B_{\bar{N}}(2N + 2118 - (2N - 510)) + B_{\bar{N}}(2N + 2118 - (N + 2541)) \\
&= B_{\bar{N}}(N - 422) + B_{\bar{N}}(2628) + B_{\bar{N}}(N - 423) = (N - 422) + 2628 + (N - 423) = \mathbf{2N} + \mathbf{1783} \\
&(N \geq 2628)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2119}) &= B_{\bar{N}}(2N + 2119 - B_{\bar{N}}(2N + 2118)) + B_{\bar{N}}(2N + 2119 - B_{\bar{N}}(2N + 2117)) + B_{\bar{N}}(2N + 2119 - B_{\bar{N}}(2N + 2116)) \\
&= B_{\bar{N}}(2N + 2119 - (2N + 1783)) + B_{\bar{N}}(2N + 2119 - (N + 2540)) + B_{\bar{N}}(2N + 2119 - (2N - 510)) \\
&= B_{\bar{N}}(336) + B_{\bar{N}}(N - 421) + B_{\bar{N}}(2629) = 336 + (N - 421) + 2629 = \mathbf{N} + \mathbf{2544} \\
&(N \geq 2629)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2120}) &= B_{\bar{N}}(2N + 2120 - B_{\bar{N}}(2N + 2119)) + B_{\bar{N}}(2N + 2120 - B_{\bar{N}}(2N + 2118)) + B_{\bar{N}}(2N + 2120 - B_{\bar{N}}(2N + 2117)) \\
&= B_{\bar{N}}(2N + 2120 - (N + 2544)) + B_{\bar{N}}(2N + 2120 - (2N + 1783)) + B_{\bar{N}}(2N + 2120 - (N + 2540)) \\
&= B_{\bar{N}}(N - 424) + B_{\bar{N}}(337) + B_{\bar{N}}(N - 420) = (N - 424) + 337 + (N - 420) = \mathbf{2N} - \mathbf{507} \\
&(N \geq 425)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2121}) &= B_{\bar{N}}(2N + 2121 - B_{\bar{N}}(2N + 2120)) + B_{\bar{N}}(2N + 2121 - B_{\bar{N}}(2N + 2119)) + B_{\bar{N}}(2N + 2121 - B_{\bar{N}}(2N + 2118)) \\
&= B_{\bar{N}}(2N + 2121 - (2N - 507)) + B_{\bar{N}}(2N + 2121 - (N + 2544)) + B_{\bar{N}}(2N + 2121 - (2N + 1783)) \\
&= B_{\bar{N}}(2628) + B_{\bar{N}}(N - 423) + B_{\bar{N}}(338) = 2628 + (N - 423) + 338 = \mathbf{N} + \mathbf{2543} \\
&(N \geq 2628)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2122}) &= B_{\bar{N}}(2N + 2122 - B_{\bar{N}}(2N + 2121)) + B_{\bar{N}}(2N + 2122 - B_{\bar{N}}(2N + 2120)) + B_{\bar{N}}(2N + 2122 - B_{\bar{N}}(2N + 2119)) \\
&= B_{\bar{N}}(2N + 2122 - (N + 2543)) + B_{\bar{N}}(2N + 2122 - (2N - 507)) + B_{\bar{N}}(2N + 2122 - (N + 2544)) \\
&= B_{\bar{N}}(N - 421) + B_{\bar{N}}(2629) + B_{\bar{N}}(N - 422) = (N - 421) + 2629 + (N - 422) = \mathbf{2N} + \mathbf{1786} \\
&(N \geq 2629)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2123}) &= B_{\bar{N}}(2N + 2123 - B_{\bar{N}}(2N + 2122)) + B_{\bar{N}}(2N + 2123 - B_{\bar{N}}(2N + 2121)) + B_{\bar{N}}(2N + 2123 - B_{\bar{N}}(2N + 2120)) \\
&= B_{\bar{N}}(2N + 2123 - (2N + 1786)) + B_{\bar{N}}(2N + 2123 - (N + 2543)) + B_{\bar{N}}(2N + 2123 - (2N - 507)) \\
&= B_{\bar{N}}(337) + B_{\bar{N}}(N - 420) + B_{\bar{N}}(2630) = 337 + (N - 420) + 2630 = \mathbf{N} + \mathbf{2547} \\
&(N \geq 2630)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2124}) &= B_{\bar{N}}(2N + 2124 - B_{\bar{N}}(2N + 2123)) + B_{\bar{N}}(2N + 2124 - B_{\bar{N}}(2N + 2122)) + B_{\bar{N}}(2N + 2124 - B_{\bar{N}}(2N + 2121)) \\
&= B_{\bar{N}}(2N + 2124 - (N + 2547)) + B_{\bar{N}}(2N + 2124 - (2N + 1786)) + B_{\bar{N}}(2N + 2124 - (N + 2543)) \\
&= B_{\bar{N}}(N - 423) + B_{\bar{N}}(338) + B_{\bar{N}}(N - 419) = (N - 423) + 338 + (N - 419) = \mathbf{2N} - \mathbf{504} \\
&(N \geq 424)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2125}) &= B_{\bar{N}}(2N + 2125 - B_{\bar{N}}(2N + 2124)) + B_{\bar{N}}(2N + 2125 - B_{\bar{N}}(2N + 2123)) + B_{\bar{N}}(2N + 2125 - B_{\bar{N}}(2N + 2122)) \\
&= B_{\bar{N}}(2N + 2125 - (2N - 504)) + B_{\bar{N}}(2N + 2125 - (N + 2547)) + B_{\bar{N}}(2N + 2125 - (2N + 1786)) \\
&= B_{\bar{N}}(2629) + B_{\bar{N}}(N - 422) + B_{\bar{N}}(339) = 2629 + (N - 422) + 339 = \mathbf{N} + \mathbf{2546} \\
&(N \geq 2629)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2126}) &= B_{\bar{N}}(2N + 2126 - B_{\bar{N}}(2N + 2125)) + B_{\bar{N}}(2N + 2126 - B_{\bar{N}}(2N + 2124)) + B_{\bar{N}}(2N + 2126 - B_{\bar{N}}(2N + 2123)) \\
&= B_{\bar{N}}(2N + 2126 - (N + 2546)) + B_{\bar{N}}(2N + 2126 - (2N - 504)) + B_{\bar{N}}(2N + 2126 - (N + 2547)) \\
&= B_{\bar{N}}(N - 420) + B_{\bar{N}}(2630) + B_{\bar{N}}(N - 421) = (N - 420) + 2630 + (N - 421) = \mathbf{2N} + \mathbf{1789} \\
&(N \geq 2630)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2127}) &= B_{\bar{N}}(2N + 2127 - B_{\bar{N}}(2N + 2126)) + B_{\bar{N}}(2N + 2127 - B_{\bar{N}}(2N + 2125)) + B_{\bar{N}}(2N + 2127 - B_{\bar{N}}(2N + 2124)) \\
&= B_{\bar{N}}(2N + 2127 - (2N + 1789)) + B_{\bar{N}}(2N + 2127 - (N + 2546)) + B_{\bar{N}}(2N + 2127 - (2N - 504)) \\
&= B_{\bar{N}}(338) + B_{\bar{N}}(N - 419) + B_{\bar{N}}(2631) = 338 + (N - 419) + 2631 = \mathbf{N} + \mathbf{2550} \\
&(N \geq 2631)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2128}) &= B_{\bar{N}}(2N + 2128 - B_{\bar{N}}(2N + 2127)) + B_{\bar{N}}(2N + 2128 - B_{\bar{N}}(2N + 2126)) + B_{\bar{N}}(2N + 2128 - B_{\bar{N}}(2N + 2125)) \\
&= B_{\bar{N}}(2N + 2128 - (N + 2550)) + B_{\bar{N}}(2N + 2128 - (2N + 1789)) + B_{\bar{N}}(2N + 2128 - (N + 2546)) \\
&= B_{\bar{N}}(N - 422) + B_{\bar{N}}(339) + B_{\bar{N}}(N - 418) = (N - 422) + 339 + (N - 418) = \mathbf{2N} - \mathbf{501} \\
&(N \geq 423)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2129}) &= B_{\bar{N}}(2N + 2129 - B_{\bar{N}}(2N + 2128)) + B_{\bar{N}}(2N + 2129 - B_{\bar{N}}(2N + 2127)) + B_{\bar{N}}(2N + 2129 - B_{\bar{N}}(2N + 2126)) \\
&= B_{\bar{N}}(2N + 2129 - (2N - 501)) + B_{\bar{N}}(2N + 2129 - (N + 2550)) + B_{\bar{N}}(2N + 2129 - (2N + 1789)) \\
&= B_{\bar{N}}(2630) + B_{\bar{N}}(N - 421) + B_{\bar{N}}(340) = 2630 + (N - 421) + 340 = \mathbf{N} + \mathbf{2549} \\
&(N \geq 2630)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2130}) &= B_{\bar{N}}(2N + 2130 - B_{\bar{N}}(2N + 2129)) + B_{\bar{N}}(2N + 2130 - B_{\bar{N}}(2N + 2128)) + B_{\bar{N}}(2N + 2130 - B_{\bar{N}}(2N + 2127)) \\
&= B_{\bar{N}}(2N + 2130 - (N + 2549)) + B_{\bar{N}}(2N + 2130 - (2N - 501)) + B_{\bar{N}}(2N + 2130 - (N + 2550)) \\
&= B_{\bar{N}}(N - 419) + B_{\bar{N}}(2631) + B_{\bar{N}}(N - 420) = (N - 419) + 2631 + (N - 420) = \mathbf{2N} + \mathbf{1792} \\
&(N \geq 2631)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2131}) &= B_{\bar{N}}(2N + 2131 - B_{\bar{N}}(2N + 2130)) + B_{\bar{N}}(2N + 2131 - B_{\bar{N}}(2N + 2129)) + B_{\bar{N}}(2N + 2131 - B_{\bar{N}}(2N + 2128)) \\
&= B_{\bar{N}}(2N + 2131 - (2N + 1792)) + B_{\bar{N}}(2N + 2131 - (N + 2549)) + B_{\bar{N}}(2N + 2131 - (2N - 501)) \\
&= B_{\bar{N}}(339) + B_{\bar{N}}(N - 418) + B_{\bar{N}}(2632) = 339 + (N - 418) + 2632 = \mathbf{N} + \mathbf{2553} \\
&(N \geq 2632)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2132}) &= B_{\bar{N}}(2N + 2132 - B_{\bar{N}}(2N + 2131)) + B_{\bar{N}}(2N + 2132 - B_{\bar{N}}(2N + 2130)) + B_{\bar{N}}(2N + 2132 - B_{\bar{N}}(2N + 2129)) \\
&= B_{\bar{N}}(2N + 2132 - (N + 2553)) + B_{\bar{N}}(2N + 2132 - (2N + 1792)) + B_{\bar{N}}(2N + 2132 - (N + 2549)) \\
&= B_{\bar{N}}(N - 421) + B_{\bar{N}}(340) + B_{\bar{N}}(N - 417) = (N - 421) + 340 + (N - 417) = \mathbf{2N} - \mathbf{498} \\
&(N \geq 422)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2133}) &= B_{\bar{N}}(2N + 2133 - B_{\bar{N}}(2N + 2132)) + B_{\bar{N}}(2N + 2133 - B_{\bar{N}}(2N + 2131)) + B_{\bar{N}}(2N + 2133 - B_{\bar{N}}(2N + 2130)) \\
&= B_{\bar{N}}(2N + 2133 - (2N - 498)) + B_{\bar{N}}(2N + 2133 - (N + 2553)) + B_{\bar{N}}(2N + 2133 - (2N + 1792)) \\
&= B_{\bar{N}}(2631) + B_{\bar{N}}(N - 420) + B_{\bar{N}}(341) = 2631 + (N - 420) + 341 = \mathbf{N} + \mathbf{2552} \\
&(N \geq 2631)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2134}) &= B_{\bar{N}}(2N + 2134 - B_{\bar{N}}(2N + 2133)) + B_{\bar{N}}(2N + 2134 - B_{\bar{N}}(2N + 2132)) + B_{\bar{N}}(2N + 2134 - B_{\bar{N}}(2N + 2131)) \\
&= B_{\bar{N}}(2N + 2134 - (N + 2552)) + B_{\bar{N}}(2N + 2134 - (2N - 498)) + B_{\bar{N}}(2N + 2134 - (N + 2553)) \\
&= B_{\bar{N}}(N - 418) + B_{\bar{N}}(2632) + B_{\bar{N}}(N - 419) = (N - 418) + 2632 + (N - 419) = \mathbf{2N} + \mathbf{1795} \\
&(N \geq 2632)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2135}) &= B_{\bar{N}}(2N + 2135 - B_{\bar{N}}(2N + 2134)) + B_{\bar{N}}(2N + 2135 - B_{\bar{N}}(2N + 2133)) + B_{\bar{N}}(2N + 2135 - B_{\bar{N}}(2N + 2132)) \\
&= B_{\bar{N}}(2N + 2135 - (2N + 1795)) + B_{\bar{N}}(2N + 2135 - (N + 2552)) + B_{\bar{N}}(2N + 2135 - (2N - 498)) \\
&= B_{\bar{N}}(340) + B_{\bar{N}}(N - 417) + B_{\bar{N}}(2633) = 340 + (N - 417) + 2633 = \mathbf{N} + \mathbf{2556} \\
&(N \geq 2633)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2136}) &= B_{\bar{N}}(2N + 2136 - B_{\bar{N}}(2N + 2135)) + B_{\bar{N}}(2N + 2136 - B_{\bar{N}}(2N + 2134)) + B_{\bar{N}}(2N + 2136 - B_{\bar{N}}(2N + 2133)) \\
&= B_{\bar{N}}(2N + 2136 - (N + 2556)) + B_{\bar{N}}(2N + 2136 - (2N + 1795)) + B_{\bar{N}}(2N + 2136 - (N + 2552)) \\
&= B_{\bar{N}}(N - 420) + B_{\bar{N}}(341) + B_{\bar{N}}(N - 416) = (N - 420) + 341 + (N - 416) = \mathbf{2N} - \mathbf{495} \\
&(N \geq 421)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2137}) &= B_{\bar{N}}(2N + 2137 - B_{\bar{N}}(2N + 2136)) + B_{\bar{N}}(2N + 2137 - B_{\bar{N}}(2N + 2135)) + B_{\bar{N}}(2N + 2137 - B_{\bar{N}}(2N + 2134)) \\
&= B_{\bar{N}}(2N + 2137 - (2N - 495)) + B_{\bar{N}}(2N + 2137 - (N + 2556)) + B_{\bar{N}}(2N + 2137 - (2N + 1795)) \\
&= B_{\bar{N}}(2632) + B_{\bar{N}}(N - 419) + B_{\bar{N}}(342) = 2632 + (N - 419) + 342 = \mathbf{N} + \mathbf{2555} \\
&(N \geq 2632)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2138}) &= B_{\bar{N}}(2N + 2138 - B_{\bar{N}}(2N + 2137)) + B_{\bar{N}}(2N + 2138 - B_{\bar{N}}(2N + 2136)) + B_{\bar{N}}(2N + 2138 - B_{\bar{N}}(2N + 2135)) \\
&= B_{\bar{N}}(2N + 2138 - (N + 2555)) + B_{\bar{N}}(2N + 2138 - (2N - 495)) + B_{\bar{N}}(2N + 2138 - (N + 2556)) \\
&= B_{\bar{N}}(N - 417) + B_{\bar{N}}(2633) + B_{\bar{N}}(N - 418) = (N - 417) + 2633 + (N - 418) = \mathbf{2N} + \mathbf{1798} \\
&(N \geq 2633)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2139}) &= B_{\bar{N}}(2N + 2139 - B_{\bar{N}}(2N + 2138)) + B_{\bar{N}}(2N + 2139 - B_{\bar{N}}(2N + 2137)) + B_{\bar{N}}(2N + 2139 - B_{\bar{N}}(2N + 2136)) \\
&= B_{\bar{N}}(2N + 2139 - (2N + 1798)) + B_{\bar{N}}(2N + 2139 - (N + 2555)) + B_{\bar{N}}(2N + 2139 - (2N - 495)) \\
&= B_{\bar{N}}(341) + B_{\bar{N}}(N - 416) + B_{\bar{N}}(2634) = 341 + (N - 416) + 2634 = \mathbf{N} + \mathbf{2559} \\
&(N \geq 2634)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2140}) &= B_{\bar{N}}(2N + 2140 - B_{\bar{N}}(2N + 2139)) + B_{\bar{N}}(2N + 2140 - B_{\bar{N}}(2N + 2138)) + B_{\bar{N}}(2N + 2140 - B_{\bar{N}}(2N + 2137)) \\
&= B_{\bar{N}}(2N + 2140 - (N + 2559)) + B_{\bar{N}}(2N + 2140 - (2N + 1798)) + B_{\bar{N}}(2N + 2140 - (N + 2555)) \\
&= B_{\bar{N}}(N - 419) + B_{\bar{N}}(342) + B_{\bar{N}}(N - 415) = (N - 419) + 342 + (N - 415) = \mathbf{2N} - \mathbf{492} \\
&(N \geq 420)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2141}) &= B_{\bar{N}}(2N + 2141 - B_{\bar{N}}(2N + 2140)) + B_{\bar{N}}(2N + 2141 - B_{\bar{N}}(2N + 2139)) + B_{\bar{N}}(2N + 2141 - B_{\bar{N}}(2N + 2138)) \\
&= B_{\bar{N}}(2N + 2141 - (2N - 492)) + B_{\bar{N}}(2N + 2141 - (N + 2559)) + B_{\bar{N}}(2N + 2141 - (2N + 1798)) \\
&= B_{\bar{N}}(2633) + B_{\bar{N}}(N - 418) + B_{\bar{N}}(343) = 2633 + (N - 418) + 343 = \mathbf{N} + \mathbf{2558} \\
&(N \geq 2633)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2142}) &= B_{\bar{N}}(2N + 2142 - B_{\bar{N}}(2N + 2141)) + B_{\bar{N}}(2N + 2142 - B_{\bar{N}}(2N + 2140)) + B_{\bar{N}}(2N + 2142 - B_{\bar{N}}(2N + 2139)) \\
&= B_{\bar{N}}(2N + 2142 - (N + 2558)) + B_{\bar{N}}(2N + 2142 - (2N - 492)) + B_{\bar{N}}(2N + 2142 - (N + 2559)) \\
&= B_{\bar{N}}(N - 416) + B_{\bar{N}}(2634) + B_{\bar{N}}(N - 417) = (N - 416) + 2634 + (N - 417) = \mathbf{2N} + \mathbf{1801} \\
&(N \geq 2634)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2143}) &= B_{\bar{N}}(2N + 2143 - B_{\bar{N}}(2N + 2142)) + B_{\bar{N}}(2N + 2143 - B_{\bar{N}}(2N + 2141)) + B_{\bar{N}}(2N + 2143 - B_{\bar{N}}(2N + 2140)) \\
&= B_{\bar{N}}(2N + 2143 - (2N + 1801)) + B_{\bar{N}}(2N + 2143 - (N + 2558)) + B_{\bar{N}}(2N + 2143 - (2N - 492)) \\
&= B_{\bar{N}}(342) + B_{\bar{N}}(N - 415) + B_{\bar{N}}(2635) = 342 + (N - 415) + 2635 = \mathbf{N} + \mathbf{2562} \\
&(N \geq 2635)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2144}) &= B_{\bar{N}}(2N + 2144 - B_{\bar{N}}(2N + 2143)) + B_{\bar{N}}(2N + 2144 - B_{\bar{N}}(2N + 2142)) + B_{\bar{N}}(2N + 2144 - B_{\bar{N}}(2N + 2141)) \\
&= B_{\bar{N}}(2N + 2144 - (N + 2562)) + B_{\bar{N}}(2N + 2144 - (2N + 1801)) + B_{\bar{N}}(2N + 2144 - (N + 2558)) \\
&= B_{\bar{N}}(N - 418) + B_{\bar{N}}(343) + B_{\bar{N}}(N - 414) = (N - 418) + 343 + (N - 414) = \mathbf{2N} - \mathbf{489} \\
&(N \geq 419)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2145}) &= B_{\bar{N}}(2N + 2145 - B_{\bar{N}}(2N + 2144)) + B_{\bar{N}}(2N + 2145 - B_{\bar{N}}(2N + 2143)) + B_{\bar{N}}(2N + 2145 - B_{\bar{N}}(2N + 2142)) \\
&= B_{\bar{N}}(2N + 2145 - (2N - 489)) + B_{\bar{N}}(2N + 2145 - (N + 2562)) + B_{\bar{N}}(2N + 2145 - (2N + 1801)) \\
&= B_{\bar{N}}(2634) + B_{\bar{N}}(N - 417) + B_{\bar{N}}(344) = 2634 + (N - 417) + 344 = \mathbf{N} + \mathbf{2561} \\
&(N \geq 2634)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2146}) &= B_{\bar{N}}(2N + 2146 - B_{\bar{N}}(2N + 2145)) + B_{\bar{N}}(2N + 2146 - B_{\bar{N}}(2N + 2144)) + B_{\bar{N}}(2N + 2146 - B_{\bar{N}}(2N + 2143)) \\
&= B_{\bar{N}}(2N + 2146 - (N + 2561)) + B_{\bar{N}}(2N + 2146 - (2N - 489)) + B_{\bar{N}}(2N + 2146 - (N + 2562)) \\
&= B_{\bar{N}}(N - 415) + B_{\bar{N}}(2635) + B_{\bar{N}}(N - 416) = (N - 415) + 2635 + (N - 416) = \mathbf{2N} + \mathbf{1804} \\
&(N \geq 2635)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2147}) &= B_{\bar{N}}(2N + 2147 - B_{\bar{N}}(2N + 2146)) + B_{\bar{N}}(2N + 2147 - B_{\bar{N}}(2N + 2145)) + B_{\bar{N}}(2N + 2147 - B_{\bar{N}}(2N + 2144)) \\
&= B_{\bar{N}}(2N + 2147 - (2N + 1804)) + B_{\bar{N}}(2N + 2147 - (N + 2561)) + B_{\bar{N}}(2N + 2147 - (2N - 489)) \\
&= B_{\bar{N}}(343) + B_{\bar{N}}(N - 414) + B_{\bar{N}}(2636) = 343 + (N - 414) + 2636 = \mathbf{N} + \mathbf{2565} \\
&(N \geq 2636)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2148}) &= B_{\bar{N}}(2N + 2148 - B_{\bar{N}}(2N + 2147)) + B_{\bar{N}}(2N + 2148 - B_{\bar{N}}(2N + 2146)) + B_{\bar{N}}(2N + 2148 - B_{\bar{N}}(2N + 2145)) \\
&= B_{\bar{N}}(2N + 2148 - (N + 2565)) + B_{\bar{N}}(2N + 2148 - (2N + 1804)) + B_{\bar{N}}(2N + 2148 - (N + 2561)) \\
&= B_{\bar{N}}(N - 417) + B_{\bar{N}}(344) + B_{\bar{N}}(N - 413) = (N - 417) + 344 + (N - 413) = \mathbf{2N} - \mathbf{486} \\
&(N \geq 418)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2149}) &= B_{\bar{N}}(2N + 2149 - B_{\bar{N}}(2N + 2148)) + B_{\bar{N}}(2N + 2149 - B_{\bar{N}}(2N + 2147)) + B_{\bar{N}}(2N + 2149 - B_{\bar{N}}(2N + 2146)) \\
&= B_{\bar{N}}(2N + 2149 - (2N - 486)) + B_{\bar{N}}(2N + 2149 - (N + 2565)) + B_{\bar{N}}(2N + 2149 - (2N + 1804)) \\
&= B_{\bar{N}}(2635) + B_{\bar{N}}(N - 416) + B_{\bar{N}}(345) = 2635 + (N - 416) + 345 = \mathbf{N} + \mathbf{2564} \\
&(N \geq 2635)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2150}) &= B_{\bar{N}}(2N + 2150 - B_{\bar{N}}(2N + 2149)) + B_{\bar{N}}(2N + 2150 - B_{\bar{N}}(2N + 2148)) + B_{\bar{N}}(2N + 2150 - B_{\bar{N}}(2N + 2147)) \\
&= B_{\bar{N}}(2N + 2150 - (N + 2564)) + B_{\bar{N}}(2N + 2150 - (2N - 486)) + B_{\bar{N}}(2N + 2150 - (N + 2565)) \\
&= B_{\bar{N}}(N - 414) + B_{\bar{N}}(2636) + B_{\bar{N}}(N - 415) = (N - 414) + 2636 + (N - 415) = \mathbf{2N} + \mathbf{1807} \\
&(N \geq 2636)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2151}) &= B_{\bar{N}}(2N + 2151 - B_{\bar{N}}(2N + 2150)) + B_{\bar{N}}(2N + 2151 - B_{\bar{N}}(2N + 2149)) + B_{\bar{N}}(2N + 2151 - B_{\bar{N}}(2N + 2148)) \\
&= B_{\bar{N}}(2N + 2151 - (2N + 1807)) + B_{\bar{N}}(2N + 2151 - (N + 2564)) + B_{\bar{N}}(2N + 2151 - (2N - 486)) \\
&= B_{\bar{N}}(344) + B_{\bar{N}}(N - 413) + B_{\bar{N}}(2637) = 344 + (N - 413) + 2637 = \mathbf{N} + \mathbf{2568} \\
&(N \geq 2637)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2152}) &= B_{\bar{N}}(2N + 2152 - B_{\bar{N}}(2N + 2151)) + B_{\bar{N}}(2N + 2152 - B_{\bar{N}}(2N + 2150)) + B_{\bar{N}}(2N + 2152 - B_{\bar{N}}(2N + 2149)) \\
&= B_{\bar{N}}(2N + 2152 - (N + 2568)) + B_{\bar{N}}(2N + 2152 - (2N + 1807)) + B_{\bar{N}}(2N + 2152 - (N + 2564)) \\
&= B_{\bar{N}}(N - 416) + B_{\bar{N}}(345) + B_{\bar{N}}(N - 412) = (N - 416) + 345 + (N - 412) = \mathbf{2N} - \mathbf{483} \\
&(N \geq 417)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2153}) &= B_{\bar{N}}(2N + 2153 - B_{\bar{N}}(2N + 2152)) + B_{\bar{N}}(2N + 2153 - B_{\bar{N}}(2N + 2151)) + B_{\bar{N}}(2N + 2153 - B_{\bar{N}}(2N + 2150)) \\
&= B_{\bar{N}}(2N + 2153 - (2N - 483)) + B_{\bar{N}}(2N + 2153 - (N + 2568)) + B_{\bar{N}}(2N + 2153 - (2N + 1807)) \\
&= B_{\bar{N}}(2636) + B_{\bar{N}}(N - 415) + B_{\bar{N}}(346) = 2636 + (N - 415) + 346 = \mathbf{N} + \mathbf{2567} \\
&(N \geq 2636)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2154}) &= B_{\bar{N}}(2N + 2154 - B_{\bar{N}}(2N + 2153)) + B_{\bar{N}}(2N + 2154 - B_{\bar{N}}(2N + 2152)) + B_{\bar{N}}(2N + 2154 - B_{\bar{N}}(2N + 2151)) \\
&= B_{\bar{N}}(2N + 2154 - (N + 2567)) + B_{\bar{N}}(2N + 2154 - (2N - 483)) + B_{\bar{N}}(2N + 2154 - (N + 2568)) \\
&= B_{\bar{N}}(N - 413) + B_{\bar{N}}(2637) + B_{\bar{N}}(N - 414) = (N - 413) + 2637 + (N - 414) = \mathbf{2N} + \mathbf{1810} \\
&(N \geq 2637)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2155}) &= B_{\bar{N}}(2N + 2155 - B_{\bar{N}}(2N + 2154)) + B_{\bar{N}}(2N + 2155 - B_{\bar{N}}(2N + 2153)) + B_{\bar{N}}(2N + 2155 - B_{\bar{N}}(2N + 2152)) \\
&= B_{\bar{N}}(2N + 2155 - (2N + 1810)) + B_{\bar{N}}(2N + 2155 - (N + 2567)) + B_{\bar{N}}(2N + 2155 - (2N - 483)) \\
&= B_{\bar{N}}(345) + B_{\bar{N}}(N - 412) + B_{\bar{N}}(2638) = 345 + (N - 412) + 2638 = \mathbf{N} + \mathbf{2571} \\
&(N \geq 2638)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2156}) &= B_{\bar{N}}(2N + 2156 - B_{\bar{N}}(2N + 2155)) + B_{\bar{N}}(2N + 2156 - B_{\bar{N}}(2N + 2154)) + B_{\bar{N}}(2N + 2156 - B_{\bar{N}}(2N + 2153)) \\
&= B_{\bar{N}}(2N + 2156 - (N + 2571)) + B_{\bar{N}}(2N + 2156 - (2N + 1810)) + B_{\bar{N}}(2N + 2156 - (N + 2567)) \\
&= B_{\bar{N}}(N - 415) + B_{\bar{N}}(346) + B_{\bar{N}}(N - 411) = (N - 415) + 346 + (N - 411) = \mathbf{2N} - \mathbf{480} \\
&(N \geq 416)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2157}) &= B_{\bar{N}}(2N + 2157 - B_{\bar{N}}(2N + 2156)) + B_{\bar{N}}(2N + 2157 - B_{\bar{N}}(2N + 2155)) + B_{\bar{N}}(2N + 2157 - B_{\bar{N}}(2N + 2154)) \\
&= B_{\bar{N}}(2N + 2157 - (2N - 480)) + B_{\bar{N}}(2N + 2157 - (N + 2571)) + B_{\bar{N}}(2N + 2157 - (2N + 1810)) \\
&= B_{\bar{N}}(2637) + B_{\bar{N}}(N - 414) + B_{\bar{N}}(347) = 2637 + (N - 414) + 347 = \mathbf{N} + \mathbf{2570} \\
&(N \geq 2637)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2158}) &= B_{\bar{N}}(2N + 2158 - B_{\bar{N}}(2N + 2157)) + B_{\bar{N}}(2N + 2158 - B_{\bar{N}}(2N + 2156)) + B_{\bar{N}}(2N + 2158 - B_{\bar{N}}(2N + 2155)) \\
&= B_{\bar{N}}(2N + 2158 - (N + 2570)) + B_{\bar{N}}(2N + 2158 - (2N - 480)) + B_{\bar{N}}(2N + 2158 - (N + 2571)) \\
&= B_{\bar{N}}(N - 412) + B_{\bar{N}}(2638) + B_{\bar{N}}(N - 413) = (N - 412) + 2638 + (N - 413) = \mathbf{2N} + \mathbf{1813} \\
&(N \geq 2638)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2159}) &= B_{\bar{N}}(2N + 2159 - B_{\bar{N}}(2N + 2158)) + B_{\bar{N}}(2N + 2159 - B_{\bar{N}}(2N + 2157)) + B_{\bar{N}}(2N + 2159 - B_{\bar{N}}(2N + 2156)) \\
&= B_{\bar{N}}(2N + 2159 - (2N + 1813)) + B_{\bar{N}}(2N + 2159 - (N + 2570)) + B_{\bar{N}}(2N + 2159 - (2N - 480)) \\
&= B_{\bar{N}}(346) + B_{\bar{N}}(N - 411) + B_{\bar{N}}(2639) = 346 + (N - 411) + 2639 = \mathbf{N} + \mathbf{2574} \\
&(N \geq 2639)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2160}) &= B_{\bar{N}}(2N + 2160 - B_{\bar{N}}(2N + 2159)) + B_{\bar{N}}(2N + 2160 - B_{\bar{N}}(2N + 2158)) + B_{\bar{N}}(2N + 2160 - B_{\bar{N}}(2N + 2157)) \\
&= B_{\bar{N}}(2N + 2160 - (N + 2574)) + B_{\bar{N}}(2N + 2160 - (2N + 1813)) + B_{\bar{N}}(2N + 2160 - (N + 2570)) \\
&= B_{\bar{N}}(N - 414) + B_{\bar{N}}(347) + B_{\bar{N}}(N - 410) = (N - 414) + 347 + (N - 410) = \mathbf{2N} - \mathbf{477} \\
&(N \geq 415)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2161}) &= B_{\bar{N}}(2N + 2161 - B_{\bar{N}}(2N + 2160)) + B_{\bar{N}}(2N + 2161 - B_{\bar{N}}(2N + 2159)) + B_{\bar{N}}(2N + 2161 - B_{\bar{N}}(2N + 2158)) \\
&= B_{\bar{N}}(2N + 2161 - (2N - 477)) + B_{\bar{N}}(2N + 2161 - (N + 2574)) + B_{\bar{N}}(2N + 2161 - (2N + 1813)) \\
&= B_{\bar{N}}(2638) + B_{\bar{N}}(N - 413) + B_{\bar{N}}(348) = 2638 + (N - 413) + 348 = \mathbf{N} + \mathbf{2573} \\
&(N \geq 2638)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2162}) &= B_{\bar{N}}(2N + 2162 - B_{\bar{N}}(2N + 2161)) + B_{\bar{N}}(2N + 2162 - B_{\bar{N}}(2N + 2160)) + B_{\bar{N}}(2N + 2162 - B_{\bar{N}}(2N + 2159)) \\
&= B_{\bar{N}}(2N + 2162 - (N + 2573)) + B_{\bar{N}}(2N + 2162 - (2N - 477)) + B_{\bar{N}}(2N + 2162 - (N + 2574)) \\
&= B_{\bar{N}}(N - 411) + B_{\bar{N}}(2639) + B_{\bar{N}}(N - 412) = (N - 411) + 2639 + (N - 412) = \mathbf{2N} + \mathbf{1816} \\
&(N \geq 2639)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2163}) &= B_{\bar{N}}(2N + 2163 - B_{\bar{N}}(2N + 2162)) + B_{\bar{N}}(2N + 2163 - B_{\bar{N}}(2N + 2161)) + B_{\bar{N}}(2N + 2163 - B_{\bar{N}}(2N + 2160)) \\
&= B_{\bar{N}}(2N + 2163 - (2N + 1816)) + B_{\bar{N}}(2N + 2163 - (N + 2573)) + B_{\bar{N}}(2N + 2163 - (2N - 477)) \\
&= B_{\bar{N}}(347) + B_{\bar{N}}(N - 410) + B_{\bar{N}}(2640) = 347 + (N - 410) + 2640 = \mathbf{N} + \mathbf{2577} \\
&(N \geq 2640)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2164}) &= B_{\bar{N}}(2N + 2164 - B_{\bar{N}}(2N + 2163)) + B_{\bar{N}}(2N + 2164 - B_{\bar{N}}(2N + 2162)) + B_{\bar{N}}(2N + 2164 - B_{\bar{N}}(2N + 2161)) \\
&= B_{\bar{N}}(2N + 2164 - (N + 2577)) + B_{\bar{N}}(2N + 2164 - (2N + 1816)) + B_{\bar{N}}(2N + 2164 - (N + 2573)) \\
&= B_{\bar{N}}(N - 413) + B_{\bar{N}}(348) + B_{\bar{N}}(N - 409) = (N - 413) + 348 + (N - 409) = \mathbf{2N} - \mathbf{474} \\
&(N \geq 414)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2165}) &= B_{\bar{N}}(2N + 2165 - B_{\bar{N}}(2N + 2164)) + B_{\bar{N}}(2N + 2165 - B_{\bar{N}}(2N + 2163)) + B_{\bar{N}}(2N + 2165 - B_{\bar{N}}(2N + 2162)) \\
&= B_{\bar{N}}(2N + 2165 - (2N - 474)) + B_{\bar{N}}(2N + 2165 - (N + 2577)) + B_{\bar{N}}(2N + 2165 - (2N + 1816)) \\
&= B_{\bar{N}}(2639) + B_{\bar{N}}(N - 412) + B_{\bar{N}}(349) = 2639 + (N - 412) + 349 = \mathbf{N} + \mathbf{2576} \\
&(N \geq 2639)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2166}) &= B_{\bar{N}}(2N + 2166 - B_{\bar{N}}(2N + 2165)) + B_{\bar{N}}(2N + 2166 - B_{\bar{N}}(2N + 2164)) + B_{\bar{N}}(2N + 2166 - B_{\bar{N}}(2N + 2163)) \\
&= B_{\bar{N}}(2N + 2166 - (N + 2576)) + B_{\bar{N}}(2N + 2166 - (2N - 474)) + B_{\bar{N}}(2N + 2166 - (N + 2577)) \\
&= B_{\bar{N}}(N - 410) + B_{\bar{N}}(2640) + B_{\bar{N}}(N - 411) = (N - 410) + 2640 + (N - 411) = \mathbf{2N} + \mathbf{1819} \\
&(N \geq 2640)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2167}) &= B_{\bar{N}}(2N + 2167 - B_{\bar{N}}(2N + 2166)) + B_{\bar{N}}(2N + 2167 - B_{\bar{N}}(2N + 2165)) + B_{\bar{N}}(2N + 2167 - B_{\bar{N}}(2N + 2164)) \\
&= B_{\bar{N}}(2N + 2167 - (2N + 1819)) + B_{\bar{N}}(2N + 2167 - (N + 2576)) + B_{\bar{N}}(2N + 2167 - (2N - 474)) \\
&= B_{\bar{N}}(348) + B_{\bar{N}}(N - 409) + B_{\bar{N}}(2641) = 348 + (N - 409) + 2641 = \mathbf{N} + \mathbf{2580} \\
&(N \geq 2641)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2168}) &= B_{\bar{N}}(2N + 2168 - B_{\bar{N}}(2N + 2167)) + B_{\bar{N}}(2N + 2168 - B_{\bar{N}}(2N + 2166)) + B_{\bar{N}}(2N + 2168 - B_{\bar{N}}(2N + 2165)) \\
&= B_{\bar{N}}(2N + 2168 - (N + 2580)) + B_{\bar{N}}(2N + 2168 - (2N + 1819)) + B_{\bar{N}}(2N + 2168 - (N + 2576)) \\
&= B_{\bar{N}}(N - 412) + B_{\bar{N}}(349) + B_{\bar{N}}(N - 408) = (N - 412) + 349 + (N - 408) = \mathbf{2N} - \mathbf{471} \\
&(N \geq 413)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2169}) &= B_{\bar{N}}(2N + 2169 - B_{\bar{N}}(2N + 2168)) + B_{\bar{N}}(2N + 2169 - B_{\bar{N}}(2N + 2167)) + B_{\bar{N}}(2N + 2169 - B_{\bar{N}}(2N + 2166)) \\
&= B_{\bar{N}}(2N + 2169 - (2N - 471)) + B_{\bar{N}}(2N + 2169 - (N + 2580)) + B_{\bar{N}}(2N + 2169 - (2N + 1819)) \\
&= B_{\bar{N}}(2640) + B_{\bar{N}}(N - 411) + B_{\bar{N}}(350) = 2640 + (N - 411) + 350 = \mathbf{N} + \mathbf{2579} \\
&(N \geq 2640)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2170}) &= B_{\bar{N}}(2N + 2170 - B_{\bar{N}}(2N + 2169)) + B_{\bar{N}}(2N + 2170 - B_{\bar{N}}(2N + 2168)) + B_{\bar{N}}(2N + 2170 - B_{\bar{N}}(2N + 2167)) \\
&= B_{\bar{N}}(2N + 2170 - (N + 2579)) + B_{\bar{N}}(2N + 2170 - (2N - 471)) + B_{\bar{N}}(2N + 2170 - (N + 2580)) \\
&= B_{\bar{N}}(N - 409) + B_{\bar{N}}(2641) + B_{\bar{N}}(N - 410) = (N - 409) + 2641 + (N - 410) = \mathbf{2N} + \mathbf{1822} \\
&(N \geq 2641)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2171}) &= B_{\bar{N}}(2N + 2171 - B_{\bar{N}}(2N + 2170)) + B_{\bar{N}}(2N + 2171 - B_{\bar{N}}(2N + 2169)) + B_{\bar{N}}(2N + 2171 - B_{\bar{N}}(2N + 2168)) \\
&= B_{\bar{N}}(2N + 2171 - (2N + 1822)) + B_{\bar{N}}(2N + 2171 - (N + 2579)) + B_{\bar{N}}(2N + 2171 - (2N - 471)) \\
&= B_{\bar{N}}(349) + B_{\bar{N}}(N - 408) + B_{\bar{N}}(2642) = 349 + (N - 408) + 2642 = \mathbf{N} + \mathbf{2583} \\
&(N \geq 2642)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2172}) &= B_{\bar{N}}(2N + 2172 - B_{\bar{N}}(2N + 2171)) + B_{\bar{N}}(2N + 2172 - B_{\bar{N}}(2N + 2170)) + B_{\bar{N}}(2N + 2172 - B_{\bar{N}}(2N + 2169)) \\
&= B_{\bar{N}}(2N + 2172 - (N + 2583)) + B_{\bar{N}}(2N + 2172 - (2N + 1822)) + B_{\bar{N}}(2N + 2172 - (N + 2579)) \\
&= B_{\bar{N}}(N - 411) + B_{\bar{N}}(350) + B_{\bar{N}}(N - 407) = (N - 411) + 350 + (N - 407) = \mathbf{2N} - \mathbf{468} \\
&(N \geq 412)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2173}) &= B_{\bar{N}}(2N + 2173 - B_{\bar{N}}(2N + 2172)) + B_{\bar{N}}(2N + 2173 - B_{\bar{N}}(2N + 2171)) + B_{\bar{N}}(2N + 2173 - B_{\bar{N}}(2N + 2170)) \\
&= B_{\bar{N}}(2N + 2173 - (2N - 468)) + B_{\bar{N}}(2N + 2173 - (N + 2583)) + B_{\bar{N}}(2N + 2173 - (2N + 1822)) \\
&= B_{\bar{N}}(2641) + B_{\bar{N}}(N - 410) + B_{\bar{N}}(351) = 2641 + (N - 410) + 351 = \mathbf{N} + \mathbf{2582} \\
&(N \geq 2641)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2174}) &= B_{\bar{N}}(2N + 2174 - B_{\bar{N}}(2N + 2173)) + B_{\bar{N}}(2N + 2174 - B_{\bar{N}}(2N + 2172)) + B_{\bar{N}}(2N + 2174 - B_{\bar{N}}(2N + 2171)) \\
&= B_{\bar{N}}(2N + 2174 - (N + 2582)) + B_{\bar{N}}(2N + 2174 - (2N - 468)) + B_{\bar{N}}(2N + 2174 - (N + 2583)) \\
&= B_{\bar{N}}(N - 408) + B_{\bar{N}}(2642) + B_{\bar{N}}(N - 409) = (N - 408) + 2642 + (N - 409) = \mathbf{2N} + \mathbf{1825} \\
&(N \geq 2642)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2175}) &= B_{\bar{N}}(2N + 2175 - B_{\bar{N}}(2N + 2174)) + B_{\bar{N}}(2N + 2175 - B_{\bar{N}}(2N + 2173)) + B_{\bar{N}}(2N + 2175 - B_{\bar{N}}(2N + 2172)) \\
&= B_{\bar{N}}(2N + 2175 - (2N + 1825)) + B_{\bar{N}}(2N + 2175 - (N + 2582)) + B_{\bar{N}}(2N + 2175 - (2N - 468)) \\
&= B_{\bar{N}}(350) + B_{\bar{N}}(N - 407) + B_{\bar{N}}(2643) = 350 + (N - 407) + 2643 = \mathbf{N} + \mathbf{2586} \\
&(N \geq 2643)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2176}) &= B_{\bar{N}}(2N + 2176 - B_{\bar{N}}(2N + 2175)) + B_{\bar{N}}(2N + 2176 - B_{\bar{N}}(2N + 2174)) + B_{\bar{N}}(2N + 2176 - B_{\bar{N}}(2N + 2173)) \\
&= B_{\bar{N}}(2N + 2176 - (N + 2586)) + B_{\bar{N}}(2N + 2176 - (2N + 1825)) + B_{\bar{N}}(2N + 2176 - (N + 2582)) \\
&= B_{\bar{N}}(N - 410) + B_{\bar{N}}(351) + B_{\bar{N}}(N - 406) = (N - 410) + 351 + (N - 406) = \mathbf{2N} - \mathbf{465} \\
&(N \geq 411)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2177}) &= B_{\bar{N}}(2N + 2177 - B_{\bar{N}}(2N + 2176)) + B_{\bar{N}}(2N + 2177 - B_{\bar{N}}(2N + 2175)) + B_{\bar{N}}(2N + 2177 - B_{\bar{N}}(2N + 2174)) \\
&= B_{\bar{N}}(2N + 2177 - (2N - 465)) + B_{\bar{N}}(2N + 2177 - (N + 2586)) + B_{\bar{N}}(2N + 2177 - (2N + 1825)) \\
&= B_{\bar{N}}(2642) + B_{\bar{N}}(N - 409) + B_{\bar{N}}(352) = 2642 + (N - 409) + 352 = \mathbf{N} + \mathbf{2585} \\
&(N \geq 2642)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2178}) &= B_{\bar{N}}(2N + 2178 - B_{\bar{N}}(2N + 2177)) + B_{\bar{N}}(2N + 2178 - B_{\bar{N}}(2N + 2176)) + B_{\bar{N}}(2N + 2178 - B_{\bar{N}}(2N + 2175)) \\
&= B_{\bar{N}}(2N + 2178 - (N + 2585)) + B_{\bar{N}}(2N + 2178 - (2N - 465)) + B_{\bar{N}}(2N + 2178 - (N + 2586)) \\
&= B_{\bar{N}}(N - 407) + B_{\bar{N}}(2643) + B_{\bar{N}}(N - 408) = (N - 407) + 2643 + (N - 408) = \mathbf{2N} + \mathbf{1828} \\
&(N \geq 2643)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2179}) &= B_{\bar{N}}(2N + 2179 - B_{\bar{N}}(2N + 2178)) + B_{\bar{N}}(2N + 2179 - B_{\bar{N}}(2N + 2177)) + B_{\bar{N}}(2N + 2179 - B_{\bar{N}}(2N + 2176)) \\
&= B_{\bar{N}}(2N + 2179 - (2N + 1828)) + B_{\bar{N}}(2N + 2179 - (N + 2585)) + B_{\bar{N}}(2N + 2179 - (2N - 465)) \\
&= B_{\bar{N}}(351) + B_{\bar{N}}(N - 406) + B_{\bar{N}}(2644) = 351 + (N - 406) + 2644 = \mathbf{N} + \mathbf{2589} \\
&(N \geq 2644)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2180}) &= B_{\bar{N}}(2N + 2180 - B_{\bar{N}}(2N + 2179)) + B_{\bar{N}}(2N + 2180 - B_{\bar{N}}(2N + 2178)) + B_{\bar{N}}(2N + 2180 - B_{\bar{N}}(2N + 2177)) \\
&= B_{\bar{N}}(2N + 2180 - (N + 2589)) + B_{\bar{N}}(2N + 2180 - (2N + 1828)) + B_{\bar{N}}(2N + 2180 - (N + 2585)) \\
&= B_{\bar{N}}(N - 409) + B_{\bar{N}}(352) + B_{\bar{N}}(N - 405) = (N - 409) + 352 + (N - 405) = \mathbf{2N} - \mathbf{462} \\
&(N \geq 410)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2181}) &= B_{\bar{N}}(2N + 2181 - B_{\bar{N}}(2N + 2180)) + B_{\bar{N}}(2N + 2181 - B_{\bar{N}}(2N + 2179)) + B_{\bar{N}}(2N + 2181 - B_{\bar{N}}(2N + 2178)) \\
&= B_{\bar{N}}(2N + 2181 - (2N - 462)) + B_{\bar{N}}(2N + 2181 - (N + 2589)) + B_{\bar{N}}(2N + 2181 - (2N + 1828)) \\
&= B_{\bar{N}}(2643) + B_{\bar{N}}(N - 408) + B_{\bar{N}}(353) = 2643 + (N - 408) + 353 = \mathbf{N} + \mathbf{2588} \\
&(N \geq 2643)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2182}) &= B_{\bar{N}}(2N + 2182 - B_{\bar{N}}(2N + 2181)) + B_{\bar{N}}(2N + 2182 - B_{\bar{N}}(2N + 2180)) + B_{\bar{N}}(2N + 2182 - B_{\bar{N}}(2N + 2179)) \\
&= B_{\bar{N}}(2N + 2182 - (N + 2588)) + B_{\bar{N}}(2N + 2182 - (2N - 462)) + B_{\bar{N}}(2N + 2182 - (N + 2589)) \\
&= B_{\bar{N}}(N - 406) + B_{\bar{N}}(2644) + B_{\bar{N}}(N - 407) = (N - 406) + 2644 + (N - 407) = \mathbf{2N} + \mathbf{1831} \\
&(N \geq 2644)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2183}) &= B_{\bar{N}}(2N + 2183 - B_{\bar{N}}(2N + 2182)) + B_{\bar{N}}(2N + 2183 - B_{\bar{N}}(2N + 2181)) + B_{\bar{N}}(2N + 2183 - B_{\bar{N}}(2N + 2180)) \\
&= B_{\bar{N}}(2N + 2183 - (2N + 1831)) + B_{\bar{N}}(2N + 2183 - (N + 2588)) + B_{\bar{N}}(2N + 2183 - (2N - 462)) \\
&= B_{\bar{N}}(352) + B_{\bar{N}}(N - 405) + B_{\bar{N}}(2645) = 352 + (N - 405) + 2645 = \mathbf{N} + \mathbf{2592} \\
&(N \geq 2645)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2184}) &= B_{\bar{N}}(2N + 2184 - B_{\bar{N}}(2N + 2183)) + B_{\bar{N}}(2N + 2184 - B_{\bar{N}}(2N + 2182)) + B_{\bar{N}}(2N + 2184 - B_{\bar{N}}(2N + 2181)) \\
&= B_{\bar{N}}(2N + 2184 - (N + 2592)) + B_{\bar{N}}(2N + 2184 - (2N + 1831)) + B_{\bar{N}}(2N + 2184 - (N + 2588)) \\
&= B_{\bar{N}}(N - 408) + B_{\bar{N}}(353) + B_{\bar{N}}(N - 404) = (N - 408) + 353 + (N - 404) = \mathbf{2N} - \mathbf{459} \\
&(N \geq 409)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2185}) &= B_{\bar{N}}(2N + 2185 - B_{\bar{N}}(2N + 2184)) + B_{\bar{N}}(2N + 2185 - B_{\bar{N}}(2N + 2183)) + B_{\bar{N}}(2N + 2185 - B_{\bar{N}}(2N + 2182)) \\
&= B_{\bar{N}}(2N + 2185 - (2N - 459)) + B_{\bar{N}}(2N + 2185 - (N + 2592)) + B_{\bar{N}}(2N + 2185 - (2N + 1831)) \\
&= B_{\bar{N}}(2644) + B_{\bar{N}}(N - 407) + B_{\bar{N}}(354) = 2644 + (N - 407) + 354 = \mathbf{N} + \mathbf{2591} \\
&(N \geq 2644)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2186}) &= B_{\bar{N}}(2N + 2186 - B_{\bar{N}}(2N + 2185)) + B_{\bar{N}}(2N + 2186 - B_{\bar{N}}(2N + 2184)) + B_{\bar{N}}(2N + 2186 - B_{\bar{N}}(2N + 2183)) \\
&= B_{\bar{N}}(2N + 2186 - (N + 2591)) + B_{\bar{N}}(2N + 2186 - (2N - 459)) + B_{\bar{N}}(2N + 2186 - (N + 2592)) \\
&= B_{\bar{N}}(N - 405) + B_{\bar{N}}(2645) + B_{\bar{N}}(N - 406) = (N - 405) + 2645 + (N - 406) = \mathbf{2N} + \mathbf{1834} \\
&(N \geq 2645)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2187}) &= B_{\bar{N}}(2N + 2187 - B_{\bar{N}}(2N + 2186)) + B_{\bar{N}}(2N + 2187 - B_{\bar{N}}(2N + 2185)) + B_{\bar{N}}(2N + 2187 - B_{\bar{N}}(2N + 2184)) \\
&= B_{\bar{N}}(2N + 2187 - (2N + 1834)) + B_{\bar{N}}(2N + 2187 - (N + 2591)) + B_{\bar{N}}(2N + 2187 - (2N - 459)) \\
&= B_{\bar{N}}(353) + B_{\bar{N}}(N - 404) + B_{\bar{N}}(2646) = 353 + (N - 404) + 2646 = \mathbf{N} + \mathbf{2595} \\
&(N \geq 2646)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2188}) &= B_{\bar{N}}(2N + 2188 - B_{\bar{N}}(2N + 2187)) + B_{\bar{N}}(2N + 2188 - B_{\bar{N}}(2N + 2186)) + B_{\bar{N}}(2N + 2188 - B_{\bar{N}}(2N + 2185)) \\
&= B_{\bar{N}}(2N + 2188 - (N + 2595)) + B_{\bar{N}}(2N + 2188 - (2N + 1834)) + B_{\bar{N}}(2N + 2188 - (N + 2591)) \\
&= B_{\bar{N}}(N - 407) + B_{\bar{N}}(354) + B_{\bar{N}}(N - 403) = (N - 407) + 354 + (N - 403) = \mathbf{2N} - \mathbf{456} \\
&(N \geq 408)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2189}) &= B_{\bar{N}}(2N + 2189 - B_{\bar{N}}(2N + 2188)) + B_{\bar{N}}(2N + 2189 - B_{\bar{N}}(2N + 2187)) + B_{\bar{N}}(2N + 2189 - B_{\bar{N}}(2N + 2186)) \\
&= B_{\bar{N}}(2N + 2189 - (2N - 456)) + B_{\bar{N}}(2N + 2189 - (N + 2595)) + B_{\bar{N}}(2N + 2189 - (2N + 1834)) \\
&= B_{\bar{N}}(2645) + B_{\bar{N}}(N - 406) + B_{\bar{N}}(355) = 2645 + (N - 406) + 355 = \mathbf{N} + \mathbf{2594} \\
&(N \geq 2645)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2190}) &= B_{\bar{N}}(2N + 2190 - B_{\bar{N}}(2N + 2189)) + B_{\bar{N}}(2N + 2190 - B_{\bar{N}}(2N + 2188)) + B_{\bar{N}}(2N + 2190 - B_{\bar{N}}(2N + 2187)) \\
&= B_{\bar{N}}(2N + 2190 - (N + 2594)) + B_{\bar{N}}(2N + 2190 - (2N - 456)) + B_{\bar{N}}(2N + 2190 - (N + 2595)) \\
&= B_{\bar{N}}(N - 404) + B_{\bar{N}}(2646) + B_{\bar{N}}(N - 405) = (N - 404) + 2646 + (N - 405) = \mathbf{2N} + \mathbf{1837} \\
&(N \geq 2646)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2191}) &= B_{\bar{N}}(2N + 2191 - B_{\bar{N}}(2N + 2190)) + B_{\bar{N}}(2N + 2191 - B_{\bar{N}}(2N + 2189)) + B_{\bar{N}}(2N + 2191 - B_{\bar{N}}(2N + 2188)) \\
&= B_{\bar{N}}(2N + 2191 - (2N + 1837)) + B_{\bar{N}}(2N + 2191 - (N + 2594)) + B_{\bar{N}}(2N + 2191 - (2N - 456)) \\
&= B_{\bar{N}}(354) + B_{\bar{N}}(N - 403) + B_{\bar{N}}(2647) = 354 + (N - 403) + 2647 = \mathbf{N} + \mathbf{2598} \\
&(N \geq 2647)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2192}) &= B_{\bar{N}}(2N + 2192 - B_{\bar{N}}(2N + 2191)) + B_{\bar{N}}(2N + 2192 - B_{\bar{N}}(2N + 2190)) + B_{\bar{N}}(2N + 2192 - B_{\bar{N}}(2N + 2189)) \\
&= B_{\bar{N}}(2N + 2192 - (N + 2598)) + B_{\bar{N}}(2N + 2192 - (2N + 1837)) + B_{\bar{N}}(2N + 2192 - (N + 2594)) \\
&= B_{\bar{N}}(N - 406) + B_{\bar{N}}(355) + B_{\bar{N}}(N - 402) = (N - 406) + 355 + (N - 402) = \mathbf{2N} - \mathbf{453} \\
&(N \geq 407)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2193}) &= B_{\bar{N}}(2N + 2193 - B_{\bar{N}}(2N + 2192)) + B_{\bar{N}}(2N + 2193 - B_{\bar{N}}(2N + 2191)) + B_{\bar{N}}(2N + 2193 - B_{\bar{N}}(2N + 2190)) \\
&= B_{\bar{N}}(2N + 2193 - (2N - 453)) + B_{\bar{N}}(2N + 2193 - (N + 2598)) + B_{\bar{N}}(2N + 2193 - (2N + 1837)) \\
&= B_{\bar{N}}(2646) + B_{\bar{N}}(N - 405) + B_{\bar{N}}(356) = 2646 + (N - 405) + 356 = \mathbf{N} + \mathbf{2597} \\
&(N \geq 2646)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2194}) &= B_{\bar{N}}(2N + 2194 - B_{\bar{N}}(2N + 2193)) + B_{\bar{N}}(2N + 2194 - B_{\bar{N}}(2N + 2192)) + B_{\bar{N}}(2N + 2194 - B_{\bar{N}}(2N + 2191)) \\
&= B_{\bar{N}}(2N + 2194 - (N + 2597)) + B_{\bar{N}}(2N + 2194 - (2N - 453)) + B_{\bar{N}}(2N + 2194 - (N + 2598)) \\
&= B_{\bar{N}}(N - 403) + B_{\bar{N}}(2647) + B_{\bar{N}}(N - 404) = (N - 403) + 2647 + (N - 404) = \mathbf{2N} + \mathbf{1840} \\
&(N \geq 2647)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2195}) &= B_{\bar{N}}(2N + 2195 - B_{\bar{N}}(2N + 2194)) + B_{\bar{N}}(2N + 2195 - B_{\bar{N}}(2N + 2193)) + B_{\bar{N}}(2N + 2195 - B_{\bar{N}}(2N + 2192)) \\
&= B_{\bar{N}}(2N + 2195 - (2N + 1840)) + B_{\bar{N}}(2N + 2195 - (N + 2597)) + B_{\bar{N}}(2N + 2195 - (2N - 453)) \\
&= B_{\bar{N}}(355) + B_{\bar{N}}(N - 402) + B_{\bar{N}}(2648) = 355 + (N - 402) + 2648 = \mathbf{N} + \mathbf{2601} \\
&(N \geq 2648)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2196}) &= B_{\bar{N}}(2N + 2196 - B_{\bar{N}}(2N + 2195)) + B_{\bar{N}}(2N + 2196 - B_{\bar{N}}(2N + 2194)) + B_{\bar{N}}(2N + 2196 - B_{\bar{N}}(2N + 2193)) \\
&= B_{\bar{N}}(2N + 2196 - (N + 2601)) + B_{\bar{N}}(2N + 2196 - (2N + 1840)) + B_{\bar{N}}(2N + 2196 - (N + 2597)) \\
&= B_{\bar{N}}(N - 405) + B_{\bar{N}}(356) + B_{\bar{N}}(N - 401) = (N - 405) + 356 + (N - 401) = \mathbf{2N} - \mathbf{450} \\
&(N \geq 406)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2197}) &= B_{\bar{N}}(2N + 2197 - B_{\bar{N}}(2N + 2196)) + B_{\bar{N}}(2N + 2197 - B_{\bar{N}}(2N + 2195)) + B_{\bar{N}}(2N + 2197 - B_{\bar{N}}(2N + 2194)) \\
&= B_{\bar{N}}(2N + 2197 - (2N - 450)) + B_{\bar{N}}(2N + 2197 - (N + 2601)) + B_{\bar{N}}(2N + 2197 - (2N + 1840)) \\
&= B_{\bar{N}}(2647) + B_{\bar{N}}(N - 404) + B_{\bar{N}}(357) = 2647 + (N - 404) + 357 = \mathbf{N} + \mathbf{2600} \\
&(N \geq 2647)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2198}) &= B_{\bar{N}}(2N + 2198 - B_{\bar{N}}(2N + 2197)) + B_{\bar{N}}(2N + 2198 - B_{\bar{N}}(2N + 2196)) + B_{\bar{N}}(2N + 2198 - B_{\bar{N}}(2N + 2195)) \\
&= B_{\bar{N}}(2N + 2198 - (N + 2600)) + B_{\bar{N}}(2N + 2198 - (2N - 450)) + B_{\bar{N}}(2N + 2198 - (N + 2601)) \\
&= B_{\bar{N}}(N - 402) + B_{\bar{N}}(2648) + B_{\bar{N}}(N - 403) = (N - 402) + 2648 + (N - 403) = \mathbf{2N} + \mathbf{1843} \\
&(N \geq 2648)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2199}) &= B_{\bar{N}}(2N + 2199 - B_{\bar{N}}(2N + 2198)) + B_{\bar{N}}(2N + 2199 - B_{\bar{N}}(2N + 2197)) + B_{\bar{N}}(2N + 2199 - B_{\bar{N}}(2N + 2196)) \\
&= B_{\bar{N}}(2N + 2199 - (2N + 1843)) + B_{\bar{N}}(2N + 2199 - (N + 2600)) + B_{\bar{N}}(2N + 2199 - (2N - 450)) \\
&= B_{\bar{N}}(356) + B_{\bar{N}}(N - 401) + B_{\bar{N}}(2649) = 356 + (N - 401) + 2649 = \mathbf{N} + \mathbf{2604} \\
&(N \geq 2649)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2200}) &= B_{\bar{N}}(2N + 2200 - B_{\bar{N}}(2N + 2199)) + B_{\bar{N}}(2N + 2200 - B_{\bar{N}}(2N + 2198)) + B_{\bar{N}}(2N + 2200 - B_{\bar{N}}(2N + 2197)) \\
&= B_{\bar{N}}(2N + 2200 - (N + 2604)) + B_{\bar{N}}(2N + 2200 - (2N + 1843)) + B_{\bar{N}}(2N + 2200 - (N + 2600)) \\
&= B_{\bar{N}}(N - 404) + B_{\bar{N}}(357) + B_{\bar{N}}(N - 400) = (N - 404) + 357 + (N - 400) = \mathbf{2N} - \mathbf{447} \\
&(N \geq 405)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2201}) &= B_{\bar{N}}(2N + 2201 - B_{\bar{N}}(2N + 2200)) + B_{\bar{N}}(2N + 2201 - B_{\bar{N}}(2N + 2199)) + B_{\bar{N}}(2N + 2201 - B_{\bar{N}}(2N + 2198)) \\
&= B_{\bar{N}}(2N + 2201 - (2N - 447)) + B_{\bar{N}}(2N + 2201 - (N + 2604)) + B_{\bar{N}}(2N + 2201 - (2N + 1843)) \\
&= B_{\bar{N}}(2648) + B_{\bar{N}}(N - 403) + B_{\bar{N}}(358) = 2648 + (N - 403) + 358 = \mathbf{N} + \mathbf{2603} \\
&(N \geq 2648)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2202}) &= B_{\bar{N}}(2N + 2202 - B_{\bar{N}}(2N + 2201)) + B_{\bar{N}}(2N + 2202 - B_{\bar{N}}(2N + 2200)) + B_{\bar{N}}(2N + 2202 - B_{\bar{N}}(2N + 2199)) \\
&= B_{\bar{N}}(2N + 2202 - (N + 2603)) + B_{\bar{N}}(2N + 2202 - (2N - 447)) + B_{\bar{N}}(2N + 2202 - (N + 2604)) \\
&= B_{\bar{N}}(N - 401) + B_{\bar{N}}(2649) + B_{\bar{N}}(N - 402) = (N - 401) + 2649 + (N - 402) = \mathbf{2N} + \mathbf{1846} \\
&(N \geq 2649)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2203}) &= B_{\bar{N}}(2N + 2203 - B_{\bar{N}}(2N + 2202)) + B_{\bar{N}}(2N + 2203 - B_{\bar{N}}(2N + 2201)) + B_{\bar{N}}(2N + 2203 - B_{\bar{N}}(2N + 2200)) \\
&= B_{\bar{N}}(2N + 2203 - (2N + 1846)) + B_{\bar{N}}(2N + 2203 - (N + 2603)) + B_{\bar{N}}(2N + 2203 - (2N - 447)) \\
&= B_{\bar{N}}(357) + B_{\bar{N}}(N - 400) + B_{\bar{N}}(2650) = 357 + (N - 400) + 2650 = \mathbf{N} + \mathbf{2607} \\
&(N \geq 2650)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2204}) &= B_{\bar{N}}(2N + 2204 - B_{\bar{N}}(2N + 2203)) + B_{\bar{N}}(2N + 2204 - B_{\bar{N}}(2N + 2202)) + B_{\bar{N}}(2N + 2204 - B_{\bar{N}}(2N + 2201)) \\
&= B_{\bar{N}}(2N + 2204 - (N + 2607)) + B_{\bar{N}}(2N + 2204 - (2N + 1846)) + B_{\bar{N}}(2N + 2204 - (N + 2603)) \\
&= B_{\bar{N}}(N - 403) + B_{\bar{N}}(358) + B_{\bar{N}}(N - 399) = (N - 403) + 358 + (N - 399) = \mathbf{2N} - \mathbf{444} \\
&(N \geq 404)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2205}) &= B_{\bar{N}}(2N + 2205 - B_{\bar{N}}(2N + 2204)) + B_{\bar{N}}(2N + 2205 - B_{\bar{N}}(2N + 2203)) + B_{\bar{N}}(2N + 2205 - B_{\bar{N}}(2N + 2202)) \\
&= B_{\bar{N}}(2N + 2205 - (2N - 444)) + B_{\bar{N}}(2N + 2205 - (N + 2607)) + B_{\bar{N}}(2N + 2205 - (2N + 1846)) \\
&= B_{\bar{N}}(2649) + B_{\bar{N}}(N - 402) + B_{\bar{N}}(359) = 2649 + (N - 402) + 359 = \mathbf{N} + \mathbf{2606} \\
&(N \geq 2649)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2206}) &= B_{\bar{N}}(2N + 2206 - B_{\bar{N}}(2N + 2205)) + B_{\bar{N}}(2N + 2206 - B_{\bar{N}}(2N + 2204)) + B_{\bar{N}}(2N + 2206 - B_{\bar{N}}(2N + 2203)) \\
&= B_{\bar{N}}(2N + 2206 - (N + 2606)) + B_{\bar{N}}(2N + 2206 - (2N - 444)) + B_{\bar{N}}(2N + 2206 - (N + 2607)) \\
&= B_{\bar{N}}(N - 400) + B_{\bar{N}}(2650) + B_{\bar{N}}(N - 401) = (N - 400) + 2650 + (N - 401) = \mathbf{2N} + \mathbf{1849} \\
&(N \geq 2650)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2207}) &= B_{\bar{N}}(2N + 2207 - B_{\bar{N}}(2N + 2206)) + B_{\bar{N}}(2N + 2207 - B_{\bar{N}}(2N + 2205)) + B_{\bar{N}}(2N + 2207 - B_{\bar{N}}(2N + 2204)) \\
&= B_{\bar{N}}(2N + 2207 - (2N + 1849)) + B_{\bar{N}}(2N + 2207 - (N + 2606)) + B_{\bar{N}}(2N + 2207 - (2N - 444)) \\
&= B_{\bar{N}}(358) + B_{\bar{N}}(N - 399) + B_{\bar{N}}(2651) = 358 + (N - 399) + 2651 = \mathbf{N} + \mathbf{2610} \\
&(N \geq 2651)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2208}) &= B_{\bar{N}}(2N + 2208 - B_{\bar{N}}(2N + 2207)) + B_{\bar{N}}(2N + 2208 - B_{\bar{N}}(2N + 2206)) + B_{\bar{N}}(2N + 2208 - B_{\bar{N}}(2N + 2205)) \\
&= B_{\bar{N}}(2N + 2208 - (N + 2610)) + B_{\bar{N}}(2N + 2208 - (2N + 1849)) + B_{\bar{N}}(2N + 2208 - (N + 2606)) \\
&= B_{\bar{N}}(N - 402) + B_{\bar{N}}(359) + B_{\bar{N}}(N - 398) = (N - 402) + 359 + (N - 398) = \mathbf{2N} - \mathbf{441} \\
&(N \geq 403)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2209}) &= B_{\bar{N}}(2N + 2209 - B_{\bar{N}}(2N + 2208)) + B_{\bar{N}}(2N + 2209 - B_{\bar{N}}(2N + 2207)) + B_{\bar{N}}(2N + 2209 - B_{\bar{N}}(2N + 2206)) \\
&= B_{\bar{N}}(2N + 2209 - (2N - 441)) + B_{\bar{N}}(2N + 2209 - (N + 2610)) + B_{\bar{N}}(2N + 2209 - (2N + 1849)) \\
&= B_{\bar{N}}(2650) + B_{\bar{N}}(N - 401) + B_{\bar{N}}(360) = 2650 + (N - 401) + 360 = \mathbf{N} + \mathbf{2609} \\
&(N \geq 2650)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2210}) &= B_{\bar{N}}(2N + 2210 - B_{\bar{N}}(2N + 2209)) + B_{\bar{N}}(2N + 2210 - B_{\bar{N}}(2N + 2208)) + B_{\bar{N}}(2N + 2210 - B_{\bar{N}}(2N + 2207)) \\
&= B_{\bar{N}}(2N + 2210 - (N + 2609)) + B_{\bar{N}}(2N + 2210 - (2N - 441)) + B_{\bar{N}}(2N + 2210 - (N + 2610)) \\
&= B_{\bar{N}}(N - 399) + B_{\bar{N}}(2651) + B_{\bar{N}}(N - 400) = (N - 399) + 2651 + (N - 400) = \mathbf{2N} + \mathbf{1852} \\
&(N \geq 2651)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2211}) &= B_{\bar{N}}(2N + 2211 - B_{\bar{N}}(2N + 2210)) + B_{\bar{N}}(2N + 2211 - B_{\bar{N}}(2N + 2209)) + B_{\bar{N}}(2N + 2211 - B_{\bar{N}}(2N + 2208)) \\
&= B_{\bar{N}}(2N + 2211 - (2N + 1852)) + B_{\bar{N}}(2N + 2211 - (N + 2609)) + B_{\bar{N}}(2N + 2211 - (2N - 441)) \\
&= B_{\bar{N}}(359) + B_{\bar{N}}(N - 398) + B_{\bar{N}}(2652) = 359 + (N - 398) + 2652 = \mathbf{N} + \mathbf{2613} \\
&(N \geq 2652)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2212}) &= B_{\bar{N}}(2N + 2212 - B_{\bar{N}}(2N + 2211)) + B_{\bar{N}}(2N + 2212 - B_{\bar{N}}(2N + 2210)) + B_{\bar{N}}(2N + 2212 - B_{\bar{N}}(2N + 2209)) \\
&= B_{\bar{N}}(2N + 2212 - (N + 2613)) + B_{\bar{N}}(2N + 2212 - (2N + 1852)) + B_{\bar{N}}(2N + 2212 - (N + 2609)) \\
&= B_{\bar{N}}(N - 401) + B_{\bar{N}}(360) + B_{\bar{N}}(N - 397) = (N - 401) + 360 + (N - 397) = \mathbf{2N} - \mathbf{438} \\
&(N \geq 402)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2213}) &= B_{\bar{N}}(2N + 2213 - B_{\bar{N}}(2N + 2212)) + B_{\bar{N}}(2N + 2213 - B_{\bar{N}}(2N + 2211)) + B_{\bar{N}}(2N + 2213 - B_{\bar{N}}(2N + 2210)) \\
&= B_{\bar{N}}(2N + 2213 - (2N - 438)) + B_{\bar{N}}(2N + 2213 - (N + 2613)) + B_{\bar{N}}(2N + 2213 - (2N + 1852)) \\
&= B_{\bar{N}}(2651) + B_{\bar{N}}(N - 400) + B_{\bar{N}}(361) = 2651 + (N - 400) + 361 = \mathbf{N} + \mathbf{2612} \\
&(N \geq 2651)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2214}) &= B_{\bar{N}}(2N + 2214 - B_{\bar{N}}(2N + 2213)) + B_{\bar{N}}(2N + 2214 - B_{\bar{N}}(2N + 2212)) + B_{\bar{N}}(2N + 2214 - B_{\bar{N}}(2N + 2211)) \\
&= B_{\bar{N}}(2N + 2214 - (N + 2612)) + B_{\bar{N}}(2N + 2214 - (2N - 438)) + B_{\bar{N}}(2N + 2214 - (N + 2613)) \\
&= B_{\bar{N}}(N - 398) + B_{\bar{N}}(2652) + B_{\bar{N}}(N - 399) = (N - 398) + 2652 + (N - 399) = \mathbf{2N} + \mathbf{1855} \\
&(N \geq 2652)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2215}) &= B_{\bar{N}}(2N + 2215 - B_{\bar{N}}(2N + 2214)) + B_{\bar{N}}(2N + 2215 - B_{\bar{N}}(2N + 2213)) + B_{\bar{N}}(2N + 2215 - B_{\bar{N}}(2N + 2212)) \\
&= B_{\bar{N}}(2N + 2215 - (2N + 1855)) + B_{\bar{N}}(2N + 2215 - (N + 2612)) + B_{\bar{N}}(2N + 2215 - (2N - 438)) \\
&= B_{\bar{N}}(360) + B_{\bar{N}}(N - 397) + B_{\bar{N}}(2653) = 360 + (N - 397) + 2653 = \mathbf{N} + \mathbf{2616} \\
&(N \geq 2653)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2216}) &= B_{\bar{N}}(2N + 2216 - B_{\bar{N}}(2N + 2215)) + B_{\bar{N}}(2N + 2216 - B_{\bar{N}}(2N + 2214)) + B_{\bar{N}}(2N + 2216 - B_{\bar{N}}(2N + 2213)) \\
&= B_{\bar{N}}(2N + 2216 - (N + 2616)) + B_{\bar{N}}(2N + 2216 - (2N + 1855)) + B_{\bar{N}}(2N + 2216 - (N + 2612)) \\
&= B_{\bar{N}}(N - 400) + B_{\bar{N}}(361) + B_{\bar{N}}(N - 396) = (N - 400) + 361 + (N - 396) = \mathbf{2N} - \mathbf{435} \\
&(N \geq 401)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2217}) &= B_{\bar{N}}(2N + 2217 - B_{\bar{N}}(2N + 2216)) + B_{\bar{N}}(2N + 2217 - B_{\bar{N}}(2N + 2215)) + B_{\bar{N}}(2N + 2217 - B_{\bar{N}}(2N + 2214)) \\
&= B_{\bar{N}}(2N + 2217 - (2N - 435)) + B_{\bar{N}}(2N + 2217 - (N + 2616)) + B_{\bar{N}}(2N + 2217 - (2N + 1855)) \\
&= B_{\bar{N}}(2652) + B_{\bar{N}}(N - 399) + B_{\bar{N}}(362) = 2652 + (N - 399) + 362 = \mathbf{N} + \mathbf{2615} \\
&(N \geq 2652)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2218}) &= B_{\bar{N}}(2N + 2218 - B_{\bar{N}}(2N + 2217)) + B_{\bar{N}}(2N + 2218 - B_{\bar{N}}(2N + 2216)) + B_{\bar{N}}(2N + 2218 - B_{\bar{N}}(2N + 2215)) \\
&= B_{\bar{N}}(2N + 2218 - (N + 2615)) + B_{\bar{N}}(2N + 2218 - (2N - 435)) + B_{\bar{N}}(2N + 2218 - (N + 2616)) \\
&= B_{\bar{N}}(N - 397) + B_{\bar{N}}(2653) + B_{\bar{N}}(N - 398) = (N - 397) + 2653 + (N - 398) = \mathbf{2N} + \mathbf{1858} \\
&(N \geq 2653)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2219}) &= B_{\bar{N}}(2N + 2219 - B_{\bar{N}}(2N + 2218)) + B_{\bar{N}}(2N + 2219 - B_{\bar{N}}(2N + 2217)) + B_{\bar{N}}(2N + 2219 - B_{\bar{N}}(2N + 2216)) \\
&= B_{\bar{N}}(2N + 2219 - (2N + 1858)) + B_{\bar{N}}(2N + 2219 - (N + 2615)) + B_{\bar{N}}(2N + 2219 - (2N - 435)) \\
&= B_{\bar{N}}(361) + B_{\bar{N}}(N - 396) + B_{\bar{N}}(2654) = 361 + (N - 396) + 2654 = \mathbf{N} + \mathbf{2619} \\
&(N \geq 2654)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2220}) &= B_{\bar{N}}(2N + 2220 - B_{\bar{N}}(2N + 2219)) + B_{\bar{N}}(2N + 2220 - B_{\bar{N}}(2N + 2218)) + B_{\bar{N}}(2N + 2220 - B_{\bar{N}}(2N + 2217)) \\
&= B_{\bar{N}}(2N + 2220 - (N + 2619)) + B_{\bar{N}}(2N + 2220 - (2N + 1858)) + B_{\bar{N}}(2N + 2220 - (N + 2615)) \\
&= B_{\bar{N}}(N - 399) + B_{\bar{N}}(362) + B_{\bar{N}}(N - 395) = (N - 399) + 362 + (N - 395) = \mathbf{2N} - \mathbf{432} \\
&(N \geq 400)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2221}) &= B_{\bar{N}}(2N + 2221 - B_{\bar{N}}(2N + 2220)) + B_{\bar{N}}(2N + 2221 - B_{\bar{N}}(2N + 2219)) + B_{\bar{N}}(2N + 2221 - B_{\bar{N}}(2N + 2218)) \\
&= B_{\bar{N}}(2N + 2221 - (2N - 432)) + B_{\bar{N}}(2N + 2221 - (N + 2619)) + B_{\bar{N}}(2N + 2221 - (2N + 1858)) \\
&= B_{\bar{N}}(2653) + B_{\bar{N}}(N - 398) + B_{\bar{N}}(363) = 2653 + (N - 398) + 363 = \mathbf{N} + \mathbf{2618} \\
&(N \geq 2653)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2222}) &= B_{\bar{N}}(2N + 2222 - B_{\bar{N}}(2N + 2221)) + B_{\bar{N}}(2N + 2222 - B_{\bar{N}}(2N + 2220)) + B_{\bar{N}}(2N + 2222 - B_{\bar{N}}(2N + 2219)) \\
&= B_{\bar{N}}(2N + 2222 - (N + 2618)) + B_{\bar{N}}(2N + 2222 - (2N - 432)) + B_{\bar{N}}(2N + 2222 - (N + 2619)) \\
&= B_{\bar{N}}(N - 396) + B_{\bar{N}}(2654) + B_{\bar{N}}(N - 397) = (N - 396) + 2654 + (N - 397) = \mathbf{2N} + \mathbf{1861} \\
&(N \geq 2654)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2223}) &= B_{\bar{N}}(2N + 2223 - B_{\bar{N}}(2N + 2222)) + B_{\bar{N}}(2N + 2223 - B_{\bar{N}}(2N + 2221)) + B_{\bar{N}}(2N + 2223 - B_{\bar{N}}(2N + 2220)) \\
&= B_{\bar{N}}(2N + 2223 - (2N + 1861)) + B_{\bar{N}}(2N + 2223 - (N + 2618)) + B_{\bar{N}}(2N + 2223 - (2N - 432)) \\
&= B_{\bar{N}}(362) + B_{\bar{N}}(N - 395) + B_{\bar{N}}(2655) = 362 + (N - 395) + 2655 = \mathbf{N} + \mathbf{2622} \\
&(N \geq 2655)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2224}) &= B_{\bar{N}}(2N + 2224 - B_{\bar{N}}(2N + 2223)) + B_{\bar{N}}(2N + 2224 - B_{\bar{N}}(2N + 2222)) + B_{\bar{N}}(2N + 2224 - B_{\bar{N}}(2N + 2221)) \\
&= B_{\bar{N}}(2N + 2224 - (N + 2622)) + B_{\bar{N}}(2N + 2224 - (2N + 1861)) + B_{\bar{N}}(2N + 2224 - (N + 2618)) \\
&= B_{\bar{N}}(N - 398) + B_{\bar{N}}(363) + B_{\bar{N}}(N - 394) = (N - 398) + 363 + (N - 394) = \mathbf{2N} - \mathbf{429} \\
&(N \geq 399)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2225}) &= B_{\bar{N}}(2N + 2225 - B_{\bar{N}}(2N + 2224)) + B_{\bar{N}}(2N + 2225 - B_{\bar{N}}(2N + 2223)) + B_{\bar{N}}(2N + 2225 - B_{\bar{N}}(2N + 2222)) \\
&= B_{\bar{N}}(2N + 2225 - (2N - 429)) + B_{\bar{N}}(2N + 2225 - (N + 2622)) + B_{\bar{N}}(2N + 2225 - (2N + 1861)) \\
&= B_{\bar{N}}(2654) + B_{\bar{N}}(N - 397) + B_{\bar{N}}(364) = 2654 + (N - 397) + 364 = \mathbf{N} + \mathbf{2621} \\
&(N \geq 2654)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2226}) &= B_{\bar{N}}(2N + 2226 - B_{\bar{N}}(2N + 2225)) + B_{\bar{N}}(2N + 2226 - B_{\bar{N}}(2N + 2224)) + B_{\bar{N}}(2N + 2226 - B_{\bar{N}}(2N + 2223)) \\
&= B_{\bar{N}}(2N + 2226 - (N + 2621)) + B_{\bar{N}}(2N + 2226 - (2N - 429)) + B_{\bar{N}}(2N + 2226 - (N + 2622)) \\
&= B_{\bar{N}}(N - 395) + B_{\bar{N}}(2655) + B_{\bar{N}}(N - 396) = (N - 395) + 2655 + (N - 396) = \mathbf{2N} + \mathbf{1864} \\
&(N \geq 2655)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2227}) &= B_{\bar{N}}(2N + 2227 - B_{\bar{N}}(2N + 2226)) + B_{\bar{N}}(2N + 2227 - B_{\bar{N}}(2N + 2225)) + B_{\bar{N}}(2N + 2227 - B_{\bar{N}}(2N + 2224)) \\
&= B_{\bar{N}}(2N + 2227 - (2N + 1864)) + B_{\bar{N}}(2N + 2227 - (N + 2621)) + B_{\bar{N}}(2N + 2227 - (2N - 429)) \\
&= B_{\bar{N}}(363) + B_{\bar{N}}(N - 394) + B_{\bar{N}}(2656) = 363 + (N - 394) + 2656 = \mathbf{N} + \mathbf{2625} \\
&(N \geq 2656)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2228}) &= B_{\bar{N}}(2N + 2228 - B_{\bar{N}}(2N + 2227)) + B_{\bar{N}}(2N + 2228 - B_{\bar{N}}(2N + 2226)) + B_{\bar{N}}(2N + 2228 - B_{\bar{N}}(2N + 2225)) \\
&= B_{\bar{N}}(2N + 2228 - (N + 2625)) + B_{\bar{N}}(2N + 2228 - (2N + 1864)) + B_{\bar{N}}(2N + 2228 - (N + 2621)) \\
&= B_{\bar{N}}(N - 397) + B_{\bar{N}}(364) + B_{\bar{N}}(N - 393) = (N - 397) + 364 + (N - 393) = \mathbf{2N} - \mathbf{426} \\
&(N \geq 398)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2229}) &= B_{\bar{N}}(2N + 2229 - B_{\bar{N}}(2N + 2228)) + B_{\bar{N}}(2N + 2229 - B_{\bar{N}}(2N + 2227)) + B_{\bar{N}}(2N + 2229 - B_{\bar{N}}(2N + 2226)) \\
&= B_{\bar{N}}(2N + 2229 - (2N - 426)) + B_{\bar{N}}(2N + 2229 - (N + 2625)) + B_{\bar{N}}(2N + 2229 - (2N + 1864)) \\
&= B_{\bar{N}}(2655) + B_{\bar{N}}(N - 396) + B_{\bar{N}}(365) = 2655 + (N - 396) + 365 = \mathbf{N} + \mathbf{2624} \\
&(N \geq 2655)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2230}) &= B_{\bar{N}}(2N + 2230 - B_{\bar{N}}(2N + 2229)) + B_{\bar{N}}(2N + 2230 - B_{\bar{N}}(2N + 2228)) + B_{\bar{N}}(2N + 2230 - B_{\bar{N}}(2N + 2227)) \\
&= B_{\bar{N}}(2N + 2230 - (N + 2624)) + B_{\bar{N}}(2N + 2230 - (2N - 426)) + B_{\bar{N}}(2N + 2230 - (N + 2625)) \\
&= B_{\bar{N}}(N - 394) + B_{\bar{N}}(2656) + B_{\bar{N}}(N - 395) = (N - 394) + 2656 + (N - 395) = \mathbf{2N} + \mathbf{1867} \\
&(N \geq 2656)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2231}) &= B_{\bar{N}}(2N + 2231 - B_{\bar{N}}(2N + 2230)) + B_{\bar{N}}(2N + 2231 - B_{\bar{N}}(2N + 2229)) + B_{\bar{N}}(2N + 2231 - B_{\bar{N}}(2N + 2228)) \\
&= B_{\bar{N}}(2N + 2231 - (2N + 1867)) + B_{\bar{N}}(2N + 2231 - (N + 2624)) + B_{\bar{N}}(2N + 2231 - (2N - 426)) \\
&= B_{\bar{N}}(364) + B_{\bar{N}}(N - 393) + B_{\bar{N}}(2657) = 364 + (N - 393) + 2657 = \mathbf{N} + \mathbf{2628} \\
&(N \geq 2657)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2232}) &= B_{\bar{N}}(2N + 2232 - B_{\bar{N}}(2N + 2231)) + B_{\bar{N}}(2N + 2232 - B_{\bar{N}}(2N + 2230)) + B_{\bar{N}}(2N + 2232 - B_{\bar{N}}(2N + 2229)) \\
&= B_{\bar{N}}(2N + 2232 - (N + 2628)) + B_{\bar{N}}(2N + 2232 - (2N + 1867)) + B_{\bar{N}}(2N + 2232 - (N + 2624)) \\
&= B_{\bar{N}}(N - 396) + B_{\bar{N}}(365) + B_{\bar{N}}(N - 392) = (N - 396) + 365 + (N - 392) = \mathbf{2N} - \mathbf{423} \\
&(N \geq 397)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2233}) &= B_{\bar{N}}(2N + 2233 - B_{\bar{N}}(2N + 2232)) + B_{\bar{N}}(2N + 2233 - B_{\bar{N}}(2N + 2231)) + B_{\bar{N}}(2N + 2233 - B_{\bar{N}}(2N + 2230)) \\
&= B_{\bar{N}}(2N + 2233 - (2N - 423)) + B_{\bar{N}}(2N + 2233 - (N + 2628)) + B_{\bar{N}}(2N + 2233 - (2N + 1867)) \\
&= B_{\bar{N}}(2656) + B_{\bar{N}}(N - 395) + B_{\bar{N}}(366) = 2656 + (N - 395) + 366 = \mathbf{N} + \mathbf{2627} \\
&(N \geq 2656)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2234}) &= B_{\bar{N}}(2N + 2234 - B_{\bar{N}}(2N + 2233)) + B_{\bar{N}}(2N + 2234 - B_{\bar{N}}(2N + 2232)) + B_{\bar{N}}(2N + 2234 - B_{\bar{N}}(2N + 2231)) \\
&= B_{\bar{N}}(2N + 2234 - (N + 2627)) + B_{\bar{N}}(2N + 2234 - (2N - 423)) + B_{\bar{N}}(2N + 2234 - (N + 2628)) \\
&= B_{\bar{N}}(N - 393) + B_{\bar{N}}(2657) + B_{\bar{N}}(N - 394) = (N - 393) + 2657 + (N - 394) = \mathbf{2N} + \mathbf{1870} \\
&(N \geq 2657)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2235}) &= B_{\bar{N}}(2N + 2235 - B_{\bar{N}}(2N + 2234)) + B_{\bar{N}}(2N + 2235 - B_{\bar{N}}(2N + 2233)) + B_{\bar{N}}(2N + 2235 - B_{\bar{N}}(2N + 2232)) \\
&= B_{\bar{N}}(2N + 2235 - (2N + 1870)) + B_{\bar{N}}(2N + 2235 - (N + 2627)) + B_{\bar{N}}(2N + 2235 - (2N - 423)) \\
&= B_{\bar{N}}(365) + B_{\bar{N}}(N - 392) + B_{\bar{N}}(2658) = 365 + (N - 392) + 2658 = \mathbf{N} + \mathbf{2631} \\
&(N \geq 2658)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2236}) &= B_{\bar{N}}(2N + 2236 - B_{\bar{N}}(2N + 2235)) + B_{\bar{N}}(2N + 2236 - B_{\bar{N}}(2N + 2234)) + B_{\bar{N}}(2N + 2236 - B_{\bar{N}}(2N + 2233)) \\
&= B_{\bar{N}}(2N + 2236 - (N + 2631)) + B_{\bar{N}}(2N + 2236 - (2N + 1870)) + B_{\bar{N}}(2N + 2236 - (N + 2627)) \\
&= B_{\bar{N}}(N - 395) + B_{\bar{N}}(366) + B_{\bar{N}}(N - 391) = (N - 395) + 366 + (N - 391) = \mathbf{2N} - \mathbf{420} \\
&(N \geq 396)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2237}) &= B_{\bar{N}}(2N + 2237 - B_{\bar{N}}(2N + 2236)) + B_{\bar{N}}(2N + 2237 - B_{\bar{N}}(2N + 2235)) + B_{\bar{N}}(2N + 2237 - B_{\bar{N}}(2N + 2234)) \\
&= B_{\bar{N}}(2N + 2237 - (2N - 420)) + B_{\bar{N}}(2N + 2237 - (N + 2631)) + B_{\bar{N}}(2N + 2237 - (2N + 1870)) \\
&= B_{\bar{N}}(2657) + B_{\bar{N}}(N - 394) + B_{\bar{N}}(367) = 2657 + (N - 394) + 367 = \mathbf{N} + \mathbf{2630} \\
&(N \geq 2657)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2238}) &= B_{\bar{N}}(2N + 2238 - B_{\bar{N}}(2N + 2237)) + B_{\bar{N}}(2N + 2238 - B_{\bar{N}}(2N + 2236)) + B_{\bar{N}}(2N + 2238 - B_{\bar{N}}(2N + 2235)) \\
&= B_{\bar{N}}(2N + 2238 - (N + 2630)) + B_{\bar{N}}(2N + 2238 - (2N - 420)) + B_{\bar{N}}(2N + 2238 - (N + 2631)) \\
&= B_{\bar{N}}(N - 392) + B_{\bar{N}}(2658) + B_{\bar{N}}(N - 393) = (N - 392) + 2658 + (N - 393) = \mathbf{2N} + \mathbf{1873} \\
&(N \geq 2658)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2239}) &= B_{\bar{N}}(2N + 2239 - B_{\bar{N}}(2N + 2238)) + B_{\bar{N}}(2N + 2239 - B_{\bar{N}}(2N + 2237)) + B_{\bar{N}}(2N + 2239 - B_{\bar{N}}(2N + 2236)) \\
&= B_{\bar{N}}(2N + 2239 - (2N + 1873)) + B_{\bar{N}}(2N + 2239 - (N + 2630)) + B_{\bar{N}}(2N + 2239 - (2N - 420)) \\
&= B_{\bar{N}}(366) + B_{\bar{N}}(N - 391) + B_{\bar{N}}(2659) = 366 + (N - 391) + 2659 = \mathbf{N} + \mathbf{2634} \\
&(N \geq 2659)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2240}) &= B_{\bar{N}}(2N + 2240 - B_{\bar{N}}(2N + 2239)) + B_{\bar{N}}(2N + 2240 - B_{\bar{N}}(2N + 2238)) + B_{\bar{N}}(2N + 2240 - B_{\bar{N}}(2N + 2237)) \\
&= B_{\bar{N}}(2N + 2240 - (N + 2634)) + B_{\bar{N}}(2N + 2240 - (2N + 1873)) + B_{\bar{N}}(2N + 2240 - (N + 2630)) \\
&= B_{\bar{N}}(N - 394) + B_{\bar{N}}(367) + B_{\bar{N}}(N - 390) = (N - 394) + 367 + (N - 390) = \mathbf{2N} - \mathbf{417} \\
&(N \geq 395)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2241}) &= B_{\bar{N}}(2N + 2241 - B_{\bar{N}}(2N + 2240)) + B_{\bar{N}}(2N + 2241 - B_{\bar{N}}(2N + 2239)) + B_{\bar{N}}(2N + 2241 - B_{\bar{N}}(2N + 2238)) \\
&= B_{\bar{N}}(2N + 2241 - (2N - 417)) + B_{\bar{N}}(2N + 2241 - (N + 2634)) + B_{\bar{N}}(2N + 2241 - (2N + 1873)) \\
&= B_{\bar{N}}(2658) + B_{\bar{N}}(N - 393) + B_{\bar{N}}(368) = 2658 + (N - 393) + 368 = \mathbf{N} + \mathbf{2633} \\
&(N \geq 2658)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2242}) &= B_{\bar{N}}(2N + 2242 - B_{\bar{N}}(2N + 2241)) + B_{\bar{N}}(2N + 2242 - B_{\bar{N}}(2N + 2240)) + B_{\bar{N}}(2N + 2242 - B_{\bar{N}}(2N + 2239)) \\
&= B_{\bar{N}}(2N + 2242 - (N + 2633)) + B_{\bar{N}}(2N + 2242 - (2N - 417)) + B_{\bar{N}}(2N + 2242 - (N + 2634)) \\
&= B_{\bar{N}}(N - 391) + B_{\bar{N}}(2659) + B_{\bar{N}}(N - 392) = (N - 391) + 2659 + (N - 392) = \mathbf{2N} + \mathbf{1876} \\
&(N \geq 2659)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2243}) &= B_{\bar{N}}(2N + 2243 - B_{\bar{N}}(2N + 2242)) + B_{\bar{N}}(2N + 2243 - B_{\bar{N}}(2N + 2241)) + B_{\bar{N}}(2N + 2243 - B_{\bar{N}}(2N + 2240)) \\
&= B_{\bar{N}}(2N + 2243 - (2N + 1876)) + B_{\bar{N}}(2N + 2243 - (N + 2633)) + B_{\bar{N}}(2N + 2243 - (2N - 417)) \\
&= B_{\bar{N}}(367) + B_{\bar{N}}(N - 390) + B_{\bar{N}}(2660) = 367 + (N - 390) + 2660 = \mathbf{N} + \mathbf{2637} \\
&(N \geq 2660)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2244}) &= B_{\bar{N}}(2N + 2244 - B_{\bar{N}}(2N + 2243)) + B_{\bar{N}}(2N + 2244 - B_{\bar{N}}(2N + 2242)) + B_{\bar{N}}(2N + 2244 - B_{\bar{N}}(2N + 2241)) \\
&= B_{\bar{N}}(2N + 2244 - (N + 2637)) + B_{\bar{N}}(2N + 2244 - (2N + 1876)) + B_{\bar{N}}(2N + 2244 - (N + 2633)) \\
&= B_{\bar{N}}(N - 393) + B_{\bar{N}}(368) + B_{\bar{N}}(N - 389) = (N - 393) + 368 + (N - 389) = \mathbf{2N} - \mathbf{414} \\
&(N \geq 394)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2245}) &= B_{\bar{N}}(2N + 2245 - B_{\bar{N}}(2N + 2244)) + B_{\bar{N}}(2N + 2245 - B_{\bar{N}}(2N + 2243)) + B_{\bar{N}}(2N + 2245 - B_{\bar{N}}(2N + 2242)) \\
&= B_{\bar{N}}(2N + 2245 - (2N - 414)) + B_{\bar{N}}(2N + 2245 - (N + 2637)) + B_{\bar{N}}(2N + 2245 - (2N + 1876)) \\
&= B_{\bar{N}}(2659) + B_{\bar{N}}(N - 392) + B_{\bar{N}}(369) = 2659 + (N - 392) + 369 = \mathbf{N} + \mathbf{2636} \\
&(N \geq 2659)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2246}) &= B_{\bar{N}}(2N + 2246 - B_{\bar{N}}(2N + 2245)) + B_{\bar{N}}(2N + 2246 - B_{\bar{N}}(2N + 2244)) + B_{\bar{N}}(2N + 2246 - B_{\bar{N}}(2N + 2243)) \\
&= B_{\bar{N}}(2N + 2246 - (N + 2636)) + B_{\bar{N}}(2N + 2246 - (2N - 414)) + B_{\bar{N}}(2N + 2246 - (N + 2637)) \\
&= B_{\bar{N}}(N - 390) + B_{\bar{N}}(2660) + B_{\bar{N}}(N - 391) = (N - 390) + 2660 + (N - 391) = \mathbf{2N} + \mathbf{1879} \\
&(N \geq 2660)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2247}) &= B_{\bar{N}}(2N + 2247 - B_{\bar{N}}(2N + 2246)) + B_{\bar{N}}(2N + 2247 - B_{\bar{N}}(2N + 2245)) + B_{\bar{N}}(2N + 2247 - B_{\bar{N}}(2N + 2244)) \\
&= B_{\bar{N}}(2N + 2247 - (2N + 1879)) + B_{\bar{N}}(2N + 2247 - (N + 2636)) + B_{\bar{N}}(2N + 2247 - (2N - 414)) \\
&= B_{\bar{N}}(368) + B_{\bar{N}}(N - 389) + B_{\bar{N}}(2661) = 368 + (N - 389) + 2661 = \mathbf{N} + \mathbf{2640} \\
&(N \geq 2661)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2248}) &= B_{\bar{N}}(2N + 2248 - B_{\bar{N}}(2N + 2247)) + B_{\bar{N}}(2N + 2248 - B_{\bar{N}}(2N + 2246)) + B_{\bar{N}}(2N + 2248 - B_{\bar{N}}(2N + 2245)) \\
&= B_{\bar{N}}(2N + 2248 - (N + 2640)) + B_{\bar{N}}(2N + 2248 - (2N + 1879)) + B_{\bar{N}}(2N + 2248 - (N + 2636)) \\
&= B_{\bar{N}}(N - 392) + B_{\bar{N}}(369) + B_{\bar{N}}(N - 388) = (N - 392) + 369 + (N - 388) = \mathbf{2N} - \mathbf{411} \\
&(N \geq 393)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2249}) &= B_{\bar{N}}(2N + 2249 - B_{\bar{N}}(2N + 2248)) + B_{\bar{N}}(2N + 2249 - B_{\bar{N}}(2N + 2247)) + B_{\bar{N}}(2N + 2249 - B_{\bar{N}}(2N + 2246)) \\
&= B_{\bar{N}}(2N + 2249 - (2N - 411)) + B_{\bar{N}}(2N + 2249 - (N + 2640)) + B_{\bar{N}}(2N + 2249 - (2N + 1879)) \\
&= B_{\bar{N}}(2660) + B_{\bar{N}}(N - 391) + B_{\bar{N}}(370) = 2660 + (N - 391) + 370 = \mathbf{N} + \mathbf{2639} \\
&(N \geq 2660)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2250}) &= B_{\bar{N}}(2N + 2250 - B_{\bar{N}}(2N + 2249)) + B_{\bar{N}}(2N + 2250 - B_{\bar{N}}(2N + 2248)) + B_{\bar{N}}(2N + 2250 - B_{\bar{N}}(2N + 2247)) \\
&= B_{\bar{N}}(2N + 2250 - (N + 2639)) + B_{\bar{N}}(2N + 2250 - (2N - 411)) + B_{\bar{N}}(2N + 2250 - (N + 2640)) \\
&= B_{\bar{N}}(N - 389) + B_{\bar{N}}(2661) + B_{\bar{N}}(N - 390) = (N - 389) + 2661 + (N - 390) = \mathbf{2N} + \mathbf{1882} \\
&(N \geq 2661)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2251}) &= B_{\bar{N}}(2N + 2251 - B_{\bar{N}}(2N + 2250)) + B_{\bar{N}}(2N + 2251 - B_{\bar{N}}(2N + 2249)) + B_{\bar{N}}(2N + 2251 - B_{\bar{N}}(2N + 2248)) \\
&= B_{\bar{N}}(2N + 2251 - (2N + 1882)) + B_{\bar{N}}(2N + 2251 - (N + 2639)) + B_{\bar{N}}(2N + 2251 - (2N - 411)) \\
&= B_{\bar{N}}(369) + B_{\bar{N}}(N - 388) + B_{\bar{N}}(2662) = 369 + (N - 388) + 2662 = \mathbf{N} + \mathbf{2643} \\
&(N \geq 2662)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2252}) &= B_{\bar{N}}(2N + 2252 - B_{\bar{N}}(2N + 2251)) + B_{\bar{N}}(2N + 2252 - B_{\bar{N}}(2N + 2250)) + B_{\bar{N}}(2N + 2252 - B_{\bar{N}}(2N + 2249)) \\
&= B_{\bar{N}}(2N + 2252 - (N + 2643)) + B_{\bar{N}}(2N + 2252 - (2N + 1882)) + B_{\bar{N}}(2N + 2252 - (N + 2639)) \\
&= B_{\bar{N}}(N - 391) + B_{\bar{N}}(370) + B_{\bar{N}}(N - 387) = (N - 391) + 370 + (N - 387) = \mathbf{2N} - \mathbf{408} \\
&(N \geq 392)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2253}) &= B_{\bar{N}}(2N + 2253 - B_{\bar{N}}(2N + 2252)) + B_{\bar{N}}(2N + 2253 - B_{\bar{N}}(2N + 2251)) + B_{\bar{N}}(2N + 2253 - B_{\bar{N}}(2N + 2250)) \\
&= B_{\bar{N}}(2N + 2253 - (2N - 408)) + B_{\bar{N}}(2N + 2253 - (N + 2643)) + B_{\bar{N}}(2N + 2253 - (2N + 1882)) \\
&= B_{\bar{N}}(2661) + B_{\bar{N}}(N - 390) + B_{\bar{N}}(371) = 2661 + (N - 390) + 371 = \mathbf{N} + \mathbf{2642} \\
&(N \geq 2661)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2254}) &= B_{\bar{N}}(2N + 2254 - B_{\bar{N}}(2N + 2253)) + B_{\bar{N}}(2N + 2254 - B_{\bar{N}}(2N + 2252)) + B_{\bar{N}}(2N + 2254 - B_{\bar{N}}(2N + 2251)) \\
&= B_{\bar{N}}(2N + 2254 - (N + 2642)) + B_{\bar{N}}(2N + 2254 - (2N - 408)) + B_{\bar{N}}(2N + 2254 - (N + 2643)) \\
&= B_{\bar{N}}(N - 388) + B_{\bar{N}}(2662) + B_{\bar{N}}(N - 389) = (N - 388) + 2662 + (N - 389) = \mathbf{2N} + \mathbf{1885} \\
&(N \geq 2662)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2255}) &= B_{\bar{N}}(2N + 2255 - B_{\bar{N}}(2N + 2254)) + B_{\bar{N}}(2N + 2255 - B_{\bar{N}}(2N + 2253)) + B_{\bar{N}}(2N + 2255 - B_{\bar{N}}(2N + 2252)) \\
&= B_{\bar{N}}(2N + 2255 - (2N + 1885)) + B_{\bar{N}}(2N + 2255 - (N + 2642)) + B_{\bar{N}}(2N + 2255 - (2N - 408)) \\
&= B_{\bar{N}}(370) + B_{\bar{N}}(N - 387) + B_{\bar{N}}(2663) = 370 + (N - 387) + 2663 = \mathbf{N} + \mathbf{2646} \\
&(N \geq 2663)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2256}) &= B_{\bar{N}}(2N + 2256 - B_{\bar{N}}(2N + 2255)) + B_{\bar{N}}(2N + 2256 - B_{\bar{N}}(2N + 2254)) + B_{\bar{N}}(2N + 2256 - B_{\bar{N}}(2N + 2253)) \\
&= B_{\bar{N}}(2N + 2256 - (N + 2646)) + B_{\bar{N}}(2N + 2256 - (2N + 1885)) + B_{\bar{N}}(2N + 2256 - (N + 2642)) \\
&= B_{\bar{N}}(N - 390) + B_{\bar{N}}(371) + B_{\bar{N}}(N - 386) = (N - 390) + 371 + (N - 386) = \mathbf{2N} - \mathbf{405} \\
&(N \geq 391)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2257}) &= B_{\bar{N}}(2N + 2257 - B_{\bar{N}}(2N + 2256)) + B_{\bar{N}}(2N + 2257 - B_{\bar{N}}(2N + 2255)) + B_{\bar{N}}(2N + 2257 - B_{\bar{N}}(2N + 2254)) \\
&= B_{\bar{N}}(2N + 2257 - (2N - 405)) + B_{\bar{N}}(2N + 2257 - (N + 2646)) + B_{\bar{N}}(2N + 2257 - (2N + 1885)) \\
&= B_{\bar{N}}(2662) + B_{\bar{N}}(N - 389) + B_{\bar{N}}(372) = 2662 + (N - 389) + 372 = \mathbf{N} + \mathbf{2645} \\
&(N \geq 2662)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2258}) &= B_{\bar{N}}(2N + 2258 - B_{\bar{N}}(2N + 2257)) + B_{\bar{N}}(2N + 2258 - B_{\bar{N}}(2N + 2256)) + B_{\bar{N}}(2N + 2258 - B_{\bar{N}}(2N + 2255)) \\
&= B_{\bar{N}}(2N + 2258 - (N + 2645)) + B_{\bar{N}}(2N + 2258 - (2N - 405)) + B_{\bar{N}}(2N + 2258 - (N + 2646)) \\
&= B_{\bar{N}}(N - 387) + B_{\bar{N}}(2663) + B_{\bar{N}}(N - 388) = (N - 387) + 2663 + (N - 388) = \mathbf{2N} + \mathbf{1888} \\
&(N \geq 2663)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2259}) &= B_{\bar{N}}(2N + 2259 - B_{\bar{N}}(2N + 2258)) + B_{\bar{N}}(2N + 2259 - B_{\bar{N}}(2N + 2257)) + B_{\bar{N}}(2N + 2259 - B_{\bar{N}}(2N + 2256)) \\
&= B_{\bar{N}}(2N + 2259 - (2N + 1888)) + B_{\bar{N}}(2N + 2259 - (N + 2645)) + B_{\bar{N}}(2N + 2259 - (2N - 405)) \\
&= B_{\bar{N}}(371) + B_{\bar{N}}(N - 386) + B_{\bar{N}}(2664) = 371 + (N - 386) + 2664 = \mathbf{N} + \mathbf{2649} \\
&(N \geq 2664)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2260}) &= B_{\bar{N}}(2N + 2260 - B_{\bar{N}}(2N + 2259)) + B_{\bar{N}}(2N + 2260 - B_{\bar{N}}(2N + 2258)) + B_{\bar{N}}(2N + 2260 - B_{\bar{N}}(2N + 2257)) \\
&= B_{\bar{N}}(2N + 2260 - (N + 2649)) + B_{\bar{N}}(2N + 2260 - (2N + 1888)) + B_{\bar{N}}(2N + 2260 - (N + 2645)) \\
&= B_{\bar{N}}(N - 389) + B_{\bar{N}}(372) + B_{\bar{N}}(N - 385) = (N - 389) + 372 + (N - 385) = \mathbf{2N} - \mathbf{402} \\
&(N \geq 390)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2261}) &= B_{\bar{N}}(2N + 2261 - B_{\bar{N}}(2N + 2260)) + B_{\bar{N}}(2N + 2261 - B_{\bar{N}}(2N + 2259)) + B_{\bar{N}}(2N + 2261 - B_{\bar{N}}(2N + 2258)) \\
&= B_{\bar{N}}(2N + 2261 - (2N - 402)) + B_{\bar{N}}(2N + 2261 - (N + 2649)) + B_{\bar{N}}(2N + 2261 - (2N + 1888)) \\
&= B_{\bar{N}}(2663) + B_{\bar{N}}(N - 388) + B_{\bar{N}}(373) = 2663 + (N - 388) + 373 = \mathbf{N} + \mathbf{2648} \\
&(N \geq 2663)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2262}) &= B_{\bar{N}}(2N + 2262 - B_{\bar{N}}(2N + 2261)) + B_{\bar{N}}(2N + 2262 - B_{\bar{N}}(2N + 2260)) + B_{\bar{N}}(2N + 2262 - B_{\bar{N}}(2N + 2259)) \\
&= B_{\bar{N}}(2N + 2262 - (N + 2648)) + B_{\bar{N}}(2N + 2262 - (2N - 402)) + B_{\bar{N}}(2N + 2262 - (N + 2649)) \\
&= B_{\bar{N}}(N - 386) + B_{\bar{N}}(2664) + B_{\bar{N}}(N - 387) = (N - 386) + 2664 + (N - 387) = \mathbf{2N} + \mathbf{1891} \\
&(N \geq 2664)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2263}) &= B_{\bar{N}}(2N + 2263 - B_{\bar{N}}(2N + 2262)) + B_{\bar{N}}(2N + 2263 - B_{\bar{N}}(2N + 2261)) + B_{\bar{N}}(2N + 2263 - B_{\bar{N}}(2N + 2260)) \\
&= B_{\bar{N}}(2N + 2263 - (2N + 1891)) + B_{\bar{N}}(2N + 2263 - (N + 2648)) + B_{\bar{N}}(2N + 2263 - (2N - 402)) \\
&= B_{\bar{N}}(372) + B_{\bar{N}}(N - 385) + B_{\bar{N}}(2665) = 372 + (N - 385) + 2665 = \mathbf{N} + \mathbf{2652} \\
&(N \geq 2665)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2264}) &= B_{\bar{N}}(2N + 2264 - B_{\bar{N}}(2N + 2263)) + B_{\bar{N}}(2N + 2264 - B_{\bar{N}}(2N + 2262)) + B_{\bar{N}}(2N + 2264 - B_{\bar{N}}(2N + 2261)) \\
&= B_{\bar{N}}(2N + 2264 - (N + 2652)) + B_{\bar{N}}(2N + 2264 - (2N + 1891)) + B_{\bar{N}}(2N + 2264 - (N + 2648)) \\
&= B_{\bar{N}}(N - 388) + B_{\bar{N}}(373) + B_{\bar{N}}(N - 384) = (N - 388) + 373 + (N - 384) = \mathbf{2N} - \mathbf{399} \\
&(N \geq 389)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2265}) &= B_{\bar{N}}(2N + 2265 - B_{\bar{N}}(2N + 2264)) + B_{\bar{N}}(2N + 2265 - B_{\bar{N}}(2N + 2263)) + B_{\bar{N}}(2N + 2265 - B_{\bar{N}}(2N + 2262)) \\
&= B_{\bar{N}}(2N + 2265 - (2N - 399)) + B_{\bar{N}}(2N + 2265 - (N + 2652)) + B_{\bar{N}}(2N + 2265 - (2N + 1891)) \\
&= B_{\bar{N}}(2664) + B_{\bar{N}}(N - 387) + B_{\bar{N}}(374) = 2664 + (N - 387) + 374 = \mathbf{N} + \mathbf{2651} \\
&(N \geq 2664)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2266}) &= B_{\bar{N}}(2N + 2266 - B_{\bar{N}}(2N + 2265)) + B_{\bar{N}}(2N + 2266 - B_{\bar{N}}(2N + 2264)) + B_{\bar{N}}(2N + 2266 - B_{\bar{N}}(2N + 2263)) \\
&= B_{\bar{N}}(2N + 2266 - (N + 2651)) + B_{\bar{N}}(2N + 2266 - (2N - 399)) + B_{\bar{N}}(2N + 2266 - (N + 2652)) \\
&= B_{\bar{N}}(N - 385) + B_{\bar{N}}(2665) + B_{\bar{N}}(N - 386) = (N - 385) + 2665 + (N - 386) = \mathbf{2N} + \mathbf{1894} \\
&(N \geq 2665)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2267}) &= B_{\bar{N}}(2N + 2267 - B_{\bar{N}}(2N + 2266)) + B_{\bar{N}}(2N + 2267 - B_{\bar{N}}(2N + 2265)) + B_{\bar{N}}(2N + 2267 - B_{\bar{N}}(2N + 2264)) \\
&= B_{\bar{N}}(2N + 2267 - (2N + 1894)) + B_{\bar{N}}(2N + 2267 - (N + 2651)) + B_{\bar{N}}(2N + 2267 - (2N - 399)) \\
&= B_{\bar{N}}(373) + B_{\bar{N}}(N - 384) + B_{\bar{N}}(2666) = 373 + (N - 384) + 2666 = \mathbf{N} + \mathbf{2655} \\
&(N \geq 2666)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2268}) &= B_{\bar{N}}(2N + 2268 - B_{\bar{N}}(2N + 2267)) + B_{\bar{N}}(2N + 2268 - B_{\bar{N}}(2N + 2266)) + B_{\bar{N}}(2N + 2268 - B_{\bar{N}}(2N + 2265)) \\
&= B_{\bar{N}}(2N + 2268 - (N + 2655)) + B_{\bar{N}}(2N + 2268 - (2N + 1894)) + B_{\bar{N}}(2N + 2268 - (N + 2651)) \\
&= B_{\bar{N}}(N - 387) + B_{\bar{N}}(374) + B_{\bar{N}}(N - 383) = (N - 387) + 374 + (N - 383) = \mathbf{2N} - \mathbf{396} \\
&(N \geq 388)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2269}) &= B_{\bar{N}}(2N + 2269 - B_{\bar{N}}(2N + 2268)) + B_{\bar{N}}(2N + 2269 - B_{\bar{N}}(2N + 2267)) + B_{\bar{N}}(2N + 2269 - B_{\bar{N}}(2N + 2266)) \\
&= B_{\bar{N}}(2N + 2269 - (2N - 396)) + B_{\bar{N}}(2N + 2269 - (N + 2655)) + B_{\bar{N}}(2N + 2269 - (2N + 1894)) \\
&= B_{\bar{N}}(2665) + B_{\bar{N}}(N - 386) + B_{\bar{N}}(375) = 2665 + (N - 386) + 375 = \mathbf{N} + \mathbf{2654} \\
&(N \geq 2665)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2270}) &= B_{\bar{N}}(2N + 2270 - B_{\bar{N}}(2N + 2269)) + B_{\bar{N}}(2N + 2270 - B_{\bar{N}}(2N + 2268)) + B_{\bar{N}}(2N + 2270 - B_{\bar{N}}(2N + 2267)) \\
&= B_{\bar{N}}(2N + 2270 - (N + 2654)) + B_{\bar{N}}(2N + 2270 - (2N - 396)) + B_{\bar{N}}(2N + 2270 - (N + 2655)) \\
&= B_{\bar{N}}(N - 384) + B_{\bar{N}}(2666) + B_{\bar{N}}(N - 385) = (N - 384) + 2666 + (N - 385) = \mathbf{2N} + \mathbf{1897} \\
&(N \geq 2666)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2271}) &= B_{\bar{N}}(2N + 2271 - B_{\bar{N}}(2N + 2270)) + B_{\bar{N}}(2N + 2271 - B_{\bar{N}}(2N + 2269)) + B_{\bar{N}}(2N + 2271 - B_{\bar{N}}(2N + 2268)) \\
&= B_{\bar{N}}(2N + 2271 - (2N + 1897)) + B_{\bar{N}}(2N + 2271 - (N + 2654)) + B_{\bar{N}}(2N + 2271 - (2N - 396)) \\
&= B_{\bar{N}}(374) + B_{\bar{N}}(N - 383) + B_{\bar{N}}(2667) = 374 + (N - 383) + 2667 = \mathbf{N} + \mathbf{2658} \\
&(N \geq 2667)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2272}) &= B_{\bar{N}}(2N + 2272 - B_{\bar{N}}(2N + 2271)) + B_{\bar{N}}(2N + 2272 - B_{\bar{N}}(2N + 2270)) + B_{\bar{N}}(2N + 2272 - B_{\bar{N}}(2N + 2269)) \\
&= B_{\bar{N}}(2N + 2272 - (N + 2658)) + B_{\bar{N}}(2N + 2272 - (2N + 1897)) + B_{\bar{N}}(2N + 2272 - (N + 2654)) \\
&= B_{\bar{N}}(N - 386) + B_{\bar{N}}(375) + B_{\bar{N}}(N - 382) = (N - 386) + 375 + (N - 382) = \mathbf{2N} - \mathbf{393} \\
&(N \geq 387)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2273}) &= B_{\bar{N}}(2N + 2273 - B_{\bar{N}}(2N + 2272)) + B_{\bar{N}}(2N + 2273 - B_{\bar{N}}(2N + 2271)) + B_{\bar{N}}(2N + 2273 - B_{\bar{N}}(2N + 2270)) \\
&= B_{\bar{N}}(2N + 2273 - (2N - 393)) + B_{\bar{N}}(2N + 2273 - (N + 2658)) + B_{\bar{N}}(2N + 2273 - (2N + 1897)) \\
&= B_{\bar{N}}(2666) + B_{\bar{N}}(N - 385) + B_{\bar{N}}(376) = 2666 + (N - 385) + 376 = \mathbf{N} + \mathbf{2657} \\
&(N \geq 2666)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2274}) &= B_{\bar{N}}(2N + 2274 - B_{\bar{N}}(2N + 2273)) + B_{\bar{N}}(2N + 2274 - B_{\bar{N}}(2N + 2272)) + B_{\bar{N}}(2N + 2274 - B_{\bar{N}}(2N + 2271)) \\
&= B_{\bar{N}}(2N + 2274 - (N + 2657)) + B_{\bar{N}}(2N + 2274 - (2N - 393)) + B_{\bar{N}}(2N + 2274 - (N + 2658)) \\
&= B_{\bar{N}}(N - 383) + B_{\bar{N}}(2667) + B_{\bar{N}}(N - 384) = (N - 383) + 2667 + (N - 384) = \mathbf{2N} + \mathbf{1900} \\
&(N \geq 2667)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2275}) &= B_{\bar{N}}(2N + 2275 - B_{\bar{N}}(2N + 2274)) + B_{\bar{N}}(2N + 2275 - B_{\bar{N}}(2N + 2273)) + B_{\bar{N}}(2N + 2275 - B_{\bar{N}}(2N + 2272)) \\
&= B_{\bar{N}}(2N + 2275 - (2N + 1900)) + B_{\bar{N}}(2N + 2275 - (N + 2657)) + B_{\bar{N}}(2N + 2275 - (2N - 393)) \\
&= B_{\bar{N}}(375) + B_{\bar{N}}(N - 382) + B_{\bar{N}}(2668) = 375 + (N - 382) + 2668 = \mathbf{N} + \mathbf{2661} \\
&(N \geq 2668)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2276}) &= B_{\bar{N}}(2N + 2276 - B_{\bar{N}}(2N + 2275)) + B_{\bar{N}}(2N + 2276 - B_{\bar{N}}(2N + 2274)) + B_{\bar{N}}(2N + 2276 - B_{\bar{N}}(2N + 2273)) \\
&= B_{\bar{N}}(2N + 2276 - (N + 2661)) + B_{\bar{N}}(2N + 2276 - (2N + 1900)) + B_{\bar{N}}(2N + 2276 - (N + 2657)) \\
&= B_{\bar{N}}(N - 385) + B_{\bar{N}}(376) + B_{\bar{N}}(N - 381) = (N - 385) + 376 + (N - 381) = \mathbf{2N} - \mathbf{390} \\
&(N \geq 386)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2277}) &= B_{\bar{N}}(2N + 2277 - B_{\bar{N}}(2N + 2276)) + B_{\bar{N}}(2N + 2277 - B_{\bar{N}}(2N + 2275)) + B_{\bar{N}}(2N + 2277 - B_{\bar{N}}(2N + 2274)) \\
&= B_{\bar{N}}(2N + 2277 - (2N - 390)) + B_{\bar{N}}(2N + 2277 - (N + 2661)) + B_{\bar{N}}(2N + 2277 - (2N + 1900)) \\
&= B_{\bar{N}}(2667) + B_{\bar{N}}(N - 384) + B_{\bar{N}}(377) = 2667 + (N - 384) + 377 = \mathbf{N} + \mathbf{2660} \\
&(N \geq 2667)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2278}) &= B_{\bar{N}}(2N + 2278 - B_{\bar{N}}(2N + 2277)) + B_{\bar{N}}(2N + 2278 - B_{\bar{N}}(2N + 2276)) + B_{\bar{N}}(2N + 2278 - B_{\bar{N}}(2N + 2275)) \\
&= B_{\bar{N}}(2N + 2278 - (N + 2660)) + B_{\bar{N}}(2N + 2278 - (2N - 390)) + B_{\bar{N}}(2N + 2278 - (N + 2661)) \\
&= B_{\bar{N}}(N - 382) + B_{\bar{N}}(2668) + B_{\bar{N}}(N - 383) = (N - 382) + 2668 + (N - 383) = \mathbf{2N} + \mathbf{1903} \\
&(N \geq 2668)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2279}) &= B_{\bar{N}}(2N + 2279 - B_{\bar{N}}(2N + 2278)) + B_{\bar{N}}(2N + 2279 - B_{\bar{N}}(2N + 2277)) + B_{\bar{N}}(2N + 2279 - B_{\bar{N}}(2N + 2276)) \\
&= B_{\bar{N}}(2N + 2279 - (2N + 1903)) + B_{\bar{N}}(2N + 2279 - (N + 2660)) + B_{\bar{N}}(2N + 2279 - (2N - 390)) \\
&= B_{\bar{N}}(376) + B_{\bar{N}}(N - 381) + B_{\bar{N}}(2669) = 376 + (N - 381) + 2669 = \mathbf{N} + \mathbf{2664} \\
&(N \geq 2669)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2280}) &= B_{\bar{N}}(2N + 2280 - B_{\bar{N}}(2N + 2279)) + B_{\bar{N}}(2N + 2280 - B_{\bar{N}}(2N + 2278)) + B_{\bar{N}}(2N + 2280 - B_{\bar{N}}(2N + 2277)) \\
&= B_{\bar{N}}(2N + 2280 - (N + 2664)) + B_{\bar{N}}(2N + 2280 - (2N + 1903)) + B_{\bar{N}}(2N + 2280 - (N + 2660)) \\
&= B_{\bar{N}}(N - 384) + B_{\bar{N}}(377) + B_{\bar{N}}(N - 380) = (N - 384) + 377 + (N - 380) = \mathbf{2N} - \mathbf{387} \\
&(N \geq 385)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2281}) &= B_{\bar{N}}(2N + 2281 - B_{\bar{N}}(2N + 2280)) + B_{\bar{N}}(2N + 2281 - B_{\bar{N}}(2N + 2279)) + B_{\bar{N}}(2N + 2281 - B_{\bar{N}}(2N + 2278)) \\
&= B_{\bar{N}}(2N + 2281 - (2N - 387)) + B_{\bar{N}}(2N + 2281 - (N + 2664)) + B_{\bar{N}}(2N + 2281 - (2N + 1903)) \\
&= B_{\bar{N}}(2668) + B_{\bar{N}}(N - 383) + B_{\bar{N}}(378) = 2668 + (N - 383) + 378 = \mathbf{N} + \mathbf{2663} \\
&(N \geq 2668)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2282}) &= B_{\bar{N}}(2N + 2282 - B_{\bar{N}}(2N + 2281)) + B_{\bar{N}}(2N + 2282 - B_{\bar{N}}(2N + 2280)) + B_{\bar{N}}(2N + 2282 - B_{\bar{N}}(2N + 2279)) \\
&= B_{\bar{N}}(2N + 2282 - (N + 2663)) + B_{\bar{N}}(2N + 2282 - (2N - 387)) + B_{\bar{N}}(2N + 2282 - (N + 2664)) \\
&= B_{\bar{N}}(N - 381) + B_{\bar{N}}(2669) + B_{\bar{N}}(N - 382) = (N - 381) + 2669 + (N - 382) = \mathbf{2N} + \mathbf{1906} \\
&(N \geq 2669)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2283}) &= B_{\bar{N}}(2N + 2283 - B_{\bar{N}}(2N + 2282)) + B_{\bar{N}}(2N + 2283 - B_{\bar{N}}(2N + 2281)) + B_{\bar{N}}(2N + 2283 - B_{\bar{N}}(2N + 2280)) \\
&= B_{\bar{N}}(2N + 2283 - (2N + 1906)) + B_{\bar{N}}(2N + 2283 - (N + 2663)) + B_{\bar{N}}(2N + 2283 - (2N - 387)) \\
&= B_{\bar{N}}(377) + B_{\bar{N}}(N - 380) + B_{\bar{N}}(2670) = 377 + (N - 380) + 2670 = \mathbf{N} + \mathbf{2667} \\
&(N \geq 2670)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2284}) &= B_{\bar{N}}(2N + 2284 - B_{\bar{N}}(2N + 2283)) + B_{\bar{N}}(2N + 2284 - B_{\bar{N}}(2N + 2282)) + B_{\bar{N}}(2N + 2284 - B_{\bar{N}}(2N + 2281)) \\
&= B_{\bar{N}}(2N + 2284 - (N + 2667)) + B_{\bar{N}}(2N + 2284 - (2N + 1906)) + B_{\bar{N}}(2N + 2284 - (N + 2663)) \\
&= B_{\bar{N}}(N - 383) + B_{\bar{N}}(378) + B_{\bar{N}}(N - 379) = (N - 383) + 378 + (N - 379) = \mathbf{2N} - \mathbf{384} \\
&(N \geq 384)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2285}) &= B_{\bar{N}}(2N + 2285 - B_{\bar{N}}(2N + 2284)) + B_{\bar{N}}(2N + 2285 - B_{\bar{N}}(2N + 2283)) + B_{\bar{N}}(2N + 2285 - B_{\bar{N}}(2N + 2282)) \\
&= B_{\bar{N}}(2N + 2285 - (2N - 384)) + B_{\bar{N}}(2N + 2285 - (N + 2667)) + B_{\bar{N}}(2N + 2285 - (2N + 1906)) \\
&= B_{\bar{N}}(2669) + B_{\bar{N}}(N - 382) + B_{\bar{N}}(379) = 2669 + (N - 382) + 379 = \mathbf{N} + \mathbf{2666} \\
&(N \geq 2669)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2286}) &= B_{\bar{N}}(2N + 2286 - B_{\bar{N}}(2N + 2285)) + B_{\bar{N}}(2N + 2286 - B_{\bar{N}}(2N + 2284)) + B_{\bar{N}}(2N + 2286 - B_{\bar{N}}(2N + 2283)) \\
&= B_{\bar{N}}(2N + 2286 - (N + 2666)) + B_{\bar{N}}(2N + 2286 - (2N - 384)) + B_{\bar{N}}(2N + 2286 - (N + 2667)) \\
&= B_{\bar{N}}(N - 380) + B_{\bar{N}}(2670) + B_{\bar{N}}(N - 381) = (N - 380) + 2670 + (N - 381) = \mathbf{2N} + \mathbf{1909} \\
&(N \geq 2670)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2287}) &= B_{\bar{N}}(2N + 2287 - B_{\bar{N}}(2N + 2286)) + B_{\bar{N}}(2N + 2287 - B_{\bar{N}}(2N + 2285)) + B_{\bar{N}}(2N + 2287 - B_{\bar{N}}(2N + 2284)) \\
&= B_{\bar{N}}(2N + 2287 - (2N + 1909)) + B_{\bar{N}}(2N + 2287 - (N + 2666)) + B_{\bar{N}}(2N + 2287 - (2N - 384)) \\
&= B_{\bar{N}}(378) + B_{\bar{N}}(N - 379) + B_{\bar{N}}(2671) = 378 + (N - 379) + 2671 = \mathbf{N} + \mathbf{2670} \\
&(N \geq 2671)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2288}) &= B_{\bar{N}}(2N + 2288 - B_{\bar{N}}(2N + 2287)) + B_{\bar{N}}(2N + 2288 - B_{\bar{N}}(2N + 2286)) + B_{\bar{N}}(2N + 2288 - B_{\bar{N}}(2N + 2285)) \\
&= B_{\bar{N}}(2N + 2288 - (N + 2670)) + B_{\bar{N}}(2N + 2288 - (2N + 1909)) + B_{\bar{N}}(2N + 2288 - (N + 2666)) \\
&= B_{\bar{N}}(N - 382) + B_{\bar{N}}(379) + B_{\bar{N}}(N - 378) = (N - 382) + 379 + (N - 378) = \mathbf{2N} - \mathbf{381} \\
&(N \geq 383)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2289}) &= B_{\bar{N}}(2N + 2289 - B_{\bar{N}}(2N + 2288)) + B_{\bar{N}}(2N + 2289 - B_{\bar{N}}(2N + 2287)) + B_{\bar{N}}(2N + 2289 - B_{\bar{N}}(2N + 2286)) \\
&= B_{\bar{N}}(2N + 2289 - (2N - 381)) + B_{\bar{N}}(2N + 2289 - (N + 2670)) + B_{\bar{N}}(2N + 2289 - (2N + 1909)) \\
&= B_{\bar{N}}(2670) + B_{\bar{N}}(N - 381) + B_{\bar{N}}(380) = 2670 + (N - 381) + 380 = \mathbf{N} + \mathbf{2669} \\
&(N \geq 2670)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2290}) &= B_{\bar{N}}(2N + 2290 - B_{\bar{N}}(2N + 2289)) + B_{\bar{N}}(2N + 2290 - B_{\bar{N}}(2N + 2288)) + B_{\bar{N}}(2N + 2290 - B_{\bar{N}}(2N + 2287)) \\
&= B_{\bar{N}}(2N + 2290 - (N + 2669)) + B_{\bar{N}}(2N + 2290 - (2N - 381)) + B_{\bar{N}}(2N + 2290 - (N + 2670)) \\
&= B_{\bar{N}}(N - 379) + B_{\bar{N}}(2671) + B_{\bar{N}}(N - 380) = (N - 379) + 2671 + (N - 380) = \mathbf{2N} + \mathbf{1912} \\
&(N \geq 2671)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2291}) &= B_{\bar{N}}(2N + 2291 - B_{\bar{N}}(2N + 2290)) + B_{\bar{N}}(2N + 2291 - B_{\bar{N}}(2N + 2289)) + B_{\bar{N}}(2N + 2291 - B_{\bar{N}}(2N + 2288)) \\
&= B_{\bar{N}}(2N + 2291 - (2N + 1912)) + B_{\bar{N}}(2N + 2291 - (N + 2669)) + B_{\bar{N}}(2N + 2291 - (2N - 381)) \\
&= B_{\bar{N}}(379) + B_{\bar{N}}(N - 378) + B_{\bar{N}}(2672) = 379 + (N - 378) + 2672 = \mathbf{N} + \mathbf{2673} \\
&(N \geq 2672)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2292}) &= B_{\bar{N}}(2N + 2292 - B_{\bar{N}}(2N + 2291)) + B_{\bar{N}}(2N + 2292 - B_{\bar{N}}(2N + 2290)) + B_{\bar{N}}(2N + 2292 - B_{\bar{N}}(2N + 2289)) \\
&= B_{\bar{N}}(2N + 2292 - (N + 2673)) + B_{\bar{N}}(2N + 2292 - (2N + 1912)) + B_{\bar{N}}(2N + 2292 - (N + 2669)) \\
&= B_{\bar{N}}(N - 381) + B_{\bar{N}}(380) + B_{\bar{N}}(N - 377) = (N - 381) + 380 + (N - 377) = \mathbf{2N} - \mathbf{378} \\
&(N \geq 382)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2293}) &= B_{\bar{N}}(2N + 2293 - B_{\bar{N}}(2N + 2292)) + B_{\bar{N}}(2N + 2293 - B_{\bar{N}}(2N + 2291)) + B_{\bar{N}}(2N + 2293 - B_{\bar{N}}(2N + 2290)) \\
&= B_{\bar{N}}(2N + 2293 - (2N - 378)) + B_{\bar{N}}(2N + 2293 - (N + 2673)) + B_{\bar{N}}(2N + 2293 - (2N + 1912)) \\
&= B_{\bar{N}}(2671) + B_{\bar{N}}(N - 380) + B_{\bar{N}}(381) = 2671 + (N - 380) + 381 = \mathbf{N} + \mathbf{2672} \\
&(N \geq 2671)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2294}) &= B_{\bar{N}}(2N + 2294 - B_{\bar{N}}(2N + 2293)) + B_{\bar{N}}(2N + 2294 - B_{\bar{N}}(2N + 2292)) + B_{\bar{N}}(2N + 2294 - B_{\bar{N}}(2N + 2291)) \\
&= B_{\bar{N}}(2N + 2294 - (N + 2672)) + B_{\bar{N}}(2N + 2294 - (2N - 378)) + B_{\bar{N}}(2N + 2294 - (N + 2673)) \\
&= B_{\bar{N}}(N - 378) + B_{\bar{N}}(2672) + B_{\bar{N}}(N - 379) = (N - 378) + 2672 + (N - 379) = \mathbf{2N} + \mathbf{1915} \\
&(N \geq 2672)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2295}) &= B_{\bar{N}}(2N + 2295 - B_{\bar{N}}(2N + 2294)) + B_{\bar{N}}(2N + 2295 - B_{\bar{N}}(2N + 2293)) + B_{\bar{N}}(2N + 2295 - B_{\bar{N}}(2N + 2292)) \\
&= B_{\bar{N}}(2N + 2295 - (2N + 1915)) + B_{\bar{N}}(2N + 2295 - (N + 2672)) + B_{\bar{N}}(2N + 2295 - (2N - 378)) \\
&= B_{\bar{N}}(380) + B_{\bar{N}}(N - 377) + B_{\bar{N}}(2673) = 380 + (N - 377) + 2673 = \mathbf{N} + \mathbf{2676} \\
&(N \geq 2673)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2296}) &= B_{\bar{N}}(2N + 2296 - B_{\bar{N}}(2N + 2295)) + B_{\bar{N}}(2N + 2296 - B_{\bar{N}}(2N + 2294)) + B_{\bar{N}}(2N + 2296 - B_{\bar{N}}(2N + 2293)) \\
&= B_{\bar{N}}(2N + 2296 - (N + 2676)) + B_{\bar{N}}(2N + 2296 - (2N + 1915)) + B_{\bar{N}}(2N + 2296 - (N + 2672)) \\
&= B_{\bar{N}}(N - 380) + B_{\bar{N}}(381) + B_{\bar{N}}(N - 376) = (N - 380) + 381 + (N - 376) = \mathbf{2N} - \mathbf{375} \\
&(N \geq 381)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2297}) &= B_{\bar{N}}(2N + 2297 - B_{\bar{N}}(2N + 2296)) + B_{\bar{N}}(2N + 2297 - B_{\bar{N}}(2N + 2295)) + B_{\bar{N}}(2N + 2297 - B_{\bar{N}}(2N + 2294)) \\
&= B_{\bar{N}}(2N + 2297 - (2N - 375)) + B_{\bar{N}}(2N + 2297 - (N + 2676)) + B_{\bar{N}}(2N + 2297 - (2N + 1915)) \\
&= B_{\bar{N}}(2672) + B_{\bar{N}}(N - 379) + B_{\bar{N}}(382) = 2672 + (N - 379) + 382 = \mathbf{N} + \mathbf{2675} \\
&(N \geq 2672)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2298}) &= B_{\bar{N}}(2N + 2298 - B_{\bar{N}}(2N + 2297)) + B_{\bar{N}}(2N + 2298 - B_{\bar{N}}(2N + 2296)) + B_{\bar{N}}(2N + 2298 - B_{\bar{N}}(2N + 2295)) \\
&= B_{\bar{N}}(2N + 2298 - (N + 2675)) + B_{\bar{N}}(2N + 2298 - (2N - 375)) + B_{\bar{N}}(2N + 2298 - (N + 2676)) \\
&= B_{\bar{N}}(N - 377) + B_{\bar{N}}(2673) + B_{\bar{N}}(N - 378) = (N - 377) + 2673 + (N - 378) = \mathbf{2N} + \mathbf{1918} \\
&(N \geq 2673)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2299}) &= B_{\bar{N}}(2N + 2299 - B_{\bar{N}}(2N + 2298)) + B_{\bar{N}}(2N + 2299 - B_{\bar{N}}(2N + 2297)) + B_{\bar{N}}(2N + 2299 - B_{\bar{N}}(2N + 2296)) \\
&= B_{\bar{N}}(2N + 2299 - (2N + 1918)) + B_{\bar{N}}(2N + 2299 - (N + 2675)) + B_{\bar{N}}(2N + 2299 - (2N - 375)) \\
&= B_{\bar{N}}(381) + B_{\bar{N}}(N - 376) + B_{\bar{N}}(2674) = 381 + (N - 376) + 2674 = \mathbf{N} + \mathbf{2679} \\
&(N \geq 2674)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2300}) &= B_{\bar{N}}(2N + 2300 - B_{\bar{N}}(2N + 2299)) + B_{\bar{N}}(2N + 2300 - B_{\bar{N}}(2N + 2298)) + B_{\bar{N}}(2N + 2300 - B_{\bar{N}}(2N + 2297)) \\
&= B_{\bar{N}}(2N + 2300 - (N + 2679)) + B_{\bar{N}}(2N + 2300 - (2N + 1918)) + B_{\bar{N}}(2N + 2300 - (N + 2675)) \\
&= B_{\bar{N}}(N - 379) + B_{\bar{N}}(382) + B_{\bar{N}}(N - 375) = (N - 379) + 382 + (N - 375) = \mathbf{2N} - \mathbf{372} \\
&(N \geq 382)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2301}) &= B_{\bar{N}}(2N + 2301 - B_{\bar{N}}(2N + 2300)) + B_{\bar{N}}(2N + 2301 - B_{\bar{N}}(2N + 2299)) + B_{\bar{N}}(2N + 2301 - B_{\bar{N}}(2N + 2298)) \\
&= B_{\bar{N}}(2N + 2301 - (2N - 372)) + B_{\bar{N}}(2N + 2301 - (N + 2679)) + B_{\bar{N}}(2N + 2301 - (2N + 1918)) \\
&= B_{\bar{N}}(2673) + B_{\bar{N}}(N - 378) + B_{\bar{N}}(383) = 2673 + (N - 378) + 383 = \mathbf{N} + \mathbf{2678} \\
&(N \geq 2673)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2302}) &= B_{\bar{N}}(2N + 2302 - B_{\bar{N}}(2N + 2301)) + B_{\bar{N}}(2N + 2302 - B_{\bar{N}}(2N + 2300)) + B_{\bar{N}}(2N + 2302 - B_{\bar{N}}(2N + 2299)) \\
&= B_{\bar{N}}(2N + 2302 - (N + 2678)) + B_{\bar{N}}(2N + 2302 - (2N - 372)) + B_{\bar{N}}(2N + 2302 - (N + 2679)) \\
&= B_{\bar{N}}(N - 376) + B_{\bar{N}}(2674) + B_{\bar{N}}(N - 377) = (N - 376) + 2674 + (N - 377) = \mathbf{2N} + \mathbf{1921} \\
&(N \geq 2674)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2303}) &= B_{\bar{N}}(2N + 2303 - B_{\bar{N}}(2N + 2302)) + B_{\bar{N}}(2N + 2303 - B_{\bar{N}}(2N + 2301)) + B_{\bar{N}}(2N + 2303 - B_{\bar{N}}(2N + 2300)) \\
&= B_{\bar{N}}(2N + 2303 - (2N + 1921)) + B_{\bar{N}}(2N + 2303 - (N + 2678)) + B_{\bar{N}}(2N + 2303 - (2N - 372)) \\
&= B_{\bar{N}}(382) + B_{\bar{N}}(N - 375) + B_{\bar{N}}(2675) = 382 + (N - 375) + 2675 = \mathbf{N} + \mathbf{2682} \\
&(N \geq 2675)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2304}) &= B_{\bar{N}}(2N + 2304 - B_{\bar{N}}(2N + 2303)) + B_{\bar{N}}(2N + 2304 - B_{\bar{N}}(2N + 2302)) + B_{\bar{N}}(2N + 2304 - B_{\bar{N}}(2N + 2301)) \\
&= B_{\bar{N}}(2N + 2304 - (N + 2682)) + B_{\bar{N}}(2N + 2304 - (2N + 1921)) + B_{\bar{N}}(2N + 2304 - (N + 2678)) \\
&= B_{\bar{N}}(N - 378) + B_{\bar{N}}(383) + B_{\bar{N}}(N - 374) = (N - 378) + 383 + (N - 374) = \mathbf{2N} - \mathbf{369} \\
&(N \geq 383)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2305}) &= B_{\bar{N}}(2N + 2305 - B_{\bar{N}}(2N + 2304)) + B_{\bar{N}}(2N + 2305 - B_{\bar{N}}(2N + 2303)) + B_{\bar{N}}(2N + 2305 - B_{\bar{N}}(2N + 2302)) \\
&= B_{\bar{N}}(2N + 2305 - (2N - 369)) + B_{\bar{N}}(2N + 2305 - (N + 2682)) + B_{\bar{N}}(2N + 2305 - (2N + 1921)) \\
&= B_{\bar{N}}(2674) + B_{\bar{N}}(N - 377) + B_{\bar{N}}(384) = 2674 + (N - 377) + 384 = \mathbf{N} + \mathbf{2681} \\
&(N \geq 2674)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2306}) &= B_{\bar{N}}(2N + 2306 - B_{\bar{N}}(2N + 2305)) + B_{\bar{N}}(2N + 2306 - B_{\bar{N}}(2N + 2304)) + B_{\bar{N}}(2N + 2306 - B_{\bar{N}}(2N + 2303)) \\
&= B_{\bar{N}}(2N + 2306 - (N + 2681)) + B_{\bar{N}}(2N + 2306 - (2N - 369)) + B_{\bar{N}}(2N + 2306 - (N + 2682)) \\
&= B_{\bar{N}}(N - 375) + B_{\bar{N}}(2675) + B_{\bar{N}}(N - 376) = (N - 375) + 2675 + (N - 376) = \mathbf{2N} + \mathbf{1924} \\
&(N \geq 2675)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2307}) &= B_{\bar{N}}(2N + 2307 - B_{\bar{N}}(2N + 2306)) + B_{\bar{N}}(2N + 2307 - B_{\bar{N}}(2N + 2305)) + B_{\bar{N}}(2N + 2307 - B_{\bar{N}}(2N + 2304)) \\
&= B_{\bar{N}}(2N + 2307 - (2N + 1924)) + B_{\bar{N}}(2N + 2307 - (N + 2681)) + B_{\bar{N}}(2N + 2307 - (2N - 369)) \\
&= B_{\bar{N}}(383) + B_{\bar{N}}(N - 374) + B_{\bar{N}}(2676) = 383 + (N - 374) + 2676 = \mathbf{N} + \mathbf{2685} \\
&(N \geq 2676)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2308}) &= B_{\bar{N}}(2N + 2308 - B_{\bar{N}}(2N + 2307)) + B_{\bar{N}}(2N + 2308 - B_{\bar{N}}(2N + 2306)) + B_{\bar{N}}(2N + 2308 - B_{\bar{N}}(2N + 2305)) \\
&= B_{\bar{N}}(2N + 2308 - (N + 2685)) + B_{\bar{N}}(2N + 2308 - (2N + 1924)) + B_{\bar{N}}(2N + 2308 - (N + 2681)) \\
&= B_{\bar{N}}(N - 377) + B_{\bar{N}}(384) + B_{\bar{N}}(N - 373) = (N - 377) + 384 + (N - 373) = \mathbf{2N} - \mathbf{366} \\
&(N \geq 384)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2309}) &= B_{\bar{N}}(2N + 2309 - B_{\bar{N}}(2N + 2308)) + B_{\bar{N}}(2N + 2309 - B_{\bar{N}}(2N + 2307)) + B_{\bar{N}}(2N + 2309 - B_{\bar{N}}(2N + 2306)) \\
&= B_{\bar{N}}(2N + 2309 - (2N - 366)) + B_{\bar{N}}(2N + 2309 - (N + 2685)) + B_{\bar{N}}(2N + 2309 - (2N + 1924)) \\
&= B_{\bar{N}}(2675) + B_{\bar{N}}(N - 376) + B_{\bar{N}}(385) = 2675 + (N - 376) + 385 = \mathbf{N} + \mathbf{2684} \\
&(N \geq 2675)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2310}) &= B_{\bar{N}}(2N + 2310 - B_{\bar{N}}(2N + 2309)) + B_{\bar{N}}(2N + 2310 - B_{\bar{N}}(2N + 2308)) + B_{\bar{N}}(2N + 2310 - B_{\bar{N}}(2N + 2307)) \\
&= B_{\bar{N}}(2N + 2310 - (N + 2684)) + B_{\bar{N}}(2N + 2310 - (2N - 366)) + B_{\bar{N}}(2N + 2310 - (N + 2685)) \\
&= B_{\bar{N}}(N - 374) + B_{\bar{N}}(2676) + B_{\bar{N}}(N - 375) = (N - 374) + 2676 + (N - 375) = \mathbf{2N} + \mathbf{1927} \\
&(N \geq 2676)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2311}) &= B_{\bar{N}}(2N + 2311 - B_{\bar{N}}(2N + 2310)) + B_{\bar{N}}(2N + 2311 - B_{\bar{N}}(2N + 2309)) + B_{\bar{N}}(2N + 2311 - B_{\bar{N}}(2N + 2308)) \\
&= B_{\bar{N}}(2N + 2311 - (2N + 1927)) + B_{\bar{N}}(2N + 2311 - (N + 2684)) + B_{\bar{N}}(2N + 2311 - (2N - 366)) \\
&= B_{\bar{N}}(384) + B_{\bar{N}}(N - 373) + B_{\bar{N}}(2677) = 384 + (N - 373) + 2677 = \mathbf{N} + \mathbf{2688} \\
&(N \geq 2677)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2312}) &= B_{\bar{N}}(2N + 2312 - B_{\bar{N}}(2N + 2311)) + B_{\bar{N}}(2N + 2312 - B_{\bar{N}}(2N + 2310)) + B_{\bar{N}}(2N + 2312 - B_{\bar{N}}(2N + 2309)) \\
&= B_{\bar{N}}(2N + 2312 - (N + 2688)) + B_{\bar{N}}(2N + 2312 - (2N + 1927)) + B_{\bar{N}}(2N + 2312 - (N + 2684)) \\
&= B_{\bar{N}}(N - 376) + B_{\bar{N}}(385) + B_{\bar{N}}(N - 372) = (N - 376) + 385 + (N - 372) = \mathbf{2N} - \mathbf{363} \\
&(N \geq 385)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2313}) &= B_{\bar{N}}(2N + 2313 - B_{\bar{N}}(2N + 2312)) + B_{\bar{N}}(2N + 2313 - B_{\bar{N}}(2N + 2311)) + B_{\bar{N}}(2N + 2313 - B_{\bar{N}}(2N + 2310)) \\
&= B_{\bar{N}}(2N + 2313 - (2N - 363)) + B_{\bar{N}}(2N + 2313 - (N + 2688)) + B_{\bar{N}}(2N + 2313 - (2N + 1927)) \\
&= B_{\bar{N}}(2676) + B_{\bar{N}}(N - 375) + B_{\bar{N}}(386) = 2676 + (N - 375) + 386 = \mathbf{N} + \mathbf{2687} \\
&(N \geq 2676)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2314}) &= B_{\bar{N}}(2N + 2314 - B_{\bar{N}}(2N + 2313)) + B_{\bar{N}}(2N + 2314 - B_{\bar{N}}(2N + 2312)) + B_{\bar{N}}(2N + 2314 - B_{\bar{N}}(2N + 2311)) \\
&= B_{\bar{N}}(2N + 2314 - (N + 2687)) + B_{\bar{N}}(2N + 2314 - (2N - 363)) + B_{\bar{N}}(2N + 2314 - (N + 2688)) \\
&= B_{\bar{N}}(N - 373) + B_{\bar{N}}(2677) + B_{\bar{N}}(N - 374) = (N - 373) + 2677 + (N - 374) = \mathbf{2N} + \mathbf{1930} \\
&(N \geq 2677)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2315}) &= B_{\bar{N}}(2N + 2315 - B_{\bar{N}}(2N + 2314)) + B_{\bar{N}}(2N + 2315 - B_{\bar{N}}(2N + 2313)) + B_{\bar{N}}(2N + 2315 - B_{\bar{N}}(2N + 2312)) \\
&= B_{\bar{N}}(2N + 2315 - (2N + 1930)) + B_{\bar{N}}(2N + 2315 - (N + 2687)) + B_{\bar{N}}(2N + 2315 - (2N - 363)) \\
&= B_{\bar{N}}(385) + B_{\bar{N}}(N - 372) + B_{\bar{N}}(2678) = 385 + (N - 372) + 2678 = \mathbf{N} + \mathbf{2691} \\
&(N \geq 2678)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2316}) &= B_{\bar{N}}(2N + 2316 - B_{\bar{N}}(2N + 2315)) + B_{\bar{N}}(2N + 2316 - B_{\bar{N}}(2N + 2314)) + B_{\bar{N}}(2N + 2316 - B_{\bar{N}}(2N + 2313)) \\
&= B_{\bar{N}}(2N + 2316 - (N + 2691)) + B_{\bar{N}}(2N + 2316 - (2N + 1930)) + B_{\bar{N}}(2N + 2316 - (N + 2687)) \\
&= B_{\bar{N}}(N - 375) + B_{\bar{N}}(386) + B_{\bar{N}}(N - 371) = (N - 375) + 386 + (N - 371) = \mathbf{2N} - \mathbf{360} \\
&(N \geq 386)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2317}) &= B_{\bar{N}}(2N + 2317 - B_{\bar{N}}(2N + 2316)) + B_{\bar{N}}(2N + 2317 - B_{\bar{N}}(2N + 2315)) + B_{\bar{N}}(2N + 2317 - B_{\bar{N}}(2N + 2314)) \\
&= B_{\bar{N}}(2N + 2317 - (2N - 360)) + B_{\bar{N}}(2N + 2317 - (N + 2691)) + B_{\bar{N}}(2N + 2317 - (2N + 1930)) \\
&= B_{\bar{N}}(2677) + B_{\bar{N}}(N - 374) + B_{\bar{N}}(387) = 2677 + (N - 374) + 387 = \mathbf{N} + \mathbf{2690} \\
&(N \geq 2677)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2318}) &= B_{\bar{N}}(2N + 2318 - B_{\bar{N}}(2N + 2317)) + B_{\bar{N}}(2N + 2318 - B_{\bar{N}}(2N + 2316)) + B_{\bar{N}}(2N + 2318 - B_{\bar{N}}(2N + 2315)) \\
&= B_{\bar{N}}(2N + 2318 - (N + 2690)) + B_{\bar{N}}(2N + 2318 - (2N - 360)) + B_{\bar{N}}(2N + 2318 - (N + 2691)) \\
&= B_{\bar{N}}(N - 372) + B_{\bar{N}}(2678) + B_{\bar{N}}(N - 373) = (N - 372) + 2678 + (N - 373) = \mathbf{2N} + \mathbf{1933} \\
&(N \geq 2678)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2319}) &= B_{\bar{N}}(2N + 2319 - B_{\bar{N}}(2N + 2318)) + B_{\bar{N}}(2N + 2319 - B_{\bar{N}}(2N + 2317)) + B_{\bar{N}}(2N + 2319 - B_{\bar{N}}(2N + 2316)) \\
&= B_{\bar{N}}(2N + 2319 - (2N + 1933)) + B_{\bar{N}}(2N + 2319 - (N + 2690)) + B_{\bar{N}}(2N + 2319 - (2N - 360)) \\
&= B_{\bar{N}}(386) + B_{\bar{N}}(N - 371) + B_{\bar{N}}(2679) = 386 + (N - 371) + 2679 = \mathbf{N} + \mathbf{2694} \\
&(N \geq 2679)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2320}) &= B_{\bar{N}}(2N + 2320 - B_{\bar{N}}(2N + 2319)) + B_{\bar{N}}(2N + 2320 - B_{\bar{N}}(2N + 2318)) + B_{\bar{N}}(2N + 2320 - B_{\bar{N}}(2N + 2317)) \\
&= B_{\bar{N}}(2N + 2320 - (N + 2694)) + B_{\bar{N}}(2N + 2320 - (2N + 1933)) + B_{\bar{N}}(2N + 2320 - (N + 2690)) \\
&= B_{\bar{N}}(N - 374) + B_{\bar{N}}(387) + B_{\bar{N}}(N - 370) = (N - 374) + 387 + (N - 370) = \mathbf{2N} - \mathbf{357} \\
&(N \geq 387)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2321}) &= B_{\bar{N}}(2N + 2321 - B_{\bar{N}}(2N + 2320)) + B_{\bar{N}}(2N + 2321 - B_{\bar{N}}(2N + 2319)) + B_{\bar{N}}(2N + 2321 - B_{\bar{N}}(2N + 2318)) \\
&= B_{\bar{N}}(2N + 2321 - (2N - 357)) + B_{\bar{N}}(2N + 2321 - (N + 2694)) + B_{\bar{N}}(2N + 2321 - (2N + 1933)) \\
&= B_{\bar{N}}(2678) + B_{\bar{N}}(N - 373) + B_{\bar{N}}(388) = 2678 + (N - 373) + 388 = \mathbf{N} + \mathbf{2693} \\
&(N \geq 2678)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2322}) &= B_{\bar{N}}(2N + 2322 - B_{\bar{N}}(2N + 2321)) + B_{\bar{N}}(2N + 2322 - B_{\bar{N}}(2N + 2320)) + B_{\bar{N}}(2N + 2322 - B_{\bar{N}}(2N + 2319)) \\
&= B_{\bar{N}}(2N + 2322 - (N + 2693)) + B_{\bar{N}}(2N + 2322 - (2N - 357)) + B_{\bar{N}}(2N + 2322 - (N + 2694)) \\
&= B_{\bar{N}}(N - 371) + B_{\bar{N}}(2679) + B_{\bar{N}}(N - 372) = (N - 371) + 2679 + (N - 372) = \mathbf{2N} + \mathbf{1936} \\
&(N \geq 2679)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2323}) &= B_{\bar{N}}(2N + 2323 - B_{\bar{N}}(2N + 2322)) + B_{\bar{N}}(2N + 2323 - B_{\bar{N}}(2N + 2321)) + B_{\bar{N}}(2N + 2323 - B_{\bar{N}}(2N + 2320)) \\
&= B_{\bar{N}}(2N + 2323 - (2N + 1936)) + B_{\bar{N}}(2N + 2323 - (N + 2693)) + B_{\bar{N}}(2N + 2323 - (2N - 357)) \\
&= B_{\bar{N}}(387) + B_{\bar{N}}(N - 370) + B_{\bar{N}}(2680) = 387 + (N - 370) + 2680 = \mathbf{N} + \mathbf{2697} \\
&(N \geq 2680)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2324}) &= B_{\bar{N}}(2N + 2324 - B_{\bar{N}}(2N + 2323)) + B_{\bar{N}}(2N + 2324 - B_{\bar{N}}(2N + 2322)) + B_{\bar{N}}(2N + 2324 - B_{\bar{N}}(2N + 2321)) \\
&= B_{\bar{N}}(2N + 2324 - (N + 2697)) + B_{\bar{N}}(2N + 2324 - (2N + 1936)) + B_{\bar{N}}(2N + 2324 - (N + 2693)) \\
&= B_{\bar{N}}(N - 373) + B_{\bar{N}}(388) + B_{\bar{N}}(N - 369) = (N - 373) + 388 + (N - 369) = \mathbf{2N} - \mathbf{354} \\
&(N \geq 388)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2325}) &= B_{\bar{N}}(2N + 2325 - B_{\bar{N}}(2N + 2324)) + B_{\bar{N}}(2N + 2325 - B_{\bar{N}}(2N + 2323)) + B_{\bar{N}}(2N + 2325 - B_{\bar{N}}(2N + 2322)) \\
&= B_{\bar{N}}(2N + 2325 - (2N - 354)) + B_{\bar{N}}(2N + 2325 - (N + 2697)) + B_{\bar{N}}(2N + 2325 - (2N + 1936)) \\
&= B_{\bar{N}}(2679) + B_{\bar{N}}(N - 372) + B_{\bar{N}}(389) = 2679 + (N - 372) + 389 = \mathbf{N} + \mathbf{2696} \\
&(N \geq 2679)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2326}) &= B_{\bar{N}}(2N + 2326 - B_{\bar{N}}(2N + 2325)) + B_{\bar{N}}(2N + 2326 - B_{\bar{N}}(2N + 2324)) + B_{\bar{N}}(2N + 2326 - B_{\bar{N}}(2N + 2323)) \\
&= B_{\bar{N}}(2N + 2326 - (N + 2696)) + B_{\bar{N}}(2N + 2326 - (2N - 354)) + B_{\bar{N}}(2N + 2326 - (N + 2697)) \\
&= B_{\bar{N}}(N - 370) + B_{\bar{N}}(2680) + B_{\bar{N}}(N - 371) = (N - 370) + 2680 + (N - 371) = \mathbf{2N} + \mathbf{1939} \\
&(N \geq 2680)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2327}) &= B_{\bar{N}}(2N + 2327 - B_{\bar{N}}(2N + 2326)) + B_{\bar{N}}(2N + 2327 - B_{\bar{N}}(2N + 2325)) + B_{\bar{N}}(2N + 2327 - B_{\bar{N}}(2N + 2324)) \\
&= B_{\bar{N}}(2N + 2327 - (2N + 1939)) + B_{\bar{N}}(2N + 2327 - (N + 2696)) + B_{\bar{N}}(2N + 2327 - (2N - 354)) \\
&= B_{\bar{N}}(388) + B_{\bar{N}}(N - 369) + B_{\bar{N}}(2681) = 388 + (N - 369) + 2681 = \mathbf{N} + \mathbf{2700} \\
&(N \geq 2681)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2328}) &= B_{\bar{N}}(2N + 2328 - B_{\bar{N}}(2N + 2327)) + B_{\bar{N}}(2N + 2328 - B_{\bar{N}}(2N + 2326)) + B_{\bar{N}}(2N + 2328 - B_{\bar{N}}(2N + 2325)) \\
&= B_{\bar{N}}(2N + 2328 - (N + 2700)) + B_{\bar{N}}(2N + 2328 - (2N + 1939)) + B_{\bar{N}}(2N + 2328 - (N + 2696)) \\
&= B_{\bar{N}}(N - 372) + B_{\bar{N}}(389) + B_{\bar{N}}(N - 368) = (N - 372) + 389 + (N - 368) = \mathbf{2N} - \mathbf{351} \\
&(N \geq 389)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2329}) &= B_{\bar{N}}(2N + 2329 - B_{\bar{N}}(2N + 2328)) + B_{\bar{N}}(2N + 2329 - B_{\bar{N}}(2N + 2327)) + B_{\bar{N}}(2N + 2329 - B_{\bar{N}}(2N + 2326)) \\
&= B_{\bar{N}}(2N + 2329 - (2N - 351)) + B_{\bar{N}}(2N + 2329 - (N + 2700)) + B_{\bar{N}}(2N + 2329 - (2N + 1939)) \\
&= B_{\bar{N}}(2680) + B_{\bar{N}}(N - 371) + B_{\bar{N}}(390) = 2680 + (N - 371) + 390 = \mathbf{N} + \mathbf{2699} \\
&(N \geq 2680)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2330}) &= B_{\bar{N}}(2N + 2330 - B_{\bar{N}}(2N + 2329)) + B_{\bar{N}}(2N + 2330 - B_{\bar{N}}(2N + 2328)) + B_{\bar{N}}(2N + 2330 - B_{\bar{N}}(2N + 2327)) \\
&= B_{\bar{N}}(2N + 2330 - (N + 2699)) + B_{\bar{N}}(2N + 2330 - (2N - 351)) + B_{\bar{N}}(2N + 2330 - (N + 2700)) \\
&= B_{\bar{N}}(N - 369) + B_{\bar{N}}(2681) + B_{\bar{N}}(N - 370) = (N - 369) + 2681 + (N - 370) = \mathbf{2N} + \mathbf{1942} \\
&(N \geq 2681)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2331}) &= B_{\bar{N}}(2N + 2331 - B_{\bar{N}}(2N + 2330)) + B_{\bar{N}}(2N + 2331 - B_{\bar{N}}(2N + 2329)) + B_{\bar{N}}(2N + 2331 - B_{\bar{N}}(2N + 2328)) \\
&= B_{\bar{N}}(2N + 2331 - (2N + 1942)) + B_{\bar{N}}(2N + 2331 - (N + 2699)) + B_{\bar{N}}(2N + 2331 - (2N - 351)) \\
&= B_{\bar{N}}(389) + B_{\bar{N}}(N - 368) + B_{\bar{N}}(2682) = 389 + (N - 368) + 2682 = \mathbf{N} + \mathbf{2703} \\
&(N \geq 2682)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2332}) &= B_{\bar{N}}(2N + 2332 - B_{\bar{N}}(2N + 2331)) + B_{\bar{N}}(2N + 2332 - B_{\bar{N}}(2N + 2330)) + B_{\bar{N}}(2N + 2332 - B_{\bar{N}}(2N + 2329)) \\
&= B_{\bar{N}}(2N + 2332 - (N + 2703)) + B_{\bar{N}}(2N + 2332 - (2N + 1942)) + B_{\bar{N}}(2N + 2332 - (N + 2699)) \\
&= B_{\bar{N}}(N - 371) + B_{\bar{N}}(390) + B_{\bar{N}}(N - 367) = (N - 371) + 390 + (N - 367) = \mathbf{2N} - \mathbf{348} \\
&(N \geq 390)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2333}) &= B_{\bar{N}}(2N + 2333 - B_{\bar{N}}(2N + 2332)) + B_{\bar{N}}(2N + 2333 - B_{\bar{N}}(2N + 2331)) + B_{\bar{N}}(2N + 2333 - B_{\bar{N}}(2N + 2330)) \\
&= B_{\bar{N}}(2N + 2333 - (2N - 348)) + B_{\bar{N}}(2N + 2333 - (N + 2703)) + B_{\bar{N}}(2N + 2333 - (2N + 1942)) \\
&= B_{\bar{N}}(2681) + B_{\bar{N}}(N - 370) + B_{\bar{N}}(391) = 2681 + (N - 370) + 391 = \mathbf{N} + \mathbf{2702} \\
&(N \geq 2681)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2334}) &= B_{\bar{N}}(2N + 2334 - B_{\bar{N}}(2N + 2333)) + B_{\bar{N}}(2N + 2334 - B_{\bar{N}}(2N + 2332)) + B_{\bar{N}}(2N + 2334 - B_{\bar{N}}(2N + 2331)) \\
&= B_{\bar{N}}(2N + 2334 - (N + 2702)) + B_{\bar{N}}(2N + 2334 - (2N - 348)) + B_{\bar{N}}(2N + 2334 - (N + 2703)) \\
&= B_{\bar{N}}(N - 368) + B_{\bar{N}}(2682) + B_{\bar{N}}(N - 369) = (N - 368) + 2682 + (N - 369) = \mathbf{2N} + \mathbf{1945} \\
&(N \geq 2682)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2335}) &= B_{\bar{N}}(2N + 2335 - B_{\bar{N}}(2N + 2334)) + B_{\bar{N}}(2N + 2335 - B_{\bar{N}}(2N + 2333)) + B_{\bar{N}}(2N + 2335 - B_{\bar{N}}(2N + 2332)) \\
&= B_{\bar{N}}(2N + 2335 - (2N + 1945)) + B_{\bar{N}}(2N + 2335 - (N + 2702)) + B_{\bar{N}}(2N + 2335 - (2N - 348)) \\
&= B_{\bar{N}}(390) + B_{\bar{N}}(N - 367) + B_{\bar{N}}(2683) = 390 + (N - 367) + 2683 = \mathbf{N} + \mathbf{2706} \\
&(N \geq 2683)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2336}) &= B_{\bar{N}}(2N + 2336 - B_{\bar{N}}(2N + 2335)) + B_{\bar{N}}(2N + 2336 - B_{\bar{N}}(2N + 2334)) + B_{\bar{N}}(2N + 2336 - B_{\bar{N}}(2N + 2333)) \\
&= B_{\bar{N}}(2N + 2336 - (N + 2706)) + B_{\bar{N}}(2N + 2336 - (2N + 1945)) + B_{\bar{N}}(2N + 2336 - (N + 2702)) \\
&= B_{\bar{N}}(N - 370) + B_{\bar{N}}(391) + B_{\bar{N}}(N - 366) = (N - 370) + 391 + (N - 366) = \mathbf{2N} - \mathbf{345} \\
&(N \geq 391)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2337}) &= B_{\bar{N}}(2N + 2337 - B_{\bar{N}}(2N + 2336)) + B_{\bar{N}}(2N + 2337 - B_{\bar{N}}(2N + 2335)) + B_{\bar{N}}(2N + 2337 - B_{\bar{N}}(2N + 2334)) \\
&= B_{\bar{N}}(2N + 2337 - (2N - 345)) + B_{\bar{N}}(2N + 2337 - (N + 2706)) + B_{\bar{N}}(2N + 2337 - (2N + 1945)) \\
&= B_{\bar{N}}(2682) + B_{\bar{N}}(N - 369) + B_{\bar{N}}(392) = 2682 + (N - 369) + 392 = \mathbf{N} + \mathbf{2705} \\
&(N \geq 2682)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2338}) &= B_{\bar{N}}(2N + 2338 - B_{\bar{N}}(2N + 2337)) + B_{\bar{N}}(2N + 2338 - B_{\bar{N}}(2N + 2336)) + B_{\bar{N}}(2N + 2338 - B_{\bar{N}}(2N + 2335)) \\
&= B_{\bar{N}}(2N + 2338 - (N + 2705)) + B_{\bar{N}}(2N + 2338 - (2N - 345)) + B_{\bar{N}}(2N + 2338 - (N + 2706)) \\
&= B_{\bar{N}}(N - 367) + B_{\bar{N}}(2683) + B_{\bar{N}}(N - 368) = (N - 367) + 2683 + (N - 368) = \mathbf{2N} + \mathbf{1948} \\
&(N \geq 2683)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2339}) &= B_{\bar{N}}(2N + 2339 - B_{\bar{N}}(2N + 2338)) + B_{\bar{N}}(2N + 2339 - B_{\bar{N}}(2N + 2337)) + B_{\bar{N}}(2N + 2339 - B_{\bar{N}}(2N + 2336)) \\
&= B_{\bar{N}}(2N + 2339 - (2N + 1948)) + B_{\bar{N}}(2N + 2339 - (N + 2705)) + B_{\bar{N}}(2N + 2339 - (2N - 345)) \\
&= B_{\bar{N}}(391) + B_{\bar{N}}(N - 366) + B_{\bar{N}}(2684) = 391 + (N - 366) + 2684 = \mathbf{N} + \mathbf{2709} \\
&(N \geq 2684)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2340}) &= B_{\bar{N}}(2N + 2340 - B_{\bar{N}}(2N + 2339)) + B_{\bar{N}}(2N + 2340 - B_{\bar{N}}(2N + 2338)) + B_{\bar{N}}(2N + 2340 - B_{\bar{N}}(2N + 2337)) \\
&= B_{\bar{N}}(2N + 2340 - (N + 2709)) + B_{\bar{N}}(2N + 2340 - (2N + 1948)) + B_{\bar{N}}(2N + 2340 - (N + 2705)) \\
&= B_{\bar{N}}(N - 369) + B_{\bar{N}}(392) + B_{\bar{N}}(N - 365) = (N - 369) + 392 + (N - 365) = \mathbf{2N} - \mathbf{342} \\
&(N \geq 392)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2341}) &= B_{\bar{N}}(2N + 2341 - B_{\bar{N}}(2N + 2340)) + B_{\bar{N}}(2N + 2341 - B_{\bar{N}}(2N + 2339)) + B_{\bar{N}}(2N + 2341 - B_{\bar{N}}(2N + 2338)) \\
&= B_{\bar{N}}(2N + 2341 - (2N - 342)) + B_{\bar{N}}(2N + 2341 - (N + 2709)) + B_{\bar{N}}(2N + 2341 - (2N + 1948)) \\
&= B_{\bar{N}}(2683) + B_{\bar{N}}(N - 368) + B_{\bar{N}}(393) = 2683 + (N - 368) + 393 = \mathbf{N} + \mathbf{2708} \\
&(N \geq 2683)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2342}) &= B_{\bar{N}}(2N + 2342 - B_{\bar{N}}(2N + 2341)) + B_{\bar{N}}(2N + 2342 - B_{\bar{N}}(2N + 2340)) + B_{\bar{N}}(2N + 2342 - B_{\bar{N}}(2N + 2339)) \\
&= B_{\bar{N}}(2N + 2342 - (N + 2708)) + B_{\bar{N}}(2N + 2342 - (2N - 342)) + B_{\bar{N}}(2N + 2342 - (N + 2709)) \\
&= B_{\bar{N}}(N - 366) + B_{\bar{N}}(2684) + B_{\bar{N}}(N - 367) = (N - 366) + 2684 + (N - 367) = \mathbf{2N} + \mathbf{1951} \\
&(N \geq 2684)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2343}) &= B_{\bar{N}}(2N + 2343 - B_{\bar{N}}(2N + 2342)) + B_{\bar{N}}(2N + 2343 - B_{\bar{N}}(2N + 2341)) + B_{\bar{N}}(2N + 2343 - B_{\bar{N}}(2N + 2340)) \\
&= B_{\bar{N}}(2N + 2343 - (2N + 1951)) + B_{\bar{N}}(2N + 2343 - (N + 2708)) + B_{\bar{N}}(2N + 2343 - (2N - 342)) \\
&= B_{\bar{N}}(392) + B_{\bar{N}}(N - 365) + B_{\bar{N}}(2685) = 392 + (N - 365) + 2685 = \mathbf{N} + \mathbf{2712} \\
&(N \geq 2685)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2344}) &= B_{\bar{N}}(2N + 2344 - B_{\bar{N}}(2N + 2343)) + B_{\bar{N}}(2N + 2344 - B_{\bar{N}}(2N + 2342)) + B_{\bar{N}}(2N + 2344 - B_{\bar{N}}(2N + 2341)) \\
&= B_{\bar{N}}(2N + 2344 - (N + 2712)) + B_{\bar{N}}(2N + 2344 - (2N + 1951)) + B_{\bar{N}}(2N + 2344 - (N + 2708)) \\
&= B_{\bar{N}}(N - 368) + B_{\bar{N}}(393) + B_{\bar{N}}(N - 364) = (N - 368) + 393 + (N - 364) = \mathbf{2N} - \mathbf{339} \\
&(N \geq 393)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2345}) &= B_{\bar{N}}(2N + 2345 - B_{\bar{N}}(2N + 2344)) + B_{\bar{N}}(2N + 2345 - B_{\bar{N}}(2N + 2343)) + B_{\bar{N}}(2N + 2345 - B_{\bar{N}}(2N + 2342)) \\
&= B_{\bar{N}}(2N + 2345 - (2N - 339)) + B_{\bar{N}}(2N + 2345 - (N + 2712)) + B_{\bar{N}}(2N + 2345 - (2N + 1951)) \\
&= B_{\bar{N}}(2684) + B_{\bar{N}}(N - 367) + B_{\bar{N}}(394) = 2684 + (N - 367) + 394 = \mathbf{N} + \mathbf{2711} \\
&(N \geq 2684)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2346}) &= B_{\bar{N}}(2N + 2346 - B_{\bar{N}}(2N + 2345)) + B_{\bar{N}}(2N + 2346 - B_{\bar{N}}(2N + 2344)) + B_{\bar{N}}(2N + 2346 - B_{\bar{N}}(2N + 2343)) \\
&= B_{\bar{N}}(2N + 2346 - (N + 2711)) + B_{\bar{N}}(2N + 2346 - (2N - 339)) + B_{\bar{N}}(2N + 2346 - (N + 2712)) \\
&= B_{\bar{N}}(N - 365) + B_{\bar{N}}(2685) + B_{\bar{N}}(N - 366) = (N - 365) + 2685 + (N - 366) = \mathbf{2N} + \mathbf{1954} \\
&(N \geq 2685)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2347}) &= B_{\bar{N}}(2N + 2347 - B_{\bar{N}}(2N + 2346)) + B_{\bar{N}}(2N + 2347 - B_{\bar{N}}(2N + 2345)) + B_{\bar{N}}(2N + 2347 - B_{\bar{N}}(2N + 2344)) \\
&= B_{\bar{N}}(2N + 2347 - (2N + 1954)) + B_{\bar{N}}(2N + 2347 - (N + 2711)) + B_{\bar{N}}(2N + 2347 - (2N - 339)) \\
&= B_{\bar{N}}(393) + B_{\bar{N}}(N - 364) + B_{\bar{N}}(2686) = 393 + (N - 364) + 2686 = \mathbf{N} + \mathbf{2715} \\
&(N \geq 2686)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2348}) &= B_{\bar{N}}(2N + 2348 - B_{\bar{N}}(2N + 2347)) + B_{\bar{N}}(2N + 2348 - B_{\bar{N}}(2N + 2346)) + B_{\bar{N}}(2N + 2348 - B_{\bar{N}}(2N + 2345)) \\
&= B_{\bar{N}}(2N + 2348 - (N + 2715)) + B_{\bar{N}}(2N + 2348 - (2N + 1954)) + B_{\bar{N}}(2N + 2348 - (N + 2711)) \\
&= B_{\bar{N}}(N - 367) + B_{\bar{N}}(394) + B_{\bar{N}}(N - 363) = (N - 367) + 394 + (N - 363) = \mathbf{2N} - \mathbf{336} \\
&(N \geq 394)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2349}) &= B_{\bar{N}}(2N + 2349 - B_{\bar{N}}(2N + 2348)) + B_{\bar{N}}(2N + 2349 - B_{\bar{N}}(2N + 2347)) + B_{\bar{N}}(2N + 2349 - B_{\bar{N}}(2N + 2346)) \\
&= B_{\bar{N}}(2N + 2349 - (2N - 336)) + B_{\bar{N}}(2N + 2349 - (N + 2715)) + B_{\bar{N}}(2N + 2349 - (2N + 1954)) \\
&= B_{\bar{N}}(2685) + B_{\bar{N}}(N - 366) + B_{\bar{N}}(395) = 2685 + (N - 366) + 395 = \mathbf{N} + \mathbf{2714} \\
&(N \geq 2685)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2350}) &= B_{\bar{N}}(2N + 2350 - B_{\bar{N}}(2N + 2349)) + B_{\bar{N}}(2N + 2350 - B_{\bar{N}}(2N + 2348)) + B_{\bar{N}}(2N + 2350 - B_{\bar{N}}(2N + 2347)) \\
&= B_{\bar{N}}(2N + 2350 - (N + 2714)) + B_{\bar{N}}(2N + 2350 - (2N - 336)) + B_{\bar{N}}(2N + 2350 - (N + 2715)) \\
&= B_{\bar{N}}(N - 364) + B_{\bar{N}}(2686) + B_{\bar{N}}(N - 365) = (N - 364) + 2686 + (N - 365) = \mathbf{2N} + \mathbf{1957} \\
&(N \geq 2686)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2351}) &= B_{\bar{N}}(2N + 2351 - B_{\bar{N}}(2N + 2350)) + B_{\bar{N}}(2N + 2351 - B_{\bar{N}}(2N + 2349)) + B_{\bar{N}}(2N + 2351 - B_{\bar{N}}(2N + 2348)) \\
&= B_{\bar{N}}(2N + 2351 - (2N + 1957)) + B_{\bar{N}}(2N + 2351 - (N + 2714)) + B_{\bar{N}}(2N + 2351 - (2N - 336)) \\
&= B_{\bar{N}}(394) + B_{\bar{N}}(N - 363) + B_{\bar{N}}(2687) = 394 + (N - 363) + 2687 = \mathbf{N} + \mathbf{2718} \\
&(N \geq 2687)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2352}) &= B_{\bar{N}}(2N + 2352 - B_{\bar{N}}(2N + 2351)) + B_{\bar{N}}(2N + 2352 - B_{\bar{N}}(2N + 2350)) + B_{\bar{N}}(2N + 2352 - B_{\bar{N}}(2N + 2349)) \\
&= B_{\bar{N}}(2N + 2352 - (N + 2718)) + B_{\bar{N}}(2N + 2352 - (2N + 1957)) + B_{\bar{N}}(2N + 2352 - (N + 2714)) \\
&= B_{\bar{N}}(N - 366) + B_{\bar{N}}(395) + B_{\bar{N}}(N - 362) = (N - 366) + 395 + (N - 362) = \mathbf{2N} - \mathbf{333} \\
&(N \geq 395)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2353}) &= B_{\bar{N}}(2N + 2353 - B_{\bar{N}}(2N + 2352)) + B_{\bar{N}}(2N + 2353 - B_{\bar{N}}(2N + 2351)) + B_{\bar{N}}(2N + 2353 - B_{\bar{N}}(2N + 2350)) \\
&= B_{\bar{N}}(2N + 2353 - (2N - 333)) + B_{\bar{N}}(2N + 2353 - (N + 2718)) + B_{\bar{N}}(2N + 2353 - (2N + 1957)) \\
&= B_{\bar{N}}(2686) + B_{\bar{N}}(N - 365) + B_{\bar{N}}(396) = 2686 + (N - 365) + 396 = \mathbf{N} + \mathbf{2717} \\
&(N \geq 2686)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2354}) &= B_{\bar{N}}(2N + 2354 - B_{\bar{N}}(2N + 2353)) + B_{\bar{N}}(2N + 2354 - B_{\bar{N}}(2N + 2352)) + B_{\bar{N}}(2N + 2354 - B_{\bar{N}}(2N + 2351)) \\
&= B_{\bar{N}}(2N + 2354 - (N + 2717)) + B_{\bar{N}}(2N + 2354 - (2N - 333)) + B_{\bar{N}}(2N + 2354 - (N + 2718)) \\
&= B_{\bar{N}}(N - 363) + B_{\bar{N}}(2687) + B_{\bar{N}}(N - 364) = (N - 363) + 2687 + (N - 364) = \mathbf{2N} + \mathbf{1960} \\
&(N \geq 2687)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2355}) &= B_{\bar{N}}(2N + 2355 - B_{\bar{N}}(2N + 2354)) + B_{\bar{N}}(2N + 2355 - B_{\bar{N}}(2N + 2353)) + B_{\bar{N}}(2N + 2355 - B_{\bar{N}}(2N + 2352)) \\
&= B_{\bar{N}}(2N + 2355 - (2N + 1960)) + B_{\bar{N}}(2N + 2355 - (N + 2717)) + B_{\bar{N}}(2N + 2355 - (2N - 333)) \\
&= B_{\bar{N}}(395) + B_{\bar{N}}(N - 362) + B_{\bar{N}}(2688) = 395 + (N - 362) + 2688 = \mathbf{N} + \mathbf{2721} \\
&(N \geq 2688)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2356}) &= B_{\bar{N}}(2N + 2356 - B_{\bar{N}}(2N + 2355)) + B_{\bar{N}}(2N + 2356 - B_{\bar{N}}(2N + 2354)) + B_{\bar{N}}(2N + 2356 - B_{\bar{N}}(2N + 2353)) \\
&= B_{\bar{N}}(2N + 2356 - (N + 2721)) + B_{\bar{N}}(2N + 2356 - (2N + 1960)) + B_{\bar{N}}(2N + 2356 - (N + 2717)) \\
&= B_{\bar{N}}(N - 365) + B_{\bar{N}}(396) + B_{\bar{N}}(N - 361) = (N - 365) + 396 + (N - 361) = \mathbf{2N} - \mathbf{330} \\
&(N \geq 396)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2357}) &= B_{\bar{N}}(2N + 2357 - B_{\bar{N}}(2N + 2356)) + B_{\bar{N}}(2N + 2357 - B_{\bar{N}}(2N + 2355)) + B_{\bar{N}}(2N + 2357 - B_{\bar{N}}(2N + 2354)) \\
&= B_{\bar{N}}(2N + 2357 - (2N - 330)) + B_{\bar{N}}(2N + 2357 - (N + 2721)) + B_{\bar{N}}(2N + 2357 - (2N + 1960)) \\
&= B_{\bar{N}}(2687) + B_{\bar{N}}(N - 364) + B_{\bar{N}}(397) = 2687 + (N - 364) + 397 = \mathbf{N} + \mathbf{2720} \\
&(N \geq 2687)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2358}) &= B_{\bar{N}}(2N + 2358 - B_{\bar{N}}(2N + 2357)) + B_{\bar{N}}(2N + 2358 - B_{\bar{N}}(2N + 2356)) + B_{\bar{N}}(2N + 2358 - B_{\bar{N}}(2N + 2355)) \\
&= B_{\bar{N}}(2N + 2358 - (N + 2720)) + B_{\bar{N}}(2N + 2358 - (2N - 330)) + B_{\bar{N}}(2N + 2358 - (N + 2721)) \\
&= B_{\bar{N}}(N - 362) + B_{\bar{N}}(2688) + B_{\bar{N}}(N - 363) = (N - 362) + 2688 + (N - 363) = \mathbf{2N} + \mathbf{1963} \\
&(N \geq 2688)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2359}) &= B_{\bar{N}}(2N + 2359 - B_{\bar{N}}(2N + 2358)) + B_{\bar{N}}(2N + 2359 - B_{\bar{N}}(2N + 2357)) + B_{\bar{N}}(2N + 2359 - B_{\bar{N}}(2N + 2356)) \\
&= B_{\bar{N}}(2N + 2359 - (2N + 1963)) + B_{\bar{N}}(2N + 2359 - (N + 2720)) + B_{\bar{N}}(2N + 2359 - (2N - 330)) \\
&= B_{\bar{N}}(396) + B_{\bar{N}}(N - 361) + B_{\bar{N}}(2689) = 396 + (N - 361) + 2689 = \mathbf{N} + \mathbf{2724} \\
&(N \geq 2689)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2360}) &= B_{\bar{N}}(2N + 2360 - B_{\bar{N}}(2N + 2359)) + B_{\bar{N}}(2N + 2360 - B_{\bar{N}}(2N + 2358)) + B_{\bar{N}}(2N + 2360 - B_{\bar{N}}(2N + 2357)) \\
&= B_{\bar{N}}(2N + 2360 - (N + 2724)) + B_{\bar{N}}(2N + 2360 - (2N + 1963)) + B_{\bar{N}}(2N + 2360 - (N + 2720)) \\
&= B_{\bar{N}}(N - 364) + B_{\bar{N}}(397) + B_{\bar{N}}(N - 360) = (N - 364) + 397 + (N - 360) = \mathbf{2N} - \mathbf{327} \\
&(N \geq 397)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2361}) &= B_{\bar{N}}(2N + 2361 - B_{\bar{N}}(2N + 2360)) + B_{\bar{N}}(2N + 2361 - B_{\bar{N}}(2N + 2359)) + B_{\bar{N}}(2N + 2361 - B_{\bar{N}}(2N + 2358)) \\
&= B_{\bar{N}}(2N + 2361 - (2N - 327)) + B_{\bar{N}}(2N + 2361 - (N + 2724)) + B_{\bar{N}}(2N + 2361 - (2N + 1963)) \\
&= B_{\bar{N}}(2688) + B_{\bar{N}}(N - 363) + B_{\bar{N}}(398) = 2688 + (N - 363) + 398 = \mathbf{N} + \mathbf{2723} \\
&(N \geq 2688)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2362}) &= B_{\bar{N}}(2N + 2362 - B_{\bar{N}}(2N + 2361)) + B_{\bar{N}}(2N + 2362 - B_{\bar{N}}(2N + 2360)) + B_{\bar{N}}(2N + 2362 - B_{\bar{N}}(2N + 2359)) \\
&= B_{\bar{N}}(2N + 2362 - (N + 2723)) + B_{\bar{N}}(2N + 2362 - (2N - 327)) + B_{\bar{N}}(2N + 2362 - (N + 2724)) \\
&= B_{\bar{N}}(N - 361) + B_{\bar{N}}(2689) + B_{\bar{N}}(N - 362) = (N - 361) + 2689 + (N - 362) = \mathbf{2N} + \mathbf{1966} \\
&(N \geq 2689)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2363}) &= B_{\bar{N}}(2N + 2363 - B_{\bar{N}}(2N + 2362)) + B_{\bar{N}}(2N + 2363 - B_{\bar{N}}(2N + 2361)) + B_{\bar{N}}(2N + 2363 - B_{\bar{N}}(2N + 2360)) \\
&= B_{\bar{N}}(2N + 2363 - (2N + 1966)) + B_{\bar{N}}(2N + 2363 - (N + 2723)) + B_{\bar{N}}(2N + 2363 - (2N - 327)) \\
&= B_{\bar{N}}(397) + B_{\bar{N}}(N - 360) + B_{\bar{N}}(2690) = 397 + (N - 360) + 2690 = \mathbf{N} + \mathbf{2727} \\
&(N \geq 2690)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2364}) &= B_{\bar{N}}(2N + 2364 - B_{\bar{N}}(2N + 2363)) + B_{\bar{N}}(2N + 2364 - B_{\bar{N}}(2N + 2362)) + B_{\bar{N}}(2N + 2364 - B_{\bar{N}}(2N + 2361)) \\
&= B_{\bar{N}}(2N + 2364 - (N + 2727)) + B_{\bar{N}}(2N + 2364 - (2N + 1966)) + B_{\bar{N}}(2N + 2364 - (N + 2723)) \\
&= B_{\bar{N}}(N - 363) + B_{\bar{N}}(398) + B_{\bar{N}}(N - 359) = (N - 363) + 398 + (N - 359) = \mathbf{2N} - \mathbf{324} \\
&(N \geq 398)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2365}) &= B_{\bar{N}}(2N + 2365 - B_{\bar{N}}(2N + 2364)) + B_{\bar{N}}(2N + 2365 - B_{\bar{N}}(2N + 2363)) + B_{\bar{N}}(2N + 2365 - B_{\bar{N}}(2N + 2362)) \\
&= B_{\bar{N}}(2N + 2365 - (2N - 324)) + B_{\bar{N}}(2N + 2365 - (N + 2727)) + B_{\bar{N}}(2N + 2365 - (2N + 1966)) \\
&= B_{\bar{N}}(2689) + B_{\bar{N}}(N - 362) + B_{\bar{N}}(399) = 2689 + (N - 362) + 399 = \mathbf{N} + \mathbf{2726} \\
&(N \geq 2689)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2366}) &= B_{\bar{N}}(2N + 2366 - B_{\bar{N}}(2N + 2365)) + B_{\bar{N}}(2N + 2366 - B_{\bar{N}}(2N + 2364)) + B_{\bar{N}}(2N + 2366 - B_{\bar{N}}(2N + 2363)) \\
&= B_{\bar{N}}(2N + 2366 - (N + 2726)) + B_{\bar{N}}(2N + 2366 - (2N - 324)) + B_{\bar{N}}(2N + 2366 - (N + 2727)) \\
&= B_{\bar{N}}(N - 360) + B_{\bar{N}}(2690) + B_{\bar{N}}(N - 361) = (N - 360) + 2690 + (N - 361) = \mathbf{2N} + \mathbf{1969} \\
&(N \geq 2690)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2367}) &= B_{\bar{N}}(2N + 2367 - B_{\bar{N}}(2N + 2366)) + B_{\bar{N}}(2N + 2367 - B_{\bar{N}}(2N + 2365)) + B_{\bar{N}}(2N + 2367 - B_{\bar{N}}(2N + 2364)) \\
&= B_{\bar{N}}(2N + 2367 - (2N + 1969)) + B_{\bar{N}}(2N + 2367 - (N + 2726)) + B_{\bar{N}}(2N + 2367 - (2N - 324)) \\
&= B_{\bar{N}}(398) + B_{\bar{N}}(N - 359) + B_{\bar{N}}(2691) = 398 + (N - 359) + 2691 = \mathbf{N} + \mathbf{2730} \\
&(N \geq 2691)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2368}) &= B_{\bar{N}}(2N + 2368 - B_{\bar{N}}(2N + 2367)) + B_{\bar{N}}(2N + 2368 - B_{\bar{N}}(2N + 2366)) + B_{\bar{N}}(2N + 2368 - B_{\bar{N}}(2N + 2365)) \\
&= B_{\bar{N}}(2N + 2368 - (N + 2730)) + B_{\bar{N}}(2N + 2368 - (2N + 1969)) + B_{\bar{N}}(2N + 2368 - (N + 2726)) \\
&= B_{\bar{N}}(N - 362) + B_{\bar{N}}(399) + B_{\bar{N}}(N - 358) = (N - 362) + 399 + (N - 358) = \mathbf{2N} - \mathbf{321} \\
&(N \geq 399)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2369}) &= B_{\bar{N}}(2N + 2369 - B_{\bar{N}}(2N + 2368)) + B_{\bar{N}}(2N + 2369 - B_{\bar{N}}(2N + 2367)) + B_{\bar{N}}(2N + 2369 - B_{\bar{N}}(2N + 2366)) \\
&= B_{\bar{N}}(2N + 2369 - (2N - 321)) + B_{\bar{N}}(2N + 2369 - (N + 2730)) + B_{\bar{N}}(2N + 2369 - (2N + 1969)) \\
&= B_{\bar{N}}(2690) + B_{\bar{N}}(N - 361) + B_{\bar{N}}(400) = 2690 + (N - 361) + 400 = \mathbf{N} + \mathbf{2729} \\
&(N \geq 2690)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2370}) &= B_{\bar{N}}(2N + 2370 - B_{\bar{N}}(2N + 2369)) + B_{\bar{N}}(2N + 2370 - B_{\bar{N}}(2N + 2368)) + B_{\bar{N}}(2N + 2370 - B_{\bar{N}}(2N + 2367)) \\
&= B_{\bar{N}}(2N + 2370 - (N + 2729)) + B_{\bar{N}}(2N + 2370 - (2N - 321)) + B_{\bar{N}}(2N + 2370 - (N + 2730)) \\
&= B_{\bar{N}}(N - 359) + B_{\bar{N}}(2691) + B_{\bar{N}}(N - 360) = (N - 359) + 2691 + (N - 360) = \mathbf{2N} + \mathbf{1972} \\
&(N \geq 2691)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2371}) &= B_{\bar{N}}(2N + 2371 - B_{\bar{N}}(2N + 2370)) + B_{\bar{N}}(2N + 2371 - B_{\bar{N}}(2N + 2369)) + B_{\bar{N}}(2N + 2371 - B_{\bar{N}}(2N + 2368)) \\
&= B_{\bar{N}}(2N + 2371 - (2N + 1972)) + B_{\bar{N}}(2N + 2371 - (N + 2729)) + B_{\bar{N}}(2N + 2371 - (2N - 321)) \\
&= B_{\bar{N}}(399) + B_{\bar{N}}(N - 358) + B_{\bar{N}}(2692) = 399 + (N - 358) + 2692 = \mathbf{N} + \mathbf{2733} \\
&(N \geq 2692)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2372}) &= B_{\bar{N}}(2N + 2372 - B_{\bar{N}}(2N + 2371)) + B_{\bar{N}}(2N + 2372 - B_{\bar{N}}(2N + 2370)) + B_{\bar{N}}(2N + 2372 - B_{\bar{N}}(2N + 2369)) \\
&= B_{\bar{N}}(2N + 2372 - (N + 2733)) + B_{\bar{N}}(2N + 2372 - (2N + 1972)) + B_{\bar{N}}(2N + 2372 - (N + 2729)) \\
&= B_{\bar{N}}(N - 361) + B_{\bar{N}}(400) + B_{\bar{N}}(N - 357) = (N - 361) + 400 + (N - 357) = \mathbf{2N} - \mathbf{318} \\
&(N \geq 400)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2373}) &= B_{\bar{N}}(2N + 2373 - B_{\bar{N}}(2N + 2372)) + B_{\bar{N}}(2N + 2373 - B_{\bar{N}}(2N + 2371)) + B_{\bar{N}}(2N + 2373 - B_{\bar{N}}(2N + 2370)) \\
&= B_{\bar{N}}(2N + 2373 - (2N - 318)) + B_{\bar{N}}(2N + 2373 - (N + 2733)) + B_{\bar{N}}(2N + 2373 - (2N + 1972)) \\
&= B_{\bar{N}}(2691) + B_{\bar{N}}(N - 360) + B_{\bar{N}}(401) = 2691 + (N - 360) + 401 = \mathbf{N} + \mathbf{2732} \\
&(N \geq 2691)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2374}) &= B_{\bar{N}}(2N + 2374 - B_{\bar{N}}(2N + 2373)) + B_{\bar{N}}(2N + 2374 - B_{\bar{N}}(2N + 2372)) + B_{\bar{N}}(2N + 2374 - B_{\bar{N}}(2N + 2371)) \\
&= B_{\bar{N}}(2N + 2374 - (N + 2732)) + B_{\bar{N}}(2N + 2374 - (2N - 318)) + B_{\bar{N}}(2N + 2374 - (N + 2733)) \\
&= B_{\bar{N}}(N - 358) + B_{\bar{N}}(2692) + B_{\bar{N}}(N - 359) = (N - 358) + 2692 + (N - 359) = \mathbf{2N} + \mathbf{1975} \\
&(N \geq 2692)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2375}) &= B_{\bar{N}}(2N + 2375 - B_{\bar{N}}(2N + 2374)) + B_{\bar{N}}(2N + 2375 - B_{\bar{N}}(2N + 2373)) + B_{\bar{N}}(2N + 2375 - B_{\bar{N}}(2N + 2372)) \\
&= B_{\bar{N}}(2N + 2375 - (2N + 1975)) + B_{\bar{N}}(2N + 2375 - (N + 2732)) + B_{\bar{N}}(2N + 2375 - (2N - 318)) \\
&= B_{\bar{N}}(400) + B_{\bar{N}}(N - 357) + B_{\bar{N}}(2693) = 400 + (N - 357) + 2693 = \mathbf{N} + \mathbf{2736} \\
&(N \geq 2693)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2376}) &= B_{\bar{N}}(2N + 2376 - B_{\bar{N}}(2N + 2375)) + B_{\bar{N}}(2N + 2376 - B_{\bar{N}}(2N + 2374)) + B_{\bar{N}}(2N + 2376 - B_{\bar{N}}(2N + 2373)) \\
&= B_{\bar{N}}(2N + 2376 - (N + 2736)) + B_{\bar{N}}(2N + 2376 - (2N + 1975)) + B_{\bar{N}}(2N + 2376 - (N + 2732)) \\
&= B_{\bar{N}}(N - 360) + B_{\bar{N}}(401) + B_{\bar{N}}(N - 356) = (N - 360) + 401 + (N - 356) = \mathbf{2N} - \mathbf{315} \\
&(N \geq 401)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2377}) &= B_{\bar{N}}(2N + 2377 - B_{\bar{N}}(2N + 2376)) + B_{\bar{N}}(2N + 2377 - B_{\bar{N}}(2N + 2375)) + B_{\bar{N}}(2N + 2377 - B_{\bar{N}}(2N + 2374)) \\
&= B_{\bar{N}}(2N + 2377 - (2N - 315)) + B_{\bar{N}}(2N + 2377 - (N + 2736)) + B_{\bar{N}}(2N + 2377 - (2N + 1975)) \\
&= B_{\bar{N}}(2692) + B_{\bar{N}}(N - 359) + B_{\bar{N}}(402) = 2692 + (N - 359) + 402 = \mathbf{N} + \mathbf{2735} \\
&(N \geq 2692)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2378}) &= B_{\bar{N}}(2N + 2378 - B_{\bar{N}}(2N + 2377)) + B_{\bar{N}}(2N + 2378 - B_{\bar{N}}(2N + 2376)) + B_{\bar{N}}(2N + 2378 - B_{\bar{N}}(2N + 2375)) \\
&= B_{\bar{N}}(2N + 2378 - (N + 2735)) + B_{\bar{N}}(2N + 2378 - (2N - 315)) + B_{\bar{N}}(2N + 2378 - (N + 2736)) \\
&= B_{\bar{N}}(N - 357) + B_{\bar{N}}(2693) + B_{\bar{N}}(N - 358) = (N - 357) + 2693 + (N - 358) = \mathbf{2N} + \mathbf{1978} \\
&(N \geq 2693)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2379}) &= B_{\bar{N}}(2N + 2379 - B_{\bar{N}}(2N + 2378)) + B_{\bar{N}}(2N + 2379 - B_{\bar{N}}(2N + 2377)) + B_{\bar{N}}(2N + 2379 - B_{\bar{N}}(2N + 2376)) \\
&= B_{\bar{N}}(2N + 2379 - (2N + 1978)) + B_{\bar{N}}(2N + 2379 - (N + 2735)) + B_{\bar{N}}(2N + 2379 - (2N - 315)) \\
&= B_{\bar{N}}(401) + B_{\bar{N}}(N - 356) + B_{\bar{N}}(2694) = 401 + (N - 356) + 2694 = \mathbf{N} + \mathbf{2739} \\
&(N \geq 2694)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2380}) &= B_{\bar{N}}(2N + 2380 - B_{\bar{N}}(2N + 2379)) + B_{\bar{N}}(2N + 2380 - B_{\bar{N}}(2N + 2378)) + B_{\bar{N}}(2N + 2380 - B_{\bar{N}}(2N + 2377)) \\
&= B_{\bar{N}}(2N + 2380 - (N + 2739)) + B_{\bar{N}}(2N + 2380 - (2N + 1978)) + B_{\bar{N}}(2N + 2380 - (N + 2735)) \\
&= B_{\bar{N}}(N - 359) + B_{\bar{N}}(402) + B_{\bar{N}}(N - 355) = (N - 359) + 402 + (N - 355) = \mathbf{2N} - \mathbf{312} \\
&(N \geq 402)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2381}) &= B_{\bar{N}}(2N + 2381 - B_{\bar{N}}(2N + 2380)) + B_{\bar{N}}(2N + 2381 - B_{\bar{N}}(2N + 2379)) + B_{\bar{N}}(2N + 2381 - B_{\bar{N}}(2N + 2378)) \\
&= B_{\bar{N}}(2N + 2381 - (2N - 312)) + B_{\bar{N}}(2N + 2381 - (N + 2739)) + B_{\bar{N}}(2N + 2381 - (2N + 1978)) \\
&= B_{\bar{N}}(2693) + B_{\bar{N}}(N - 358) + B_{\bar{N}}(403) = 2693 + (N - 358) + 403 = \mathbf{N} + \mathbf{2738} \\
&(N \geq 2693)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2382}) &= B_{\bar{N}}(2N + 2382 - B_{\bar{N}}(2N + 2381)) + B_{\bar{N}}(2N + 2382 - B_{\bar{N}}(2N + 2380)) + B_{\bar{N}}(2N + 2382 - B_{\bar{N}}(2N + 2379)) \\
&= B_{\bar{N}}(2N + 2382 - (N + 2738)) + B_{\bar{N}}(2N + 2382 - (2N - 312)) + B_{\bar{N}}(2N + 2382 - (N + 2739)) \\
&= B_{\bar{N}}(N - 356) + B_{\bar{N}}(2694) + B_{\bar{N}}(N - 357) = (N - 356) + 2694 + (N - 357) = \mathbf{2N} + \mathbf{1981} \\
&(N \geq 2694)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2383}) &= B_{\bar{N}}(2N + 2383 - B_{\bar{N}}(2N + 2382)) + B_{\bar{N}}(2N + 2383 - B_{\bar{N}}(2N + 2381)) + B_{\bar{N}}(2N + 2383 - B_{\bar{N}}(2N + 2380)) \\
&= B_{\bar{N}}(2N + 2383 - (2N + 1981)) + B_{\bar{N}}(2N + 2383 - (N + 2738)) + B_{\bar{N}}(2N + 2383 - (2N - 312)) \\
&= B_{\bar{N}}(402) + B_{\bar{N}}(N - 355) + B_{\bar{N}}(2695) = 402 + (N - 355) + 2695 = \mathbf{N} + \mathbf{2742} \\
&(N \geq 2695)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2384}) &= B_{\bar{N}}(2N + 2384 - B_{\bar{N}}(2N + 2383)) + B_{\bar{N}}(2N + 2384 - B_{\bar{N}}(2N + 2382)) + B_{\bar{N}}(2N + 2384 - B_{\bar{N}}(2N + 2381)) \\
&= B_{\bar{N}}(2N + 2384 - (N + 2742)) + B_{\bar{N}}(2N + 2384 - (2N + 1981)) + B_{\bar{N}}(2N + 2384 - (N + 2738)) \\
&= B_{\bar{N}}(N - 358) + B_{\bar{N}}(403) + B_{\bar{N}}(N - 354) = (N - 358) + 403 + (N - 354) = \mathbf{2N} - \mathbf{309} \\
&(N \geq 403)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2385}) &= B_{\bar{N}}(2N + 2385 - B_{\bar{N}}(2N + 2384)) + B_{\bar{N}}(2N + 2385 - B_{\bar{N}}(2N + 2383)) + B_{\bar{N}}(2N + 2385 - B_{\bar{N}}(2N + 2382)) \\
&= B_{\bar{N}}(2N + 2385 - (2N - 309)) + B_{\bar{N}}(2N + 2385 - (N + 2742)) + B_{\bar{N}}(2N + 2385 - (2N + 1981)) \\
&= B_{\bar{N}}(2694) + B_{\bar{N}}(N - 357) + B_{\bar{N}}(404) = 2694 + (N - 357) + 404 = \mathbf{N} + \mathbf{2741} \\
&(N \geq 2694)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2386}) &= B_{\bar{N}}(2N + 2386 - B_{\bar{N}}(2N + 2385)) + B_{\bar{N}}(2N + 2386 - B_{\bar{N}}(2N + 2384)) + B_{\bar{N}}(2N + 2386 - B_{\bar{N}}(2N + 2383)) \\
&= B_{\bar{N}}(2N + 2386 - (N + 2741)) + B_{\bar{N}}(2N + 2386 - (2N - 309)) + B_{\bar{N}}(2N + 2386 - (N + 2742)) \\
&= B_{\bar{N}}(N - 355) + B_{\bar{N}}(2695) + B_{\bar{N}}(N - 356) = (N - 355) + 2695 + (N - 356) = \mathbf{2N} + \mathbf{1984} \\
&(N \geq 2695)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2387}) &= B_{\bar{N}}(2N + 2387 - B_{\bar{N}}(2N + 2386)) + B_{\bar{N}}(2N + 2387 - B_{\bar{N}}(2N + 2385)) + B_{\bar{N}}(2N + 2387 - B_{\bar{N}}(2N + 2384)) \\
&= B_{\bar{N}}(2N + 2387 - (2N + 1984)) + B_{\bar{N}}(2N + 2387 - (N + 2741)) + B_{\bar{N}}(2N + 2387 - (2N - 309)) \\
&= B_{\bar{N}}(403) + B_{\bar{N}}(N - 354) + B_{\bar{N}}(2696) = 403 + (N - 354) + 2696 = \mathbf{N} + \mathbf{2745} \\
&(N \geq 2696)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2388}) &= B_{\bar{N}}(2N + 2388 - B_{\bar{N}}(2N + 2387)) + B_{\bar{N}}(2N + 2388 - B_{\bar{N}}(2N + 2386)) + B_{\bar{N}}(2N + 2388 - B_{\bar{N}}(2N + 2385)) \\
&= B_{\bar{N}}(2N + 2388 - (N + 2745)) + B_{\bar{N}}(2N + 2388 - (2N + 1984)) + B_{\bar{N}}(2N + 2388 - (N + 2741)) \\
&= B_{\bar{N}}(N - 357) + B_{\bar{N}}(404) + B_{\bar{N}}(N - 353) = (N - 357) + 404 + (N - 353) = \mathbf{2N} - \mathbf{306} \\
&(N \geq 404)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2389}) &= B_{\bar{N}}(2N + 2389 - B_{\bar{N}}(2N + 2388)) + B_{\bar{N}}(2N + 2389 - B_{\bar{N}}(2N + 2387)) + B_{\bar{N}}(2N + 2389 - B_{\bar{N}}(2N + 2386)) \\
&= B_{\bar{N}}(2N + 2389 - (2N - 306)) + B_{\bar{N}}(2N + 2389 - (N + 2745)) + B_{\bar{N}}(2N + 2389 - (2N + 1984)) \\
&= B_{\bar{N}}(2695) + B_{\bar{N}}(N - 356) + B_{\bar{N}}(405) = 2695 + (N - 356) + 405 = \mathbf{N} + \mathbf{2744} \\
&(N \geq 2695)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2390}) &= B_{\bar{N}}(2N + 2390 - B_{\bar{N}}(2N + 2389)) + B_{\bar{N}}(2N + 2390 - B_{\bar{N}}(2N + 2388)) + B_{\bar{N}}(2N + 2390 - B_{\bar{N}}(2N + 2387)) \\
&= B_{\bar{N}}(2N + 2390 - (N + 2744)) + B_{\bar{N}}(2N + 2390 - (2N - 306)) + B_{\bar{N}}(2N + 2390 - (N + 2745)) \\
&= B_{\bar{N}}(N - 354) + B_{\bar{N}}(2696) + B_{\bar{N}}(N - 355) = (N - 354) + 2696 + (N - 355) = \mathbf{2N} + \mathbf{1987} \\
&(N \geq 2696)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2391}) &= B_{\bar{N}}(2N + 2391 - B_{\bar{N}}(2N + 2390)) + B_{\bar{N}}(2N + 2391 - B_{\bar{N}}(2N + 2389)) + B_{\bar{N}}(2N + 2391 - B_{\bar{N}}(2N + 2388)) \\
&= B_{\bar{N}}(2N + 2391 - (2N + 1987)) + B_{\bar{N}}(2N + 2391 - (N + 2744)) + B_{\bar{N}}(2N + 2391 - (2N - 306)) \\
&= B_{\bar{N}}(404) + B_{\bar{N}}(N - 353) + B_{\bar{N}}(2697) = 404 + (N - 353) + 2697 = \mathbf{N} + \mathbf{2748} \\
&(N \geq 2697)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2392}) &= B_{\bar{N}}(2N + 2392 - B_{\bar{N}}(2N + 2391)) + B_{\bar{N}}(2N + 2392 - B_{\bar{N}}(2N + 2390)) + B_{\bar{N}}(2N + 2392 - B_{\bar{N}}(2N + 2389)) \\
&= B_{\bar{N}}(2N + 2392 - (N + 2748)) + B_{\bar{N}}(2N + 2392 - (2N + 1987)) + B_{\bar{N}}(2N + 2392 - (N + 2744)) \\
&= B_{\bar{N}}(N - 356) + B_{\bar{N}}(405) + B_{\bar{N}}(N - 352) = (N - 356) + 405 + (N - 352) = \mathbf{2N} - \mathbf{303} \\
&(N \geq 405)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2393}) &= B_{\bar{N}}(2N + 2393 - B_{\bar{N}}(2N + 2392)) + B_{\bar{N}}(2N + 2393 - B_{\bar{N}}(2N + 2391)) + B_{\bar{N}}(2N + 2393 - B_{\bar{N}}(2N + 2390)) \\
&= B_{\bar{N}}(2N + 2393 - (2N - 303)) + B_{\bar{N}}(2N + 2393 - (N + 2748)) + B_{\bar{N}}(2N + 2393 - (2N + 1987)) \\
&= B_{\bar{N}}(2696) + B_{\bar{N}}(N - 355) + B_{\bar{N}}(406) = 2696 + (N - 355) + 406 = \mathbf{N} + \mathbf{2747} \\
&(N \geq 2696)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2394}) &= B_{\bar{N}}(2N + 2394 - B_{\bar{N}}(2N + 2393)) + B_{\bar{N}}(2N + 2394 - B_{\bar{N}}(2N + 2392)) + B_{\bar{N}}(2N + 2394 - B_{\bar{N}}(2N + 2391)) \\
&= B_{\bar{N}}(2N + 2394 - (N + 2747)) + B_{\bar{N}}(2N + 2394 - (2N - 303)) + B_{\bar{N}}(2N + 2394 - (N + 2748)) \\
&= B_{\bar{N}}(N - 353) + B_{\bar{N}}(2697) + B_{\bar{N}}(N - 354) = (N - 353) + 2697 + (N - 354) = \mathbf{2N} + \mathbf{1990} \\
&(N \geq 2697)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2395}) &= B_{\bar{N}}(2N + 2395 - B_{\bar{N}}(2N + 2394)) + B_{\bar{N}}(2N + 2395 - B_{\bar{N}}(2N + 2393)) + B_{\bar{N}}(2N + 2395 - B_{\bar{N}}(2N + 2392)) \\
&= B_{\bar{N}}(2N + 2395 - (2N + 1990)) + B_{\bar{N}}(2N + 2395 - (N + 2747)) + B_{\bar{N}}(2N + 2395 - (2N - 303)) \\
&= B_{\bar{N}}(405) + B_{\bar{N}}(N - 352) + B_{\bar{N}}(2698) = 405 + (N - 352) + 2698 = \mathbf{N} + \mathbf{2751} \\
&(N \geq 2698)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2396}) &= B_{\bar{N}}(2N + 2396 - B_{\bar{N}}(2N + 2395)) + B_{\bar{N}}(2N + 2396 - B_{\bar{N}}(2N + 2394)) + B_{\bar{N}}(2N + 2396 - B_{\bar{N}}(2N + 2393)) \\
&= B_{\bar{N}}(2N + 2396 - (N + 2751)) + B_{\bar{N}}(2N + 2396 - (2N + 1990)) + B_{\bar{N}}(2N + 2396 - (N + 2747)) \\
&= B_{\bar{N}}(N - 355) + B_{\bar{N}}(406) + B_{\bar{N}}(N - 351) = (N - 355) + 406 + (N - 351) = \mathbf{2N} - \mathbf{300} \\
&(N \geq 406)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2397}) &= B_{\bar{N}}(2N + 2397 - B_{\bar{N}}(2N + 2396)) + B_{\bar{N}}(2N + 2397 - B_{\bar{N}}(2N + 2395)) + B_{\bar{N}}(2N + 2397 - B_{\bar{N}}(2N + 2394)) \\
&= B_{\bar{N}}(2N + 2397 - (2N - 300)) + B_{\bar{N}}(2N + 2397 - (N + 2751)) + B_{\bar{N}}(2N + 2397 - (2N + 1990)) \\
&= B_{\bar{N}}(2697) + B_{\bar{N}}(N - 354) + B_{\bar{N}}(407) = 2697 + (N - 354) + 407 = \mathbf{N} + \mathbf{2750} \\
&(N \geq 2697)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2398}) &= B_{\bar{N}}(2N + 2398 - B_{\bar{N}}(2N + 2397)) + B_{\bar{N}}(2N + 2398 - B_{\bar{N}}(2N + 2396)) + B_{\bar{N}}(2N + 2398 - B_{\bar{N}}(2N + 2395)) \\
&= B_{\bar{N}}(2N + 2398 - (N + 2750)) + B_{\bar{N}}(2N + 2398 - (2N - 300)) + B_{\bar{N}}(2N + 2398 - (N + 2751)) \\
&= B_{\bar{N}}(N - 352) + B_{\bar{N}}(2698) + B_{\bar{N}}(N - 353) = (N - 352) + 2698 + (N - 353) = \mathbf{2N} + \mathbf{1993} \\
&(N \geq 2698)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2399}) &= B_{\bar{N}}(2N + 2399 - B_{\bar{N}}(2N + 2398)) + B_{\bar{N}}(2N + 2399 - B_{\bar{N}}(2N + 2397)) + B_{\bar{N}}(2N + 2399 - B_{\bar{N}}(2N + 2396)) \\
&= B_{\bar{N}}(2N + 2399 - (2N + 1993)) + B_{\bar{N}}(2N + 2399 - (N + 2750)) + B_{\bar{N}}(2N + 2399 - (2N - 300)) \\
&= B_{\bar{N}}(406) + B_{\bar{N}}(N - 351) + B_{\bar{N}}(2699) = 406 + (N - 351) + 2699 = \mathbf{N} + \mathbf{2754} \\
&(N \geq 2699)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2400}) &= B_{\bar{N}}(2N + 2400 - B_{\bar{N}}(2N + 2399)) + B_{\bar{N}}(2N + 2400 - B_{\bar{N}}(2N + 2398)) + B_{\bar{N}}(2N + 2400 - B_{\bar{N}}(2N + 2397)) \\
&= B_{\bar{N}}(2N + 2400 - (N + 2754)) + B_{\bar{N}}(2N + 2400 - (2N + 1993)) + B_{\bar{N}}(2N + 2400 - (N + 2750)) \\
&= B_{\bar{N}}(N - 354) + B_{\bar{N}}(407) + B_{\bar{N}}(N - 350) = (N - 354) + 407 + (N - 350) = \mathbf{2N} - \mathbf{297} \\
&(N \geq 407)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2401}) &= B_{\bar{N}}(2N + 2401 - B_{\bar{N}}(2N + 2400)) + B_{\bar{N}}(2N + 2401 - B_{\bar{N}}(2N + 2399)) + B_{\bar{N}}(2N + 2401 - B_{\bar{N}}(2N + 2398)) \\
&= B_{\bar{N}}(2N + 2401 - (2N - 297)) + B_{\bar{N}}(2N + 2401 - (N + 2754)) + B_{\bar{N}}(2N + 2401 - (2N + 1993)) \\
&= B_{\bar{N}}(2698) + B_{\bar{N}}(N - 353) + B_{\bar{N}}(408) = 2698 + (N - 353) + 408 = \mathbf{N} + \mathbf{2753} \\
&(N \geq 2698)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2402}) &= B_{\bar{N}}(2N + 2402 - B_{\bar{N}}(2N + 2401)) + B_{\bar{N}}(2N + 2402 - B_{\bar{N}}(2N + 2400)) + B_{\bar{N}}(2N + 2402 - B_{\bar{N}}(2N + 2399)) \\
&= B_{\bar{N}}(2N + 2402 - (N + 2753)) + B_{\bar{N}}(2N + 2402 - (2N - 297)) + B_{\bar{N}}(2N + 2402 - (N + 2754)) \\
&= B_{\bar{N}}(N - 351) + B_{\bar{N}}(2699) + B_{\bar{N}}(N - 352) = (N - 351) + 2699 + (N - 352) = \mathbf{2N} + \mathbf{1996} \\
&(N \geq 2699)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2403}) &= B_{\bar{N}}(2N + 2403 - B_{\bar{N}}(2N + 2402)) + B_{\bar{N}}(2N + 2403 - B_{\bar{N}}(2N + 2401)) + B_{\bar{N}}(2N + 2403 - B_{\bar{N}}(2N + 2400)) \\
&= B_{\bar{N}}(2N + 2403 - (2N + 1996)) + B_{\bar{N}}(2N + 2403 - (N + 2753)) + B_{\bar{N}}(2N + 2403 - (2N - 297)) \\
&= B_{\bar{N}}(407) + B_{\bar{N}}(N - 350) + B_{\bar{N}}(2700) = 407 + (N - 350) + 2700 = \mathbf{N} + \mathbf{2757} \\
&(N \geq 2700)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2404}) &= B_{\bar{N}}(2N + 2404 - B_{\bar{N}}(2N + 2403)) + B_{\bar{N}}(2N + 2404 - B_{\bar{N}}(2N + 2402)) + B_{\bar{N}}(2N + 2404 - B_{\bar{N}}(2N + 2401)) \\
&= B_{\bar{N}}(2N + 2404 - (N + 2757)) + B_{\bar{N}}(2N + 2404 - (2N + 1996)) + B_{\bar{N}}(2N + 2404 - (N + 2753)) \\
&= B_{\bar{N}}(N - 353) + B_{\bar{N}}(408) + B_{\bar{N}}(N - 349) = (N - 353) + 408 + (N - 349) = \mathbf{2N} - \mathbf{294} \\
&(N \geq 408)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2405}) &= B_{\bar{N}}(2N + 2405 - B_{\bar{N}}(2N + 2404)) + B_{\bar{N}}(2N + 2405 - B_{\bar{N}}(2N + 2403)) + B_{\bar{N}}(2N + 2405 - B_{\bar{N}}(2N + 2402)) \\
&= B_{\bar{N}}(2N + 2405 - (2N - 294)) + B_{\bar{N}}(2N + 2405 - (N + 2757)) + B_{\bar{N}}(2N + 2405 - (2N + 1996)) \\
&= B_{\bar{N}}(2699) + B_{\bar{N}}(N - 352) + B_{\bar{N}}(409) = 2699 + (N - 352) + 409 = \mathbf{N} + \mathbf{2756} \\
&(N \geq 2699)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2406}) &= B_{\bar{N}}(2N + 2406 - B_{\bar{N}}(2N + 2405)) + B_{\bar{N}}(2N + 2406 - B_{\bar{N}}(2N + 2404)) + B_{\bar{N}}(2N + 2406 - B_{\bar{N}}(2N + 2403)) \\
&= B_{\bar{N}}(2N + 2406 - (N + 2756)) + B_{\bar{N}}(2N + 2406 - (2N - 294)) + B_{\bar{N}}(2N + 2406 - (N + 2757)) \\
&= B_{\bar{N}}(N - 350) + B_{\bar{N}}(2700) + B_{\bar{N}}(N - 351) = (N - 350) + 2700 + (N - 351) = \mathbf{2N} + \mathbf{1999} \\
&(N \geq 2700)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2407}) &= B_{\bar{N}}(2N + 2407 - B_{\bar{N}}(2N + 2406)) + B_{\bar{N}}(2N + 2407 - B_{\bar{N}}(2N + 2405)) + B_{\bar{N}}(2N + 2407 - B_{\bar{N}}(2N + 2404)) \\
&= B_{\bar{N}}(2N + 2407 - (2N + 1999)) + B_{\bar{N}}(2N + 2407 - (N + 2756)) + B_{\bar{N}}(2N + 2407 - (2N - 294)) \\
&= B_{\bar{N}}(408) + B_{\bar{N}}(N - 349) + B_{\bar{N}}(2701) = 408 + (N - 349) + 2701 = \mathbf{N} + \mathbf{2760} \\
&(N \geq 2701)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2408}) &= B_{\bar{N}}(2N + 2408 - B_{\bar{N}}(2N + 2407)) + B_{\bar{N}}(2N + 2408 - B_{\bar{N}}(2N + 2406)) + B_{\bar{N}}(2N + 2408 - B_{\bar{N}}(2N + 2405)) \\
&= B_{\bar{N}}(2N + 2408 - (N + 2760)) + B_{\bar{N}}(2N + 2408 - (2N + 1999)) + B_{\bar{N}}(2N + 2408 - (N + 2756)) \\
&= B_{\bar{N}}(N - 352) + B_{\bar{N}}(409) + B_{\bar{N}}(N - 348) = (N - 352) + 409 + (N - 348) = \mathbf{2N} - \mathbf{291} \\
&(N \geq 409)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2409}) &= B_{\bar{N}}(2N + 2409 - B_{\bar{N}}(2N + 2408)) + B_{\bar{N}}(2N + 2409 - B_{\bar{N}}(2N + 2407)) + B_{\bar{N}}(2N + 2409 - B_{\bar{N}}(2N + 2406)) \\
&= B_{\bar{N}}(2N + 2409 - (2N - 291)) + B_{\bar{N}}(2N + 2409 - (N + 2760)) + B_{\bar{N}}(2N + 2409 - (2N + 1999)) \\
&= B_{\bar{N}}(2700) + B_{\bar{N}}(N - 351) + B_{\bar{N}}(410) = 2700 + (N - 351) + 410 = \mathbf{N} + \mathbf{2759} \\
&(N \geq 2700)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2410}) &= B_{\bar{N}}(2N + 2410 - B_{\bar{N}}(2N + 2409)) + B_{\bar{N}}(2N + 2410 - B_{\bar{N}}(2N + 2408)) + B_{\bar{N}}(2N + 2410 - B_{\bar{N}}(2N + 2407)) \\
&= B_{\bar{N}}(2N + 2410 - (N + 2759)) + B_{\bar{N}}(2N + 2410 - (2N - 291)) + B_{\bar{N}}(2N + 2410 - (N + 2760)) \\
&= B_{\bar{N}}(N - 349) + B_{\bar{N}}(2701) + B_{\bar{N}}(N - 350) = (N - 349) + 2701 + (N - 350) = \mathbf{2N} + \mathbf{2002} \\
&(N \geq 2701)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2411}) &= B_{\bar{N}}(2N + 2411 - B_{\bar{N}}(2N + 2410)) + B_{\bar{N}}(2N + 2411 - B_{\bar{N}}(2N + 2409)) + B_{\bar{N}}(2N + 2411 - B_{\bar{N}}(2N + 2408)) \\
&= B_{\bar{N}}(2N + 2411 - (2N + 2002)) + B_{\bar{N}}(2N + 2411 - (N + 2759)) + B_{\bar{N}}(2N + 2411 - (2N - 291)) \\
&= B_{\bar{N}}(409) + B_{\bar{N}}(N - 348) + B_{\bar{N}}(2702) = 409 + (N - 348) + 2702 = \mathbf{N} + \mathbf{2763} \\
&(N \geq 2702)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2412}) &= B_{\bar{N}}(2N + 2412 - B_{\bar{N}}(2N + 2411)) + B_{\bar{N}}(2N + 2412 - B_{\bar{N}}(2N + 2410)) + B_{\bar{N}}(2N + 2412 - B_{\bar{N}}(2N + 2409)) \\
&= B_{\bar{N}}(2N + 2412 - (N + 2763)) + B_{\bar{N}}(2N + 2412 - (2N + 2002)) + B_{\bar{N}}(2N + 2412 - (N + 2759)) \\
&= B_{\bar{N}}(N - 351) + B_{\bar{N}}(410) + B_{\bar{N}}(N - 347) = (N - 351) + 410 + (N - 347) = \mathbf{2N} - \mathbf{288} \\
&(N \geq 410)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2413}) &= B_{\bar{N}}(2N + 2413 - B_{\bar{N}}(2N + 2412)) + B_{\bar{N}}(2N + 2413 - B_{\bar{N}}(2N + 2411)) + B_{\bar{N}}(2N + 2413 - B_{\bar{N}}(2N + 2410)) \\
&= B_{\bar{N}}(2N + 2413 - (2N - 288)) + B_{\bar{N}}(2N + 2413 - (N + 2763)) + B_{\bar{N}}(2N + 2413 - (2N + 2002)) \\
&= B_{\bar{N}}(2701) + B_{\bar{N}}(N - 350) + B_{\bar{N}}(411) = 2701 + (N - 350) + 411 = \mathbf{N} + \mathbf{2762} \\
&(N \geq 2701)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2414}) &= B_{\bar{N}}(2N + 2414 - B_{\bar{N}}(2N + 2413)) + B_{\bar{N}}(2N + 2414 - B_{\bar{N}}(2N + 2412)) + B_{\bar{N}}(2N + 2414 - B_{\bar{N}}(2N + 2411)) \\
&= B_{\bar{N}}(2N + 2414 - (N + 2762)) + B_{\bar{N}}(2N + 2414 - (2N - 288)) + B_{\bar{N}}(2N + 2414 - (N + 2763)) \\
&= B_{\bar{N}}(N - 348) + B_{\bar{N}}(2702) + B_{\bar{N}}(N - 349) = (N - 348) + 2702 + (N - 349) = \mathbf{2N} + \mathbf{2005} \\
&(N \geq 2702)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2415}) &= B_{\bar{N}}(2N + 2415 - B_{\bar{N}}(2N + 2414)) + B_{\bar{N}}(2N + 2415 - B_{\bar{N}}(2N + 2413)) + B_{\bar{N}}(2N + 2415 - B_{\bar{N}}(2N + 2412)) \\
&= B_{\bar{N}}(2N + 2415 - (2N + 2005)) + B_{\bar{N}}(2N + 2415 - (N + 2762)) + B_{\bar{N}}(2N + 2415 - (2N - 288)) \\
&= B_{\bar{N}}(410) + B_{\bar{N}}(N - 347) + B_{\bar{N}}(2703) = 410 + (N - 347) + 2703 = \mathbf{N} + \mathbf{2766} \\
&(N \geq 2703)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2416}) &= B_{\bar{N}}(2N + 2416 - B_{\bar{N}}(2N + 2415)) + B_{\bar{N}}(2N + 2416 - B_{\bar{N}}(2N + 2414)) + B_{\bar{N}}(2N + 2416 - B_{\bar{N}}(2N + 2413)) \\
&= B_{\bar{N}}(2N + 2416 - (N + 2766)) + B_{\bar{N}}(2N + 2416 - (2N + 2005)) + B_{\bar{N}}(2N + 2416 - (N + 2762)) \\
&= B_{\bar{N}}(N - 350) + B_{\bar{N}}(411) + B_{\bar{N}}(N - 346) = (N - 350) + 411 + (N - 346) = \mathbf{2N} - \mathbf{285} \\
&(N \geq 411)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2417}) &= B_{\bar{N}}(2N + 2417 - B_{\bar{N}}(2N + 2416)) + B_{\bar{N}}(2N + 2417 - B_{\bar{N}}(2N + 2415)) + B_{\bar{N}}(2N + 2417 - B_{\bar{N}}(2N + 2414)) \\
&= B_{\bar{N}}(2N + 2417 - (2N - 285)) + B_{\bar{N}}(2N + 2417 - (N + 2766)) + B_{\bar{N}}(2N + 2417 - (2N + 2005)) \\
&= B_{\bar{N}}(2702) + B_{\bar{N}}(N - 349) + B_{\bar{N}}(412) = 2702 + (N - 349) + 412 = \mathbf{N} + \mathbf{2765} \\
&(N \geq 2702)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2418}) &= B_{\bar{N}}(2N + 2418 - B_{\bar{N}}(2N + 2417)) + B_{\bar{N}}(2N + 2418 - B_{\bar{N}}(2N + 2416)) + B_{\bar{N}}(2N + 2418 - B_{\bar{N}}(2N + 2415)) \\
&= B_{\bar{N}}(2N + 2418 - (N + 2765)) + B_{\bar{N}}(2N + 2418 - (2N - 285)) + B_{\bar{N}}(2N + 2418 - (N + 2766)) \\
&= B_{\bar{N}}(N - 347) + B_{\bar{N}}(2703) + B_{\bar{N}}(N - 348) = (N - 347) + 2703 + (N - 348) = \mathbf{2N} + \mathbf{2008} \\
&(N \geq 2703)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2419}) &= B_{\bar{N}}(2N + 2419 - B_{\bar{N}}(2N + 2418)) + B_{\bar{N}}(2N + 2419 - B_{\bar{N}}(2N + 2417)) + B_{\bar{N}}(2N + 2419 - B_{\bar{N}}(2N + 2416)) \\
&= B_{\bar{N}}(2N + 2419 - (2N + 2008)) + B_{\bar{N}}(2N + 2419 - (N + 2765)) + B_{\bar{N}}(2N + 2419 - (2N - 285)) \\
&= B_{\bar{N}}(411) + B_{\bar{N}}(N - 346) + B_{\bar{N}}(2704) = 411 + (N - 346) + 2704 = \mathbf{N} + \mathbf{2769} \\
&(N \geq 2704)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2420}) &= B_{\bar{N}}(2N + 2420 - B_{\bar{N}}(2N + 2419)) + B_{\bar{N}}(2N + 2420 - B_{\bar{N}}(2N + 2418)) + B_{\bar{N}}(2N + 2420 - B_{\bar{N}}(2N + 2417)) \\
&= B_{\bar{N}}(2N + 2420 - (N + 2769)) + B_{\bar{N}}(2N + 2420 - (2N + 2008)) + B_{\bar{N}}(2N + 2420 - (N + 2765)) \\
&= B_{\bar{N}}(N - 349) + B_{\bar{N}}(412) + B_{\bar{N}}(N - 345) = (N - 349) + 412 + (N - 345) = \mathbf{2N} - \mathbf{282} \\
&(N \geq 412)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2421}) &= B_{\bar{N}}(2N + 2421 - B_{\bar{N}}(2N + 2420)) + B_{\bar{N}}(2N + 2421 - B_{\bar{N}}(2N + 2419)) + B_{\bar{N}}(2N + 2421 - B_{\bar{N}}(2N + 2418)) \\
&= B_{\bar{N}}(2N + 2421 - (2N - 282)) + B_{\bar{N}}(2N + 2421 - (N + 2769)) + B_{\bar{N}}(2N + 2421 - (2N + 2008)) \\
&= B_{\bar{N}}(2703) + B_{\bar{N}}(N - 348) + B_{\bar{N}}(413) = 2703 + (N - 348) + 413 = \mathbf{N} + \mathbf{2768} \\
&(N \geq 2703)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2422}) &= B_{\bar{N}}(2N + 2422 - B_{\bar{N}}(2N + 2421)) + B_{\bar{N}}(2N + 2422 - B_{\bar{N}}(2N + 2420)) + B_{\bar{N}}(2N + 2422 - B_{\bar{N}}(2N + 2419)) \\
&= B_{\bar{N}}(2N + 2422 - (N + 2768)) + B_{\bar{N}}(2N + 2422 - (2N - 282)) + B_{\bar{N}}(2N + 2422 - (N + 2769)) \\
&= B_{\bar{N}}(N - 346) + B_{\bar{N}}(2704) + B_{\bar{N}}(N - 347) = (N - 346) + 2704 + (N - 347) = \mathbf{2N} + \mathbf{2011} \\
&(N \geq 2704)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2423}) &= B_{\bar{N}}(2N + 2423 - B_{\bar{N}}(2N + 2422)) + B_{\bar{N}}(2N + 2423 - B_{\bar{N}}(2N + 2421)) + B_{\bar{N}}(2N + 2423 - B_{\bar{N}}(2N + 2420)) \\
&= B_{\bar{N}}(2N + 2423 - (2N + 2011)) + B_{\bar{N}}(2N + 2423 - (N + 2768)) + B_{\bar{N}}(2N + 2423 - (2N - 282)) \\
&= B_{\bar{N}}(412) + B_{\bar{N}}(N - 345) + B_{\bar{N}}(2705) = 412 + (N - 345) + 2705 = \mathbf{N} + \mathbf{2772} \\
&(N \geq 2705)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2424}) &= B_{\bar{N}}(2N + 2424 - B_{\bar{N}}(2N + 2423)) + B_{\bar{N}}(2N + 2424 - B_{\bar{N}}(2N + 2422)) + B_{\bar{N}}(2N + 2424 - B_{\bar{N}}(2N + 2421)) \\
&= B_{\bar{N}}(2N + 2424 - (N + 2772)) + B_{\bar{N}}(2N + 2424 - (2N + 2011)) + B_{\bar{N}}(2N + 2424 - (N + 2768)) \\
&= B_{\bar{N}}(N - 348) + B_{\bar{N}}(413) + B_{\bar{N}}(N - 344) = (N - 348) + 413 + (N - 344) = \mathbf{2N} - \mathbf{279} \\
&(N \geq 413)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2425}) &= B_{\bar{N}}(2N + 2425 - B_{\bar{N}}(2N + 2424)) + B_{\bar{N}}(2N + 2425 - B_{\bar{N}}(2N + 2423)) + B_{\bar{N}}(2N + 2425 - B_{\bar{N}}(2N + 2422)) \\
&= B_{\bar{N}}(2N + 2425 - (2N - 279)) + B_{\bar{N}}(2N + 2425 - (N + 2772)) + B_{\bar{N}}(2N + 2425 - (2N + 2011)) \\
&= B_{\bar{N}}(2704) + B_{\bar{N}}(N - 347) + B_{\bar{N}}(414) = 2704 + (N - 347) + 414 = \mathbf{N} + \mathbf{2771} \\
&(N \geq 2704)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2426}) &= B_{\bar{N}}(2N + 2426 - B_{\bar{N}}(2N + 2425)) + B_{\bar{N}}(2N + 2426 - B_{\bar{N}}(2N + 2424)) + B_{\bar{N}}(2N + 2426 - B_{\bar{N}}(2N + 2423)) \\
&= B_{\bar{N}}(2N + 2426 - (N + 2771)) + B_{\bar{N}}(2N + 2426 - (2N - 279)) + B_{\bar{N}}(2N + 2426 - (N + 2772)) \\
&= B_{\bar{N}}(N - 345) + B_{\bar{N}}(2705) + B_{\bar{N}}(N - 346) = (N - 345) + 2705 + (N - 346) = \mathbf{2N} + \mathbf{2014} \\
&(N \geq 2705)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2427}) &= B_{\bar{N}}(2N + 2427 - B_{\bar{N}}(2N + 2426)) + B_{\bar{N}}(2N + 2427 - B_{\bar{N}}(2N + 2425)) + B_{\bar{N}}(2N + 2427 - B_{\bar{N}}(2N + 2424)) \\
&= B_{\bar{N}}(2N + 2427 - (2N + 2014)) + B_{\bar{N}}(2N + 2427 - (N + 2771)) + B_{\bar{N}}(2N + 2427 - (2N - 279)) \\
&= B_{\bar{N}}(413) + B_{\bar{N}}(N - 344) + B_{\bar{N}}(2706) = 413 + (N - 344) + 2706 = \mathbf{N} + \mathbf{2775} \\
&(N \geq 2706)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2428}) &= B_{\bar{N}}(2N + 2428 - B_{\bar{N}}(2N + 2427)) + B_{\bar{N}}(2N + 2428 - B_{\bar{N}}(2N + 2426)) + B_{\bar{N}}(2N + 2428 - B_{\bar{N}}(2N + 2425)) \\
&= B_{\bar{N}}(2N + 2428 - (N + 2775)) + B_{\bar{N}}(2N + 2428 - (2N + 2014)) + B_{\bar{N}}(2N + 2428 - (N + 2771)) \\
&= B_{\bar{N}}(N - 347) + B_{\bar{N}}(414) + B_{\bar{N}}(N - 343) = (N - 347) + 414 + (N - 343) = \mathbf{2N} - \mathbf{276} \\
&(N \geq 414)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2429}) &= B_{\bar{N}}(2N + 2429 - B_{\bar{N}}(2N + 2428)) + B_{\bar{N}}(2N + 2429 - B_{\bar{N}}(2N + 2427)) + B_{\bar{N}}(2N + 2429 - B_{\bar{N}}(2N + 2426)) \\
&= B_{\bar{N}}(2N + 2429 - (2N - 276)) + B_{\bar{N}}(2N + 2429 - (N + 2775)) + B_{\bar{N}}(2N + 2429 - (2N + 2014)) \\
&= B_{\bar{N}}(2705) + B_{\bar{N}}(N - 346) + B_{\bar{N}}(415) = 2705 + (N - 346) + 415 = \mathbf{N} + \mathbf{2774} \\
&(N \geq 2705)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2430}) &= B_{\bar{N}}(2N + 2430 - B_{\bar{N}}(2N + 2429)) + B_{\bar{N}}(2N + 2430 - B_{\bar{N}}(2N + 2428)) + B_{\bar{N}}(2N + 2430 - B_{\bar{N}}(2N + 2427)) \\
&= B_{\bar{N}}(2N + 2430 - (N + 2774)) + B_{\bar{N}}(2N + 2430 - (2N - 276)) + B_{\bar{N}}(2N + 2430 - (N + 2775)) \\
&= B_{\bar{N}}(N - 344) + B_{\bar{N}}(2706) + B_{\bar{N}}(N - 345) = (N - 344) + 2706 + (N - 345) = \mathbf{2N} + \mathbf{2017} \\
&(N \geq 2706)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2431}) &= B_{\bar{N}}(2N + 2431 - B_{\bar{N}}(2N + 2430)) + B_{\bar{N}}(2N + 2431 - B_{\bar{N}}(2N + 2429)) + B_{\bar{N}}(2N + 2431 - B_{\bar{N}}(2N + 2428)) \\
&= B_{\bar{N}}(2N + 2431 - (2N + 2017)) + B_{\bar{N}}(2N + 2431 - (N + 2774)) + B_{\bar{N}}(2N + 2431 - (2N - 276)) \\
&= B_{\bar{N}}(414) + B_{\bar{N}}(N - 343) + B_{\bar{N}}(2707) = 414 + (N - 343) + 2707 = \mathbf{N} + \mathbf{2778} \\
&(N \geq 2707)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2432}) &= B_{\bar{N}}(2N + 2432 - B_{\bar{N}}(2N + 2431)) + B_{\bar{N}}(2N + 2432 - B_{\bar{N}}(2N + 2430)) + B_{\bar{N}}(2N + 2432 - B_{\bar{N}}(2N + 2429)) \\
&= B_{\bar{N}}(2N + 2432 - (N + 2778)) + B_{\bar{N}}(2N + 2432 - (2N + 2017)) + B_{\bar{N}}(2N + 2432 - (N + 2774)) \\
&= B_{\bar{N}}(N - 346) + B_{\bar{N}}(415) + B_{\bar{N}}(N - 342) = (N - 346) + 415 + (N - 342) = \mathbf{2N} - \mathbf{273} \\
&(N \geq 415)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2433}) &= B_{\bar{N}}(2N + 2433 - B_{\bar{N}}(2N + 2432)) + B_{\bar{N}}(2N + 2433 - B_{\bar{N}}(2N + 2431)) + B_{\bar{N}}(2N + 2433 - B_{\bar{N}}(2N + 2430)) \\
&= B_{\bar{N}}(2N + 2433 - (2N - 273)) + B_{\bar{N}}(2N + 2433 - (N + 2778)) + B_{\bar{N}}(2N + 2433 - (2N + 2017)) \\
&= B_{\bar{N}}(2706) + B_{\bar{N}}(N - 345) + B_{\bar{N}}(416) = 2706 + (N - 345) + 416 = \mathbf{N} + \mathbf{2777} \\
&(N \geq 2706)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2434}) &= B_{\bar{N}}(2N + 2434 - B_{\bar{N}}(2N + 2433)) + B_{\bar{N}}(2N + 2434 - B_{\bar{N}}(2N + 2432)) + B_{\bar{N}}(2N + 2434 - B_{\bar{N}}(2N + 2431)) \\
&= B_{\bar{N}}(2N + 2434 - (N + 2777)) + B_{\bar{N}}(2N + 2434 - (2N - 273)) + B_{\bar{N}}(2N + 2434 - (N + 2778)) \\
&= B_{\bar{N}}(N - 343) + B_{\bar{N}}(2707) + B_{\bar{N}}(N - 344) = (N - 343) + 2707 + (N - 344) = \mathbf{2N} + \mathbf{2020} \\
&(N \geq 2707)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2435}) &= B_{\bar{N}}(2N + 2435 - B_{\bar{N}}(2N + 2434)) + B_{\bar{N}}(2N + 2435 - B_{\bar{N}}(2N + 2433)) + B_{\bar{N}}(2N + 2435 - B_{\bar{N}}(2N + 2432)) \\
&= B_{\bar{N}}(2N + 2435 - (2N + 2020)) + B_{\bar{N}}(2N + 2435 - (N + 2777)) + B_{\bar{N}}(2N + 2435 - (2N - 273)) \\
&= B_{\bar{N}}(415) + B_{\bar{N}}(N - 342) + B_{\bar{N}}(2708) = 415 + (N - 342) + 2708 = \mathbf{N} + \mathbf{2781} \\
&(N \geq 2708)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2436}) &= B_{\bar{N}}(2N + 2436 - B_{\bar{N}}(2N + 2435)) + B_{\bar{N}}(2N + 2436 - B_{\bar{N}}(2N + 2434)) + B_{\bar{N}}(2N + 2436 - B_{\bar{N}}(2N + 2433)) \\
&= B_{\bar{N}}(2N + 2436 - (N + 2781)) + B_{\bar{N}}(2N + 2436 - (2N + 2020)) + B_{\bar{N}}(2N + 2436 - (N + 2777)) \\
&= B_{\bar{N}}(N - 345) + B_{\bar{N}}(416) + B_{\bar{N}}(N - 341) = (N - 345) + 416 + (N - 341) = \mathbf{2N} - \mathbf{270} \\
&(N \geq 416)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2437}) &= B_{\bar{N}}(2N + 2437 - B_{\bar{N}}(2N + 2436)) + B_{\bar{N}}(2N + 2437 - B_{\bar{N}}(2N + 2435)) + B_{\bar{N}}(2N + 2437 - B_{\bar{N}}(2N + 2434)) \\
&= B_{\bar{N}}(2N + 2437 - (2N - 270)) + B_{\bar{N}}(2N + 2437 - (N + 2781)) + B_{\bar{N}}(2N + 2437 - (2N + 2020)) \\
&= B_{\bar{N}}(2707) + B_{\bar{N}}(N - 344) + B_{\bar{N}}(417) = 2707 + (N - 344) + 417 = \mathbf{N} + \mathbf{2780} \\
&(N \geq 2707)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2438}) &= B_{\bar{N}}(2N + 2438 - B_{\bar{N}}(2N + 2437)) + B_{\bar{N}}(2N + 2438 - B_{\bar{N}}(2N + 2436)) + B_{\bar{N}}(2N + 2438 - B_{\bar{N}}(2N + 2435)) \\
&= B_{\bar{N}}(2N + 2438 - (N + 2780)) + B_{\bar{N}}(2N + 2438 - (2N - 270)) + B_{\bar{N}}(2N + 2438 - (N + 2781)) \\
&= B_{\bar{N}}(N - 342) + B_{\bar{N}}(2708) + B_{\bar{N}}(N - 343) = (N - 342) + 2708 + (N - 343) = \mathbf{2N} + \mathbf{2023} \\
&(N \geq 2708)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2439}) &= B_{\bar{N}}(2N + 2439 - B_{\bar{N}}(2N + 2438)) + B_{\bar{N}}(2N + 2439 - B_{\bar{N}}(2N + 2437)) + B_{\bar{N}}(2N + 2439 - B_{\bar{N}}(2N + 2436)) \\
&= B_{\bar{N}}(2N + 2439 - (2N + 2023)) + B_{\bar{N}}(2N + 2439 - (N + 2780)) + B_{\bar{N}}(2N + 2439 - (2N - 270)) \\
&= B_{\bar{N}}(416) + B_{\bar{N}}(N - 341) + B_{\bar{N}}(2709) = 416 + (N - 341) + 2709 = \mathbf{N} + \mathbf{2784} \\
&(N \geq 2709)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2440}) &= B_{\bar{N}}(2N + 2440 - B_{\bar{N}}(2N + 2439)) + B_{\bar{N}}(2N + 2440 - B_{\bar{N}}(2N + 2438)) + B_{\bar{N}}(2N + 2440 - B_{\bar{N}}(2N + 2437)) \\
&= B_{\bar{N}}(2N + 2440 - (N + 2784)) + B_{\bar{N}}(2N + 2440 - (2N + 2023)) + B_{\bar{N}}(2N + 2440 - (N + 2780)) \\
&= B_{\bar{N}}(N - 344) + B_{\bar{N}}(417) + B_{\bar{N}}(N - 340) = (N - 344) + 417 + (N - 340) = \mathbf{2N} - \mathbf{267} \\
&(N \geq 417)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2441}) &= B_{\bar{N}}(2N + 2441 - B_{\bar{N}}(2N + 2440)) + B_{\bar{N}}(2N + 2441 - B_{\bar{N}}(2N + 2439)) + B_{\bar{N}}(2N + 2441 - B_{\bar{N}}(2N + 2438)) \\
&= B_{\bar{N}}(2N + 2441 - (2N - 267)) + B_{\bar{N}}(2N + 2441 - (N + 2784)) + B_{\bar{N}}(2N + 2441 - (2N + 2023)) \\
&= B_{\bar{N}}(2708) + B_{\bar{N}}(N - 343) + B_{\bar{N}}(418) = 2708 + (N - 343) + 418 = \mathbf{N} + \mathbf{2783} \\
&(N \geq 2708)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2442}) &= B_{\bar{N}}(2N + 2442 - B_{\bar{N}}(2N + 2441)) + B_{\bar{N}}(2N + 2442 - B_{\bar{N}}(2N + 2440)) + B_{\bar{N}}(2N + 2442 - B_{\bar{N}}(2N + 2439)) \\
&= B_{\bar{N}}(2N + 2442 - (N + 2783)) + B_{\bar{N}}(2N + 2442 - (2N - 267)) + B_{\bar{N}}(2N + 2442 - (N + 2784)) \\
&= B_{\bar{N}}(N - 341) + B_{\bar{N}}(2709) + B_{\bar{N}}(N - 342) = (N - 341) + 2709 + (N - 342) = \mathbf{2N} + \mathbf{2026} \\
&(N \geq 2709)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2443}) &= B_{\bar{N}}(2N + 2443 - B_{\bar{N}}(2N + 2442)) + B_{\bar{N}}(2N + 2443 - B_{\bar{N}}(2N + 2441)) + B_{\bar{N}}(2N + 2443 - B_{\bar{N}}(2N + 2440)) \\
&= B_{\bar{N}}(2N + 2443 - (2N + 2026)) + B_{\bar{N}}(2N + 2443 - (N + 2783)) + B_{\bar{N}}(2N + 2443 - (2N - 267)) \\
&= B_{\bar{N}}(417) + B_{\bar{N}}(N - 340) + B_{\bar{N}}(2710) = 417 + (N - 340) + 2710 = \mathbf{N} + \mathbf{2787} \\
&(N \geq 2710)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2444}) &= B_{\bar{N}}(2N + 2444 - B_{\bar{N}}(2N + 2443)) + B_{\bar{N}}(2N + 2444 - B_{\bar{N}}(2N + 2442)) + B_{\bar{N}}(2N + 2444 - B_{\bar{N}}(2N + 2441)) \\
&= B_{\bar{N}}(2N + 2444 - (N + 2787)) + B_{\bar{N}}(2N + 2444 - (2N + 2026)) + B_{\bar{N}}(2N + 2444 - (N + 2783)) \\
&= B_{\bar{N}}(N - 343) + B_{\bar{N}}(418) + B_{\bar{N}}(N - 339) = (N - 343) + 418 + (N - 339) = \mathbf{2N} - \mathbf{264} \\
&(N \geq 418)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2445}) &= B_{\bar{N}}(2N + 2445 - B_{\bar{N}}(2N + 2444)) + B_{\bar{N}}(2N + 2445 - B_{\bar{N}}(2N + 2443)) + B_{\bar{N}}(2N + 2445 - B_{\bar{N}}(2N + 2442)) \\
&= B_{\bar{N}}(2N + 2445 - (2N - 264)) + B_{\bar{N}}(2N + 2445 - (N + 2787)) + B_{\bar{N}}(2N + 2445 - (2N + 2026)) \\
&= B_{\bar{N}}(2709) + B_{\bar{N}}(N - 342) + B_{\bar{N}}(419) = 2709 + (N - 342) + 419 = \mathbf{N} + \mathbf{2786} \\
&(N \geq 2709)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2446}) &= B_{\bar{N}}(2N + 2446 - B_{\bar{N}}(2N + 2445)) + B_{\bar{N}}(2N + 2446 - B_{\bar{N}}(2N + 2444)) + B_{\bar{N}}(2N + 2446 - B_{\bar{N}}(2N + 2443)) \\
&= B_{\bar{N}}(2N + 2446 - (N + 2786)) + B_{\bar{N}}(2N + 2446 - (2N - 264)) + B_{\bar{N}}(2N + 2446 - (N + 2787)) \\
&= B_{\bar{N}}(N - 340) + B_{\bar{N}}(2710) + B_{\bar{N}}(N - 341) = (N - 340) + 2710 + (N - 341) = \mathbf{2N} + \mathbf{2029} \\
&(N \geq 2710)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2447}) &= B_{\bar{N}}(2N + 2447 - B_{\bar{N}}(2N + 2446)) + B_{\bar{N}}(2N + 2447 - B_{\bar{N}}(2N + 2445)) + B_{\bar{N}}(2N + 2447 - B_{\bar{N}}(2N + 2444)) \\
&= B_{\bar{N}}(2N + 2447 - (2N + 2029)) + B_{\bar{N}}(2N + 2447 - (N + 2786)) + B_{\bar{N}}(2N + 2447 - (2N - 264)) \\
&= B_{\bar{N}}(418) + B_{\bar{N}}(N - 339) + B_{\bar{N}}(2711) = 418 + (N - 339) + 2711 = \mathbf{N} + \mathbf{2790} \\
&(N \geq 2711)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2448}) &= B_{\bar{N}}(2N + 2448 - B_{\bar{N}}(2N + 2447)) + B_{\bar{N}}(2N + 2448 - B_{\bar{N}}(2N + 2446)) + B_{\bar{N}}(2N + 2448 - B_{\bar{N}}(2N + 2445)) \\
&= B_{\bar{N}}(2N + 2448 - (N + 2790)) + B_{\bar{N}}(2N + 2448 - (2N + 2029)) + B_{\bar{N}}(2N + 2448 - (N + 2786)) \\
&= B_{\bar{N}}(N - 342) + B_{\bar{N}}(419) + B_{\bar{N}}(N - 338) = (N - 342) + 419 + (N - 338) = \mathbf{2N} - \mathbf{261} \\
&(N \geq 419)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2449}) &= B_{\bar{N}}(2N + 2449 - B_{\bar{N}}(2N + 2448)) + B_{\bar{N}}(2N + 2449 - B_{\bar{N}}(2N + 2447)) + B_{\bar{N}}(2N + 2449 - B_{\bar{N}}(2N + 2446)) \\
&= B_{\bar{N}}(2N + 2449 - (2N - 261)) + B_{\bar{N}}(2N + 2449 - (N + 2790)) + B_{\bar{N}}(2N + 2449 - (2N + 2029)) \\
&= B_{\bar{N}}(2710) + B_{\bar{N}}(N - 341) + B_{\bar{N}}(420) = 2710 + (N - 341) + 420 = \mathbf{N} + \mathbf{2789} \\
&(N \geq 2710)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2450}) &= B_{\bar{N}}(2N + 2450 - B_{\bar{N}}(2N + 2449)) + B_{\bar{N}}(2N + 2450 - B_{\bar{N}}(2N + 2448)) + B_{\bar{N}}(2N + 2450 - B_{\bar{N}}(2N + 2447)) \\
&= B_{\bar{N}}(2N + 2450 - (N + 2789)) + B_{\bar{N}}(2N + 2450 - (2N - 261)) + B_{\bar{N}}(2N + 2450 - (N + 2790)) \\
&= B_{\bar{N}}(N - 339) + B_{\bar{N}}(2711) + B_{\bar{N}}(N - 340) = (N - 339) + 2711 + (N - 340) = \mathbf{2N} + \mathbf{2032} \\
&(N \geq 2711)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2451}) &= B_{\bar{N}}(2N + 2451 - B_{\bar{N}}(2N + 2450)) + B_{\bar{N}}(2N + 2451 - B_{\bar{N}}(2N + 2449)) + B_{\bar{N}}(2N + 2451 - B_{\bar{N}}(2N + 2448)) \\
&= B_{\bar{N}}(2N + 2451 - (2N + 2032)) + B_{\bar{N}}(2N + 2451 - (N + 2789)) + B_{\bar{N}}(2N + 2451 - (2N - 261)) \\
&= B_{\bar{N}}(419) + B_{\bar{N}}(N - 338) + B_{\bar{N}}(2712) = 419 + (N - 338) + 2712 = \mathbf{N} + \mathbf{2793} \\
&(N \geq 2712)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2452}) &= B_{\bar{N}}(2N + 2452 - B_{\bar{N}}(2N + 2451)) + B_{\bar{N}}(2N + 2452 - B_{\bar{N}}(2N + 2450)) + B_{\bar{N}}(2N + 2452 - B_{\bar{N}}(2N + 2449)) \\
&= B_{\bar{N}}(2N + 2452 - (N + 2793)) + B_{\bar{N}}(2N + 2452 - (2N + 2032)) + B_{\bar{N}}(2N + 2452 - (N + 2789)) \\
&= B_{\bar{N}}(N - 341) + B_{\bar{N}}(420) + B_{\bar{N}}(N - 337) = (N - 341) + 420 + (N - 337) = \mathbf{2N} - \mathbf{258} \\
&(N \geq 420)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2453}) &= B_{\bar{N}}(2N + 2453 - B_{\bar{N}}(2N + 2452)) + B_{\bar{N}}(2N + 2453 - B_{\bar{N}}(2N + 2451)) + B_{\bar{N}}(2N + 2453 - B_{\bar{N}}(2N + 2450)) \\
&= B_{\bar{N}}(2N + 2453 - (2N - 258)) + B_{\bar{N}}(2N + 2453 - (N + 2793)) + B_{\bar{N}}(2N + 2453 - (2N + 2032)) \\
&= B_{\bar{N}}(2711) + B_{\bar{N}}(N - 340) + B_{\bar{N}}(421) = 2711 + (N - 340) + 421 = \mathbf{N} + \mathbf{2792} \\
&(N \geq 2711)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2454}) &= B_{\bar{N}}(2N + 2454 - B_{\bar{N}}(2N + 2453)) + B_{\bar{N}}(2N + 2454 - B_{\bar{N}}(2N + 2452)) + B_{\bar{N}}(2N + 2454 - B_{\bar{N}}(2N + 2451)) \\
&= B_{\bar{N}}(2N + 2454 - (N + 2792)) + B_{\bar{N}}(2N + 2454 - (2N - 258)) + B_{\bar{N}}(2N + 2454 - (N + 2793)) \\
&= B_{\bar{N}}(N - 338) + B_{\bar{N}}(2712) + B_{\bar{N}}(N - 339) = (N - 338) + 2712 + (N - 339) = \mathbf{2N} + \mathbf{2035} \\
&(N \geq 2712)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2455}) &= B_{\bar{N}}(2N + 2455 - B_{\bar{N}}(2N + 2454)) + B_{\bar{N}}(2N + 2455 - B_{\bar{N}}(2N + 2453)) + B_{\bar{N}}(2N + 2455 - B_{\bar{N}}(2N + 2452)) \\
&= B_{\bar{N}}(2N + 2455 - (2N + 2035)) + B_{\bar{N}}(2N + 2455 - (N + 2792)) + B_{\bar{N}}(2N + 2455 - (2N - 258)) \\
&= B_{\bar{N}}(420) + B_{\bar{N}}(N - 337) + B_{\bar{N}}(2713) = 420 + (N - 337) + 2713 = \mathbf{N} + \mathbf{2796} \\
&(N \geq 2713)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2456}) &= B_{\bar{N}}(2N + 2456 - B_{\bar{N}}(2N + 2455)) + B_{\bar{N}}(2N + 2456 - B_{\bar{N}}(2N + 2454)) + B_{\bar{N}}(2N + 2456 - B_{\bar{N}}(2N + 2453)) \\
&= B_{\bar{N}}(2N + 2456 - (N + 2796)) + B_{\bar{N}}(2N + 2456 - (2N + 2035)) + B_{\bar{N}}(2N + 2456 - (N + 2792)) \\
&= B_{\bar{N}}(N - 340) + B_{\bar{N}}(421) + B_{\bar{N}}(N - 336) = (N - 340) + 421 + (N - 336) = \mathbf{2N} - \mathbf{255} \\
&(N \geq 421)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2457}) &= B_{\bar{N}}(2N + 2457 - B_{\bar{N}}(2N + 2456)) + B_{\bar{N}}(2N + 2457 - B_{\bar{N}}(2N + 2455)) + B_{\bar{N}}(2N + 2457 - B_{\bar{N}}(2N + 2454)) \\
&= B_{\bar{N}}(2N + 2457 - (2N - 255)) + B_{\bar{N}}(2N + 2457 - (N + 2796)) + B_{\bar{N}}(2N + 2457 - (2N + 2035)) \\
&= B_{\bar{N}}(2712) + B_{\bar{N}}(N - 339) + B_{\bar{N}}(422) = 2712 + (N - 339) + 422 = \mathbf{N} + \mathbf{2795} \\
&(N \geq 2712)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2458}) &= B_{\bar{N}}(2N + 2458 - B_{\bar{N}}(2N + 2457)) + B_{\bar{N}}(2N + 2458 - B_{\bar{N}}(2N + 2456)) + B_{\bar{N}}(2N + 2458 - B_{\bar{N}}(2N + 2455)) \\
&= B_{\bar{N}}(2N + 2458 - (N + 2795)) + B_{\bar{N}}(2N + 2458 - (2N - 255)) + B_{\bar{N}}(2N + 2458 - (N + 2796)) \\
&= B_{\bar{N}}(N - 337) + B_{\bar{N}}(2713) + B_{\bar{N}}(N - 338) = (N - 337) + 2713 + (N - 338) = \mathbf{2N} + \mathbf{2038} \\
&(N \geq 2713)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2459}) &= B_{\bar{N}}(2N + 2459 - B_{\bar{N}}(2N + 2458)) + B_{\bar{N}}(2N + 2459 - B_{\bar{N}}(2N + 2457)) + B_{\bar{N}}(2N + 2459 - B_{\bar{N}}(2N + 2456)) \\
&= B_{\bar{N}}(2N + 2459 - (2N + 2038)) + B_{\bar{N}}(2N + 2459 - (N + 2795)) + B_{\bar{N}}(2N + 2459 - (2N - 255)) \\
&= B_{\bar{N}}(421) + B_{\bar{N}}(N - 336) + B_{\bar{N}}(2714) = 421 + (N - 336) + 2714 = \mathbf{N} + \mathbf{2799} \\
&(N \geq 2714)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2460}) &= B_{\bar{N}}(2N + 2460 - B_{\bar{N}}(2N + 2459)) + B_{\bar{N}}(2N + 2460 - B_{\bar{N}}(2N + 2458)) + B_{\bar{N}}(2N + 2460 - B_{\bar{N}}(2N + 2457)) \\
&= B_{\bar{N}}(2N + 2460 - (N + 2799)) + B_{\bar{N}}(2N + 2460 - (2N + 2038)) + B_{\bar{N}}(2N + 2460 - (N + 2795)) \\
&= B_{\bar{N}}(N - 339) + B_{\bar{N}}(422) + B_{\bar{N}}(N - 335) = (N - 339) + 422 + (N - 335) = \mathbf{2N} - \mathbf{252} \\
&(N \geq 422)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2461}) &= B_{\bar{N}}(2N + 2461 - B_{\bar{N}}(2N + 2460)) + B_{\bar{N}}(2N + 2461 - B_{\bar{N}}(2N + 2459)) + B_{\bar{N}}(2N + 2461 - B_{\bar{N}}(2N + 2458)) \\
&= B_{\bar{N}}(2N + 2461 - (2N - 252)) + B_{\bar{N}}(2N + 2461 - (N + 2799)) + B_{\bar{N}}(2N + 2461 - (2N + 2038)) \\
&= B_{\bar{N}}(2713) + B_{\bar{N}}(N - 338) + B_{\bar{N}}(423) = 2713 + (N - 338) + 423 = \mathbf{N} + \mathbf{2798} \\
&(N \geq 2713)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2462}) &= B_{\bar{N}}(2N + 2462 - B_{\bar{N}}(2N + 2461)) + B_{\bar{N}}(2N + 2462 - B_{\bar{N}}(2N + 2460)) + B_{\bar{N}}(2N + 2462 - B_{\bar{N}}(2N + 2459)) \\
&= B_{\bar{N}}(2N + 2462 - (N + 2798)) + B_{\bar{N}}(2N + 2462 - (2N - 252)) + B_{\bar{N}}(2N + 2462 - (N + 2799)) \\
&= B_{\bar{N}}(N - 336) + B_{\bar{N}}(2714) + B_{\bar{N}}(N - 337) = (N - 336) + 2714 + (N - 337) = \mathbf{2N} + \mathbf{2041} \\
&(N \geq 2714)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2463}) &= B_{\bar{N}}(2N + 2463 - B_{\bar{N}}(2N + 2462)) + B_{\bar{N}}(2N + 2463 - B_{\bar{N}}(2N + 2461)) + B_{\bar{N}}(2N + 2463 - B_{\bar{N}}(2N + 2460)) \\
&= B_{\bar{N}}(2N + 2463 - (2N + 2041)) + B_{\bar{N}}(2N + 2463 - (N + 2798)) + B_{\bar{N}}(2N + 2463 - (2N - 252)) \\
&= B_{\bar{N}}(422) + B_{\bar{N}}(N - 335) + B_{\bar{N}}(2715) = 422 + (N - 335) + 2715 = \mathbf{N} + \mathbf{2802} \\
&(N \geq 2715)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2464}) &= B_{\bar{N}}(2N + 2464 - B_{\bar{N}}(2N + 2463)) + B_{\bar{N}}(2N + 2464 - B_{\bar{N}}(2N + 2462)) + B_{\bar{N}}(2N + 2464 - B_{\bar{N}}(2N + 2461)) \\
&= B_{\bar{N}}(2N + 2464 - (N + 2802)) + B_{\bar{N}}(2N + 2464 - (2N + 2041)) + B_{\bar{N}}(2N + 2464 - (N + 2798)) \\
&= B_{\bar{N}}(N - 338) + B_{\bar{N}}(423) + B_{\bar{N}}(N - 334) = (N - 338) + 423 + (N - 334) = \mathbf{2N} - \mathbf{249} \\
&(N \geq 423)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2465}) &= B_{\bar{N}}(2N + 2465 - B_{\bar{N}}(2N + 2464)) + B_{\bar{N}}(2N + 2465 - B_{\bar{N}}(2N + 2463)) + B_{\bar{N}}(2N + 2465 - B_{\bar{N}}(2N + 2462)) \\
&= B_{\bar{N}}(2N + 2465 - (2N - 249)) + B_{\bar{N}}(2N + 2465 - (N + 2802)) + B_{\bar{N}}(2N + 2465 - (2N + 2041)) \\
&= B_{\bar{N}}(2714) + B_{\bar{N}}(N - 337) + B_{\bar{N}}(424) = 2714 + (N - 337) + 424 = \mathbf{N} + \mathbf{2801} \\
&(N \geq 2714)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2466}) &= B_{\bar{N}}(2N + 2466 - B_{\bar{N}}(2N + 2465)) + B_{\bar{N}}(2N + 2466 - B_{\bar{N}}(2N + 2464)) + B_{\bar{N}}(2N + 2466 - B_{\bar{N}}(2N + 2463)) \\
&= B_{\bar{N}}(2N + 2466 - (N + 2801)) + B_{\bar{N}}(2N + 2466 - (2N - 249)) + B_{\bar{N}}(2N + 2466 - (N + 2802)) \\
&= B_{\bar{N}}(N - 335) + B_{\bar{N}}(2715) + B_{\bar{N}}(N - 336) = (N - 335) + 2715 + (N - 336) = \mathbf{2N} + \mathbf{2044} \\
&(N \geq 2715)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{2467}) &= B_{\bar{N}}(2N + 2467 - B_{\bar{N}}(2N + 2466)) + B_{\bar{N}}(2N + 2467 - B_{\bar{N}}(2N + 2465)) + B_{\bar{N}}(2N + 2467 - B_{\bar{N}}(2N + 2464)) \\
&= B_{\bar{N}}(2N + 2467 - (2N + 2044)) + B_{\bar{N}}(2N + 2467 - (N + 2801)) + B_{\bar{N}}(2N + 2467 - (2N - 249)) \\
&= B_{\bar{N}}(423) + B_{\bar{N}}(N - 334) + B_{\bar{N}}(2716) = 423 + (N - 334) + 2716 = \mathbf{N} + \mathbf{2805} \\
&(N \geq 2716)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{2468}) &= B_{\bar{N}}(2N + 2468 - B_{\bar{N}}(2N + 2467)) + B_{\bar{N}}(2N + 2468 - B_{\bar{N}}(2N + 2466)) + B_{\bar{N}}(2N + 2468 - B_{\bar{N}}(2N + 2465)) \\
&= B_{\bar{N}}(2N + 2468 - (N + 2805)) + B_{\bar{N}}(2N + 2468 - (2N + 2044)) + B_{\bar{N}}(2N + 2468 - (N + 2801)) \\
&= B_{\bar{N}}(N - 337) + B_{\bar{N}}(424) + B_{\bar{N}}(N - 333) = (N - 337) + 424 + (N - 333) = \mathbf{2N} - \mathbf{246} \\
&(N \geq 424)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{2469}) &= B_{\bar{N}}(2N + 2469 - B_{\bar{N}}(2N + 2468)) + B_{\bar{N}}(2N + 2469 - B_{\bar{N}}(2N + 2467)) + B_{\bar{N}}(2N + 2469 - B_{\bar{N}}(2N + 2466)) \\
&= B_{\bar{N}}(2N + 2469 - (2N - 246)) + B_{\bar{N}}(2N + 2469 - (N + 2805)) + B_{\bar{N}}(2N + 2469 - (2N + 2044)) \\
&= B_{\bar{N}}(2715) + B_{\bar{N}}(N - 336) + B_{\bar{N}}(425) = 2715 + (N - 336) + 425 = \mathbf{N} + \mathbf{2804} \\
&(N \geq 2715)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{2470}) &= B_{\bar{N}}(2N + 2470 - B_{\bar{N}}(2N + 2469)) + B_{\bar{N}}(2N + 2470 - B_{\bar{N}}(2N + 2468)) + B_{\bar{N}}(2N + 2470 - B_{\bar{N}}(2N + 2467)) \\
&= B_{\bar{N}}(2N + 2470 - (N + 2804)) + B_{\bar{N}}(2N + 2470 - (2N - 246)) + B_{\bar{N}}(2N + 2470 - (N + 2805)) \\
&= B_{\bar{N}}(N - 334) + B_{\bar{N}}(2716) + B_{\bar{N}}(N - 335) = (N - 334) + 2716 + (N - 335) = \mathbf{2N} + \mathbf{2047} \\
&(N \geq 2716)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{2471}) &= B_{\bar{N}}(2N + 2471 - B_{\bar{N}}(2N + 2470)) + B_{\bar{N}}(2N + 2471 - B_{\bar{N}}(2N + 2469)) + B_{\bar{N}}(2N + 2471 - B_{\bar{N}}(2N + 2468)) \\
&= B_{\bar{N}}(2N + 2471 - (2N + 2047)) + B_{\bar{N}}(2N + 2471 - (N + 2804)) + B_{\bar{N}}(2N + 2471 - (2N - 246)) \\
&= B_{\bar{N}}(424) + B_{\bar{N}}(N - 333) + B_{\bar{N}}(2717) = 424 + (N - 333) + 2717 = \mathbf{N} + \mathbf{2808} \\
&(N \geq 2717)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2472}) &= B_{\bar{N}}(2N + 2472 - B_{\bar{N}}(2N + 2471)) + B_{\bar{N}}(2N + 2472 - B_{\bar{N}}(2N + 2470)) + B_{\bar{N}}(2N + 2472 - B_{\bar{N}}(2N + 2469)) \\
&= B_{\bar{N}}(2N + 2472 - (N + 2808)) + B_{\bar{N}}(2N + 2472 - (2N + 2047)) + B_{\bar{N}}(2N + 2472 - (N + 2804)) \\
&= B_{\bar{N}}(N - 336) + B_{\bar{N}}(425) + B_{\bar{N}}(N - 332) = (N - 336) + 425 + (N - 332) = \mathbf{2N} - \mathbf{243} \\
&(N \geq 425)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2473}) &= B_{\bar{N}}(2N + 2473 - B_{\bar{N}}(2N + 2472)) + B_{\bar{N}}(2N + 2473 - B_{\bar{N}}(2N + 2471)) + B_{\bar{N}}(2N + 2473 - B_{\bar{N}}(2N + 2470)) \\
&= B_{\bar{N}}(2N + 2473 - (2N - 243)) + B_{\bar{N}}(2N + 2473 - (N + 2808)) + B_{\bar{N}}(2N + 2473 - (2N + 2047)) \\
&= B_{\bar{N}}(2716) + B_{\bar{N}}(N - 335) + B_{\bar{N}}(426) = 2716 + (N - 335) + 426 = \mathbf{N} + \mathbf{2807} \\
&(N \geq 2716)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2474}) &= B_{\bar{N}}(2N + 2474 - B_{\bar{N}}(2N + 2473)) + B_{\bar{N}}(2N + 2474 - B_{\bar{N}}(2N + 2472)) + B_{\bar{N}}(2N + 2474 - B_{\bar{N}}(2N + 2471)) \\
&= B_{\bar{N}}(2N + 2474 - (N + 2807)) + B_{\bar{N}}(2N + 2474 - (2N - 243)) + B_{\bar{N}}(2N + 2474 - (N + 2808)) \\
&= B_{\bar{N}}(N - 333) + B_{\bar{N}}(2717) + B_{\bar{N}}(N - 334) = (N - 333) + 2717 + (N - 334) = \mathbf{2N} + \mathbf{2050} \\
&(N \geq 2717)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2475}) &= B_{\bar{N}}(2N + 2475 - B_{\bar{N}}(2N + 2474)) + B_{\bar{N}}(2N + 2475 - B_{\bar{N}}(2N + 2473)) + B_{\bar{N}}(2N + 2475 - B_{\bar{N}}(2N + 2472)) \\
&= B_{\bar{N}}(2N + 2475 - (2N + 2050)) + B_{\bar{N}}(2N + 2475 - (N + 2807)) + B_{\bar{N}}(2N + 2475 - (2N - 243)) \\
&= B_{\bar{N}}(425) + B_{\bar{N}}(N - 332) + B_{\bar{N}}(2718) = 425 + (N - 332) + 2718 = \mathbf{N} + \mathbf{2811} \\
&(N \geq 2718)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2476}) &= B_{\bar{N}}(2N + 2476 - B_{\bar{N}}(2N + 2475)) + B_{\bar{N}}(2N + 2476 - B_{\bar{N}}(2N + 2474)) + B_{\bar{N}}(2N + 2476 - B_{\bar{N}}(2N + 2473)) \\
&= B_{\bar{N}}(2N + 2476 - (N + 2811)) + B_{\bar{N}}(2N + 2476 - (2N + 2050)) + B_{\bar{N}}(2N + 2476 - (N + 2807)) \\
&= B_{\bar{N}}(N - 335) + B_{\bar{N}}(426) + B_{\bar{N}}(N - 331) = (N - 335) + 426 + (N - 331) = \mathbf{2N} - \mathbf{240} \\
&(N \geq 426)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2477}) &= B_{\bar{N}}(2N + 2477 - B_{\bar{N}}(2N + 2476)) + B_{\bar{N}}(2N + 2477 - B_{\bar{N}}(2N + 2475)) + B_{\bar{N}}(2N + 2477 - B_{\bar{N}}(2N + 2474)) \\
&= B_{\bar{N}}(2N + 2477 - (2N - 240)) + B_{\bar{N}}(2N + 2477 - (N + 2811)) + B_{\bar{N}}(2N + 2477 - (2N + 2050)) \\
&= B_{\bar{N}}(2717) + B_{\bar{N}}(N - 334) + B_{\bar{N}}(427) = 2717 + (N - 334) + 427 = \mathbf{N} + \mathbf{2810} \\
&(N \geq 2717)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2478}) &= B_{\bar{N}}(2N + 2478 - B_{\bar{N}}(2N + 2477)) + B_{\bar{N}}(2N + 2478 - B_{\bar{N}}(2N + 2476)) + B_{\bar{N}}(2N + 2478 - B_{\bar{N}}(2N + 2475)) \\
&= B_{\bar{N}}(2N + 2478 - (N + 2810)) + B_{\bar{N}}(2N + 2478 - (2N - 240)) + B_{\bar{N}}(2N + 2478 - (N + 2811)) \\
&= B_{\bar{N}}(N - 332) + B_{\bar{N}}(2718) + B_{\bar{N}}(N - 333) = (N - 332) + 2718 + (N - 333) = \mathbf{2N} + \mathbf{2053} \\
&(N \geq 2718)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2479}) &= B_{\bar{N}}(2N + 2479 - B_{\bar{N}}(2N + 2478)) + B_{\bar{N}}(2N + 2479 - B_{\bar{N}}(2N + 2477)) + B_{\bar{N}}(2N + 2479 - B_{\bar{N}}(2N + 2476)) \\
&= B_{\bar{N}}(2N + 2479 - (2N + 2053)) + B_{\bar{N}}(2N + 2479 - (N + 2810)) + B_{\bar{N}}(2N + 2479 - (2N - 240)) \\
&= B_{\bar{N}}(426) + B_{\bar{N}}(N - 331) + B_{\bar{N}}(2719) = 426 + (N - 331) + 2719 = \mathbf{N} + \mathbf{2814} \\
&(N \geq 2719)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2480}) &= B_{\bar{N}}(2N + 2480 - B_{\bar{N}}(2N + 2479)) + B_{\bar{N}}(2N + 2480 - B_{\bar{N}}(2N + 2478)) + B_{\bar{N}}(2N + 2480 - B_{\bar{N}}(2N + 2477)) \\
&= B_{\bar{N}}(2N + 2480 - (N + 2814)) + B_{\bar{N}}(2N + 2480 - (2N + 2053)) + B_{\bar{N}}(2N + 2480 - (N + 2810)) \\
&= B_{\bar{N}}(N - 334) + B_{\bar{N}}(427) + B_{\bar{N}}(N - 330) = (N - 334) + 427 + (N - 330) = \mathbf{2N} - \mathbf{237} \\
&(N \geq 427)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2481}) &= B_{\bar{N}}(2N + 2481 - B_{\bar{N}}(2N + 2480)) + B_{\bar{N}}(2N + 2481 - B_{\bar{N}}(2N + 2479)) + B_{\bar{N}}(2N + 2481 - B_{\bar{N}}(2N + 2478)) \\
&= B_{\bar{N}}(2N + 2481 - (2N - 237)) + B_{\bar{N}}(2N + 2481 - (N + 2814)) + B_{\bar{N}}(2N + 2481 - (2N + 2053)) \\
&= B_{\bar{N}}(2718) + B_{\bar{N}}(N - 333) + B_{\bar{N}}(428) = 2718 + (N - 333) + 428 = \mathbf{N} + \mathbf{2813} \\
&(N \geq 2718)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2482}) &= B_{\bar{N}}(2N + 2482 - B_{\bar{N}}(2N + 2481)) + B_{\bar{N}}(2N + 2482 - B_{\bar{N}}(2N + 2480)) + B_{\bar{N}}(2N + 2482 - B_{\bar{N}}(2N + 2479)) \\
&= B_{\bar{N}}(2N + 2482 - (N + 2813)) + B_{\bar{N}}(2N + 2482 - (2N - 237)) + B_{\bar{N}}(2N + 2482 - (N + 2814)) \\
&= B_{\bar{N}}(N - 331) + B_{\bar{N}}(2719) + B_{\bar{N}}(N - 332) = (N - 331) + 2719 + (N - 332) = \mathbf{2N} + \mathbf{2056} \\
&(N \geq 2719)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2483}) &= B_{\bar{N}}(2N + 2483 - B_{\bar{N}}(2N + 2482)) + B_{\bar{N}}(2N + 2483 - B_{\bar{N}}(2N + 2481)) + B_{\bar{N}}(2N + 2483 - B_{\bar{N}}(2N + 2480)) \\
&= B_{\bar{N}}(2N + 2483 - (2N + 2056)) + B_{\bar{N}}(2N + 2483 - (N + 2813)) + B_{\bar{N}}(2N + 2483 - (2N - 237)) \\
&= B_{\bar{N}}(427) + B_{\bar{N}}(N - 330) + B_{\bar{N}}(2720) = 427 + (N - 330) + 2720 = \mathbf{N} + \mathbf{2817} \\
&(N \geq 2720)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2484}) &= B_{\bar{N}}(2N + 2484 - B_{\bar{N}}(2N + 2483)) + B_{\bar{N}}(2N + 2484 - B_{\bar{N}}(2N + 2482)) + B_{\bar{N}}(2N + 2484 - B_{\bar{N}}(2N + 2481)) \\
&= B_{\bar{N}}(2N + 2484 - (N + 2817)) + B_{\bar{N}}(2N + 2484 - (2N + 2056)) + B_{\bar{N}}(2N + 2484 - (N + 2813)) \\
&= B_{\bar{N}}(N - 333) + B_{\bar{N}}(428) + B_{\bar{N}}(N - 329) = (N - 333) + 428 + (N - 329) = \mathbf{2N} - \mathbf{234} \\
&(N \geq 428)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2485}) &= B_{\bar{N}}(2N + 2485 - B_{\bar{N}}(2N + 2484)) + B_{\bar{N}}(2N + 2485 - B_{\bar{N}}(2N + 2483)) + B_{\bar{N}}(2N + 2485 - B_{\bar{N}}(2N + 2482)) \\
&= B_{\bar{N}}(2N + 2485 - (2N - 234)) + B_{\bar{N}}(2N + 2485 - (N + 2817)) + B_{\bar{N}}(2N + 2485 - (2N + 2056)) \\
&= B_{\bar{N}}(2719) + B_{\bar{N}}(N - 332) + B_{\bar{N}}(429) = 2719 + (N - 332) + 429 = \mathbf{N} + \mathbf{2816} \\
&(N \geq 2719)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2486}) &= B_{\bar{N}}(2N + 2486 - B_{\bar{N}}(2N + 2485)) + B_{\bar{N}}(2N + 2486 - B_{\bar{N}}(2N + 2484)) + B_{\bar{N}}(2N + 2486 - B_{\bar{N}}(2N + 2483)) \\
&= B_{\bar{N}}(2N + 2486 - (N + 2816)) + B_{\bar{N}}(2N + 2486 - (2N - 234)) + B_{\bar{N}}(2N + 2486 - (N + 2817)) \\
&= B_{\bar{N}}(N - 330) + B_{\bar{N}}(2720) + B_{\bar{N}}(N - 331) = (N - 330) + 2720 + (N - 331) = \mathbf{2N} + \mathbf{2059} \\
&(N \geq 2720)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2487}) &= B_{\bar{N}}(2N + 2487 - B_{\bar{N}}(2N + 2486)) + B_{\bar{N}}(2N + 2487 - B_{\bar{N}}(2N + 2485)) + B_{\bar{N}}(2N + 2487 - B_{\bar{N}}(2N + 2484)) \\
&= B_{\bar{N}}(2N + 2487 - (2N + 2059)) + B_{\bar{N}}(2N + 2487 - (N + 2816)) + B_{\bar{N}}(2N + 2487 - (2N - 234)) \\
&= B_{\bar{N}}(428) + B_{\bar{N}}(N - 329) + B_{\bar{N}}(2721) = 428 + (N - 329) + 2721 = \mathbf{N} + \mathbf{2820} \\
&(N \geq 2721)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2488}) &= B_{\bar{N}}(2N + 2488 - B_{\bar{N}}(2N + 2487)) + B_{\bar{N}}(2N + 2488 - B_{\bar{N}}(2N + 2486)) + B_{\bar{N}}(2N + 2488 - B_{\bar{N}}(2N + 2485)) \\
&= B_{\bar{N}}(2N + 2488 - (N + 2820)) + B_{\bar{N}}(2N + 2488 - (2N + 2059)) + B_{\bar{N}}(2N + 2488 - (N + 2816)) \\
&= B_{\bar{N}}(N - 332) + B_{\bar{N}}(429) + B_{\bar{N}}(N - 328) = (N - 332) + 429 + (N - 328) = \mathbf{2N} - \mathbf{231} \\
&(N \geq 429)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2489}) &= B_{\bar{N}}(2N + 2489 - B_{\bar{N}}(2N + 2488)) + B_{\bar{N}}(2N + 2489 - B_{\bar{N}}(2N + 2487)) + B_{\bar{N}}(2N + 2489 - B_{\bar{N}}(2N + 2486)) \\
&= B_{\bar{N}}(2N + 2489 - (2N - 231)) + B_{\bar{N}}(2N + 2489 - (N + 2820)) + B_{\bar{N}}(2N + 2489 - (2N + 2059)) \\
&= B_{\bar{N}}(2720) + B_{\bar{N}}(N - 331) + B_{\bar{N}}(430) = 2720 + (N - 331) + 430 = \mathbf{N} + \mathbf{2819} \\
&(N \geq 2720)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2490}) &= B_{\bar{N}}(2N + 2490 - B_{\bar{N}}(2N + 2489)) + B_{\bar{N}}(2N + 2490 - B_{\bar{N}}(2N + 2488)) + B_{\bar{N}}(2N + 2490 - B_{\bar{N}}(2N + 2487)) \\
&= B_{\bar{N}}(2N + 2490 - (N + 2819)) + B_{\bar{N}}(2N + 2490 - (2N - 231)) + B_{\bar{N}}(2N + 2490 - (N + 2820)) \\
&= B_{\bar{N}}(N - 329) + B_{\bar{N}}(2721) + B_{\bar{N}}(N - 330) = (N - 329) + 2721 + (N - 330) = \mathbf{2N} + \mathbf{2062} \\
&(N \geq 2721)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2491}) &= B_{\bar{N}}(2N + 2491 - B_{\bar{N}}(2N + 2490)) + B_{\bar{N}}(2N + 2491 - B_{\bar{N}}(2N + 2489)) + B_{\bar{N}}(2N + 2491 - B_{\bar{N}}(2N + 2488)) \\
&= B_{\bar{N}}(2N + 2491 - (2N + 2062)) + B_{\bar{N}}(2N + 2491 - (N + 2819)) + B_{\bar{N}}(2N + 2491 - (2N - 231)) \\
&= B_{\bar{N}}(429) + B_{\bar{N}}(N - 328) + B_{\bar{N}}(2722) = 429 + (N - 328) + 2722 = \mathbf{N} + \mathbf{2823} \\
&(N \geq 2722)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2492}) &= B_{\bar{N}}(2N + 2492 - B_{\bar{N}}(2N + 2491)) + B_{\bar{N}}(2N + 2492 - B_{\bar{N}}(2N + 2490)) + B_{\bar{N}}(2N + 2492 - B_{\bar{N}}(2N + 2489)) \\
&= B_{\bar{N}}(2N + 2492 - (N + 2823)) + B_{\bar{N}}(2N + 2492 - (2N + 2062)) + B_{\bar{N}}(2N + 2492 - (N + 2819)) \\
&= B_{\bar{N}}(N - 331) + B_{\bar{N}}(430) + B_{\bar{N}}(N - 327) = (N - 331) + 430 + (N - 327) = \mathbf{2N} - \mathbf{228} \\
&(N \geq 430)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2493}) &= B_{\bar{N}}(2N + 2493 - B_{\bar{N}}(2N + 2492)) + B_{\bar{N}}(2N + 2493 - B_{\bar{N}}(2N + 2491)) + B_{\bar{N}}(2N + 2493 - B_{\bar{N}}(2N + 2490)) \\
&= B_{\bar{N}}(2N + 2493 - (2N - 228)) + B_{\bar{N}}(2N + 2493 - (N + 2823)) + B_{\bar{N}}(2N + 2493 - (2N + 2062)) \\
&= B_{\bar{N}}(2721) + B_{\bar{N}}(N - 330) + B_{\bar{N}}(431) = 2721 + (N - 330) + 431 = \mathbf{N} + \mathbf{2822} \\
&(N \geq 2721)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2494}) &= B_{\bar{N}}(2N + 2494 - B_{\bar{N}}(2N + 2493)) + B_{\bar{N}}(2N + 2494 - B_{\bar{N}}(2N + 2492)) + B_{\bar{N}}(2N + 2494 - B_{\bar{N}}(2N + 2491)) \\
&= B_{\bar{N}}(2N + 2494 - (N + 2822)) + B_{\bar{N}}(2N + 2494 - (2N - 228)) + B_{\bar{N}}(2N + 2494 - (N + 2823)) \\
&= B_{\bar{N}}(N - 328) + B_{\bar{N}}(2722) + B_{\bar{N}}(N - 329) = (N - 328) + 2722 + (N - 329) = \mathbf{2N} + \mathbf{2065} \\
&(N \geq 2722)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2495}) &= B_{\bar{N}}(2N + 2495 - B_{\bar{N}}(2N + 2494)) + B_{\bar{N}}(2N + 2495 - B_{\bar{N}}(2N + 2493)) + B_{\bar{N}}(2N + 2495 - B_{\bar{N}}(2N + 2492)) \\
&= B_{\bar{N}}(2N + 2495 - (2N + 2065)) + B_{\bar{N}}(2N + 2495 - (N + 2822)) + B_{\bar{N}}(2N + 2495 - (2N - 228)) \\
&= B_{\bar{N}}(430) + B_{\bar{N}}(N - 327) + B_{\bar{N}}(2723) = 430 + (N - 327) + 2723 = \mathbf{N} + \mathbf{2826} \\
&(N \geq 2723)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2496}) &= B_{\bar{N}}(2N + 2496 - B_{\bar{N}}(2N + 2495)) + B_{\bar{N}}(2N + 2496 - B_{\bar{N}}(2N + 2494)) + B_{\bar{N}}(2N + 2496 - B_{\bar{N}}(2N + 2493)) \\
&= B_{\bar{N}}(2N + 2496 - (N + 2826)) + B_{\bar{N}}(2N + 2496 - (2N + 2065)) + B_{\bar{N}}(2N + 2496 - (N + 2822)) \\
&= B_{\bar{N}}(N - 330) + B_{\bar{N}}(431) + B_{\bar{N}}(N - 326) = (N - 330) + 431 + (N - 326) = \mathbf{2N} - \mathbf{225} \\
&(N \geq 431)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2497}) &= B_{\bar{N}}(2N + 2497 - B_{\bar{N}}(2N + 2496)) + B_{\bar{N}}(2N + 2497 - B_{\bar{N}}(2N + 2495)) + B_{\bar{N}}(2N + 2497 - B_{\bar{N}}(2N + 2494)) \\
&= B_{\bar{N}}(2N + 2497 - (2N - 225)) + B_{\bar{N}}(2N + 2497 - (N + 2826)) + B_{\bar{N}}(2N + 2497 - (2N + 2065)) \\
&= B_{\bar{N}}(2722) + B_{\bar{N}}(N - 329) + B_{\bar{N}}(432) = 2722 + (N - 329) + 432 = \mathbf{N} + \mathbf{2825} \\
&(N \geq 2722)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2498}) &= B_{\bar{N}}(2N + 2498 - B_{\bar{N}}(2N + 2497)) + B_{\bar{N}}(2N + 2498 - B_{\bar{N}}(2N + 2496)) + B_{\bar{N}}(2N + 2498 - B_{\bar{N}}(2N + 2495)) \\
&= B_{\bar{N}}(2N + 2498 - (N + 2825)) + B_{\bar{N}}(2N + 2498 - (2N - 225)) + B_{\bar{N}}(2N + 2498 - (N + 2826)) \\
&= B_{\bar{N}}(N - 327) + B_{\bar{N}}(2723) + B_{\bar{N}}(N - 328) = (N - 327) + 2723 + (N - 328) = \mathbf{2N} + \mathbf{2068} \\
&(N \geq 2723)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2499}) &= B_{\bar{N}}(2N + 2499 - B_{\bar{N}}(2N + 2498)) + B_{\bar{N}}(2N + 2499 - B_{\bar{N}}(2N + 2497)) + B_{\bar{N}}(2N + 2499 - B_{\bar{N}}(2N + 2496)) \\
&= B_{\bar{N}}(2N + 2499 - (2N + 2068)) + B_{\bar{N}}(2N + 2499 - (N + 2825)) + B_{\bar{N}}(2N + 2499 - (2N - 225)) \\
&= B_{\bar{N}}(431) + B_{\bar{N}}(N - 326) + B_{\bar{N}}(2724) = 431 + (N - 326) + 2724 = \mathbf{N} + \mathbf{2829} \\
&(N \geq 2724)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2500}) &= B_{\bar{N}}(2N + 2500 - B_{\bar{N}}(2N + 2499)) + B_{\bar{N}}(2N + 2500 - B_{\bar{N}}(2N + 2498)) + B_{\bar{N}}(2N + 2500 - B_{\bar{N}}(2N + 2497)) \\
&= B_{\bar{N}}(2N + 2500 - (N + 2829)) + B_{\bar{N}}(2N + 2500 - (2N + 2068)) + B_{\bar{N}}(2N + 2500 - (N + 2825)) \\
&= B_{\bar{N}}(N - 329) + B_{\bar{N}}(432) + B_{\bar{N}}(N - 325) = (N - 329) + 432 + (N - 325) = \mathbf{2N} - \mathbf{222} \\
&(N \geq 432)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2501}) &= B_{\bar{N}}(2N + 2501 - B_{\bar{N}}(2N + 2500)) + B_{\bar{N}}(2N + 2501 - B_{\bar{N}}(2N + 2499)) + B_{\bar{N}}(2N + 2501 - B_{\bar{N}}(2N + 2498)) \\
&= B_{\bar{N}}(2N + 2501 - (2N - 222)) + B_{\bar{N}}(2N + 2501 - (N + 2829)) + B_{\bar{N}}(2N + 2501 - (2N + 2068)) \\
&= B_{\bar{N}}(2723) + B_{\bar{N}}(N - 328) + B_{\bar{N}}(433) = 2723 + (N - 328) + 433 = \mathbf{N} + \mathbf{2828} \\
&(N \geq 2723)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2502}) &= B_{\bar{N}}(2N + 2502 - B_{\bar{N}}(2N + 2501)) + B_{\bar{N}}(2N + 2502 - B_{\bar{N}}(2N + 2500)) + B_{\bar{N}}(2N + 2502 - B_{\bar{N}}(2N + 2499)) \\
&= B_{\bar{N}}(2N + 2502 - (N + 2828)) + B_{\bar{N}}(2N + 2502 - (2N - 222)) + B_{\bar{N}}(2N + 2502 - (N + 2829)) \\
&= B_{\bar{N}}(N - 326) + B_{\bar{N}}(2724) + B_{\bar{N}}(N - 327) = (N - 326) + 2724 + (N - 327) = \mathbf{2N} + \mathbf{2071} \\
&(N \geq 2724)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2503}) &= B_{\bar{N}}(2N + 2503 - B_{\bar{N}}(2N + 2502)) + B_{\bar{N}}(2N + 2503 - B_{\bar{N}}(2N + 2501)) + B_{\bar{N}}(2N + 2503 - B_{\bar{N}}(2N + 2500)) \\
&= B_{\bar{N}}(2N + 2503 - (2N + 2071)) + B_{\bar{N}}(2N + 2503 - (N + 2828)) + B_{\bar{N}}(2N + 2503 - (2N - 222)) \\
&= B_{\bar{N}}(432) + B_{\bar{N}}(N - 325) + B_{\bar{N}}(2725) = 432 + (N - 325) + 2725 = \mathbf{N} + \mathbf{2832} \\
&(N \geq 2725)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2504}) &= B_{\bar{N}}(2N + 2504 - B_{\bar{N}}(2N + 2503)) + B_{\bar{N}}(2N + 2504 - B_{\bar{N}}(2N + 2502)) + B_{\bar{N}}(2N + 2504 - B_{\bar{N}}(2N + 2501)) \\
&= B_{\bar{N}}(2N + 2504 - (N + 2832)) + B_{\bar{N}}(2N + 2504 - (2N + 2071)) + B_{\bar{N}}(2N + 2504 - (N + 2828)) \\
&= B_{\bar{N}}(N - 328) + B_{\bar{N}}(433) + B_{\bar{N}}(N - 324) = (N - 328) + 433 + (N - 324) = \mathbf{2N} - \mathbf{219} \\
&(N \geq 433)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2505}) &= B_{\bar{N}}(2N + 2505 - B_{\bar{N}}(2N + 2504)) + B_{\bar{N}}(2N + 2505 - B_{\bar{N}}(2N + 2503)) + B_{\bar{N}}(2N + 2505 - B_{\bar{N}}(2N + 2502)) \\
&= B_{\bar{N}}(2N + 2505 - (2N - 219)) + B_{\bar{N}}(2N + 2505 - (N + 2832)) + B_{\bar{N}}(2N + 2505 - (2N + 2071)) \\
&= B_{\bar{N}}(2724) + B_{\bar{N}}(N - 327) + B_{\bar{N}}(434) = 2724 + (N - 327) + 434 = \mathbf{N} + \mathbf{2831} \\
&(N \geq 2724)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2506}) &= B_{\bar{N}}(2N + 2506 - B_{\bar{N}}(2N + 2505)) + B_{\bar{N}}(2N + 2506 - B_{\bar{N}}(2N + 2504)) + B_{\bar{N}}(2N + 2506 - B_{\bar{N}}(2N + 2503)) \\
&= B_{\bar{N}}(2N + 2506 - (N + 2831)) + B_{\bar{N}}(2N + 2506 - (2N - 219)) + B_{\bar{N}}(2N + 2506 - (N + 2832)) \\
&= B_{\bar{N}}(N - 325) + B_{\bar{N}}(2725) + B_{\bar{N}}(N - 326) = (N - 325) + 2725 + (N - 326) = \mathbf{2N} + \mathbf{2074} \\
&(N \geq 2725)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2507}) &= B_{\bar{N}}(2N + 2507 - B_{\bar{N}}(2N + 2506)) + B_{\bar{N}}(2N + 2507 - B_{\bar{N}}(2N + 2505)) + B_{\bar{N}}(2N + 2507 - B_{\bar{N}}(2N + 2504)) \\
&= B_{\bar{N}}(2N + 2507 - (2N + 2074)) + B_{\bar{N}}(2N + 2507 - (N + 2831)) + B_{\bar{N}}(2N + 2507 - (2N - 219)) \\
&= B_{\bar{N}}(433) + B_{\bar{N}}(N - 324) + B_{\bar{N}}(2726) = 433 + (N - 324) + 2726 = \mathbf{N} + \mathbf{2835} \\
&(N \geq 2726)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2508}) &= B_{\bar{N}}(2N + 2508 - B_{\bar{N}}(2N + 2507)) + B_{\bar{N}}(2N + 2508 - B_{\bar{N}}(2N + 2506)) + B_{\bar{N}}(2N + 2508 - B_{\bar{N}}(2N + 2505)) \\
&= B_{\bar{N}}(2N + 2508 - (N + 2835)) + B_{\bar{N}}(2N + 2508 - (2N + 2074)) + B_{\bar{N}}(2N + 2508 - (N + 2831)) \\
&= B_{\bar{N}}(N - 327) + B_{\bar{N}}(434) + B_{\bar{N}}(N - 323) = (N - 327) + 434 + (N - 323) = \mathbf{2N} - \mathbf{216} \\
&(N \geq 434)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2509}) &= B_{\bar{N}}(2N + 2509 - B_{\bar{N}}(2N + 2508)) + B_{\bar{N}}(2N + 2509 - B_{\bar{N}}(2N + 2507)) + B_{\bar{N}}(2N + 2509 - B_{\bar{N}}(2N + 2506)) \\
&= B_{\bar{N}}(2N + 2509 - (2N - 216)) + B_{\bar{N}}(2N + 2509 - (N + 2835)) + B_{\bar{N}}(2N + 2509 - (2N + 2074)) \\
&= B_{\bar{N}}(2725) + B_{\bar{N}}(N - 326) + B_{\bar{N}}(435) = 2725 + (N - 326) + 435 = \mathbf{N} + \mathbf{2834} \\
&(N \geq 2725)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2510}) &= B_{\bar{N}}(2N + 2510 - B_{\bar{N}}(2N + 2509)) + B_{\bar{N}}(2N + 2510 - B_{\bar{N}}(2N + 2508)) + B_{\bar{N}}(2N + 2510 - B_{\bar{N}}(2N + 2507)) \\
&= B_{\bar{N}}(2N + 2510 - (N + 2834)) + B_{\bar{N}}(2N + 2510 - (2N - 216)) + B_{\bar{N}}(2N + 2510 - (N + 2835)) \\
&= B_{\bar{N}}(N - 324) + B_{\bar{N}}(2726) + B_{\bar{N}}(N - 325) = (N - 324) + 2726 + (N - 325) = \mathbf{2N} + \mathbf{2077} \\
&(N \geq 2726)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2511}) &= B_{\bar{N}}(2N + 2511 - B_{\bar{N}}(2N + 2510)) + B_{\bar{N}}(2N + 2511 - B_{\bar{N}}(2N + 2509)) + B_{\bar{N}}(2N + 2511 - B_{\bar{N}}(2N + 2508)) \\
&= B_{\bar{N}}(2N + 2511 - (2N + 2077)) + B_{\bar{N}}(2N + 2511 - (N + 2834)) + B_{\bar{N}}(2N + 2511 - (2N - 216)) \\
&= B_{\bar{N}}(434) + B_{\bar{N}}(N - 323) + B_{\bar{N}}(2727) = 434 + (N - 323) + 2727 = \mathbf{N} + \mathbf{2838} \\
&(N \geq 2727)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2512}) &= B_{\bar{N}}(2N + 2512 - B_{\bar{N}}(2N + 2511)) + B_{\bar{N}}(2N + 2512 - B_{\bar{N}}(2N + 2510)) + B_{\bar{N}}(2N + 2512 - B_{\bar{N}}(2N + 2509)) \\
&= B_{\bar{N}}(2N + 2512 - (N + 2838)) + B_{\bar{N}}(2N + 2512 - (2N + 2077)) + B_{\bar{N}}(2N + 2512 - (N + 2834)) \\
&= B_{\bar{N}}(N - 326) + B_{\bar{N}}(435) + B_{\bar{N}}(N - 322) = (N - 326) + 435 + (N - 322) = \mathbf{2N} - \mathbf{213} \\
&(N \geq 435)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2513}) &= B_{\bar{N}}(2N + 2513 - B_{\bar{N}}(2N + 2512)) + B_{\bar{N}}(2N + 2513 - B_{\bar{N}}(2N + 2511)) + B_{\bar{N}}(2N + 2513 - B_{\bar{N}}(2N + 2510)) \\
&= B_{\bar{N}}(2N + 2513 - (2N - 213)) + B_{\bar{N}}(2N + 2513 - (N + 2838)) + B_{\bar{N}}(2N + 2513 - (2N + 2077)) \\
&= B_{\bar{N}}(2726) + B_{\bar{N}}(N - 325) + B_{\bar{N}}(436) = 2726 + (N - 325) + 436 = \mathbf{N} + \mathbf{2837} \\
&(N \geq 2726)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2514}) &= B_{\bar{N}}(2N + 2514 - B_{\bar{N}}(2N + 2513)) + B_{\bar{N}}(2N + 2514 - B_{\bar{N}}(2N + 2512)) + B_{\bar{N}}(2N + 2514 - B_{\bar{N}}(2N + 2511)) \\
&= B_{\bar{N}}(2N + 2514 - (N + 2837)) + B_{\bar{N}}(2N + 2514 - (2N - 213)) + B_{\bar{N}}(2N + 2514 - (N + 2838)) \\
&= B_{\bar{N}}(N - 323) + B_{\bar{N}}(2727) + B_{\bar{N}}(N - 324) = (N - 323) + 2727 + (N - 324) = \mathbf{2N} + \mathbf{2080} \\
&(N \geq 2727)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2515}) &= B_{\bar{N}}(2N + 2515 - B_{\bar{N}}(2N + 2514)) + B_{\bar{N}}(2N + 2515 - B_{\bar{N}}(2N + 2513)) + B_{\bar{N}}(2N + 2515 - B_{\bar{N}}(2N + 2512)) \\
&= B_{\bar{N}}(2N + 2515 - (2N + 2080)) + B_{\bar{N}}(2N + 2515 - (N + 2837)) + B_{\bar{N}}(2N + 2515 - (2N - 213)) \\
&= B_{\bar{N}}(435) + B_{\bar{N}}(N - 322) + B_{\bar{N}}(2728) = 435 + (N - 322) + 2728 = \mathbf{N} + \mathbf{2841} \\
&(N \geq 2728)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2516}) &= B_{\bar{N}}(2N + 2516 - B_{\bar{N}}(2N + 2515)) + B_{\bar{N}}(2N + 2516 - B_{\bar{N}}(2N + 2514)) + B_{\bar{N}}(2N + 2516 - B_{\bar{N}}(2N + 2513)) \\
&= B_{\bar{N}}(2N + 2516 - (N + 2841)) + B_{\bar{N}}(2N + 2516 - (2N + 2080)) + B_{\bar{N}}(2N + 2516 - (N + 2837)) \\
&= B_{\bar{N}}(N - 325) + B_{\bar{N}}(436) + B_{\bar{N}}(N - 321) = (N - 325) + 436 + (N - 321) = \mathbf{2N} - \mathbf{210} \\
&(N \geq 436)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2517}) &= B_{\bar{N}}(2N + 2517 - B_{\bar{N}}(2N + 2516)) + B_{\bar{N}}(2N + 2517 - B_{\bar{N}}(2N + 2515)) + B_{\bar{N}}(2N + 2517 - B_{\bar{N}}(2N + 2514)) \\
&= B_{\bar{N}}(2N + 2517 - (2N - 210)) + B_{\bar{N}}(2N + 2517 - (N + 2841)) + B_{\bar{N}}(2N + 2517 - (2N + 2080)) \\
&= B_{\bar{N}}(2727) + B_{\bar{N}}(N - 324) + B_{\bar{N}}(437) = 2727 + (N - 324) + 437 = \mathbf{N} + \mathbf{2840} \\
&(N \geq 2727)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2518}) &= B_{\bar{N}}(2N + 2518 - B_{\bar{N}}(2N + 2517)) + B_{\bar{N}}(2N + 2518 - B_{\bar{N}}(2N + 2516)) + B_{\bar{N}}(2N + 2518 - B_{\bar{N}}(2N + 2515)) \\
&= B_{\bar{N}}(2N + 2518 - (N + 2840)) + B_{\bar{N}}(2N + 2518 - (2N - 210)) + B_{\bar{N}}(2N + 2518 - (N + 2841)) \\
&= B_{\bar{N}}(N - 322) + B_{\bar{N}}(2728) + B_{\bar{N}}(N - 323) = (N - 322) + 2728 + (N - 323) = \mathbf{2N} + \mathbf{2083} \\
&(N \geq 2728)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2519}) &= B_{\bar{N}}(2N + 2519 - B_{\bar{N}}(2N + 2518)) + B_{\bar{N}}(2N + 2519 - B_{\bar{N}}(2N + 2517)) + B_{\bar{N}}(2N + 2519 - B_{\bar{N}}(2N + 2516)) \\
&= B_{\bar{N}}(2N + 2519 - (2N + 2083)) + B_{\bar{N}}(2N + 2519 - (N + 2840)) + B_{\bar{N}}(2N + 2519 - (2N - 210)) \\
&= B_{\bar{N}}(436) + B_{\bar{N}}(N - 321) + B_{\bar{N}}(2729) = 436 + (N - 321) + 2729 = \mathbf{N} + \mathbf{2844} \\
&(N \geq 2729)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2520}) &= B_{\bar{N}}(2N + 2520 - B_{\bar{N}}(2N + 2519)) + B_{\bar{N}}(2N + 2520 - B_{\bar{N}}(2N + 2518)) + B_{\bar{N}}(2N + 2520 - B_{\bar{N}}(2N + 2517)) \\
&= B_{\bar{N}}(2N + 2520 - (N + 2844)) + B_{\bar{N}}(2N + 2520 - (2N + 2083)) + B_{\bar{N}}(2N + 2520 - (N + 2840)) \\
&= B_{\bar{N}}(N - 324) + B_{\bar{N}}(437) + B_{\bar{N}}(N - 320) = (N - 324) + 437 + (N - 320) = \mathbf{2N} - \mathbf{207} \\
&(N \geq 437)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2521}) &= B_{\bar{N}}(2N + 2521 - B_{\bar{N}}(2N + 2520)) + B_{\bar{N}}(2N + 2521 - B_{\bar{N}}(2N + 2519)) + B_{\bar{N}}(2N + 2521 - B_{\bar{N}}(2N + 2518)) \\
&= B_{\bar{N}}(2N + 2521 - (2N - 207)) + B_{\bar{N}}(2N + 2521 - (N + 2844)) + B_{\bar{N}}(2N + 2521 - (2N + 2083)) \\
&= B_{\bar{N}}(2728) + B_{\bar{N}}(N - 323) + B_{\bar{N}}(438) = 2728 + (N - 323) + 438 = \mathbf{N} + \mathbf{2843} \\
&(N \geq 2728)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2522}) &= B_{\bar{N}}(2N + 2522 - B_{\bar{N}}(2N + 2521)) + B_{\bar{N}}(2N + 2522 - B_{\bar{N}}(2N + 2520)) + B_{\bar{N}}(2N + 2522 - B_{\bar{N}}(2N + 2519)) \\
&= B_{\bar{N}}(2N + 2522 - (N + 2843)) + B_{\bar{N}}(2N + 2522 - (2N - 207)) + B_{\bar{N}}(2N + 2522 - (N + 2844)) \\
&= B_{\bar{N}}(N - 321) + B_{\bar{N}}(2729) + B_{\bar{N}}(N - 322) = (N - 321) + 2729 + (N - 322) = \mathbf{2N} + \mathbf{2086} \\
&(N \geq 2729)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2523}) &= B_{\bar{N}}(2N + 2523 - B_{\bar{N}}(2N + 2522)) + B_{\bar{N}}(2N + 2523 - B_{\bar{N}}(2N + 2521)) + B_{\bar{N}}(2N + 2523 - B_{\bar{N}}(2N + 2520)) \\
&= B_{\bar{N}}(2N + 2523 - (2N + 2086)) + B_{\bar{N}}(2N + 2523 - (N + 2843)) + B_{\bar{N}}(2N + 2523 - (2N - 207)) \\
&= B_{\bar{N}}(437) + B_{\bar{N}}(N - 320) + B_{\bar{N}}(2730) = 437 + (N - 320) + 2730 = \mathbf{N} + \mathbf{2847} \\
&(N \geq 2730)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2524}) &= B_{\bar{N}}(2N + 2524 - B_{\bar{N}}(2N + 2523)) + B_{\bar{N}}(2N + 2524 - B_{\bar{N}}(2N + 2522)) + B_{\bar{N}}(2N + 2524 - B_{\bar{N}}(2N + 2521)) \\
&= B_{\bar{N}}(2N + 2524 - (N + 2847)) + B_{\bar{N}}(2N + 2524 - (2N + 2086)) + B_{\bar{N}}(2N + 2524 - (N + 2843)) \\
&= B_{\bar{N}}(N - 323) + B_{\bar{N}}(438) + B_{\bar{N}}(N - 319) = (N - 323) + 438 + (N - 319) = \mathbf{2N} - \mathbf{204} \\
&(N \geq 438)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2525}) &= B_{\bar{N}}(2N + 2525 - B_{\bar{N}}(2N + 2524)) + B_{\bar{N}}(2N + 2525 - B_{\bar{N}}(2N + 2523)) + B_{\bar{N}}(2N + 2525 - B_{\bar{N}}(2N + 2522)) \\
&= B_{\bar{N}}(2N + 2525 - (2N - 204)) + B_{\bar{N}}(2N + 2525 - (N + 2847)) + B_{\bar{N}}(2N + 2525 - (2N + 2086)) \\
&= B_{\bar{N}}(2729) + B_{\bar{N}}(N - 322) + B_{\bar{N}}(439) = 2729 + (N - 322) + 439 = \mathbf{N} + \mathbf{2846} \\
&(N \geq 2729)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2526}) &= B_{\bar{N}}(2N + 2526 - B_{\bar{N}}(2N + 2525)) + B_{\bar{N}}(2N + 2526 - B_{\bar{N}}(2N + 2524)) + B_{\bar{N}}(2N + 2526 - B_{\bar{N}}(2N + 2523)) \\
&= B_{\bar{N}}(2N + 2526 - (N + 2846)) + B_{\bar{N}}(2N + 2526 - (2N - 204)) + B_{\bar{N}}(2N + 2526 - (N + 2847)) \\
&= B_{\bar{N}}(N - 320) + B_{\bar{N}}(2730) + B_{\bar{N}}(N - 321) = (N - 320) + 2730 + (N - 321) = \mathbf{2N} + \mathbf{2089} \\
&(N \geq 2730)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2527}) &= B_{\bar{N}}(2N + 2527 - B_{\bar{N}}(2N + 2526)) + B_{\bar{N}}(2N + 2527 - B_{\bar{N}}(2N + 2525)) + B_{\bar{N}}(2N + 2527 - B_{\bar{N}}(2N + 2524)) \\
&= B_{\bar{N}}(2N + 2527 - (2N + 2089)) + B_{\bar{N}}(2N + 2527 - (N + 2846)) + B_{\bar{N}}(2N + 2527 - (2N - 204)) \\
&= B_{\bar{N}}(438) + B_{\bar{N}}(N - 319) + B_{\bar{N}}(2731) = 438 + (N - 319) + 2731 = \mathbf{N} + \mathbf{2850} \\
&(N \geq 2731)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2528}) &= B_{\bar{N}}(2N + 2528 - B_{\bar{N}}(2N + 2527)) + B_{\bar{N}}(2N + 2528 - B_{\bar{N}}(2N + 2526)) + B_{\bar{N}}(2N + 2528 - B_{\bar{N}}(2N + 2525)) \\
&= B_{\bar{N}}(2N + 2528 - (N + 2850)) + B_{\bar{N}}(2N + 2528 - (2N + 2089)) + B_{\bar{N}}(2N + 2528 - (N + 2846)) \\
&= B_{\bar{N}}(N - 322) + B_{\bar{N}}(439) + B_{\bar{N}}(N - 318) = (N - 322) + 439 + (N - 318) = \mathbf{2N} - \mathbf{201} \\
&(N \geq 439)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2529}) &= B_{\bar{N}}(2N + 2529 - B_{\bar{N}}(2N + 2528)) + B_{\bar{N}}(2N + 2529 - B_{\bar{N}}(2N + 2527)) + B_{\bar{N}}(2N + 2529 - B_{\bar{N}}(2N + 2526)) \\
&= B_{\bar{N}}(2N + 2529 - (2N - 201)) + B_{\bar{N}}(2N + 2529 - (N + 2850)) + B_{\bar{N}}(2N + 2529 - (2N + 2089)) \\
&= B_{\bar{N}}(2730) + B_{\bar{N}}(N - 321) + B_{\bar{N}}(440) = 2730 + (N - 321) + 440 = \mathbf{N} + \mathbf{2849} \\
&(N \geq 2730)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2530}) &= B_{\bar{N}}(2N + 2530 - B_{\bar{N}}(2N + 2529)) + B_{\bar{N}}(2N + 2530 - B_{\bar{N}}(2N + 2528)) + B_{\bar{N}}(2N + 2530 - B_{\bar{N}}(2N + 2527)) \\
&= B_{\bar{N}}(2N + 2530 - (N + 2849)) + B_{\bar{N}}(2N + 2530 - (2N - 201)) + B_{\bar{N}}(2N + 2530 - (N + 2850)) \\
&= B_{\bar{N}}(N - 319) + B_{\bar{N}}(2731) + B_{\bar{N}}(N - 320) = (N - 319) + 2731 + (N - 320) = \mathbf{2N} + \mathbf{2092} \\
&(N \geq 2731)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2531}) &= B_{\bar{N}}(2N + 2531 - B_{\bar{N}}(2N + 2530)) + B_{\bar{N}}(2N + 2531 - B_{\bar{N}}(2N + 2529)) + B_{\bar{N}}(2N + 2531 - B_{\bar{N}}(2N + 2528)) \\
&= B_{\bar{N}}(2N + 2531 - (2N + 2092)) + B_{\bar{N}}(2N + 2531 - (N + 2849)) + B_{\bar{N}}(2N + 2531 - (2N - 201)) \\
&= B_{\bar{N}}(439) + B_{\bar{N}}(N - 318) + B_{\bar{N}}(2732) = 439 + (N - 318) + 2732 = \mathbf{N} + \mathbf{2853} \\
&(N \geq 2732)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2532}) &= B_{\bar{N}}(2N + 2532 - B_{\bar{N}}(2N + 2531)) + B_{\bar{N}}(2N + 2532 - B_{\bar{N}}(2N + 2530)) + B_{\bar{N}}(2N + 2532 - B_{\bar{N}}(2N + 2529)) \\
&= B_{\bar{N}}(2N + 2532 - (N + 2853)) + B_{\bar{N}}(2N + 2532 - (2N + 2092)) + B_{\bar{N}}(2N + 2532 - (N + 2849)) \\
&= B_{\bar{N}}(N - 321) + B_{\bar{N}}(440) + B_{\bar{N}}(N - 317) = (N - 321) + 440 + (N - 317) = \mathbf{2N} - \mathbf{198} \\
&(N \geq 440)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2533}) &= B_{\bar{N}}(2N + 2533 - B_{\bar{N}}(2N + 2532)) + B_{\bar{N}}(2N + 2533 - B_{\bar{N}}(2N + 2531)) + B_{\bar{N}}(2N + 2533 - B_{\bar{N}}(2N + 2530)) \\
&= B_{\bar{N}}(2N + 2533 - (2N - 198)) + B_{\bar{N}}(2N + 2533 - (N + 2853)) + B_{\bar{N}}(2N + 2533 - (2N + 2092)) \\
&= B_{\bar{N}}(2731) + B_{\bar{N}}(N - 320) + B_{\bar{N}}(441) = 2731 + (N - 320) + 441 = \mathbf{N} + \mathbf{2852} \\
&(N \geq 2731)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2534}) &= B_{\bar{N}}(2N + 2534 - B_{\bar{N}}(2N + 2533)) + B_{\bar{N}}(2N + 2534 - B_{\bar{N}}(2N + 2532)) + B_{\bar{N}}(2N + 2534 - B_{\bar{N}}(2N + 2531)) \\
&= B_{\bar{N}}(2N + 2534 - (N + 2852)) + B_{\bar{N}}(2N + 2534 - (2N - 198)) + B_{\bar{N}}(2N + 2534 - (N + 2853)) \\
&= B_{\bar{N}}(N - 318) + B_{\bar{N}}(2732) + B_{\bar{N}}(N - 319) = (N - 318) + 2732 + (N - 319) = \mathbf{2N} + \mathbf{2095} \\
&(N \geq 2732)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2535}) &= B_{\bar{N}}(2N + 2535 - B_{\bar{N}}(2N + 2534)) + B_{\bar{N}}(2N + 2535 - B_{\bar{N}}(2N + 2533)) + B_{\bar{N}}(2N + 2535 - B_{\bar{N}}(2N + 2532)) \\
&= B_{\bar{N}}(2N + 2535 - (2N + 2095)) + B_{\bar{N}}(2N + 2535 - (N + 2852)) + B_{\bar{N}}(2N + 2535 - (2N - 198)) \\
&= B_{\bar{N}}(440) + B_{\bar{N}}(N - 317) + B_{\bar{N}}(2733) = 440 + (N - 317) + 2733 = \mathbf{N} + \mathbf{2856} \\
&(N \geq 2733)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2536}) &= B_{\bar{N}}(2N + 2536 - B_{\bar{N}}(2N + 2535)) + B_{\bar{N}}(2N + 2536 - B_{\bar{N}}(2N + 2534)) + B_{\bar{N}}(2N + 2536 - B_{\bar{N}}(2N + 2533)) \\
&= B_{\bar{N}}(2N + 2536 - (N + 2856)) + B_{\bar{N}}(2N + 2536 - (2N + 2095)) + B_{\bar{N}}(2N + 2536 - (N + 2852)) \\
&= B_{\bar{N}}(N - 320) + B_{\bar{N}}(441) + B_{\bar{N}}(N - 316) = (N - 320) + 441 + (N - 316) = \mathbf{2N} - \mathbf{195} \\
&(N \geq 441)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2537}) &= B_{\bar{N}}(2N + 2537 - B_{\bar{N}}(2N + 2536)) + B_{\bar{N}}(2N + 2537 - B_{\bar{N}}(2N + 2535)) + B_{\bar{N}}(2N + 2537 - B_{\bar{N}}(2N + 2534)) \\
&= B_{\bar{N}}(2N + 2537 - (2N - 195)) + B_{\bar{N}}(2N + 2537 - (N + 2856)) + B_{\bar{N}}(2N + 2537 - (2N + 2095)) \\
&= B_{\bar{N}}(2732) + B_{\bar{N}}(N - 319) + B_{\bar{N}}(442) = 2732 + (N - 319) + 442 = \mathbf{N} + \mathbf{2855} \\
&(N \geq 2732)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2538}) &= B_{\bar{N}}(2N + 2538 - B_{\bar{N}}(2N + 2537)) + B_{\bar{N}}(2N + 2538 - B_{\bar{N}}(2N + 2536)) + B_{\bar{N}}(2N + 2538 - B_{\bar{N}}(2N + 2535)) \\
&= B_{\bar{N}}(2N + 2538 - (N + 2855)) + B_{\bar{N}}(2N + 2538 - (2N - 195)) + B_{\bar{N}}(2N + 2538 - (N + 2856)) \\
&= B_{\bar{N}}(N - 317) + B_{\bar{N}}(2733) + B_{\bar{N}}(N - 318) = (N - 317) + 2733 + (N - 318) = \mathbf{2N} + \mathbf{2098} \\
&(N \geq 2733)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2539}) &= B_{\bar{N}}(2N + 2539 - B_{\bar{N}}(2N + 2538)) + B_{\bar{N}}(2N + 2539 - B_{\bar{N}}(2N + 2537)) + B_{\bar{N}}(2N + 2539 - B_{\bar{N}}(2N + 2536)) \\
&= B_{\bar{N}}(2N + 2539 - (2N + 2098)) + B_{\bar{N}}(2N + 2539 - (N + 2855)) + B_{\bar{N}}(2N + 2539 - (2N - 195)) \\
&= B_{\bar{N}}(441) + B_{\bar{N}}(N - 316) + B_{\bar{N}}(2734) = 441 + (N - 316) + 2734 = \mathbf{N} + \mathbf{2859} \\
&(N \geq 2734)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2540}) &= B_{\bar{N}}(2N + 2540 - B_{\bar{N}}(2N + 2539)) + B_{\bar{N}}(2N + 2540 - B_{\bar{N}}(2N + 2538)) + B_{\bar{N}}(2N + 2540 - B_{\bar{N}}(2N + 2537)) \\
&= B_{\bar{N}}(2N + 2540 - (N + 2859)) + B_{\bar{N}}(2N + 2540 - (2N + 2098)) + B_{\bar{N}}(2N + 2540 - (N + 2855)) \\
&= B_{\bar{N}}(N - 319) + B_{\bar{N}}(442) + B_{\bar{N}}(N - 315) = (N - 319) + 442 + (N - 315) = \mathbf{2N} - \mathbf{192} \\
&(N \geq 442)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2541}) &= B_{\bar{N}}(2N + 2541 - B_{\bar{N}}(2N + 2540)) + B_{\bar{N}}(2N + 2541 - B_{\bar{N}}(2N + 2539)) + B_{\bar{N}}(2N + 2541 - B_{\bar{N}}(2N + 2538)) \\
&= B_{\bar{N}}(2N + 2541 - (2N - 192)) + B_{\bar{N}}(2N + 2541 - (N + 2859)) + B_{\bar{N}}(2N + 2541 - (2N + 2098)) \\
&= B_{\bar{N}}(2733) + B_{\bar{N}}(N - 318) + B_{\bar{N}}(443) = 2733 + (N - 318) + 443 = \mathbf{N} + \mathbf{2858} \\
&(N \geq 2733)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2542}) &= B_{\bar{N}}(2N + 2542 - B_{\bar{N}}(2N + 2541)) + B_{\bar{N}}(2N + 2542 - B_{\bar{N}}(2N + 2540)) + B_{\bar{N}}(2N + 2542 - B_{\bar{N}}(2N + 2539)) \\
&= B_{\bar{N}}(2N + 2542 - (N + 2858)) + B_{\bar{N}}(2N + 2542 - (2N - 192)) + B_{\bar{N}}(2N + 2542 - (N + 2859)) \\
&= B_{\bar{N}}(N - 316) + B_{\bar{N}}(2734) + B_{\bar{N}}(N - 317) = (N - 316) + 2734 + (N - 317) = \mathbf{2N} + \mathbf{2101} \\
&(N \geq 2734)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2543}) &= B_{\bar{N}}(2N + 2543 - B_{\bar{N}}(2N + 2542)) + B_{\bar{N}}(2N + 2543 - B_{\bar{N}}(2N + 2541)) + B_{\bar{N}}(2N + 2543 - B_{\bar{N}}(2N + 2540)) \\
&= B_{\bar{N}}(2N + 2543 - (2N + 2101)) + B_{\bar{N}}(2N + 2543 - (N + 2858)) + B_{\bar{N}}(2N + 2543 - (2N - 192)) \\
&= B_{\bar{N}}(442) + B_{\bar{N}}(N - 315) + B_{\bar{N}}(2735) = 442 + (N - 315) + 2735 = \mathbf{N} + \mathbf{2862} \\
&(N \geq 2735)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2544}) &= B_{\bar{N}}(2N + 2544 - B_{\bar{N}}(2N + 2543)) + B_{\bar{N}}(2N + 2544 - B_{\bar{N}}(2N + 2542)) + B_{\bar{N}}(2N + 2544 - B_{\bar{N}}(2N + 2541)) \\
&= B_{\bar{N}}(2N + 2544 - (N + 2862)) + B_{\bar{N}}(2N + 2544 - (2N + 2101)) + B_{\bar{N}}(2N + 2544 - (N + 2858)) \\
&= B_{\bar{N}}(N - 318) + B_{\bar{N}}(443) + B_{\bar{N}}(N - 314) = (N - 318) + 443 + (N - 314) = \mathbf{2N} - \mathbf{189} \\
&(N \geq 443)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2545}) &= B_{\bar{N}}(2N + 2545 - B_{\bar{N}}(2N + 2544)) + B_{\bar{N}}(2N + 2545 - B_{\bar{N}}(2N + 2543)) + B_{\bar{N}}(2N + 2545 - B_{\bar{N}}(2N + 2542)) \\
&= B_{\bar{N}}(2N + 2545 - (2N - 189)) + B_{\bar{N}}(2N + 2545 - (N + 2862)) + B_{\bar{N}}(2N + 2545 - (2N + 2101)) \\
&= B_{\bar{N}}(2734) + B_{\bar{N}}(N - 317) + B_{\bar{N}}(444) = 2734 + (N - 317) + 444 = \mathbf{N} + \mathbf{2861} \\
&(N \geq 2734)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2546}) &= B_{\bar{N}}(2N + 2546 - B_{\bar{N}}(2N + 2545)) + B_{\bar{N}}(2N + 2546 - B_{\bar{N}}(2N + 2544)) + B_{\bar{N}}(2N + 2546 - B_{\bar{N}}(2N + 2543)) \\
&= B_{\bar{N}}(2N + 2546 - (N + 2861)) + B_{\bar{N}}(2N + 2546 - (2N - 189)) + B_{\bar{N}}(2N + 2546 - (N + 2862)) \\
&= B_{\bar{N}}(N - 315) + B_{\bar{N}}(2735) + B_{\bar{N}}(N - 316) = (N - 315) + 2735 + (N - 316) = \mathbf{2N} + \mathbf{2104} \\
&(N \geq 2735)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2547}) &= B_{\bar{N}}(2N + 2547 - B_{\bar{N}}(2N + 2546)) + B_{\bar{N}}(2N + 2547 - B_{\bar{N}}(2N + 2545)) + B_{\bar{N}}(2N + 2547 - B_{\bar{N}}(2N + 2544)) \\
&= B_{\bar{N}}(2N + 2547 - (2N + 2104)) + B_{\bar{N}}(2N + 2547 - (N + 2861)) + B_{\bar{N}}(2N + 2547 - (2N - 189)) \\
&= B_{\bar{N}}(443) + B_{\bar{N}}(N - 314) + B_{\bar{N}}(2736) = 443 + (N - 314) + 2736 = \mathbf{N} + \mathbf{2865} \\
&(N \geq 2736)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2548}) &= B_{\bar{N}}(2N + 2548 - B_{\bar{N}}(2N + 2547)) + B_{\bar{N}}(2N + 2548 - B_{\bar{N}}(2N + 2546)) + B_{\bar{N}}(2N + 2548 - B_{\bar{N}}(2N + 2545)) \\
&= B_{\bar{N}}(2N + 2548 - (N + 2865)) + B_{\bar{N}}(2N + 2548 - (2N + 2104)) + B_{\bar{N}}(2N + 2548 - (N + 2861)) \\
&= B_{\bar{N}}(N - 317) + B_{\bar{N}}(444) + B_{\bar{N}}(N - 313) = (N - 317) + 444 + (N - 313) = \mathbf{2N} - \mathbf{186} \\
&(N \geq 444)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2549}) &= B_{\bar{N}}(2N + 2549 - B_{\bar{N}}(2N + 2548)) + B_{\bar{N}}(2N + 2549 - B_{\bar{N}}(2N + 2547)) + B_{\bar{N}}(2N + 2549 - B_{\bar{N}}(2N + 2546)) \\
&= B_{\bar{N}}(2N + 2549 - (2N - 186)) + B_{\bar{N}}(2N + 2549 - (N + 2865)) + B_{\bar{N}}(2N + 2549 - (2N + 2104)) \\
&= B_{\bar{N}}(2735) + B_{\bar{N}}(N - 316) + B_{\bar{N}}(445) = 2735 + (N - 316) + 445 = \mathbf{N} + \mathbf{2864} \\
&(N \geq 2735)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2550}) &= B_{\bar{N}}(2N + 2550 - B_{\bar{N}}(2N + 2549)) + B_{\bar{N}}(2N + 2550 - B_{\bar{N}}(2N + 2548)) + B_{\bar{N}}(2N + 2550 - B_{\bar{N}}(2N + 2547)) \\
&= B_{\bar{N}}(2N + 2550 - (N + 2864)) + B_{\bar{N}}(2N + 2550 - (2N - 186)) + B_{\bar{N}}(2N + 2550 - (N + 2865)) \\
&= B_{\bar{N}}(N - 314) + B_{\bar{N}}(2736) + B_{\bar{N}}(N - 315) = (N - 314) + 2736 + (N - 315) = \mathbf{2N} + \mathbf{2107} \\
&(N \geq 2736)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2551}) &= B_{\bar{N}}(2N + 2551 - B_{\bar{N}}(2N + 2550)) + B_{\bar{N}}(2N + 2551 - B_{\bar{N}}(2N + 2549)) + B_{\bar{N}}(2N + 2551 - B_{\bar{N}}(2N + 2548)) \\
&= B_{\bar{N}}(2N + 2551 - (2N + 2107)) + B_{\bar{N}}(2N + 2551 - (N + 2864)) + B_{\bar{N}}(2N + 2551 - (2N - 186)) \\
&= B_{\bar{N}}(444) + B_{\bar{N}}(N - 313) + B_{\bar{N}}(2737) = 444 + (N - 313) + 2737 = \mathbf{N} + \mathbf{2868} \\
&(N \geq 2737)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2552}) &= B_{\bar{N}}(2N + 2552 - B_{\bar{N}}(2N + 2551)) + B_{\bar{N}}(2N + 2552 - B_{\bar{N}}(2N + 2550)) + B_{\bar{N}}(2N + 2552 - B_{\bar{N}}(2N + 2549)) \\
&= B_{\bar{N}}(2N + 2552 - (N + 2868)) + B_{\bar{N}}(2N + 2552 - (2N + 2107)) + B_{\bar{N}}(2N + 2552 - (N + 2864)) \\
&= B_{\bar{N}}(N - 316) + B_{\bar{N}}(445) + B_{\bar{N}}(N - 312) = (N - 316) + 445 + (N - 312) = \mathbf{2N} - \mathbf{183} \\
&(N \geq 445)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2553}) &= B_{\bar{N}}(2N + 2553 - B_{\bar{N}}(2N + 2552)) + B_{\bar{N}}(2N + 2553 - B_{\bar{N}}(2N + 2551)) + B_{\bar{N}}(2N + 2553 - B_{\bar{N}}(2N + 2550)) \\
&= B_{\bar{N}}(2N + 2553 - (2N - 183)) + B_{\bar{N}}(2N + 2553 - (N + 2868)) + B_{\bar{N}}(2N + 2553 - (2N + 2107)) \\
&= B_{\bar{N}}(2736) + B_{\bar{N}}(N - 315) + B_{\bar{N}}(446) = 2736 + (N - 315) + 446 = \mathbf{N} + \mathbf{2867} \\
&(N \geq 2736)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2554}) &= B_{\bar{N}}(2N + 2554 - B_{\bar{N}}(2N + 2553)) + B_{\bar{N}}(2N + 2554 - B_{\bar{N}}(2N + 2552)) + B_{\bar{N}}(2N + 2554 - B_{\bar{N}}(2N + 2551)) \\
&= B_{\bar{N}}(2N + 2554 - (N + 2867)) + B_{\bar{N}}(2N + 2554 - (2N - 183)) + B_{\bar{N}}(2N + 2554 - (N + 2868)) \\
&= B_{\bar{N}}(N - 313) + B_{\bar{N}}(2737) + B_{\bar{N}}(N - 314) = (N - 313) + 2737 + (N - 314) = \mathbf{2N} + \mathbf{2110} \\
&(N \geq 2737)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2555}) &= B_{\bar{N}}(2N + 2555 - B_{\bar{N}}(2N + 2554)) + B_{\bar{N}}(2N + 2555 - B_{\bar{N}}(2N + 2553)) + B_{\bar{N}}(2N + 2555 - B_{\bar{N}}(2N + 2552)) \\
&= B_{\bar{N}}(2N + 2555 - (2N + 2110)) + B_{\bar{N}}(2N + 2555 - (N + 2867)) + B_{\bar{N}}(2N + 2555 - (2N - 183)) \\
&= B_{\bar{N}}(445) + B_{\bar{N}}(N - 312) + B_{\bar{N}}(2738) = 445 + (N - 312) + 2738 = \mathbf{N} + \mathbf{2871} \\
&(N \geq 2738)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2556}) &= B_{\bar{N}}(2N + 2556 - B_{\bar{N}}(2N + 2555)) + B_{\bar{N}}(2N + 2556 - B_{\bar{N}}(2N + 2554)) + B_{\bar{N}}(2N + 2556 - B_{\bar{N}}(2N + 2553)) \\
&= B_{\bar{N}}(2N + 2556 - (N + 2871)) + B_{\bar{N}}(2N + 2556 - (2N + 2110)) + B_{\bar{N}}(2N + 2556 - (N + 2867)) \\
&= B_{\bar{N}}(N - 315) + B_{\bar{N}}(446) + B_{\bar{N}}(N - 311) = (N - 315) + 446 + (N - 311) = \mathbf{2N} - \mathbf{180} \\
&(N \geq 446)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2557}) &= B_{\bar{N}}(2N + 2557 - B_{\bar{N}}(2N + 2556)) + B_{\bar{N}}(2N + 2557 - B_{\bar{N}}(2N + 2555)) + B_{\bar{N}}(2N + 2557 - B_{\bar{N}}(2N + 2554)) \\
&= B_{\bar{N}}(2N + 2557 - (2N - 180)) + B_{\bar{N}}(2N + 2557 - (N + 2871)) + B_{\bar{N}}(2N + 2557 - (2N + 2110)) \\
&= B_{\bar{N}}(2737) + B_{\bar{N}}(N - 314) + B_{\bar{N}}(447) = 2737 + (N - 314) + 447 = \mathbf{N} + \mathbf{2870} \\
&(N \geq 2737)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2558}) &= B_{\bar{N}}(2N + 2558 - B_{\bar{N}}(2N + 2557)) + B_{\bar{N}}(2N + 2558 - B_{\bar{N}}(2N + 2556)) + B_{\bar{N}}(2N + 2558 - B_{\bar{N}}(2N + 2555)) \\
&= B_{\bar{N}}(2N + 2558 - (N + 2870)) + B_{\bar{N}}(2N + 2558 - (2N - 180)) + B_{\bar{N}}(2N + 2558 - (N + 2871)) \\
&= B_{\bar{N}}(N - 312) + B_{\bar{N}}(2738) + B_{\bar{N}}(N - 313) = (N - 312) + 2738 + (N - 313) = \mathbf{2N} + \mathbf{2113} \\
&(N \geq 2738)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2559}) &= B_{\bar{N}}(2N + 2559 - B_{\bar{N}}(2N + 2558)) + B_{\bar{N}}(2N + 2559 - B_{\bar{N}}(2N + 2557)) + B_{\bar{N}}(2N + 2559 - B_{\bar{N}}(2N + 2556)) \\
&= B_{\bar{N}}(2N + 2559 - (2N + 2113)) + B_{\bar{N}}(2N + 2559 - (N + 2870)) + B_{\bar{N}}(2N + 2559 - (2N - 180)) \\
&= B_{\bar{N}}(446) + B_{\bar{N}}(N - 311) + B_{\bar{N}}(2739) = 446 + (N - 311) + 2739 = \mathbf{N} + \mathbf{2874} \\
&(N \geq 2739)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2560}) &= B_{\bar{N}}(2N + 2560 - B_{\bar{N}}(2N + 2559)) + B_{\bar{N}}(2N + 2560 - B_{\bar{N}}(2N + 2558)) + B_{\bar{N}}(2N + 2560 - B_{\bar{N}}(2N + 2557)) \\
&= B_{\bar{N}}(2N + 2560 - (N + 2874)) + B_{\bar{N}}(2N + 2560 - (2N + 2113)) + B_{\bar{N}}(2N + 2560 - (N + 2870)) \\
&= B_{\bar{N}}(N - 314) + B_{\bar{N}}(447) + B_{\bar{N}}(N - 310) = (N - 314) + 447 + (N - 310) = \mathbf{2N} - \mathbf{177} \\
&(N \geq 447)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2561}) &= B_{\bar{N}}(2N + 2561 - B_{\bar{N}}(2N + 2560)) + B_{\bar{N}}(2N + 2561 - B_{\bar{N}}(2N + 2559)) + B_{\bar{N}}(2N + 2561 - B_{\bar{N}}(2N + 2558)) \\
&= B_{\bar{N}}(2N + 2561 - (2N - 177)) + B_{\bar{N}}(2N + 2561 - (N + 2874)) + B_{\bar{N}}(2N + 2561 - (2N + 2113)) \\
&= B_{\bar{N}}(2738) + B_{\bar{N}}(N - 313) + B_{\bar{N}}(448) = 2738 + (N - 313) + 448 = \mathbf{N} + \mathbf{2873} \\
&(N \geq 2738)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2562}) &= B_{\bar{N}}(2N + 2562 - B_{\bar{N}}(2N + 2561)) + B_{\bar{N}}(2N + 2562 - B_{\bar{N}}(2N + 2560)) + B_{\bar{N}}(2N + 2562 - B_{\bar{N}}(2N + 2559)) \\
&= B_{\bar{N}}(2N + 2562 - (N + 2873)) + B_{\bar{N}}(2N + 2562 - (2N - 177)) + B_{\bar{N}}(2N + 2562 - (N + 2874)) \\
&= B_{\bar{N}}(N - 311) + B_{\bar{N}}(2739) + B_{\bar{N}}(N - 312) = (N - 311) + 2739 + (N - 312) = \mathbf{2N} + \mathbf{2116} \\
&(N \geq 2739)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2563}) &= B_{\bar{N}}(2N + 2563 - B_{\bar{N}}(2N + 2562)) + B_{\bar{N}}(2N + 2563 - B_{\bar{N}}(2N + 2561)) + B_{\bar{N}}(2N + 2563 - B_{\bar{N}}(2N + 2560)) \\
&= B_{\bar{N}}(2N + 2563 - (2N + 2116)) + B_{\bar{N}}(2N + 2563 - (N + 2873)) + B_{\bar{N}}(2N + 2563 - (2N - 177)) \\
&= B_{\bar{N}}(447) + B_{\bar{N}}(N - 310) + B_{\bar{N}}(2740) = 447 + (N - 310) + 2740 = \mathbf{N} + \mathbf{2877} \\
&(N \geq 2740)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2564}) &= B_{\bar{N}}(2N + 2564 - B_{\bar{N}}(2N + 2563)) + B_{\bar{N}}(2N + 2564 - B_{\bar{N}}(2N + 2562)) + B_{\bar{N}}(2N + 2564 - B_{\bar{N}}(2N + 2561)) \\
&= B_{\bar{N}}(2N + 2564 - (N + 2877)) + B_{\bar{N}}(2N + 2564 - (2N + 2116)) + B_{\bar{N}}(2N + 2564 - (N + 2873)) \\
&= B_{\bar{N}}(N - 313) + B_{\bar{N}}(448) + B_{\bar{N}}(N - 309) = (N - 313) + 448 + (N - 309) = \mathbf{2N} - \mathbf{174} \\
&(N \geq 448)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2565}) &= B_{\bar{N}}(2N + 2565 - B_{\bar{N}}(2N + 2564)) + B_{\bar{N}}(2N + 2565 - B_{\bar{N}}(2N + 2563)) + B_{\bar{N}}(2N + 2565 - B_{\bar{N}}(2N + 2562)) \\
&= B_{\bar{N}}(2N + 2565 - (2N - 174)) + B_{\bar{N}}(2N + 2565 - (N + 2877)) + B_{\bar{N}}(2N + 2565 - (2N + 2116)) \\
&= B_{\bar{N}}(2739) + B_{\bar{N}}(N - 312) + B_{\bar{N}}(449) = 2739 + (N - 312) + 449 = \mathbf{N} + \mathbf{2876} \\
&(N \geq 2739)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2566}) &= B_{\bar{N}}(2N + 2566 - B_{\bar{N}}(2N + 2565)) + B_{\bar{N}}(2N + 2566 - B_{\bar{N}}(2N + 2564)) + B_{\bar{N}}(2N + 2566 - B_{\bar{N}}(2N + 2563)) \\
&= B_{\bar{N}}(2N + 2566 - (N + 2876)) + B_{\bar{N}}(2N + 2566 - (2N - 174)) + B_{\bar{N}}(2N + 2566 - (N + 2877)) \\
&= B_{\bar{N}}(N - 310) + B_{\bar{N}}(2740) + B_{\bar{N}}(N - 311) = (N - 310) + 2740 + (N - 311) = \mathbf{2N} + \mathbf{2119} \\
&(N \geq 2740)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2567}) &= B_{\bar{N}}(2N + 2567 - B_{\bar{N}}(2N + 2566)) + B_{\bar{N}}(2N + 2567 - B_{\bar{N}}(2N + 2565)) + B_{\bar{N}}(2N + 2567 - B_{\bar{N}}(2N + 2564)) \\
&= B_{\bar{N}}(2N + 2567 - (2N + 2119)) + B_{\bar{N}}(2N + 2567 - (N + 2876)) + B_{\bar{N}}(2N + 2567 - (2N - 174)) \\
&= B_{\bar{N}}(448) + B_{\bar{N}}(N - 309) + B_{\bar{N}}(2741) = 448 + (N - 309) + 2741 = \mathbf{N} + \mathbf{2880} \\
&(N \geq 2741)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2568}) &= B_{\bar{N}}(2N + 2568 - B_{\bar{N}}(2N + 2567)) + B_{\bar{N}}(2N + 2568 - B_{\bar{N}}(2N + 2566)) + B_{\bar{N}}(2N + 2568 - B_{\bar{N}}(2N + 2565)) \\
&= B_{\bar{N}}(2N + 2568 - (N + 2880)) + B_{\bar{N}}(2N + 2568 - (2N + 2119)) + B_{\bar{N}}(2N + 2568 - (N + 2876)) \\
&= B_{\bar{N}}(N - 312) + B_{\bar{N}}(449) + B_{\bar{N}}(N - 308) = (N - 312) + 449 + (N - 308) = \mathbf{2N} - \mathbf{171} \\
&(N \geq 449)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2569}) &= B_{\bar{N}}(2N + 2569 - B_{\bar{N}}(2N + 2568)) + B_{\bar{N}}(2N + 2569 - B_{\bar{N}}(2N + 2567)) + B_{\bar{N}}(2N + 2569 - B_{\bar{N}}(2N + 2566)) \\
&= B_{\bar{N}}(2N + 2569 - (2N - 171)) + B_{\bar{N}}(2N + 2569 - (N + 2880)) + B_{\bar{N}}(2N + 2569 - (2N + 2119)) \\
&= B_{\bar{N}}(2740) + B_{\bar{N}}(N - 311) + B_{\bar{N}}(450) = 2740 + (N - 311) + 450 = \mathbf{N} + \mathbf{2879} \\
&(N \geq 2740)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2570}) &= B_{\bar{N}}(2N + 2570 - B_{\bar{N}}(2N + 2569)) + B_{\bar{N}}(2N + 2570 - B_{\bar{N}}(2N + 2568)) + B_{\bar{N}}(2N + 2570 - B_{\bar{N}}(2N + 2567)) \\
&= B_{\bar{N}}(2N + 2570 - (N + 2879)) + B_{\bar{N}}(2N + 2570 - (2N - 171)) + B_{\bar{N}}(2N + 2570 - (N + 2880)) \\
&= B_{\bar{N}}(N - 309) + B_{\bar{N}}(2741) + B_{\bar{N}}(N - 310) = (N - 309) + 2741 + (N - 310) = \mathbf{2N} + \mathbf{2122} \\
&(N \geq 2741)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2571}) &= B_{\bar{N}}(2N + 2571 - B_{\bar{N}}(2N + 2570)) + B_{\bar{N}}(2N + 2571 - B_{\bar{N}}(2N + 2569)) + B_{\bar{N}}(2N + 2571 - B_{\bar{N}}(2N + 2568)) \\
&= B_{\bar{N}}(2N + 2571 - (2N + 2122)) + B_{\bar{N}}(2N + 2571 - (N + 2879)) + B_{\bar{N}}(2N + 2571 - (2N - 171)) \\
&= B_{\bar{N}}(449) + B_{\bar{N}}(N - 308) + B_{\bar{N}}(2742) = 449 + (N - 308) + 2742 = \mathbf{N} + \mathbf{2883} \\
&(N \geq 2742)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2572}) &= B_{\bar{N}}(2N + 2572 - B_{\bar{N}}(2N + 2571)) + B_{\bar{N}}(2N + 2572 - B_{\bar{N}}(2N + 2570)) + B_{\bar{N}}(2N + 2572 - B_{\bar{N}}(2N + 2569)) \\
&= B_{\bar{N}}(2N + 2572 - (N + 2883)) + B_{\bar{N}}(2N + 2572 - (2N + 2122)) + B_{\bar{N}}(2N + 2572 - (N + 2879)) \\
&= B_{\bar{N}}(N - 311) + B_{\bar{N}}(450) + B_{\bar{N}}(N - 307) = (N - 311) + 450 + (N - 307) = \mathbf{2N} - \mathbf{168} \\
&(N \geq 450)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2573}) &= B_{\bar{N}}(2N + 2573 - B_{\bar{N}}(2N + 2572)) + B_{\bar{N}}(2N + 2573 - B_{\bar{N}}(2N + 2571)) + B_{\bar{N}}(2N + 2573 - B_{\bar{N}}(2N + 2570)) \\
&= B_{\bar{N}}(2N + 2573 - (2N - 168)) + B_{\bar{N}}(2N + 2573 - (N + 2883)) + B_{\bar{N}}(2N + 2573 - (2N + 2122)) \\
&= B_{\bar{N}}(2741) + B_{\bar{N}}(N - 310) + B_{\bar{N}}(451) = 2741 + (N - 310) + 451 = \mathbf{N} + \mathbf{2882} \\
&(N \geq 2741)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2574}) &= B_{\bar{N}}(2N + 2574 - B_{\bar{N}}(2N + 2573)) + B_{\bar{N}}(2N + 2574 - B_{\bar{N}}(2N + 2572)) + B_{\bar{N}}(2N + 2574 - B_{\bar{N}}(2N + 2571)) \\
&= B_{\bar{N}}(2N + 2574 - (N + 2882)) + B_{\bar{N}}(2N + 2574 - (2N - 168)) + B_{\bar{N}}(2N + 2574 - (N + 2883)) \\
&= B_{\bar{N}}(N - 308) + B_{\bar{N}}(2742) + B_{\bar{N}}(N - 309) = (N - 308) + 2742 + (N - 309) = \mathbf{2N} + \mathbf{2125} \\
&(N \geq 2742)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2575}) &= B_{\bar{N}}(2N + 2575 - B_{\bar{N}}(2N + 2574)) + B_{\bar{N}}(2N + 2575 - B_{\bar{N}}(2N + 2573)) + B_{\bar{N}}(2N + 2575 - B_{\bar{N}}(2N + 2572)) \\
&= B_{\bar{N}}(2N + 2575 - (2N + 2125)) + B_{\bar{N}}(2N + 2575 - (N + 2882)) + B_{\bar{N}}(2N + 2575 - (2N - 168)) \\
&= B_{\bar{N}}(450) + B_{\bar{N}}(N - 307) + B_{\bar{N}}(2743) = 450 + (N - 307) + 2743 = \mathbf{N} + \mathbf{2886} \\
&(N \geq 2743)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2576}) &= B_{\bar{N}}(2N + 2576 - B_{\bar{N}}(2N + 2575)) + B_{\bar{N}}(2N + 2576 - B_{\bar{N}}(2N + 2574)) + B_{\bar{N}}(2N + 2576 - B_{\bar{N}}(2N + 2573)) \\
&= B_{\bar{N}}(2N + 2576 - (N + 2886)) + B_{\bar{N}}(2N + 2576 - (2N + 2125)) + B_{\bar{N}}(2N + 2576 - (N + 2882)) \\
&= B_{\bar{N}}(N - 310) + B_{\bar{N}}(451) + B_{\bar{N}}(N - 306) = (N - 310) + 451 + (N - 306) = \mathbf{2N} - \mathbf{165} \\
&(N \geq 451)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2577}) &= B_{\bar{N}}(2N + 2577 - B_{\bar{N}}(2N + 2576)) + B_{\bar{N}}(2N + 2577 - B_{\bar{N}}(2N + 2575)) + B_{\bar{N}}(2N + 2577 - B_{\bar{N}}(2N + 2574)) \\
&= B_{\bar{N}}(2N + 2577 - (2N - 165)) + B_{\bar{N}}(2N + 2577 - (N + 2886)) + B_{\bar{N}}(2N + 2577 - (2N + 2125)) \\
&= B_{\bar{N}}(2742) + B_{\bar{N}}(N - 309) + B_{\bar{N}}(452) = 2742 + (N - 309) + 452 = \mathbf{N} + \mathbf{2885} \\
&(N \geq 2742)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2578}) &= B_{\bar{N}}(2N + 2578 - B_{\bar{N}}(2N + 2577)) + B_{\bar{N}}(2N + 2578 - B_{\bar{N}}(2N + 2576)) + B_{\bar{N}}(2N + 2578 - B_{\bar{N}}(2N + 2575)) \\
&= B_{\bar{N}}(2N + 2578 - (N + 2885)) + B_{\bar{N}}(2N + 2578 - (2N - 165)) + B_{\bar{N}}(2N + 2578 - (N + 2886)) \\
&= B_{\bar{N}}(N - 307) + B_{\bar{N}}(2743) + B_{\bar{N}}(N - 308) = (N - 307) + 2743 + (N - 308) = \mathbf{2N} + \mathbf{2128} \\
&(N \geq 2743)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2579}) &= B_{\bar{N}}(2N + 2579 - B_{\bar{N}}(2N + 2578)) + B_{\bar{N}}(2N + 2579 - B_{\bar{N}}(2N + 2577)) + B_{\bar{N}}(2N + 2579 - B_{\bar{N}}(2N + 2576)) \\
&= B_{\bar{N}}(2N + 2579 - (2N + 2128)) + B_{\bar{N}}(2N + 2579 - (N + 2885)) + B_{\bar{N}}(2N + 2579 - (2N - 165)) \\
&= B_{\bar{N}}(451) + B_{\bar{N}}(N - 306) + B_{\bar{N}}(2744) = 451 + (N - 306) + 2744 = \mathbf{N} + \mathbf{2889} \\
&(N \geq 2744)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2580}) &= B_{\bar{N}}(2N + 2580 - B_{\bar{N}}(2N + 2579)) + B_{\bar{N}}(2N + 2580 - B_{\bar{N}}(2N + 2578)) + B_{\bar{N}}(2N + 2580 - B_{\bar{N}}(2N + 2577)) \\
&= B_{\bar{N}}(2N + 2580 - (N + 2889)) + B_{\bar{N}}(2N + 2580 - (2N + 2128)) + B_{\bar{N}}(2N + 2580 - (N + 2885)) \\
&= B_{\bar{N}}(N - 309) + B_{\bar{N}}(452) + B_{\bar{N}}(N - 305) = (N - 309) + 452 + (N - 305) = \mathbf{2N} - \mathbf{162} \\
&(N \geq 452)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2581}) &= B_{\bar{N}}(2N + 2581 - B_{\bar{N}}(2N + 2580)) + B_{\bar{N}}(2N + 2581 - B_{\bar{N}}(2N + 2579)) + B_{\bar{N}}(2N + 2581 - B_{\bar{N}}(2N + 2578)) \\
&= B_{\bar{N}}(2N + 2581 - (2N - 162)) + B_{\bar{N}}(2N + 2581 - (N + 2889)) + B_{\bar{N}}(2N + 2581 - (2N + 2128)) \\
&= B_{\bar{N}}(2743) + B_{\bar{N}}(N - 308) + B_{\bar{N}}(453) = 2743 + (N - 308) + 453 = \mathbf{N} + \mathbf{2888} \\
&(N \geq 2743)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2582}) &= B_{\bar{N}}(2N + 2582 - B_{\bar{N}}(2N + 2581)) + B_{\bar{N}}(2N + 2582 - B_{\bar{N}}(2N + 2580)) + B_{\bar{N}}(2N + 2582 - B_{\bar{N}}(2N + 2579)) \\
&= B_{\bar{N}}(2N + 2582 - (N + 2888)) + B_{\bar{N}}(2N + 2582 - (2N - 162)) + B_{\bar{N}}(2N + 2582 - (N + 2889)) \\
&= B_{\bar{N}}(N - 306) + B_{\bar{N}}(2744) + B_{\bar{N}}(N - 307) = (N - 306) + 2744 + (N - 307) = \mathbf{2N} + \mathbf{2131} \\
&(N \geq 2744)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2583}) &= B_{\bar{N}}(2N + 2583 - B_{\bar{N}}(2N + 2582)) + B_{\bar{N}}(2N + 2583 - B_{\bar{N}}(2N + 2581)) + B_{\bar{N}}(2N + 2583 - B_{\bar{N}}(2N + 2580)) \\
&= B_{\bar{N}}(2N + 2583 - (2N + 2131)) + B_{\bar{N}}(2N + 2583 - (N + 2888)) + B_{\bar{N}}(2N + 2583 - (2N - 162)) \\
&= B_{\bar{N}}(452) + B_{\bar{N}}(N - 305) + B_{\bar{N}}(2745) = 452 + (N - 305) + 2745 = \mathbf{N} + \mathbf{2892} \\
&(N \geq 2745)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2584}) &= B_{\bar{N}}(2N + 2584 - B_{\bar{N}}(2N + 2583)) + B_{\bar{N}}(2N + 2584 - B_{\bar{N}}(2N + 2582)) + B_{\bar{N}}(2N + 2584 - B_{\bar{N}}(2N + 2581)) \\
&= B_{\bar{N}}(2N + 2584 - (N + 2892)) + B_{\bar{N}}(2N + 2584 - (2N + 2131)) + B_{\bar{N}}(2N + 2584 - (N + 2888)) \\
&= B_{\bar{N}}(N - 308) + B_{\bar{N}}(453) + B_{\bar{N}}(N - 304) = (N - 308) + 453 + (N - 304) = \mathbf{2N} - \mathbf{159} \\
&(N \geq 453)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2585}) &= B_{\bar{N}}(2N + 2585 - B_{\bar{N}}(2N + 2584)) + B_{\bar{N}}(2N + 2585 - B_{\bar{N}}(2N + 2583)) + B_{\bar{N}}(2N + 2585 - B_{\bar{N}}(2N + 2582)) \\
&= B_{\bar{N}}(2N + 2585 - (2N - 159)) + B_{\bar{N}}(2N + 2585 - (N + 2892)) + B_{\bar{N}}(2N + 2585 - (2N + 2131)) \\
&= B_{\bar{N}}(2744) + B_{\bar{N}}(N - 307) + B_{\bar{N}}(454) = 2744 + (N - 307) + 454 = \mathbf{N} + \mathbf{2891} \\
&(N \geq 2744)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2586}) &= B_{\bar{N}}(2N + 2586 - B_{\bar{N}}(2N + 2585)) + B_{\bar{N}}(2N + 2586 - B_{\bar{N}}(2N + 2584)) + B_{\bar{N}}(2N + 2586 - B_{\bar{N}}(2N + 2583)) \\
&= B_{\bar{N}}(2N + 2586 - (N + 2891)) + B_{\bar{N}}(2N + 2586 - (2N - 159)) + B_{\bar{N}}(2N + 2586 - (N + 2892)) \\
&= B_{\bar{N}}(N - 305) + B_{\bar{N}}(2745) + B_{\bar{N}}(N - 306) = (N - 305) + 2745 + (N - 306) = \mathbf{2N} + \mathbf{2134} \\
&(N \geq 2745)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2587}) &= B_{\bar{N}}(2N + 2587 - B_{\bar{N}}(2N + 2586)) + B_{\bar{N}}(2N + 2587 - B_{\bar{N}}(2N + 2585)) + B_{\bar{N}}(2N + 2587 - B_{\bar{N}}(2N + 2584)) \\
&= B_{\bar{N}}(2N + 2587 - (2N + 2134)) + B_{\bar{N}}(2N + 2587 - (N + 2891)) + B_{\bar{N}}(2N + 2587 - (2N - 159)) \\
&= B_{\bar{N}}(453) + B_{\bar{N}}(N - 304) + B_{\bar{N}}(2746) = 453 + (N - 304) + 2746 = \mathbf{N} + \mathbf{2895} \\
&(N \geq 2746)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2588}) &= B_{\bar{N}}(2N + 2588 - B_{\bar{N}}(2N + 2587)) + B_{\bar{N}}(2N + 2588 - B_{\bar{N}}(2N + 2586)) + B_{\bar{N}}(2N + 2588 - B_{\bar{N}}(2N + 2585)) \\
&= B_{\bar{N}}(2N + 2588 - (N + 2895)) + B_{\bar{N}}(2N + 2588 - (2N + 2134)) + B_{\bar{N}}(2N + 2588 - (N + 2891)) \\
&= B_{\bar{N}}(N - 307) + B_{\bar{N}}(454) + B_{\bar{N}}(N - 303) = (N - 307) + 454 + (N - 303) = \mathbf{2N} - \mathbf{156} \\
&(N \geq 454)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2589}) &= B_{\bar{N}}(2N + 2589 - B_{\bar{N}}(2N + 2588)) + B_{\bar{N}}(2N + 2589 - B_{\bar{N}}(2N + 2587)) + B_{\bar{N}}(2N + 2589 - B_{\bar{N}}(2N + 2586)) \\
&= B_{\bar{N}}(2N + 2589 - (2N - 156)) + B_{\bar{N}}(2N + 2589 - (N + 2895)) + B_{\bar{N}}(2N + 2589 - (2N + 2134)) \\
&= B_{\bar{N}}(2745) + B_{\bar{N}}(N - 306) + B_{\bar{N}}(455) = 2745 + (N - 306) + 455 = \mathbf{N} + \mathbf{2894} \\
&(N \geq 2745)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2590}) &= B_{\bar{N}}(2N + 2590 - B_{\bar{N}}(2N + 2589)) + B_{\bar{N}}(2N + 2590 - B_{\bar{N}}(2N + 2588)) + B_{\bar{N}}(2N + 2590 - B_{\bar{N}}(2N + 2587)) \\
&= B_{\bar{N}}(2N + 2590 - (N + 2894)) + B_{\bar{N}}(2N + 2590 - (2N - 156)) + B_{\bar{N}}(2N + 2590 - (N + 2895)) \\
&= B_{\bar{N}}(N - 304) + B_{\bar{N}}(2746) + B_{\bar{N}}(N - 305) = (N - 304) + 2746 + (N - 305) = \mathbf{2N} + \mathbf{2137} \\
&(N \geq 2746)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2591}) &= B_{\bar{N}}(2N + 2591 - B_{\bar{N}}(2N + 2590)) + B_{\bar{N}}(2N + 2591 - B_{\bar{N}}(2N + 2589)) + B_{\bar{N}}(2N + 2591 - B_{\bar{N}}(2N + 2588)) \\
&= B_{\bar{N}}(2N + 2591 - (2N + 2137)) + B_{\bar{N}}(2N + 2591 - (N + 2894)) + B_{\bar{N}}(2N + 2591 - (2N - 156)) \\
&= B_{\bar{N}}(454) + B_{\bar{N}}(N - 303) + B_{\bar{N}}(2747) = 454 + (N - 303) + 2747 = \mathbf{N} + \mathbf{2898} \\
&(N \geq 2747)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2592}) &= B_{\bar{N}}(2N + 2592 - B_{\bar{N}}(2N + 2591)) + B_{\bar{N}}(2N + 2592 - B_{\bar{N}}(2N + 2590)) + B_{\bar{N}}(2N + 2592 - B_{\bar{N}}(2N + 2589)) \\
&= B_{\bar{N}}(2N + 2592 - (N + 2898)) + B_{\bar{N}}(2N + 2592 - (2N + 2137)) + B_{\bar{N}}(2N + 2592 - (N + 2894)) \\
&= B_{\bar{N}}(N - 306) + B_{\bar{N}}(455) + B_{\bar{N}}(N - 302) = (N - 306) + 455 + (N - 302) = \mathbf{2N} - \mathbf{153} \\
&(N \geq 455)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2593}) &= B_{\bar{N}}(2N + 2593 - B_{\bar{N}}(2N + 2592)) + B_{\bar{N}}(2N + 2593 - B_{\bar{N}}(2N + 2591)) + B_{\bar{N}}(2N + 2593 - B_{\bar{N}}(2N + 2590)) \\
&= B_{\bar{N}}(2N + 2593 - (2N - 153)) + B_{\bar{N}}(2N + 2593 - (N + 2898)) + B_{\bar{N}}(2N + 2593 - (2N + 2137)) \\
&= B_{\bar{N}}(2746) + B_{\bar{N}}(N - 305) + B_{\bar{N}}(456) = 2746 + (N - 305) + 456 = \mathbf{N} + \mathbf{2897} \\
&(N \geq 2746)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2594}) &= B_{\bar{N}}(2N + 2594 - B_{\bar{N}}(2N + 2593)) + B_{\bar{N}}(2N + 2594 - B_{\bar{N}}(2N + 2592)) + B_{\bar{N}}(2N + 2594 - B_{\bar{N}}(2N + 2591)) \\
&= B_{\bar{N}}(2N + 2594 - (N + 2897)) + B_{\bar{N}}(2N + 2594 - (2N - 153)) + B_{\bar{N}}(2N + 2594 - (N + 2898)) \\
&= B_{\bar{N}}(N - 303) + B_{\bar{N}}(2747) + B_{\bar{N}}(N - 304) = (N - 303) + 2747 + (N - 304) = \mathbf{2N} + \mathbf{2140} \\
&(N \geq 2747)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2595}) &= B_{\bar{N}}(2N + 2595 - B_{\bar{N}}(2N + 2594)) + B_{\bar{N}}(2N + 2595 - B_{\bar{N}}(2N + 2593)) + B_{\bar{N}}(2N + 2595 - B_{\bar{N}}(2N + 2592)) \\
&= B_{\bar{N}}(2N + 2595 - (2N + 2140)) + B_{\bar{N}}(2N + 2595 - (N + 2897)) + B_{\bar{N}}(2N + 2595 - (2N - 153)) \\
&= B_{\bar{N}}(455) + B_{\bar{N}}(N - 302) + B_{\bar{N}}(2748) = 455 + (N - 302) + 2748 = \mathbf{N} + \mathbf{2901} \\
&(N \geq 2748)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2596}) &= B_{\bar{N}}(2N + 2596 - B_{\bar{N}}(2N + 2595)) + B_{\bar{N}}(2N + 2596 - B_{\bar{N}}(2N + 2594)) + B_{\bar{N}}(2N + 2596 - B_{\bar{N}}(2N + 2593)) \\
&= B_{\bar{N}}(2N + 2596 - (N + 2901)) + B_{\bar{N}}(2N + 2596 - (2N + 2140)) + B_{\bar{N}}(2N + 2596 - (N + 2897)) \\
&= B_{\bar{N}}(N - 305) + B_{\bar{N}}(456) + B_{\bar{N}}(N - 301) = (N - 305) + 456 + (N - 301) = \mathbf{2N} - \mathbf{150} \\
&(N \geq 456)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2597}) &= B_{\bar{N}}(2N + 2597 - B_{\bar{N}}(2N + 2596)) + B_{\bar{N}}(2N + 2597 - B_{\bar{N}}(2N + 2595)) + B_{\bar{N}}(2N + 2597 - B_{\bar{N}}(2N + 2594)) \\
&= B_{\bar{N}}(2N + 2597 - (2N - 150)) + B_{\bar{N}}(2N + 2597 - (N + 2901)) + B_{\bar{N}}(2N + 2597 - (2N + 2140)) \\
&= B_{\bar{N}}(2747) + B_{\bar{N}}(N - 304) + B_{\bar{N}}(457) = 2747 + (N - 304) + 457 = \mathbf{N} + \mathbf{2900} \\
&(N \geq 2747)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2598}) &= B_{\bar{N}}(2N + 2598 - B_{\bar{N}}(2N + 2597)) + B_{\bar{N}}(2N + 2598 - B_{\bar{N}}(2N + 2596)) + B_{\bar{N}}(2N + 2598 - B_{\bar{N}}(2N + 2595)) \\
&= B_{\bar{N}}(2N + 2598 - (N + 2900)) + B_{\bar{N}}(2N + 2598 - (2N - 150)) + B_{\bar{N}}(2N + 2598 - (N + 2901)) \\
&= B_{\bar{N}}(N - 302) + B_{\bar{N}}(2748) + B_{\bar{N}}(N - 303) = (N - 302) + 2748 + (N - 303) = \mathbf{2N} + \mathbf{2143} \\
&(N \geq 2748)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2599}) &= B_{\bar{N}}(2N + 2599 - B_{\bar{N}}(2N + 2598)) + B_{\bar{N}}(2N + 2599 - B_{\bar{N}}(2N + 2597)) + B_{\bar{N}}(2N + 2599 - B_{\bar{N}}(2N + 2596)) \\
&= B_{\bar{N}}(2N + 2599 - (2N + 2143)) + B_{\bar{N}}(2N + 2599 - (N + 2900)) + B_{\bar{N}}(2N + 2599 - (2N - 150)) \\
&= B_{\bar{N}}(456) + B_{\bar{N}}(N - 301) + B_{\bar{N}}(2749) = 456 + (N - 301) + 2749 = \mathbf{N} + \mathbf{2904} \\
&(N \geq 2749)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2600}) &= B_{\bar{N}}(2N + 2600 - B_{\bar{N}}(2N + 2599)) + B_{\bar{N}}(2N + 2600 - B_{\bar{N}}(2N + 2598)) + B_{\bar{N}}(2N + 2600 - B_{\bar{N}}(2N + 2597)) \\
&= B_{\bar{N}}(2N + 2600 - (N + 2904)) + B_{\bar{N}}(2N + 2600 - (2N + 2143)) + B_{\bar{N}}(2N + 2600 - (N + 2900)) \\
&= B_{\bar{N}}(N - 304) + B_{\bar{N}}(457) + B_{\bar{N}}(N - 300) = (N - 304) + 457 + (N - 300) = \mathbf{2N} - \mathbf{147} \\
&(N \geq 457)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2601}) &= B_{\bar{N}}(2N + 2601 - B_{\bar{N}}(2N + 2600)) + B_{\bar{N}}(2N + 2601 - B_{\bar{N}}(2N + 2599)) + B_{\bar{N}}(2N + 2601 - B_{\bar{N}}(2N + 2598)) \\
&= B_{\bar{N}}(2N + 2601 - (2N - 147)) + B_{\bar{N}}(2N + 2601 - (N + 2904)) + B_{\bar{N}}(2N + 2601 - (2N + 2143)) \\
&= B_{\bar{N}}(2748) + B_{\bar{N}}(N - 303) + B_{\bar{N}}(458) = 2748 + (N - 303) + 458 = \mathbf{N} + \mathbf{2903} \\
&(N \geq 2748)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2602}) &= B_{\bar{N}}(2N + 2602 - B_{\bar{N}}(2N + 2601)) + B_{\bar{N}}(2N + 2602 - B_{\bar{N}}(2N + 2600)) + B_{\bar{N}}(2N + 2602 - B_{\bar{N}}(2N + 2599)) \\
&= B_{\bar{N}}(2N + 2602 - (N + 2903)) + B_{\bar{N}}(2N + 2602 - (2N - 147)) + B_{\bar{N}}(2N + 2602 - (N + 2904)) \\
&= B_{\bar{N}}(N - 301) + B_{\bar{N}}(2749) + B_{\bar{N}}(N - 302) = (N - 301) + 2749 + (N - 302) = \mathbf{2N} + \mathbf{2146} \\
&(N \geq 2749)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2603}) &= B_{\bar{N}}(2N + 2603 - B_{\bar{N}}(2N + 2602)) + B_{\bar{N}}(2N + 2603 - B_{\bar{N}}(2N + 2601)) + B_{\bar{N}}(2N + 2603 - B_{\bar{N}}(2N + 2600)) \\
&= B_{\bar{N}}(2N + 2603 - (2N + 2146)) + B_{\bar{N}}(2N + 2603 - (N + 2903)) + B_{\bar{N}}(2N + 2603 - (2N - 147)) \\
&= B_{\bar{N}}(457) + B_{\bar{N}}(N - 300) + B_{\bar{N}}(2750) = 457 + (N - 300) + 2750 = \mathbf{N} + \mathbf{2907} \\
&(N \geq 2750)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2604}) &= B_{\bar{N}}(2N + 2604 - B_{\bar{N}}(2N + 2603)) + B_{\bar{N}}(2N + 2604 - B_{\bar{N}}(2N + 2602)) + B_{\bar{N}}(2N + 2604 - B_{\bar{N}}(2N + 2601)) \\
&= B_{\bar{N}}(2N + 2604 - (N + 2907)) + B_{\bar{N}}(2N + 2604 - (2N + 2146)) + B_{\bar{N}}(2N + 2604 - (N + 2903)) \\
&= B_{\bar{N}}(N - 303) + B_{\bar{N}}(458) + B_{\bar{N}}(N - 299) = (N - 303) + 458 + (N - 299) = \mathbf{2N} - \mathbf{144} \\
&(N \geq 458)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2605}) &= B_{\bar{N}}(2N + 2605 - B_{\bar{N}}(2N + 2604)) + B_{\bar{N}}(2N + 2605 - B_{\bar{N}}(2N + 2603)) + B_{\bar{N}}(2N + 2605 - B_{\bar{N}}(2N + 2602)) \\
&= B_{\bar{N}}(2N + 2605 - (2N - 144)) + B_{\bar{N}}(2N + 2605 - (N + 2907)) + B_{\bar{N}}(2N + 2605 - (2N + 2146)) \\
&= B_{\bar{N}}(2749) + B_{\bar{N}}(N - 302) + B_{\bar{N}}(459) = 2749 + (N - 302) + 459 = \mathbf{N} + \mathbf{2906} \\
&(N \geq 2749)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2606}) &= B_{\bar{N}}(2N + 2606 - B_{\bar{N}}(2N + 2605)) + B_{\bar{N}}(2N + 2606 - B_{\bar{N}}(2N + 2604)) + B_{\bar{N}}(2N + 2606 - B_{\bar{N}}(2N + 2603)) \\
&= B_{\bar{N}}(2N + 2606 - (N + 2906)) + B_{\bar{N}}(2N + 2606 - (2N - 144)) + B_{\bar{N}}(2N + 2606 - (N + 2907)) \\
&= B_{\bar{N}}(N - 300) + B_{\bar{N}}(2750) + B_{\bar{N}}(N - 301) = (N - 300) + 2750 + (N - 301) = \mathbf{2N} + \mathbf{2149} \\
&(N \geq 2750)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2607}) &= B_{\bar{N}}(2N + 2607 - B_{\bar{N}}(2N + 2606)) + B_{\bar{N}}(2N + 2607 - B_{\bar{N}}(2N + 2605)) + B_{\bar{N}}(2N + 2607 - B_{\bar{N}}(2N + 2604)) \\
&= B_{\bar{N}}(2N + 2607 - (2N + 2149)) + B_{\bar{N}}(2N + 2607 - (N + 2906)) + B_{\bar{N}}(2N + 2607 - (2N - 144)) \\
&= B_{\bar{N}}(458) + B_{\bar{N}}(N - 299) + B_{\bar{N}}(2751) = 458 + (N - 299) + 2751 = \mathbf{N} + \mathbf{2910} \\
&(N \geq 2751)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2608}) &= B_{\bar{N}}(2N + 2608 - B_{\bar{N}}(2N + 2607)) + B_{\bar{N}}(2N + 2608 - B_{\bar{N}}(2N + 2606)) + B_{\bar{N}}(2N + 2608 - B_{\bar{N}}(2N + 2605)) \\
&= B_{\bar{N}}(2N + 2608 - (N + 2910)) + B_{\bar{N}}(2N + 2608 - (2N + 2149)) + B_{\bar{N}}(2N + 2608 - (N + 2906)) \\
&= B_{\bar{N}}(N - 302) + B_{\bar{N}}(459) + B_{\bar{N}}(N - 298) = (N - 302) + 459 + (N - 298) = \mathbf{2N} - \mathbf{141} \\
&(N \geq 459)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2609}) &= B_{\bar{N}}(2N + 2609 - B_{\bar{N}}(2N + 2608)) + B_{\bar{N}}(2N + 2609 - B_{\bar{N}}(2N + 2607)) + B_{\bar{N}}(2N + 2609 - B_{\bar{N}}(2N + 2606)) \\
&= B_{\bar{N}}(2N + 2609 - (2N - 141)) + B_{\bar{N}}(2N + 2609 - (N + 2910)) + B_{\bar{N}}(2N + 2609 - (2N + 2149)) \\
&= B_{\bar{N}}(2750) + B_{\bar{N}}(N - 301) + B_{\bar{N}}(460) = 2750 + (N - 301) + 460 = \mathbf{N} + \mathbf{2909} \\
&(N \geq 2750)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2610}) &= B_{\bar{N}}(2N + 2610 - B_{\bar{N}}(2N + 2609)) + B_{\bar{N}}(2N + 2610 - B_{\bar{N}}(2N + 2608)) + B_{\bar{N}}(2N + 2610 - B_{\bar{N}}(2N + 2607)) \\
&= B_{\bar{N}}(2N + 2610 - (N + 2909)) + B_{\bar{N}}(2N + 2610 - (2N - 141)) + B_{\bar{N}}(2N + 2610 - (N + 2910)) \\
&= B_{\bar{N}}(N - 299) + B_{\bar{N}}(2751) + B_{\bar{N}}(N - 300) = (N - 299) + 2751 + (N - 300) = \mathbf{2N} + \mathbf{2152} \\
&(N \geq 2751)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2611}) &= B_{\bar{N}}(2N + 2611 - B_{\bar{N}}(2N + 2610)) + B_{\bar{N}}(2N + 2611 - B_{\bar{N}}(2N + 2609)) + B_{\bar{N}}(2N + 2611 - B_{\bar{N}}(2N + 2608)) \\
&= B_{\bar{N}}(2N + 2611 - (2N + 2152)) + B_{\bar{N}}(2N + 2611 - (N + 2909)) + B_{\bar{N}}(2N + 2611 - (2N - 141)) \\
&= B_{\bar{N}}(459) + B_{\bar{N}}(N - 298) + B_{\bar{N}}(2752) = 459 + (N - 298) + 2752 = \mathbf{N} + \mathbf{2913} \\
&(N \geq 2752)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2612}) &= B_{\bar{N}}(2N + 2612 - B_{\bar{N}}(2N + 2611)) + B_{\bar{N}}(2N + 2612 - B_{\bar{N}}(2N + 2610)) + B_{\bar{N}}(2N + 2612 - B_{\bar{N}}(2N + 2609)) \\
&= B_{\bar{N}}(2N + 2612 - (N + 2913)) + B_{\bar{N}}(2N + 2612 - (2N + 2152)) + B_{\bar{N}}(2N + 2612 - (N + 2909)) \\
&= B_{\bar{N}}(N - 301) + B_{\bar{N}}(460) + B_{\bar{N}}(N - 297) = (N - 301) + 460 + (N - 297) = \mathbf{2N} - \mathbf{138} \\
&(N \geq 460)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2613}) &= B_{\bar{N}}(2N + 2613 - B_{\bar{N}}(2N + 2612)) + B_{\bar{N}}(2N + 2613 - B_{\bar{N}}(2N + 2611)) + B_{\bar{N}}(2N + 2613 - B_{\bar{N}}(2N + 2610)) \\
&= B_{\bar{N}}(2N + 2613 - (2N - 138)) + B_{\bar{N}}(2N + 2613 - (N + 2913)) + B_{\bar{N}}(2N + 2613 - (2N + 2152)) \\
&= B_{\bar{N}}(2751) + B_{\bar{N}}(N - 300) + B_{\bar{N}}(461) = 2751 + (N - 300) + 461 = \mathbf{N} + \mathbf{2912} \\
&(N \geq 2751)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2614}) &= B_{\bar{N}}(2N + 2614 - B_{\bar{N}}(2N + 2613)) + B_{\bar{N}}(2N + 2614 - B_{\bar{N}}(2N + 2612)) + B_{\bar{N}}(2N + 2614 - B_{\bar{N}}(2N + 2611)) \\
&= B_{\bar{N}}(2N + 2614 - (N + 2912)) + B_{\bar{N}}(2N + 2614 - (2N - 138)) + B_{\bar{N}}(2N + 2614 - (N + 2913)) \\
&= B_{\bar{N}}(N - 298) + B_{\bar{N}}(2752) + B_{\bar{N}}(N - 299) = (N - 298) + 2752 + (N - 299) = \mathbf{2N} + \mathbf{2155} \\
&(N \geq 2752)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2615}) &= B_{\bar{N}}(2N + 2615 - B_{\bar{N}}(2N + 2614)) + B_{\bar{N}}(2N + 2615 - B_{\bar{N}}(2N + 2613)) + B_{\bar{N}}(2N + 2615 - B_{\bar{N}}(2N + 2612)) \\
&= B_{\bar{N}}(2N + 2615 - (2N + 2155)) + B_{\bar{N}}(2N + 2615 - (N + 2912)) + B_{\bar{N}}(2N + 2615 - (2N - 138)) \\
&= B_{\bar{N}}(460) + B_{\bar{N}}(N - 297) + B_{\bar{N}}(2753) = 460 + (N - 297) + 2753 = \mathbf{N} + \mathbf{2916} \\
&(N \geq 2753)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2616}) &= B_{\bar{N}}(2N + 2616 - B_{\bar{N}}(2N + 2615)) + B_{\bar{N}}(2N + 2616 - B_{\bar{N}}(2N + 2614)) + B_{\bar{N}}(2N + 2616 - B_{\bar{N}}(2N + 2613)) \\
&= B_{\bar{N}}(2N + 2616 - (N + 2916)) + B_{\bar{N}}(2N + 2616 - (2N + 2155)) + B_{\bar{N}}(2N + 2616 - (N + 2912)) \\
&= B_{\bar{N}}(N - 300) + B_{\bar{N}}(461) + B_{\bar{N}}(N - 296) = (N - 300) + 461 + (N - 296) = \mathbf{2N} - \mathbf{135} \\
&(N \geq 461)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2617}) &= B_{\bar{N}}(2N + 2617 - B_{\bar{N}}(2N + 2616)) + B_{\bar{N}}(2N + 2617 - B_{\bar{N}}(2N + 2615)) + B_{\bar{N}}(2N + 2617 - B_{\bar{N}}(2N + 2614)) \\
&= B_{\bar{N}}(2N + 2617 - (2N - 135)) + B_{\bar{N}}(2N + 2617 - (N + 2916)) + B_{\bar{N}}(2N + 2617 - (2N + 2155)) \\
&= B_{\bar{N}}(2752) + B_{\bar{N}}(N - 299) + B_{\bar{N}}(462) = 2752 + (N - 299) + 462 = \mathbf{N} + \mathbf{2915} \\
&(N \geq 2752)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2618}) &= B_{\bar{N}}(2N + 2618 - B_{\bar{N}}(2N + 2617)) + B_{\bar{N}}(2N + 2618 - B_{\bar{N}}(2N + 2616)) + B_{\bar{N}}(2N + 2618 - B_{\bar{N}}(2N + 2615)) \\
&= B_{\bar{N}}(2N + 2618 - (N + 2915)) + B_{\bar{N}}(2N + 2618 - (2N - 135)) + B_{\bar{N}}(2N + 2618 - (N + 2916)) \\
&= B_{\bar{N}}(N - 297) + B_{\bar{N}}(2753) + B_{\bar{N}}(N - 298) = (N - 297) + 2753 + (N - 298) = \mathbf{2N} + \mathbf{2158} \\
&(N \geq 2753)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2619}) &= B_{\bar{N}}(2N + 2619 - B_{\bar{N}}(2N + 2618)) + B_{\bar{N}}(2N + 2619 - B_{\bar{N}}(2N + 2617)) + B_{\bar{N}}(2N + 2619 - B_{\bar{N}}(2N + 2616)) \\
&= B_{\bar{N}}(2N + 2619 - (2N + 2158)) + B_{\bar{N}}(2N + 2619 - (N + 2915)) + B_{\bar{N}}(2N + 2619 - (2N - 135)) \\
&= B_{\bar{N}}(461) + B_{\bar{N}}(N - 296) + B_{\bar{N}}(2754) = 461 + (N - 296) + 2754 = \mathbf{N} + \mathbf{2919} \\
&(N \geq 2754)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2620}) &= B_{\bar{N}}(2N + 2620 - B_{\bar{N}}(2N + 2619)) + B_{\bar{N}}(2N + 2620 - B_{\bar{N}}(2N + 2618)) + B_{\bar{N}}(2N + 2620 - B_{\bar{N}}(2N + 2617)) \\
&= B_{\bar{N}}(2N + 2620 - (N + 2919)) + B_{\bar{N}}(2N + 2620 - (2N + 2158)) + B_{\bar{N}}(2N + 2620 - (N + 2915)) \\
&= B_{\bar{N}}(N - 299) + B_{\bar{N}}(462) + B_{\bar{N}}(N - 295) = (N - 299) + 462 + (N - 295) = \mathbf{2N} - \mathbf{132} \\
&(N \geq 462)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2621}) &= B_{\bar{N}}(2N + 2621 - B_{\bar{N}}(2N + 2620)) + B_{\bar{N}}(2N + 2621 - B_{\bar{N}}(2N + 2619)) + B_{\bar{N}}(2N + 2621 - B_{\bar{N}}(2N + 2618)) \\
&= B_{\bar{N}}(2N + 2621 - (2N - 132)) + B_{\bar{N}}(2N + 2621 - (N + 2919)) + B_{\bar{N}}(2N + 2621 - (2N + 2158)) \\
&= B_{\bar{N}}(2753) + B_{\bar{N}}(N - 298) + B_{\bar{N}}(463) = 2753 + (N - 298) + 463 = \mathbf{N} + \mathbf{2918} \\
&(N \geq 2753)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2622}) &= B_{\bar{N}}(2N + 2622 - B_{\bar{N}}(2N + 2621)) + B_{\bar{N}}(2N + 2622 - B_{\bar{N}}(2N + 2620)) + B_{\bar{N}}(2N + 2622 - B_{\bar{N}}(2N + 2619)) \\
&= B_{\bar{N}}(2N + 2622 - (N + 2918)) + B_{\bar{N}}(2N + 2622 - (2N - 132)) + B_{\bar{N}}(2N + 2622 - (N + 2919)) \\
&= B_{\bar{N}}(N - 296) + B_{\bar{N}}(2754) + B_{\bar{N}}(N - 297) = (N - 296) + 2754 + (N - 297) = \mathbf{2N} + \mathbf{2161} \\
&(N \geq 2754)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2623}) &= B_{\bar{N}}(2N + 2623 - B_{\bar{N}}(2N + 2622)) + B_{\bar{N}}(2N + 2623 - B_{\bar{N}}(2N + 2621)) + B_{\bar{N}}(2N + 2623 - B_{\bar{N}}(2N + 2620)) \\
&= B_{\bar{N}}(2N + 2623 - (2N + 2161)) + B_{\bar{N}}(2N + 2623 - (N + 2918)) + B_{\bar{N}}(2N + 2623 - (2N - 132)) \\
&= B_{\bar{N}}(462) + B_{\bar{N}}(N - 295) + B_{\bar{N}}(2755) = 462 + (N - 295) + 2755 = \mathbf{N} + \mathbf{2922} \\
&(N \geq 2755)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2624}) &= B_{\bar{N}}(2N + 2624 - B_{\bar{N}}(2N + 2623)) + B_{\bar{N}}(2N + 2624 - B_{\bar{N}}(2N + 2622)) + B_{\bar{N}}(2N + 2624 - B_{\bar{N}}(2N + 2621)) \\
&= B_{\bar{N}}(2N + 2624 - (N + 2922)) + B_{\bar{N}}(2N + 2624 - (2N + 2161)) + B_{\bar{N}}(2N + 2624 - (N + 2918)) \\
&= B_{\bar{N}}(N - 298) + B_{\bar{N}}(463) + B_{\bar{N}}(N - 294) = (N - 298) + 463 + (N - 294) = \mathbf{2N} - \mathbf{129} \\
&(N \geq 463)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2625}) &= B_{\bar{N}}(2N + 2625 - B_{\bar{N}}(2N + 2624)) + B_{\bar{N}}(2N + 2625 - B_{\bar{N}}(2N + 2623)) + B_{\bar{N}}(2N + 2625 - B_{\bar{N}}(2N + 2622)) \\
&= B_{\bar{N}}(2N + 2625 - (2N - 129)) + B_{\bar{N}}(2N + 2625 - (N + 2922)) + B_{\bar{N}}(2N + 2625 - (2N + 2161)) \\
&= B_{\bar{N}}(2754) + B_{\bar{N}}(N - 297) + B_{\bar{N}}(464) = 2754 + (N - 297) + 464 = \mathbf{N} + \mathbf{2921} \\
&(N \geq 2754)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2626}) &= B_{\bar{N}}(2N + 2626 - B_{\bar{N}}(2N + 2625)) + B_{\bar{N}}(2N + 2626 - B_{\bar{N}}(2N + 2624)) + B_{\bar{N}}(2N + 2626 - B_{\bar{N}}(2N + 2623)) \\
&= B_{\bar{N}}(2N + 2626 - (N + 2921)) + B_{\bar{N}}(2N + 2626 - (2N - 129)) + B_{\bar{N}}(2N + 2626 - (N + 2922)) \\
&= B_{\bar{N}}(N - 295) + B_{\bar{N}}(2755) + B_{\bar{N}}(N - 296) = (N - 295) + 2755 + (N - 296) = \mathbf{2N} + \mathbf{2164} \\
&(N \geq 2755)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2627}) &= B_{\bar{N}}(2N + 2627 - B_{\bar{N}}(2N + 2626)) + B_{\bar{N}}(2N + 2627 - B_{\bar{N}}(2N + 2625)) + B_{\bar{N}}(2N + 2627 - B_{\bar{N}}(2N + 2624)) \\
&= B_{\bar{N}}(2N + 2627 - (2N + 2164)) + B_{\bar{N}}(2N + 2627 - (N + 2921)) + B_{\bar{N}}(2N + 2627 - (2N - 129)) \\
&= B_{\bar{N}}(463) + B_{\bar{N}}(N - 294) + B_{\bar{N}}(2756) = 463 + (N - 294) + 2756 = \mathbf{N} + \mathbf{2925} \\
&(N \geq 2756)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2628}) &= B_{\bar{N}}(2N + 2628 - B_{\bar{N}}(2N + 2627)) + B_{\bar{N}}(2N + 2628 - B_{\bar{N}}(2N + 2626)) + B_{\bar{N}}(2N + 2628 - B_{\bar{N}}(2N + 2625)) \\
&= B_{\bar{N}}(2N + 2628 - (N + 2925)) + B_{\bar{N}}(2N + 2628 - (2N + 2164)) + B_{\bar{N}}(2N + 2628 - (N + 2921)) \\
&= B_{\bar{N}}(N - 297) + B_{\bar{N}}(464) + B_{\bar{N}}(N - 293) = (N - 297) + 464 + (N - 293) = \mathbf{2N} - \mathbf{126} \\
&(N \geq 464)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2629}) &= B_{\bar{N}}(2N + 2629 - B_{\bar{N}}(2N + 2628)) + B_{\bar{N}}(2N + 2629 - B_{\bar{N}}(2N + 2627)) + B_{\bar{N}}(2N + 2629 - B_{\bar{N}}(2N + 2626)) \\
&= B_{\bar{N}}(2N + 2629 - (2N - 126)) + B_{\bar{N}}(2N + 2629 - (N + 2925)) + B_{\bar{N}}(2N + 2629 - (2N + 2164)) \\
&= B_{\bar{N}}(2755) + B_{\bar{N}}(N - 296) + B_{\bar{N}}(465) = 2755 + (N - 296) + 465 = \mathbf{N} + \mathbf{2924} \\
&(N \geq 2755)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2630}) &= B_{\bar{N}}(2N + 2630 - B_{\bar{N}}(2N + 2629)) + B_{\bar{N}}(2N + 2630 - B_{\bar{N}}(2N + 2628)) + B_{\bar{N}}(2N + 2630 - B_{\bar{N}}(2N + 2627)) \\
&= B_{\bar{N}}(2N + 2630 - (N + 2924)) + B_{\bar{N}}(2N + 2630 - (2N - 126)) + B_{\bar{N}}(2N + 2630 - (N + 2925)) \\
&= B_{\bar{N}}(N - 294) + B_{\bar{N}}(2756) + B_{\bar{N}}(N - 295) = (N - 294) + 2756 + (N - 295) = \mathbf{2N} + \mathbf{2167} \\
&(N \geq 2756)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2631}) &= B_{\bar{N}}(2N + 2631 - B_{\bar{N}}(2N + 2630)) + B_{\bar{N}}(2N + 2631 - B_{\bar{N}}(2N + 2629)) + B_{\bar{N}}(2N + 2631 - B_{\bar{N}}(2N + 2628)) \\
&= B_{\bar{N}}(2N + 2631 - (2N + 2167)) + B_{\bar{N}}(2N + 2631 - (N + 2924)) + B_{\bar{N}}(2N + 2631 - (2N - 126)) \\
&= B_{\bar{N}}(464) + B_{\bar{N}}(N - 293) + B_{\bar{N}}(2757) = 464 + (N - 293) + 2757 = \mathbf{N} + \mathbf{2928} \\
&(N \geq 2757)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2632}) &= B_{\bar{N}}(2N + 2632 - B_{\bar{N}}(2N + 2631)) + B_{\bar{N}}(2N + 2632 - B_{\bar{N}}(2N + 2630)) + B_{\bar{N}}(2N + 2632 - B_{\bar{N}}(2N + 2629)) \\
&= B_{\bar{N}}(2N + 2632 - (N + 2928)) + B_{\bar{N}}(2N + 2632 - (2N + 2167)) + B_{\bar{N}}(2N + 2632 - (N + 2924)) \\
&= B_{\bar{N}}(N - 296) + B_{\bar{N}}(465) + B_{\bar{N}}(N - 292) = (N - 296) + 465 + (N - 292) = \mathbf{2N} - \mathbf{123} \\
&(N \geq 465)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2633}) &= B_{\bar{N}}(2N + 2633 - B_{\bar{N}}(2N + 2632)) + B_{\bar{N}}(2N + 2633 - B_{\bar{N}}(2N + 2631)) + B_{\bar{N}}(2N + 2633 - B_{\bar{N}}(2N + 2630)) \\
&= B_{\bar{N}}(2N + 2633 - (2N - 123)) + B_{\bar{N}}(2N + 2633 - (N + 2928)) + B_{\bar{N}}(2N + 2633 - (2N + 2167)) \\
&= B_{\bar{N}}(2756) + B_{\bar{N}}(N - 295) + B_{\bar{N}}(466) = 2756 + (N - 295) + 466 = \mathbf{N} + \mathbf{2927} \\
&(N \geq 2756)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2634}) &= B_{\bar{N}}(2N + 2634 - B_{\bar{N}}(2N + 2633)) + B_{\bar{N}}(2N + 2634 - B_{\bar{N}}(2N + 2632)) + B_{\bar{N}}(2N + 2634 - B_{\bar{N}}(2N + 2631)) \\
&= B_{\bar{N}}(2N + 2634 - (N + 2927)) + B_{\bar{N}}(2N + 2634 - (2N - 123)) + B_{\bar{N}}(2N + 2634 - (N + 2928)) \\
&= B_{\bar{N}}(N - 293) + B_{\bar{N}}(2757) + B_{\bar{N}}(N - 294) = (N - 293) + 2757 + (N - 294) = \mathbf{2N} + \mathbf{2170} \\
&(N \geq 2757)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2635}) &= B_{\bar{N}}(2N + 2635 - B_{\bar{N}}(2N + 2634)) + B_{\bar{N}}(2N + 2635 - B_{\bar{N}}(2N + 2633)) + B_{\bar{N}}(2N + 2635 - B_{\bar{N}}(2N + 2632)) \\
&= B_{\bar{N}}(2N + 2635 - (2N + 2170)) + B_{\bar{N}}(2N + 2635 - (N + 2927)) + B_{\bar{N}}(2N + 2635 - (2N - 123)) \\
&= B_{\bar{N}}(465) + B_{\bar{N}}(N - 292) + B_{\bar{N}}(2758) = 465 + (N - 292) + 2758 = \mathbf{N} + \mathbf{2931} \\
&(N \geq 2758)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2636}) &= B_{\bar{N}}(2N + 2636 - B_{\bar{N}}(2N + 2635)) + B_{\bar{N}}(2N + 2636 - B_{\bar{N}}(2N + 2634)) + B_{\bar{N}}(2N + 2636 - B_{\bar{N}}(2N + 2633)) \\
&= B_{\bar{N}}(2N + 2636 - (N + 2931)) + B_{\bar{N}}(2N + 2636 - (2N + 2170)) + B_{\bar{N}}(2N + 2636 - (N + 2927)) \\
&= B_{\bar{N}}(N - 295) + B_{\bar{N}}(466) + B_{\bar{N}}(N - 291) = (N - 295) + 466 + (N - 291) = \mathbf{2N} - \mathbf{120} \\
&(N \geq 466)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2637}) &= B_{\bar{N}}(2N + 2637 - B_{\bar{N}}(2N + 2636)) + B_{\bar{N}}(2N + 2637 - B_{\bar{N}}(2N + 2635)) + B_{\bar{N}}(2N + 2637 - B_{\bar{N}}(2N + 2634)) \\
&= B_{\bar{N}}(2N + 2637 - (2N - 120)) + B_{\bar{N}}(2N + 2637 - (N + 2931)) + B_{\bar{N}}(2N + 2637 - (2N + 2170)) \\
&= B_{\bar{N}}(2757) + B_{\bar{N}}(N - 294) + B_{\bar{N}}(467) = 2757 + (N - 294) + 467 = \mathbf{N} + \mathbf{2930} \\
&(N \geq 2757)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2638}) &= B_{\bar{N}}(2N + 2638 - B_{\bar{N}}(2N + 2637)) + B_{\bar{N}}(2N + 2638 - B_{\bar{N}}(2N + 2636)) + B_{\bar{N}}(2N + 2638 - B_{\bar{N}}(2N + 2635)) \\
&= B_{\bar{N}}(2N + 2638 - (N + 2930)) + B_{\bar{N}}(2N + 2638 - (2N - 120)) + B_{\bar{N}}(2N + 2638 - (N + 2931)) \\
&= B_{\bar{N}}(N - 292) + B_{\bar{N}}(2758) + B_{\bar{N}}(N - 293) = (N - 292) + 2758 + (N - 293) = \mathbf{2N} + \mathbf{2173} \\
&(N \geq 2758)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2639}) &= B_{\bar{N}}(2N + 2639 - B_{\bar{N}}(2N + 2638)) + B_{\bar{N}}(2N + 2639 - B_{\bar{N}}(2N + 2637)) + B_{\bar{N}}(2N + 2639 - B_{\bar{N}}(2N + 2636)) \\
&= B_{\bar{N}}(2N + 2639 - (2N + 2173)) + B_{\bar{N}}(2N + 2639 - (N + 2930)) + B_{\bar{N}}(2N + 2639 - (2N - 120)) \\
&= B_{\bar{N}}(466) + B_{\bar{N}}(N - 291) + B_{\bar{N}}(2759) = 466 + (N - 291) + 2759 = \mathbf{N} + \mathbf{2934} \\
&(N \geq 2759)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2640}) &= B_{\bar{N}}(2N + 2640 - B_{\bar{N}}(2N + 2639)) + B_{\bar{N}}(2N + 2640 - B_{\bar{N}}(2N + 2638)) + B_{\bar{N}}(2N + 2640 - B_{\bar{N}}(2N + 2637)) \\
&= B_{\bar{N}}(2N + 2640 - (N + 2934)) + B_{\bar{N}}(2N + 2640 - (2N + 2173)) + B_{\bar{N}}(2N + 2640 - (N + 2930)) \\
&= B_{\bar{N}}(N - 294) + B_{\bar{N}}(467) + B_{\bar{N}}(N - 290) = (N - 294) + 467 + (N - 290) = \mathbf{2N} - \mathbf{117} \\
&(N \geq 467)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2641}) &= B_{\bar{N}}(2N + 2641 - B_{\bar{N}}(2N + 2640)) + B_{\bar{N}}(2N + 2641 - B_{\bar{N}}(2N + 2639)) + B_{\bar{N}}(2N + 2641 - B_{\bar{N}}(2N + 2638)) \\
&= B_{\bar{N}}(2N + 2641 - (2N - 117)) + B_{\bar{N}}(2N + 2641 - (N + 2934)) + B_{\bar{N}}(2N + 2641 - (2N + 2173)) \\
&= B_{\bar{N}}(2758) + B_{\bar{N}}(N - 293) + B_{\bar{N}}(468) = 2758 + (N - 293) + 468 = \mathbf{N} + \mathbf{2933} \\
&(N \geq 2758)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2642}) &= B_{\bar{N}}(2N + 2642 - B_{\bar{N}}(2N + 2641)) + B_{\bar{N}}(2N + 2642 - B_{\bar{N}}(2N + 2640)) + B_{\bar{N}}(2N + 2642 - B_{\bar{N}}(2N + 2639)) \\
&= B_{\bar{N}}(2N + 2642 - (N + 2933)) + B_{\bar{N}}(2N + 2642 - (2N - 117)) + B_{\bar{N}}(2N + 2642 - (N + 2934)) \\
&= B_{\bar{N}}(N - 291) + B_{\bar{N}}(2759) + B_{\bar{N}}(N - 292) = (N - 291) + 2759 + (N - 292) = \mathbf{2N} + \mathbf{2176} \\
&(N \geq 2759)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2643}) &= B_{\bar{N}}(2N + 2643 - B_{\bar{N}}(2N + 2642)) + B_{\bar{N}}(2N + 2643 - B_{\bar{N}}(2N + 2641)) + B_{\bar{N}}(2N + 2643 - B_{\bar{N}}(2N + 2640)) \\
&= B_{\bar{N}}(2N + 2643 - (2N + 2176)) + B_{\bar{N}}(2N + 2643 - (N + 2933)) + B_{\bar{N}}(2N + 2643 - (2N - 117)) \\
&= B_{\bar{N}}(467) + B_{\bar{N}}(N - 290) + B_{\bar{N}}(2760) = 467 + (N - 290) + 2760 = \mathbf{N} + \mathbf{2937} \\
&(N \geq 2760)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2644}) &= B_{\bar{N}}(2N + 2644 - B_{\bar{N}}(2N + 2643)) + B_{\bar{N}}(2N + 2644 - B_{\bar{N}}(2N + 2642)) + B_{\bar{N}}(2N + 2644 - B_{\bar{N}}(2N + 2641)) \\
&= B_{\bar{N}}(2N + 2644 - (N + 2937)) + B_{\bar{N}}(2N + 2644 - (2N + 2176)) + B_{\bar{N}}(2N + 2644 - (N + 2933)) \\
&= B_{\bar{N}}(N - 293) + B_{\bar{N}}(468) + B_{\bar{N}}(N - 289) = (N - 293) + 468 + (N - 289) = \mathbf{2N} - \mathbf{114} \\
&(N \geq 468)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2645}) &= B_{\bar{N}}(2N + 2645 - B_{\bar{N}}(2N + 2644)) + B_{\bar{N}}(2N + 2645 - B_{\bar{N}}(2N + 2643)) + B_{\bar{N}}(2N + 2645 - B_{\bar{N}}(2N + 2642)) \\
&= B_{\bar{N}}(2N + 2645 - (2N - 114)) + B_{\bar{N}}(2N + 2645 - (N + 2937)) + B_{\bar{N}}(2N + 2645 - (2N + 2176)) \\
&= B_{\bar{N}}(2759) + B_{\bar{N}}(N - 292) + B_{\bar{N}}(469) = 2759 + (N - 292) + 469 = \mathbf{N} + \mathbf{2936} \\
&(N \geq 2759)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2646}) &= B_{\bar{N}}(2N + 2646 - B_{\bar{N}}(2N + 2645)) + B_{\bar{N}}(2N + 2646 - B_{\bar{N}}(2N + 2644)) + B_{\bar{N}}(2N + 2646 - B_{\bar{N}}(2N + 2643)) \\
&= B_{\bar{N}}(2N + 2646 - (N + 2936)) + B_{\bar{N}}(2N + 2646 - (2N - 114)) + B_{\bar{N}}(2N + 2646 - (N + 2937)) \\
&= B_{\bar{N}}(N - 290) + B_{\bar{N}}(2760) + B_{\bar{N}}(N - 291) = (N - 290) + 2760 + (N - 291) = \mathbf{2N} + \mathbf{2179} \\
&(N \geq 2760)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2647}) &= B_{\bar{N}}(2N + 2647 - B_{\bar{N}}(2N + 2646)) + B_{\bar{N}}(2N + 2647 - B_{\bar{N}}(2N + 2645)) + B_{\bar{N}}(2N + 2647 - B_{\bar{N}}(2N + 2644)) \\
&= B_{\bar{N}}(2N + 2647 - (2N + 2179)) + B_{\bar{N}}(2N + 2647 - (N + 2936)) + B_{\bar{N}}(2N + 2647 - (2N - 114)) \\
&= B_{\bar{N}}(468) + B_{\bar{N}}(N - 289) + B_{\bar{N}}(2761) = 468 + (N - 289) + 2761 = \mathbf{N} + \mathbf{2940} \\
&(N \geq 2761)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2648}) &= B_{\bar{N}}(2N + 2648 - B_{\bar{N}}(2N + 2647)) + B_{\bar{N}}(2N + 2648 - B_{\bar{N}}(2N + 2646)) + B_{\bar{N}}(2N + 2648 - B_{\bar{N}}(2N + 2645)) \\
&= B_{\bar{N}}(2N + 2648 - (N + 2940)) + B_{\bar{N}}(2N + 2648 - (2N + 2179)) + B_{\bar{N}}(2N + 2648 - (N + 2936)) \\
&= B_{\bar{N}}(N - 292) + B_{\bar{N}}(469) + B_{\bar{N}}(N - 288) = (N - 292) + 469 + (N - 288) = \mathbf{2N} - \mathbf{111} \\
&(N \geq 469)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2649}) &= B_{\bar{N}}(2N + 2649 - B_{\bar{N}}(2N + 2648)) + B_{\bar{N}}(2N + 2649 - B_{\bar{N}}(2N + 2647)) + B_{\bar{N}}(2N + 2649 - B_{\bar{N}}(2N + 2646)) \\
&= B_{\bar{N}}(2N + 2649 - (2N - 111)) + B_{\bar{N}}(2N + 2649 - (N + 2940)) + B_{\bar{N}}(2N + 2649 - (2N + 2179)) \\
&= B_{\bar{N}}(2760) + B_{\bar{N}}(N - 291) + B_{\bar{N}}(470) = 2760 + (N - 291) + 470 = \mathbf{N} + \mathbf{2939} \\
&(N \geq 2760)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2650}) &= B_{\bar{N}}(2N + 2650 - B_{\bar{N}}(2N + 2649)) + B_{\bar{N}}(2N + 2650 - B_{\bar{N}}(2N + 2648)) + B_{\bar{N}}(2N + 2650 - B_{\bar{N}}(2N + 2647)) \\
&= B_{\bar{N}}(2N + 2650 - (N + 2939)) + B_{\bar{N}}(2N + 2650 - (2N - 111)) + B_{\bar{N}}(2N + 2650 - (N + 2940)) \\
&= B_{\bar{N}}(N - 289) + B_{\bar{N}}(2761) + B_{\bar{N}}(N - 290) = (N - 289) + 2761 + (N - 290) = \mathbf{2N} + \mathbf{2182} \\
&(N \geq 2761)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2651}) &= B_{\bar{N}}(2N + 2651 - B_{\bar{N}}(2N + 2650)) + B_{\bar{N}}(2N + 2651 - B_{\bar{N}}(2N + 2649)) + B_{\bar{N}}(2N + 2651 - B_{\bar{N}}(2N + 2648)) \\
&= B_{\bar{N}}(2N + 2651 - (2N + 2182)) + B_{\bar{N}}(2N + 2651 - (N + 2939)) + B_{\bar{N}}(2N + 2651 - (2N - 111)) \\
&= B_{\bar{N}}(469) + B_{\bar{N}}(N - 288) + B_{\bar{N}}(2762) = 469 + (N - 288) + 2762 = \mathbf{N} + \mathbf{2943} \\
&(N \geq 2762)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2652}) &= B_{\bar{N}}(2N + 2652 - B_{\bar{N}}(2N + 2651)) + B_{\bar{N}}(2N + 2652 - B_{\bar{N}}(2N + 2650)) + B_{\bar{N}}(2N + 2652 - B_{\bar{N}}(2N + 2649)) \\
&= B_{\bar{N}}(2N + 2652 - (N + 2943)) + B_{\bar{N}}(2N + 2652 - (2N + 2182)) + B_{\bar{N}}(2N + 2652 - (N + 2939)) \\
&= B_{\bar{N}}(N - 291) + B_{\bar{N}}(470) + B_{\bar{N}}(N - 287) = (N - 291) + 470 + (N - 287) = \mathbf{2N} - \mathbf{108} \\
&(N \geq 470)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2653}) &= B_{\bar{N}}(2N + 2653 - B_{\bar{N}}(2N + 2652)) + B_{\bar{N}}(2N + 2653 - B_{\bar{N}}(2N + 2651)) + B_{\bar{N}}(2N + 2653 - B_{\bar{N}}(2N + 2650)) \\
&= B_{\bar{N}}(2N + 2653 - (2N - 108)) + B_{\bar{N}}(2N + 2653 - (N + 2943)) + B_{\bar{N}}(2N + 2653 - (2N + 2182)) \\
&= B_{\bar{N}}(2761) + B_{\bar{N}}(N - 290) + B_{\bar{N}}(471) = 2761 + (N - 290) + 471 = \mathbf{N} + \mathbf{2942} \\
&(N \geq 2761)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2654}) &= B_{\bar{N}}(2N + 2654 - B_{\bar{N}}(2N + 2653)) + B_{\bar{N}}(2N + 2654 - B_{\bar{N}}(2N + 2652)) + B_{\bar{N}}(2N + 2654 - B_{\bar{N}}(2N + 2651)) \\
&= B_{\bar{N}}(2N + 2654 - (N + 2942)) + B_{\bar{N}}(2N + 2654 - (2N - 108)) + B_{\bar{N}}(2N + 2654 - (N + 2943)) \\
&= B_{\bar{N}}(N - 288) + B_{\bar{N}}(2762) + B_{\bar{N}}(N - 289) = (N - 288) + 2762 + (N - 289) = \mathbf{2N} + \mathbf{2185} \\
&(N \geq 2762)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2655}) &= B_{\bar{N}}(2N + 2655 - B_{\bar{N}}(2N + 2654)) + B_{\bar{N}}(2N + 2655 - B_{\bar{N}}(2N + 2653)) + B_{\bar{N}}(2N + 2655 - B_{\bar{N}}(2N + 2652)) \\
&= B_{\bar{N}}(2N + 2655 - (2N + 2185)) + B_{\bar{N}}(2N + 2655 - (N + 2942)) + B_{\bar{N}}(2N + 2655 - (2N - 108)) \\
&= B_{\bar{N}}(470) + B_{\bar{N}}(N - 287) + B_{\bar{N}}(2763) = 470 + (N - 287) + 2763 = \mathbf{N} + \mathbf{2946} \\
&(N \geq 2763)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2656}) &= B_{\bar{N}}(2N + 2656 - B_{\bar{N}}(2N + 2655)) + B_{\bar{N}}(2N + 2656 - B_{\bar{N}}(2N + 2654)) + B_{\bar{N}}(2N + 2656 - B_{\bar{N}}(2N + 2653)) \\
&= B_{\bar{N}}(2N + 2656 - (N + 2946)) + B_{\bar{N}}(2N + 2656 - (2N + 2185)) + B_{\bar{N}}(2N + 2656 - (N + 2942)) \\
&= B_{\bar{N}}(N - 290) + B_{\bar{N}}(471) + B_{\bar{N}}(N - 286) = (N - 290) + 471 + (N - 286) = \mathbf{2N} - \mathbf{105} \\
&(N \geq 471)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2657}) &= B_{\bar{N}}(2N + 2657 - B_{\bar{N}}(2N + 2656)) + B_{\bar{N}}(2N + 2657 - B_{\bar{N}}(2N + 2655)) + B_{\bar{N}}(2N + 2657 - B_{\bar{N}}(2N + 2654)) \\
&= B_{\bar{N}}(2N + 2657 - (2N - 105)) + B_{\bar{N}}(2N + 2657 - (N + 2946)) + B_{\bar{N}}(2N + 2657 - (2N + 2185)) \\
&= B_{\bar{N}}(2762) + B_{\bar{N}}(N - 289) + B_{\bar{N}}(472) = 2762 + (N - 289) + 472 = \mathbf{N} + \mathbf{2945} \\
&(N \geq 2762)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2658}) &= B_{\bar{N}}(2N + 2658 - B_{\bar{N}}(2N + 2657)) + B_{\bar{N}}(2N + 2658 - B_{\bar{N}}(2N + 2656)) + B_{\bar{N}}(2N + 2658 - B_{\bar{N}}(2N + 2655)) \\
&= B_{\bar{N}}(2N + 2658 - (N + 2945)) + B_{\bar{N}}(2N + 2658 - (2N - 105)) + B_{\bar{N}}(2N + 2658 - (N + 2946)) \\
&= B_{\bar{N}}(N - 287) + B_{\bar{N}}(2763) + B_{\bar{N}}(N - 288) = (N - 287) + 2763 + (N - 288) = \mathbf{2N} + \mathbf{2188} \\
&(N \geq 2763)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2659}) &= B_{\bar{N}}(2N + 2659 - B_{\bar{N}}(2N + 2658)) + B_{\bar{N}}(2N + 2659 - B_{\bar{N}}(2N + 2657)) + B_{\bar{N}}(2N + 2659 - B_{\bar{N}}(2N + 2656)) \\
&= B_{\bar{N}}(2N + 2659 - (2N + 2188)) + B_{\bar{N}}(2N + 2659 - (N + 2945)) + B_{\bar{N}}(2N + 2659 - (2N - 105)) \\
&= B_{\bar{N}}(471) + B_{\bar{N}}(N - 286) + B_{\bar{N}}(2764) = 471 + (N - 286) + 2764 = \mathbf{N} + \mathbf{2949} \\
&(N \geq 2764)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2660}) &= B_{\bar{N}}(2N + 2660 - B_{\bar{N}}(2N + 2659)) + B_{\bar{N}}(2N + 2660 - B_{\bar{N}}(2N + 2658)) + B_{\bar{N}}(2N + 2660 - B_{\bar{N}}(2N + 2657)) \\
&= B_{\bar{N}}(2N + 2660 - (N + 2949)) + B_{\bar{N}}(2N + 2660 - (2N + 2188)) + B_{\bar{N}}(2N + 2660 - (N + 2945)) \\
&= B_{\bar{N}}(N - 289) + B_{\bar{N}}(472) + B_{\bar{N}}(N - 285) = (N - 289) + 472 + (N - 285) = \mathbf{2N} - \mathbf{102} \\
&(N \geq 472)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2661}) &= B_{\bar{N}}(2N + 2661 - B_{\bar{N}}(2N + 2660)) + B_{\bar{N}}(2N + 2661 - B_{\bar{N}}(2N + 2659)) + B_{\bar{N}}(2N + 2661 - B_{\bar{N}}(2N + 2658)) \\
&= B_{\bar{N}}(2N + 2661 - (2N - 102)) + B_{\bar{N}}(2N + 2661 - (N + 2949)) + B_{\bar{N}}(2N + 2661 - (2N + 2188)) \\
&= B_{\bar{N}}(2763) + B_{\bar{N}}(N - 288) + B_{\bar{N}}(473) = 2763 + (N - 288) + 473 = \mathbf{N} + \mathbf{2948} \\
&(N \geq 2763)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2662}) &= B_{\bar{N}}(2N + 2662 - B_{\bar{N}}(2N + 2661)) + B_{\bar{N}}(2N + 2662 - B_{\bar{N}}(2N + 2660)) + B_{\bar{N}}(2N + 2662 - B_{\bar{N}}(2N + 2659)) \\
&= B_{\bar{N}}(2N + 2662 - (N + 2948)) + B_{\bar{N}}(2N + 2662 - (2N - 102)) + B_{\bar{N}}(2N + 2662 - (N + 2949)) \\
&= B_{\bar{N}}(N - 286) + B_{\bar{N}}(2764) + B_{\bar{N}}(N - 287) = (N - 286) + 2764 + (N - 287) = \mathbf{2N} + \mathbf{2191} \\
&(N \geq 2764)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2663}) &= B_{\bar{N}}(2N + 2663 - B_{\bar{N}}(2N + 2662)) + B_{\bar{N}}(2N + 2663 - B_{\bar{N}}(2N + 2661)) + B_{\bar{N}}(2N + 2663 - B_{\bar{N}}(2N + 2660)) \\
&= B_{\bar{N}}(2N + 2663 - (2N + 2191)) + B_{\bar{N}}(2N + 2663 - (N + 2948)) + B_{\bar{N}}(2N + 2663 - (2N - 102)) \\
&= B_{\bar{N}}(472) + B_{\bar{N}}(N - 285) + B_{\bar{N}}(2765) = 472 + (N - 285) + 2765 = \mathbf{N} + \mathbf{2952} \\
&(N \geq 2765)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2664}) &= B_{\bar{N}}(2N + 2664 - B_{\bar{N}}(2N + 2663)) + B_{\bar{N}}(2N + 2664 - B_{\bar{N}}(2N + 2662)) + B_{\bar{N}}(2N + 2664 - B_{\bar{N}}(2N + 2661)) \\
&= B_{\bar{N}}(2N + 2664 - (N + 2952)) + B_{\bar{N}}(2N + 2664 - (2N + 2191)) + B_{\bar{N}}(2N + 2664 - (N + 2948)) \\
&= B_{\bar{N}}(N - 288) + B_{\bar{N}}(473) + B_{\bar{N}}(N - 284) = (N - 288) + 473 + (N - 284) = \mathbf{2N} - \mathbf{99} \\
&(N \geq 473)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2665}) &= B_{\bar{N}}(2N + 2665 - B_{\bar{N}}(2N + 2664)) + B_{\bar{N}}(2N + 2665 - B_{\bar{N}}(2N + 2663)) + B_{\bar{N}}(2N + 2665 - B_{\bar{N}}(2N + 2662)) \\
&= B_{\bar{N}}(2N + 2665 - (2N - 99)) + B_{\bar{N}}(2N + 2665 - (N + 2952)) + B_{\bar{N}}(2N + 2665 - (2N + 2191)) \\
&= B_{\bar{N}}(2764) + B_{\bar{N}}(N - 287) + B_{\bar{N}}(474) = 2764 + (N - 287) + 474 = \mathbf{N} + \mathbf{2951} \\
&(N \geq 2764)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2666}) &= B_{\bar{N}}(2N + 2666 - B_{\bar{N}}(2N + 2665)) + B_{\bar{N}}(2N + 2666 - B_{\bar{N}}(2N + 2664)) + B_{\bar{N}}(2N + 2666 - B_{\bar{N}}(2N + 2663)) \\
&= B_{\bar{N}}(2N + 2666 - (N + 2951)) + B_{\bar{N}}(2N + 2666 - (2N - 99)) + B_{\bar{N}}(2N + 2666 - (N + 2952)) \\
&= B_{\bar{N}}(N - 285) + B_{\bar{N}}(2765) + B_{\bar{N}}(N - 286) = (N - 285) + 2765 + (N - 286) = \mathbf{2N} + \mathbf{2194} \\
&(N \geq 2765)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2667}) &= B_{\bar{N}}(2N + 2667 - B_{\bar{N}}(2N + 2666)) + B_{\bar{N}}(2N + 2667 - B_{\bar{N}}(2N + 2665)) + B_{\bar{N}}(2N + 2667 - B_{\bar{N}}(2N + 2664)) \\
&= B_{\bar{N}}(2N + 2667 - (2N + 2194)) + B_{\bar{N}}(2N + 2667 - (N + 2951)) + B_{\bar{N}}(2N + 2667 - (2N - 99)) \\
&= B_{\bar{N}}(473) + B_{\bar{N}}(N - 284) + B_{\bar{N}}(2766) = 473 + (N - 284) + 2766 = \mathbf{N} + \mathbf{2955} \\
&(N \geq 2766)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2668}) &= B_{\bar{N}}(2N + 2668 - B_{\bar{N}}(2N + 2667)) + B_{\bar{N}}(2N + 2668 - B_{\bar{N}}(2N + 2666)) + B_{\bar{N}}(2N + 2668 - B_{\bar{N}}(2N + 2665)) \\
&= B_{\bar{N}}(2N + 2668 - (N + 2955)) + B_{\bar{N}}(2N + 2668 - (2N + 2194)) + B_{\bar{N}}(2N + 2668 - (N + 2951)) \\
&= B_{\bar{N}}(N - 287) + B_{\bar{N}}(474) + B_{\bar{N}}(N - 283) = (N - 287) + 474 + (N - 283) = \mathbf{2N} - \mathbf{96} \\
&(N \geq 474)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2669}) &= B_{\bar{N}}(2N + 2669 - B_{\bar{N}}(2N + 2668)) + B_{\bar{N}}(2N + 2669 - B_{\bar{N}}(2N + 2667)) + B_{\bar{N}}(2N + 2669 - B_{\bar{N}}(2N + 2666)) \\
&= B_{\bar{N}}(2N + 2669 - (2N - 96)) + B_{\bar{N}}(2N + 2669 - (N + 2955)) + B_{\bar{N}}(2N + 2669 - (2N + 2194)) \\
&= B_{\bar{N}}(2765) + B_{\bar{N}}(N - 286) + B_{\bar{N}}(475) = 2765 + (N - 286) + 475 = \mathbf{N} + \mathbf{2954} \\
&(N \geq 2765)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2670}) &= B_{\bar{N}}(2N + 2670 - B_{\bar{N}}(2N + 2669)) + B_{\bar{N}}(2N + 2670 - B_{\bar{N}}(2N + 2668)) + B_{\bar{N}}(2N + 2670 - B_{\bar{N}}(2N + 2667)) \\
&= B_{\bar{N}}(2N + 2670 - (N + 2954)) + B_{\bar{N}}(2N + 2670 - (2N - 96)) + B_{\bar{N}}(2N + 2670 - (N + 2955)) \\
&= B_{\bar{N}}(N - 284) + B_{\bar{N}}(2766) + B_{\bar{N}}(N - 285) = (N - 284) + 2766 + (N - 285) = \mathbf{2N} + \mathbf{2197} \\
&(N \geq 2766)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2671}) &= B_{\bar{N}}(2N + 2671 - B_{\bar{N}}(2N + 2670)) + B_{\bar{N}}(2N + 2671 - B_{\bar{N}}(2N + 2669)) + B_{\bar{N}}(2N + 2671 - B_{\bar{N}}(2N + 2668)) \\
&= B_{\bar{N}}(2N + 2671 - (2N + 2197)) + B_{\bar{N}}(2N + 2671 - (N + 2954)) + B_{\bar{N}}(2N + 2671 - (2N - 96)) \\
&= B_{\bar{N}}(474) + B_{\bar{N}}(N - 283) + B_{\bar{N}}(2767) = 474 + (N - 283) + 2767 = \mathbf{N} + \mathbf{2958} \\
&(N \geq 2767)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2672}) &= B_{\bar{N}}(2N + 2672 - B_{\bar{N}}(2N + 2671)) + B_{\bar{N}}(2N + 2672 - B_{\bar{N}}(2N + 2670)) + B_{\bar{N}}(2N + 2672 - B_{\bar{N}}(2N + 2669)) \\
&= B_{\bar{N}}(2N + 2672 - (N + 2958)) + B_{\bar{N}}(2N + 2672 - (2N + 2197)) + B_{\bar{N}}(2N + 2672 - (N + 2954)) \\
&= B_{\bar{N}}(N - 286) + B_{\bar{N}}(475) + B_{\bar{N}}(N - 282) = (N - 286) + 475 + (N - 282) = \mathbf{2N} - \mathbf{93} \\
&(N \geq 475)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2673}) &= B_{\bar{N}}(2N + 2673 - B_{\bar{N}}(2N + 2672)) + B_{\bar{N}}(2N + 2673 - B_{\bar{N}}(2N + 2671)) + B_{\bar{N}}(2N + 2673 - B_{\bar{N}}(2N + 2670)) \\
&= B_{\bar{N}}(2N + 2673 - (2N - 93)) + B_{\bar{N}}(2N + 2673 - (N + 2958)) + B_{\bar{N}}(2N + 2673 - (2N + 2197)) \\
&= B_{\bar{N}}(2766) + B_{\bar{N}}(N - 285) + B_{\bar{N}}(476) = 2766 + (N - 285) + 476 = \mathbf{N} + \mathbf{2957} \\
&(N \geq 2766)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2674}) &= B_{\bar{N}}(2N + 2674 - B_{\bar{N}}(2N + 2673)) + B_{\bar{N}}(2N + 2674 - B_{\bar{N}}(2N + 2672)) + B_{\bar{N}}(2N + 2674 - B_{\bar{N}}(2N + 2671)) \\
&= B_{\bar{N}}(2N + 2674 - (N + 2957)) + B_{\bar{N}}(2N + 2674 - (2N - 93)) + B_{\bar{N}}(2N + 2674 - (N + 2958)) \\
&= B_{\bar{N}}(N - 283) + B_{\bar{N}}(2767) + B_{\bar{N}}(N - 284) = (N - 283) + 2767 + (N - 284) = \mathbf{2N} + \mathbf{2200} \\
&(N \geq 2767)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2675}) &= B_{\bar{N}}(2N + 2675 - B_{\bar{N}}(2N + 2674)) + B_{\bar{N}}(2N + 2675 - B_{\bar{N}}(2N + 2673)) + B_{\bar{N}}(2N + 2675 - B_{\bar{N}}(2N + 2672)) \\
&= B_{\bar{N}}(2N + 2675 - (2N + 2200)) + B_{\bar{N}}(2N + 2675 - (N + 2957)) + B_{\bar{N}}(2N + 2675 - (2N - 93)) \\
&= B_{\bar{N}}(475) + B_{\bar{N}}(N - 282) + B_{\bar{N}}(2768) = 475 + (N - 282) + 2768 = \mathbf{N} + \mathbf{2961} \\
&(N \geq 2768)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2676}) &= B_{\bar{N}}(2N + 2676 - B_{\bar{N}}(2N + 2675)) + B_{\bar{N}}(2N + 2676 - B_{\bar{N}}(2N + 2674)) + B_{\bar{N}}(2N + 2676 - B_{\bar{N}}(2N + 2673)) \\
&= B_{\bar{N}}(2N + 2676 - (N + 2961)) + B_{\bar{N}}(2N + 2676 - (2N + 2200)) + B_{\bar{N}}(2N + 2676 - (N + 2957)) \\
&= B_{\bar{N}}(N - 285) + B_{\bar{N}}(476) + B_{\bar{N}}(N - 281) = (N - 285) + 476 + (N - 281) = \mathbf{2N} - \mathbf{90} \\
&(N \geq 476)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2677}) &= B_{\bar{N}}(2N + 2677 - B_{\bar{N}}(2N + 2676)) + B_{\bar{N}}(2N + 2677 - B_{\bar{N}}(2N + 2675)) + B_{\bar{N}}(2N + 2677 - B_{\bar{N}}(2N + 2674)) \\
&= B_{\bar{N}}(2N + 2677 - (2N - 90)) + B_{\bar{N}}(2N + 2677 - (N + 2961)) + B_{\bar{N}}(2N + 2677 - (2N + 2200)) \\
&= B_{\bar{N}}(2767) + B_{\bar{N}}(N - 284) + B_{\bar{N}}(477) = 2767 + (N - 284) + 477 = \mathbf{N} + \mathbf{2960} \\
&(N \geq 2767)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2678}) &= B_{\bar{N}}(2N + 2678 - B_{\bar{N}}(2N + 2677)) + B_{\bar{N}}(2N + 2678 - B_{\bar{N}}(2N + 2676)) + B_{\bar{N}}(2N + 2678 - B_{\bar{N}}(2N + 2675)) \\
&= B_{\bar{N}}(2N + 2678 - (N + 2960)) + B_{\bar{N}}(2N + 2678 - (2N - 90)) + B_{\bar{N}}(2N + 2678 - (N + 2961)) \\
&= B_{\bar{N}}(N - 282) + B_{\bar{N}}(2768) + B_{\bar{N}}(N - 283) = (N - 282) + 2768 + (N - 283) = \mathbf{2N} + \mathbf{2203} \\
&(N \geq 2768)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2679}) &= B_{\bar{N}}(2N + 2679 - B_{\bar{N}}(2N + 2678)) + B_{\bar{N}}(2N + 2679 - B_{\bar{N}}(2N + 2677)) + B_{\bar{N}}(2N + 2679 - B_{\bar{N}}(2N + 2676)) \\
&= B_{\bar{N}}(2N + 2679 - (2N + 2203)) + B_{\bar{N}}(2N + 2679 - (N + 2960)) + B_{\bar{N}}(2N + 2679 - (2N - 90)) \\
&= B_{\bar{N}}(476) + B_{\bar{N}}(N - 281) + B_{\bar{N}}(2769) = 476 + (N - 281) + 2769 = \mathbf{N} + \mathbf{2964} \\
&(N \geq 2769)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2680}) &= B_{\bar{N}}(2N + 2680 - B_{\bar{N}}(2N + 2679)) + B_{\bar{N}}(2N + 2680 - B_{\bar{N}}(2N + 2678)) + B_{\bar{N}}(2N + 2680 - B_{\bar{N}}(2N + 2677)) \\
&= B_{\bar{N}}(2N + 2680 - (N + 2964)) + B_{\bar{N}}(2N + 2680 - (2N + 2203)) + B_{\bar{N}}(2N + 2680 - (N + 2960)) \\
&= B_{\bar{N}}(N - 284) + B_{\bar{N}}(477) + B_{\bar{N}}(N - 280) = (N - 284) + 477 + (N - 280) = \mathbf{2N} - \mathbf{87} \\
&(N \geq 477)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2681}) &= B_{\bar{N}}(2N + 2681 - B_{\bar{N}}(2N + 2680)) + B_{\bar{N}}(2N + 2681 - B_{\bar{N}}(2N + 2679)) + B_{\bar{N}}(2N + 2681 - B_{\bar{N}}(2N + 2678)) \\
&= B_{\bar{N}}(2N + 2681 - (2N - 87)) + B_{\bar{N}}(2N + 2681 - (N + 2964)) + B_{\bar{N}}(2N + 2681 - (2N + 2203)) \\
&= B_{\bar{N}}(2768) + B_{\bar{N}}(N - 283) + B_{\bar{N}}(478) = 2768 + (N - 283) + 478 = \mathbf{N} + \mathbf{2963} \\
&(N \geq 2768)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2682}) &= B_{\bar{N}}(2N + 2682 - B_{\bar{N}}(2N + 2681)) + B_{\bar{N}}(2N + 2682 - B_{\bar{N}}(2N + 2680)) + B_{\bar{N}}(2N + 2682 - B_{\bar{N}}(2N + 2679)) \\
&= B_{\bar{N}}(2N + 2682 - (N + 2963)) + B_{\bar{N}}(2N + 2682 - (2N - 87)) + B_{\bar{N}}(2N + 2682 - (N + 2964)) \\
&= B_{\bar{N}}(N - 281) + B_{\bar{N}}(2769) + B_{\bar{N}}(N - 282) = (N - 281) + 2769 + (N - 282) = \mathbf{2N} + \mathbf{2206} \\
&(N \geq 2769)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2683}) &= B_{\bar{N}}(2N + 2683 - B_{\bar{N}}(2N + 2682)) + B_{\bar{N}}(2N + 2683 - B_{\bar{N}}(2N + 2681)) + B_{\bar{N}}(2N + 2683 - B_{\bar{N}}(2N + 2680)) \\
&= B_{\bar{N}}(2N + 2683 - (2N + 2206)) + B_{\bar{N}}(2N + 2683 - (N + 2963)) + B_{\bar{N}}(2N + 2683 - (2N - 87)) \\
&= B_{\bar{N}}(477) + B_{\bar{N}}(N - 280) + B_{\bar{N}}(2770) = 477 + (N - 280) + 2770 = \mathbf{N} + \mathbf{2967} \\
&(N \geq 2770)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2684}) &= B_{\bar{N}}(2N + 2684 - B_{\bar{N}}(2N + 2683)) + B_{\bar{N}}(2N + 2684 - B_{\bar{N}}(2N + 2682)) + B_{\bar{N}}(2N + 2684 - B_{\bar{N}}(2N + 2681)) \\
&= B_{\bar{N}}(2N + 2684 - (N + 2967)) + B_{\bar{N}}(2N + 2684 - (2N + 2206)) + B_{\bar{N}}(2N + 2684 - (N + 2963)) \\
&= B_{\bar{N}}(N - 283) + B_{\bar{N}}(478) + B_{\bar{N}}(N - 279) = (N - 283) + 478 + (N - 279) = \mathbf{2N} - \mathbf{84} \\
&(N \geq 478)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2685}) &= B_{\bar{N}}(2N + 2685 - B_{\bar{N}}(2N + 2684)) + B_{\bar{N}}(2N + 2685 - B_{\bar{N}}(2N + 2683)) + B_{\bar{N}}(2N + 2685 - B_{\bar{N}}(2N + 2682)) \\
&= B_{\bar{N}}(2N + 2685 - (2N - 84)) + B_{\bar{N}}(2N + 2685 - (N + 2967)) + B_{\bar{N}}(2N + 2685 - (2N + 2206)) \\
&= B_{\bar{N}}(2769) + B_{\bar{N}}(N - 282) + B_{\bar{N}}(479) = 2769 + (N - 282) + 479 = \mathbf{N} + \mathbf{2966} \\
&(N \geq 2769)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2686}) &= B_{\bar{N}}(2N + 2686 - B_{\bar{N}}(2N + 2685)) + B_{\bar{N}}(2N + 2686 - B_{\bar{N}}(2N + 2684)) + B_{\bar{N}}(2N + 2686 - B_{\bar{N}}(2N + 2683)) \\
&= B_{\bar{N}}(2N + 2686 - (N + 2966)) + B_{\bar{N}}(2N + 2686 - (2N - 84)) + B_{\bar{N}}(2N + 2686 - (N + 2967)) \\
&= B_{\bar{N}}(N - 280) + B_{\bar{N}}(2770) + B_{\bar{N}}(N - 281) = (N - 280) + 2770 + (N - 281) = \mathbf{2N} + \mathbf{2209} \\
&(N \geq 2770)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2687}) &= B_{\bar{N}}(2N + 2687 - B_{\bar{N}}(2N + 2686)) + B_{\bar{N}}(2N + 2687 - B_{\bar{N}}(2N + 2685)) + B_{\bar{N}}(2N + 2687 - B_{\bar{N}}(2N + 2684)) \\
&= B_{\bar{N}}(2N + 2687 - (2N + 2209)) + B_{\bar{N}}(2N + 2687 - (N + 2966)) + B_{\bar{N}}(2N + 2687 - (2N - 84)) \\
&= B_{\bar{N}}(478) + B_{\bar{N}}(N - 279) + B_{\bar{N}}(2771) = 478 + (N - 279) + 2771 = \mathbf{N} + \mathbf{2970} \\
&(N \geq 2771)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2688}) &= B_{\bar{N}}(2N + 2688 - B_{\bar{N}}(2N + 2687)) + B_{\bar{N}}(2N + 2688 - B_{\bar{N}}(2N + 2686)) + B_{\bar{N}}(2N + 2688 - B_{\bar{N}}(2N + 2685)) \\
&= B_{\bar{N}}(2N + 2688 - (N + 2970)) + B_{\bar{N}}(2N + 2688 - (2N + 2209)) + B_{\bar{N}}(2N + 2688 - (N + 2966)) \\
&= B_{\bar{N}}(N - 282) + B_{\bar{N}}(479) + B_{\bar{N}}(N - 278) = (N - 282) + 479 + (N - 278) = \mathbf{2N} - \mathbf{81} \\
&(N \geq 479)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2689}) &= B_{\bar{N}}(2N + 2689 - B_{\bar{N}}(2N + 2688)) + B_{\bar{N}}(2N + 2689 - B_{\bar{N}}(2N + 2687)) + B_{\bar{N}}(2N + 2689 - B_{\bar{N}}(2N + 2686)) \\
&= B_{\bar{N}}(2N + 2689 - (2N - 81)) + B_{\bar{N}}(2N + 2689 - (N + 2970)) + B_{\bar{N}}(2N + 2689 - (2N + 2209)) \\
&= B_{\bar{N}}(2770) + B_{\bar{N}}(N - 281) + B_{\bar{N}}(480) = 2770 + (N - 281) + 480 = \mathbf{N} + \mathbf{2969} \\
&(N \geq 2770)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2690}) &= B_{\bar{N}}(2N + 2690 - B_{\bar{N}}(2N + 2689)) + B_{\bar{N}}(2N + 2690 - B_{\bar{N}}(2N + 2688)) + B_{\bar{N}}(2N + 2690 - B_{\bar{N}}(2N + 2687)) \\
&= B_{\bar{N}}(2N + 2690 - (N + 2969)) + B_{\bar{N}}(2N + 2690 - (2N - 81)) + B_{\bar{N}}(2N + 2690 - (N + 2970)) \\
&= B_{\bar{N}}(N - 279) + B_{\bar{N}}(2771) + B_{\bar{N}}(N - 280) = (N - 279) + 2771 + (N - 280) = \mathbf{2N} + \mathbf{2212} \\
&(N \geq 2771)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2691}) &= B_{\bar{N}}(2N + 2691 - B_{\bar{N}}(2N + 2690)) + B_{\bar{N}}(2N + 2691 - B_{\bar{N}}(2N + 2689)) + B_{\bar{N}}(2N + 2691 - B_{\bar{N}}(2N + 2688)) \\
&= B_{\bar{N}}(2N + 2691 - (2N + 2212)) + B_{\bar{N}}(2N + 2691 - (N + 2969)) + B_{\bar{N}}(2N + 2691 - (2N - 81)) \\
&= B_{\bar{N}}(479) + B_{\bar{N}}(N - 278) + B_{\bar{N}}(2772) = 479 + (N - 278) + 2772 = \mathbf{N} + \mathbf{2973} \\
&(N \geq 2772)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2692}) &= B_{\bar{N}}(2N + 2692 - B_{\bar{N}}(2N + 2691)) + B_{\bar{N}}(2N + 2692 - B_{\bar{N}}(2N + 2690)) + B_{\bar{N}}(2N + 2692 - B_{\bar{N}}(2N + 2689)) \\
&= B_{\bar{N}}(2N + 2692 - (N + 2973)) + B_{\bar{N}}(2N + 2692 - (2N + 2212)) + B_{\bar{N}}(2N + 2692 - (N + 2969)) \\
&= B_{\bar{N}}(N - 281) + B_{\bar{N}}(480) + B_{\bar{N}}(N - 277) = (N - 281) + 480 + (N - 277) = \mathbf{2N} - \mathbf{78} \\
&(N \geq 480)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2693}) &= B_{\bar{N}}(2N + 2693 - B_{\bar{N}}(2N + 2692)) + B_{\bar{N}}(2N + 2693 - B_{\bar{N}}(2N + 2691)) + B_{\bar{N}}(2N + 2693 - B_{\bar{N}}(2N + 2690)) \\
&= B_{\bar{N}}(2N + 2693 - (2N - 78)) + B_{\bar{N}}(2N + 2693 - (N + 2973)) + B_{\bar{N}}(2N + 2693 - (2N + 2212)) \\
&= B_{\bar{N}}(2771) + B_{\bar{N}}(N - 280) + B_{\bar{N}}(481) = 2771 + (N - 280) + 481 = \mathbf{N} + \mathbf{2972} \\
&(N \geq 2771)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2694}) &= B_{\bar{N}}(2N + 2694 - B_{\bar{N}}(2N + 2693)) + B_{\bar{N}}(2N + 2694 - B_{\bar{N}}(2N + 2692)) + B_{\bar{N}}(2N + 2694 - B_{\bar{N}}(2N + 2691)) \\
&= B_{\bar{N}}(2N + 2694 - (N + 2972)) + B_{\bar{N}}(2N + 2694 - (2N - 78)) + B_{\bar{N}}(2N + 2694 - (N + 2973)) \\
&= B_{\bar{N}}(N - 278) + B_{\bar{N}}(2772) + B_{\bar{N}}(N - 279) = (N - 278) + 2772 + (N - 279) = \mathbf{2N} + \mathbf{2215} \\
&(N \geq 2772)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2695}) &= B_{\bar{N}}(2N + 2695 - B_{\bar{N}}(2N + 2694)) + B_{\bar{N}}(2N + 2695 - B_{\bar{N}}(2N + 2693)) + B_{\bar{N}}(2N + 2695 - B_{\bar{N}}(2N + 2692)) \\
&= B_{\bar{N}}(2N + 2695 - (2N + 2215)) + B_{\bar{N}}(2N + 2695 - (N + 2972)) + B_{\bar{N}}(2N + 2695 - (2N - 78)) \\
&= B_{\bar{N}}(480) + B_{\bar{N}}(N - 277) + B_{\bar{N}}(2773) = 480 + (N - 277) + 2773 = \mathbf{N} + \mathbf{2976} \\
&(N \geq 2773)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2696}) &= B_{\bar{N}}(2N + 2696 - B_{\bar{N}}(2N + 2695)) + B_{\bar{N}}(2N + 2696 - B_{\bar{N}}(2N + 2694)) + B_{\bar{N}}(2N + 2696 - B_{\bar{N}}(2N + 2693)) \\
&= B_{\bar{N}}(2N + 2696 - (N + 2976)) + B_{\bar{N}}(2N + 2696 - (2N + 2215)) + B_{\bar{N}}(2N + 2696 - (N + 2972)) \\
&= B_{\bar{N}}(N - 280) + B_{\bar{N}}(481) + B_{\bar{N}}(N - 276) = (N - 280) + 481 + (N - 276) = \mathbf{2N} - \mathbf{75} \\
&(N \geq 481)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2697}) &= B_{\bar{N}}(2N + 2697 - B_{\bar{N}}(2N + 2696)) + B_{\bar{N}}(2N + 2697 - B_{\bar{N}}(2N + 2695)) + B_{\bar{N}}(2N + 2697 - B_{\bar{N}}(2N + 2694)) \\
&= B_{\bar{N}}(2N + 2697 - (2N - 75)) + B_{\bar{N}}(2N + 2697 - (N + 2976)) + B_{\bar{N}}(2N + 2697 - (2N + 2215)) \\
&= B_{\bar{N}}(2772) + B_{\bar{N}}(N - 279) + B_{\bar{N}}(482) = 2772 + (N - 279) + 482 = \mathbf{N} + \mathbf{2975} \\
&(N \geq 2772)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2698}) &= B_{\bar{N}}(2N + 2698 - B_{\bar{N}}(2N + 2697)) + B_{\bar{N}}(2N + 2698 - B_{\bar{N}}(2N + 2696)) + B_{\bar{N}}(2N + 2698 - B_{\bar{N}}(2N + 2695)) \\
&= B_{\bar{N}}(2N + 2698 - (N + 2975)) + B_{\bar{N}}(2N + 2698 - (2N - 75)) + B_{\bar{N}}(2N + 2698 - (N + 2976)) \\
&= B_{\bar{N}}(N - 277) + B_{\bar{N}}(2773) + B_{\bar{N}}(N - 278) = (N - 277) + 2773 + (N - 278) = \mathbf{2N} + \mathbf{2218} \\
&(N \geq 2773)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2699}) &= B_{\bar{N}}(2N + 2699 - B_{\bar{N}}(2N + 2698)) + B_{\bar{N}}(2N + 2699 - B_{\bar{N}}(2N + 2697)) + B_{\bar{N}}(2N + 2699 - B_{\bar{N}}(2N + 2696)) \\
&= B_{\bar{N}}(2N + 2699 - (2N + 2218)) + B_{\bar{N}}(2N + 2699 - (N + 2975)) + B_{\bar{N}}(2N + 2699 - (2N - 75)) \\
&= B_{\bar{N}}(481) + B_{\bar{N}}(N - 276) + B_{\bar{N}}(2774) = 481 + (N - 276) + 2774 = \mathbf{N} + \mathbf{2979} \\
&(N \geq 2774)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2700}) &= B_{\bar{N}}(2N + 2700 - B_{\bar{N}}(2N + 2699)) + B_{\bar{N}}(2N + 2700 - B_{\bar{N}}(2N + 2698)) + B_{\bar{N}}(2N + 2700 - B_{\bar{N}}(2N + 2697)) \\
&= B_{\bar{N}}(2N + 2700 - (N + 2979)) + B_{\bar{N}}(2N + 2700 - (2N + 2218)) + B_{\bar{N}}(2N + 2700 - (N + 2975)) \\
&= B_{\bar{N}}(N - 279) + B_{\bar{N}}(482) + B_{\bar{N}}(N - 275) = (N - 279) + 482 + (N - 275) = \mathbf{2N} - \mathbf{72} \\
&(N \geq 482)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2701}) &= B_{\bar{N}}(2N + 2701 - B_{\bar{N}}(2N + 2700)) + B_{\bar{N}}(2N + 2701 - B_{\bar{N}}(2N + 2699)) + B_{\bar{N}}(2N + 2701 - B_{\bar{N}}(2N + 2698)) \\
&= B_{\bar{N}}(2N + 2701 - (2N - 72)) + B_{\bar{N}}(2N + 2701 - (N + 2979)) + B_{\bar{N}}(2N + 2701 - (2N + 2218)) \\
&= B_{\bar{N}}(2773) + B_{\bar{N}}(N - 278) + B_{\bar{N}}(483) = 2773 + (N - 278) + 483 = \mathbf{N} + \mathbf{2978} \\
&(N \geq 2773)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2702}) &= B_{\bar{N}}(2N + 2702 - B_{\bar{N}}(2N + 2701)) + B_{\bar{N}}(2N + 2702 - B_{\bar{N}}(2N + 2700)) + B_{\bar{N}}(2N + 2702 - B_{\bar{N}}(2N + 2699)) \\
&= B_{\bar{N}}(2N + 2702 - (N + 2978)) + B_{\bar{N}}(2N + 2702 - (2N - 72)) + B_{\bar{N}}(2N + 2702 - (N + 2979)) \\
&= B_{\bar{N}}(N - 276) + B_{\bar{N}}(2774) + B_{\bar{N}}(N - 277) = (N - 276) + 2774 + (N - 277) = \mathbf{2N} + \mathbf{2221} \\
&(N \geq 2774)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2703}) &= B_{\bar{N}}(2N + 2703 - B_{\bar{N}}(2N + 2702)) + B_{\bar{N}}(2N + 2703 - B_{\bar{N}}(2N + 2701)) + B_{\bar{N}}(2N + 2703 - B_{\bar{N}}(2N + 2700)) \\
&= B_{\bar{N}}(2N + 2703 - (2N + 2221)) + B_{\bar{N}}(2N + 2703 - (N + 2978)) + B_{\bar{N}}(2N + 2703 - (2N - 72)) \\
&= B_{\bar{N}}(482) + B_{\bar{N}}(N - 275) + B_{\bar{N}}(2775) = 482 + (N - 275) + 2775 = \mathbf{N} + \mathbf{2982} \\
&(N \geq 2775)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2704}) &= B_{\bar{N}}(2N + 2704 - B_{\bar{N}}(2N + 2703)) + B_{\bar{N}}(2N + 2704 - B_{\bar{N}}(2N + 2702)) + B_{\bar{N}}(2N + 2704 - B_{\bar{N}}(2N + 2701)) \\
&= B_{\bar{N}}(2N + 2704 - (N + 2982)) + B_{\bar{N}}(2N + 2704 - (2N + 2221)) + B_{\bar{N}}(2N + 2704 - (N + 2978)) \\
&= B_{\bar{N}}(N - 278) + B_{\bar{N}}(483) + B_{\bar{N}}(N - 274) = (N - 278) + 483 + (N - 274) = \mathbf{2N} - \mathbf{69} \\
&(N \geq 483)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2705}) &= B_{\bar{N}}(2N + 2705 - B_{\bar{N}}(2N + 2704)) + B_{\bar{N}}(2N + 2705 - B_{\bar{N}}(2N + 2703)) + B_{\bar{N}}(2N + 2705 - B_{\bar{N}}(2N + 2702)) \\
&= B_{\bar{N}}(2N + 2705 - (2N - 69)) + B_{\bar{N}}(2N + 2705 - (N + 2982)) + B_{\bar{N}}(2N + 2705 - (2N + 2221)) \\
&= B_{\bar{N}}(2774) + B_{\bar{N}}(N - 277) + B_{\bar{N}}(484) = 2774 + (N - 277) + 484 = \mathbf{N} + \mathbf{2981} \\
&(N \geq 2774)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2706}) &= B_{\bar{N}}(2N + 2706 - B_{\bar{N}}(2N + 2705)) + B_{\bar{N}}(2N + 2706 - B_{\bar{N}}(2N + 2704)) + B_{\bar{N}}(2N + 2706 - B_{\bar{N}}(2N + 2703)) \\
&= B_{\bar{N}}(2N + 2706 - (N + 2981)) + B_{\bar{N}}(2N + 2706 - (2N - 69)) + B_{\bar{N}}(2N + 2706 - (N + 2982)) \\
&= B_{\bar{N}}(N - 275) + B_{\bar{N}}(2775) + B_{\bar{N}}(N - 276) = (N - 275) + 2775 + (N - 276) = \mathbf{2N} + \mathbf{2224} \\
&(N \geq 2775)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2707}) &= B_{\bar{N}}(2N + 2707 - B_{\bar{N}}(2N + 2706)) + B_{\bar{N}}(2N + 2707 - B_{\bar{N}}(2N + 2705)) + B_{\bar{N}}(2N + 2707 - B_{\bar{N}}(2N + 2704)) \\
&= B_{\bar{N}}(2N + 2707 - (2N + 2224)) + B_{\bar{N}}(2N + 2707 - (N + 2981)) + B_{\bar{N}}(2N + 2707 - (2N - 69)) \\
&= B_{\bar{N}}(483) + B_{\bar{N}}(N - 274) + B_{\bar{N}}(2776) = 483 + (N - 274) + 2776 = \mathbf{N} + \mathbf{2985} \\
&(N \geq 2776)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2708}) &= B_{\bar{N}}(2N + 2708 - B_{\bar{N}}(2N + 2707)) + B_{\bar{N}}(2N + 2708 - B_{\bar{N}}(2N + 2706)) + B_{\bar{N}}(2N + 2708 - B_{\bar{N}}(2N + 2705)) \\
&= B_{\bar{N}}(2N + 2708 - (N + 2985)) + B_{\bar{N}}(2N + 2708 - (2N + 2224)) + B_{\bar{N}}(2N + 2708 - (N + 2981)) \\
&= B_{\bar{N}}(N - 277) + B_{\bar{N}}(484) + B_{\bar{N}}(N - 273) = (N - 277) + 484 + (N - 273) = \mathbf{2N} - \mathbf{66} \\
&(N \geq 484)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2709}) &= B_{\bar{N}}(2N + 2709 - B_{\bar{N}}(2N + 2708)) + B_{\bar{N}}(2N + 2709 - B_{\bar{N}}(2N + 2707)) + B_{\bar{N}}(2N + 2709 - B_{\bar{N}}(2N + 2706)) \\
&= B_{\bar{N}}(2N + 2709 - (2N - 66)) + B_{\bar{N}}(2N + 2709 - (N + 2985)) + B_{\bar{N}}(2N + 2709 - (2N + 2224)) \\
&= B_{\bar{N}}(2775) + B_{\bar{N}}(N - 276) + B_{\bar{N}}(485) = 2775 + (N - 276) + 485 = \mathbf{N} + \mathbf{2984} \\
&(N \geq 2775)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2710}) &= B_{\bar{N}}(2N + 2710 - B_{\bar{N}}(2N + 2709)) + B_{\bar{N}}(2N + 2710 - B_{\bar{N}}(2N + 2708)) + B_{\bar{N}}(2N + 2710 - B_{\bar{N}}(2N + 2707)) \\
&= B_{\bar{N}}(2N + 2710 - (N + 2984)) + B_{\bar{N}}(2N + 2710 - (2N - 66)) + B_{\bar{N}}(2N + 2710 - (N + 2985)) \\
&= B_{\bar{N}}(N - 274) + B_{\bar{N}}(2776) + B_{\bar{N}}(N - 275) = (N - 274) + 2776 + (N - 275) = \mathbf{2N} + \mathbf{2227} \\
&(N \geq 2776)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2711}) &= B_{\bar{N}}(2N + 2711 - B_{\bar{N}}(2N + 2710)) + B_{\bar{N}}(2N + 2711 - B_{\bar{N}}(2N + 2709)) + B_{\bar{N}}(2N + 2711 - B_{\bar{N}}(2N + 2708)) \\
&= B_{\bar{N}}(2N + 2711 - (2N + 2227)) + B_{\bar{N}}(2N + 2711 - (N + 2984)) + B_{\bar{N}}(2N + 2711 - (2N - 66)) \\
&= B_{\bar{N}}(484) + B_{\bar{N}}(N - 273) + B_{\bar{N}}(2777) = 484 + (N - 273) + 2777 = \mathbf{N} + \mathbf{2988} \\
&(N \geq 2777)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2712}) &= B_{\bar{N}}(2N + 2712 - B_{\bar{N}}(2N + 2711)) + B_{\bar{N}}(2N + 2712 - B_{\bar{N}}(2N + 2710)) + B_{\bar{N}}(2N + 2712 - B_{\bar{N}}(2N + 2709)) \\
&= B_{\bar{N}}(2N + 2712 - (N + 2988)) + B_{\bar{N}}(2N + 2712 - (2N + 2227)) + B_{\bar{N}}(2N + 2712 - (N + 2984)) \\
&= B_{\bar{N}}(N - 276) + B_{\bar{N}}(485) + B_{\bar{N}}(N - 272) = (N - 276) + 485 + (N - 272) = \mathbf{2N} - \mathbf{63} \\
&(N \geq 485)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2713}) &= B_{\bar{N}}(2N + 2713 - B_{\bar{N}}(2N + 2712)) + B_{\bar{N}}(2N + 2713 - B_{\bar{N}}(2N + 2711)) + B_{\bar{N}}(2N + 2713 - B_{\bar{N}}(2N + 2710)) \\
&= B_{\bar{N}}(2N + 2713 - (2N - 63)) + B_{\bar{N}}(2N + 2713 - (N + 2988)) + B_{\bar{N}}(2N + 2713 - (2N + 2227)) \\
&= B_{\bar{N}}(2776) + B_{\bar{N}}(N - 275) + B_{\bar{N}}(486) = 2776 + (N - 275) + 486 = \mathbf{N} + \mathbf{2987} \\
&(N \geq 2776)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2714}) &= B_{\bar{N}}(2N + 2714 - B_{\bar{N}}(2N + 2713)) + B_{\bar{N}}(2N + 2714 - B_{\bar{N}}(2N + 2712)) + B_{\bar{N}}(2N + 2714 - B_{\bar{N}}(2N + 2711)) \\
&= B_{\bar{N}}(2N + 2714 - (N + 2987)) + B_{\bar{N}}(2N + 2714 - (2N - 63)) + B_{\bar{N}}(2N + 2714 - (N + 2988)) \\
&= B_{\bar{N}}(N - 273) + B_{\bar{N}}(2777) + B_{\bar{N}}(N - 274) = (N - 273) + 2777 + (N - 274) = \mathbf{2N} + \mathbf{2230} \\
&(N \geq 2777)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2715}) &= B_{\bar{N}}(2N + 2715 - B_{\bar{N}}(2N + 2714)) + B_{\bar{N}}(2N + 2715 - B_{\bar{N}}(2N + 2713)) + B_{\bar{N}}(2N + 2715 - B_{\bar{N}}(2N + 2712)) \\
&= B_{\bar{N}}(2N + 2715 - (2N + 2230)) + B_{\bar{N}}(2N + 2715 - (N + 2987)) + B_{\bar{N}}(2N + 2715 - (2N - 63)) \\
&= B_{\bar{N}}(485) + B_{\bar{N}}(N - 272) + B_{\bar{N}}(2778) = 485 + (N - 272) + 2778 = \mathbf{N} + \mathbf{2991} \\
&(N \geq 2778)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2716}) &= B_{\bar{N}}(2N + 2716 - B_{\bar{N}}(2N + 2715)) + B_{\bar{N}}(2N + 2716 - B_{\bar{N}}(2N + 2714)) + B_{\bar{N}}(2N + 2716 - B_{\bar{N}}(2N + 2713)) \\
&= B_{\bar{N}}(2N + 2716 - (N + 2991)) + B_{\bar{N}}(2N + 2716 - (2N + 2230)) + B_{\bar{N}}(2N + 2716 - (N + 2987)) \\
&= B_{\bar{N}}(N - 275) + B_{\bar{N}}(486) + B_{\bar{N}}(N - 271) = (N - 275) + 486 + (N - 271) = \mathbf{2N} - \mathbf{60} \\
&(N \geq 486)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2717}) &= B_{\bar{N}}(2N + 2717 - B_{\bar{N}}(2N + 2716)) + B_{\bar{N}}(2N + 2717 - B_{\bar{N}}(2N + 2715)) + B_{\bar{N}}(2N + 2717 - B_{\bar{N}}(2N + 2714)) \\
&= B_{\bar{N}}(2N + 2717 - (2N - 60)) + B_{\bar{N}}(2N + 2717 - (N + 2991)) + B_{\bar{N}}(2N + 2717 - (2N + 2230)) \\
&= B_{\bar{N}}(2777) + B_{\bar{N}}(N - 274) + B_{\bar{N}}(487) = 2777 + (N - 274) + 487 = \mathbf{N} + \mathbf{2990} \\
&(N \geq 2777)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2718}) &= B_{\bar{N}}(2N + 2718 - B_{\bar{N}}(2N + 2717)) + B_{\bar{N}}(2N + 2718 - B_{\bar{N}}(2N + 2716)) + B_{\bar{N}}(2N + 2718 - B_{\bar{N}}(2N + 2715)) \\
&= B_{\bar{N}}(2N + 2718 - (N + 2990)) + B_{\bar{N}}(2N + 2718 - (2N - 60)) + B_{\bar{N}}(2N + 2718 - (N + 2991)) \\
&= B_{\bar{N}}(N - 272) + B_{\bar{N}}(2778) + B_{\bar{N}}(N - 273) = (N - 272) + 2778 + (N - 273) = \mathbf{2N} + \mathbf{2233} \\
&(N \geq 2778)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2719}) &= B_{\bar{N}}(2N + 2719 - B_{\bar{N}}(2N + 2718)) + B_{\bar{N}}(2N + 2719 - B_{\bar{N}}(2N + 2717)) + B_{\bar{N}}(2N + 2719 - B_{\bar{N}}(2N + 2716)) \\
&= B_{\bar{N}}(2N + 2719 - (2N + 2233)) + B_{\bar{N}}(2N + 2719 - (N + 2990)) + B_{\bar{N}}(2N + 2719 - (2N - 60)) \\
&= B_{\bar{N}}(486) + B_{\bar{N}}(N - 271) + B_{\bar{N}}(2779) = 486 + (N - 271) + 2779 = \mathbf{N} + \mathbf{2994} \\
&(N \geq 2779)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2720}) &= B_{\bar{N}}(2N + 2720 - B_{\bar{N}}(2N + 2719)) + B_{\bar{N}}(2N + 2720 - B_{\bar{N}}(2N + 2718)) + B_{\bar{N}}(2N + 2720 - B_{\bar{N}}(2N + 2717)) \\
&= B_{\bar{N}}(2N + 2720 - (N + 2994)) + B_{\bar{N}}(2N + 2720 - (2N + 2233)) + B_{\bar{N}}(2N + 2720 - (N + 2990)) \\
&= B_{\bar{N}}(N - 274) + B_{\bar{N}}(487) + B_{\bar{N}}(N - 270) = (N - 274) + 487 + (N - 270) = \mathbf{2N} - \mathbf{57} \\
&(N \geq 487)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2721}) &= B_{\bar{N}}(2N + 2721 - B_{\bar{N}}(2N + 2720)) + B_{\bar{N}}(2N + 2721 - B_{\bar{N}}(2N + 2719)) + B_{\bar{N}}(2N + 2721 - B_{\bar{N}}(2N + 2718)) \\
&= B_{\bar{N}}(2N + 2721 - (2N - 57)) + B_{\bar{N}}(2N + 2721 - (N + 2994)) + B_{\bar{N}}(2N + 2721 - (2N + 2233)) \\
&= B_{\bar{N}}(2778) + B_{\bar{N}}(N - 273) + B_{\bar{N}}(488) = 2778 + (N - 273) + 488 = \mathbf{N} + \mathbf{2993} \\
&(N \geq 2778)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2722}) &= B_{\bar{N}}(2N + 2722 - B_{\bar{N}}(2N + 2721)) + B_{\bar{N}}(2N + 2722 - B_{\bar{N}}(2N + 2720)) + B_{\bar{N}}(2N + 2722 - B_{\bar{N}}(2N + 2719)) \\
&= B_{\bar{N}}(2N + 2722 - (N + 2993)) + B_{\bar{N}}(2N + 2722 - (2N - 57)) + B_{\bar{N}}(2N + 2722 - (N + 2994)) \\
&= B_{\bar{N}}(N - 271) + B_{\bar{N}}(2779) + B_{\bar{N}}(N - 272) = (N - 271) + 2779 + (N - 272) = \mathbf{2N} + \mathbf{2236} \\
&(N \geq 2779)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2723}) &= B_{\bar{N}}(2N + 2723 - B_{\bar{N}}(2N + 2722)) + B_{\bar{N}}(2N + 2723 - B_{\bar{N}}(2N + 2721)) + B_{\bar{N}}(2N + 2723 - B_{\bar{N}}(2N + 2720)) \\
&= B_{\bar{N}}(2N + 2723 - (2N + 2236)) + B_{\bar{N}}(2N + 2723 - (N + 2993)) + B_{\bar{N}}(2N + 2723 - (2N - 57)) \\
&= B_{\bar{N}}(487) + B_{\bar{N}}(N - 270) + B_{\bar{N}}(2780) = 487 + (N - 270) + 2780 = \mathbf{N} + \mathbf{2997} \\
&(N \geq 2780)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2724}) &= B_{\bar{N}}(2N + 2724 - B_{\bar{N}}(2N + 2723)) + B_{\bar{N}}(2N + 2724 - B_{\bar{N}}(2N + 2722)) + B_{\bar{N}}(2N + 2724 - B_{\bar{N}}(2N + 2721)) \\
&= B_{\bar{N}}(2N + 2724 - (N + 2997)) + B_{\bar{N}}(2N + 2724 - (2N + 2236)) + B_{\bar{N}}(2N + 2724 - (N + 2993)) \\
&= B_{\bar{N}}(N - 273) + B_{\bar{N}}(488) + B_{\bar{N}}(N - 269) = (N - 273) + 488 + (N - 269) = \mathbf{2N} - \mathbf{54} \\
&(N \geq 488)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2725}) &= B_{\bar{N}}(2N + 2725 - B_{\bar{N}}(2N + 2724)) + B_{\bar{N}}(2N + 2725 - B_{\bar{N}}(2N + 2723)) + B_{\bar{N}}(2N + 2725 - B_{\bar{N}}(2N + 2722)) \\
&= B_{\bar{N}}(2N + 2725 - (2N - 54)) + B_{\bar{N}}(2N + 2725 - (N + 2997)) + B_{\bar{N}}(2N + 2725 - (2N + 2236)) \\
&= B_{\bar{N}}(2779) + B_{\bar{N}}(N - 272) + B_{\bar{N}}(489) = 2779 + (N - 272) + 489 = \mathbf{N} + \mathbf{2996} \\
&(N \geq 2779)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2726}) &= B_{\bar{N}}(2N + 2726 - B_{\bar{N}}(2N + 2725)) + B_{\bar{N}}(2N + 2726 - B_{\bar{N}}(2N + 2724)) + B_{\bar{N}}(2N + 2726 - B_{\bar{N}}(2N + 2723)) \\
&= B_{\bar{N}}(2N + 2726 - (N + 2996)) + B_{\bar{N}}(2N + 2726 - (2N - 54)) + B_{\bar{N}}(2N + 2726 - (N + 2997)) \\
&= B_{\bar{N}}(N - 270) + B_{\bar{N}}(2780) + B_{\bar{N}}(N - 271) = (N - 270) + 2780 + (N - 271) = \mathbf{2N} + \mathbf{2239} \\
&(N \geq 2780)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2727}) &= B_{\bar{N}}(2N + 2727 - B_{\bar{N}}(2N + 2726)) + B_{\bar{N}}(2N + 2727 - B_{\bar{N}}(2N + 2725)) + B_{\bar{N}}(2N + 2727 - B_{\bar{N}}(2N + 2724)) \\
&= B_{\bar{N}}(2N + 2727 - (2N + 2239)) + B_{\bar{N}}(2N + 2727 - (N + 2996)) + B_{\bar{N}}(2N + 2727 - (2N - 54)) \\
&= B_{\bar{N}}(488) + B_{\bar{N}}(N - 269) + B_{\bar{N}}(2781) = 488 + (N - 269) + 2781 = \mathbf{N} + \mathbf{3000} \\
&(N \geq 2781)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2728}) &= B_{\bar{N}}(2N + 2728 - B_{\bar{N}}(2N + 2727)) + B_{\bar{N}}(2N + 2728 - B_{\bar{N}}(2N + 2726)) + B_{\bar{N}}(2N + 2728 - B_{\bar{N}}(2N + 2725)) \\
&= B_{\bar{N}}(2N + 2728 - (N + 3000)) + B_{\bar{N}}(2N + 2728 - (2N + 2239)) + B_{\bar{N}}(2N + 2728 - (N + 2996)) \\
&= B_{\bar{N}}(N - 272) + B_{\bar{N}}(489) + B_{\bar{N}}(N - 268) = (N - 272) + 489 + (N - 268) = \mathbf{2N} - \mathbf{51} \\
&(N \geq 489)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2729}) &= B_{\bar{N}}(2N + 2729 - B_{\bar{N}}(2N + 2728)) + B_{\bar{N}}(2N + 2729 - B_{\bar{N}}(2N + 2727)) + B_{\bar{N}}(2N + 2729 - B_{\bar{N}}(2N + 2726)) \\
&= B_{\bar{N}}(2N + 2729 - (2N - 51)) + B_{\bar{N}}(2N + 2729 - (N + 3000)) + B_{\bar{N}}(2N + 2729 - (2N + 2239)) \\
&= B_{\bar{N}}(2780) + B_{\bar{N}}(N - 271) + B_{\bar{N}}(490) = 2780 + (N - 271) + 490 = \mathbf{N} + \mathbf{2999} \\
&(N \geq 2780)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2730}) &= B_{\bar{N}}(2N + 2730 - B_{\bar{N}}(2N + 2729)) + B_{\bar{N}}(2N + 2730 - B_{\bar{N}}(2N + 2728)) + B_{\bar{N}}(2N + 2730 - B_{\bar{N}}(2N + 2727)) \\
&= B_{\bar{N}}(2N + 2730 - (N + 2999)) + B_{\bar{N}}(2N + 2730 - (2N - 51)) + B_{\bar{N}}(2N + 2730 - (N + 3000)) \\
&= B_{\bar{N}}(N - 269) + B_{\bar{N}}(2781) + B_{\bar{N}}(N - 270) = (N - 269) + 2781 + (N - 270) = \mathbf{2N} + \mathbf{2242} \\
&(N \geq 2781)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2731}) &= B_{\bar{N}}(2N + 2731 - B_{\bar{N}}(2N + 2730)) + B_{\bar{N}}(2N + 2731 - B_{\bar{N}}(2N + 2729)) + B_{\bar{N}}(2N + 2731 - B_{\bar{N}}(2N + 2728)) \\
&= B_{\bar{N}}(2N + 2731 - (2N + 2242)) + B_{\bar{N}}(2N + 2731 - (N + 2999)) + B_{\bar{N}}(2N + 2731 - (2N - 51)) \\
&= B_{\bar{N}}(489) + B_{\bar{N}}(N - 268) + B_{\bar{N}}(2782) = 489 + (N - 268) + 2782 = \mathbf{N} + \mathbf{3003} \\
&(N \geq 2782)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2732}) &= B_{\bar{N}}(2N + 2732 - B_{\bar{N}}(2N + 2731)) + B_{\bar{N}}(2N + 2732 - B_{\bar{N}}(2N + 2730)) + B_{\bar{N}}(2N + 2732 - B_{\bar{N}}(2N + 2729)) \\
&= B_{\bar{N}}(2N + 2732 - (N + 3003)) + B_{\bar{N}}(2N + 2732 - (2N + 2242)) + B_{\bar{N}}(2N + 2732 - (N + 2999)) \\
&= B_{\bar{N}}(N - 271) + B_{\bar{N}}(490) + B_{\bar{N}}(N - 267) = (N - 271) + 490 + (N - 267) = \mathbf{2N} - \mathbf{48} \\
&(N \geq 490)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2733}) &= B_{\bar{N}}(2N + 2733 - B_{\bar{N}}(2N + 2732)) + B_{\bar{N}}(2N + 2733 - B_{\bar{N}}(2N + 2731)) + B_{\bar{N}}(2N + 2733 - B_{\bar{N}}(2N + 2730)) \\
&= B_{\bar{N}}(2N + 2733 - (2N - 48)) + B_{\bar{N}}(2N + 2733 - (N + 3003)) + B_{\bar{N}}(2N + 2733 - (2N + 2242)) \\
&= B_{\bar{N}}(2781) + B_{\bar{N}}(N - 270) + B_{\bar{N}}(491) = 2781 + (N - 270) + 491 = \mathbf{N} + \mathbf{3002} \\
&(N \geq 2781)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2734}) &= B_{\bar{N}}(2N + 2734 - B_{\bar{N}}(2N + 2733)) + B_{\bar{N}}(2N + 2734 - B_{\bar{N}}(2N + 2732)) + B_{\bar{N}}(2N + 2734 - B_{\bar{N}}(2N + 2731)) \\
&= B_{\bar{N}}(2N + 2734 - (N + 3002)) + B_{\bar{N}}(2N + 2734 - (2N - 48)) + B_{\bar{N}}(2N + 2734 - (N + 3003)) \\
&= B_{\bar{N}}(N - 268) + B_{\bar{N}}(2782) + B_{\bar{N}}(N - 269) = (N - 268) + 2782 + (N - 269) = \mathbf{2N} + \mathbf{2245} \\
&(N \geq 2782)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2735}) &= B_{\bar{N}}(2N + 2735 - B_{\bar{N}}(2N + 2734)) + B_{\bar{N}}(2N + 2735 - B_{\bar{N}}(2N + 2733)) + B_{\bar{N}}(2N + 2735 - B_{\bar{N}}(2N + 2732)) \\
&= B_{\bar{N}}(2N + 2735 - (2N + 2245)) + B_{\bar{N}}(2N + 2735 - (N + 3002)) + B_{\bar{N}}(2N + 2735 - (2N - 48)) \\
&= B_{\bar{N}}(490) + B_{\bar{N}}(N - 267) + B_{\bar{N}}(2783) = 490 + (N - 267) + 2783 = \mathbf{N} + \mathbf{3006} \\
&(N \geq 2783)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2736}) &= B_{\bar{N}}(2N + 2736 - B_{\bar{N}}(2N + 2735)) + B_{\bar{N}}(2N + 2736 - B_{\bar{N}}(2N + 2734)) + B_{\bar{N}}(2N + 2736 - B_{\bar{N}}(2N + 2733)) \\
&= B_{\bar{N}}(2N + 2736 - (N + 3006)) + B_{\bar{N}}(2N + 2736 - (2N + 2245)) + B_{\bar{N}}(2N + 2736 - (N + 3002)) \\
&= B_{\bar{N}}(N - 270) + B_{\bar{N}}(491) + B_{\bar{N}}(N - 266) = (N - 270) + 491 + (N - 266) = \mathbf{2N} - \mathbf{45} \\
&(N \geq 491)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2737}) &= B_{\bar{N}}(2N + 2737 - B_{\bar{N}}(2N + 2736)) + B_{\bar{N}}(2N + 2737 - B_{\bar{N}}(2N + 2735)) + B_{\bar{N}}(2N + 2737 - B_{\bar{N}}(2N + 2734)) \\
&= B_{\bar{N}}(2N + 2737 - (2N - 45)) + B_{\bar{N}}(2N + 2737 - (N + 3006)) + B_{\bar{N}}(2N + 2737 - (2N + 2245)) \\
&= B_{\bar{N}}(2782) + B_{\bar{N}}(N - 269) + B_{\bar{N}}(492) = 2782 + (N - 269) + 492 = \mathbf{N} + \mathbf{3005} \\
&(N \geq 2782)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2738}) &= B_{\bar{N}}(2N + 2738 - B_{\bar{N}}(2N + 2737)) + B_{\bar{N}}(2N + 2738 - B_{\bar{N}}(2N + 2736)) + B_{\bar{N}}(2N + 2738 - B_{\bar{N}}(2N + 2735)) \\
&= B_{\bar{N}}(2N + 2738 - (N + 3005)) + B_{\bar{N}}(2N + 2738 - (2N - 45)) + B_{\bar{N}}(2N + 2738 - (N + 3006)) \\
&= B_{\bar{N}}(N - 267) + B_{\bar{N}}(2783) + B_{\bar{N}}(N - 268) = (N - 267) + 2783 + (N - 268) = \mathbf{2N} + \mathbf{2248} \\
&(N \geq 2783)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2739}) &= B_{\bar{N}}(2N + 2739 - B_{\bar{N}}(2N + 2738)) + B_{\bar{N}}(2N + 2739 - B_{\bar{N}}(2N + 2737)) + B_{\bar{N}}(2N + 2739 - B_{\bar{N}}(2N + 2736)) \\
&= B_{\bar{N}}(2N + 2739 - (2N + 2248)) + B_{\bar{N}}(2N + 2739 - (N + 3005)) + B_{\bar{N}}(2N + 2739 - (2N - 45)) \\
&= B_{\bar{N}}(491) + B_{\bar{N}}(N - 266) + B_{\bar{N}}(2784) = 491 + (N - 266) + 2784 = \mathbf{N} + \mathbf{3009} \\
&(N \geq 2784)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2740}) &= B_{\bar{N}}(2N + 2740 - B_{\bar{N}}(2N + 2739)) + B_{\bar{N}}(2N + 2740 - B_{\bar{N}}(2N + 2738)) + B_{\bar{N}}(2N + 2740 - B_{\bar{N}}(2N + 2737)) \\
&= B_{\bar{N}}(2N + 2740 - (N + 3009)) + B_{\bar{N}}(2N + 2740 - (2N + 2248)) + B_{\bar{N}}(2N + 2740 - (N + 3005)) \\
&= B_{\bar{N}}(N - 269) + B_{\bar{N}}(492) + B_{\bar{N}}(N - 265) = (N - 269) + 492 + (N - 265) = \mathbf{2N} - \mathbf{42} \\
&(N \geq 492)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2741}) &= B_{\bar{N}}(2N + 2741 - B_{\bar{N}}(2N + 2740)) + B_{\bar{N}}(2N + 2741 - B_{\bar{N}}(2N + 2739)) + B_{\bar{N}}(2N + 2741 - B_{\bar{N}}(2N + 2738)) \\
&= B_{\bar{N}}(2N + 2741 - (2N - 42)) + B_{\bar{N}}(2N + 2741 - (N + 3009)) + B_{\bar{N}}(2N + 2741 - (2N + 2248)) \\
&= B_{\bar{N}}(2783) + B_{\bar{N}}(N - 268) + B_{\bar{N}}(493) = 2783 + (N - 268) + 493 = \mathbf{N} + \mathbf{3008} \\
&(N \geq 2783)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2742}) &= B_{\bar{N}}(2N + 2742 - B_{\bar{N}}(2N + 2741)) + B_{\bar{N}}(2N + 2742 - B_{\bar{N}}(2N + 2740)) + B_{\bar{N}}(2N + 2742 - B_{\bar{N}}(2N + 2739)) \\
&= B_{\bar{N}}(2N + 2742 - (N + 3008)) + B_{\bar{N}}(2N + 2742 - (2N - 42)) + B_{\bar{N}}(2N + 2742 - (N + 3009)) \\
&= B_{\bar{N}}(N - 266) + B_{\bar{N}}(2784) + B_{\bar{N}}(N - 267) = (N - 266) + 2784 + (N - 267) = \mathbf{2N} + \mathbf{2251} \\
&(N \geq 2784)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2743}) &= B_{\bar{N}}(2N + 2743 - B_{\bar{N}}(2N + 2742)) + B_{\bar{N}}(2N + 2743 - B_{\bar{N}}(2N + 2741)) + B_{\bar{N}}(2N + 2743 - B_{\bar{N}}(2N + 2740)) \\
&= B_{\bar{N}}(2N + 2743 - (2N + 2251)) + B_{\bar{N}}(2N + 2743 - (N + 3008)) + B_{\bar{N}}(2N + 2743 - (2N - 42)) \\
&= B_{\bar{N}}(492) + B_{\bar{N}}(N - 265) + B_{\bar{N}}(2785) = 492 + (N - 265) + 2785 = \mathbf{N} + \mathbf{3012} \\
&(N \geq 2785)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2744}) &= B_{\bar{N}}(2N + 2744 - B_{\bar{N}}(2N + 2743)) + B_{\bar{N}}(2N + 2744 - B_{\bar{N}}(2N + 2742)) + B_{\bar{N}}(2N + 2744 - B_{\bar{N}}(2N + 2741)) \\
&= B_{\bar{N}}(2N + 2744 - (N + 3012)) + B_{\bar{N}}(2N + 2744 - (2N + 2251)) + B_{\bar{N}}(2N + 2744 - (N + 3008)) \\
&= B_{\bar{N}}(N - 268) + B_{\bar{N}}(493) + B_{\bar{N}}(N - 264) = (N - 268) + 493 + (N - 264) = \mathbf{2N} - \mathbf{39} \\
&(N \geq 493)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2745}) &= B_{\bar{N}}(2N + 2745 - B_{\bar{N}}(2N + 2744)) + B_{\bar{N}}(2N + 2745 - B_{\bar{N}}(2N + 2743)) + B_{\bar{N}}(2N + 2745 - B_{\bar{N}}(2N + 2742)) \\
&= B_{\bar{N}}(2N + 2745 - (2N - 39)) + B_{\bar{N}}(2N + 2745 - (N + 3012)) + B_{\bar{N}}(2N + 2745 - (2N + 2251)) \\
&= B_{\bar{N}}(2784) + B_{\bar{N}}(N - 267) + B_{\bar{N}}(494) = 2784 + (N - 267) + 494 = \mathbf{N} + \mathbf{3011} \\
&(N \geq 2784)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2746}) &= B_{\bar{N}}(2N + 2746 - B_{\bar{N}}(2N + 2745)) + B_{\bar{N}}(2N + 2746 - B_{\bar{N}}(2N + 2744)) + B_{\bar{N}}(2N + 2746 - B_{\bar{N}}(2N + 2743)) \\
&= B_{\bar{N}}(2N + 2746 - (N + 3011)) + B_{\bar{N}}(2N + 2746 - (2N - 39)) + B_{\bar{N}}(2N + 2746 - (N + 3012)) \\
&= B_{\bar{N}}(N - 265) + B_{\bar{N}}(2785) + B_{\bar{N}}(N - 266) = (N - 265) + 2785 + (N - 266) = \mathbf{2N} + \mathbf{2254} \\
&(N \geq 2785)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2747}) &= B_{\bar{N}}(2N + 2747 - B_{\bar{N}}(2N + 2746)) + B_{\bar{N}}(2N + 2747 - B_{\bar{N}}(2N + 2745)) + B_{\bar{N}}(2N + 2747 - B_{\bar{N}}(2N + 2744)) \\
&= B_{\bar{N}}(2N + 2747 - (2N + 2254)) + B_{\bar{N}}(2N + 2747 - (N + 3011)) + B_{\bar{N}}(2N + 2747 - (2N - 39)) \\
&= B_{\bar{N}}(493) + B_{\bar{N}}(N - 264) + B_{\bar{N}}(2786) = 493 + (N - 264) + 2786 = \mathbf{N} + \mathbf{3015} \\
&(N \geq 2786)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2748}) &= B_{\bar{N}}(2N + 2748 - B_{\bar{N}}(2N + 2747)) + B_{\bar{N}}(2N + 2748 - B_{\bar{N}}(2N + 2746)) + B_{\bar{N}}(2N + 2748 - B_{\bar{N}}(2N + 2745)) \\
&= B_{\bar{N}}(2N + 2748 - (N + 3015)) + B_{\bar{N}}(2N + 2748 - (2N + 2254)) + B_{\bar{N}}(2N + 2748 - (N + 3011)) \\
&= B_{\bar{N}}(N - 267) + B_{\bar{N}}(494) + B_{\bar{N}}(N - 263) = (N - 267) + 494 + (N - 263) = \mathbf{2N} - \mathbf{36} \\
&(N \geq 494)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2749}) &= B_{\bar{N}}(2N + 2749 - B_{\bar{N}}(2N + 2748)) + B_{\bar{N}}(2N + 2749 - B_{\bar{N}}(2N + 2747)) + B_{\bar{N}}(2N + 2749 - B_{\bar{N}}(2N + 2746)) \\
&= B_{\bar{N}}(2N + 2749 - (2N - 36)) + B_{\bar{N}}(2N + 2749 - (N + 3015)) + B_{\bar{N}}(2N + 2749 - (2N + 2254)) \\
&= B_{\bar{N}}(2785) + B_{\bar{N}}(N - 266) + B_{\bar{N}}(495) = 2785 + (N - 266) + 495 = \mathbf{N} + \mathbf{3014} \\
&(N \geq 2785)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2750}) &= B_{\bar{N}}(2N + 2750 - B_{\bar{N}}(2N + 2749)) + B_{\bar{N}}(2N + 2750 - B_{\bar{N}}(2N + 2748)) + B_{\bar{N}}(2N + 2750 - B_{\bar{N}}(2N + 2747)) \\
&= B_{\bar{N}}(2N + 2750 - (N + 3014)) + B_{\bar{N}}(2N + 2750 - (2N - 36)) + B_{\bar{N}}(2N + 2750 - (N + 3015)) \\
&= B_{\bar{N}}(N - 264) + B_{\bar{N}}(2786) + B_{\bar{N}}(N - 265) = (N - 264) + 2786 + (N - 265) = \mathbf{2N} + \mathbf{2257} \\
&(N \geq 2786)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2751}) &= B_{\bar{N}}(2N + 2751 - B_{\bar{N}}(2N + 2750)) + B_{\bar{N}}(2N + 2751 - B_{\bar{N}}(2N + 2749)) + B_{\bar{N}}(2N + 2751 - B_{\bar{N}}(2N + 2748)) \\
&= B_{\bar{N}}(2N + 2751 - (2N + 2257)) + B_{\bar{N}}(2N + 2751 - (N + 3014)) + B_{\bar{N}}(2N + 2751 - (2N - 36)) \\
&= B_{\bar{N}}(494) + B_{\bar{N}}(N - 263) + B_{\bar{N}}(2787) = 494 + (N - 263) + 2787 = \mathbf{N} + \mathbf{3018} \\
&(N \geq 2787)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2752}) &= B_{\bar{N}}(2N + 2752 - B_{\bar{N}}(2N + 2751)) + B_{\bar{N}}(2N + 2752 - B_{\bar{N}}(2N + 2750)) + B_{\bar{N}}(2N + 2752 - B_{\bar{N}}(2N + 2749)) \\
&= B_{\bar{N}}(2N + 2752 - (N + 3018)) + B_{\bar{N}}(2N + 2752 - (2N + 2257)) + B_{\bar{N}}(2N + 2752 - (N + 3014)) \\
&= B_{\bar{N}}(N - 266) + B_{\bar{N}}(495) + B_{\bar{N}}(N - 262) = (N - 266) + 495 + (N - 262) = \mathbf{2N} - \mathbf{33} \\
&(N \geq 495)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2753}) &= B_{\bar{N}}(2N + 2753 - B_{\bar{N}}(2N + 2752)) + B_{\bar{N}}(2N + 2753 - B_{\bar{N}}(2N + 2751)) + B_{\bar{N}}(2N + 2753 - B_{\bar{N}}(2N + 2750)) \\
&= B_{\bar{N}}(2N + 2753 - (2N - 33)) + B_{\bar{N}}(2N + 2753 - (N + 3018)) + B_{\bar{N}}(2N + 2753 - (2N + 2257)) \\
&= B_{\bar{N}}(2786) + B_{\bar{N}}(N - 265) + B_{\bar{N}}(496) = 2786 + (N - 265) + 496 = \mathbf{N} + \mathbf{3017} \\
&(N \geq 2786)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2754}) &= B_{\bar{N}}(2N + 2754 - B_{\bar{N}}(2N + 2753)) + B_{\bar{N}}(2N + 2754 - B_{\bar{N}}(2N + 2752)) + B_{\bar{N}}(2N + 2754 - B_{\bar{N}}(2N + 2751)) \\
&= B_{\bar{N}}(2N + 2754 - (N + 3017)) + B_{\bar{N}}(2N + 2754 - (2N - 33)) + B_{\bar{N}}(2N + 2754 - (N + 3018)) \\
&= B_{\bar{N}}(N - 263) + B_{\bar{N}}(2787) + B_{\bar{N}}(N - 264) = (N - 263) + 2787 + (N - 264) = \mathbf{2N} + \mathbf{2260} \\
&(N \geq 2787)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2755}) &= B_{\bar{N}}(2N + 2755 - B_{\bar{N}}(2N + 2754)) + B_{\bar{N}}(2N + 2755 - B_{\bar{N}}(2N + 2753)) + B_{\bar{N}}(2N + 2755 - B_{\bar{N}}(2N + 2752)) \\
&= B_{\bar{N}}(2N + 2755 - (2N + 2260)) + B_{\bar{N}}(2N + 2755 - (N + 3017)) + B_{\bar{N}}(2N + 2755 - (2N - 33)) \\
&= B_{\bar{N}}(495) + B_{\bar{N}}(N - 262) + B_{\bar{N}}(2788) = 495 + (N - 262) + 2788 = \mathbf{N} + \mathbf{3021} \\
&(N \geq 2788)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2756}) &= B_{\bar{N}}(2N + 2756 - B_{\bar{N}}(2N + 2755)) + B_{\bar{N}}(2N + 2756 - B_{\bar{N}}(2N + 2754)) + B_{\bar{N}}(2N + 2756 - B_{\bar{N}}(2N + 2753)) \\
&= B_{\bar{N}}(2N + 2756 - (N + 3021)) + B_{\bar{N}}(2N + 2756 - (2N + 2260)) + B_{\bar{N}}(2N + 2756 - (N + 3017)) \\
&= B_{\bar{N}}(N - 265) + B_{\bar{N}}(496) + B_{\bar{N}}(N - 261) = (N - 265) + 496 + (N - 261) = \mathbf{2N} - \mathbf{30} \\
&(N \geq 496)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2757}) &= B_{\bar{N}}(2N + 2757 - B_{\bar{N}}(2N + 2756)) + B_{\bar{N}}(2N + 2757 - B_{\bar{N}}(2N + 2755)) + B_{\bar{N}}(2N + 2757 - B_{\bar{N}}(2N + 2754)) \\
&= B_{\bar{N}}(2N + 2757 - (2N - 30)) + B_{\bar{N}}(2N + 2757 - (N + 3021)) + B_{\bar{N}}(2N + 2757 - (2N + 2260)) \\
&= B_{\bar{N}}(2787) + B_{\bar{N}}(N - 264) + B_{\bar{N}}(497) = 2787 + (N - 264) + 497 = \mathbf{N} + \mathbf{3020} \\
&(N \geq 2787)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2758}) &= B_{\bar{N}}(2N + 2758 - B_{\bar{N}}(2N + 2757)) + B_{\bar{N}}(2N + 2758 - B_{\bar{N}}(2N + 2756)) + B_{\bar{N}}(2N + 2758 - B_{\bar{N}}(2N + 2755)) \\
&= B_{\bar{N}}(2N + 2758 - (N + 3020)) + B_{\bar{N}}(2N + 2758 - (2N - 30)) + B_{\bar{N}}(2N + 2758 - (N + 3021)) \\
&= B_{\bar{N}}(N - 262) + B_{\bar{N}}(2788) + B_{\bar{N}}(N - 263) = (N - 262) + 2788 + (N - 263) = \mathbf{2N} + \mathbf{2263} \\
&(N \geq 2788)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2759}) &= B_{\bar{N}}(2N + 2759 - B_{\bar{N}}(2N + 2758)) + B_{\bar{N}}(2N + 2759 - B_{\bar{N}}(2N + 2757)) + B_{\bar{N}}(2N + 2759 - B_{\bar{N}}(2N + 2756)) \\
&= B_{\bar{N}}(2N + 2759 - (2N + 2263)) + B_{\bar{N}}(2N + 2759 - (N + 3020)) + B_{\bar{N}}(2N + 2759 - (2N - 30)) \\
&= B_{\bar{N}}(496) + B_{\bar{N}}(N - 261) + B_{\bar{N}}(2789) = 496 + (N - 261) + 2789 = \mathbf{N} + \mathbf{3024} \\
&(N \geq 2789)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2760}) &= B_{\bar{N}}(2N + 2760 - B_{\bar{N}}(2N + 2759)) + B_{\bar{N}}(2N + 2760 - B_{\bar{N}}(2N + 2758)) + B_{\bar{N}}(2N + 2760 - B_{\bar{N}}(2N + 2757)) \\
&= B_{\bar{N}}(2N + 2760 - (N + 3024)) + B_{\bar{N}}(2N + 2760 - (2N + 2263)) + B_{\bar{N}}(2N + 2760 - (N + 3020)) \\
&= B_{\bar{N}}(N - 264) + B_{\bar{N}}(497) + B_{\bar{N}}(N - 260) = (N - 264) + 497 + (N - 260) = \mathbf{2N} - \mathbf{27} \\
&(N \geq 497)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2761}) &= B_{\bar{N}}(2N + 2761 - B_{\bar{N}}(2N + 2760)) + B_{\bar{N}}(2N + 2761 - B_{\bar{N}}(2N + 2759)) + B_{\bar{N}}(2N + 2761 - B_{\bar{N}}(2N + 2758)) \\
&= B_{\bar{N}}(2N + 2761 - (2N - 27)) + B_{\bar{N}}(2N + 2761 - (N + 3024)) + B_{\bar{N}}(2N + 2761 - (2N + 2263)) \\
&= B_{\bar{N}}(2788) + B_{\bar{N}}(N - 263) + B_{\bar{N}}(498) = 2788 + (N - 263) + 498 = \mathbf{N} + \mathbf{3023} \\
&(N \geq 2788)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2762}) &= B_{\bar{N}}(2N + 2762 - B_{\bar{N}}(2N + 2761)) + B_{\bar{N}}(2N + 2762 - B_{\bar{N}}(2N + 2760)) + B_{\bar{N}}(2N + 2762 - B_{\bar{N}}(2N + 2759)) \\
&= B_{\bar{N}}(2N + 2762 - (N + 3023)) + B_{\bar{N}}(2N + 2762 - (2N - 27)) + B_{\bar{N}}(2N + 2762 - (N + 3024)) \\
&= B_{\bar{N}}(N - 261) + B_{\bar{N}}(2789) + B_{\bar{N}}(N - 262) = (N - 261) + 2789 + (N - 262) = \mathbf{2N} + \mathbf{2266} \\
&(N \geq 2789)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2763}) &= B_{\bar{N}}(2N + 2763 - B_{\bar{N}}(2N + 2762)) + B_{\bar{N}}(2N + 2763 - B_{\bar{N}}(2N + 2761)) + B_{\bar{N}}(2N + 2763 - B_{\bar{N}}(2N + 2760)) \\
&= B_{\bar{N}}(2N + 2763 - (2N + 2266)) + B_{\bar{N}}(2N + 2763 - (N + 3023)) + B_{\bar{N}}(2N + 2763 - (2N - 27)) \\
&= B_{\bar{N}}(497) + B_{\bar{N}}(N - 260) + B_{\bar{N}}(2790) = 497 + (N - 260) + 2790 = \mathbf{N} + \mathbf{3027} \\
&(N \geq 2790)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2764}) &= B_{\bar{N}}(2N + 2764 - B_{\bar{N}}(2N + 2763)) + B_{\bar{N}}(2N + 2764 - B_{\bar{N}}(2N + 2762)) + B_{\bar{N}}(2N + 2764 - B_{\bar{N}}(2N + 2761)) \\
&= B_{\bar{N}}(2N + 2764 - (N + 3027)) + B_{\bar{N}}(2N + 2764 - (2N + 2266)) + B_{\bar{N}}(2N + 2764 - (N + 3023)) \\
&= B_{\bar{N}}(N - 263) + B_{\bar{N}}(498) + B_{\bar{N}}(N - 259) = (N - 263) + 498 + (N - 259) = \mathbf{2N} - \mathbf{24} \\
&(N \geq 498)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2765}) &= B_{\bar{N}}(2N + 2765 - B_{\bar{N}}(2N + 2764)) + B_{\bar{N}}(2N + 2765 - B_{\bar{N}}(2N + 2763)) + B_{\bar{N}}(2N + 2765 - B_{\bar{N}}(2N + 2762)) \\
&= B_{\bar{N}}(2N + 2765 - (2N - 24)) + B_{\bar{N}}(2N + 2765 - (N + 3027)) + B_{\bar{N}}(2N + 2765 - (2N + 2266)) \\
&= B_{\bar{N}}(2789) + B_{\bar{N}}(N - 262) + B_{\bar{N}}(499) = 2789 + (N - 262) + 499 = \mathbf{N} + \mathbf{3026} \\
&(N \geq 2789)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2766}) &= B_{\bar{N}}(2N + 2766 - B_{\bar{N}}(2N + 2765)) + B_{\bar{N}}(2N + 2766 - B_{\bar{N}}(2N + 2764)) + B_{\bar{N}}(2N + 2766 - B_{\bar{N}}(2N + 2763)) \\
&= B_{\bar{N}}(2N + 2766 - (N + 3026)) + B_{\bar{N}}(2N + 2766 - (2N - 24)) + B_{\bar{N}}(2N + 2766 - (N + 3027)) \\
&= B_{\bar{N}}(N - 260) + B_{\bar{N}}(2790) + B_{\bar{N}}(N - 261) = (N - 260) + 2790 + (N - 261) = \mathbf{2N} + \mathbf{2269} \\
&(N \geq 2790)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2767}) &= B_{\bar{N}}(2N + 2767 - B_{\bar{N}}(2N + 2766)) + B_{\bar{N}}(2N + 2767 - B_{\bar{N}}(2N + 2765)) + B_{\bar{N}}(2N + 2767 - B_{\bar{N}}(2N + 2764)) \\
&= B_{\bar{N}}(2N + 2767 - (2N + 2269)) + B_{\bar{N}}(2N + 2767 - (N + 3026)) + B_{\bar{N}}(2N + 2767 - (2N - 24)) \\
&= B_{\bar{N}}(498) + B_{\bar{N}}(N - 259) + B_{\bar{N}}(2791) = 498 + (N - 259) + 2791 = \mathbf{N} + \mathbf{3030} \\
&(N \geq 2791)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2768}) &= B_{\bar{N}}(2N + 2768 - B_{\bar{N}}(2N + 2767)) + B_{\bar{N}}(2N + 2768 - B_{\bar{N}}(2N + 2766)) + B_{\bar{N}}(2N + 2768 - B_{\bar{N}}(2N + 2765)) \\
&= B_{\bar{N}}(2N + 2768 - (N + 3030)) + B_{\bar{N}}(2N + 2768 - (2N + 2269)) + B_{\bar{N}}(2N + 2768 - (N + 3026)) \\
&= B_{\bar{N}}(N - 262) + B_{\bar{N}}(499) + B_{\bar{N}}(N - 258) = (N - 262) + 499 + (N - 258) = \mathbf{2N} - \mathbf{21} \\
&(N \geq 499)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2769}) &= B_{\bar{N}}(2N + 2769 - B_{\bar{N}}(2N + 2768)) + B_{\bar{N}}(2N + 2769 - B_{\bar{N}}(2N + 2767)) + B_{\bar{N}}(2N + 2769 - B_{\bar{N}}(2N + 2766)) \\
&= B_{\bar{N}}(2N + 2769 - (2N - 21)) + B_{\bar{N}}(2N + 2769 - (N + 3030)) + B_{\bar{N}}(2N + 2769 - (2N + 2269)) \\
&= B_{\bar{N}}(2790) + B_{\bar{N}}(N - 261) + B_{\bar{N}}(500) = 2790 + (N - 261) + 500 = \mathbf{N} + \mathbf{3029} \\
&(N \geq 2790)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2770}) &= B_{\bar{N}}(2N + 2770 - B_{\bar{N}}(2N + 2769)) + B_{\bar{N}}(2N + 2770 - B_{\bar{N}}(2N + 2768)) + B_{\bar{N}}(2N + 2770 - B_{\bar{N}}(2N + 2767)) \\
&= B_{\bar{N}}(2N + 2770 - (N + 3029)) + B_{\bar{N}}(2N + 2770 - (2N - 21)) + B_{\bar{N}}(2N + 2770 - (N + 3030)) \\
&= B_{\bar{N}}(N - 259) + B_{\bar{N}}(2791) + B_{\bar{N}}(N - 260) = (N - 259) + 2791 + (N - 260) = \mathbf{2N} + \mathbf{2272} \\
&(N \geq 2791)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2771}) &= B_{\bar{N}}(2N + 2771 - B_{\bar{N}}(2N + 2770)) + B_{\bar{N}}(2N + 2771 - B_{\bar{N}}(2N + 2769)) + B_{\bar{N}}(2N + 2771 - B_{\bar{N}}(2N + 2768)) \\
&= B_{\bar{N}}(2N + 2771 - (2N + 2272)) + B_{\bar{N}}(2N + 2771 - (N + 3029)) + B_{\bar{N}}(2N + 2771 - (2N - 21)) \\
&= B_{\bar{N}}(499) + B_{\bar{N}}(N - 258) + B_{\bar{N}}(2792) = 499 + (N - 258) + 2792 = \mathbf{N} + \mathbf{3033} \\
&(N \geq 2792)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2772}) &= B_{\bar{N}}(2N + 2772 - B_{\bar{N}}(2N + 2771)) + B_{\bar{N}}(2N + 2772 - B_{\bar{N}}(2N + 2770)) + B_{\bar{N}}(2N + 2772 - B_{\bar{N}}(2N + 2769)) \\
&= B_{\bar{N}}(2N + 2772 - (N + 3033)) + B_{\bar{N}}(2N + 2772 - (2N + 2272)) + B_{\bar{N}}(2N + 2772 - (N + 3029)) \\
&= B_{\bar{N}}(N - 261) + B_{\bar{N}}(500) + B_{\bar{N}}(N - 257) = (N - 261) + 500 + (N - 257) = \mathbf{2N} - \mathbf{18} \\
&(N \geq 500)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2773}) &= B_{\bar{N}}(2N + 2773 - B_{\bar{N}}(2N + 2772)) + B_{\bar{N}}(2N + 2773 - B_{\bar{N}}(2N + 2771)) + B_{\bar{N}}(2N + 2773 - B_{\bar{N}}(2N + 2770)) \\
&= B_{\bar{N}}(2N + 2773 - (2N - 18)) + B_{\bar{N}}(2N + 2773 - (N + 3033)) + B_{\bar{N}}(2N + 2773 - (2N + 2272)) \\
&= B_{\bar{N}}(2791) + B_{\bar{N}}(N - 260) + B_{\bar{N}}(501) = 2791 + (N - 260) + 501 = \mathbf{N} + \mathbf{3032} \\
&(N \geq 2791)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2774}) &= B_{\bar{N}}(2N + 2774 - B_{\bar{N}}(2N + 2773)) + B_{\bar{N}}(2N + 2774 - B_{\bar{N}}(2N + 2772)) + B_{\bar{N}}(2N + 2774 - B_{\bar{N}}(2N + 2771)) \\
&= B_{\bar{N}}(2N + 2774 - (N + 3032)) + B_{\bar{N}}(2N + 2774 - (2N - 18)) + B_{\bar{N}}(2N + 2774 - (N + 3033)) \\
&= B_{\bar{N}}(N - 258) + B_{\bar{N}}(2792) + B_{\bar{N}}(N - 259) = (N - 258) + 2792 + (N - 259) = \mathbf{2N} + \mathbf{2275} \\
&(N \geq 2792)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2775}) &= B_{\bar{N}}(2N + 2775 - B_{\bar{N}}(2N + 2774)) + B_{\bar{N}}(2N + 2775 - B_{\bar{N}}(2N + 2773)) + B_{\bar{N}}(2N + 2775 - B_{\bar{N}}(2N + 2772)) \\
&= B_{\bar{N}}(2N + 2775 - (2N + 2275)) + B_{\bar{N}}(2N + 2775 - (N + 3032)) + B_{\bar{N}}(2N + 2775 - (2N - 18)) \\
&= B_{\bar{N}}(500) + B_{\bar{N}}(N - 257) + B_{\bar{N}}(2793) = 500 + (N - 257) + 2793 = \mathbf{N} + \mathbf{3036} \\
&(N \geq 2793)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2776}) &= B_{\bar{N}}(2N + 2776 - B_{\bar{N}}(2N + 2775)) + B_{\bar{N}}(2N + 2776 - B_{\bar{N}}(2N + 2774)) + B_{\bar{N}}(2N + 2776 - B_{\bar{N}}(2N + 2773)) \\
&= B_{\bar{N}}(2N + 2776 - (N + 3036)) + B_{\bar{N}}(2N + 2776 - (2N + 2275)) + B_{\bar{N}}(2N + 2776 - (N + 3032)) \\
&= B_{\bar{N}}(N - 260) + B_{\bar{N}}(501) + B_{\bar{N}}(N - 256) = (N - 260) + 501 + (N - 256) = \mathbf{2N} - \mathbf{15} \\
&(N \geq 501)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2777}) &= B_{\bar{N}}(2N + 2777 - B_{\bar{N}}(2N + 2776)) + B_{\bar{N}}(2N + 2777 - B_{\bar{N}}(2N + 2775)) + B_{\bar{N}}(2N + 2777 - B_{\bar{N}}(2N + 2774)) \\
&= B_{\bar{N}}(2N + 2777 - (2N - 15)) + B_{\bar{N}}(2N + 2777 - (N + 3036)) + B_{\bar{N}}(2N + 2777 - (2N + 2275)) \\
&= B_{\bar{N}}(2792) + B_{\bar{N}}(N - 259) + B_{\bar{N}}(502) = 2792 + (N - 259) + 502 = \mathbf{N} + \mathbf{3035} \\
&(N \geq 2792)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2778}) &= B_{\bar{N}}(2N + 2778 - B_{\bar{N}}(2N + 2777)) + B_{\bar{N}}(2N + 2778 - B_{\bar{N}}(2N + 2776)) + B_{\bar{N}}(2N + 2778 - B_{\bar{N}}(2N + 2775)) \\
&= B_{\bar{N}}(2N + 2778 - (N + 3035)) + B_{\bar{N}}(2N + 2778 - (2N - 15)) + B_{\bar{N}}(2N + 2778 - (N + 3036)) \\
&= B_{\bar{N}}(N - 257) + B_{\bar{N}}(2793) + B_{\bar{N}}(N - 258) = (N - 257) + 2793 + (N - 258) = \mathbf{2N} + \mathbf{2278} \\
&(N \geq 2793)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2779}) &= B_{\bar{N}}(2N + 2779 - B_{\bar{N}}(2N + 2778)) + B_{\bar{N}}(2N + 2779 - B_{\bar{N}}(2N + 2777)) + B_{\bar{N}}(2N + 2779 - B_{\bar{N}}(2N + 2776)) \\
&= B_{\bar{N}}(2N + 2779 - (2N + 2278)) + B_{\bar{N}}(2N + 2779 - (N + 3035)) + B_{\bar{N}}(2N + 2779 - (2N - 15)) \\
&= B_{\bar{N}}(501) + B_{\bar{N}}(N - 256) + B_{\bar{N}}(2794) = 501 + (N - 256) + 2794 = \mathbf{N} + \mathbf{3039} \\
&(N \geq 2794)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2780}) &= B_{\bar{N}}(2N + 2780 - B_{\bar{N}}(2N + 2779)) + B_{\bar{N}}(2N + 2780 - B_{\bar{N}}(2N + 2778)) + B_{\bar{N}}(2N + 2780 - B_{\bar{N}}(2N + 2777)) \\
&= B_{\bar{N}}(2N + 2780 - (N + 3039)) + B_{\bar{N}}(2N + 2780 - (2N + 2278)) + B_{\bar{N}}(2N + 2780 - (N + 3035)) \\
&= B_{\bar{N}}(N - 259) + B_{\bar{N}}(502) + B_{\bar{N}}(N - 255) = (N - 259) + 502 + (N - 255) = \mathbf{2N} - \mathbf{12} \\
&(N \geq 502)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2781}) &= B_{\bar{N}}(2N + 2781 - B_{\bar{N}}(2N + 2780)) + B_{\bar{N}}(2N + 2781 - B_{\bar{N}}(2N + 2779)) + B_{\bar{N}}(2N + 2781 - B_{\bar{N}}(2N + 2778)) \\
&= B_{\bar{N}}(2N + 2781 - (2N - 12)) + B_{\bar{N}}(2N + 2781 - (N + 3039)) + B_{\bar{N}}(2N + 2781 - (2N + 2278)) \\
&= B_{\bar{N}}(2793) + B_{\bar{N}}(N - 258) + B_{\bar{N}}(503) = 2793 + (N - 258) + 503 = \mathbf{N} + \mathbf{3038} \\
&(N \geq 2793)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2782}) &= B_{\bar{N}}(2N + 2782 - B_{\bar{N}}(2N + 2781)) + B_{\bar{N}}(2N + 2782 - B_{\bar{N}}(2N + 2780)) + B_{\bar{N}}(2N + 2782 - B_{\bar{N}}(2N + 2779)) \\
&= B_{\bar{N}}(2N + 2782 - (N + 3038)) + B_{\bar{N}}(2N + 2782 - (2N - 12)) + B_{\bar{N}}(2N + 2782 - (N + 3039)) \\
&= B_{\bar{N}}(N - 256) + B_{\bar{N}}(2794) + B_{\bar{N}}(N - 257) = (N - 256) + 2794 + (N - 257) = \mathbf{2N} + \mathbf{2281} \\
&(N \geq 2794)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2783}) &= B_{\bar{N}}(2N + 2783 - B_{\bar{N}}(2N + 2782)) + B_{\bar{N}}(2N + 2783 - B_{\bar{N}}(2N + 2781)) + B_{\bar{N}}(2N + 2783 - B_{\bar{N}}(2N + 2780)) \\
&= B_{\bar{N}}(2N + 2783 - (2N + 2281)) + B_{\bar{N}}(2N + 2783 - (N + 3038)) + B_{\bar{N}}(2N + 2783 - (2N - 12)) \\
&= B_{\bar{N}}(502) + B_{\bar{N}}(N - 255) + B_{\bar{N}}(2795) = 502 + (N - 255) + 2795 = \mathbf{N} + \mathbf{3042} \\
&(N \geq 2795)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2784}) &= B_{\bar{N}}(2N + 2784 - B_{\bar{N}}(2N + 2783)) + B_{\bar{N}}(2N + 2784 - B_{\bar{N}}(2N + 2782)) + B_{\bar{N}}(2N + 2784 - B_{\bar{N}}(2N + 2781)) \\
&= B_{\bar{N}}(2N + 2784 - (N + 3042)) + B_{\bar{N}}(2N + 2784 - (2N + 2281)) + B_{\bar{N}}(2N + 2784 - (N + 3038)) \\
&= B_{\bar{N}}(N - 258) + B_{\bar{N}}(503) + B_{\bar{N}}(N - 254) = (N - 258) + 503 + (N - 254) = \mathbf{2N} - \mathbf{9} \\
&(N \geq 503)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2785}) &= B_{\bar{N}}(2N + 2785 - B_{\bar{N}}(2N + 2784)) + B_{\bar{N}}(2N + 2785 - B_{\bar{N}}(2N + 2783)) + B_{\bar{N}}(2N + 2785 - B_{\bar{N}}(2N + 2782)) \\
&= B_{\bar{N}}(2N + 2785 - (2N - 9)) + B_{\bar{N}}(2N + 2785 - (N + 3042)) + B_{\bar{N}}(2N + 2785 - (2N + 2281)) \\
&= B_{\bar{N}}(2794) + B_{\bar{N}}(N - 257) + B_{\bar{N}}(504) = 2794 + (N - 257) + 504 = \mathbf{N} + \mathbf{3041} \\
&(N \geq 2794)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2786}) &= B_{\bar{N}}(2N + 2786 - B_{\bar{N}}(2N + 2785)) + B_{\bar{N}}(2N + 2786 - B_{\bar{N}}(2N + 2784)) + B_{\bar{N}}(2N + 2786 - B_{\bar{N}}(2N + 2783)) \\
&= B_{\bar{N}}(2N + 2786 - (N + 3041)) + B_{\bar{N}}(2N + 2786 - (2N - 9)) + B_{\bar{N}}(2N + 2786 - (N + 3042)) \\
&= B_{\bar{N}}(N - 255) + B_{\bar{N}}(2795) + B_{\bar{N}}(N - 256) = (N - 255) + 2795 + (N - 256) = \mathbf{2N} + \mathbf{2284} \\
&(N \geq 2795)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2787}) &= B_{\bar{N}}(2N + 2787 - B_{\bar{N}}(2N + 2786)) + B_{\bar{N}}(2N + 2787 - B_{\bar{N}}(2N + 2785)) + B_{\bar{N}}(2N + 2787 - B_{\bar{N}}(2N + 2784)) \\
&= B_{\bar{N}}(2N + 2787 - (2N + 2284)) + B_{\bar{N}}(2N + 2787 - (N + 3041)) + B_{\bar{N}}(2N + 2787 - (2N - 9)) \\
&= B_{\bar{N}}(503) + B_{\bar{N}}(N - 254) + B_{\bar{N}}(2796) = 503 + (N - 254) + 2796 = \mathbf{N} + \mathbf{3045} \\
&(N \geq 2796)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2788}) &= B_{\bar{N}}(2N + 2788 - B_{\bar{N}}(2N + 2787)) + B_{\bar{N}}(2N + 2788 - B_{\bar{N}}(2N + 2786)) + B_{\bar{N}}(2N + 2788 - B_{\bar{N}}(2N + 2785)) \\
&= B_{\bar{N}}(2N + 2788 - (N + 3045)) + B_{\bar{N}}(2N + 2788 - (2N + 2284)) + B_{\bar{N}}(2N + 2788 - (N + 3041)) \\
&= B_{\bar{N}}(N - 257) + B_{\bar{N}}(504) + B_{\bar{N}}(N - 253) = (N - 257) + 504 + (N - 253) = \mathbf{2N} - \mathbf{6} \\
&(N \geq 504)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2789}) &= B_{\bar{N}}(2N + 2789 - B_{\bar{N}}(2N + 2788)) + B_{\bar{N}}(2N + 2789 - B_{\bar{N}}(2N + 2787)) + B_{\bar{N}}(2N + 2789 - B_{\bar{N}}(2N + 2786)) \\
&= B_{\bar{N}}(2N + 2789 - (2N - 6)) + B_{\bar{N}}(2N + 2789 - (N + 3045)) + B_{\bar{N}}(2N + 2789 - (2N + 2284)) \\
&= B_{\bar{N}}(2795) + B_{\bar{N}}(N - 256) + B_{\bar{N}}(505) = 2795 + (N - 256) + 505 = \mathbf{N} + \mathbf{3044} \\
&(N \geq 2795)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2790}) &= B_{\bar{N}}(2N + 2790 - B_{\bar{N}}(2N + 2789)) + B_{\bar{N}}(2N + 2790 - B_{\bar{N}}(2N + 2788)) + B_{\bar{N}}(2N + 2790 - B_{\bar{N}}(2N + 2787)) \\
&= B_{\bar{N}}(2N + 2790 - (N + 3044)) + B_{\bar{N}}(2N + 2790 - (2N - 6)) + B_{\bar{N}}(2N + 2790 - (N + 3045)) \\
&= B_{\bar{N}}(N - 254) + B_{\bar{N}}(2796) + B_{\bar{N}}(N - 255) = (N - 254) + 2796 + (N - 255) = \mathbf{2N} + \mathbf{2287} \\
&(N \geq 2796)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2791}) &= B_{\bar{N}}(2N + 2791 - B_{\bar{N}}(2N + 2790)) + B_{\bar{N}}(2N + 2791 - B_{\bar{N}}(2N + 2789)) + B_{\bar{N}}(2N + 2791 - B_{\bar{N}}(2N + 2788)) \\
&= B_{\bar{N}}(2N + 2791 - (2N + 2287)) + B_{\bar{N}}(2N + 2791 - (N + 3044)) + B_{\bar{N}}(2N + 2791 - (2N - 6)) \\
&= B_{\bar{N}}(504) + B_{\bar{N}}(N - 253) + B_{\bar{N}}(2797) = 504 + (N - 253) + 2797 = \mathbf{N} + \mathbf{3048} \\
&(N \geq 2797)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2792}) &= B_{\bar{N}}(2N + 2792 - B_{\bar{N}}(2N + 2791)) + B_{\bar{N}}(2N + 2792 - B_{\bar{N}}(2N + 2790)) + B_{\bar{N}}(2N + 2792 - B_{\bar{N}}(2N + 2789)) \\
&= B_{\bar{N}}(2N + 2792 - (N + 3048)) + B_{\bar{N}}(2N + 2792 - (2N + 2287)) + B_{\bar{N}}(2N + 2792 - (N + 3044)) \\
&= B_{\bar{N}}(N - 256) + B_{\bar{N}}(505) + B_{\bar{N}}(N - 252) = (N - 256) + 505 + (N - 252) = \mathbf{2N} - \mathbf{3} \\
&(N \geq 505)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2793}) &= B_{\bar{N}}(2N + 2793 - B_{\bar{N}}(2N + 2792)) + B_{\bar{N}}(2N + 2793 - B_{\bar{N}}(2N + 2791)) + B_{\bar{N}}(2N + 2793 - B_{\bar{N}}(2N + 2790)) \\
&= B_{\bar{N}}(2N + 2793 - (2N - 3)) + B_{\bar{N}}(2N + 2793 - (N + 3048)) + B_{\bar{N}}(2N + 2793 - (2N + 2287)) \\
&= B_{\bar{N}}(2796) + B_{\bar{N}}(N - 255) + B_{\bar{N}}(506) = 2796 + (N - 255) + 506 = \mathbf{N} + \mathbf{3047} \\
&(N \geq 2796)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2794}) &= B_{\bar{N}}(2N + 2794 - B_{\bar{N}}(2N + 2793)) + B_{\bar{N}}(2N + 2794 - B_{\bar{N}}(2N + 2792)) + B_{\bar{N}}(2N + 2794 - B_{\bar{N}}(2N + 2791)) \\
&= B_{\bar{N}}(2N + 2794 - (N + 3047)) + B_{\bar{N}}(2N + 2794 - (2N - 3)) + B_{\bar{N}}(2N + 2794 - (N + 3048)) \\
&= B_{\bar{N}}(N - 253) + B_{\bar{N}}(2797) + B_{\bar{N}}(N - 254) = (N - 253) + 2797 + (N - 254) = \mathbf{2N} + \mathbf{2290} \\
&(N \geq 2797)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2795}) &= B_{\bar{N}}(2N + 2795 - B_{\bar{N}}(2N + 2794)) + B_{\bar{N}}(2N + 2795 - B_{\bar{N}}(2N + 2793)) + B_{\bar{N}}(2N + 2795 - B_{\bar{N}}(2N + 2792)) \\
&= B_{\bar{N}}(2N + 2795 - (2N + 2290)) + B_{\bar{N}}(2N + 2795 - (N + 3047)) + B_{\bar{N}}(2N + 2795 - (2N - 3)) \\
&= B_{\bar{N}}(505) + B_{\bar{N}}(N - 252) + B_{\bar{N}}(2798) = 505 + (N - 252) + 2798 = \mathbf{N} + \mathbf{3051} \\
&(N \geq 2798)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2796}) &= B_{\bar{N}}(2N + 2796 - B_{\bar{N}}(2N + 2795)) + B_{\bar{N}}(2N + 2796 - B_{\bar{N}}(2N + 2794)) + B_{\bar{N}}(2N + 2796 - B_{\bar{N}}(2N + 2793)) \\
&= B_{\bar{N}}(2N + 2796 - (N + 3051)) + B_{\bar{N}}(2N + 2796 - (2N + 2290)) + B_{\bar{N}}(2N + 2796 - (N + 3047)) \\
&= B_{\bar{N}}(N - 255) + B_{\bar{N}}(506) + B_{\bar{N}}(N - 251) = (N - 255) + 506 + (N - 251) = \mathbf{2N} \\
&(N \geq 506)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2797}) &= B_{\bar{N}}(2N + 2797 - B_{\bar{N}}(2N + 2796)) + B_{\bar{N}}(2N + 2797 - B_{\bar{N}}(2N + 2795)) + B_{\bar{N}}(2N + 2797 - B_{\bar{N}}(2N + 2794)) \\
&= B_{\bar{N}}(2N + 2797 - 2N) + B_{\bar{N}}(2N + 2797 - (N + 3051)) + B_{\bar{N}}(2N + 2797 - (2N + 2290)) \\
&= B_{\bar{N}}(2797) + B_{\bar{N}}(N - 254) + B_{\bar{N}}(507) = 2797 + (N - 254) + 507 = \mathbf{N} + \mathbf{3050} \\
&(N \geq 2797)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2798}) &= B_{\bar{N}}(2N + 2798 - B_{\bar{N}}(2N + 2797)) + B_{\bar{N}}(2N + 2798 - B_{\bar{N}}(2N + 2796)) + B_{\bar{N}}(2N + 2798 - B_{\bar{N}}(2N + 2795)) \\
&= B_{\bar{N}}(2N + 2798 - (N + 3050)) + B_{\bar{N}}(2N + 2798 - 2N) + B_{\bar{N}}(2N + 2798 - (N + 3051)) \\
&= B_{\bar{N}}(N - 252) + B_{\bar{N}}(2798) + B_{\bar{N}}(N - 253) = (N - 252) + 2798 + (N - 253) = \mathbf{2N} + \mathbf{2293} \\
&(N \geq 2798)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2799}) &= B_{\bar{N}}(2N + 2799 - B_{\bar{N}}(2N + 2798)) + B_{\bar{N}}(2N + 2799 - B_{\bar{N}}(2N + 2797)) + B_{\bar{N}}(2N + 2799 - B_{\bar{N}}(2N + 2796)) \\
&= B_{\bar{N}}(2N + 2799 - (2N + 2293)) + B_{\bar{N}}(2N + 2799 - (N + 3050)) + B_{\bar{N}}(2N + 2799 - 2N) \\
&= B_{\bar{N}}(506) + B_{\bar{N}}(N - 251) + B_{\bar{N}}(2799) = 506 + (N - 251) + 2799 = \mathbf{N} + \mathbf{3054} \\
&(N \geq 2799)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2800}) &= B_{\bar{N}}(2N + 2800 - B_{\bar{N}}(2N + 2799)) + B_{\bar{N}}(2N + 2800 - B_{\bar{N}}(2N + 2798)) + B_{\bar{N}}(2N + 2800 - B_{\bar{N}}(2N + 2797)) \\
&= B_{\bar{N}}(2N + 2800 - (N + 3054)) + B_{\bar{N}}(2N + 2800 - (2N + 2293)) + B_{\bar{N}}(2N + 2800 - (N + 3050)) \\
&= B_{\bar{N}}(N - 254) + B_{\bar{N}}(507) + B_{\bar{N}}(N - 250) = (N - 254) + 507 + (N - 250) = \mathbf{2N} + \mathbf{3} \\
&(N \geq 507)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2801}) &= B_{\bar{N}}(2N + 2801 - B_{\bar{N}}(2N + 2800)) + B_{\bar{N}}(2N + 2801 - B_{\bar{N}}(2N + 2799)) + B_{\bar{N}}(2N + 2801 - B_{\bar{N}}(2N + 2798)) \\
&= B_{\bar{N}}(2N + 2801 - (2N + 3)) + B_{\bar{N}}(2N + 2801 - (N + 3054)) + B_{\bar{N}}(2N + 2801 - (2N + 2293)) \\
&= B_{\bar{N}}(2798) + B_{\bar{N}}(N - 253) + B_{\bar{N}}(508) = 2798 + (N - 253) + 508 = \mathbf{N} + \mathbf{3053} \\
&(N \geq 2798)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2802}) &= B_{\bar{N}}(2N + 2802 - B_{\bar{N}}(2N + 2801)) + B_{\bar{N}}(2N + 2802 - B_{\bar{N}}(2N + 2800)) + B_{\bar{N}}(2N + 2802 - B_{\bar{N}}(2N + 2799)) \\
&= B_{\bar{N}}(2N + 2802 - (N + 3053)) + B_{\bar{N}}(2N + 2802 - (2N + 3)) + B_{\bar{N}}(2N + 2802 - (N + 3054)) \\
&= B_{\bar{N}}(N - 251) + B_{\bar{N}}(2799) + B_{\bar{N}}(N - 252) = (N - 251) + 2799 + (N - 252) = \mathbf{2N} + \mathbf{2296} \\
&(N \geq 2799)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2803}) &= B_{\bar{N}}(2N + 2803 - B_{\bar{N}}(2N + 2802)) + B_{\bar{N}}(2N + 2803 - B_{\bar{N}}(2N + 2801)) + B_{\bar{N}}(2N + 2803 - B_{\bar{N}}(2N + 2800)) \\
&= B_{\bar{N}}(2N + 2803 - (2N + 2296)) + B_{\bar{N}}(2N + 2803 - (N + 3053)) + B_{\bar{N}}(2N + 2803 - (2N + 3)) \\
&= B_{\bar{N}}(507) + B_{\bar{N}}(N - 250) + B_{\bar{N}}(2800) = 507 + (N - 250) + 2800 = \mathbf{N} + \mathbf{3057} \\
&(N \geq 2800)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2804}) &= B_{\bar{N}}(2N + 2804 - B_{\bar{N}}(2N + 2803)) + B_{\bar{N}}(2N + 2804 - B_{\bar{N}}(2N + 2802)) + B_{\bar{N}}(2N + 2804 - B_{\bar{N}}(2N + 2801)) \\
&= B_{\bar{N}}(2N + 2804 - (N + 3057)) + B_{\bar{N}}(2N + 2804 - (2N + 2296)) + B_{\bar{N}}(2N + 2804 - (N + 3053)) \\
&= B_{\bar{N}}(N - 253) + B_{\bar{N}}(508) + B_{\bar{N}}(N - 249) = (N - 253) + 508 + (N - 249) = \mathbf{2N} + \mathbf{6} \\
&(N \geq 508)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2805}) &= B_{\bar{N}}(2N + 2805 - B_{\bar{N}}(2N + 2804)) + B_{\bar{N}}(2N + 2805 - B_{\bar{N}}(2N + 2803)) + B_{\bar{N}}(2N + 2805 - B_{\bar{N}}(2N + 2802)) \\
&= B_{\bar{N}}(2N + 2805 - (2N + 6)) + B_{\bar{N}}(2N + 2805 - (N + 3057)) + B_{\bar{N}}(2N + 2805 - (2N + 2296)) \\
&= B_{\bar{N}}(2799) + B_{\bar{N}}(N - 252) + B_{\bar{N}}(509) = 2799 + (N - 252) + 509 = \mathbf{N} + \mathbf{3056} \\
&(N \geq 2799)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2806}) &= B_{\bar{N}}(2N + 2806 - B_{\bar{N}}(2N + 2805)) + B_{\bar{N}}(2N + 2806 - B_{\bar{N}}(2N + 2804)) + B_{\bar{N}}(2N + 2806 - B_{\bar{N}}(2N + 2803)) \\
&= B_{\bar{N}}(2N + 2806 - (N + 3056)) + B_{\bar{N}}(2N + 2806 - (2N + 6)) + B_{\bar{N}}(2N + 2806 - (N + 3057)) \\
&= B_{\bar{N}}(N - 250) + B_{\bar{N}}(2800) + B_{\bar{N}}(N - 251) = (N - 250) + 2800 + (N - 251) = \mathbf{2N} + \mathbf{2299} \\
&(N \geq 2800)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2807}) &= B_{\bar{N}}(2N + 2807 - B_{\bar{N}}(2N + 2806)) + B_{\bar{N}}(2N + 2807 - B_{\bar{N}}(2N + 2805)) + B_{\bar{N}}(2N + 2807 - B_{\bar{N}}(2N + 2804)) \\
&= B_{\bar{N}}(2N + 2807 - (2N + 2299)) + B_{\bar{N}}(2N + 2807 - (N + 3056)) + B_{\bar{N}}(2N + 2807 - (2N + 6)) \\
&= B_{\bar{N}}(508) + B_{\bar{N}}(N - 249) + B_{\bar{N}}(2801) = 508 + (N - 249) + 2801 = \mathbf{N} + \mathbf{3060} \\
&(N \geq 2801)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2808}) &= B_{\bar{N}}(2N + 2808 - B_{\bar{N}}(2N + 2807)) + B_{\bar{N}}(2N + 2808 - B_{\bar{N}}(2N + 2806)) + B_{\bar{N}}(2N + 2808 - B_{\bar{N}}(2N + 2805)) \\
&= B_{\bar{N}}(2N + 2808 - (N + 3060)) + B_{\bar{N}}(2N + 2808 - (2N + 2299)) + B_{\bar{N}}(2N + 2808 - (N + 3056)) \\
&= B_{\bar{N}}(N - 252) + B_{\bar{N}}(509) + B_{\bar{N}}(N - 248) = (N - 252) + 509 + (N - 248) = \mathbf{2N} + \mathbf{9} \\
&(N \geq 509)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2809}) &= B_{\bar{N}}(2N + 2809 - B_{\bar{N}}(2N + 2808)) + B_{\bar{N}}(2N + 2809 - B_{\bar{N}}(2N + 2807)) + B_{\bar{N}}(2N + 2809 - B_{\bar{N}}(2N + 2806)) \\
&= B_{\bar{N}}(2N + 2809 - (2N + 9)) + B_{\bar{N}}(2N + 2809 - (N + 3060)) + B_{\bar{N}}(2N + 2809 - (2N + 2299)) \\
&= B_{\bar{N}}(2800) + B_{\bar{N}}(N - 251) + B_{\bar{N}}(510) = 2800 + (N - 251) + 510 = \mathbf{N} + \mathbf{3059} \\
&(N \geq 2800)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2810}) &= B_{\bar{N}}(2N + 2810 - B_{\bar{N}}(2N + 2809)) + B_{\bar{N}}(2N + 2810 - B_{\bar{N}}(2N + 2808)) + B_{\bar{N}}(2N + 2810 - B_{\bar{N}}(2N + 2807)) \\
&= B_{\bar{N}}(2N + 2810 - (N + 3059)) + B_{\bar{N}}(2N + 2810 - (2N + 9)) + B_{\bar{N}}(2N + 2810 - (N + 3060)) \\
&= B_{\bar{N}}(N - 249) + B_{\bar{N}}(2801) + B_{\bar{N}}(N - 250) = (N - 249) + 2801 + (N - 250) = \mathbf{2N} + \mathbf{2302} \\
&(N \geq 2801)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2811}) &= B_{\bar{N}}(2N + 2811 - B_{\bar{N}}(2N + 2810)) + B_{\bar{N}}(2N + 2811 - B_{\bar{N}}(2N + 2809)) + B_{\bar{N}}(2N + 2811 - B_{\bar{N}}(2N + 2808)) \\
&= B_{\bar{N}}(2N + 2811 - (2N + 2302)) + B_{\bar{N}}(2N + 2811 - (N + 3059)) + B_{\bar{N}}(2N + 2811 - (2N + 9)) \\
&= B_{\bar{N}}(509) + B_{\bar{N}}(N - 248) + B_{\bar{N}}(2802) = 509 + (N - 248) + 2802 = \mathbf{N} + \mathbf{3063} \\
&(N \geq 2802)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2812}) &= B_{\bar{N}}(2N + 2812 - B_{\bar{N}}(2N + 2811)) + B_{\bar{N}}(2N + 2812 - B_{\bar{N}}(2N + 2810)) + B_{\bar{N}}(2N + 2812 - B_{\bar{N}}(2N + 2809)) \\
&= B_{\bar{N}}(2N + 2812 - (N + 3063)) + B_{\bar{N}}(2N + 2812 - (2N + 2302)) + B_{\bar{N}}(2N + 2812 - (N + 3059)) \\
&= B_{\bar{N}}(N - 251) + B_{\bar{N}}(510) + B_{\bar{N}}(N - 247) = (N - 251) + 510 + (N - 247) = \mathbf{2N} + \mathbf{12} \\
&(N \geq 510)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2813}) &= B_{\bar{N}}(2N + 2813 - B_{\bar{N}}(2N + 2812)) + B_{\bar{N}}(2N + 2813 - B_{\bar{N}}(2N + 2811)) + B_{\bar{N}}(2N + 2813 - B_{\bar{N}}(2N + 2810)) \\
&= B_{\bar{N}}(2N + 2813 - (2N + 12)) + B_{\bar{N}}(2N + 2813 - (N + 3063)) + B_{\bar{N}}(2N + 2813 - (2N + 2302)) \\
&= B_{\bar{N}}(2801) + B_{\bar{N}}(N - 250) + B_{\bar{N}}(511) = 2801 + (N - 250) + 511 = \mathbf{N} + \mathbf{3062} \\
&(N \geq 2801)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2814}) &= B_{\bar{N}}(2N + 2814 - B_{\bar{N}}(2N + 2813)) + B_{\bar{N}}(2N + 2814 - B_{\bar{N}}(2N + 2812)) + B_{\bar{N}}(2N + 2814 - B_{\bar{N}}(2N + 2811)) \\
&= B_{\bar{N}}(2N + 2814 - (N + 3062)) + B_{\bar{N}}(2N + 2814 - (2N + 12)) + B_{\bar{N}}(2N + 2814 - (N + 3063)) \\
&= B_{\bar{N}}(N - 248) + B_{\bar{N}}(2802) + B_{\bar{N}}(N - 249) = (N - 248) + 2802 + (N - 249) = \mathbf{2N} + \mathbf{2305} \\
&(N \geq 2802)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2815}) &= B_{\bar{N}}(2N + 2815 - B_{\bar{N}}(2N + 2814)) + B_{\bar{N}}(2N + 2815 - B_{\bar{N}}(2N + 2813)) + B_{\bar{N}}(2N + 2815 - B_{\bar{N}}(2N + 2812)) \\
&= B_{\bar{N}}(2N + 2815 - (2N + 2305)) + B_{\bar{N}}(2N + 2815 - (N + 3062)) + B_{\bar{N}}(2N + 2815 - (2N + 12)) \\
&= B_{\bar{N}}(510) + B_{\bar{N}}(N - 247) + B_{\bar{N}}(2803) = 510 + (N - 247) + 2803 = \mathbf{N} + \mathbf{3066} \\
&(N \geq 2803)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2816}) &= B_{\bar{N}}(2N + 2816 - B_{\bar{N}}(2N + 2815)) + B_{\bar{N}}(2N + 2816 - B_{\bar{N}}(2N + 2814)) + B_{\bar{N}}(2N + 2816 - B_{\bar{N}}(2N + 2813)) \\
&= B_{\bar{N}}(2N + 2816 - (N + 3066)) + B_{\bar{N}}(2N + 2816 - (2N + 2305)) + B_{\bar{N}}(2N + 2816 - (N + 3062)) \\
&= B_{\bar{N}}(N - 250) + B_{\bar{N}}(511) + B_{\bar{N}}(N - 246) = (N - 250) + 511 + (N - 246) = \mathbf{2N} + \mathbf{15} \\
&(N \geq 511)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2817}) &= B_{\bar{N}}(2N + 2817 - B_{\bar{N}}(2N + 2816)) + B_{\bar{N}}(2N + 2817 - B_{\bar{N}}(2N + 2815)) + B_{\bar{N}}(2N + 2817 - B_{\bar{N}}(2N + 2814)) \\
&= B_{\bar{N}}(2N + 2817 - (2N + 15)) + B_{\bar{N}}(2N + 2817 - (N + 3066)) + B_{\bar{N}}(2N + 2817 - (2N + 2305)) \\
&= B_{\bar{N}}(2802) + B_{\bar{N}}(N - 249) + B_{\bar{N}}(512) = 2802 + (N - 249) + 512 = \mathbf{N} + \mathbf{3065} \\
&(N \geq 2802)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2818}) &= B_{\bar{N}}(2N + 2818 - B_{\bar{N}}(2N + 2817)) + B_{\bar{N}}(2N + 2818 - B_{\bar{N}}(2N + 2816)) + B_{\bar{N}}(2N + 2818 - B_{\bar{N}}(2N + 2815)) \\
&= B_{\bar{N}}(2N + 2818 - (N + 3065)) + B_{\bar{N}}(2N + 2818 - (2N + 15)) + B_{\bar{N}}(2N + 2818 - (N + 3066)) \\
&= B_{\bar{N}}(N - 247) + B_{\bar{N}}(2803) + B_{\bar{N}}(N - 248) = (N - 247) + 2803 + (N - 248) = \mathbf{2N} + \mathbf{2308} \\
&(N \geq 2803)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2819}) &= B_{\bar{N}}(2N + 2819 - B_{\bar{N}}(2N + 2818)) + B_{\bar{N}}(2N + 2819 - B_{\bar{N}}(2N + 2817)) + B_{\bar{N}}(2N + 2819 - B_{\bar{N}}(2N + 2816)) \\
&= B_{\bar{N}}(2N + 2819 - (2N + 2308)) + B_{\bar{N}}(2N + 2819 - (N + 3065)) + B_{\bar{N}}(2N + 2819 - (2N + 15)) \\
&= B_{\bar{N}}(511) + B_{\bar{N}}(N - 246) + B_{\bar{N}}(2804) = 511 + (N - 246) + 2804 = \mathbf{N} + \mathbf{3069} \\
&(N \geq 2804)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2820}) &= B_{\bar{N}}(2N + 2820 - B_{\bar{N}}(2N + 2819)) + B_{\bar{N}}(2N + 2820 - B_{\bar{N}}(2N + 2818)) + B_{\bar{N}}(2N + 2820 - B_{\bar{N}}(2N + 2817)) \\
&= B_{\bar{N}}(2N + 2820 - (N + 3069)) + B_{\bar{N}}(2N + 2820 - (2N + 2308)) + B_{\bar{N}}(2N + 2820 - (N + 3065)) \\
&= B_{\bar{N}}(N - 249) + B_{\bar{N}}(512) + B_{\bar{N}}(N - 245) = (N - 249) + 512 + (N - 245) = \mathbf{2N} + \mathbf{18} \\
&(N \geq 512)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2821}) &= B_{\bar{N}}(2N + 2821 - B_{\bar{N}}(2N + 2820)) + B_{\bar{N}}(2N + 2821 - B_{\bar{N}}(2N + 2819)) + B_{\bar{N}}(2N + 2821 - B_{\bar{N}}(2N + 2818)) \\
&= B_{\bar{N}}(2N + 2821 - (2N + 18)) + B_{\bar{N}}(2N + 2821 - (N + 3069)) + B_{\bar{N}}(2N + 2821 - (2N + 2308)) \\
&= B_{\bar{N}}(2803) + B_{\bar{N}}(N - 248) + B_{\bar{N}}(513) = 2803 + (N - 248) + 513 = \mathbf{N} + \mathbf{3068} \\
&(N \geq 2803)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2822}) &= B_{\bar{N}}(2N + 2822 - B_{\bar{N}}(2N + 2821)) + B_{\bar{N}}(2N + 2822 - B_{\bar{N}}(2N + 2820)) + B_{\bar{N}}(2N + 2822 - B_{\bar{N}}(2N + 2819)) \\
&= B_{\bar{N}}(2N + 2822 - (N + 3068)) + B_{\bar{N}}(2N + 2822 - (2N + 18)) + B_{\bar{N}}(2N + 2822 - (N + 3069)) \\
&= B_{\bar{N}}(N - 246) + B_{\bar{N}}(2804) + B_{\bar{N}}(N - 247) = (N - 246) + 2804 + (N - 247) = \mathbf{2N} + \mathbf{2311} \\
&(N \geq 2804)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2823}) &= B_{\bar{N}}(2N + 2823 - B_{\bar{N}}(2N + 2822)) + B_{\bar{N}}(2N + 2823 - B_{\bar{N}}(2N + 2821)) + B_{\bar{N}}(2N + 2823 - B_{\bar{N}}(2N + 2820)) \\
&= B_{\bar{N}}(2N + 2823 - (2N + 2311)) + B_{\bar{N}}(2N + 2823 - (N + 3068)) + B_{\bar{N}}(2N + 2823 - (2N + 18)) \\
&= B_{\bar{N}}(512) + B_{\bar{N}}(N - 245) + B_{\bar{N}}(2805) = 512 + (N - 245) + 2805 = \mathbf{N} + \mathbf{3072} \\
&(N \geq 2805)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2824}) &= B_{\bar{N}}(2N + 2824 - B_{\bar{N}}(2N + 2823)) + B_{\bar{N}}(2N + 2824 - B_{\bar{N}}(2N + 2822)) + B_{\bar{N}}(2N + 2824 - B_{\bar{N}}(2N + 2821)) \\
&= B_{\bar{N}}(2N + 2824 - (N + 3072)) + B_{\bar{N}}(2N + 2824 - (2N + 2311)) + B_{\bar{N}}(2N + 2824 - (N + 3068)) \\
&= B_{\bar{N}}(N - 248) + B_{\bar{N}}(513) + B_{\bar{N}}(N - 244) = (N - 248) + 513 + (N - 244) = \mathbf{2N} + \mathbf{21} \\
&(N \geq 513)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2825}) &= B_{\bar{N}}(2N + 2825 - B_{\bar{N}}(2N + 2824)) + B_{\bar{N}}(2N + 2825 - B_{\bar{N}}(2N + 2823)) + B_{\bar{N}}(2N + 2825 - B_{\bar{N}}(2N + 2822)) \\
&= B_{\bar{N}}(2N + 2825 - (2N + 21)) + B_{\bar{N}}(2N + 2825 - (N + 3072)) + B_{\bar{N}}(2N + 2825 - (2N + 2311)) \\
&= B_{\bar{N}}(2804) + B_{\bar{N}}(N - 247) + B_{\bar{N}}(514) = 2804 + (N - 247) + 514 = \mathbf{N} + \mathbf{3071} \\
&(N \geq 2804)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2826}) &= B_{\bar{N}}(2N + 2826 - B_{\bar{N}}(2N + 2825)) + B_{\bar{N}}(2N + 2826 - B_{\bar{N}}(2N + 2824)) + B_{\bar{N}}(2N + 2826 - B_{\bar{N}}(2N + 2823)) \\
&= B_{\bar{N}}(2N + 2826 - (N + 3071)) + B_{\bar{N}}(2N + 2826 - (2N + 21)) + B_{\bar{N}}(2N + 2826 - (N + 3072)) \\
&= B_{\bar{N}}(N - 245) + B_{\bar{N}}(2805) + B_{\bar{N}}(N - 246) = (N - 245) + 2805 + (N - 246) = \mathbf{2N} + \mathbf{2314} \\
&(N \geq 2805)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2827}) &= B_{\bar{N}}(2N + 2827 - B_{\bar{N}}(2N + 2826)) + B_{\bar{N}}(2N + 2827 - B_{\bar{N}}(2N + 2825)) + B_{\bar{N}}(2N + 2827 - B_{\bar{N}}(2N + 2824)) \\
&= B_{\bar{N}}(2N + 2827 - (2N + 2314)) + B_{\bar{N}}(2N + 2827 - (N + 3071)) + B_{\bar{N}}(2N + 2827 - (2N + 21)) \\
&= B_{\bar{N}}(513) + B_{\bar{N}}(N - 244) + B_{\bar{N}}(2806) = 513 + (N - 244) + 2806 = \mathbf{N} + \mathbf{3075} \\
&(N \geq 2806)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2828}) &= B_{\bar{N}}(2N + 2828 - B_{\bar{N}}(2N + 2827)) + B_{\bar{N}}(2N + 2828 - B_{\bar{N}}(2N + 2826)) + B_{\bar{N}}(2N + 2828 - B_{\bar{N}}(2N + 2825)) \\
&= B_{\bar{N}}(2N + 2828 - (N + 3075)) + B_{\bar{N}}(2N + 2828 - (2N + 2314)) + B_{\bar{N}}(2N + 2828 - (N + 3071)) \\
&= B_{\bar{N}}(N - 247) + B_{\bar{N}}(514) + B_{\bar{N}}(N - 243) = (N - 247) + 514 + (N - 243) = \mathbf{2N} + \mathbf{24} \\
&(N \geq 514)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2829}) &= B_{\bar{N}}(2N + 2829 - B_{\bar{N}}(2N + 2828)) + B_{\bar{N}}(2N + 2829 - B_{\bar{N}}(2N + 2827)) + B_{\bar{N}}(2N + 2829 - B_{\bar{N}}(2N + 2826)) \\
&= B_{\bar{N}}(2N + 2829 - (2N + 24)) + B_{\bar{N}}(2N + 2829 - (N + 3075)) + B_{\bar{N}}(2N + 2829 - (2N + 2314)) \\
&= B_{\bar{N}}(2805) + B_{\bar{N}}(N - 246) + B_{\bar{N}}(515) = 2805 + (N - 246) + 515 = \mathbf{N} + \mathbf{3074} \\
&(N \geq 2805)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2830}) &= B_{\bar{N}}(2N + 2830 - B_{\bar{N}}(2N + 2829)) + B_{\bar{N}}(2N + 2830 - B_{\bar{N}}(2N + 2828)) + B_{\bar{N}}(2N + 2830 - B_{\bar{N}}(2N + 2827)) \\
&= B_{\bar{N}}(2N + 2830 - (N + 3074)) + B_{\bar{N}}(2N + 2830 - (2N + 24)) + B_{\bar{N}}(2N + 2830 - (N + 3075)) \\
&= B_{\bar{N}}(N - 244) + B_{\bar{N}}(2806) + B_{\bar{N}}(N - 245) = (N - 244) + 2806 + (N - 245) = \mathbf{2N} + \mathbf{2317} \\
&(N \geq 2806)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2831}) &= B_{\bar{N}}(2N + 2831 - B_{\bar{N}}(2N + 2830)) + B_{\bar{N}}(2N + 2831 - B_{\bar{N}}(2N + 2829)) + B_{\bar{N}}(2N + 2831 - B_{\bar{N}}(2N + 2828)) \\
&= B_{\bar{N}}(2N + 2831 - (2N + 2317)) + B_{\bar{N}}(2N + 2831 - (N + 3074)) + B_{\bar{N}}(2N + 2831 - (2N + 24)) \\
&= B_{\bar{N}}(514) + B_{\bar{N}}(N - 243) + B_{\bar{N}}(2807) = 514 + (N - 243) + 2807 = \mathbf{N} + \mathbf{3078} \\
&(N \geq 2807)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2832}) &= B_{\bar{N}}(2N + 2832 - B_{\bar{N}}(2N + 2831)) + B_{\bar{N}}(2N + 2832 - B_{\bar{N}}(2N + 2830)) + B_{\bar{N}}(2N + 2832 - B_{\bar{N}}(2N + 2829)) \\
&= B_{\bar{N}}(2N + 2832 - (N + 3078)) + B_{\bar{N}}(2N + 2832 - (2N + 2317)) + B_{\bar{N}}(2N + 2832 - (N + 3074)) \\
&= B_{\bar{N}}(N - 246) + B_{\bar{N}}(515) + B_{\bar{N}}(N - 242) = (N - 246) + 515 + (N - 242) = \mathbf{2N} + \mathbf{27} \\
&(N \geq 515)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2833}) &= B_{\bar{N}}(2N + 2833 - B_{\bar{N}}(2N + 2832)) + B_{\bar{N}}(2N + 2833 - B_{\bar{N}}(2N + 2831)) + B_{\bar{N}}(2N + 2833 - B_{\bar{N}}(2N + 2830)) \\
&= B_{\bar{N}}(2N + 2833 - (2N + 27)) + B_{\bar{N}}(2N + 2833 - (N + 3078)) + B_{\bar{N}}(2N + 2833 - (2N + 2317)) \\
&= B_{\bar{N}}(2806) + B_{\bar{N}}(N - 245) + B_{\bar{N}}(516) = 2806 + (N - 245) + 516 = \mathbf{N} + \mathbf{3077} \\
&(N \geq 2806)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2834}) &= B_{\bar{N}}(2N + 2834 - B_{\bar{N}}(2N + 2833)) + B_{\bar{N}}(2N + 2834 - B_{\bar{N}}(2N + 2832)) + B_{\bar{N}}(2N + 2834 - B_{\bar{N}}(2N + 2831)) \\
&= B_{\bar{N}}(2N + 2834 - (N + 3077)) + B_{\bar{N}}(2N + 2834 - (2N + 27)) + B_{\bar{N}}(2N + 2834 - (N + 3078)) \\
&= B_{\bar{N}}(N - 243) + B_{\bar{N}}(2807) + B_{\bar{N}}(N - 244) = (N - 243) + 2807 + (N - 244) = \mathbf{2N} + \mathbf{2320} \\
&(N \geq 2807)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2835}) &= B_{\bar{N}}(2N + 2835 - B_{\bar{N}}(2N + 2834)) + B_{\bar{N}}(2N + 2835 - B_{\bar{N}}(2N + 2833)) + B_{\bar{N}}(2N + 2835 - B_{\bar{N}}(2N + 2832)) \\
&= B_{\bar{N}}(2N + 2835 - (2N + 2320)) + B_{\bar{N}}(2N + 2835 - (N + 3077)) + B_{\bar{N}}(2N + 2835 - (2N + 27)) \\
&= B_{\bar{N}}(515) + B_{\bar{N}}(N - 242) + B_{\bar{N}}(2808) = 515 + (N - 242) + 2808 = \mathbf{N} + \mathbf{3081} \\
&(N \geq 2808)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2836}) &= B_{\bar{N}}(2N + 2836 - B_{\bar{N}}(2N + 2835)) + B_{\bar{N}}(2N + 2836 - B_{\bar{N}}(2N + 2834)) + B_{\bar{N}}(2N + 2836 - B_{\bar{N}}(2N + 2833)) \\
&= B_{\bar{N}}(2N + 2836 - (N + 3081)) + B_{\bar{N}}(2N + 2836 - (2N + 2320)) + B_{\bar{N}}(2N + 2836 - (N + 3077)) \\
&= B_{\bar{N}}(N - 245) + B_{\bar{N}}(516) + B_{\bar{N}}(N - 241) = (N - 245) + 516 + (N - 241) = \mathbf{2N} + \mathbf{30} \\
&(N \geq 516)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2837}) &= B_{\bar{N}}(2N + 2837 - B_{\bar{N}}(2N + 2836)) + B_{\bar{N}}(2N + 2837 - B_{\bar{N}}(2N + 2835)) + B_{\bar{N}}(2N + 2837 - B_{\bar{N}}(2N + 2834)) \\
&= B_{\bar{N}}(2N + 2837 - (2N + 30)) + B_{\bar{N}}(2N + 2837 - (N + 3081)) + B_{\bar{N}}(2N + 2837 - (2N + 2320)) \\
&= B_{\bar{N}}(2807) + B_{\bar{N}}(N - 244) + B_{\bar{N}}(517) = 2807 + (N - 244) + 517 = \mathbf{N} + \mathbf{3080} \\
&(N \geq 2807)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2838}) &= B_{\bar{N}}(2N + 2838 - B_{\bar{N}}(2N + 2837)) + B_{\bar{N}}(2N + 2838 - B_{\bar{N}}(2N + 2836)) + B_{\bar{N}}(2N + 2838 - B_{\bar{N}}(2N + 2835)) \\
&= B_{\bar{N}}(2N + 2838 - (N + 3080)) + B_{\bar{N}}(2N + 2838 - (2N + 30)) + B_{\bar{N}}(2N + 2838 - (N + 3081)) \\
&= B_{\bar{N}}(N - 242) + B_{\bar{N}}(2808) + B_{\bar{N}}(N - 243) = (N - 242) + 2808 + (N - 243) = \mathbf{2N} + \mathbf{2323} \\
&(N \geq 2808)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2839}) &= B_{\bar{N}}(2N + 2839 - B_{\bar{N}}(2N + 2838)) + B_{\bar{N}}(2N + 2839 - B_{\bar{N}}(2N + 2837)) + B_{\bar{N}}(2N + 2839 - B_{\bar{N}}(2N + 2836)) \\
&= B_{\bar{N}}(2N + 2839 - (2N + 2323)) + B_{\bar{N}}(2N + 2839 - (N + 3080)) + B_{\bar{N}}(2N + 2839 - (2N + 30)) \\
&= B_{\bar{N}}(516) + B_{\bar{N}}(N - 241) + B_{\bar{N}}(2809) = 516 + (N - 241) + 2809 = \mathbf{N} + \mathbf{3084} \\
&(N \geq 2809)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2840}) &= B_{\bar{N}}(2N + 2840 - B_{\bar{N}}(2N + 2839)) + B_{\bar{N}}(2N + 2840 - B_{\bar{N}}(2N + 2838)) + B_{\bar{N}}(2N + 2840 - B_{\bar{N}}(2N + 2837)) \\
&= B_{\bar{N}}(2N + 2840 - (N + 3084)) + B_{\bar{N}}(2N + 2840 - (2N + 2323)) + B_{\bar{N}}(2N + 2840 - (N + 3080)) \\
&= B_{\bar{N}}(N - 244) + B_{\bar{N}}(517) + B_{\bar{N}}(N - 240) = (N - 244) + 517 + (N - 240) = \mathbf{2N} + \mathbf{33} \\
&(N \geq 517)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2841}) &= B_{\bar{N}}(2N + 2841 - B_{\bar{N}}(2N + 2840)) + B_{\bar{N}}(2N + 2841 - B_{\bar{N}}(2N + 2839)) + B_{\bar{N}}(2N + 2841 - B_{\bar{N}}(2N + 2838)) \\
&= B_{\bar{N}}(2N + 2841 - (2N + 33)) + B_{\bar{N}}(2N + 2841 - (N + 3084)) + B_{\bar{N}}(2N + 2841 - (2N + 2323)) \\
&= B_{\bar{N}}(2808) + B_{\bar{N}}(N - 243) + B_{\bar{N}}(518) = 2808 + (N - 243) + 518 = \mathbf{N} + \mathbf{3083} \\
&(N \geq 2808)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2842}) &= B_{\bar{N}}(2N + 2842 - B_{\bar{N}}(2N + 2841)) + B_{\bar{N}}(2N + 2842 - B_{\bar{N}}(2N + 2840)) + B_{\bar{N}}(2N + 2842 - B_{\bar{N}}(2N + 2839)) \\
&= B_{\bar{N}}(2N + 2842 - (N + 3083)) + B_{\bar{N}}(2N + 2842 - (2N + 33)) + B_{\bar{N}}(2N + 2842 - (N + 3084)) \\
&= B_{\bar{N}}(N - 241) + B_{\bar{N}}(2809) + B_{\bar{N}}(N - 242) = (N - 241) + 2809 + (N - 242) = \mathbf{2N} + \mathbf{2326} \\
&(N \geq 2809)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2843}) &= B_{\bar{N}}(2N + 2843 - B_{\bar{N}}(2N + 2842)) + B_{\bar{N}}(2N + 2843 - B_{\bar{N}}(2N + 2841)) + B_{\bar{N}}(2N + 2843 - B_{\bar{N}}(2N + 2840)) \\
&= B_{\bar{N}}(2N + 2843 - (2N + 2326)) + B_{\bar{N}}(2N + 2843 - (N + 3083)) + B_{\bar{N}}(2N + 2843 - (2N + 33)) \\
&= B_{\bar{N}}(517) + B_{\bar{N}}(N - 240) + B_{\bar{N}}(2810) = 517 + (N - 240) + 2810 = \mathbf{N} + \mathbf{3087} \\
&(N \geq 2810)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2844}) &= B_{\bar{N}}(2N + 2844 - B_{\bar{N}}(2N + 2843)) + B_{\bar{N}}(2N + 2844 - B_{\bar{N}}(2N + 2842)) + B_{\bar{N}}(2N + 2844 - B_{\bar{N}}(2N + 2841)) \\
&= B_{\bar{N}}(2N + 2844 - (N + 3087)) + B_{\bar{N}}(2N + 2844 - (2N + 2326)) + B_{\bar{N}}(2N + 2844 - (N + 3083)) \\
&= B_{\bar{N}}(N - 243) + B_{\bar{N}}(518) + B_{\bar{N}}(N - 239) = (N - 243) + 518 + (N - 239) = \mathbf{2N} + \mathbf{36} \\
&(N \geq 518)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2845}) &= B_{\bar{N}}(2N + 2845 - B_{\bar{N}}(2N + 2844)) + B_{\bar{N}}(2N + 2845 - B_{\bar{N}}(2N + 2843)) + B_{\bar{N}}(2N + 2845 - B_{\bar{N}}(2N + 2842)) \\
&= B_{\bar{N}}(2N + 2845 - (2N + 36)) + B_{\bar{N}}(2N + 2845 - (N + 3087)) + B_{\bar{N}}(2N + 2845 - (2N + 2326)) \\
&= B_{\bar{N}}(2809) + B_{\bar{N}}(N - 242) + B_{\bar{N}}(519) = 2809 + (N - 242) + 519 = \mathbf{N} + \mathbf{3086} \\
&(N \geq 2809)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2846}) &= B_{\bar{N}}(2N + 2846 - B_{\bar{N}}(2N + 2845)) + B_{\bar{N}}(2N + 2846 - B_{\bar{N}}(2N + 2844)) + B_{\bar{N}}(2N + 2846 - B_{\bar{N}}(2N + 2843)) \\
&= B_{\bar{N}}(2N + 2846 - (N + 3086)) + B_{\bar{N}}(2N + 2846 - (2N + 36)) + B_{\bar{N}}(2N + 2846 - (N + 3087)) \\
&= B_{\bar{N}}(N - 240) + B_{\bar{N}}(2810) + B_{\bar{N}}(N - 241) = (N - 240) + 2810 + (N - 241) = \mathbf{2N} + \mathbf{2329} \\
&(N \geq 2810)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2847}) &= B_{\bar{N}}(2N + 2847 - B_{\bar{N}}(2N + 2846)) + B_{\bar{N}}(2N + 2847 - B_{\bar{N}}(2N + 2845)) + B_{\bar{N}}(2N + 2847 - B_{\bar{N}}(2N + 2844)) \\
&= B_{\bar{N}}(2N + 2847 - (2N + 2329)) + B_{\bar{N}}(2N + 2847 - (N + 3086)) + B_{\bar{N}}(2N + 2847 - (2N + 36)) \\
&= B_{\bar{N}}(518) + B_{\bar{N}}(N - 239) + B_{\bar{N}}(2811) = 518 + (N - 239) + 2811 = \mathbf{N} + \mathbf{3090} \\
&(N \geq 2811)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2848}) &= B_{\bar{N}}(2N + 2848 - B_{\bar{N}}(2N + 2847)) + B_{\bar{N}}(2N + 2848 - B_{\bar{N}}(2N + 2846)) + B_{\bar{N}}(2N + 2848 - B_{\bar{N}}(2N + 2845)) \\
&= B_{\bar{N}}(2N + 2848 - (N + 3090)) + B_{\bar{N}}(2N + 2848 - (2N + 2329)) + B_{\bar{N}}(2N + 2848 - (N + 3086)) \\
&= B_{\bar{N}}(N - 242) + B_{\bar{N}}(519) + B_{\bar{N}}(N - 238) = (N - 242) + 519 + (N - 238) = \mathbf{2N} + \mathbf{39} \\
&(N \geq 519)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2849}) &= B_{\bar{N}}(2N + 2849 - B_{\bar{N}}(2N + 2848)) + B_{\bar{N}}(2N + 2849 - B_{\bar{N}}(2N + 2847)) + B_{\bar{N}}(2N + 2849 - B_{\bar{N}}(2N + 2846)) \\
&= B_{\bar{N}}(2N + 2849 - (2N + 39)) + B_{\bar{N}}(2N + 2849 - (N + 3090)) + B_{\bar{N}}(2N + 2849 - (2N + 2329)) \\
&= B_{\bar{N}}(2810) + B_{\bar{N}}(N - 241) + B_{\bar{N}}(520) = 2810 + (N - 241) + 520 = \mathbf{N} + \mathbf{3089} \\
&(N \geq 2810)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2850}) &= B_{\bar{N}}(2N + 2850 - B_{\bar{N}}(2N + 2849)) + B_{\bar{N}}(2N + 2850 - B_{\bar{N}}(2N + 2848)) + B_{\bar{N}}(2N + 2850 - B_{\bar{N}}(2N + 2847)) \\
&= B_{\bar{N}}(2N + 2850 - (N + 3089)) + B_{\bar{N}}(2N + 2850 - (2N + 39)) + B_{\bar{N}}(2N + 2850 - (N + 3090)) \\
&= B_{\bar{N}}(N - 239) + B_{\bar{N}}(2811) + B_{\bar{N}}(N - 240) = (N - 239) + 2811 + (N - 240) = \mathbf{2N} + \mathbf{2332} \\
&(N \geq 2811)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2851}) &= B_{\bar{N}}(2N + 2851 - B_{\bar{N}}(2N + 2850)) + B_{\bar{N}}(2N + 2851 - B_{\bar{N}}(2N + 2849)) + B_{\bar{N}}(2N + 2851 - B_{\bar{N}}(2N + 2848)) \\
&= B_{\bar{N}}(2N + 2851 - (2N + 2332)) + B_{\bar{N}}(2N + 2851 - (N + 3089)) + B_{\bar{N}}(2N + 2851 - (2N + 39)) \\
&= B_{\bar{N}}(519) + B_{\bar{N}}(N - 238) + B_{\bar{N}}(2812) = 519 + (N - 238) + 2812 = \mathbf{N} + \mathbf{3093} \\
&(N \geq 2812)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2852}) &= B_{\bar{N}}(2N + 2852 - B_{\bar{N}}(2N + 2851)) + B_{\bar{N}}(2N + 2852 - B_{\bar{N}}(2N + 2850)) + B_{\bar{N}}(2N + 2852 - B_{\bar{N}}(2N + 2849)) \\
&= B_{\bar{N}}(2N + 2852 - (N + 3093)) + B_{\bar{N}}(2N + 2852 - (2N + 2332)) + B_{\bar{N}}(2N + 2852 - (N + 3089)) \\
&= B_{\bar{N}}(N - 241) + B_{\bar{N}}(520) + B_{\bar{N}}(N - 237) = (N - 241) + 520 + (N - 237) = \mathbf{2N} + \mathbf{42} \\
&(N \geq 520)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2853}) &= B_{\bar{N}}(2N + 2853 - B_{\bar{N}}(2N + 2852)) + B_{\bar{N}}(2N + 2853 - B_{\bar{N}}(2N + 2851)) + B_{\bar{N}}(2N + 2853 - B_{\bar{N}}(2N + 2850)) \\
&= B_{\bar{N}}(2N + 2853 - (2N + 42)) + B_{\bar{N}}(2N + 2853 - (N + 3093)) + B_{\bar{N}}(2N + 2853 - (2N + 2332)) \\
&= B_{\bar{N}}(2811) + B_{\bar{N}}(N - 240) + B_{\bar{N}}(521) = 2811 + (N - 240) + 521 = \mathbf{N} + \mathbf{3092} \\
&(N \geq 2811)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2854}) &= B_{\bar{N}}(2N + 2854 - B_{\bar{N}}(2N + 2853)) + B_{\bar{N}}(2N + 2854 - B_{\bar{N}}(2N + 2852)) + B_{\bar{N}}(2N + 2854 - B_{\bar{N}}(2N + 2851)) \\
&= B_{\bar{N}}(2N + 2854 - (N + 3092)) + B_{\bar{N}}(2N + 2854 - (2N + 42)) + B_{\bar{N}}(2N + 2854 - (N + 3093)) \\
&= B_{\bar{N}}(N - 238) + B_{\bar{N}}(2812) + B_{\bar{N}}(N - 239) = (N - 238) + 2812 + (N - 239) = \mathbf{2N} + \mathbf{2335} \\
&(N \geq 2812)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2855}) &= B_{\bar{N}}(2N + 2855 - B_{\bar{N}}(2N + 2854)) + B_{\bar{N}}(2N + 2855 - B_{\bar{N}}(2N + 2853)) + B_{\bar{N}}(2N + 2855 - B_{\bar{N}}(2N + 2852)) \\
&= B_{\bar{N}}(2N + 2855 - (2N + 2335)) + B_{\bar{N}}(2N + 2855 - (N + 3092)) + B_{\bar{N}}(2N + 2855 - (2N + 42)) \\
&= B_{\bar{N}}(520) + B_{\bar{N}}(N - 237) + B_{\bar{N}}(2813) = 520 + (N - 237) + 2813 = \mathbf{N} + \mathbf{3096} \\
&(N \geq 2813)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2856}) &= B_{\bar{N}}(2N + 2856 - B_{\bar{N}}(2N + 2855)) + B_{\bar{N}}(2N + 2856 - B_{\bar{N}}(2N + 2854)) + B_{\bar{N}}(2N + 2856 - B_{\bar{N}}(2N + 2853)) \\
&= B_{\bar{N}}(2N + 2856 - (N + 3096)) + B_{\bar{N}}(2N + 2856 - (2N + 2335)) + B_{\bar{N}}(2N + 2856 - (N + 3092)) \\
&= B_{\bar{N}}(N - 240) + B_{\bar{N}}(521) + B_{\bar{N}}(N - 236) = (N - 240) + 521 + (N - 236) = \mathbf{2N} + \mathbf{45} \\
&(N \geq 521)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2857}) &= B_{\bar{N}}(2N + 2857 - B_{\bar{N}}(2N + 2856)) + B_{\bar{N}}(2N + 2857 - B_{\bar{N}}(2N + 2855)) + B_{\bar{N}}(2N + 2857 - B_{\bar{N}}(2N + 2854)) \\
&= B_{\bar{N}}(2N + 2857 - (2N + 45)) + B_{\bar{N}}(2N + 2857 - (N + 3096)) + B_{\bar{N}}(2N + 2857 - (2N + 2335)) \\
&= B_{\bar{N}}(2812) + B_{\bar{N}}(N - 239) + B_{\bar{N}}(522) = 2812 + (N - 239) + 522 = \mathbf{N} + \mathbf{3095} \\
&(N \geq 2812)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2858}) &= B_{\bar{N}}(2N + 2858 - B_{\bar{N}}(2N + 2857)) + B_{\bar{N}}(2N + 2858 - B_{\bar{N}}(2N + 2856)) + B_{\bar{N}}(2N + 2858 - B_{\bar{N}}(2N + 2855)) \\
&= B_{\bar{N}}(2N + 2858 - (N + 3095)) + B_{\bar{N}}(2N + 2858 - (2N + 45)) + B_{\bar{N}}(2N + 2858 - (N + 3096)) \\
&= B_{\bar{N}}(N - 237) + B_{\bar{N}}(2813) + B_{\bar{N}}(N - 238) = (N - 237) + 2813 + (N - 238) = \mathbf{2N} + \mathbf{2338} \\
&(N \geq 2813)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2859}) &= B_{\bar{N}}(2N + 2859 - B_{\bar{N}}(2N + 2858)) + B_{\bar{N}}(2N + 2859 - B_{\bar{N}}(2N + 2857)) + B_{\bar{N}}(2N + 2859 - B_{\bar{N}}(2N + 2856)) \\
&= B_{\bar{N}}(2N + 2859 - (2N + 2338)) + B_{\bar{N}}(2N + 2859 - (N + 3095)) + B_{\bar{N}}(2N + 2859 - (2N + 45)) \\
&= B_{\bar{N}}(521) + B_{\bar{N}}(N - 236) + B_{\bar{N}}(2814) = 521 + (N - 236) + 2814 = \mathbf{N} + \mathbf{3099} \\
&(N \geq 2814)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2860}) &= B_{\bar{N}}(2N + 2860 - B_{\bar{N}}(2N + 2859)) + B_{\bar{N}}(2N + 2860 - B_{\bar{N}}(2N + 2858)) + B_{\bar{N}}(2N + 2860 - B_{\bar{N}}(2N + 2857)) \\
&= B_{\bar{N}}(2N + 2860 - (N + 3099)) + B_{\bar{N}}(2N + 2860 - (2N + 2338)) + B_{\bar{N}}(2N + 2860 - (N + 3095)) \\
&= B_{\bar{N}}(N - 239) + B_{\bar{N}}(522) + B_{\bar{N}}(N - 235) = (N - 239) + 522 + (N - 235) = \mathbf{2N} + \mathbf{48} \\
&(N \geq 522)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2861}) &= B_{\bar{N}}(2N + 2861 - B_{\bar{N}}(2N + 2860)) + B_{\bar{N}}(2N + 2861 - B_{\bar{N}}(2N + 2859)) + B_{\bar{N}}(2N + 2861 - B_{\bar{N}}(2N + 2858)) \\
&= B_{\bar{N}}(2N + 2861 - (2N + 48)) + B_{\bar{N}}(2N + 2861 - (N + 3099)) + B_{\bar{N}}(2N + 2861 - (2N + 2338)) \\
&= B_{\bar{N}}(2813) + B_{\bar{N}}(N - 238) + B_{\bar{N}}(523) = 2813 + (N - 238) + 523 = \mathbf{N} + \mathbf{3098} \\
&(N \geq 2813)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2862}) &= B_{\bar{N}}(2N + 2862 - B_{\bar{N}}(2N + 2861)) + B_{\bar{N}}(2N + 2862 - B_{\bar{N}}(2N + 2860)) + B_{\bar{N}}(2N + 2862 - B_{\bar{N}}(2N + 2859)) \\
&= B_{\bar{N}}(2N + 2862 - (N + 3098)) + B_{\bar{N}}(2N + 2862 - (2N + 48)) + B_{\bar{N}}(2N + 2862 - (N + 3099)) \\
&= B_{\bar{N}}(N - 236) + B_{\bar{N}}(2814) + B_{\bar{N}}(N - 237) = (N - 236) + 2814 + (N - 237) = \mathbf{2N} + \mathbf{2341} \\
&(N \geq 2814)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2863}) &= B_{\bar{N}}(2N + 2863 - B_{\bar{N}}(2N + 2862)) + B_{\bar{N}}(2N + 2863 - B_{\bar{N}}(2N + 2861)) + B_{\bar{N}}(2N + 2863 - B_{\bar{N}}(2N + 2860)) \\
&= B_{\bar{N}}(2N + 2863 - (2N + 2341)) + B_{\bar{N}}(2N + 2863 - (N + 3098)) + B_{\bar{N}}(2N + 2863 - (2N + 48)) \\
&= B_{\bar{N}}(522) + B_{\bar{N}}(N - 235) + B_{\bar{N}}(2815) = 522 + (N - 235) + 2815 = \mathbf{N} + \mathbf{3102} \\
&(N \geq 2815)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2864}) &= B_{\bar{N}}(2N + 2864 - B_{\bar{N}}(2N + 2863)) + B_{\bar{N}}(2N + 2864 - B_{\bar{N}}(2N + 2862)) + B_{\bar{N}}(2N + 2864 - B_{\bar{N}}(2N + 2861)) \\
&= B_{\bar{N}}(2N + 2864 - (N + 3102)) + B_{\bar{N}}(2N + 2864 - (2N + 2341)) + B_{\bar{N}}(2N + 2864 - (N + 3098)) \\
&= B_{\bar{N}}(N - 238) + B_{\bar{N}}(523) + B_{\bar{N}}(N - 234) = (N - 238) + 523 + (N - 234) = \mathbf{2N} + \mathbf{51} \\
&(N \geq 523)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2865}) &= B_{\bar{N}}(2N + 2865 - B_{\bar{N}}(2N + 2864)) + B_{\bar{N}}(2N + 2865 - B_{\bar{N}}(2N + 2863)) + B_{\bar{N}}(2N + 2865 - B_{\bar{N}}(2N + 2862)) \\
&= B_{\bar{N}}(2N + 2865 - (2N + 51)) + B_{\bar{N}}(2N + 2865 - (N + 3102)) + B_{\bar{N}}(2N + 2865 - (2N + 2341)) \\
&= B_{\bar{N}}(2814) + B_{\bar{N}}(N - 237) + B_{\bar{N}}(524) = 2814 + (N - 237) + 524 = \mathbf{N} + \mathbf{3101} \\
&(N \geq 2814)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2866}) &= B_{\bar{N}}(2N + 2866 - B_{\bar{N}}(2N + 2865)) + B_{\bar{N}}(2N + 2866 - B_{\bar{N}}(2N + 2864)) + B_{\bar{N}}(2N + 2866 - B_{\bar{N}}(2N + 2863)) \\
&= B_{\bar{N}}(2N + 2866 - (N + 3101)) + B_{\bar{N}}(2N + 2866 - (2N + 51)) + B_{\bar{N}}(2N + 2866 - (N + 3102)) \\
&= B_{\bar{N}}(N - 235) + B_{\bar{N}}(2815) + B_{\bar{N}}(N - 236) = (N - 235) + 2815 + (N - 236) = \mathbf{2N} + \mathbf{2344} \\
&(N \geq 2815)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2867}) &= B_{\bar{N}}(2N + 2867 - B_{\bar{N}}(2N + 2866)) + B_{\bar{N}}(2N + 2867 - B_{\bar{N}}(2N + 2865)) + B_{\bar{N}}(2N + 2867 - B_{\bar{N}}(2N + 2864)) \\
&= B_{\bar{N}}(2N + 2867 - (2N + 2344)) + B_{\bar{N}}(2N + 2867 - (N + 3101)) + B_{\bar{N}}(2N + 2867 - (2N + 51)) \\
&= B_{\bar{N}}(523) + B_{\bar{N}}(N - 234) + B_{\bar{N}}(2816) = 523 + (N - 234) + 2816 = \mathbf{N} + \mathbf{3105} \\
&(N \geq 2816)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2868}) &= B_{\bar{N}}(2N + 2868 - B_{\bar{N}}(2N + 2867)) + B_{\bar{N}}(2N + 2868 - B_{\bar{N}}(2N + 2866)) + B_{\bar{N}}(2N + 2868 - B_{\bar{N}}(2N + 2865)) \\
&= B_{\bar{N}}(2N + 2868 - (N + 3105)) + B_{\bar{N}}(2N + 2868 - (2N + 2344)) + B_{\bar{N}}(2N + 2868 - (N + 3101)) \\
&= B_{\bar{N}}(N - 237) + B_{\bar{N}}(524) + B_{\bar{N}}(N - 233) = (N - 237) + 524 + (N - 233) = \mathbf{2N} + \mathbf{54} \\
&(N \geq 524)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2869}) &= B_{\bar{N}}(2N + 2869 - B_{\bar{N}}(2N + 2868)) + B_{\bar{N}}(2N + 2869 - B_{\bar{N}}(2N + 2867)) + B_{\bar{N}}(2N + 2869 - B_{\bar{N}}(2N + 2866)) \\
&= B_{\bar{N}}(2N + 2869 - (2N + 54)) + B_{\bar{N}}(2N + 2869 - (N + 3105)) + B_{\bar{N}}(2N + 2869 - (2N + 2344)) \\
&= B_{\bar{N}}(2815) + B_{\bar{N}}(N - 236) + B_{\bar{N}}(525) = 2815 + (N - 236) + 525 = \mathbf{N} + \mathbf{3104} \\
&(N \geq 2815)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2870}) &= B_{\bar{N}}(2N + 2870 - B_{\bar{N}}(2N + 2869)) + B_{\bar{N}}(2N + 2870 - B_{\bar{N}}(2N + 2868)) + B_{\bar{N}}(2N + 2870 - B_{\bar{N}}(2N + 2867)) \\
&= B_{\bar{N}}(2N + 2870 - (N + 3104)) + B_{\bar{N}}(2N + 2870 - (2N + 54)) + B_{\bar{N}}(2N + 2870 - (N + 3105)) \\
&= B_{\bar{N}}(N - 234) + B_{\bar{N}}(2816) + B_{\bar{N}}(N - 235) = (N - 234) + 2816 + (N - 235) = \mathbf{2N} + \mathbf{2347} \\
&(N \geq 2816)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2871}) &= B_{\bar{N}}(2N + 2871 - B_{\bar{N}}(2N + 2870)) + B_{\bar{N}}(2N + 2871 - B_{\bar{N}}(2N + 2869)) + B_{\bar{N}}(2N + 2871 - B_{\bar{N}}(2N + 2868)) \\
&= B_{\bar{N}}(2N + 2871 - (2N + 2347)) + B_{\bar{N}}(2N + 2871 - (N + 3104)) + B_{\bar{N}}(2N + 2871 - (2N + 54)) \\
&= B_{\bar{N}}(524) + B_{\bar{N}}(N - 233) + B_{\bar{N}}(2817) = 524 + (N - 233) + 2817 = \mathbf{N} + \mathbf{3108} \\
&(N \geq 2817)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2872}) &= B_{\bar{N}}(2N + 2872 - B_{\bar{N}}(2N + 2871)) + B_{\bar{N}}(2N + 2872 - B_{\bar{N}}(2N + 2870)) + B_{\bar{N}}(2N + 2872 - B_{\bar{N}}(2N + 2869)) \\
&= B_{\bar{N}}(2N + 2872 - (N + 3108)) + B_{\bar{N}}(2N + 2872 - (2N + 2347)) + B_{\bar{N}}(2N + 2872 - (N + 3104)) \\
&= B_{\bar{N}}(N - 236) + B_{\bar{N}}(525) + B_{\bar{N}}(N - 232) = (N - 236) + 525 + (N - 232) = \mathbf{2N} + \mathbf{57} \\
&(N \geq 525)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2873}) &= B_{\bar{N}}(2N + 2873 - B_{\bar{N}}(2N + 2872)) + B_{\bar{N}}(2N + 2873 - B_{\bar{N}}(2N + 2871)) + B_{\bar{N}}(2N + 2873 - B_{\bar{N}}(2N + 2870)) \\
&= B_{\bar{N}}(2N + 2873 - (2N + 57)) + B_{\bar{N}}(2N + 2873 - (N + 3108)) + B_{\bar{N}}(2N + 2873 - (2N + 2347)) \\
&= B_{\bar{N}}(2816) + B_{\bar{N}}(N - 235) + B_{\bar{N}}(526) = 2816 + (N - 235) + 526 = \mathbf{N} + \mathbf{3107} \\
&(N \geq 2816)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2874}) &= B_{\bar{N}}(2N + 2874 - B_{\bar{N}}(2N + 2873)) + B_{\bar{N}}(2N + 2874 - B_{\bar{N}}(2N + 2872)) + B_{\bar{N}}(2N + 2874 - B_{\bar{N}}(2N + 2871)) \\
&= B_{\bar{N}}(2N + 2874 - (N + 3107)) + B_{\bar{N}}(2N + 2874 - (2N + 57)) + B_{\bar{N}}(2N + 2874 - (N + 3108)) \\
&= B_{\bar{N}}(N - 233) + B_{\bar{N}}(2817) + B_{\bar{N}}(N - 234) = (N - 233) + 2817 + (N - 234) = \mathbf{2N} + \mathbf{2350} \\
&(N \geq 2817)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2875}) &= B_{\bar{N}}(2N + 2875 - B_{\bar{N}}(2N + 2874)) + B_{\bar{N}}(2N + 2875 - B_{\bar{N}}(2N + 2873)) + B_{\bar{N}}(2N + 2875 - B_{\bar{N}}(2N + 2872)) \\
&= B_{\bar{N}}(2N + 2875 - (2N + 2350)) + B_{\bar{N}}(2N + 2875 - (N + 3107)) + B_{\bar{N}}(2N + 2875 - (2N + 57)) \\
&= B_{\bar{N}}(525) + B_{\bar{N}}(N - 232) + B_{\bar{N}}(2818) = 525 + (N - 232) + 2818 = \mathbf{N} + \mathbf{3111} \\
&(N \geq 2818)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2876}) &= B_{\bar{N}}(2N + 2876 - B_{\bar{N}}(2N + 2875)) + B_{\bar{N}}(2N + 2876 - B_{\bar{N}}(2N + 2874)) + B_{\bar{N}}(2N + 2876 - B_{\bar{N}}(2N + 2873)) \\
&= B_{\bar{N}}(2N + 2876 - (N + 3111)) + B_{\bar{N}}(2N + 2876 - (2N + 2350)) + B_{\bar{N}}(2N + 2876 - (N + 3107)) \\
&= B_{\bar{N}}(N - 235) + B_{\bar{N}}(526) + B_{\bar{N}}(N - 231) = (N - 235) + 526 + (N - 231) = \mathbf{2N} + \mathbf{60} \\
&(N \geq 526)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2877}) &= B_{\bar{N}}(2N + 2877 - B_{\bar{N}}(2N + 2876)) + B_{\bar{N}}(2N + 2877 - B_{\bar{N}}(2N + 2875)) + B_{\bar{N}}(2N + 2877 - B_{\bar{N}}(2N + 2874)) \\
&= B_{\bar{N}}(2N + 2877 - (2N + 60)) + B_{\bar{N}}(2N + 2877 - (N + 3111)) + B_{\bar{N}}(2N + 2877 - (2N + 2350)) \\
&= B_{\bar{N}}(2817) + B_{\bar{N}}(N - 234) + B_{\bar{N}}(527) = 2817 + (N - 234) + 527 = \mathbf{N} + \mathbf{3110} \\
&(N \geq 2817)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2878}) &= B_{\bar{N}}(2N + 2878 - B_{\bar{N}}(2N + 2877)) + B_{\bar{N}}(2N + 2878 - B_{\bar{N}}(2N + 2876)) + B_{\bar{N}}(2N + 2878 - B_{\bar{N}}(2N + 2875)) \\
&= B_{\bar{N}}(2N + 2878 - (N + 3110)) + B_{\bar{N}}(2N + 2878 - (2N + 60)) + B_{\bar{N}}(2N + 2878 - (N + 3111)) \\
&= B_{\bar{N}}(N - 232) + B_{\bar{N}}(2818) + B_{\bar{N}}(N - 233) = (N - 232) + 2818 + (N - 233) = \mathbf{2N} + \mathbf{2353} \\
&(N \geq 2818)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2879}) &= B_{\bar{N}}(2N + 2879 - B_{\bar{N}}(2N + 2878)) + B_{\bar{N}}(2N + 2879 - B_{\bar{N}}(2N + 2877)) + B_{\bar{N}}(2N + 2879 - B_{\bar{N}}(2N + 2876)) \\
&= B_{\bar{N}}(2N + 2879 - (2N + 2353)) + B_{\bar{N}}(2N + 2879 - (N + 3110)) + B_{\bar{N}}(2N + 2879 - (2N + 60)) \\
&= B_{\bar{N}}(526) + B_{\bar{N}}(N - 231) + B_{\bar{N}}(2819) = 526 + (N - 231) + 2819 = \mathbf{N} + \mathbf{3114} \\
&(N \geq 2819)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2880}) &= B_{\bar{N}}(2N + 2880 - B_{\bar{N}}(2N + 2879)) + B_{\bar{N}}(2N + 2880 - B_{\bar{N}}(2N + 2878)) + B_{\bar{N}}(2N + 2880 - B_{\bar{N}}(2N + 2877)) \\
&= B_{\bar{N}}(2N + 2880 - (N + 3114)) + B_{\bar{N}}(2N + 2880 - (2N + 2353)) + B_{\bar{N}}(2N + 2880 - (N + 3110)) \\
&= B_{\bar{N}}(N - 234) + B_{\bar{N}}(527) + B_{\bar{N}}(N - 230) = (N - 234) + 527 + (N - 230) = \mathbf{2N} + \mathbf{63} \\
&(N \geq 527)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2881}) &= B_{\bar{N}}(2N + 2881 - B_{\bar{N}}(2N + 2880)) + B_{\bar{N}}(2N + 2881 - B_{\bar{N}}(2N + 2879)) + B_{\bar{N}}(2N + 2881 - B_{\bar{N}}(2N + 2878)) \\
&= B_{\bar{N}}(2N + 2881 - (2N + 63)) + B_{\bar{N}}(2N + 2881 - (N + 3114)) + B_{\bar{N}}(2N + 2881 - (2N + 2353)) \\
&= B_{\bar{N}}(2818) + B_{\bar{N}}(N - 233) + B_{\bar{N}}(528) = 2818 + (N - 233) + 528 = \mathbf{N} + \mathbf{3113} \\
&(N \geq 2818)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2882}) &= B_{\bar{N}}(2N + 2882 - B_{\bar{N}}(2N + 2881)) + B_{\bar{N}}(2N + 2882 - B_{\bar{N}}(2N + 2880)) + B_{\bar{N}}(2N + 2882 - B_{\bar{N}}(2N + 2879)) \\
&= B_{\bar{N}}(2N + 2882 - (N + 3113)) + B_{\bar{N}}(2N + 2882 - (2N + 63)) + B_{\bar{N}}(2N + 2882 - (N + 3114)) \\
&= B_{\bar{N}}(N - 231) + B_{\bar{N}}(2819) + B_{\bar{N}}(N - 232) = (N - 231) + 2819 + (N - 232) = \mathbf{2N} + \mathbf{2356} \\
&(N \geq 2819)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2883}) &= B_{\bar{N}}(2N + 2883 - B_{\bar{N}}(2N + 2882)) + B_{\bar{N}}(2N + 2883 - B_{\bar{N}}(2N + 2881)) + B_{\bar{N}}(2N + 2883 - B_{\bar{N}}(2N + 2880)) \\
&= B_{\bar{N}}(2N + 2883 - (2N + 2356)) + B_{\bar{N}}(2N + 2883 - (N + 3113)) + B_{\bar{N}}(2N + 2883 - (2N + 63)) \\
&= B_{\bar{N}}(527) + B_{\bar{N}}(N - 230) + B_{\bar{N}}(2820) = 527 + (N - 230) + 2820 = \mathbf{N} + \mathbf{3117} \\
&(N \geq 2820)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2884}) &= B_{\bar{N}}(2N + 2884 - B_{\bar{N}}(2N + 2883)) + B_{\bar{N}}(2N + 2884 - B_{\bar{N}}(2N + 2882)) + B_{\bar{N}}(2N + 2884 - B_{\bar{N}}(2N + 2881)) \\
&= B_{\bar{N}}(2N + 2884 - (N + 3117)) + B_{\bar{N}}(2N + 2884 - (2N + 2356)) + B_{\bar{N}}(2N + 2884 - (N + 3113)) \\
&= B_{\bar{N}}(N - 233) + B_{\bar{N}}(528) + B_{\bar{N}}(N - 229) = (N - 233) + 528 + (N - 229) = \mathbf{2N} + \mathbf{66} \\
&(N \geq 528)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2885}) &= B_{\bar{N}}(2N + 2885 - B_{\bar{N}}(2N + 2884)) + B_{\bar{N}}(2N + 2885 - B_{\bar{N}}(2N + 2883)) + B_{\bar{N}}(2N + 2885 - B_{\bar{N}}(2N + 2882)) \\
&= B_{\bar{N}}(2N + 2885 - (2N + 66)) + B_{\bar{N}}(2N + 2885 - (N + 3117)) + B_{\bar{N}}(2N + 2885 - (2N + 2356)) \\
&= B_{\bar{N}}(2819) + B_{\bar{N}}(N - 232) + B_{\bar{N}}(529) = 2819 + (N - 232) + 529 = \mathbf{N} + \mathbf{3116} \\
&(N \geq 2819)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2886}) &= B_{\bar{N}}(2N + 2886 - B_{\bar{N}}(2N + 2885)) + B_{\bar{N}}(2N + 2886 - B_{\bar{N}}(2N + 2884)) + B_{\bar{N}}(2N + 2886 - B_{\bar{N}}(2N + 2883)) \\
&= B_{\bar{N}}(2N + 2886 - (N + 3116)) + B_{\bar{N}}(2N + 2886 - (2N + 66)) + B_{\bar{N}}(2N + 2886 - (N + 3117)) \\
&= B_{\bar{N}}(N - 230) + B_{\bar{N}}(2820) + B_{\bar{N}}(N - 231) = (N - 230) + 2820 + (N - 231) = \mathbf{2N} + \mathbf{2359} \\
&(N \geq 2820)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2887}) &= B_{\bar{N}}(2N + 2887 - B_{\bar{N}}(2N + 2886)) + B_{\bar{N}}(2N + 2887 - B_{\bar{N}}(2N + 2885)) + B_{\bar{N}}(2N + 2887 - B_{\bar{N}}(2N + 2884)) \\
&= B_{\bar{N}}(2N + 2887 - (2N + 2359)) + B_{\bar{N}}(2N + 2887 - (N + 3116)) + B_{\bar{N}}(2N + 2887 - (2N + 66)) \\
&= B_{\bar{N}}(528) + B_{\bar{N}}(N - 229) + B_{\bar{N}}(2821) = 528 + (N - 229) + 2821 = \mathbf{N} + \mathbf{3120} \\
&(N \geq 2821)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2888}) &= B_{\bar{N}}(2N + 2888 - B_{\bar{N}}(2N + 2887)) + B_{\bar{N}}(2N + 2888 - B_{\bar{N}}(2N + 2886)) + B_{\bar{N}}(2N + 2888 - B_{\bar{N}}(2N + 2885)) \\
&= B_{\bar{N}}(2N + 2888 - (N + 3120)) + B_{\bar{N}}(2N + 2888 - (2N + 2359)) + B_{\bar{N}}(2N + 2888 - (N + 3116)) \\
&= B_{\bar{N}}(N - 232) + B_{\bar{N}}(529) + B_{\bar{N}}(N - 228) = (N - 232) + 529 + (N - 228) = \mathbf{2N} + \mathbf{69} \\
&(N \geq 529)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2889}) &= B_{\bar{N}}(2N + 2889 - B_{\bar{N}}(2N + 2888)) + B_{\bar{N}}(2N + 2889 - B_{\bar{N}}(2N + 2887)) + B_{\bar{N}}(2N + 2889 - B_{\bar{N}}(2N + 2886)) \\
&= B_{\bar{N}}(2N + 2889 - (2N + 69)) + B_{\bar{N}}(2N + 2889 - (N + 3120)) + B_{\bar{N}}(2N + 2889 - (2N + 2359)) \\
&= B_{\bar{N}}(2820) + B_{\bar{N}}(N - 231) + B_{\bar{N}}(530) = 2820 + (N - 231) + 530 = \mathbf{N} + \mathbf{3119} \\
&(N \geq 2820)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2890}) &= B_{\bar{N}}(2N + 2890 - B_{\bar{N}}(2N + 2889)) + B_{\bar{N}}(2N + 2890 - B_{\bar{N}}(2N + 2888)) + B_{\bar{N}}(2N + 2890 - B_{\bar{N}}(2N + 2887)) \\
&= B_{\bar{N}}(2N + 2890 - (N + 3119)) + B_{\bar{N}}(2N + 2890 - (2N + 69)) + B_{\bar{N}}(2N + 2890 - (N + 3120)) \\
&= B_{\bar{N}}(N - 229) + B_{\bar{N}}(2821) + B_{\bar{N}}(N - 230) = (N - 229) + 2821 + (N - 230) = \mathbf{2N} + \mathbf{2362} \\
&(N \geq 2821)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2891}) &= B_{\bar{N}}(2N + 2891 - B_{\bar{N}}(2N + 2890)) + B_{\bar{N}}(2N + 2891 - B_{\bar{N}}(2N + 2889)) + B_{\bar{N}}(2N + 2891 - B_{\bar{N}}(2N + 2888)) \\
&= B_{\bar{N}}(2N + 2891 - (2N + 2362)) + B_{\bar{N}}(2N + 2891 - (N + 3119)) + B_{\bar{N}}(2N + 2891 - (2N + 69)) \\
&= B_{\bar{N}}(529) + B_{\bar{N}}(N - 228) + B_{\bar{N}}(2822) = 529 + (N - 228) + 2822 = \mathbf{N} + \mathbf{3123} \\
&(N \geq 2822)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2892}) &= B_{\bar{N}}(2N + 2892 - B_{\bar{N}}(2N + 2891)) + B_{\bar{N}}(2N + 2892 - B_{\bar{N}}(2N + 2890)) + B_{\bar{N}}(2N + 2892 - B_{\bar{N}}(2N + 2889)) \\
&= B_{\bar{N}}(2N + 2892 - (N + 3123)) + B_{\bar{N}}(2N + 2892 - (2N + 2362)) + B_{\bar{N}}(2N + 2892 - (N + 3119)) \\
&= B_{\bar{N}}(N - 231) + B_{\bar{N}}(530) + B_{\bar{N}}(N - 227) = (N - 231) + 530 + (N - 227) = \mathbf{2N} + \mathbf{72} \\
&(N \geq 530)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2893}) &= B_{\bar{N}}(2N + 2893 - B_{\bar{N}}(2N + 2892)) + B_{\bar{N}}(2N + 2893 - B_{\bar{N}}(2N + 2891)) + B_{\bar{N}}(2N + 2893 - B_{\bar{N}}(2N + 2890)) \\
&= B_{\bar{N}}(2N + 2893 - (2N + 72)) + B_{\bar{N}}(2N + 2893 - (N + 3123)) + B_{\bar{N}}(2N + 2893 - (2N + 2362)) \\
&= B_{\bar{N}}(2821) + B_{\bar{N}}(N - 230) + B_{\bar{N}}(531) = 2821 + (N - 230) + 531 = \mathbf{N} + \mathbf{3122} \\
&(N \geq 2821)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2894}) &= B_{\bar{N}}(2N + 2894 - B_{\bar{N}}(2N + 2893)) + B_{\bar{N}}(2N + 2894 - B_{\bar{N}}(2N + 2892)) + B_{\bar{N}}(2N + 2894 - B_{\bar{N}}(2N + 2891)) \\
&= B_{\bar{N}}(2N + 2894 - (N + 3122)) + B_{\bar{N}}(2N + 2894 - (2N + 72)) + B_{\bar{N}}(2N + 2894 - (N + 3123)) \\
&= B_{\bar{N}}(N - 228) + B_{\bar{N}}(2822) + B_{\bar{N}}(N - 229) = (N - 228) + 2822 + (N - 229) = \mathbf{2N} + \mathbf{2365} \\
&(N \geq 2822)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2895}) &= B_{\bar{N}}(2N + 2895 - B_{\bar{N}}(2N + 2894)) + B_{\bar{N}}(2N + 2895 - B_{\bar{N}}(2N + 2893)) + B_{\bar{N}}(2N + 2895 - B_{\bar{N}}(2N + 2892)) \\
&= B_{\bar{N}}(2N + 2895 - (2N + 2365)) + B_{\bar{N}}(2N + 2895 - (N + 3122)) + B_{\bar{N}}(2N + 2895 - (2N + 72)) \\
&= B_{\bar{N}}(530) + B_{\bar{N}}(N - 227) + B_{\bar{N}}(2823) = 530 + (N - 227) + 2823 = \mathbf{N} + \mathbf{3126} \\
&(N \geq 2823)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2896}) &= B_{\bar{N}}(2N + 2896 - B_{\bar{N}}(2N + 2895)) + B_{\bar{N}}(2N + 2896 - B_{\bar{N}}(2N + 2894)) + B_{\bar{N}}(2N + 2896 - B_{\bar{N}}(2N + 2893)) \\
&= B_{\bar{N}}(2N + 2896 - (N + 3126)) + B_{\bar{N}}(2N + 2896 - (2N + 2365)) + B_{\bar{N}}(2N + 2896 - (N + 3122)) \\
&= B_{\bar{N}}(N - 230) + B_{\bar{N}}(531) + B_{\bar{N}}(N - 226) = (N - 230) + 531 + (N - 226) = \mathbf{2N} + \mathbf{75} \\
&(N \geq 531)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2897}) &= B_{\bar{N}}(2N + 2897 - B_{\bar{N}}(2N + 2896)) + B_{\bar{N}}(2N + 2897 - B_{\bar{N}}(2N + 2895)) + B_{\bar{N}}(2N + 2897 - B_{\bar{N}}(2N + 2894)) \\
&= B_{\bar{N}}(2N + 2897 - (2N + 75)) + B_{\bar{N}}(2N + 2897 - (N + 3126)) + B_{\bar{N}}(2N + 2897 - (2N + 2365)) \\
&= B_{\bar{N}}(2822) + B_{\bar{N}}(N - 229) + B_{\bar{N}}(532) = 2822 + (N - 229) + 532 = \mathbf{N} + \mathbf{3125} \\
&(N \geq 2822)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2898}) &= B_{\bar{N}}(2N + 2898 - B_{\bar{N}}(2N + 2897)) + B_{\bar{N}}(2N + 2898 - B_{\bar{N}}(2N + 2896)) + B_{\bar{N}}(2N + 2898 - B_{\bar{N}}(2N + 2895)) \\
&= B_{\bar{N}}(2N + 2898 - (N + 3125)) + B_{\bar{N}}(2N + 2898 - (2N + 75)) + B_{\bar{N}}(2N + 2898 - (N + 3126)) \\
&= B_{\bar{N}}(N - 227) + B_{\bar{N}}(2823) + B_{\bar{N}}(N - 228) = (N - 227) + 2823 + (N - 228) = \mathbf{2N} + \mathbf{2368} \\
&(N \geq 2823)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2899}) &= B_{\bar{N}}(2N + 2899 - B_{\bar{N}}(2N + 2898)) + B_{\bar{N}}(2N + 2899 - B_{\bar{N}}(2N + 2897)) + B_{\bar{N}}(2N + 2899 - B_{\bar{N}}(2N + 2896)) \\
&= B_{\bar{N}}(2N + 2899 - (2N + 2368)) + B_{\bar{N}}(2N + 2899 - (N + 3125)) + B_{\bar{N}}(2N + 2899 - (2N + 75)) \\
&= B_{\bar{N}}(531) + B_{\bar{N}}(N - 226) + B_{\bar{N}}(2824) = 531 + (N - 226) + 2824 = \mathbf{N} + \mathbf{3129} \\
&(N \geq 2824)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2900}) &= B_{\bar{N}}(2N + 2900 - B_{\bar{N}}(2N + 2899)) + B_{\bar{N}}(2N + 2900 - B_{\bar{N}}(2N + 2898)) + B_{\bar{N}}(2N + 2900 - B_{\bar{N}}(2N + 2897)) \\
&= B_{\bar{N}}(2N + 2900 - (N + 3129)) + B_{\bar{N}}(2N + 2900 - (2N + 2368)) + B_{\bar{N}}(2N + 2900 - (N + 3125)) \\
&= B_{\bar{N}}(N - 229) + B_{\bar{N}}(532) + B_{\bar{N}}(N - 225) = (N - 229) + 532 + (N - 225) = \mathbf{2N} + \mathbf{78} \\
&(N \geq 532)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2901}) &= B_{\bar{N}}(2N + 2901 - B_{\bar{N}}(2N + 2900)) + B_{\bar{N}}(2N + 2901 - B_{\bar{N}}(2N + 2899)) + B_{\bar{N}}(2N + 2901 - B_{\bar{N}}(2N + 2898)) \\
&= B_{\bar{N}}(2N + 2901 - (2N + 78)) + B_{\bar{N}}(2N + 2901 - (N + 3129)) + B_{\bar{N}}(2N + 2901 - (2N + 2368)) \\
&= B_{\bar{N}}(2823) + B_{\bar{N}}(N - 228) + B_{\bar{N}}(533) = 2823 + (N - 228) + 533 = \mathbf{N} + \mathbf{3128} \\
&(N \geq 2823)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2902}) &= B_{\bar{N}}(2N + 2902 - B_{\bar{N}}(2N + 2901)) + B_{\bar{N}}(2N + 2902 - B_{\bar{N}}(2N + 2900)) + B_{\bar{N}}(2N + 2902 - B_{\bar{N}}(2N + 2899)) \\
&= B_{\bar{N}}(2N + 2902 - (N + 3128)) + B_{\bar{N}}(2N + 2902 - (2N + 78)) + B_{\bar{N}}(2N + 2902 - (N + 3129)) \\
&= B_{\bar{N}}(N - 226) + B_{\bar{N}}(2824) + B_{\bar{N}}(N - 227) = (N - 226) + 2824 + (N - 227) = \mathbf{2N} + \mathbf{2371} \\
&(N \geq 2824)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2903}) &= B_{\bar{N}}(2N + 2903 - B_{\bar{N}}(2N + 2902)) + B_{\bar{N}}(2N + 2903 - B_{\bar{N}}(2N + 2901)) + B_{\bar{N}}(2N + 2903 - B_{\bar{N}}(2N + 2900)) \\
&= B_{\bar{N}}(2N + 2903 - (2N + 2371)) + B_{\bar{N}}(2N + 2903 - (N + 3128)) + B_{\bar{N}}(2N + 2903 - (2N + 78)) \\
&= B_{\bar{N}}(532) + B_{\bar{N}}(N - 225) + B_{\bar{N}}(2825) = 532 + (N - 225) + 2825 = \mathbf{N} + \mathbf{3132} \\
&(N \geq 2825)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2904}) &= B_{\bar{N}}(2N + 2904 - B_{\bar{N}}(2N + 2903)) + B_{\bar{N}}(2N + 2904 - B_{\bar{N}}(2N + 2902)) + B_{\bar{N}}(2N + 2904 - B_{\bar{N}}(2N + 2901)) \\
&= B_{\bar{N}}(2N + 2904 - (N + 3132)) + B_{\bar{N}}(2N + 2904 - (2N + 2371)) + B_{\bar{N}}(2N + 2904 - (N + 3128)) \\
&= B_{\bar{N}}(N - 228) + B_{\bar{N}}(533) + B_{\bar{N}}(N - 224) = (N - 228) + 533 + (N - 224) = \mathbf{2N} + \mathbf{81} \\
&(N \geq 533)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2905}) &= B_{\bar{N}}(2N + 2905 - B_{\bar{N}}(2N + 2904)) + B_{\bar{N}}(2N + 2905 - B_{\bar{N}}(2N + 2903)) + B_{\bar{N}}(2N + 2905 - B_{\bar{N}}(2N + 2902)) \\
&= B_{\bar{N}}(2N + 2905 - (2N + 81)) + B_{\bar{N}}(2N + 2905 - (N + 3132)) + B_{\bar{N}}(2N + 2905 - (2N + 2371)) \\
&= B_{\bar{N}}(2824) + B_{\bar{N}}(N - 227) + B_{\bar{N}}(534) = 2824 + (N - 227) + 534 = \mathbf{N} + \mathbf{3131} \\
&(N \geq 2824)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2906}) &= B_{\bar{N}}(2N + 2906 - B_{\bar{N}}(2N + 2905)) + B_{\bar{N}}(2N + 2906 - B_{\bar{N}}(2N + 2904)) + B_{\bar{N}}(2N + 2906 - B_{\bar{N}}(2N + 2903)) \\
&= B_{\bar{N}}(2N + 2906 - (N + 3131)) + B_{\bar{N}}(2N + 2906 - (2N + 81)) + B_{\bar{N}}(2N + 2906 - (N + 3132)) \\
&= B_{\bar{N}}(N - 225) + B_{\bar{N}}(2825) + B_{\bar{N}}(N - 226) = (N - 225) + 2825 + (N - 226) = \mathbf{2N} + \mathbf{2374} \\
&(N \geq 2825)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2907}) &= B_{\bar{N}}(2N + 2907 - B_{\bar{N}}(2N + 2906)) + B_{\bar{N}}(2N + 2907 - B_{\bar{N}}(2N + 2905)) + B_{\bar{N}}(2N + 2907 - B_{\bar{N}}(2N + 2904)) \\
&= B_{\bar{N}}(2N + 2907 - (2N + 2374)) + B_{\bar{N}}(2N + 2907 - (N + 3131)) + B_{\bar{N}}(2N + 2907 - (2N + 81)) \\
&= B_{\bar{N}}(533) + B_{\bar{N}}(N - 224) + B_{\bar{N}}(2826) = 533 + (N - 224) + 2826 = \mathbf{N} + \mathbf{3135} \\
&(N \geq 2826)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2908}) &= B_{\bar{N}}(2N + 2908 - B_{\bar{N}}(2N + 2907)) + B_{\bar{N}}(2N + 2908 - B_{\bar{N}}(2N + 2906)) + B_{\bar{N}}(2N + 2908 - B_{\bar{N}}(2N + 2905)) \\
&= B_{\bar{N}}(2N + 2908 - (N + 3135)) + B_{\bar{N}}(2N + 2908 - (2N + 2374)) + B_{\bar{N}}(2N + 2908 - (N + 3131)) \\
&= B_{\bar{N}}(N - 227) + B_{\bar{N}}(534) + B_{\bar{N}}(N - 223) = (N - 227) + 534 + (N - 223) = \mathbf{2N} + \mathbf{84} \\
&(N \geq 534)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2909}) &= B_{\bar{N}}(2N + 2909 - B_{\bar{N}}(2N + 2908)) + B_{\bar{N}}(2N + 2909 - B_{\bar{N}}(2N + 2907)) + B_{\bar{N}}(2N + 2909 - B_{\bar{N}}(2N + 2906)) \\
&= B_{\bar{N}}(2N + 2909 - (2N + 84)) + B_{\bar{N}}(2N + 2909 - (N + 3135)) + B_{\bar{N}}(2N + 2909 - (2N + 2374)) \\
&= B_{\bar{N}}(2825) + B_{\bar{N}}(N - 226) + B_{\bar{N}}(535) = 2825 + (N - 226) + 535 = \mathbf{N} + \mathbf{3134} \\
&(N \geq 2825)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2910}) &= B_{\bar{N}}(2N + 2910 - B_{\bar{N}}(2N + 2909)) + B_{\bar{N}}(2N + 2910 - B_{\bar{N}}(2N + 2908)) + B_{\bar{N}}(2N + 2910 - B_{\bar{N}}(2N + 2907)) \\
&= B_{\bar{N}}(2N + 2910 - (N + 3134)) + B_{\bar{N}}(2N + 2910 - (2N + 84)) + B_{\bar{N}}(2N + 2910 - (N + 3135)) \\
&= B_{\bar{N}}(N - 224) + B_{\bar{N}}(2826) + B_{\bar{N}}(N - 225) = (N - 224) + 2826 + (N - 225) = \mathbf{2N} + \mathbf{2377} \\
&(N \geq 2826)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2911}) &= B_{\bar{N}}(2N + 2911 - B_{\bar{N}}(2N + 2910)) + B_{\bar{N}}(2N + 2911 - B_{\bar{N}}(2N + 2909)) + B_{\bar{N}}(2N + 2911 - B_{\bar{N}}(2N + 2908)) \\
&= B_{\bar{N}}(2N + 2911 - (2N + 2377)) + B_{\bar{N}}(2N + 2911 - (N + 3134)) + B_{\bar{N}}(2N + 2911 - (2N + 84)) \\
&= B_{\bar{N}}(534) + B_{\bar{N}}(N - 223) + B_{\bar{N}}(2827) = 534 + (N - 223) + 2827 = \mathbf{N} + \mathbf{3138} \\
&(N \geq 2827)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2912}) &= B_{\bar{N}}(2N + 2912 - B_{\bar{N}}(2N + 2911)) + B_{\bar{N}}(2N + 2912 - B_{\bar{N}}(2N + 2910)) + B_{\bar{N}}(2N + 2912 - B_{\bar{N}}(2N + 2909)) \\
&= B_{\bar{N}}(2N + 2912 - (N + 3138)) + B_{\bar{N}}(2N + 2912 - (2N + 2377)) + B_{\bar{N}}(2N + 2912 - (N + 3134)) \\
&= B_{\bar{N}}(N - 226) + B_{\bar{N}}(535) + B_{\bar{N}}(N - 222) = (N - 226) + 535 + (N - 222) = \mathbf{2N} + \mathbf{87} \\
&(N \geq 535)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2913}) &= B_{\bar{N}}(2N + 2913 - B_{\bar{N}}(2N + 2912)) + B_{\bar{N}}(2N + 2913 - B_{\bar{N}}(2N + 2911)) + B_{\bar{N}}(2N + 2913 - B_{\bar{N}}(2N + 2910)) \\
&= B_{\bar{N}}(2N + 2913 - (2N + 87)) + B_{\bar{N}}(2N + 2913 - (N + 3138)) + B_{\bar{N}}(2N + 2913 - (2N + 2377)) \\
&= B_{\bar{N}}(2826) + B_{\bar{N}}(N - 225) + B_{\bar{N}}(536) = 2826 + (N - 225) + 536 = \mathbf{N} + \mathbf{3137} \\
&(N \geq 2826)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2914}) &= B_{\bar{N}}(2N + 2914 - B_{\bar{N}}(2N + 2913)) + B_{\bar{N}}(2N + 2914 - B_{\bar{N}}(2N + 2912)) + B_{\bar{N}}(2N + 2914 - B_{\bar{N}}(2N + 2911)) \\
&= B_{\bar{N}}(2N + 2914 - (N + 3137)) + B_{\bar{N}}(2N + 2914 - (2N + 87)) + B_{\bar{N}}(2N + 2914 - (N + 3138)) \\
&= B_{\bar{N}}(N - 223) + B_{\bar{N}}(2827) + B_{\bar{N}}(N - 224) = (N - 223) + 2827 + (N - 224) = \mathbf{2N} + \mathbf{2380} \\
&(N \geq 2827)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2915}) &= B_{\bar{N}}(2N + 2915 - B_{\bar{N}}(2N + 2914)) + B_{\bar{N}}(2N + 2915 - B_{\bar{N}}(2N + 2913)) + B_{\bar{N}}(2N + 2915 - B_{\bar{N}}(2N + 2912)) \\
&= B_{\bar{N}}(2N + 2915 - (2N + 2380)) + B_{\bar{N}}(2N + 2915 - (N + 3137)) + B_{\bar{N}}(2N + 2915 - (2N + 87)) \\
&= B_{\bar{N}}(535) + B_{\bar{N}}(N - 222) + B_{\bar{N}}(2828) = 535 + (N - 222) + 2828 = \mathbf{N} + \mathbf{3141} \\
&(N \geq 2828)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2916}) &= B_{\bar{N}}(2N + 2916 - B_{\bar{N}}(2N + 2915)) + B_{\bar{N}}(2N + 2916 - B_{\bar{N}}(2N + 2914)) + B_{\bar{N}}(2N + 2916 - B_{\bar{N}}(2N + 2913)) \\
&= B_{\bar{N}}(2N + 2916 - (N + 3141)) + B_{\bar{N}}(2N + 2916 - (2N + 2380)) + B_{\bar{N}}(2N + 2916 - (N + 3137)) \\
&= B_{\bar{N}}(N - 225) + B_{\bar{N}}(536) + B_{\bar{N}}(N - 221) = (N - 225) + 536 + (N - 221) = \mathbf{2N} + \mathbf{90} \\
&(N \geq 536)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2917}) &= B_{\bar{N}}(2N + 2917 - B_{\bar{N}}(2N + 2916)) + B_{\bar{N}}(2N + 2917 - B_{\bar{N}}(2N + 2915)) + B_{\bar{N}}(2N + 2917 - B_{\bar{N}}(2N + 2914)) \\
&= B_{\bar{N}}(2N + 2917 - (2N + 90)) + B_{\bar{N}}(2N + 2917 - (N + 3141)) + B_{\bar{N}}(2N + 2917 - (2N + 2380)) \\
&= B_{\bar{N}}(2827) + B_{\bar{N}}(N - 224) + B_{\bar{N}}(537) = 2827 + (N - 224) + 537 = \mathbf{N} + \mathbf{3140} \\
&(N \geq 2827)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2918}) &= B_{\bar{N}}(2N + 2918 - B_{\bar{N}}(2N + 2917)) + B_{\bar{N}}(2N + 2918 - B_{\bar{N}}(2N + 2916)) + B_{\bar{N}}(2N + 2918 - B_{\bar{N}}(2N + 2915)) \\
&= B_{\bar{N}}(2N + 2918 - (N + 3140)) + B_{\bar{N}}(2N + 2918 - (2N + 90)) + B_{\bar{N}}(2N + 2918 - (N + 3141)) \\
&= B_{\bar{N}}(N - 222) + B_{\bar{N}}(2828) + B_{\bar{N}}(N - 223) = (N - 222) + 2828 + (N - 223) = \mathbf{2N} + \mathbf{2383} \\
&(N \geq 2828)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2919}) &= B_{\bar{N}}(2N + 2919 - B_{\bar{N}}(2N + 2918)) + B_{\bar{N}}(2N + 2919 - B_{\bar{N}}(2N + 2917)) + B_{\bar{N}}(2N + 2919 - B_{\bar{N}}(2N + 2916)) \\
&= B_{\bar{N}}(2N + 2919 - (2N + 2383)) + B_{\bar{N}}(2N + 2919 - (N + 3140)) + B_{\bar{N}}(2N + 2919 - (2N + 90)) \\
&= B_{\bar{N}}(536) + B_{\bar{N}}(N - 221) + B_{\bar{N}}(2829) = 536 + (N - 221) + 2829 = \mathbf{N} + \mathbf{3144} \\
&(N \geq 2829)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2920}) &= B_{\bar{N}}(2N + 2920 - B_{\bar{N}}(2N + 2919)) + B_{\bar{N}}(2N + 2920 - B_{\bar{N}}(2N + 2918)) + B_{\bar{N}}(2N + 2920 - B_{\bar{N}}(2N + 2917)) \\
&= B_{\bar{N}}(2N + 2920 - (N + 3144)) + B_{\bar{N}}(2N + 2920 - (2N + 2383)) + B_{\bar{N}}(2N + 2920 - (N + 3140)) \\
&= B_{\bar{N}}(N - 224) + B_{\bar{N}}(537) + B_{\bar{N}}(N - 220) = (N - 224) + 537 + (N - 220) = \mathbf{2N} + \mathbf{93} \\
&(N \geq 537)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2921}) &= B_{\bar{N}}(2N + 2921 - B_{\bar{N}}(2N + 2920)) + B_{\bar{N}}(2N + 2921 - B_{\bar{N}}(2N + 2919)) + B_{\bar{N}}(2N + 2921 - B_{\bar{N}}(2N + 2918)) \\
&= B_{\bar{N}}(2N + 2921 - (2N + 93)) + B_{\bar{N}}(2N + 2921 - (N + 3144)) + B_{\bar{N}}(2N + 2921 - (2N + 2383)) \\
&= B_{\bar{N}}(2828) + B_{\bar{N}}(N - 223) + B_{\bar{N}}(538) = 2828 + (N - 223) + 538 = \mathbf{N} + \mathbf{3143} \\
&(N \geq 2828)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2922}) &= B_{\bar{N}}(2N + 2922 - B_{\bar{N}}(2N + 2921)) + B_{\bar{N}}(2N + 2922 - B_{\bar{N}}(2N + 2920)) + B_{\bar{N}}(2N + 2922 - B_{\bar{N}}(2N + 2919)) \\
&= B_{\bar{N}}(2N + 2922 - (N + 3143)) + B_{\bar{N}}(2N + 2922 - (2N + 93)) + B_{\bar{N}}(2N + 2922 - (N + 3144)) \\
&= B_{\bar{N}}(N - 221) + B_{\bar{N}}(2829) + B_{\bar{N}}(N - 222) = (N - 221) + 2829 + (N - 222) = \mathbf{2N} + \mathbf{2386} \\
&(N \geq 2829)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2923}) &= B_{\bar{N}}(2N + 2923 - B_{\bar{N}}(2N + 2922)) + B_{\bar{N}}(2N + 2923 - B_{\bar{N}}(2N + 2921)) + B_{\bar{N}}(2N + 2923 - B_{\bar{N}}(2N + 2920)) \\
&= B_{\bar{N}}(2N + 2923 - (2N + 2386)) + B_{\bar{N}}(2N + 2923 - (N + 3143)) + B_{\bar{N}}(2N + 2923 - (2N + 93)) \\
&= B_{\bar{N}}(537) + B_{\bar{N}}(N - 220) + B_{\bar{N}}(2830) = 537 + (N - 220) + 2830 = \mathbf{N} + \mathbf{3147} \\
&(N \geq 2830)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2924}) &= B_{\bar{N}}(2N + 2924 - B_{\bar{N}}(2N + 2923)) + B_{\bar{N}}(2N + 2924 - B_{\bar{N}}(2N + 2922)) + B_{\bar{N}}(2N + 2924 - B_{\bar{N}}(2N + 2921)) \\
&= B_{\bar{N}}(2N + 2924 - (N + 3147)) + B_{\bar{N}}(2N + 2924 - (2N + 2386)) + B_{\bar{N}}(2N + 2924 - (N + 3143)) \\
&= B_{\bar{N}}(N - 223) + B_{\bar{N}}(538) + B_{\bar{N}}(N - 219) = (N - 223) + 538 + (N - 219) = \mathbf{2N} + \mathbf{96} \\
&(N \geq 538)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2925}) &= B_{\bar{N}}(2N + 2925 - B_{\bar{N}}(2N + 2924)) + B_{\bar{N}}(2N + 2925 - B_{\bar{N}}(2N + 2923)) + B_{\bar{N}}(2N + 2925 - B_{\bar{N}}(2N + 2922)) \\
&= B_{\bar{N}}(2N + 2925 - (2N + 96)) + B_{\bar{N}}(2N + 2925 - (N + 3147)) + B_{\bar{N}}(2N + 2925 - (2N + 2386)) \\
&= B_{\bar{N}}(2829) + B_{\bar{N}}(N - 222) + B_{\bar{N}}(539) = 2829 + (N - 222) + 539 = \mathbf{N} + \mathbf{3146} \\
&(N \geq 2829)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2926}) &= B_{\bar{N}}(2N + 2926 - B_{\bar{N}}(2N + 2925)) + B_{\bar{N}}(2N + 2926 - B_{\bar{N}}(2N + 2924)) + B_{\bar{N}}(2N + 2926 - B_{\bar{N}}(2N + 2923)) \\
&= B_{\bar{N}}(2N + 2926 - (N + 3146)) + B_{\bar{N}}(2N + 2926 - (2N + 96)) + B_{\bar{N}}(2N + 2926 - (N + 3147)) \\
&= B_{\bar{N}}(N - 220) + B_{\bar{N}}(2830) + B_{\bar{N}}(N - 221) = (N - 220) + 2830 + (N - 221) = \mathbf{2N} + \mathbf{2389} \\
&(N \geq 2830)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2927}) &= B_{\bar{N}}(2N + 2927 - B_{\bar{N}}(2N + 2926)) + B_{\bar{N}}(2N + 2927 - B_{\bar{N}}(2N + 2925)) + B_{\bar{N}}(2N + 2927 - B_{\bar{N}}(2N + 2924)) \\
&= B_{\bar{N}}(2N + 2927 - (2N + 2389)) + B_{\bar{N}}(2N + 2927 - (N + 3146)) + B_{\bar{N}}(2N + 2927 - (2N + 96)) \\
&= B_{\bar{N}}(538) + B_{\bar{N}}(N - 219) + B_{\bar{N}}(2831) = 538 + (N - 219) + 2831 = \mathbf{N} + \mathbf{3150} \\
&(N \geq 2831)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2928}) &= B_{\bar{N}}(2N + 2928 - B_{\bar{N}}(2N + 2927)) + B_{\bar{N}}(2N + 2928 - B_{\bar{N}}(2N + 2926)) + B_{\bar{N}}(2N + 2928 - B_{\bar{N}}(2N + 2925)) \\
&= B_{\bar{N}}(2N + 2928 - (N + 3150)) + B_{\bar{N}}(2N + 2928 - (2N + 2389)) + B_{\bar{N}}(2N + 2928 - (N + 3146)) \\
&= B_{\bar{N}}(N - 222) + B_{\bar{N}}(539) + B_{\bar{N}}(N - 218) = (N - 222) + 539 + (N - 218) = \mathbf{2N} + \mathbf{99} \\
&(N \geq 539)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2929}) &= B_{\bar{N}}(2N + 2929 - B_{\bar{N}}(2N + 2928)) + B_{\bar{N}}(2N + 2929 - B_{\bar{N}}(2N + 2927)) + B_{\bar{N}}(2N + 2929 - B_{\bar{N}}(2N + 2926)) \\
&= B_{\bar{N}}(2N + 2929 - (2N + 99)) + B_{\bar{N}}(2N + 2929 - (N + 3150)) + B_{\bar{N}}(2N + 2929 - (2N + 2389)) \\
&= B_{\bar{N}}(2830) + B_{\bar{N}}(N - 221) + B_{\bar{N}}(540) = 2830 + (N - 221) + 540 = \mathbf{N} + \mathbf{3149} \\
&(N \geq 2830)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2930}) &= B_{\bar{N}}(2N + 2930 - B_{\bar{N}}(2N + 2929)) + B_{\bar{N}}(2N + 2930 - B_{\bar{N}}(2N + 2928)) + B_{\bar{N}}(2N + 2930 - B_{\bar{N}}(2N + 2927)) \\
&= B_{\bar{N}}(2N + 2930 - (N + 3149)) + B_{\bar{N}}(2N + 2930 - (2N + 99)) + B_{\bar{N}}(2N + 2930 - (N + 3150)) \\
&= B_{\bar{N}}(N - 219) + B_{\bar{N}}(2831) + B_{\bar{N}}(N - 220) = (N - 219) + 2831 + (N - 220) = \mathbf{2N} + \mathbf{2392} \\
&(N \geq 2831)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2931}) &= B_{\bar{N}}(2N + 2931 - B_{\bar{N}}(2N + 2930)) + B_{\bar{N}}(2N + 2931 - B_{\bar{N}}(2N + 2929)) + B_{\bar{N}}(2N + 2931 - B_{\bar{N}}(2N + 2928)) \\
&= B_{\bar{N}}(2N + 2931 - (2N + 2392)) + B_{\bar{N}}(2N + 2931 - (N + 3149)) + B_{\bar{N}}(2N + 2931 - (2N + 99)) \\
&= B_{\bar{N}}(539) + B_{\bar{N}}(N - 218) + B_{\bar{N}}(2832) = 539 + (N - 218) + 2832 = \mathbf{N} + \mathbf{3153} \\
&(N \geq 2832)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2932}) &= B_{\bar{N}}(2N + 2932 - B_{\bar{N}}(2N + 2931)) + B_{\bar{N}}(2N + 2932 - B_{\bar{N}}(2N + 2930)) + B_{\bar{N}}(2N + 2932 - B_{\bar{N}}(2N + 2929)) \\
&= B_{\bar{N}}(2N + 2932 - (N + 3153)) + B_{\bar{N}}(2N + 2932 - (2N + 2392)) + B_{\bar{N}}(2N + 2932 - (N + 3149)) \\
&= B_{\bar{N}}(N - 221) + B_{\bar{N}}(540) + B_{\bar{N}}(N - 217) = (N - 221) + 540 + (N - 217) = \mathbf{2N} + \mathbf{102} \\
&(N \geq 540)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2933}) &= B_{\bar{N}}(2N + 2933 - B_{\bar{N}}(2N + 2932)) + B_{\bar{N}}(2N + 2933 - B_{\bar{N}}(2N + 2931)) + B_{\bar{N}}(2N + 2933 - B_{\bar{N}}(2N + 2930)) \\
&= B_{\bar{N}}(2N + 2933 - (2N + 102)) + B_{\bar{N}}(2N + 2933 - (N + 3153)) + B_{\bar{N}}(2N + 2933 - (2N + 2392)) \\
&= B_{\bar{N}}(2831) + B_{\bar{N}}(N - 220) + B_{\bar{N}}(541) = 2831 + (N - 220) + 541 = \mathbf{N} + \mathbf{3152} \\
&(N \geq 2831)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2934}) &= B_{\bar{N}}(2N + 2934 - B_{\bar{N}}(2N + 2933)) + B_{\bar{N}}(2N + 2934 - B_{\bar{N}}(2N + 2932)) + B_{\bar{N}}(2N + 2934 - B_{\bar{N}}(2N + 2931)) \\
&= B_{\bar{N}}(2N + 2934 - (N + 3152)) + B_{\bar{N}}(2N + 2934 - (2N + 102)) + B_{\bar{N}}(2N + 2934 - (N + 3153)) \\
&= B_{\bar{N}}(N - 218) + B_{\bar{N}}(2832) + B_{\bar{N}}(N - 219) = (N - 218) + 2832 + (N - 219) = \mathbf{2N} + \mathbf{2395} \\
&(N \geq 2832)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2935}) &= B_{\bar{N}}(2N + 2935 - B_{\bar{N}}(2N + 2934)) + B_{\bar{N}}(2N + 2935 - B_{\bar{N}}(2N + 2933)) + B_{\bar{N}}(2N + 2935 - B_{\bar{N}}(2N + 2932)) \\
&= B_{\bar{N}}(2N + 2935 - (2N + 2395)) + B_{\bar{N}}(2N + 2935 - (N + 3152)) + B_{\bar{N}}(2N + 2935 - (2N + 102)) \\
&= B_{\bar{N}}(540) + B_{\bar{N}}(N - 217) + B_{\bar{N}}(2833) = 540 + (N - 217) + 2833 = \mathbf{N} + \mathbf{3156} \\
&(N \geq 2833)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2936}) &= B_{\bar{N}}(2N + 2936 - B_{\bar{N}}(2N + 2935)) + B_{\bar{N}}(2N + 2936 - B_{\bar{N}}(2N + 2934)) + B_{\bar{N}}(2N + 2936 - B_{\bar{N}}(2N + 2933)) \\
&= B_{\bar{N}}(2N + 2936 - (N + 3156)) + B_{\bar{N}}(2N + 2936 - (2N + 2395)) + B_{\bar{N}}(2N + 2936 - (N + 3152)) \\
&= B_{\bar{N}}(N - 220) + B_{\bar{N}}(541) + B_{\bar{N}}(N - 216) = (N - 220) + 541 + (N - 216) = \mathbf{2N} + \mathbf{105} \\
&(N \geq 541)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2937}) &= B_{\bar{N}}(2N + 2937 - B_{\bar{N}}(2N + 2936)) + B_{\bar{N}}(2N + 2937 - B_{\bar{N}}(2N + 2935)) + B_{\bar{N}}(2N + 2937 - B_{\bar{N}}(2N + 2934)) \\
&= B_{\bar{N}}(2N + 2937 - (2N + 105)) + B_{\bar{N}}(2N + 2937 - (N + 3156)) + B_{\bar{N}}(2N + 2937 - (2N + 2395)) \\
&= B_{\bar{N}}(2832) + B_{\bar{N}}(N - 219) + B_{\bar{N}}(542) = 2832 + (N - 219) + 542 = \mathbf{N} + \mathbf{3155} \\
&(N \geq 2832)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2938}) &= B_{\bar{N}}(2N + 2938 - B_{\bar{N}}(2N + 2937)) + B_{\bar{N}}(2N + 2938 - B_{\bar{N}}(2N + 2936)) + B_{\bar{N}}(2N + 2938 - B_{\bar{N}}(2N + 2935)) \\
&= B_{\bar{N}}(2N + 2938 - (N + 3155)) + B_{\bar{N}}(2N + 2938 - (2N + 105)) + B_{\bar{N}}(2N + 2938 - (N + 3156)) \\
&= B_{\bar{N}}(N - 217) + B_{\bar{N}}(2833) + B_{\bar{N}}(N - 218) = (N - 217) + 2833 + (N - 218) = \mathbf{2N} + \mathbf{2398} \\
&(N \geq 2833)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2939}) &= B_{\bar{N}}(2N + 2939 - B_{\bar{N}}(2N + 2938)) + B_{\bar{N}}(2N + 2939 - B_{\bar{N}}(2N + 2937)) + B_{\bar{N}}(2N + 2939 - B_{\bar{N}}(2N + 2936)) \\
&= B_{\bar{N}}(2N + 2939 - (2N + 2398)) + B_{\bar{N}}(2N + 2939 - (N + 3155)) + B_{\bar{N}}(2N + 2939 - (2N + 105)) \\
&= B_{\bar{N}}(541) + B_{\bar{N}}(N - 216) + B_{\bar{N}}(2834) = 541 + (N - 216) + 2834 = \mathbf{N} + \mathbf{3159} \\
&(N \geq 2834)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2940}) &= B_{\bar{N}}(2N + 2940 - B_{\bar{N}}(2N + 2939)) + B_{\bar{N}}(2N + 2940 - B_{\bar{N}}(2N + 2938)) + B_{\bar{N}}(2N + 2940 - B_{\bar{N}}(2N + 2937)) \\
&= B_{\bar{N}}(2N + 2940 - (N + 3159)) + B_{\bar{N}}(2N + 2940 - (2N + 2398)) + B_{\bar{N}}(2N + 2940 - (N + 3155)) \\
&= B_{\bar{N}}(N - 219) + B_{\bar{N}}(542) + B_{\bar{N}}(N - 215) = (N - 219) + 542 + (N - 215) = \mathbf{2N} + \mathbf{108} \\
&(N \geq 542)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2941}) &= B_{\bar{N}}(2N + 2941 - B_{\bar{N}}(2N + 2940)) + B_{\bar{N}}(2N + 2941 - B_{\bar{N}}(2N + 2939)) + B_{\bar{N}}(2N + 2941 - B_{\bar{N}}(2N + 2938)) \\
&= B_{\bar{N}}(2N + 2941 - (2N + 108)) + B_{\bar{N}}(2N + 2941 - (N + 3159)) + B_{\bar{N}}(2N + 2941 - (2N + 2398)) \\
&= B_{\bar{N}}(2833) + B_{\bar{N}}(N - 218) + B_{\bar{N}}(543) = 2833 + (N - 218) + 543 = \mathbf{N} + \mathbf{3158} \\
&(N \geq 2833)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2942}) &= B_{\bar{N}}(2N + 2942 - B_{\bar{N}}(2N + 2941)) + B_{\bar{N}}(2N + 2942 - B_{\bar{N}}(2N + 2940)) + B_{\bar{N}}(2N + 2942 - B_{\bar{N}}(2N + 2939)) \\
&= B_{\bar{N}}(2N + 2942 - (N + 3158)) + B_{\bar{N}}(2N + 2942 - (2N + 108)) + B_{\bar{N}}(2N + 2942 - (N + 3159)) \\
&= B_{\bar{N}}(N - 216) + B_{\bar{N}}(2834) + B_{\bar{N}}(N - 217) = (N - 216) + 2834 + (N - 217) = \mathbf{2N} + \mathbf{2401} \\
&(N \geq 2834)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2943}) &= B_{\bar{N}}(2N + 2943 - B_{\bar{N}}(2N + 2942)) + B_{\bar{N}}(2N + 2943 - B_{\bar{N}}(2N + 2941)) + B_{\bar{N}}(2N + 2943 - B_{\bar{N}}(2N + 2940)) \\
&= B_{\bar{N}}(2N + 2943 - (2N + 2401)) + B_{\bar{N}}(2N + 2943 - (N + 3158)) + B_{\bar{N}}(2N + 2943 - (2N + 108)) \\
&= B_{\bar{N}}(542) + B_{\bar{N}}(N - 215) + B_{\bar{N}}(2835) = 542 + (N - 215) + 2835 = \mathbf{N} + \mathbf{3162} \\
&(N \geq 2835)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2944}) &= B_{\bar{N}}(2N + 2944 - B_{\bar{N}}(2N + 2943)) + B_{\bar{N}}(2N + 2944 - B_{\bar{N}}(2N + 2942)) + B_{\bar{N}}(2N + 2944 - B_{\bar{N}}(2N + 2941)) \\
&= B_{\bar{N}}(2N + 2944 - (N + 3162)) + B_{\bar{N}}(2N + 2944 - (2N + 2401)) + B_{\bar{N}}(2N + 2944 - (N + 3158)) \\
&= B_{\bar{N}}(N - 218) + B_{\bar{N}}(543) + B_{\bar{N}}(N - 214) = (N - 218) + 543 + (N - 214) = \mathbf{2N} + \mathbf{111} \\
&(N \geq 543)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2945}) &= B_{\bar{N}}(2N + 2945 - B_{\bar{N}}(2N + 2944)) + B_{\bar{N}}(2N + 2945 - B_{\bar{N}}(2N + 2943)) + B_{\bar{N}}(2N + 2945 - B_{\bar{N}}(2N + 2942)) \\
&= B_{\bar{N}}(2N + 2945 - (2N + 111)) + B_{\bar{N}}(2N + 2945 - (N + 3162)) + B_{\bar{N}}(2N + 2945 - (2N + 2401)) \\
&= B_{\bar{N}}(2834) + B_{\bar{N}}(N - 217) + B_{\bar{N}}(544) = 2834 + (N - 217) + 544 = \mathbf{N} + \mathbf{3161} \\
&(N \geq 2834)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2946}) &= B_{\bar{N}}(2N + 2946 - B_{\bar{N}}(2N + 2945)) + B_{\bar{N}}(2N + 2946 - B_{\bar{N}}(2N + 2944)) + B_{\bar{N}}(2N + 2946 - B_{\bar{N}}(2N + 2943)) \\
&= B_{\bar{N}}(2N + 2946 - (N + 3161)) + B_{\bar{N}}(2N + 2946 - (2N + 111)) + B_{\bar{N}}(2N + 2946 - (N + 3162)) \\
&= B_{\bar{N}}(N - 215) + B_{\bar{N}}(2835) + B_{\bar{N}}(N - 216) = (N - 215) + 2835 + (N - 216) = \mathbf{2N} + \mathbf{2404} \\
&(N \geq 2835)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2947}) &= B_{\bar{N}}(2N + 2947 - B_{\bar{N}}(2N + 2946)) + B_{\bar{N}}(2N + 2947 - B_{\bar{N}}(2N + 2945)) + B_{\bar{N}}(2N + 2947 - B_{\bar{N}}(2N + 2944)) \\
&= B_{\bar{N}}(2N + 2947 - (2N + 2404)) + B_{\bar{N}}(2N + 2947 - (N + 3161)) + B_{\bar{N}}(2N + 2947 - (2N + 111)) \\
&= B_{\bar{N}}(543) + B_{\bar{N}}(N - 214) + B_{\bar{N}}(2836) = 543 + (N - 214) + 2836 = \mathbf{N} + \mathbf{3165} \\
&(N \geq 2836)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2948}) &= B_{\bar{N}}(2N + 2948 - B_{\bar{N}}(2N + 2947)) + B_{\bar{N}}(2N + 2948 - B_{\bar{N}}(2N + 2946)) + B_{\bar{N}}(2N + 2948 - B_{\bar{N}}(2N + 2945)) \\
&= B_{\bar{N}}(2N + 2948 - (N + 3165)) + B_{\bar{N}}(2N + 2948 - (2N + 2404)) + B_{\bar{N}}(2N + 2948 - (N + 3161)) \\
&= B_{\bar{N}}(N - 217) + B_{\bar{N}}(544) + B_{\bar{N}}(N - 213) = (N - 217) + 544 + (N - 213) = \mathbf{2N} + \mathbf{114} \\
&(N \geq 544)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2949}) &= B_{\bar{N}}(2N + 2949 - B_{\bar{N}}(2N + 2948)) + B_{\bar{N}}(2N + 2949 - B_{\bar{N}}(2N + 2947)) + B_{\bar{N}}(2N + 2949 - B_{\bar{N}}(2N + 2946)) \\
&= B_{\bar{N}}(2N + 2949 - (2N + 114)) + B_{\bar{N}}(2N + 2949 - (N + 3165)) + B_{\bar{N}}(2N + 2949 - (2N + 2404)) \\
&= B_{\bar{N}}(2835) + B_{\bar{N}}(N - 216) + B_{\bar{N}}(545) = 2835 + (N - 216) + 545 = \mathbf{N} + \mathbf{3164} \\
&(N \geq 2835)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2950}) &= B_{\bar{N}}(2N + 2950 - B_{\bar{N}}(2N + 2949)) + B_{\bar{N}}(2N + 2950 - B_{\bar{N}}(2N + 2948)) + B_{\bar{N}}(2N + 2950 - B_{\bar{N}}(2N + 2947)) \\
&= B_{\bar{N}}(2N + 2950 - (N + 3164)) + B_{\bar{N}}(2N + 2950 - (2N + 114)) + B_{\bar{N}}(2N + 2950 - (N + 3165)) \\
&= B_{\bar{N}}(N - 214) + B_{\bar{N}}(2836) + B_{\bar{N}}(N - 215) = (N - 214) + 2836 + (N - 215) = \mathbf{2N} + \mathbf{2407} \\
&(N \geq 2836)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2951}) &= B_{\bar{N}}(2N + 2951 - B_{\bar{N}}(2N + 2950)) + B_{\bar{N}}(2N + 2951 - B_{\bar{N}}(2N + 2949)) + B_{\bar{N}}(2N + 2951 - B_{\bar{N}}(2N + 2948)) \\
&= B_{\bar{N}}(2N + 2951 - (2N + 2407)) + B_{\bar{N}}(2N + 2951 - (N + 3164)) + B_{\bar{N}}(2N + 2951 - (2N + 114)) \\
&= B_{\bar{N}}(544) + B_{\bar{N}}(N - 213) + B_{\bar{N}}(2837) = 544 + (N - 213) + 2837 = \mathbf{N} + \mathbf{3168} \\
&(N \geq 2837)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2952}) &= B_{\bar{N}}(2N + 2952 - B_{\bar{N}}(2N + 2951)) + B_{\bar{N}}(2N + 2952 - B_{\bar{N}}(2N + 2950)) + B_{\bar{N}}(2N + 2952 - B_{\bar{N}}(2N + 2949)) \\
&= B_{\bar{N}}(2N + 2952 - (N + 3168)) + B_{\bar{N}}(2N + 2952 - (2N + 2407)) + B_{\bar{N}}(2N + 2952 - (N + 3164)) \\
&= B_{\bar{N}}(N - 216) + B_{\bar{N}}(545) + B_{\bar{N}}(N - 212) = (N - 216) + 545 + (N - 212) = \mathbf{2N} + \mathbf{117} \\
&(N \geq 545)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2953}) &= B_{\bar{N}}(2N + 2953 - B_{\bar{N}}(2N + 2952)) + B_{\bar{N}}(2N + 2953 - B_{\bar{N}}(2N + 2951)) + B_{\bar{N}}(2N + 2953 - B_{\bar{N}}(2N + 2950)) \\
&= B_{\bar{N}}(2N + 2953 - (2N + 117)) + B_{\bar{N}}(2N + 2953 - (N + 3168)) + B_{\bar{N}}(2N + 2953 - (2N + 2407)) \\
&= B_{\bar{N}}(2836) + B_{\bar{N}}(N - 215) + B_{\bar{N}}(546) = 2836 + (N - 215) + 546 = \mathbf{N} + \mathbf{3167} \\
&(N \geq 2836)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2954}) &= B_{\bar{N}}(2N + 2954 - B_{\bar{N}}(2N + 2953)) + B_{\bar{N}}(2N + 2954 - B_{\bar{N}}(2N + 2952)) + B_{\bar{N}}(2N + 2954 - B_{\bar{N}}(2N + 2951)) \\
&= B_{\bar{N}}(2N + 2954 - (N + 3167)) + B_{\bar{N}}(2N + 2954 - (2N + 117)) + B_{\bar{N}}(2N + 2954 - (N + 3168)) \\
&= B_{\bar{N}}(N - 213) + B_{\bar{N}}(2837) + B_{\bar{N}}(N - 214) = (N - 213) + 2837 + (N - 214) = \mathbf{2N} + \mathbf{2410} \\
&(N \geq 2837)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2955}) &= B_{\bar{N}}(2N + 2955 - B_{\bar{N}}(2N + 2954)) + B_{\bar{N}}(2N + 2955 - B_{\bar{N}}(2N + 2953)) + B_{\bar{N}}(2N + 2955 - B_{\bar{N}}(2N + 2952)) \\
&= B_{\bar{N}}(2N + 2955 - (2N + 2410)) + B_{\bar{N}}(2N + 2955 - (N + 3167)) + B_{\bar{N}}(2N + 2955 - (2N + 117)) \\
&= B_{\bar{N}}(545) + B_{\bar{N}}(N - 212) + B_{\bar{N}}(2838) = 545 + (N - 212) + 2838 = \mathbf{N} + \mathbf{3171} \\
&(N \geq 2838)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2956}) &= B_{\bar{N}}(2N + 2956 - B_{\bar{N}}(2N + 2955)) + B_{\bar{N}}(2N + 2956 - B_{\bar{N}}(2N + 2954)) + B_{\bar{N}}(2N + 2956 - B_{\bar{N}}(2N + 2953)) \\
&= B_{\bar{N}}(2N + 2956 - (N + 3171)) + B_{\bar{N}}(2N + 2956 - (2N + 2410)) + B_{\bar{N}}(2N + 2956 - (N + 3167)) \\
&= B_{\bar{N}}(N - 215) + B_{\bar{N}}(546) + B_{\bar{N}}(N - 211) = (N - 215) + 546 + (N - 211) = \mathbf{2N} + \mathbf{120} \\
&(N \geq 546)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2957}) &= B_{\bar{N}}(2N + 2957 - B_{\bar{N}}(2N + 2956)) + B_{\bar{N}}(2N + 2957 - B_{\bar{N}}(2N + 2955)) + B_{\bar{N}}(2N + 2957 - B_{\bar{N}}(2N + 2954)) \\
&= B_{\bar{N}}(2N + 2957 - (2N + 120)) + B_{\bar{N}}(2N + 2957 - (N + 3171)) + B_{\bar{N}}(2N + 2957 - (2N + 2410)) \\
&= B_{\bar{N}}(2837) + B_{\bar{N}}(N - 214) + B_{\bar{N}}(547) = 2837 + (N - 214) + 547 = \mathbf{N} + \mathbf{3170} \\
&(N \geq 2837)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2958}) &= B_{\bar{N}}(2N + 2958 - B_{\bar{N}}(2N + 2957)) + B_{\bar{N}}(2N + 2958 - B_{\bar{N}}(2N + 2956)) + B_{\bar{N}}(2N + 2958 - B_{\bar{N}}(2N + 2955)) \\
&= B_{\bar{N}}(2N + 2958 - (N + 3170)) + B_{\bar{N}}(2N + 2958 - (2N + 120)) + B_{\bar{N}}(2N + 2958 - (N + 3171)) \\
&= B_{\bar{N}}(N - 212) + B_{\bar{N}}(2838) + B_{\bar{N}}(N - 213) = (N - 212) + 2838 + (N - 213) = \mathbf{2N} + \mathbf{2413} \\
&(N \geq 2838)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2959}) &= B_{\bar{N}}(2N + 2959 - B_{\bar{N}}(2N + 2958)) + B_{\bar{N}}(2N + 2959 - B_{\bar{N}}(2N + 2957)) + B_{\bar{N}}(2N + 2959 - B_{\bar{N}}(2N + 2956)) \\
&= B_{\bar{N}}(2N + 2959 - (2N + 2413)) + B_{\bar{N}}(2N + 2959 - (N + 3170)) + B_{\bar{N}}(2N + 2959 - (2N + 120)) \\
&= B_{\bar{N}}(546) + B_{\bar{N}}(N - 211) + B_{\bar{N}}(2839) = 546 + (N - 211) + 2839 = \mathbf{N} + \mathbf{3174} \\
&(N \geq 2839)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2960}) &= B_{\bar{N}}(2N + 2960 - B_{\bar{N}}(2N + 2959)) + B_{\bar{N}}(2N + 2960 - B_{\bar{N}}(2N + 2958)) + B_{\bar{N}}(2N + 2960 - B_{\bar{N}}(2N + 2957)) \\
&= B_{\bar{N}}(2N + 2960 - (N + 3174)) + B_{\bar{N}}(2N + 2960 - (2N + 2413)) + B_{\bar{N}}(2N + 2960 - (N + 3170)) \\
&= B_{\bar{N}}(N - 214) + B_{\bar{N}}(547) + B_{\bar{N}}(N - 210) = (N - 214) + 547 + (N - 210) = \mathbf{2N} + \mathbf{123} \\
&(N \geq 547)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2961}) &= B_{\bar{N}}(2N + 2961 - B_{\bar{N}}(2N + 2960)) + B_{\bar{N}}(2N + 2961 - B_{\bar{N}}(2N + 2959)) + B_{\bar{N}}(2N + 2961 - B_{\bar{N}}(2N + 2958)) \\
&= B_{\bar{N}}(2N + 2961 - (2N + 123)) + B_{\bar{N}}(2N + 2961 - (N + 3174)) + B_{\bar{N}}(2N + 2961 - (2N + 2413)) \\
&= B_{\bar{N}}(2838) + B_{\bar{N}}(N - 213) + B_{\bar{N}}(548) = 2838 + (N - 213) + 548 = \mathbf{N} + \mathbf{3173} \\
&(N \geq 2838)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2962}) &= B_{\bar{N}}(2N + 2962 - B_{\bar{N}}(2N + 2961)) + B_{\bar{N}}(2N + 2962 - B_{\bar{N}}(2N + 2960)) + B_{\bar{N}}(2N + 2962 - B_{\bar{N}}(2N + 2959)) \\
&= B_{\bar{N}}(2N + 2962 - (N + 3173)) + B_{\bar{N}}(2N + 2962 - (2N + 123)) + B_{\bar{N}}(2N + 2962 - (N + 3174)) \\
&= B_{\bar{N}}(N - 211) + B_{\bar{N}}(2839) + B_{\bar{N}}(N - 212) = (N - 211) + 2839 + (N - 212) = \mathbf{2N} + \mathbf{2416} \\
&(N \geq 2839)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2963}) &= B_{\bar{N}}(2N + 2963 - B_{\bar{N}}(2N + 2962)) + B_{\bar{N}}(2N + 2963 - B_{\bar{N}}(2N + 2961)) + B_{\bar{N}}(2N + 2963 - B_{\bar{N}}(2N + 2960)) \\
&= B_{\bar{N}}(2N + 2963 - (2N + 2416)) + B_{\bar{N}}(2N + 2963 - (N + 3173)) + B_{\bar{N}}(2N + 2963 - (2N + 123)) \\
&= B_{\bar{N}}(547) + B_{\bar{N}}(N - 210) + B_{\bar{N}}(2840) = 547 + (N - 210) + 2840 = \mathbf{N} + \mathbf{3177} \\
&(N \geq 2840)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2964}) &= B_{\bar{N}}(2N + 2964 - B_{\bar{N}}(2N + 2963)) + B_{\bar{N}}(2N + 2964 - B_{\bar{N}}(2N + 2962)) + B_{\bar{N}}(2N + 2964 - B_{\bar{N}}(2N + 2961)) \\
&= B_{\bar{N}}(2N + 2964 - (N + 3177)) + B_{\bar{N}}(2N + 2964 - (2N + 2416)) + B_{\bar{N}}(2N + 2964 - (N + 3173)) \\
&= B_{\bar{N}}(N - 213) + B_{\bar{N}}(548) + B_{\bar{N}}(N - 209) = (N - 213) + 548 + (N - 209) = \mathbf{2N} + \mathbf{126} \\
&(N \geq 548)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2965}) &= B_{\bar{N}}(2N + 2965 - B_{\bar{N}}(2N + 2964)) + B_{\bar{N}}(2N + 2965 - B_{\bar{N}}(2N + 2963)) + B_{\bar{N}}(2N + 2965 - B_{\bar{N}}(2N + 2962)) \\
&= B_{\bar{N}}(2N + 2965 - (2N + 126)) + B_{\bar{N}}(2N + 2965 - (N + 3177)) + B_{\bar{N}}(2N + 2965 - (2N + 2416)) \\
&= B_{\bar{N}}(2839) + B_{\bar{N}}(N - 212) + B_{\bar{N}}(549) = 2839 + (N - 212) + 549 = \mathbf{N} + \mathbf{3176} \\
&(N \geq 2839)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2966}) &= B_{\bar{N}}(2N + 2966 - B_{\bar{N}}(2N + 2965)) + B_{\bar{N}}(2N + 2966 - B_{\bar{N}}(2N + 2964)) + B_{\bar{N}}(2N + 2966 - B_{\bar{N}}(2N + 2963)) \\
&= B_{\bar{N}}(2N + 2966 - (N + 3176)) + B_{\bar{N}}(2N + 2966 - (2N + 126)) + B_{\bar{N}}(2N + 2966 - (N + 3177)) \\
&= B_{\bar{N}}(N - 210) + B_{\bar{N}}(2840) + B_{\bar{N}}(N - 211) = (N - 210) + 2840 + (N - 211) = \mathbf{2N} + \mathbf{2419} \\
&(N \geq 2840)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2967}) &= B_{\bar{N}}(2N + 2967 - B_{\bar{N}}(2N + 2966)) + B_{\bar{N}}(2N + 2967 - B_{\bar{N}}(2N + 2965)) + B_{\bar{N}}(2N + 2967 - B_{\bar{N}}(2N + 2964)) \\
&= B_{\bar{N}}(2N + 2967 - (2N + 2419)) + B_{\bar{N}}(2N + 2967 - (N + 3176)) + B_{\bar{N}}(2N + 2967 - (2N + 126)) \\
&= B_{\bar{N}}(548) + B_{\bar{N}}(N - 209) + B_{\bar{N}}(2841) = 548 + (N - 209) + 2841 = \mathbf{N} + \mathbf{3180} \\
&(N \geq 2841)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2968}) &= B_{\bar{N}}(2N + 2968 - B_{\bar{N}}(2N + 2967)) + B_{\bar{N}}(2N + 2968 - B_{\bar{N}}(2N + 2966)) + B_{\bar{N}}(2N + 2968 - B_{\bar{N}}(2N + 2965)) \\
&= B_{\bar{N}}(2N + 2968 - (N + 3180)) + B_{\bar{N}}(2N + 2968 - (2N + 2419)) + B_{\bar{N}}(2N + 2968 - (N + 3176)) \\
&= B_{\bar{N}}(N - 212) + B_{\bar{N}}(549) + B_{\bar{N}}(N - 208) = (N - 212) + 549 + (N - 208) = \mathbf{2N} + \mathbf{129} \\
&(N \geq 549)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2969}) &= B_{\bar{N}}(2N + 2969 - B_{\bar{N}}(2N + 2968)) + B_{\bar{N}}(2N + 2969 - B_{\bar{N}}(2N + 2967)) + B_{\bar{N}}(2N + 2969 - B_{\bar{N}}(2N + 2966)) \\
&= B_{\bar{N}}(2N + 2969 - (2N + 129)) + B_{\bar{N}}(2N + 2969 - (N + 3180)) + B_{\bar{N}}(2N + 2969 - (2N + 2419)) \\
&= B_{\bar{N}}(2840) + B_{\bar{N}}(N - 211) + B_{\bar{N}}(550) = 2840 + (N - 211) + 550 = \mathbf{N} + \mathbf{3179} \\
&(N \geq 2840)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2970}) &= B_{\bar{N}}(2N + 2970 - B_{\bar{N}}(2N + 2969)) + B_{\bar{N}}(2N + 2970 - B_{\bar{N}}(2N + 2968)) + B_{\bar{N}}(2N + 2970 - B_{\bar{N}}(2N + 2967)) \\
&= B_{\bar{N}}(2N + 2970 - (N + 3179)) + B_{\bar{N}}(2N + 2970 - (2N + 129)) + B_{\bar{N}}(2N + 2970 - (N + 3180)) \\
&= B_{\bar{N}}(N - 209) + B_{\bar{N}}(2841) + B_{\bar{N}}(N - 210) = (N - 209) + 2841 + (N - 210) = \mathbf{2N} + \mathbf{2422} \\
&(N \geq 2841)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2971}) &= B_{\bar{N}}(2N + 2971 - B_{\bar{N}}(2N + 2970)) + B_{\bar{N}}(2N + 2971 - B_{\bar{N}}(2N + 2969)) + B_{\bar{N}}(2N + 2971 - B_{\bar{N}}(2N + 2968)) \\
&= B_{\bar{N}}(2N + 2971 - (2N + 2422)) + B_{\bar{N}}(2N + 2971 - (N + 3179)) + B_{\bar{N}}(2N + 2971 - (2N + 129)) \\
&= B_{\bar{N}}(549) + B_{\bar{N}}(N - 208) + B_{\bar{N}}(2842) = 549 + (N - 208) + 2842 = \mathbf{N} + \mathbf{3183} \\
&(N \geq 2842)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2972}) &= B_{\bar{N}}(2N + 2972 - B_{\bar{N}}(2N + 2971)) + B_{\bar{N}}(2N + 2972 - B_{\bar{N}}(2N + 2970)) + B_{\bar{N}}(2N + 2972 - B_{\bar{N}}(2N + 2969)) \\
&= B_{\bar{N}}(2N + 2972 - (N + 3183)) + B_{\bar{N}}(2N + 2972 - (2N + 2422)) + B_{\bar{N}}(2N + 2972 - (N + 3179)) \\
&= B_{\bar{N}}(N - 211) + B_{\bar{N}}(550) + B_{\bar{N}}(N - 207) = (N - 211) + 550 + (N - 207) = \mathbf{2N} + \mathbf{132} \\
&(N \geq 550)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2973}) &= B_{\bar{N}}(2N + 2973 - B_{\bar{N}}(2N + 2972)) + B_{\bar{N}}(2N + 2973 - B_{\bar{N}}(2N + 2971)) + B_{\bar{N}}(2N + 2973 - B_{\bar{N}}(2N + 2970)) \\
&= B_{\bar{N}}(2N + 2973 - (2N + 132)) + B_{\bar{N}}(2N + 2973 - (N + 3183)) + B_{\bar{N}}(2N + 2973 - (2N + 2422)) \\
&= B_{\bar{N}}(2841) + B_{\bar{N}}(N - 210) + B_{\bar{N}}(551) = 2841 + (N - 210) + 551 = \mathbf{N} + \mathbf{3182} \\
&(N \geq 2841)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2974}) &= B_{\bar{N}}(2N + 2974 - B_{\bar{N}}(2N + 2973)) + B_{\bar{N}}(2N + 2974 - B_{\bar{N}}(2N + 2972)) + B_{\bar{N}}(2N + 2974 - B_{\bar{N}}(2N + 2971)) \\
&= B_{\bar{N}}(2N + 2974 - (N + 3182)) + B_{\bar{N}}(2N + 2974 - (2N + 132)) + B_{\bar{N}}(2N + 2974 - (N + 3183)) \\
&= B_{\bar{N}}(N - 208) + B_{\bar{N}}(2842) + B_{\bar{N}}(N - 209) = (N - 208) + 2842 + (N - 209) = \mathbf{2N} + \mathbf{2425} \\
&(N \geq 2842)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2975}) &= B_{\bar{N}}(2N + 2975 - B_{\bar{N}}(2N + 2974)) + B_{\bar{N}}(2N + 2975 - B_{\bar{N}}(2N + 2973)) + B_{\bar{N}}(2N + 2975 - B_{\bar{N}}(2N + 2972)) \\
&= B_{\bar{N}}(2N + 2975 - (2N + 2425)) + B_{\bar{N}}(2N + 2975 - (N + 3182)) + B_{\bar{N}}(2N + 2975 - (2N + 132)) \\
&= B_{\bar{N}}(550) + B_{\bar{N}}(N - 207) + B_{\bar{N}}(2843) = 550 + (N - 207) + 2843 = \mathbf{N} + \mathbf{3186} \\
&(N \geq 2843)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2976}) &= B_{\bar{N}}(2N + 2976 - B_{\bar{N}}(2N + 2975)) + B_{\bar{N}}(2N + 2976 - B_{\bar{N}}(2N + 2974)) + B_{\bar{N}}(2N + 2976 - B_{\bar{N}}(2N + 2973)) \\
&= B_{\bar{N}}(2N + 2976 - (N + 3186)) + B_{\bar{N}}(2N + 2976 - (2N + 2425)) + B_{\bar{N}}(2N + 2976 - (N + 3182)) \\
&= B_{\bar{N}}(N - 210) + B_{\bar{N}}(551) + B_{\bar{N}}(N - 206) = (N - 210) + 551 + (N - 206) = \mathbf{2N} + \mathbf{135} \\
&(N \geq 551)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2977}) &= B_{\bar{N}}(2N + 2977 - B_{\bar{N}}(2N + 2976)) + B_{\bar{N}}(2N + 2977 - B_{\bar{N}}(2N + 2975)) + B_{\bar{N}}(2N + 2977 - B_{\bar{N}}(2N + 2974)) \\
&= B_{\bar{N}}(2N + 2977 - (2N + 135)) + B_{\bar{N}}(2N + 2977 - (N + 3186)) + B_{\bar{N}}(2N + 2977 - (2N + 2425)) \\
&= B_{\bar{N}}(2842) + B_{\bar{N}}(N - 209) + B_{\bar{N}}(552) = 2842 + (N - 209) + 552 = \mathbf{N} + \mathbf{3185} \\
&(N \geq 2842)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2978}) &= B_{\bar{N}}(2N + 2978 - B_{\bar{N}}(2N + 2977)) + B_{\bar{N}}(2N + 2978 - B_{\bar{N}}(2N + 2976)) + B_{\bar{N}}(2N + 2978 - B_{\bar{N}}(2N + 2975)) \\
&= B_{\bar{N}}(2N + 2978 - (N + 3185)) + B_{\bar{N}}(2N + 2978 - (2N + 135)) + B_{\bar{N}}(2N + 2978 - (N + 3186)) \\
&= B_{\bar{N}}(N - 207) + B_{\bar{N}}(2843) + B_{\bar{N}}(N - 208) = (N - 207) + 2843 + (N - 208) = \mathbf{2N} + \mathbf{2428} \\
&(N \geq 2843)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2979}) &= B_{\bar{N}}(2N + 2979 - B_{\bar{N}}(2N + 2978)) + B_{\bar{N}}(2N + 2979 - B_{\bar{N}}(2N + 2977)) + B_{\bar{N}}(2N + 2979 - B_{\bar{N}}(2N + 2976)) \\
&= B_{\bar{N}}(2N + 2979 - (2N + 2428)) + B_{\bar{N}}(2N + 2979 - (N + 3185)) + B_{\bar{N}}(2N + 2979 - (2N + 135)) \\
&= B_{\bar{N}}(551) + B_{\bar{N}}(N - 206) + B_{\bar{N}}(2844) = 551 + (N - 206) + 2844 = \mathbf{N} + \mathbf{3189} \\
&(N \geq 2844)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2980}) &= B_{\bar{N}}(2N + 2980 - B_{\bar{N}}(2N + 2979)) + B_{\bar{N}}(2N + 2980 - B_{\bar{N}}(2N + 2978)) + B_{\bar{N}}(2N + 2980 - B_{\bar{N}}(2N + 2977)) \\
&= B_{\bar{N}}(2N + 2980 - (N + 3189)) + B_{\bar{N}}(2N + 2980 - (2N + 2428)) + B_{\bar{N}}(2N + 2980 - (N + 3185)) \\
&= B_{\bar{N}}(N - 209) + B_{\bar{N}}(552) + B_{\bar{N}}(N - 205) = (N - 209) + 552 + (N - 205) = \mathbf{2N} + \mathbf{138} \\
&(N \geq 552)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2981}) &= B_{\bar{N}}(2N + 2981 - B_{\bar{N}}(2N + 2980)) + B_{\bar{N}}(2N + 2981 - B_{\bar{N}}(2N + 2979)) + B_{\bar{N}}(2N + 2981 - B_{\bar{N}}(2N + 2978)) \\
&= B_{\bar{N}}(2N + 2981 - (2N + 138)) + B_{\bar{N}}(2N + 2981 - (N + 3189)) + B_{\bar{N}}(2N + 2981 - (2N + 2428)) \\
&= B_{\bar{N}}(2843) + B_{\bar{N}}(N - 208) + B_{\bar{N}}(553) = 2843 + (N - 208) + 553 = \mathbf{N} + \mathbf{3188} \\
&(N \geq 2843)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2982}) &= B_{\bar{N}}(2N + 2982 - B_{\bar{N}}(2N + 2981)) + B_{\bar{N}}(2N + 2982 - B_{\bar{N}}(2N + 2980)) + B_{\bar{N}}(2N + 2982 - B_{\bar{N}}(2N + 2979)) \\
&= B_{\bar{N}}(2N + 2982 - (N + 3188)) + B_{\bar{N}}(2N + 2982 - (2N + 138)) + B_{\bar{N}}(2N + 2982 - (N + 3189)) \\
&= B_{\bar{N}}(N - 206) + B_{\bar{N}}(2844) + B_{\bar{N}}(N - 207) = (N - 206) + 2844 + (N - 207) = \mathbf{2N} + \mathbf{2431} \\
&(N \geq 2844)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2983}) &= B_{\bar{N}}(2N + 2983 - B_{\bar{N}}(2N + 2982)) + B_{\bar{N}}(2N + 2983 - B_{\bar{N}}(2N + 2981)) + B_{\bar{N}}(2N + 2983 - B_{\bar{N}}(2N + 2980)) \\
&= B_{\bar{N}}(2N + 2983 - (2N + 2431)) + B_{\bar{N}}(2N + 2983 - (N + 3188)) + B_{\bar{N}}(2N + 2983 - (2N + 138)) \\
&= B_{\bar{N}}(552) + B_{\bar{N}}(N - 205) + B_{\bar{N}}(2845) = 552 + (N - 205) + 2845 = \mathbf{N} + \mathbf{3192} \\
&(N \geq 2845)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2984}) &= B_{\bar{N}}(2N + 2984 - B_{\bar{N}}(2N + 2983)) + B_{\bar{N}}(2N + 2984 - B_{\bar{N}}(2N + 2982)) + B_{\bar{N}}(2N + 2984 - B_{\bar{N}}(2N + 2981)) \\
&= B_{\bar{N}}(2N + 2984 - (N + 3192)) + B_{\bar{N}}(2N + 2984 - (2N + 2431)) + B_{\bar{N}}(2N + 2984 - (N + 3188)) \\
&= B_{\bar{N}}(N - 208) + B_{\bar{N}}(553) + B_{\bar{N}}(N - 204) = (N - 208) + 553 + (N - 204) = \mathbf{2N} + \mathbf{141} \\
&(N \geq 553)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2985}) &= B_{\bar{N}}(2N + 2985 - B_{\bar{N}}(2N + 2984)) + B_{\bar{N}}(2N + 2985 - B_{\bar{N}}(2N + 2983)) + B_{\bar{N}}(2N + 2985 - B_{\bar{N}}(2N + 2982)) \\
&= B_{\bar{N}}(2N + 2985 - (2N + 141)) + B_{\bar{N}}(2N + 2985 - (N + 3192)) + B_{\bar{N}}(2N + 2985 - (2N + 2431)) \\
&= B_{\bar{N}}(2844) + B_{\bar{N}}(N - 207) + B_{\bar{N}}(554) = 2844 + (N - 207) + 554 = \mathbf{N} + \mathbf{3191} \\
&(N \geq 2844)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2986}) &= B_{\bar{N}}(2N + 2986 - B_{\bar{N}}(2N + 2985)) + B_{\bar{N}}(2N + 2986 - B_{\bar{N}}(2N + 2984)) + B_{\bar{N}}(2N + 2986 - B_{\bar{N}}(2N + 2983)) \\
&= B_{\bar{N}}(2N + 2986 - (N + 3191)) + B_{\bar{N}}(2N + 2986 - (2N + 141)) + B_{\bar{N}}(2N + 2986 - (N + 3192)) \\
&= B_{\bar{N}}(N - 205) + B_{\bar{N}}(2845) + B_{\bar{N}}(N - 206) = (N - 205) + 2845 + (N - 206) = \mathbf{2N} + \mathbf{2434} \\
&(N \geq 2845)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2987}) &= B_{\bar{N}}(2N + 2987 - B_{\bar{N}}(2N + 2986)) + B_{\bar{N}}(2N + 2987 - B_{\bar{N}}(2N + 2985)) + B_{\bar{N}}(2N + 2987 - B_{\bar{N}}(2N + 2984)) \\
&= B_{\bar{N}}(2N + 2987 - (2N + 2434)) + B_{\bar{N}}(2N + 2987 - (N + 3191)) + B_{\bar{N}}(2N + 2987 - (2N + 141)) \\
&= B_{\bar{N}}(553) + B_{\bar{N}}(N - 204) + B_{\bar{N}}(2846) = 553 + (N - 204) + 2846 = \mathbf{N} + \mathbf{3195} \\
&(N \geq 2846)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2988}) &= B_{\bar{N}}(2N + 2988 - B_{\bar{N}}(2N + 2987)) + B_{\bar{N}}(2N + 2988 - B_{\bar{N}}(2N + 2986)) + B_{\bar{N}}(2N + 2988 - B_{\bar{N}}(2N + 2985)) \\
&= B_{\bar{N}}(2N + 2988 - (N + 3195)) + B_{\bar{N}}(2N + 2988 - (2N + 2434)) + B_{\bar{N}}(2N + 2988 - (N + 3191)) \\
&= B_{\bar{N}}(N - 207) + B_{\bar{N}}(554) + B_{\bar{N}}(N - 203) = (N - 207) + 554 + (N - 203) = \mathbf{2N} + \mathbf{144} \\
&(N \geq 554)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2989}) &= B_{\bar{N}}(2N + 2989 - B_{\bar{N}}(2N + 2988)) + B_{\bar{N}}(2N + 2989 - B_{\bar{N}}(2N + 2987)) + B_{\bar{N}}(2N + 2989 - B_{\bar{N}}(2N + 2986)) \\
&= B_{\bar{N}}(2N + 2989 - (2N + 144)) + B_{\bar{N}}(2N + 2989 - (N + 3195)) + B_{\bar{N}}(2N + 2989 - (2N + 2434)) \\
&= B_{\bar{N}}(2845) + B_{\bar{N}}(N - 206) + B_{\bar{N}}(555) = 2845 + (N - 206) + 555 = \mathbf{N} + \mathbf{3194} \\
&(N \geq 2845)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2990}) &= B_{\bar{N}}(2N + 2990 - B_{\bar{N}}(2N + 2989)) + B_{\bar{N}}(2N + 2990 - B_{\bar{N}}(2N + 2988)) + B_{\bar{N}}(2N + 2990 - B_{\bar{N}}(2N + 2987)) \\
&= B_{\bar{N}}(2N + 2990 - (N + 3194)) + B_{\bar{N}}(2N + 2990 - (2N + 144)) + B_{\bar{N}}(2N + 2990 - (N + 3195)) \\
&= B_{\bar{N}}(N - 204) + B_{\bar{N}}(2846) + B_{\bar{N}}(N - 205) = (N - 204) + 2846 + (N - 205) = \mathbf{2N} + \mathbf{2437} \\
&(N \geq 2846)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2991}) &= B_{\bar{N}}(2N + 2991 - B_{\bar{N}}(2N + 2990)) + B_{\bar{N}}(2N + 2991 - B_{\bar{N}}(2N + 2989)) + B_{\bar{N}}(2N + 2991 - B_{\bar{N}}(2N + 2988)) \\
&= B_{\bar{N}}(2N + 2991 - (2N + 2437)) + B_{\bar{N}}(2N + 2991 - (N + 3194)) + B_{\bar{N}}(2N + 2991 - (2N + 144)) \\
&= B_{\bar{N}}(554) + B_{\bar{N}}(N - 203) + B_{\bar{N}}(2847) = 554 + (N - 203) + 2847 = \mathbf{N} + \mathbf{3198} \\
&(N \geq 2847)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2992}) &= B_{\bar{N}}(2N + 2992 - B_{\bar{N}}(2N + 2991)) + B_{\bar{N}}(2N + 2992 - B_{\bar{N}}(2N + 2990)) + B_{\bar{N}}(2N + 2992 - B_{\bar{N}}(2N + 2989)) \\
&= B_{\bar{N}}(2N + 2992 - (N + 3198)) + B_{\bar{N}}(2N + 2992 - (2N + 2437)) + B_{\bar{N}}(2N + 2992 - (N + 3194)) \\
&= B_{\bar{N}}(N - 206) + B_{\bar{N}}(555) + B_{\bar{N}}(N - 202) = (N - 206) + 555 + (N - 202) = \mathbf{2N} + \mathbf{147} \\
&(N \geq 555)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2993}) &= B_{\bar{N}}(2N + 2993 - B_{\bar{N}}(2N + 2992)) + B_{\bar{N}}(2N + 2993 - B_{\bar{N}}(2N + 2991)) + B_{\bar{N}}(2N + 2993 - B_{\bar{N}}(2N + 2990)) \\
&= B_{\bar{N}}(2N + 2993 - (2N + 147)) + B_{\bar{N}}(2N + 2993 - (N + 3198)) + B_{\bar{N}}(2N + 2993 - (2N + 2437)) \\
&= B_{\bar{N}}(2846) + B_{\bar{N}}(N - 205) + B_{\bar{N}}(556) = 2846 + (N - 205) + 556 = \mathbf{N} + \mathbf{3197} \\
&(N \geq 2846)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2994}) &= B_{\bar{N}}(2N + 2994 - B_{\bar{N}}(2N + 2993)) + B_{\bar{N}}(2N + 2994 - B_{\bar{N}}(2N + 2992)) + B_{\bar{N}}(2N + 2994 - B_{\bar{N}}(2N + 2991)) \\
&= B_{\bar{N}}(2N + 2994 - (N + 3197)) + B_{\bar{N}}(2N + 2994 - (2N + 147)) + B_{\bar{N}}(2N + 2994 - (N + 3198)) \\
&= B_{\bar{N}}(N - 203) + B_{\bar{N}}(2847) + B_{\bar{N}}(N - 204) = (N - 203) + 2847 + (N - 204) = \mathbf{2N} + \mathbf{2440} \\
&(N \geq 2847)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2995}) &= B_{\bar{N}}(2N + 2995 - B_{\bar{N}}(2N + 2994)) + B_{\bar{N}}(2N + 2995 - B_{\bar{N}}(2N + 2993)) + B_{\bar{N}}(2N + 2995 - B_{\bar{N}}(2N + 2992)) \\
&= B_{\bar{N}}(2N + 2995 - (2N + 2440)) + B_{\bar{N}}(2N + 2995 - (N + 3197)) + B_{\bar{N}}(2N + 2995 - (2N + 147)) \\
&= B_{\bar{N}}(555) + B_{\bar{N}}(N - 202) + B_{\bar{N}}(2848) = 555 + (N - 202) + 2848 = \mathbf{N} + \mathbf{3201} \\
&(N \geq 2848)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2996}) &= B_{\bar{N}}(2N + 2996 - B_{\bar{N}}(2N + 2995)) + B_{\bar{N}}(2N + 2996 - B_{\bar{N}}(2N + 2994)) + B_{\bar{N}}(2N + 2996 - B_{\bar{N}}(2N + 2993)) \\
&= B_{\bar{N}}(2N + 2996 - (N + 3201)) + B_{\bar{N}}(2N + 2996 - (2N + 2440)) + B_{\bar{N}}(2N + 2996 - (N + 3197)) \\
&= B_{\bar{N}}(N - 205) + B_{\bar{N}}(556) + B_{\bar{N}}(N - 201) = (N - 205) + 556 + (N - 201) = \mathbf{2N} + \mathbf{150} \\
&(N \geq 556)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2997}) &= B_{\bar{N}}(2N + 2997 - B_{\bar{N}}(2N + 2996)) + B_{\bar{N}}(2N + 2997 - B_{\bar{N}}(2N + 2995)) + B_{\bar{N}}(2N + 2997 - B_{\bar{N}}(2N + 2994)) \\
&= B_{\bar{N}}(2N + 2997 - (2N + 150)) + B_{\bar{N}}(2N + 2997 - (N + 3201)) + B_{\bar{N}}(2N + 2997 - (2N + 2440)) \\
&= B_{\bar{N}}(2847) + B_{\bar{N}}(N - 204) + B_{\bar{N}}(557) = 2847 + (N - 204) + 557 = \mathbf{N} + \mathbf{3200} \\
&(N \geq 2847)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2998}) &= B_{\bar{N}}(2N + 2998 - B_{\bar{N}}(2N + 2997)) + B_{\bar{N}}(2N + 2998 - B_{\bar{N}}(2N + 2996)) + B_{\bar{N}}(2N + 2998 - B_{\bar{N}}(2N + 2995)) \\
&= B_{\bar{N}}(2N + 2998 - (N + 3200)) + B_{\bar{N}}(2N + 2998 - (2N + 150)) + B_{\bar{N}}(2N + 2998 - (N + 3201)) \\
&= B_{\bar{N}}(N - 202) + B_{\bar{N}}(2848) + B_{\bar{N}}(N - 203) = (N - 202) + 2848 + (N - 203) = \mathbf{2N} + \mathbf{2443} \\
&(N \geq 2848)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{2999}) &= B_{\bar{N}}(2N + 2999 - B_{\bar{N}}(2N + 2998)) + B_{\bar{N}}(2N + 2999 - B_{\bar{N}}(2N + 2997)) + B_{\bar{N}}(2N + 2999 - B_{\bar{N}}(2N + 2996)) \\
&= B_{\bar{N}}(2N + 2999 - (2N + 2443)) + B_{\bar{N}}(2N + 2999 - (N + 3200)) + B_{\bar{N}}(2N + 2999 - (2N + 150)) \\
&= B_{\bar{N}}(556) + B_{\bar{N}}(N - 201) + B_{\bar{N}}(2849) = 556 + (N - 201) + 2849 = \mathbf{N} + \mathbf{3204} \\
&(N \geq 2849)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3000}) &= B_{\bar{N}}(2N + 3000 - B_{\bar{N}}(2N + 2999)) + B_{\bar{N}}(2N + 3000 - B_{\bar{N}}(2N + 2998)) + B_{\bar{N}}(2N + 3000 - B_{\bar{N}}(2N + 2997)) \\
&= B_{\bar{N}}(2N + 3000 - (N + 3204)) + B_{\bar{N}}(2N + 3000 - (2N + 2443)) + B_{\bar{N}}(2N + 3000 - (N + 3200)) \\
&= B_{\bar{N}}(N - 204) + B_{\bar{N}}(557) + B_{\bar{N}}(N - 200) = (N - 204) + 557 + (N - 200) = \mathbf{2N} + \mathbf{153} \\
&(N \geq 557)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3001}) &= B_{\bar{N}}(2N + 3001 - B_{\bar{N}}(2N + 3000)) + B_{\bar{N}}(2N + 3001 - B_{\bar{N}}(2N + 2999)) + B_{\bar{N}}(2N + 3001 - B_{\bar{N}}(2N + 2998)) \\
&= B_{\bar{N}}(2N + 3001 - (2N + 153)) + B_{\bar{N}}(2N + 3001 - (N + 3204)) + B_{\bar{N}}(2N + 3001 - (2N + 2443)) \\
&= B_{\bar{N}}(2848) + B_{\bar{N}}(N - 203) + B_{\bar{N}}(558) = 2848 + (N - 203) + 558 = \mathbf{N} + \mathbf{3203} \\
&(N \geq 2848)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3002}) &= B_{\bar{N}}(2N + 3002 - B_{\bar{N}}(2N + 3001)) + B_{\bar{N}}(2N + 3002 - B_{\bar{N}}(2N + 3000)) + B_{\bar{N}}(2N + 3002 - B_{\bar{N}}(2N + 2999)) \\
&= B_{\bar{N}}(2N + 3002 - (N + 3203)) + B_{\bar{N}}(2N + 3002 - (2N + 153)) + B_{\bar{N}}(2N + 3002 - (N + 3204)) \\
&= B_{\bar{N}}(N - 201) + B_{\bar{N}}(2849) + B_{\bar{N}}(N - 202) = (N - 201) + 2849 + (N - 202) = \mathbf{2N} + \mathbf{2446} \\
&(N \geq 2849)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3003}) &= B_{\bar{N}}(2N + 3003 - B_{\bar{N}}(2N + 3002)) + B_{\bar{N}}(2N + 3003 - B_{\bar{N}}(2N + 3001)) + B_{\bar{N}}(2N + 3003 - B_{\bar{N}}(2N + 3000)) \\
&= B_{\bar{N}}(2N + 3003 - (2N + 2446)) + B_{\bar{N}}(2N + 3003 - (N + 3203)) + B_{\bar{N}}(2N + 3003 - (2N + 153)) \\
&= B_{\bar{N}}(557) + B_{\bar{N}}(N - 200) + B_{\bar{N}}(2850) = 557 + (N - 200) + 2850 = \mathbf{N} + \mathbf{3207} \\
&(N \geq 2850)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3004}) &= B_{\bar{N}}(2N + 3004 - B_{\bar{N}}(2N + 3003)) + B_{\bar{N}}(2N + 3004 - B_{\bar{N}}(2N + 3002)) + B_{\bar{N}}(2N + 3004 - B_{\bar{N}}(2N + 3001)) \\
&= B_{\bar{N}}(2N + 3004 - (N + 3207)) + B_{\bar{N}}(2N + 3004 - (2N + 2446)) + B_{\bar{N}}(2N + 3004 - (N + 3203)) \\
&= B_{\bar{N}}(N - 203) + B_{\bar{N}}(558) + B_{\bar{N}}(N - 199) = (N - 203) + 558 + (N - 199) = \mathbf{2N} + \mathbf{156} \\
&(N \geq 558)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3005}) &= B_{\bar{N}}(2N + 3005 - B_{\bar{N}}(2N + 3004)) + B_{\bar{N}}(2N + 3005 - B_{\bar{N}}(2N + 3003)) + B_{\bar{N}}(2N + 3005 - B_{\bar{N}}(2N + 3002)) \\
&= B_{\bar{N}}(2N + 3005 - (2N + 156)) + B_{\bar{N}}(2N + 3005 - (N + 3207)) + B_{\bar{N}}(2N + 3005 - (2N + 2446)) \\
&= B_{\bar{N}}(2849) + B_{\bar{N}}(N - 202) + B_{\bar{N}}(559) = 2849 + (N - 202) + 559 = \mathbf{N} + \mathbf{3206} \\
&(N \geq 2849)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3006}) &= B_{\bar{N}}(2N + 3006 - B_{\bar{N}}(2N + 3005)) + B_{\bar{N}}(2N + 3006 - B_{\bar{N}}(2N + 3004)) + B_{\bar{N}}(2N + 3006 - B_{\bar{N}}(2N + 3003)) \\
&= B_{\bar{N}}(2N + 3006 - (N + 3206)) + B_{\bar{N}}(2N + 3006 - (2N + 156)) + B_{\bar{N}}(2N + 3006 - (N + 3207)) \\
&= B_{\bar{N}}(N - 200) + B_{\bar{N}}(2850) + B_{\bar{N}}(N - 201) = (N - 200) + 2850 + (N - 201) = \mathbf{2N} + \mathbf{2449} \\
&(N \geq 2850)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3007}) &= B_{\bar{N}}(2N + 3007 - B_{\bar{N}}(2N + 3006)) + B_{\bar{N}}(2N + 3007 - B_{\bar{N}}(2N + 3005)) + B_{\bar{N}}(2N + 3007 - B_{\bar{N}}(2N + 3004)) \\
&= B_{\bar{N}}(2N + 3007 - (2N + 2449)) + B_{\bar{N}}(2N + 3007 - (N + 3206)) + B_{\bar{N}}(2N + 3007 - (2N + 156)) \\
&= B_{\bar{N}}(558) + B_{\bar{N}}(N - 199) + B_{\bar{N}}(2851) = 558 + (N - 199) + 2851 = \mathbf{N} + \mathbf{3210} \\
&(N \geq 2851)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3008}) &= B_{\bar{N}}(2N + 3008 - B_{\bar{N}}(2N + 3007)) + B_{\bar{N}}(2N + 3008 - B_{\bar{N}}(2N + 3006)) + B_{\bar{N}}(2N + 3008 - B_{\bar{N}}(2N + 3005)) \\
&= B_{\bar{N}}(2N + 3008 - (N + 3210)) + B_{\bar{N}}(2N + 3008 - (2N + 2449)) + B_{\bar{N}}(2N + 3008 - (N + 3206)) \\
&= B_{\bar{N}}(N - 202) + B_{\bar{N}}(559) + B_{\bar{N}}(N - 198) = (N - 202) + 559 + (N - 198) = \mathbf{2N} + \mathbf{159} \\
&(N \geq 559)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3009}) &= B_{\bar{N}}(2N + 3009 - B_{\bar{N}}(2N + 3008)) + B_{\bar{N}}(2N + 3009 - B_{\bar{N}}(2N + 3007)) + B_{\bar{N}}(2N + 3009 - B_{\bar{N}}(2N + 3006)) \\
&= B_{\bar{N}}(2N + 3009 - (2N + 159)) + B_{\bar{N}}(2N + 3009 - (N + 3210)) + B_{\bar{N}}(2N + 3009 - (2N + 2449)) \\
&= B_{\bar{N}}(2850) + B_{\bar{N}}(N - 201) + B_{\bar{N}}(560) = 2850 + (N - 201) + 560 = \mathbf{N} + \mathbf{3209} \\
&(N \geq 2850)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3010}) &= B_{\bar{N}}(2N + 3010 - B_{\bar{N}}(2N + 3009)) + B_{\bar{N}}(2N + 3010 - B_{\bar{N}}(2N + 3008)) + B_{\bar{N}}(2N + 3010 - B_{\bar{N}}(2N + 3007)) \\
&= B_{\bar{N}}(2N + 3010 - (N + 3209)) + B_{\bar{N}}(2N + 3010 - (2N + 159)) + B_{\bar{N}}(2N + 3010 - (N + 3210)) \\
&= B_{\bar{N}}(N - 199) + B_{\bar{N}}(2851) + B_{\bar{N}}(N - 200) = (N - 199) + 2851 + (N - 200) = \mathbf{2N} + \mathbf{2452} \\
&(N \geq 2851)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3011}) &= B_{\bar{N}}(2N + 3011 - B_{\bar{N}}(2N + 3010)) + B_{\bar{N}}(2N + 3011 - B_{\bar{N}}(2N + 3009)) + B_{\bar{N}}(2N + 3011 - B_{\bar{N}}(2N + 3008)) \\
&= B_{\bar{N}}(2N + 3011 - (2N + 2452)) + B_{\bar{N}}(2N + 3011 - (N + 3209)) + B_{\bar{N}}(2N + 3011 - (2N + 159)) \\
&= B_{\bar{N}}(559) + B_{\bar{N}}(N - 198) + B_{\bar{N}}(2852) = 559 + (N - 198) + 2852 = \mathbf{N} + \mathbf{3213} \\
&(N \geq 2852)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3012}) &= B_{\bar{N}}(2N + 3012 - B_{\bar{N}}(2N + 3011)) + B_{\bar{N}}(2N + 3012 - B_{\bar{N}}(2N + 3010)) + B_{\bar{N}}(2N + 3012 - B_{\bar{N}}(2N + 3009)) \\
&= B_{\bar{N}}(2N + 3012 - (N + 3213)) + B_{\bar{N}}(2N + 3012 - (2N + 2452)) + B_{\bar{N}}(2N + 3012 - (N + 3209)) \\
&= B_{\bar{N}}(N - 201) + B_{\bar{N}}(560) + B_{\bar{N}}(N - 197) = (N - 201) + 560 + (N - 197) = \mathbf{2N} + \mathbf{162} \\
&(N \geq 560)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3013}) &= B_{\bar{N}}(2N + 3013 - B_{\bar{N}}(2N + 3012)) + B_{\bar{N}}(2N + 3013 - B_{\bar{N}}(2N + 3011)) + B_{\bar{N}}(2N + 3013 - B_{\bar{N}}(2N + 3010)) \\
&= B_{\bar{N}}(2N + 3013 - (2N + 162)) + B_{\bar{N}}(2N + 3013 - (N + 3213)) + B_{\bar{N}}(2N + 3013 - (2N + 2452)) \\
&= B_{\bar{N}}(2851) + B_{\bar{N}}(N - 200) + B_{\bar{N}}(561) = 2851 + (N - 200) + 561 = \mathbf{N} + \mathbf{3212} \\
&(N \geq 2851)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3014}) &= B_{\bar{N}}(2N + 3014 - B_{\bar{N}}(2N + 3013)) + B_{\bar{N}}(2N + 3014 - B_{\bar{N}}(2N + 3012)) + B_{\bar{N}}(2N + 3014 - B_{\bar{N}}(2N + 3011)) \\
&= B_{\bar{N}}(2N + 3014 - (N + 3212)) + B_{\bar{N}}(2N + 3014 - (2N + 162)) + B_{\bar{N}}(2N + 3014 - (N + 3213)) \\
&= B_{\bar{N}}(N - 198) + B_{\bar{N}}(2852) + B_{\bar{N}}(N - 199) = (N - 198) + 2852 + (N - 199) = \mathbf{2N} + \mathbf{2455} \\
&(N \geq 2852)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3015}) &= B_{\bar{N}}(2N + 3015 - B_{\bar{N}}(2N + 3014)) + B_{\bar{N}}(2N + 3015 - B_{\bar{N}}(2N + 3013)) + B_{\bar{N}}(2N + 3015 - B_{\bar{N}}(2N + 3012)) \\
&= B_{\bar{N}}(2N + 3015 - (2N + 2455)) + B_{\bar{N}}(2N + 3015 - (N + 3212)) + B_{\bar{N}}(2N + 3015 - (2N + 162)) \\
&= B_{\bar{N}}(560) + B_{\bar{N}}(N - 197) + B_{\bar{N}}(2853) = 560 + (N - 197) + 2853 = \mathbf{N} + \mathbf{3216} \\
&(N \geq 2853)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3016}) &= B_{\bar{N}}(2N + 3016 - B_{\bar{N}}(2N + 3015)) + B_{\bar{N}}(2N + 3016 - B_{\bar{N}}(2N + 3014)) + B_{\bar{N}}(2N + 3016 - B_{\bar{N}}(2N + 3013)) \\
&= B_{\bar{N}}(2N + 3016 - (N + 3216)) + B_{\bar{N}}(2N + 3016 - (2N + 2455)) + B_{\bar{N}}(2N + 3016 - (N + 3212)) \\
&= B_{\bar{N}}(N - 200) + B_{\bar{N}}(561) + B_{\bar{N}}(N - 196) = (N - 200) + 561 + (N - 196) = \mathbf{2N} + \mathbf{165} \\
&(N \geq 561)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3017}) &= B_{\bar{N}}(2N + 3017 - B_{\bar{N}}(2N + 3016)) + B_{\bar{N}}(2N + 3017 - B_{\bar{N}}(2N + 3015)) + B_{\bar{N}}(2N + 3017 - B_{\bar{N}}(2N + 3014)) \\
&= B_{\bar{N}}(2N + 3017 - (2N + 165)) + B_{\bar{N}}(2N + 3017 - (N + 3216)) + B_{\bar{N}}(2N + 3017 - (2N + 2455)) \\
&= B_{\bar{N}}(2852) + B_{\bar{N}}(N - 199) + B_{\bar{N}}(562) = 2852 + (N - 199) + 562 = \mathbf{N} + \mathbf{3215} \\
&(N \geq 2852)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3018}) &= B_{\bar{N}}(2N + 3018 - B_{\bar{N}}(2N + 3017)) + B_{\bar{N}}(2N + 3018 - B_{\bar{N}}(2N + 3016)) + B_{\bar{N}}(2N + 3018 - B_{\bar{N}}(2N + 3015)) \\
&= B_{\bar{N}}(2N + 3018 - (N + 3215)) + B_{\bar{N}}(2N + 3018 - (2N + 165)) + B_{\bar{N}}(2N + 3018 - (N + 3216)) \\
&= B_{\bar{N}}(N - 197) + B_{\bar{N}}(2853) + B_{\bar{N}}(N - 198) = (N - 197) + 2853 + (N - 198) = \mathbf{2N} + \mathbf{2458} \\
&(N \geq 2853)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3019}) &= B_{\bar{N}}(2N + 3019 - B_{\bar{N}}(2N + 3018)) + B_{\bar{N}}(2N + 3019 - B_{\bar{N}}(2N + 3017)) + B_{\bar{N}}(2N + 3019 - B_{\bar{N}}(2N + 3016)) \\
&= B_{\bar{N}}(2N + 3019 - (2N + 2458)) + B_{\bar{N}}(2N + 3019 - (N + 3215)) + B_{\bar{N}}(2N + 3019 - (2N + 165)) \\
&= B_{\bar{N}}(561) + B_{\bar{N}}(N - 196) + B_{\bar{N}}(2854) = 561 + (N - 196) + 2854 = \mathbf{N} + \mathbf{3219} \\
&(N \geq 2854)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3020}) &= B_{\bar{N}}(2N + 3020 - B_{\bar{N}}(2N + 3019)) + B_{\bar{N}}(2N + 3020 - B_{\bar{N}}(2N + 3018)) + B_{\bar{N}}(2N + 3020 - B_{\bar{N}}(2N + 3017)) \\
&= B_{\bar{N}}(2N + 3020 - (N + 3219)) + B_{\bar{N}}(2N + 3020 - (2N + 2458)) + B_{\bar{N}}(2N + 3020 - (N + 3215)) \\
&= B_{\bar{N}}(N - 199) + B_{\bar{N}}(562) + B_{\bar{N}}(N - 195) = (N - 199) + 562 + (N - 195) = \mathbf{2N} + \mathbf{168} \\
&(N \geq 562)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3021}) &= B_{\bar{N}}(2N + 3021 - B_{\bar{N}}(2N + 3020)) + B_{\bar{N}}(2N + 3021 - B_{\bar{N}}(2N + 3019)) + B_{\bar{N}}(2N + 3021 - B_{\bar{N}}(2N + 3018)) \\
&= B_{\bar{N}}(2N + 3021 - (2N + 168)) + B_{\bar{N}}(2N + 3021 - (N + 3219)) + B_{\bar{N}}(2N + 3021 - (2N + 2458)) \\
&= B_{\bar{N}}(2853) + B_{\bar{N}}(N - 198) + B_{\bar{N}}(563) = 2853 + (N - 198) + 563 = \mathbf{N} + \mathbf{3218} \\
&(N \geq 2853)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3022}) &= B_{\bar{N}}(2N + 3022 - B_{\bar{N}}(2N + 3021)) + B_{\bar{N}}(2N + 3022 - B_{\bar{N}}(2N + 3020)) + B_{\bar{N}}(2N + 3022 - B_{\bar{N}}(2N + 3019)) \\
&= B_{\bar{N}}(2N + 3022 - (N + 3218)) + B_{\bar{N}}(2N + 3022 - (2N + 168)) + B_{\bar{N}}(2N + 3022 - (N + 3219)) \\
&= B_{\bar{N}}(N - 196) + B_{\bar{N}}(2854) + B_{\bar{N}}(N - 197) = (N - 196) + 2854 + (N - 197) = \mathbf{2N} + \mathbf{2461} \\
&(N \geq 2854)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3023}) &= B_{\bar{N}}(2N + 3023 - B_{\bar{N}}(2N + 3022)) + B_{\bar{N}}(2N + 3023 - B_{\bar{N}}(2N + 3021)) + B_{\bar{N}}(2N + 3023 - B_{\bar{N}}(2N + 3020)) \\
&= B_{\bar{N}}(2N + 3023 - (2N + 2461)) + B_{\bar{N}}(2N + 3023 - (N + 3218)) + B_{\bar{N}}(2N + 3023 - (2N + 168)) \\
&= B_{\bar{N}}(562) + B_{\bar{N}}(N - 195) + B_{\bar{N}}(2855) = 562 + (N - 195) + 2855 = \mathbf{N} + \mathbf{3222} \\
&(N \geq 2855)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3024}) &= B_{\bar{N}}(2N + 3024 - B_{\bar{N}}(2N + 3023)) + B_{\bar{N}}(2N + 3024 - B_{\bar{N}}(2N + 3022)) + B_{\bar{N}}(2N + 3024 - B_{\bar{N}}(2N + 3021)) \\
&= B_{\bar{N}}(2N + 3024 - (N + 3222)) + B_{\bar{N}}(2N + 3024 - (2N + 2461)) + B_{\bar{N}}(2N + 3024 - (N + 3218)) \\
&= B_{\bar{N}}(N - 198) + B_{\bar{N}}(563) + B_{\bar{N}}(N - 194) = (N - 198) + 563 + (N - 194) = \mathbf{2N} + \mathbf{171} \\
&(N \geq 563)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3025}) &= B_{\bar{N}}(2N + 3025 - B_{\bar{N}}(2N + 3024)) + B_{\bar{N}}(2N + 3025 - B_{\bar{N}}(2N + 3023)) + B_{\bar{N}}(2N + 3025 - B_{\bar{N}}(2N + 3022)) \\
&= B_{\bar{N}}(2N + 3025 - (2N + 171)) + B_{\bar{N}}(2N + 3025 - (N + 3222)) + B_{\bar{N}}(2N + 3025 - (2N + 2461)) \\
&= B_{\bar{N}}(2854) + B_{\bar{N}}(N - 197) + B_{\bar{N}}(564) = 2854 + (N - 197) + 564 = \mathbf{N} + \mathbf{3221} \\
&(N \geq 2854)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3026}) &= B_{\bar{N}}(2N + 3026 - B_{\bar{N}}(2N + 3025)) + B_{\bar{N}}(2N + 3026 - B_{\bar{N}}(2N + 3024)) + B_{\bar{N}}(2N + 3026 - B_{\bar{N}}(2N + 3023)) \\
&= B_{\bar{N}}(2N + 3026 - (N + 3221)) + B_{\bar{N}}(2N + 3026 - (2N + 171)) + B_{\bar{N}}(2N + 3026 - (N + 3222)) \\
&= B_{\bar{N}}(N - 195) + B_{\bar{N}}(2855) + B_{\bar{N}}(N - 196) = (N - 195) + 2855 + (N - 196) = \mathbf{2N} + \mathbf{2464} \\
&(N \geq 2855)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3027}) &= B_{\bar{N}}(2N + 3027 - B_{\bar{N}}(2N + 3026)) + B_{\bar{N}}(2N + 3027 - B_{\bar{N}}(2N + 3025)) + B_{\bar{N}}(2N + 3027 - B_{\bar{N}}(2N + 3024)) \\
&= B_{\bar{N}}(2N + 3027 - (2N + 2464)) + B_{\bar{N}}(2N + 3027 - (N + 3221)) + B_{\bar{N}}(2N + 3027 - (2N + 171)) \\
&= B_{\bar{N}}(563) + B_{\bar{N}}(N - 194) + B_{\bar{N}}(2856) = 563 + (N - 194) + 2856 = \mathbf{N} + \mathbf{3225} \\
&(N \geq 2856)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3028}) &= B_{\bar{N}}(2N + 3028 - B_{\bar{N}}(2N + 3027)) + B_{\bar{N}}(2N + 3028 - B_{\bar{N}}(2N + 3026)) + B_{\bar{N}}(2N + 3028 - B_{\bar{N}}(2N + 3025)) \\
&= B_{\bar{N}}(2N + 3028 - (N + 3225)) + B_{\bar{N}}(2N + 3028 - (2N + 2464)) + B_{\bar{N}}(2N + 3028 - (N + 3221)) \\
&= B_{\bar{N}}(N - 197) + B_{\bar{N}}(564) + B_{\bar{N}}(N - 193) = (N - 197) + 564 + (N - 193) = \mathbf{2N} + \mathbf{174} \\
&(N \geq 564)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3029}) &= B_{\bar{N}}(2N + 3029 - B_{\bar{N}}(2N + 3028)) + B_{\bar{N}}(2N + 3029 - B_{\bar{N}}(2N + 3027)) + B_{\bar{N}}(2N + 3029 - B_{\bar{N}}(2N + 3026)) \\
&= B_{\bar{N}}(2N + 3029 - (2N + 174)) + B_{\bar{N}}(2N + 3029 - (N + 3225)) + B_{\bar{N}}(2N + 3029 - (2N + 2464)) \\
&= B_{\bar{N}}(2855) + B_{\bar{N}}(N - 196) + B_{\bar{N}}(565) = 2855 + (N - 196) + 565 = \mathbf{N} + \mathbf{3224} \\
&(N \geq 2855)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3030}) &= B_{\bar{N}}(2N + 3030 - B_{\bar{N}}(2N + 3029)) + B_{\bar{N}}(2N + 3030 - B_{\bar{N}}(2N + 3028)) + B_{\bar{N}}(2N + 3030 - B_{\bar{N}}(2N + 3027)) \\
&= B_{\bar{N}}(2N + 3030 - (N + 3224)) + B_{\bar{N}}(2N + 3030 - (2N + 174)) + B_{\bar{N}}(2N + 3030 - (N + 3225)) \\
&= B_{\bar{N}}(N - 194) + B_{\bar{N}}(2856) + B_{\bar{N}}(N - 195) = (N - 194) + 2856 + (N - 195) = \mathbf{2N} + \mathbf{2467} \\
&(N \geq 2856)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3031}) &= B_{\bar{N}}(2N + 3031 - B_{\bar{N}}(2N + 3030)) + B_{\bar{N}}(2N + 3031 - B_{\bar{N}}(2N + 3029)) + B_{\bar{N}}(2N + 3031 - B_{\bar{N}}(2N + 3028)) \\
&= B_{\bar{N}}(2N + 3031 - (2N + 2467)) + B_{\bar{N}}(2N + 3031 - (N + 3224)) + B_{\bar{N}}(2N + 3031 - (2N + 174)) \\
&= B_{\bar{N}}(564) + B_{\bar{N}}(N - 193) + B_{\bar{N}}(2857) = 564 + (N - 193) + 2857 = \mathbf{N} + \mathbf{3228} \\
&(N \geq 2857)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3032}) &= B_{\bar{N}}(2N + 3032 - B_{\bar{N}}(2N + 3031)) + B_{\bar{N}}(2N + 3032 - B_{\bar{N}}(2N + 3030)) + B_{\bar{N}}(2N + 3032 - B_{\bar{N}}(2N + 3029)) \\
&= B_{\bar{N}}(2N + 3032 - (N + 3228)) + B_{\bar{N}}(2N + 3032 - (2N + 2467)) + B_{\bar{N}}(2N + 3032 - (N + 3224)) \\
&= B_{\bar{N}}(N - 196) + B_{\bar{N}}(565) + B_{\bar{N}}(N - 192) = (N - 196) + 565 + (N - 192) = \mathbf{2N} + \mathbf{177} \\
&(N \geq 565)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3033}) &= B_{\bar{N}}(2N + 3033 - B_{\bar{N}}(2N + 3032)) + B_{\bar{N}}(2N + 3033 - B_{\bar{N}}(2N + 3031)) + B_{\bar{N}}(2N + 3033 - B_{\bar{N}}(2N + 3030)) \\
&= B_{\bar{N}}(2N + 3033 - (2N + 177)) + B_{\bar{N}}(2N + 3033 - (N + 3228)) + B_{\bar{N}}(2N + 3033 - (2N + 2467)) \\
&= B_{\bar{N}}(2856) + B_{\bar{N}}(N - 195) + B_{\bar{N}}(566) = 2856 + (N - 195) + 566 = \mathbf{N} + \mathbf{3227} \\
&(N \geq 2856)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3034}) &= B_{\bar{N}}(2N + 3034 - B_{\bar{N}}(2N + 3033)) + B_{\bar{N}}(2N + 3034 - B_{\bar{N}}(2N + 3032)) + B_{\bar{N}}(2N + 3034 - B_{\bar{N}}(2N + 3031)) \\
&= B_{\bar{N}}(2N + 3034 - (N + 3227)) + B_{\bar{N}}(2N + 3034 - (2N + 177)) + B_{\bar{N}}(2N + 3034 - (N + 3228)) \\
&= B_{\bar{N}}(N - 193) + B_{\bar{N}}(2857) + B_{\bar{N}}(N - 194) = (N - 193) + 2857 + (N - 194) = \mathbf{2N} + \mathbf{2470} \\
&(N \geq 2857)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3035}) &= B_{\bar{N}}(2N + 3035 - B_{\bar{N}}(2N + 3034)) + B_{\bar{N}}(2N + 3035 - B_{\bar{N}}(2N + 3033)) + B_{\bar{N}}(2N + 3035 - B_{\bar{N}}(2N + 3032)) \\
&= B_{\bar{N}}(2N + 3035 - (2N + 2470)) + B_{\bar{N}}(2N + 3035 - (N + 3227)) + B_{\bar{N}}(2N + 3035 - (2N + 177)) \\
&= B_{\bar{N}}(565) + B_{\bar{N}}(N - 192) + B_{\bar{N}}(2858) = 565 + (N - 192) + 2858 = \mathbf{N} + \mathbf{3231} \\
&(N \geq 2858)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3036}) &= B_{\bar{N}}(2N + 3036 - B_{\bar{N}}(2N + 3035)) + B_{\bar{N}}(2N + 3036 - B_{\bar{N}}(2N + 3034)) + B_{\bar{N}}(2N + 3036 - B_{\bar{N}}(2N + 3033)) \\
&= B_{\bar{N}}(2N + 3036 - (N + 3231)) + B_{\bar{N}}(2N + 3036 - (2N + 2470)) + B_{\bar{N}}(2N + 3036 - (N + 3227)) \\
&= B_{\bar{N}}(N - 195) + B_{\bar{N}}(566) + B_{\bar{N}}(N - 191) = (N - 195) + 566 + (N - 191) = \mathbf{2N} + \mathbf{180} \\
&(N \geq 566)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3037}) &= B_{\bar{N}}(2N + 3037 - B_{\bar{N}}(2N + 3036)) + B_{\bar{N}}(2N + 3037 - B_{\bar{N}}(2N + 3035)) + B_{\bar{N}}(2N + 3037 - B_{\bar{N}}(2N + 3034)) \\
&= B_{\bar{N}}(2N + 3037 - (2N + 180)) + B_{\bar{N}}(2N + 3037 - (N + 3231)) + B_{\bar{N}}(2N + 3037 - (2N + 2470)) \\
&= B_{\bar{N}}(2857) + B_{\bar{N}}(N - 194) + B_{\bar{N}}(567) = 2857 + (N - 194) + 567 = \mathbf{N} + \mathbf{3230} \\
&(N \geq 2857)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3038}) &= B_{\bar{N}}(2N + 3038 - B_{\bar{N}}(2N + 3037)) + B_{\bar{N}}(2N + 3038 - B_{\bar{N}}(2N + 3036)) + B_{\bar{N}}(2N + 3038 - B_{\bar{N}}(2N + 3035)) \\
&= B_{\bar{N}}(2N + 3038 - (N + 3230)) + B_{\bar{N}}(2N + 3038 - (2N + 180)) + B_{\bar{N}}(2N + 3038 - (N + 3231)) \\
&= B_{\bar{N}}(N - 192) + B_{\bar{N}}(2858) + B_{\bar{N}}(N - 193) = (N - 192) + 2858 + (N - 193) = \mathbf{2N} + \mathbf{2473} \\
&(N \geq 2858)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3039}) &= B_{\bar{N}}(2N + 3039 - B_{\bar{N}}(2N + 3038)) + B_{\bar{N}}(2N + 3039 - B_{\bar{N}}(2N + 3037)) + B_{\bar{N}}(2N + 3039 - B_{\bar{N}}(2N + 3036)) \\
&= B_{\bar{N}}(2N + 3039 - (2N + 2473)) + B_{\bar{N}}(2N + 3039 - (N + 3230)) + B_{\bar{N}}(2N + 3039 - (2N + 180)) \\
&= B_{\bar{N}}(566) + B_{\bar{N}}(N - 191) + B_{\bar{N}}(2859) = 566 + (N - 191) + 2859 = \mathbf{N} + \mathbf{3234} \\
&(N \geq 2859)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3040}) &= B_{\bar{N}}(2N + 3040 - B_{\bar{N}}(2N + 3039)) + B_{\bar{N}}(2N + 3040 - B_{\bar{N}}(2N + 3038)) + B_{\bar{N}}(2N + 3040 - B_{\bar{N}}(2N + 3037)) \\
&= B_{\bar{N}}(2N + 3040 - (N + 3234)) + B_{\bar{N}}(2N + 3040 - (2N + 2473)) + B_{\bar{N}}(2N + 3040 - (N + 3230)) \\
&= B_{\bar{N}}(N - 194) + B_{\bar{N}}(567) + B_{\bar{N}}(N - 190) = (N - 194) + 567 + (N - 190) = \mathbf{2N} + \mathbf{183} \\
&(N \geq 567)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3041}) &= B_{\bar{N}}(2N + 3041 - B_{\bar{N}}(2N + 3040)) + B_{\bar{N}}(2N + 3041 - B_{\bar{N}}(2N + 3039)) + B_{\bar{N}}(2N + 3041 - B_{\bar{N}}(2N + 3038)) \\
&= B_{\bar{N}}(2N + 3041 - (2N + 183)) + B_{\bar{N}}(2N + 3041 - (N + 3234)) + B_{\bar{N}}(2N + 3041 - (2N + 2473)) \\
&= B_{\bar{N}}(2858) + B_{\bar{N}}(N - 193) + B_{\bar{N}}(568) = 2858 + (N - 193) + 568 = \mathbf{N} + \mathbf{3233} \\
&(N \geq 2858)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3042}) &= B_{\bar{N}}(2N + 3042 - B_{\bar{N}}(2N + 3041)) + B_{\bar{N}}(2N + 3042 - B_{\bar{N}}(2N + 3040)) + B_{\bar{N}}(2N + 3042 - B_{\bar{N}}(2N + 3039)) \\
&= B_{\bar{N}}(2N + 3042 - (N + 3233)) + B_{\bar{N}}(2N + 3042 - (2N + 183)) + B_{\bar{N}}(2N + 3042 - (N + 3234)) \\
&= B_{\bar{N}}(N - 191) + B_{\bar{N}}(2859) + B_{\bar{N}}(N - 192) = (N - 191) + 2859 + (N - 192) = \mathbf{2N} + \mathbf{2476} \\
&(N \geq 2859)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3043}) &= B_{\bar{N}}(2N + 3043 - B_{\bar{N}}(2N + 3042)) + B_{\bar{N}}(2N + 3043 - B_{\bar{N}}(2N + 3041)) + B_{\bar{N}}(2N + 3043 - B_{\bar{N}}(2N + 3040)) \\
&= B_{\bar{N}}(2N + 3043 - (2N + 2476)) + B_{\bar{N}}(2N + 3043 - (N + 3233)) + B_{\bar{N}}(2N + 3043 - (2N + 183)) \\
&= B_{\bar{N}}(567) + B_{\bar{N}}(N - 190) + B_{\bar{N}}(2860) = 567 + (N - 190) + 2860 = \mathbf{N} + \mathbf{3237} \\
&(N \geq 2860)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3044}) &= B_{\bar{N}}(2N + 3044 - B_{\bar{N}}(2N + 3043)) + B_{\bar{N}}(2N + 3044 - B_{\bar{N}}(2N + 3042)) + B_{\bar{N}}(2N + 3044 - B_{\bar{N}}(2N + 3041)) \\
&= B_{\bar{N}}(2N + 3044 - (N + 3237)) + B_{\bar{N}}(2N + 3044 - (2N + 2476)) + B_{\bar{N}}(2N + 3044 - (N + 3233)) \\
&= B_{\bar{N}}(N - 193) + B_{\bar{N}}(568) + B_{\bar{N}}(N - 189) = (N - 193) + 568 + (N - 189) = \mathbf{2N} + \mathbf{186} \\
&(N \geq 568)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3045}) &= B_{\bar{N}}(2N + 3045 - B_{\bar{N}}(2N + 3044)) + B_{\bar{N}}(2N + 3045 - B_{\bar{N}}(2N + 3043)) + B_{\bar{N}}(2N + 3045 - B_{\bar{N}}(2N + 3042)) \\
&= B_{\bar{N}}(2N + 3045 - (2N + 186)) + B_{\bar{N}}(2N + 3045 - (N + 3237)) + B_{\bar{N}}(2N + 3045 - (2N + 2476)) \\
&= B_{\bar{N}}(2859) + B_{\bar{N}}(N - 192) + B_{\bar{N}}(569) = 2859 + (N - 192) + 569 = \mathbf{N} + \mathbf{3236} \\
&(N \geq 2859)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3046}) &= B_{\bar{N}}(2N + 3046 - B_{\bar{N}}(2N + 3045)) + B_{\bar{N}}(2N + 3046 - B_{\bar{N}}(2N + 3044)) + B_{\bar{N}}(2N + 3046 - B_{\bar{N}}(2N + 3043)) \\
&= B_{\bar{N}}(2N + 3046 - (N + 3236)) + B_{\bar{N}}(2N + 3046 - (2N + 186)) + B_{\bar{N}}(2N + 3046 - (N + 3237)) \\
&= B_{\bar{N}}(N - 190) + B_{\bar{N}}(2860) + B_{\bar{N}}(N - 191) = (N - 190) + 2860 + (N - 191) = \mathbf{2N} + \mathbf{2479} \\
&(N \geq 2860)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3047}) &= B_{\bar{N}}(2N + 3047 - B_{\bar{N}}(2N + 3046)) + B_{\bar{N}}(2N + 3047 - B_{\bar{N}}(2N + 3045)) + B_{\bar{N}}(2N + 3047 - B_{\bar{N}}(2N + 3044)) \\
&= B_{\bar{N}}(2N + 3047 - (2N + 2479)) + B_{\bar{N}}(2N + 3047 - (N + 3236)) + B_{\bar{N}}(2N + 3047 - (2N + 186)) \\
&= B_{\bar{N}}(568) + B_{\bar{N}}(N - 189) + B_{\bar{N}}(2861) = 568 + (N - 189) + 2861 = \mathbf{N} + \mathbf{3240} \\
&(N \geq 2861)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3048}) &= B_{\bar{N}}(2N + 3048 - B_{\bar{N}}(2N + 3047)) + B_{\bar{N}}(2N + 3048 - B_{\bar{N}}(2N + 3046)) + B_{\bar{N}}(2N + 3048 - B_{\bar{N}}(2N + 3045)) \\
&= B_{\bar{N}}(2N + 3048 - (N + 3240)) + B_{\bar{N}}(2N + 3048 - (2N + 2479)) + B_{\bar{N}}(2N + 3048 - (N + 3236)) \\
&= B_{\bar{N}}(N - 192) + B_{\bar{N}}(569) + B_{\bar{N}}(N - 188) = (N - 192) + 569 + (N - 188) = \mathbf{2N} + \mathbf{189} \\
&(N \geq 569)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3049}) &= B_{\bar{N}}(2N + 3049 - B_{\bar{N}}(2N + 3048)) + B_{\bar{N}}(2N + 3049 - B_{\bar{N}}(2N + 3047)) + B_{\bar{N}}(2N + 3049 - B_{\bar{N}}(2N + 3046)) \\
&= B_{\bar{N}}(2N + 3049 - (2N + 189)) + B_{\bar{N}}(2N + 3049 - (N + 3240)) + B_{\bar{N}}(2N + 3049 - (2N + 2479)) \\
&= B_{\bar{N}}(2860) + B_{\bar{N}}(N - 191) + B_{\bar{N}}(570) = 2860 + (N - 191) + 570 = \mathbf{N} + \mathbf{3239} \\
&(N \geq 2860)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3050}) &= B_{\bar{N}}(2N + 3050 - B_{\bar{N}}(2N + 3049)) + B_{\bar{N}}(2N + 3050 - B_{\bar{N}}(2N + 3048)) + B_{\bar{N}}(2N + 3050 - B_{\bar{N}}(2N + 3047)) \\
&= B_{\bar{N}}(2N + 3050 - (N + 3239)) + B_{\bar{N}}(2N + 3050 - (2N + 189)) + B_{\bar{N}}(2N + 3050 - (N + 3240)) \\
&= B_{\bar{N}}(N - 189) + B_{\bar{N}}(2861) + B_{\bar{N}}(N - 190) = (N - 189) + 2861 + (N - 190) = \mathbf{2N} + \mathbf{2482} \\
&(N \geq 2861)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3051}) &= B_{\bar{N}}(2N + 3051 - B_{\bar{N}}(2N + 3050)) + B_{\bar{N}}(2N + 3051 - B_{\bar{N}}(2N + 3049)) + B_{\bar{N}}(2N + 3051 - B_{\bar{N}}(2N + 3048)) \\
&= B_{\bar{N}}(2N + 3051 - (2N + 2482)) + B_{\bar{N}}(2N + 3051 - (N + 3239)) + B_{\bar{N}}(2N + 3051 - (2N + 189)) \\
&= B_{\bar{N}}(569) + B_{\bar{N}}(N - 188) + B_{\bar{N}}(2862) = 569 + (N - 188) + 2862 = \mathbf{N} + \mathbf{3243} \\
&(N \geq 2862)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3052}) &= B_{\bar{N}}(2N + 3052 - B_{\bar{N}}(2N + 3051)) + B_{\bar{N}}(2N + 3052 - B_{\bar{N}}(2N + 3050)) + B_{\bar{N}}(2N + 3052 - B_{\bar{N}}(2N + 3049)) \\
&= B_{\bar{N}}(2N + 3052 - (N + 3243)) + B_{\bar{N}}(2N + 3052 - (2N + 2482)) + B_{\bar{N}}(2N + 3052 - (N + 3239)) \\
&= B_{\bar{N}}(N - 191) + B_{\bar{N}}(570) + B_{\bar{N}}(N - 187) = (N - 191) + 570 + (N - 187) = \mathbf{2N} + \mathbf{192} \\
&(N \geq 570)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3053}) &= B_{\bar{N}}(2N + 3053 - B_{\bar{N}}(2N + 3052)) + B_{\bar{N}}(2N + 3053 - B_{\bar{N}}(2N + 3051)) + B_{\bar{N}}(2N + 3053 - B_{\bar{N}}(2N + 3050)) \\
&= B_{\bar{N}}(2N + 3053 - (2N + 192)) + B_{\bar{N}}(2N + 3053 - (N + 3243)) + B_{\bar{N}}(2N + 3053 - (2N + 2482)) \\
&= B_{\bar{N}}(2861) + B_{\bar{N}}(N - 190) + B_{\bar{N}}(571) = 2861 + (N - 190) + 571 = \mathbf{N} + \mathbf{3242} \\
&(N \geq 2861)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3054}) &= B_{\bar{N}}(2N + 3054 - B_{\bar{N}}(2N + 3053)) + B_{\bar{N}}(2N + 3054 - B_{\bar{N}}(2N + 3052)) + B_{\bar{N}}(2N + 3054 - B_{\bar{N}}(2N + 3051)) \\
&= B_{\bar{N}}(2N + 3054 - (N + 3242)) + B_{\bar{N}}(2N + 3054 - (2N + 192)) + B_{\bar{N}}(2N + 3054 - (N + 3243)) \\
&= B_{\bar{N}}(N - 188) + B_{\bar{N}}(2862) + B_{\bar{N}}(N - 189) = (N - 188) + 2862 + (N - 189) = \mathbf{2N} + \mathbf{2485} \\
&(N \geq 2862)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3055}) &= B_{\bar{N}}(2N + 3055 - B_{\bar{N}}(2N + 3054)) + B_{\bar{N}}(2N + 3055 - B_{\bar{N}}(2N + 3053)) + B_{\bar{N}}(2N + 3055 - B_{\bar{N}}(2N + 3052)) \\
&= B_{\bar{N}}(2N + 3055 - (2N + 2485)) + B_{\bar{N}}(2N + 3055 - (N + 3242)) + B_{\bar{N}}(2N + 3055 - (2N + 192)) \\
&= B_{\bar{N}}(570) + B_{\bar{N}}(N - 187) + B_{\bar{N}}(2863) = 570 + (N - 187) + 2863 = \mathbf{N} + \mathbf{3246} \\
&(N \geq 2863)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3056}) &= B_{\bar{N}}(2N + 3056 - B_{\bar{N}}(2N + 3055)) + B_{\bar{N}}(2N + 3056 - B_{\bar{N}}(2N + 3054)) + B_{\bar{N}}(2N + 3056 - B_{\bar{N}}(2N + 3053)) \\
&= B_{\bar{N}}(2N + 3056 - (N + 3246)) + B_{\bar{N}}(2N + 3056 - (2N + 2485)) + B_{\bar{N}}(2N + 3056 - (N + 3242)) \\
&= B_{\bar{N}}(N - 190) + B_{\bar{N}}(571) + B_{\bar{N}}(N - 186) = (N - 190) + 571 + (N - 186) = \mathbf{2N} + \mathbf{195} \\
&(N \geq 571)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3057}) &= B_{\bar{N}}(2N + 3057 - B_{\bar{N}}(2N + 3056)) + B_{\bar{N}}(2N + 3057 - B_{\bar{N}}(2N + 3055)) + B_{\bar{N}}(2N + 3057 - B_{\bar{N}}(2N + 3054)) \\
&= B_{\bar{N}}(2N + 3057 - (2N + 195)) + B_{\bar{N}}(2N + 3057 - (N + 3246)) + B_{\bar{N}}(2N + 3057 - (2N + 2485)) \\
&= B_{\bar{N}}(2862) + B_{\bar{N}}(N - 189) + B_{\bar{N}}(572) = 2862 + (N - 189) + 572 = \mathbf{N} + \mathbf{3245} \\
&(N \geq 2862)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3058}) &= B_{\bar{N}}(2N + 3058 - B_{\bar{N}}(2N + 3057)) + B_{\bar{N}}(2N + 3058 - B_{\bar{N}}(2N + 3056)) + B_{\bar{N}}(2N + 3058 - B_{\bar{N}}(2N + 3055)) \\
&= B_{\bar{N}}(2N + 3058 - (N + 3245)) + B_{\bar{N}}(2N + 3058 - (2N + 195)) + B_{\bar{N}}(2N + 3058 - (N + 3246)) \\
&= B_{\bar{N}}(N - 187) + B_{\bar{N}}(2863) + B_{\bar{N}}(N - 188) = (N - 187) + 2863 + (N - 188) = \mathbf{2N} + \mathbf{2488} \\
&(N \geq 2863)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3059}) &= B_{\bar{N}}(2N + 3059 - B_{\bar{N}}(2N + 3058)) + B_{\bar{N}}(2N + 3059 - B_{\bar{N}}(2N + 3057)) + B_{\bar{N}}(2N + 3059 - B_{\bar{N}}(2N + 3056)) \\
&= B_{\bar{N}}(2N + 3059 - (2N + 2488)) + B_{\bar{N}}(2N + 3059 - (N + 3245)) + B_{\bar{N}}(2N + 3059 - (2N + 195)) \\
&= B_{\bar{N}}(571) + B_{\bar{N}}(N - 186) + B_{\bar{N}}(2864) = 571 + (N - 186) + 2864 = \mathbf{N} + \mathbf{3249} \\
&(N \geq 2864)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3060}) &= B_{\bar{N}}(2N + 3060 - B_{\bar{N}}(2N + 3059)) + B_{\bar{N}}(2N + 3060 - B_{\bar{N}}(2N + 3058)) + B_{\bar{N}}(2N + 3060 - B_{\bar{N}}(2N + 3057)) \\
&= B_{\bar{N}}(2N + 3060 - (N + 3249)) + B_{\bar{N}}(2N + 3060 - (2N + 2488)) + B_{\bar{N}}(2N + 3060 - (N + 3245)) \\
&= B_{\bar{N}}(N - 189) + B_{\bar{N}}(572) + B_{\bar{N}}(N - 185) = (N - 189) + 572 + (N - 185) = \mathbf{2N} + \mathbf{198} \\
&(N \geq 572)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3061}) &= B_{\bar{N}}(2N + 3061 - B_{\bar{N}}(2N + 3060)) + B_{\bar{N}}(2N + 3061 - B_{\bar{N}}(2N + 3059)) + B_{\bar{N}}(2N + 3061 - B_{\bar{N}}(2N + 3058)) \\
&= B_{\bar{N}}(2N + 3061 - (2N + 198)) + B_{\bar{N}}(2N + 3061 - (N + 3249)) + B_{\bar{N}}(2N + 3061 - (2N + 2488)) \\
&= B_{\bar{N}}(2863) + B_{\bar{N}}(N - 188) + B_{\bar{N}}(573) = 2863 + (N - 188) + 573 = \mathbf{N} + \mathbf{3248} \\
&(N \geq 2863)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3062}) &= B_{\bar{N}}(2N + 3062 - B_{\bar{N}}(2N + 3061)) + B_{\bar{N}}(2N + 3062 - B_{\bar{N}}(2N + 3060)) + B_{\bar{N}}(2N + 3062 - B_{\bar{N}}(2N + 3059)) \\
&= B_{\bar{N}}(2N + 3062 - (N + 3248)) + B_{\bar{N}}(2N + 3062 - (2N + 198)) + B_{\bar{N}}(2N + 3062 - (N + 3249)) \\
&= B_{\bar{N}}(N - 186) + B_{\bar{N}}(2864) + B_{\bar{N}}(N - 187) = (N - 186) + 2864 + (N - 187) = \mathbf{2N} + \mathbf{2491} \\
&(N \geq 2864)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3063}) &= B_{\bar{N}}(2N + 3063 - B_{\bar{N}}(2N + 3062)) + B_{\bar{N}}(2N + 3063 - B_{\bar{N}}(2N + 3061)) + B_{\bar{N}}(2N + 3063 - B_{\bar{N}}(2N + 3060)) \\
&= B_{\bar{N}}(2N + 3063 - (2N + 2491)) + B_{\bar{N}}(2N + 3063 - (N + 3248)) + B_{\bar{N}}(2N + 3063 - (2N + 198)) \\
&= B_{\bar{N}}(572) + B_{\bar{N}}(N - 185) + B_{\bar{N}}(2865) = 572 + (N - 185) + 2865 = \mathbf{N} + \mathbf{3252} \\
&(N \geq 2865)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3064}) &= B_{\bar{N}}(2N + 3064 - B_{\bar{N}}(2N + 3063)) + B_{\bar{N}}(2N + 3064 - B_{\bar{N}}(2N + 3062)) + B_{\bar{N}}(2N + 3064 - B_{\bar{N}}(2N + 3061)) \\
&= B_{\bar{N}}(2N + 3064 - (N + 3252)) + B_{\bar{N}}(2N + 3064 - (2N + 2491)) + B_{\bar{N}}(2N + 3064 - (N + 3248)) \\
&= B_{\bar{N}}(N - 188) + B_{\bar{N}}(573) + B_{\bar{N}}(N - 184) = (N - 188) + 573 + (N - 184) = \mathbf{2N} + \mathbf{201} \\
&(N \geq 573)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3065}) &= B_{\bar{N}}(2N + 3065 - B_{\bar{N}}(2N + 3064)) + B_{\bar{N}}(2N + 3065 - B_{\bar{N}}(2N + 3063)) + B_{\bar{N}}(2N + 3065 - B_{\bar{N}}(2N + 3062)) \\
&= B_{\bar{N}}(2N + 3065 - (2N + 201)) + B_{\bar{N}}(2N + 3065 - (N + 3252)) + B_{\bar{N}}(2N + 3065 - (2N + 2491)) \\
&= B_{\bar{N}}(2864) + B_{\bar{N}}(N - 187) + B_{\bar{N}}(574) = 2864 + (N - 187) + 574 = \mathbf{N} + \mathbf{3251} \\
&(N \geq 2864)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3066}) &= B_{\bar{N}}(2N + 3066 - B_{\bar{N}}(2N + 3065)) + B_{\bar{N}}(2N + 3066 - B_{\bar{N}}(2N + 3064)) + B_{\bar{N}}(2N + 3066 - B_{\bar{N}}(2N + 3063)) \\
&= B_{\bar{N}}(2N + 3066 - (N + 3251)) + B_{\bar{N}}(2N + 3066 - (2N + 201)) + B_{\bar{N}}(2N + 3066 - (N + 3252)) \\
&= B_{\bar{N}}(N - 185) + B_{\bar{N}}(2865) + B_{\bar{N}}(N - 186) = (N - 185) + 2865 + (N - 186) = \mathbf{2N} + \mathbf{2494} \\
&(N \geq 2865)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3067}) &= B_{\bar{N}}(2N + 3067 - B_{\bar{N}}(2N + 3066)) + B_{\bar{N}}(2N + 3067 - B_{\bar{N}}(2N + 3065)) + B_{\bar{N}}(2N + 3067 - B_{\bar{N}}(2N + 3064)) \\
&= B_{\bar{N}}(2N + 3067 - (2N + 2494)) + B_{\bar{N}}(2N + 3067 - (N + 3251)) + B_{\bar{N}}(2N + 3067 - (2N + 201)) \\
&= B_{\bar{N}}(573) + B_{\bar{N}}(N - 184) + B_{\bar{N}}(2866) = 573 + (N - 184) + 2866 = \mathbf{N} + \mathbf{3255} \\
&(N \geq 2866)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3068}) &= B_{\bar{N}}(2N + 3068 - B_{\bar{N}}(2N + 3067)) + B_{\bar{N}}(2N + 3068 - B_{\bar{N}}(2N + 3066)) + B_{\bar{N}}(2N + 3068 - B_{\bar{N}}(2N + 3065)) \\
&= B_{\bar{N}}(2N + 3068 - (N + 3255)) + B_{\bar{N}}(2N + 3068 - (2N + 2494)) + B_{\bar{N}}(2N + 3068 - (N + 3251)) \\
&= B_{\bar{N}}(N - 187) + B_{\bar{N}}(574) + B_{\bar{N}}(N - 183) = (N - 187) + 574 + (N - 183) = \mathbf{2N} + \mathbf{204} \\
&(N \geq 574)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3069}) &= B_{\bar{N}}(2N + 3069 - B_{\bar{N}}(2N + 3068)) + B_{\bar{N}}(2N + 3069 - B_{\bar{N}}(2N + 3067)) + B_{\bar{N}}(2N + 3069 - B_{\bar{N}}(2N + 3066)) \\
&= B_{\bar{N}}(2N + 3069 - (2N + 204)) + B_{\bar{N}}(2N + 3069 - (N + 3255)) + B_{\bar{N}}(2N + 3069 - (2N + 2494)) \\
&= B_{\bar{N}}(2865) + B_{\bar{N}}(N - 186) + B_{\bar{N}}(575) = 2865 + (N - 186) + 575 = \mathbf{N} + \mathbf{3254} \\
&(N \geq 2865)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3070}) &= B_{\bar{N}}(2N + 3070 - B_{\bar{N}}(2N + 3069)) + B_{\bar{N}}(2N + 3070 - B_{\bar{N}}(2N + 3068)) + B_{\bar{N}}(2N + 3070 - B_{\bar{N}}(2N + 3067)) \\
&= B_{\bar{N}}(2N + 3070 - (N + 3254)) + B_{\bar{N}}(2N + 3070 - (2N + 204)) + B_{\bar{N}}(2N + 3070 - (N + 3255)) \\
&= B_{\bar{N}}(N - 184) + B_{\bar{N}}(2866) + B_{\bar{N}}(N - 185) = (N - 184) + 2866 + (N - 185) = \mathbf{2N} + \mathbf{2497} \\
&(N \geq 2866)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3071}) &= B_{\bar{N}}(2N + 3071 - B_{\bar{N}}(2N + 3070)) + B_{\bar{N}}(2N + 3071 - B_{\bar{N}}(2N + 3069)) + B_{\bar{N}}(2N + 3071 - B_{\bar{N}}(2N + 3068)) \\
&= B_{\bar{N}}(2N + 3071 - (2N + 2497)) + B_{\bar{N}}(2N + 3071 - (N + 3254)) + B_{\bar{N}}(2N + 3071 - (2N + 204)) \\
&= B_{\bar{N}}(574) + B_{\bar{N}}(N - 183) + B_{\bar{N}}(2867) = 574 + (N - 183) + 2867 = \mathbf{N} + \mathbf{3258} \\
&(N \geq 2867)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3072}) &= B_{\bar{N}}(2N + 3072 - B_{\bar{N}}(2N + 3071)) + B_{\bar{N}}(2N + 3072 - B_{\bar{N}}(2N + 3070)) + B_{\bar{N}}(2N + 3072 - B_{\bar{N}}(2N + 3069)) \\
&= B_{\bar{N}}(2N + 3072 - (N + 3258)) + B_{\bar{N}}(2N + 3072 - (2N + 2497)) + B_{\bar{N}}(2N + 3072 - (N + 3254)) \\
&= B_{\bar{N}}(N - 186) + B_{\bar{N}}(575) + B_{\bar{N}}(N - 182) = (N - 186) + 575 + (N - 182) = \mathbf{2N} + \mathbf{207} \\
&(N \geq 575)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3073}) &= B_{\bar{N}}(2N + 3073 - B_{\bar{N}}(2N + 3072)) + B_{\bar{N}}(2N + 3073 - B_{\bar{N}}(2N + 3071)) + B_{\bar{N}}(2N + 3073 - B_{\bar{N}}(2N + 3070)) \\
&= B_{\bar{N}}(2N + 3073 - (2N + 207)) + B_{\bar{N}}(2N + 3073 - (N + 3258)) + B_{\bar{N}}(2N + 3073 - (2N + 2497)) \\
&= B_{\bar{N}}(2866) + B_{\bar{N}}(N - 185) + B_{\bar{N}}(576) = 2866 + (N - 185) + 576 = \mathbf{N} + \mathbf{3257} \\
&(N \geq 2866)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3074}) &= B_{\bar{N}}(2N + 3074 - B_{\bar{N}}(2N + 3073)) + B_{\bar{N}}(2N + 3074 - B_{\bar{N}}(2N + 3072)) + B_{\bar{N}}(2N + 3074 - B_{\bar{N}}(2N + 3071)) \\
&= B_{\bar{N}}(2N + 3074 - (N + 3257)) + B_{\bar{N}}(2N + 3074 - (2N + 207)) + B_{\bar{N}}(2N + 3074 - (N + 3258)) \\
&= B_{\bar{N}}(N - 183) + B_{\bar{N}}(2867) + B_{\bar{N}}(N - 184) = (N - 183) + 2867 + (N - 184) = \mathbf{2N} + \mathbf{2500} \\
&(N \geq 2867)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3075}) &= B_{\bar{N}}(2N + 3075 - B_{\bar{N}}(2N + 3074)) + B_{\bar{N}}(2N + 3075 - B_{\bar{N}}(2N + 3073)) + B_{\bar{N}}(2N + 3075 - B_{\bar{N}}(2N + 3072)) \\
&= B_{\bar{N}}(2N + 3075 - (2N + 2500)) + B_{\bar{N}}(2N + 3075 - (N + 3257)) + B_{\bar{N}}(2N + 3075 - (2N + 207)) \\
&= B_{\bar{N}}(575) + B_{\bar{N}}(N - 182) + B_{\bar{N}}(2868) = 575 + (N - 182) + 2868 = \mathbf{N} + \mathbf{3261} \\
&(N \geq 2868)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3076}) &= B_{\bar{N}}(2N + 3076 - B_{\bar{N}}(2N + 3075)) + B_{\bar{N}}(2N + 3076 - B_{\bar{N}}(2N + 3074)) + B_{\bar{N}}(2N + 3076 - B_{\bar{N}}(2N + 3073)) \\
&= B_{\bar{N}}(2N + 3076 - (N + 3261)) + B_{\bar{N}}(2N + 3076 - (2N + 2500)) + B_{\bar{N}}(2N + 3076 - (N + 3257)) \\
&= B_{\bar{N}}(N - 185) + B_{\bar{N}}(576) + B_{\bar{N}}(N - 181) = (N - 185) + 576 + (N - 181) = \mathbf{2N} + \mathbf{210} \\
&(N \geq 576)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3077}) &= B_{\bar{N}}(2N + 3077 - B_{\bar{N}}(2N + 3076)) + B_{\bar{N}}(2N + 3077 - B_{\bar{N}}(2N + 3075)) + B_{\bar{N}}(2N + 3077 - B_{\bar{N}}(2N + 3074)) \\
&= B_{\bar{N}}(2N + 3077 - (2N + 210)) + B_{\bar{N}}(2N + 3077 - (N + 3261)) + B_{\bar{N}}(2N + 3077 - (2N + 2500)) \\
&= B_{\bar{N}}(2867) + B_{\bar{N}}(N - 184) + B_{\bar{N}}(577) = 2867 + (N - 184) + 577 = \mathbf{N} + \mathbf{3260} \\
&(N \geq 2867)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3078}) &= B_{\bar{N}}(2N + 3078 - B_{\bar{N}}(2N + 3077)) + B_{\bar{N}}(2N + 3078 - B_{\bar{N}}(2N + 3076)) + B_{\bar{N}}(2N + 3078 - B_{\bar{N}}(2N + 3075)) \\
&= B_{\bar{N}}(2N + 3078 - (N + 3260)) + B_{\bar{N}}(2N + 3078 - (2N + 210)) + B_{\bar{N}}(2N + 3078 - (N + 3261)) \\
&= B_{\bar{N}}(N - 182) + B_{\bar{N}}(2868) + B_{\bar{N}}(N - 183) = (N - 182) + 2868 + (N - 183) = \mathbf{2N} + \mathbf{2503} \\
&(N \geq 2868)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3079}) &= B_{\bar{N}}(2N + 3079 - B_{\bar{N}}(2N + 3078)) + B_{\bar{N}}(2N + 3079 - B_{\bar{N}}(2N + 3077)) + B_{\bar{N}}(2N + 3079 - B_{\bar{N}}(2N + 3076)) \\
&= B_{\bar{N}}(2N + 3079 - (2N + 2503)) + B_{\bar{N}}(2N + 3079 - (N + 3260)) + B_{\bar{N}}(2N + 3079 - (2N + 210)) \\
&= B_{\bar{N}}(576) + B_{\bar{N}}(N - 181) + B_{\bar{N}}(2869) = 576 + (N - 181) + 2869 = \mathbf{N} + \mathbf{3264} \\
&(N \geq 2869)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3080}) &= B_{\bar{N}}(2N + 3080 - B_{\bar{N}}(2N + 3079)) + B_{\bar{N}}(2N + 3080 - B_{\bar{N}}(2N + 3078)) + B_{\bar{N}}(2N + 3080 - B_{\bar{N}}(2N + 3077)) \\
&= B_{\bar{N}}(2N + 3080 - (N + 3264)) + B_{\bar{N}}(2N + 3080 - (2N + 2503)) + B_{\bar{N}}(2N + 3080 - (N + 3260)) \\
&= B_{\bar{N}}(N - 184) + B_{\bar{N}}(577) + B_{\bar{N}}(N - 180) = (N - 184) + 577 + (N - 180) = \mathbf{2N} + \mathbf{213} \\
&(N \geq 577)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3081}) &= B_{\bar{N}}(2N + 3081 - B_{\bar{N}}(2N + 3080)) + B_{\bar{N}}(2N + 3081 - B_{\bar{N}}(2N + 3079)) + B_{\bar{N}}(2N + 3081 - B_{\bar{N}}(2N + 3078)) \\
&= B_{\bar{N}}(2N + 3081 - (2N + 213)) + B_{\bar{N}}(2N + 3081 - (N + 3264)) + B_{\bar{N}}(2N + 3081 - (2N + 2503)) \\
&= B_{\bar{N}}(2868) + B_{\bar{N}}(N - 183) + B_{\bar{N}}(578) = 2868 + (N - 183) + 578 = \mathbf{N} + \mathbf{3263} \\
&(N \geq 2868)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3082}) &= B_{\bar{N}}(2N + 3082 - B_{\bar{N}}(2N + 3081)) + B_{\bar{N}}(2N + 3082 - B_{\bar{N}}(2N + 3080)) + B_{\bar{N}}(2N + 3082 - B_{\bar{N}}(2N + 3079)) \\
&= B_{\bar{N}}(2N + 3082 - (N + 3263)) + B_{\bar{N}}(2N + 3082 - (2N + 213)) + B_{\bar{N}}(2N + 3082 - (N + 3264)) \\
&= B_{\bar{N}}(N - 181) + B_{\bar{N}}(2869) + B_{\bar{N}}(N - 182) = (N - 181) + 2869 + (N - 182) = \mathbf{2N} + \mathbf{2506} \\
&(N \geq 2869)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3083}) &= B_{\bar{N}}(2N + 3083 - B_{\bar{N}}(2N + 3082)) + B_{\bar{N}}(2N + 3083 - B_{\bar{N}}(2N + 3081)) + B_{\bar{N}}(2N + 3083 - B_{\bar{N}}(2N + 3080)) \\
&= B_{\bar{N}}(2N + 3083 - (2N + 2506)) + B_{\bar{N}}(2N + 3083 - (N + 3263)) + B_{\bar{N}}(2N + 3083 - (2N + 213)) \\
&= B_{\bar{N}}(577) + B_{\bar{N}}(N - 180) + B_{\bar{N}}(2870) = 577 + (N - 180) + 2870 = \mathbf{N} + \mathbf{3267} \\
&(N \geq 2870)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3084}) &= B_{\bar{N}}(2N + 3084 - B_{\bar{N}}(2N + 3083)) + B_{\bar{N}}(2N + 3084 - B_{\bar{N}}(2N + 3082)) + B_{\bar{N}}(2N + 3084 - B_{\bar{N}}(2N + 3081)) \\
&= B_{\bar{N}}(2N + 3084 - (N + 3267)) + B_{\bar{N}}(2N + 3084 - (2N + 2506)) + B_{\bar{N}}(2N + 3084 - (N + 3263)) \\
&= B_{\bar{N}}(N - 183) + B_{\bar{N}}(578) + B_{\bar{N}}(N - 179) = (N - 183) + 578 + (N - 179) = \mathbf{2N} + \mathbf{216} \\
&(N \geq 578)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3085}) &= B_{\bar{N}}(2N + 3085 - B_{\bar{N}}(2N + 3084)) + B_{\bar{N}}(2N + 3085 - B_{\bar{N}}(2N + 3083)) + B_{\bar{N}}(2N + 3085 - B_{\bar{N}}(2N + 3082)) \\
&= B_{\bar{N}}(2N + 3085 - (2N + 216)) + B_{\bar{N}}(2N + 3085 - (N + 3267)) + B_{\bar{N}}(2N + 3085 - (2N + 2506)) \\
&= B_{\bar{N}}(2869) + B_{\bar{N}}(N - 182) + B_{\bar{N}}(579) = 2869 + (N - 182) + 579 = \mathbf{N} + \mathbf{3266} \\
&(N \geq 2869)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3086}) &= B_{\bar{N}}(2N + 3086 - B_{\bar{N}}(2N + 3085)) + B_{\bar{N}}(2N + 3086 - B_{\bar{N}}(2N + 3084)) + B_{\bar{N}}(2N + 3086 - B_{\bar{N}}(2N + 3083)) \\
&= B_{\bar{N}}(2N + 3086 - (N + 3266)) + B_{\bar{N}}(2N + 3086 - (2N + 216)) + B_{\bar{N}}(2N + 3086 - (N + 3267)) \\
&= B_{\bar{N}}(N - 180) + B_{\bar{N}}(2870) + B_{\bar{N}}(N - 181) = (N - 180) + 2870 + (N - 181) = \mathbf{2N} + \mathbf{2509} \\
&(N \geq 2870)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3087}) &= B_{\bar{N}}(2N + 3087 - B_{\bar{N}}(2N + 3086)) + B_{\bar{N}}(2N + 3087 - B_{\bar{N}}(2N + 3085)) + B_{\bar{N}}(2N + 3087 - B_{\bar{N}}(2N + 3084)) \\
&= B_{\bar{N}}(2N + 3087 - (2N + 2509)) + B_{\bar{N}}(2N + 3087 - (N + 3266)) + B_{\bar{N}}(2N + 3087 - (2N + 216)) \\
&= B_{\bar{N}}(578) + B_{\bar{N}}(N - 179) + B_{\bar{N}}(2871) = 578 + (N - 179) + 2871 = \mathbf{N} + \mathbf{3270} \\
&(N \geq 2871)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3088}) &= B_{\bar{N}}(2N + 3088 - B_{\bar{N}}(2N + 3087)) + B_{\bar{N}}(2N + 3088 - B_{\bar{N}}(2N + 3086)) + B_{\bar{N}}(2N + 3088 - B_{\bar{N}}(2N + 3085)) \\
&= B_{\bar{N}}(2N + 3088 - (N + 3270)) + B_{\bar{N}}(2N + 3088 - (2N + 2509)) + B_{\bar{N}}(2N + 3088 - (N + 3266)) \\
&= B_{\bar{N}}(N - 182) + B_{\bar{N}}(579) + B_{\bar{N}}(N - 178) = (N - 182) + 579 + (N - 178) = \mathbf{2N} + \mathbf{219} \\
&(N \geq 579)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3089}) &= B_{\bar{N}}(2N + 3089 - B_{\bar{N}}(2N + 3088)) + B_{\bar{N}}(2N + 3089 - B_{\bar{N}}(2N + 3087)) + B_{\bar{N}}(2N + 3089 - B_{\bar{N}}(2N + 3086)) \\
&= B_{\bar{N}}(2N + 3089 - (2N + 219)) + B_{\bar{N}}(2N + 3089 - (N + 3270)) + B_{\bar{N}}(2N + 3089 - (2N + 2509)) \\
&= B_{\bar{N}}(2870) + B_{\bar{N}}(N - 181) + B_{\bar{N}}(580) = 2870 + (N - 181) + 580 = \mathbf{N} + \mathbf{3269} \\
&(N \geq 2870)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3090}) &= B_{\bar{N}}(2N + 3090 - B_{\bar{N}}(2N + 3089)) + B_{\bar{N}}(2N + 3090 - B_{\bar{N}}(2N + 3088)) + B_{\bar{N}}(2N + 3090 - B_{\bar{N}}(2N + 3087)) \\
&= B_{\bar{N}}(2N + 3090 - (N + 3269)) + B_{\bar{N}}(2N + 3090 - (2N + 219)) + B_{\bar{N}}(2N + 3090 - (N + 3270)) \\
&= B_{\bar{N}}(N - 179) + B_{\bar{N}}(2871) + B_{\bar{N}}(N - 180) = (N - 179) + 2871 + (N - 180) = \mathbf{2N} + \mathbf{2512} \\
&(N \geq 2871)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3091}) &= B_{\bar{N}}(2N + 3091 - B_{\bar{N}}(2N + 3090)) + B_{\bar{N}}(2N + 3091 - B_{\bar{N}}(2N + 3089)) + B_{\bar{N}}(2N + 3091 - B_{\bar{N}}(2N + 3088)) \\
&= B_{\bar{N}}(2N + 3091 - (2N + 2512)) + B_{\bar{N}}(2N + 3091 - (N + 3269)) + B_{\bar{N}}(2N + 3091 - (2N + 219)) \\
&= B_{\bar{N}}(579) + B_{\bar{N}}(N - 178) + B_{\bar{N}}(2872) = 579 + (N - 178) + 2872 = \mathbf{N} + \mathbf{3273} \\
&(N \geq 2872)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3092}) &= B_{\bar{N}}(2N + 3092 - B_{\bar{N}}(2N + 3091)) + B_{\bar{N}}(2N + 3092 - B_{\bar{N}}(2N + 3090)) + B_{\bar{N}}(2N + 3092 - B_{\bar{N}}(2N + 3089)) \\
&= B_{\bar{N}}(2N + 3092 - (N + 3273)) + B_{\bar{N}}(2N + 3092 - (2N + 2512)) + B_{\bar{N}}(2N + 3092 - (N + 3269)) \\
&= B_{\bar{N}}(N - 181) + B_{\bar{N}}(580) + B_{\bar{N}}(N - 177) = (N - 181) + 580 + (N - 177) = \mathbf{2N} + \mathbf{222} \\
&(N \geq 580)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3093}) &= B_{\bar{N}}(2N + 3093 - B_{\bar{N}}(2N + 3092)) + B_{\bar{N}}(2N + 3093 - B_{\bar{N}}(2N + 3091)) + B_{\bar{N}}(2N + 3093 - B_{\bar{N}}(2N + 3090)) \\
&= B_{\bar{N}}(2N + 3093 - (2N + 222)) + B_{\bar{N}}(2N + 3093 - (N + 3273)) + B_{\bar{N}}(2N + 3093 - (2N + 2512)) \\
&= B_{\bar{N}}(2871) + B_{\bar{N}}(N - 180) + B_{\bar{N}}(581) = 2871 + (N - 180) + 581 = \mathbf{N} + \mathbf{3272} \\
&(N \geq 2871)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3094}) &= B_{\bar{N}}(2N + 3094 - B_{\bar{N}}(2N + 3093)) + B_{\bar{N}}(2N + 3094 - B_{\bar{N}}(2N + 3092)) + B_{\bar{N}}(2N + 3094 - B_{\bar{N}}(2N + 3091)) \\
&= B_{\bar{N}}(2N + 3094 - (N + 3272)) + B_{\bar{N}}(2N + 3094 - (2N + 222)) + B_{\bar{N}}(2N + 3094 - (N + 3273)) \\
&= B_{\bar{N}}(N - 178) + B_{\bar{N}}(2872) + B_{\bar{N}}(N - 179) = (N - 178) + 2872 + (N - 179) = \mathbf{2N} + \mathbf{2515} \\
&(N \geq 2872)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3095}) &= B_{\bar{N}}(2N + 3095 - B_{\bar{N}}(2N + 3094)) + B_{\bar{N}}(2N + 3095 - B_{\bar{N}}(2N + 3093)) + B_{\bar{N}}(2N + 3095 - B_{\bar{N}}(2N + 3092)) \\
&= B_{\bar{N}}(2N + 3095 - (2N + 2515)) + B_{\bar{N}}(2N + 3095 - (N + 3272)) + B_{\bar{N}}(2N + 3095 - (2N + 222)) \\
&= B_{\bar{N}}(580) + B_{\bar{N}}(N - 177) + B_{\bar{N}}(2873) = 580 + (N - 177) + 2873 = \mathbf{N} + \mathbf{3276} \\
&(N \geq 2873)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3096}) &= B_{\bar{N}}(2N + 3096 - B_{\bar{N}}(2N + 3095)) + B_{\bar{N}}(2N + 3096 - B_{\bar{N}}(2N + 3094)) + B_{\bar{N}}(2N + 3096 - B_{\bar{N}}(2N + 3093)) \\
&= B_{\bar{N}}(2N + 3096 - (N + 3276)) + B_{\bar{N}}(2N + 3096 - (2N + 2515)) + B_{\bar{N}}(2N + 3096 - (N + 3272)) \\
&= B_{\bar{N}}(N - 180) + B_{\bar{N}}(581) + B_{\bar{N}}(N - 176) = (N - 180) + 581 + (N - 176) = \mathbf{2N} + \mathbf{225} \\
&(N \geq 581)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3097}) &= B_{\bar{N}}(2N + 3097 - B_{\bar{N}}(2N + 3096)) + B_{\bar{N}}(2N + 3097 - B_{\bar{N}}(2N + 3095)) + B_{\bar{N}}(2N + 3097 - B_{\bar{N}}(2N + 3094)) \\
&= B_{\bar{N}}(2N + 3097 - (2N + 225)) + B_{\bar{N}}(2N + 3097 - (N + 3276)) + B_{\bar{N}}(2N + 3097 - (2N + 2515)) \\
&= B_{\bar{N}}(2872) + B_{\bar{N}}(N - 179) + B_{\bar{N}}(582) = 2872 + (N - 179) + 582 = \mathbf{N} + \mathbf{3275} \\
&(N \geq 2872)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3098}) &= B_{\bar{N}}(2N + 3098 - B_{\bar{N}}(2N + 3097)) + B_{\bar{N}}(2N + 3098 - B_{\bar{N}}(2N + 3096)) + B_{\bar{N}}(2N + 3098 - B_{\bar{N}}(2N + 3095)) \\
&= B_{\bar{N}}(2N + 3098 - (N + 3275)) + B_{\bar{N}}(2N + 3098 - (2N + 225)) + B_{\bar{N}}(2N + 3098 - (N + 3276)) \\
&= B_{\bar{N}}(N - 177) + B_{\bar{N}}(2873) + B_{\bar{N}}(N - 178) = (N - 177) + 2873 + (N - 178) = \mathbf{2N} + \mathbf{2518} \\
&(N \geq 2873)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3099}) &= B_{\bar{N}}(2N + 3099 - B_{\bar{N}}(2N + 3098)) + B_{\bar{N}}(2N + 3099 - B_{\bar{N}}(2N + 3097)) + B_{\bar{N}}(2N + 3099 - B_{\bar{N}}(2N + 3096)) \\
&= B_{\bar{N}}(2N + 3099 - (2N + 2518)) + B_{\bar{N}}(2N + 3099 - (N + 3275)) + B_{\bar{N}}(2N + 3099 - (2N + 225)) \\
&= B_{\bar{N}}(581) + B_{\bar{N}}(N - 176) + B_{\bar{N}}(2874) = 581 + (N - 176) + 2874 = \mathbf{N} + \mathbf{3279} \\
&(N \geq 2874)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3100}) &= B_{\bar{N}}(2N + 3100 - B_{\bar{N}}(2N + 3099)) + B_{\bar{N}}(2N + 3100 - B_{\bar{N}}(2N + 3098)) + B_{\bar{N}}(2N + 3100 - B_{\bar{N}}(2N + 3097)) \\
&= B_{\bar{N}}(2N + 3100 - (N + 3279)) + B_{\bar{N}}(2N + 3100 - (2N + 2518)) + B_{\bar{N}}(2N + 3100 - (N + 3275)) \\
&= B_{\bar{N}}(N - 179) + B_{\bar{N}}(582) + B_{\bar{N}}(N - 175) = (N - 179) + 582 + (N - 175) = \mathbf{2N} + \mathbf{228} \\
&(N \geq 582)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3101}) &= B_{\bar{N}}(2N + 3101 - B_{\bar{N}}(2N + 3100)) + B_{\bar{N}}(2N + 3101 - B_{\bar{N}}(2N + 3099)) + B_{\bar{N}}(2N + 3101 - B_{\bar{N}}(2N + 3098)) \\
&= B_{\bar{N}}(2N + 3101 - (2N + 228)) + B_{\bar{N}}(2N + 3101 - (N + 3279)) + B_{\bar{N}}(2N + 3101 - (2N + 2518)) \\
&= B_{\bar{N}}(2873) + B_{\bar{N}}(N - 178) + B_{\bar{N}}(583) = 2873 + (N - 178) + 583 = \mathbf{N} + \mathbf{3278} \\
&(N \geq 2873)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3102}) &= B_{\bar{N}}(2N + 3102 - B_{\bar{N}}(2N + 3101)) + B_{\bar{N}}(2N + 3102 - B_{\bar{N}}(2N + 3100)) + B_{\bar{N}}(2N + 3102 - B_{\bar{N}}(2N + 3099)) \\
&= B_{\bar{N}}(2N + 3102 - (N + 3278)) + B_{\bar{N}}(2N + 3102 - (2N + 228)) + B_{\bar{N}}(2N + 3102 - (N + 3279)) \\
&= B_{\bar{N}}(N - 176) + B_{\bar{N}}(2874) + B_{\bar{N}}(N - 177) = (N - 176) + 2874 + (N - 177) = \mathbf{2N} + \mathbf{2521} \\
&(N \geq 2874)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3103}) &= B_{\bar{N}}(2N + 3103 - B_{\bar{N}}(2N + 3102)) + B_{\bar{N}}(2N + 3103 - B_{\bar{N}}(2N + 3101)) + B_{\bar{N}}(2N + 3103 - B_{\bar{N}}(2N + 3100)) \\
&= B_{\bar{N}}(2N + 3103 - (2N + 2521)) + B_{\bar{N}}(2N + 3103 - (N + 3278)) + B_{\bar{N}}(2N + 3103 - (2N + 228)) \\
&= B_{\bar{N}}(582) + B_{\bar{N}}(N - 175) + B_{\bar{N}}(2875) = 582 + (N - 175) + 2875 = \mathbf{N} + \mathbf{3282} \\
&(N \geq 2875)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3104}) &= B_{\bar{N}}(2N + 3104 - B_{\bar{N}}(2N + 3103)) + B_{\bar{N}}(2N + 3104 - B_{\bar{N}}(2N + 3102)) + B_{\bar{N}}(2N + 3104 - B_{\bar{N}}(2N + 3101)) \\
&= B_{\bar{N}}(2N + 3104 - (N + 3282)) + B_{\bar{N}}(2N + 3104 - (2N + 2521)) + B_{\bar{N}}(2N + 3104 - (N + 3278)) \\
&= B_{\bar{N}}(N - 178) + B_{\bar{N}}(583) + B_{\bar{N}}(N - 174) = (N - 178) + 583 + (N - 174) = \mathbf{2N} + \mathbf{231} \\
&(N \geq 583)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3105}) &= B_{\bar{N}}(2N + 3105 - B_{\bar{N}}(2N + 3104)) + B_{\bar{N}}(2N + 3105 - B_{\bar{N}}(2N + 3103)) + B_{\bar{N}}(2N + 3105 - B_{\bar{N}}(2N + 3102)) \\
&= B_{\bar{N}}(2N + 3105 - (2N + 231)) + B_{\bar{N}}(2N + 3105 - (N + 3282)) + B_{\bar{N}}(2N + 3105 - (2N + 2521)) \\
&= B_{\bar{N}}(2874) + B_{\bar{N}}(N - 177) + B_{\bar{N}}(584) = 2874 + (N - 177) + 584 = \mathbf{N} + \mathbf{3281} \\
&(N \geq 2874)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3106}) &= B_{\bar{N}}(2N + 3106 - B_{\bar{N}}(2N + 3105)) + B_{\bar{N}}(2N + 3106 - B_{\bar{N}}(2N + 3104)) + B_{\bar{N}}(2N + 3106 - B_{\bar{N}}(2N + 3103)) \\
&= B_{\bar{N}}(2N + 3106 - (N + 3281)) + B_{\bar{N}}(2N + 3106 - (2N + 231)) + B_{\bar{N}}(2N + 3106 - (N + 3282)) \\
&= B_{\bar{N}}(N - 175) + B_{\bar{N}}(2875) + B_{\bar{N}}(N - 176) = (N - 175) + 2875 + (N - 176) = \mathbf{2N} + \mathbf{2524} \\
&(N \geq 2875)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3107}) &= B_{\bar{N}}(2N + 3107 - B_{\bar{N}}(2N + 3106)) + B_{\bar{N}}(2N + 3107 - B_{\bar{N}}(2N + 3105)) + B_{\bar{N}}(2N + 3107 - B_{\bar{N}}(2N + 3104)) \\
&= B_{\bar{N}}(2N + 3107 - (2N + 2524)) + B_{\bar{N}}(2N + 3107 - (N + 3281)) + B_{\bar{N}}(2N + 3107 - (2N + 231)) \\
&= B_{\bar{N}}(583) + B_{\bar{N}}(N - 174) + B_{\bar{N}}(2876) = 583 + (N - 174) + 2876 = \mathbf{N} + \mathbf{3285} \\
&(N \geq 2876)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3108}) &= B_{\bar{N}}(2N + 3108 - B_{\bar{N}}(2N + 3107)) + B_{\bar{N}}(2N + 3108 - B_{\bar{N}}(2N + 3106)) + B_{\bar{N}}(2N + 3108 - B_{\bar{N}}(2N + 3105)) \\
&= B_{\bar{N}}(2N + 3108 - (N + 3285)) + B_{\bar{N}}(2N + 3108 - (2N + 2524)) + B_{\bar{N}}(2N + 3108 - (N + 3281)) \\
&= B_{\bar{N}}(N - 177) + B_{\bar{N}}(584) + B_{\bar{N}}(N - 173) = (N - 177) + 584 + (N - 173) = \mathbf{2N} + \mathbf{234} \\
&(N \geq 584)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3109}) &= B_{\bar{N}}(2N + 3109 - B_{\bar{N}}(2N + 3108)) + B_{\bar{N}}(2N + 3109 - B_{\bar{N}}(2N + 3107)) + B_{\bar{N}}(2N + 3109 - B_{\bar{N}}(2N + 3106)) \\
&= B_{\bar{N}}(2N + 3109 - (2N + 234)) + B_{\bar{N}}(2N + 3109 - (N + 3285)) + B_{\bar{N}}(2N + 3109 - (2N + 2524)) \\
&= B_{\bar{N}}(2875) + B_{\bar{N}}(N - 176) + B_{\bar{N}}(585) = 2875 + (N - 176) + 585 = \mathbf{N} + \mathbf{3284} \\
&(N \geq 2875)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3110}) &= B_{\bar{N}}(2N + 3110 - B_{\bar{N}}(2N + 3109)) + B_{\bar{N}}(2N + 3110 - B_{\bar{N}}(2N + 3108)) + B_{\bar{N}}(2N + 3110 - B_{\bar{N}}(2N + 3107)) \\
&= B_{\bar{N}}(2N + 3110 - (N + 3284)) + B_{\bar{N}}(2N + 3110 - (2N + 234)) + B_{\bar{N}}(2N + 3110 - (N + 3285)) \\
&= B_{\bar{N}}(N - 174) + B_{\bar{N}}(2876) + B_{\bar{N}}(N - 175) = (N - 174) + 2876 + (N - 175) = \mathbf{2N} + \mathbf{2527} \\
&(N \geq 2876)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3111}) &= B_{\bar{N}}(2N + 3111 - B_{\bar{N}}(2N + 3110)) + B_{\bar{N}}(2N + 3111 - B_{\bar{N}}(2N + 3109)) + B_{\bar{N}}(2N + 3111 - B_{\bar{N}}(2N + 3108)) \\
&= B_{\bar{N}}(2N + 3111 - (2N + 2527)) + B_{\bar{N}}(2N + 3111 - (N + 3284)) + B_{\bar{N}}(2N + 3111 - (2N + 234)) \\
&= B_{\bar{N}}(584) + B_{\bar{N}}(N - 173) + B_{\bar{N}}(2877) = 584 + (N - 173) + 2877 = \mathbf{N} + \mathbf{3288} \\
&(N \geq 2877)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3112}) &= B_{\bar{N}}(2N + 3112 - B_{\bar{N}}(2N + 3111)) + B_{\bar{N}}(2N + 3112 - B_{\bar{N}}(2N + 3110)) + B_{\bar{N}}(2N + 3112 - B_{\bar{N}}(2N + 3109)) \\
&= B_{\bar{N}}(2N + 3112 - (N + 3288)) + B_{\bar{N}}(2N + 3112 - (2N + 2527)) + B_{\bar{N}}(2N + 3112 - (N + 3284)) \\
&= B_{\bar{N}}(N - 176) + B_{\bar{N}}(585) + B_{\bar{N}}(N - 172) = (N - 176) + 585 + (N - 172) = \mathbf{2N} + \mathbf{237} \\
&(N \geq 585)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3113}) &= B_{\bar{N}}(2N + 3113 - B_{\bar{N}}(2N + 3112)) + B_{\bar{N}}(2N + 3113 - B_{\bar{N}}(2N + 3111)) + B_{\bar{N}}(2N + 3113 - B_{\bar{N}}(2N + 3110)) \\
&= B_{\bar{N}}(2N + 3113 - (2N + 237)) + B_{\bar{N}}(2N + 3113 - (N + 3288)) + B_{\bar{N}}(2N + 3113 - (2N + 2527)) \\
&= B_{\bar{N}}(2876) + B_{\bar{N}}(N - 175) + B_{\bar{N}}(586) = 2876 + (N - 175) + 586 = \mathbf{N} + \mathbf{3287} \\
&(N \geq 2876)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3114}) &= B_{\bar{N}}(2N + 3114 - B_{\bar{N}}(2N + 3113)) + B_{\bar{N}}(2N + 3114 - B_{\bar{N}}(2N + 3112)) + B_{\bar{N}}(2N + 3114 - B_{\bar{N}}(2N + 3111)) \\
&= B_{\bar{N}}(2N + 3114 - (N + 3287)) + B_{\bar{N}}(2N + 3114 - (2N + 237)) + B_{\bar{N}}(2N + 3114 - (N + 3288)) \\
&= B_{\bar{N}}(N - 173) + B_{\bar{N}}(2877) + B_{\bar{N}}(N - 174) = (N - 173) + 2877 + (N - 174) = \mathbf{2N} + \mathbf{2530} \\
&(N \geq 2877)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3115}) &= B_{\bar{N}}(2N + 3115 - B_{\bar{N}}(2N + 3114)) + B_{\bar{N}}(2N + 3115 - B_{\bar{N}}(2N + 3113)) + B_{\bar{N}}(2N + 3115 - B_{\bar{N}}(2N + 3112)) \\
&= B_{\bar{N}}(2N + 3115 - (2N + 2530)) + B_{\bar{N}}(2N + 3115 - (N + 3287)) + B_{\bar{N}}(2N + 3115 - (2N + 237)) \\
&= B_{\bar{N}}(585) + B_{\bar{N}}(N - 172) + B_{\bar{N}}(2878) = 585 + (N - 172) + 2878 = \mathbf{N} + \mathbf{3291} \\
&(N \geq 2878)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3116}) &= B_{\bar{N}}(2N + 3116 - B_{\bar{N}}(2N + 3115)) + B_{\bar{N}}(2N + 3116 - B_{\bar{N}}(2N + 3114)) + B_{\bar{N}}(2N + 3116 - B_{\bar{N}}(2N + 3113)) \\
&= B_{\bar{N}}(2N + 3116 - (N + 3291)) + B_{\bar{N}}(2N + 3116 - (2N + 2530)) + B_{\bar{N}}(2N + 3116 - (N + 3287)) \\
&= B_{\bar{N}}(N - 175) + B_{\bar{N}}(586) + B_{\bar{N}}(N - 171) = (N - 175) + 586 + (N - 171) = \mathbf{2N} + \mathbf{240} \\
&(N \geq 586)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3117}) &= B_{\bar{N}}(2N + 3117 - B_{\bar{N}}(2N + 3116)) + B_{\bar{N}}(2N + 3117 - B_{\bar{N}}(2N + 3115)) + B_{\bar{N}}(2N + 3117 - B_{\bar{N}}(2N + 3114)) \\
&= B_{\bar{N}}(2N + 3117 - (2N + 240)) + B_{\bar{N}}(2N + 3117 - (N + 3291)) + B_{\bar{N}}(2N + 3117 - (2N + 2530)) \\
&= B_{\bar{N}}(2877) + B_{\bar{N}}(N - 174) + B_{\bar{N}}(587) = 2877 + (N - 174) + 587 = \mathbf{N} + \mathbf{3290} \\
&(N \geq 2877)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3118}) &= B_{\bar{N}}(2N + 3118 - B_{\bar{N}}(2N + 3117)) + B_{\bar{N}}(2N + 3118 - B_{\bar{N}}(2N + 3116)) + B_{\bar{N}}(2N + 3118 - B_{\bar{N}}(2N + 3115)) \\
&= B_{\bar{N}}(2N + 3118 - (N + 3290)) + B_{\bar{N}}(2N + 3118 - (2N + 240)) + B_{\bar{N}}(2N + 3118 - (N + 3291)) \\
&= B_{\bar{N}}(N - 172) + B_{\bar{N}}(2878) + B_{\bar{N}}(N - 173) = (N - 172) + 2878 + (N - 173) = \mathbf{2N} + \mathbf{2533} \\
&(N \geq 2878)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3119}) &= B_{\bar{N}}(2N + 3119 - B_{\bar{N}}(2N + 3118)) + B_{\bar{N}}(2N + 3119 - B_{\bar{N}}(2N + 3117)) + B_{\bar{N}}(2N + 3119 - B_{\bar{N}}(2N + 3116)) \\
&= B_{\bar{N}}(2N + 3119 - (2N + 2533)) + B_{\bar{N}}(2N + 3119 - (N + 3290)) + B_{\bar{N}}(2N + 3119 - (2N + 240)) \\
&= B_{\bar{N}}(586) + B_{\bar{N}}(N - 171) + B_{\bar{N}}(2879) = 586 + (N - 171) + 2879 = \mathbf{N} + \mathbf{3294} \\
&(N \geq 2879)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3120}) &= B_{\bar{N}}(2N + 3120 - B_{\bar{N}}(2N + 3119)) + B_{\bar{N}}(2N + 3120 - B_{\bar{N}}(2N + 3118)) + B_{\bar{N}}(2N + 3120 - B_{\bar{N}}(2N + 3117)) \\
&= B_{\bar{N}}(2N + 3120 - (N + 3294)) + B_{\bar{N}}(2N + 3120 - (2N + 2533)) + B_{\bar{N}}(2N + 3120 - (N + 3290)) \\
&= B_{\bar{N}}(N - 174) + B_{\bar{N}}(587) + B_{\bar{N}}(N - 170) = (N - 174) + 587 + (N - 170) = \mathbf{2N} + \mathbf{243} \\
&(N \geq 587)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3121}) &= B_{\bar{N}}(2N + 3121 - B_{\bar{N}}(2N + 3120)) + B_{\bar{N}}(2N + 3121 - B_{\bar{N}}(2N + 3119)) + B_{\bar{N}}(2N + 3121 - B_{\bar{N}}(2N + 3118)) \\
&= B_{\bar{N}}(2N + 3121 - (2N + 243)) + B_{\bar{N}}(2N + 3121 - (N + 3294)) + B_{\bar{N}}(2N + 3121 - (2N + 2533)) \\
&= B_{\bar{N}}(2878) + B_{\bar{N}}(N - 173) + B_{\bar{N}}(588) = 2878 + (N - 173) + 588 = \mathbf{N} + \mathbf{3293} \\
&(N \geq 2878)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3122}) &= B_{\bar{N}}(2N + 3122 - B_{\bar{N}}(2N + 3121)) + B_{\bar{N}}(2N + 3122 - B_{\bar{N}}(2N + 3120)) + B_{\bar{N}}(2N + 3122 - B_{\bar{N}}(2N + 3119)) \\
&= B_{\bar{N}}(2N + 3122 - (N + 3293)) + B_{\bar{N}}(2N + 3122 - (2N + 243)) + B_{\bar{N}}(2N + 3122 - (N + 3294)) \\
&= B_{\bar{N}}(N - 171) + B_{\bar{N}}(2879) + B_{\bar{N}}(N - 172) = (N - 171) + 2879 + (N - 172) = \mathbf{2N} + \mathbf{2536} \\
&(N \geq 2879)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3123}) &= B_{\bar{N}}(2N + 3123 - B_{\bar{N}}(2N + 3122)) + B_{\bar{N}}(2N + 3123 - B_{\bar{N}}(2N + 3121)) + B_{\bar{N}}(2N + 3123 - B_{\bar{N}}(2N + 3120)) \\
&= B_{\bar{N}}(2N + 3123 - (2N + 2536)) + B_{\bar{N}}(2N + 3123 - (N + 3293)) + B_{\bar{N}}(2N + 3123 - (2N + 243)) \\
&= B_{\bar{N}}(587) + B_{\bar{N}}(N - 170) + B_{\bar{N}}(2880) = 587 + (N - 170) + 2880 = \mathbf{N} + \mathbf{3297} \\
&(N \geq 2880)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3124}) &= B_{\bar{N}}(2N + 3124 - B_{\bar{N}}(2N + 3123)) + B_{\bar{N}}(2N + 3124 - B_{\bar{N}}(2N + 3122)) + B_{\bar{N}}(2N + 3124 - B_{\bar{N}}(2N + 3121)) \\
&= B_{\bar{N}}(2N + 3124 - (N + 3297)) + B_{\bar{N}}(2N + 3124 - (2N + 2536)) + B_{\bar{N}}(2N + 3124 - (N + 3293)) \\
&= B_{\bar{N}}(N - 173) + B_{\bar{N}}(588) + B_{\bar{N}}(N - 169) = (N - 173) + 588 + (N - 169) = \mathbf{2N} + \mathbf{246} \\
&(N \geq 588)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3125}) &= B_{\bar{N}}(2N + 3125 - B_{\bar{N}}(2N + 3124)) + B_{\bar{N}}(2N + 3125 - B_{\bar{N}}(2N + 3123)) + B_{\bar{N}}(2N + 3125 - B_{\bar{N}}(2N + 3122)) \\
&= B_{\bar{N}}(2N + 3125 - (2N + 246)) + B_{\bar{N}}(2N + 3125 - (N + 3297)) + B_{\bar{N}}(2N + 3125 - (2N + 2536)) \\
&= B_{\bar{N}}(2879) + B_{\bar{N}}(N - 172) + B_{\bar{N}}(589) = 2879 + (N - 172) + 589 = \mathbf{N} + \mathbf{3296} \\
&(N \geq 2879)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3126}) &= B_{\bar{N}}(2N + 3126 - B_{\bar{N}}(2N + 3125)) + B_{\bar{N}}(2N + 3126 - B_{\bar{N}}(2N + 3124)) + B_{\bar{N}}(2N + 3126 - B_{\bar{N}}(2N + 3123)) \\
&= B_{\bar{N}}(2N + 3126 - (N + 3296)) + B_{\bar{N}}(2N + 3126 - (2N + 246)) + B_{\bar{N}}(2N + 3126 - (N + 3297)) \\
&= B_{\bar{N}}(N - 170) + B_{\bar{N}}(2880) + B_{\bar{N}}(N - 171) = (N - 170) + 2880 + (N - 171) = \mathbf{2N} + \mathbf{2539} \\
&(N \geq 2880)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3127}) &= B_{\bar{N}}(2N + 3127 - B_{\bar{N}}(2N + 3126)) + B_{\bar{N}}(2N + 3127 - B_{\bar{N}}(2N + 3125)) + B_{\bar{N}}(2N + 3127 - B_{\bar{N}}(2N + 3124)) \\
&= B_{\bar{N}}(2N + 3127 - (2N + 2539)) + B_{\bar{N}}(2N + 3127 - (N + 3296)) + B_{\bar{N}}(2N + 3127 - (2N + 246)) \\
&= B_{\bar{N}}(588) + B_{\bar{N}}(N - 169) + B_{\bar{N}}(2881) = 588 + (N - 169) + 2881 = \mathbf{N} + \mathbf{3300} \\
&(N \geq 2881)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3128}) &= B_{\bar{N}}(2N + 3128 - B_{\bar{N}}(2N + 3127)) + B_{\bar{N}}(2N + 3128 - B_{\bar{N}}(2N + 3126)) + B_{\bar{N}}(2N + 3128 - B_{\bar{N}}(2N + 3125)) \\
&= B_{\bar{N}}(2N + 3128 - (N + 3300)) + B_{\bar{N}}(2N + 3128 - (2N + 2539)) + B_{\bar{N}}(2N + 3128 - (N + 3296)) \\
&= B_{\bar{N}}(N - 172) + B_{\bar{N}}(589) + B_{\bar{N}}(N - 168) = (N - 172) + 589 + (N - 168) = \mathbf{2N} + \mathbf{249} \\
&(N \geq 589)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3129}) &= B_{\bar{N}}(2N + 3129 - B_{\bar{N}}(2N + 3128)) + B_{\bar{N}}(2N + 3129 - B_{\bar{N}}(2N + 3127)) + B_{\bar{N}}(2N + 3129 - B_{\bar{N}}(2N + 3126)) \\
&= B_{\bar{N}}(2N + 3129 - (2N + 249)) + B_{\bar{N}}(2N + 3129 - (N + 3300)) + B_{\bar{N}}(2N + 3129 - (2N + 2539)) \\
&= B_{\bar{N}}(2880) + B_{\bar{N}}(N - 171) + B_{\bar{N}}(590) = 2880 + (N - 171) + 590 = \mathbf{N} + \mathbf{3299} \\
&(N \geq 2880)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3130}) &= B_{\bar{N}}(2N + 3130 - B_{\bar{N}}(2N + 3129)) + B_{\bar{N}}(2N + 3130 - B_{\bar{N}}(2N + 3128)) + B_{\bar{N}}(2N + 3130 - B_{\bar{N}}(2N + 3127)) \\
&= B_{\bar{N}}(2N + 3130 - (N + 3299)) + B_{\bar{N}}(2N + 3130 - (2N + 249)) + B_{\bar{N}}(2N + 3130 - (N + 3300)) \\
&= B_{\bar{N}}(N - 169) + B_{\bar{N}}(2881) + B_{\bar{N}}(N - 170) = (N - 169) + 2881 + (N - 170) = \mathbf{2N} + \mathbf{2542} \\
&(N \geq 2881)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3131}) &= B_{\bar{N}}(2N + 3131 - B_{\bar{N}}(2N + 3130)) + B_{\bar{N}}(2N + 3131 - B_{\bar{N}}(2N + 3129)) + B_{\bar{N}}(2N + 3131 - B_{\bar{N}}(2N + 3128)) \\
&= B_{\bar{N}}(2N + 3131 - (2N + 2542)) + B_{\bar{N}}(2N + 3131 - (N + 3299)) + B_{\bar{N}}(2N + 3131 - (2N + 249)) \\
&= B_{\bar{N}}(589) + B_{\bar{N}}(N - 168) + B_{\bar{N}}(2882) = 589 + (N - 168) + 2882 = \mathbf{N} + \mathbf{3303} \\
&(N \geq 2882)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3132}) &= B_{\bar{N}}(2N + 3132 - B_{\bar{N}}(2N + 3131)) + B_{\bar{N}}(2N + 3132 - B_{\bar{N}}(2N + 3130)) + B_{\bar{N}}(2N + 3132 - B_{\bar{N}}(2N + 3129)) \\
&= B_{\bar{N}}(2N + 3132 - (N + 3303)) + B_{\bar{N}}(2N + 3132 - (2N + 2542)) + B_{\bar{N}}(2N + 3132 - (N + 3299)) \\
&= B_{\bar{N}}(N - 171) + B_{\bar{N}}(590) + B_{\bar{N}}(N - 167) = (N - 171) + 590 + (N - 167) = \mathbf{2N} + \mathbf{252} \\
&(N \geq 590)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3133}) &= B_{\bar{N}}(2N + 3133 - B_{\bar{N}}(2N + 3132)) + B_{\bar{N}}(2N + 3133 - B_{\bar{N}}(2N + 3131)) + B_{\bar{N}}(2N + 3133 - B_{\bar{N}}(2N + 3130)) \\
&= B_{\bar{N}}(2N + 3133 - (2N + 252)) + B_{\bar{N}}(2N + 3133 - (N + 3303)) + B_{\bar{N}}(2N + 3133 - (2N + 2542)) \\
&= B_{\bar{N}}(2881) + B_{\bar{N}}(N - 170) + B_{\bar{N}}(591) = 2881 + (N - 170) + 591 = \mathbf{N} + \mathbf{3302} \\
&(N \geq 2881)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3134}) &= B_{\bar{N}}(2N + 3134 - B_{\bar{N}}(2N + 3133)) + B_{\bar{N}}(2N + 3134 - B_{\bar{N}}(2N + 3132)) + B_{\bar{N}}(2N + 3134 - B_{\bar{N}}(2N + 3131)) \\
&= B_{\bar{N}}(2N + 3134 - (N + 3302)) + B_{\bar{N}}(2N + 3134 - (2N + 252)) + B_{\bar{N}}(2N + 3134 - (N + 3303)) \\
&= B_{\bar{N}}(N - 168) + B_{\bar{N}}(2882) + B_{\bar{N}}(N - 169) = (N - 168) + 2882 + (N - 169) = \mathbf{2N} + \mathbf{2545} \\
&(N \geq 2882)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3135}) &= B_{\bar{N}}(2N + 3135 - B_{\bar{N}}(2N + 3134)) + B_{\bar{N}}(2N + 3135 - B_{\bar{N}}(2N + 3133)) + B_{\bar{N}}(2N + 3135 - B_{\bar{N}}(2N + 3132)) \\
&= B_{\bar{N}}(2N + 3135 - (2N + 2545)) + B_{\bar{N}}(2N + 3135 - (N + 3302)) + B_{\bar{N}}(2N + 3135 - (2N + 252)) \\
&= B_{\bar{N}}(590) + B_{\bar{N}}(N - 167) + B_{\bar{N}}(2883) = 590 + (N - 167) + 2883 = \mathbf{N} + \mathbf{3306} \\
&(N \geq 2883)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3136}) &= B_{\bar{N}}(2N + 3136 - B_{\bar{N}}(2N + 3135)) + B_{\bar{N}}(2N + 3136 - B_{\bar{N}}(2N + 3134)) + B_{\bar{N}}(2N + 3136 - B_{\bar{N}}(2N + 3133)) \\
&= B_{\bar{N}}(2N + 3136 - (N + 3306)) + B_{\bar{N}}(2N + 3136 - (2N + 2545)) + B_{\bar{N}}(2N + 3136 - (N + 3302)) \\
&= B_{\bar{N}}(N - 170) + B_{\bar{N}}(591) + B_{\bar{N}}(N - 166) = (N - 170) + 591 + (N - 166) = \mathbf{2N} + \mathbf{255} \\
&(N \geq 591)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3137}) &= B_{\bar{N}}(2N + 3137 - B_{\bar{N}}(2N + 3136)) + B_{\bar{N}}(2N + 3137 - B_{\bar{N}}(2N + 3135)) + B_{\bar{N}}(2N + 3137 - B_{\bar{N}}(2N + 3134)) \\
&= B_{\bar{N}}(2N + 3137 - (2N + 255)) + B_{\bar{N}}(2N + 3137 - (N + 3306)) + B_{\bar{N}}(2N + 3137 - (2N + 2545)) \\
&= B_{\bar{N}}(2882) + B_{\bar{N}}(N - 169) + B_{\bar{N}}(592) = 2882 + (N - 169) + 592 = \mathbf{N} + \mathbf{3305} \\
&(N \geq 2882)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3138}) &= B_{\bar{N}}(2N + 3138 - B_{\bar{N}}(2N + 3137)) + B_{\bar{N}}(2N + 3138 - B_{\bar{N}}(2N + 3136)) + B_{\bar{N}}(2N + 3138 - B_{\bar{N}}(2N + 3135)) \\
&= B_{\bar{N}}(2N + 3138 - (N + 3305)) + B_{\bar{N}}(2N + 3138 - (2N + 255)) + B_{\bar{N}}(2N + 3138 - (N + 3306)) \\
&= B_{\bar{N}}(N - 167) + B_{\bar{N}}(2883) + B_{\bar{N}}(N - 168) = (N - 167) + 2883 + (N - 168) = \mathbf{2N} + \mathbf{2548} \\
&(N \geq 2883)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3139}) &= B_{\bar{N}}(2N + 3139 - B_{\bar{N}}(2N + 3138)) + B_{\bar{N}}(2N + 3139 - B_{\bar{N}}(2N + 3137)) + B_{\bar{N}}(2N + 3139 - B_{\bar{N}}(2N + 3136)) \\
&= B_{\bar{N}}(2N + 3139 - (2N + 2548)) + B_{\bar{N}}(2N + 3139 - (N + 3305)) + B_{\bar{N}}(2N + 3139 - (2N + 255)) \\
&= B_{\bar{N}}(591) + B_{\bar{N}}(N - 166) + B_{\bar{N}}(2884) = 591 + (N - 166) + 2884 = \mathbf{N} + \mathbf{3309} \\
&(N \geq 2884)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3140}) &= B_{\bar{N}}(2N + 3140 - B_{\bar{N}}(2N + 3139)) + B_{\bar{N}}(2N + 3140 - B_{\bar{N}}(2N + 3138)) + B_{\bar{N}}(2N + 3140 - B_{\bar{N}}(2N + 3137)) \\
&= B_{\bar{N}}(2N + 3140 - (N + 3309)) + B_{\bar{N}}(2N + 3140 - (2N + 2548)) + B_{\bar{N}}(2N + 3140 - (N + 3305)) \\
&= B_{\bar{N}}(N - 169) + B_{\bar{N}}(592) + B_{\bar{N}}(N - 165) = (N - 169) + 592 + (N - 165) = \mathbf{2N} + \mathbf{258} \\
&(N \geq 592)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3141}) &= B_{\bar{N}}(2N + 3141 - B_{\bar{N}}(2N + 3140)) + B_{\bar{N}}(2N + 3141 - B_{\bar{N}}(2N + 3139)) + B_{\bar{N}}(2N + 3141 - B_{\bar{N}}(2N + 3138)) \\
&= B_{\bar{N}}(2N + 3141 - (2N + 258)) + B_{\bar{N}}(2N + 3141 - (N + 3309)) + B_{\bar{N}}(2N + 3141 - (2N + 2548)) \\
&= B_{\bar{N}}(2883) + B_{\bar{N}}(N - 168) + B_{\bar{N}}(593) = 2883 + (N - 168) + 593 = \mathbf{N} + \mathbf{3308} \\
&(N \geq 2883)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3142}) &= B_{\bar{N}}(2N + 3142 - B_{\bar{N}}(2N + 3141)) + B_{\bar{N}}(2N + 3142 - B_{\bar{N}}(2N + 3140)) + B_{\bar{N}}(2N + 3142 - B_{\bar{N}}(2N + 3139)) \\
&= B_{\bar{N}}(2N + 3142 - (N + 3308)) + B_{\bar{N}}(2N + 3142 - (2N + 258)) + B_{\bar{N}}(2N + 3142 - (N + 3309)) \\
&= B_{\bar{N}}(N - 166) + B_{\bar{N}}(2884) + B_{\bar{N}}(N - 167) = (N - 166) + 2884 + (N - 167) = \mathbf{2N} + \mathbf{2551} \\
&(N \geq 2884)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3143}) &= B_{\bar{N}}(2N + 3143 - B_{\bar{N}}(2N + 3142)) + B_{\bar{N}}(2N + 3143 - B_{\bar{N}}(2N + 3141)) + B_{\bar{N}}(2N + 3143 - B_{\bar{N}}(2N + 3140)) \\
&= B_{\bar{N}}(2N + 3143 - (2N + 2551)) + B_{\bar{N}}(2N + 3143 - (N + 3308)) + B_{\bar{N}}(2N + 3143 - (2N + 258)) \\
&= B_{\bar{N}}(592) + B_{\bar{N}}(N - 165) + B_{\bar{N}}(2885) = 592 + (N - 165) + 2885 = \mathbf{N} + \mathbf{3312} \\
&(N \geq 2885)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3144}) &= B_{\bar{N}}(2N + 3144 - B_{\bar{N}}(2N + 3143)) + B_{\bar{N}}(2N + 3144 - B_{\bar{N}}(2N + 3142)) + B_{\bar{N}}(2N + 3144 - B_{\bar{N}}(2N + 3141)) \\
&= B_{\bar{N}}(2N + 3144 - (N + 3312)) + B_{\bar{N}}(2N + 3144 - (2N + 2551)) + B_{\bar{N}}(2N + 3144 - (N + 3308)) \\
&= B_{\bar{N}}(N - 168) + B_{\bar{N}}(593) + B_{\bar{N}}(N - 164) = (N - 168) + 593 + (N - 164) = \mathbf{2N} + \mathbf{261} \\
&(N \geq 593)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3145}) &= B_{\bar{N}}(2N + 3145 - B_{\bar{N}}(2N + 3144)) + B_{\bar{N}}(2N + 3145 - B_{\bar{N}}(2N + 3143)) + B_{\bar{N}}(2N + 3145 - B_{\bar{N}}(2N + 3142)) \\
&= B_{\bar{N}}(2N + 3145 - (2N + 261)) + B_{\bar{N}}(2N + 3145 - (N + 3312)) + B_{\bar{N}}(2N + 3145 - (2N + 2551)) \\
&= B_{\bar{N}}(2884) + B_{\bar{N}}(N - 167) + B_{\bar{N}}(594) = 2884 + (N - 167) + 594 = \mathbf{N} + \mathbf{3311} \\
&(N \geq 2884)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3146}) &= B_{\bar{N}}(2N + 3146 - B_{\bar{N}}(2N + 3145)) + B_{\bar{N}}(2N + 3146 - B_{\bar{N}}(2N + 3144)) + B_{\bar{N}}(2N + 3146 - B_{\bar{N}}(2N + 3143)) \\
&= B_{\bar{N}}(2N + 3146 - (N + 3311)) + B_{\bar{N}}(2N + 3146 - (2N + 261)) + B_{\bar{N}}(2N + 3146 - (N + 3312)) \\
&= B_{\bar{N}}(N - 165) + B_{\bar{N}}(2885) + B_{\bar{N}}(N - 166) = (N - 165) + 2885 + (N - 166) = \mathbf{2N} + \mathbf{2554} \\
&(N \geq 2885)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3147}) &= B_{\bar{N}}(2N + 3147 - B_{\bar{N}}(2N + 3146)) + B_{\bar{N}}(2N + 3147 - B_{\bar{N}}(2N + 3145)) + B_{\bar{N}}(2N + 3147 - B_{\bar{N}}(2N + 3144)) \\
&= B_{\bar{N}}(2N + 3147 - (2N + 2554)) + B_{\bar{N}}(2N + 3147 - (N + 3311)) + B_{\bar{N}}(2N + 3147 - (2N + 261)) \\
&= B_{\bar{N}}(593) + B_{\bar{N}}(N - 164) + B_{\bar{N}}(2886) = 593 + (N - 164) + 2886 = \mathbf{N} + \mathbf{3315} \\
&(N \geq 2886)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3148}) &= B_{\bar{N}}(2N + 3148 - B_{\bar{N}}(2N + 3147)) + B_{\bar{N}}(2N + 3148 - B_{\bar{N}}(2N + 3146)) + B_{\bar{N}}(2N + 3148 - B_{\bar{N}}(2N + 3145)) \\
&= B_{\bar{N}}(2N + 3148 - (N + 3315)) + B_{\bar{N}}(2N + 3148 - (2N + 2554)) + B_{\bar{N}}(2N + 3148 - (N + 3311)) \\
&= B_{\bar{N}}(N - 167) + B_{\bar{N}}(594) + B_{\bar{N}}(N - 163) = (N - 167) + 594 + (N - 163) = \mathbf{2N} + \mathbf{264} \\
&(N \geq 594)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3149}) &= B_{\bar{N}}(2N + 3149 - B_{\bar{N}}(2N + 3148)) + B_{\bar{N}}(2N + 3149 - B_{\bar{N}}(2N + 3147)) + B_{\bar{N}}(2N + 3149 - B_{\bar{N}}(2N + 3146)) \\
&= B_{\bar{N}}(2N + 3149 - (2N + 264)) + B_{\bar{N}}(2N + 3149 - (N + 3315)) + B_{\bar{N}}(2N + 3149 - (2N + 2554)) \\
&= B_{\bar{N}}(2885) + B_{\bar{N}}(N - 166) + B_{\bar{N}}(595) = 2885 + (N - 166) + 595 = \mathbf{N} + \mathbf{3314} \\
&(N \geq 2885)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3150}) &= B_{\bar{N}}(2N + 3150 - B_{\bar{N}}(2N + 3149)) + B_{\bar{N}}(2N + 3150 - B_{\bar{N}}(2N + 3148)) + B_{\bar{N}}(2N + 3150 - B_{\bar{N}}(2N + 3147)) \\
&= B_{\bar{N}}(2N + 3150 - (N + 3314)) + B_{\bar{N}}(2N + 3150 - (2N + 264)) + B_{\bar{N}}(2N + 3150 - (N + 3315)) \\
&= B_{\bar{N}}(N - 164) + B_{\bar{N}}(2886) + B_{\bar{N}}(N - 165) = (N - 164) + 2886 + (N - 165) = \mathbf{2N} + \mathbf{2557} \\
&(N \geq 2886)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3151}) &= B_{\bar{N}}(2N + 3151 - B_{\bar{N}}(2N + 3150)) + B_{\bar{N}}(2N + 3151 - B_{\bar{N}}(2N + 3149)) + B_{\bar{N}}(2N + 3151 - B_{\bar{N}}(2N + 3148)) \\
&= B_{\bar{N}}(2N + 3151 - (2N + 2557)) + B_{\bar{N}}(2N + 3151 - (N + 3314)) + B_{\bar{N}}(2N + 3151 - (2N + 264)) \\
&= B_{\bar{N}}(594) + B_{\bar{N}}(N - 163) + B_{\bar{N}}(2887) = 594 + (N - 163) + 2887 = \mathbf{N} + \mathbf{3318} \\
&(N \geq 2887)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3152}) &= B_{\bar{N}}(2N + 3152 - B_{\bar{N}}(2N + 3151)) + B_{\bar{N}}(2N + 3152 - B_{\bar{N}}(2N + 3150)) + B_{\bar{N}}(2N + 3152 - B_{\bar{N}}(2N + 3149)) \\
&= B_{\bar{N}}(2N + 3152 - (N + 3318)) + B_{\bar{N}}(2N + 3152 - (2N + 2557)) + B_{\bar{N}}(2N + 3152 - (N + 3314)) \\
&= B_{\bar{N}}(N - 166) + B_{\bar{N}}(595) + B_{\bar{N}}(N - 162) = (N - 166) + 595 + (N - 162) = \mathbf{2N} + \mathbf{267} \\
&(N \geq 595)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3153}) &= B_{\bar{N}}(2N + 3153 - B_{\bar{N}}(2N + 3152)) + B_{\bar{N}}(2N + 3153 - B_{\bar{N}}(2N + 3151)) + B_{\bar{N}}(2N + 3153 - B_{\bar{N}}(2N + 3150)) \\
&= B_{\bar{N}}(2N + 3153 - (2N + 267)) + B_{\bar{N}}(2N + 3153 - (N + 3318)) + B_{\bar{N}}(2N + 3153 - (2N + 2557)) \\
&= B_{\bar{N}}(2886) + B_{\bar{N}}(N - 165) + B_{\bar{N}}(596) = 2886 + (N - 165) + 596 = \mathbf{N} + \mathbf{3317} \\
&(N \geq 2886)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3154}) &= B_{\bar{N}}(2N + 3154 - B_{\bar{N}}(2N + 3153)) + B_{\bar{N}}(2N + 3154 - B_{\bar{N}}(2N + 3152)) + B_{\bar{N}}(2N + 3154 - B_{\bar{N}}(2N + 3151)) \\
&= B_{\bar{N}}(2N + 3154 - (N + 3317)) + B_{\bar{N}}(2N + 3154 - (2N + 267)) + B_{\bar{N}}(2N + 3154 - (N + 3318)) \\
&= B_{\bar{N}}(N - 163) + B_{\bar{N}}(2887) + B_{\bar{N}}(N - 164) = (N - 163) + 2887 + (N - 164) = \mathbf{2N} + \mathbf{2560} \\
&(N \geq 2887)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3155}) &= B_{\bar{N}}(2N + 3155 - B_{\bar{N}}(2N + 3154)) + B_{\bar{N}}(2N + 3155 - B_{\bar{N}}(2N + 3153)) + B_{\bar{N}}(2N + 3155 - B_{\bar{N}}(2N + 3152)) \\
&= B_{\bar{N}}(2N + 3155 - (2N + 2560)) + B_{\bar{N}}(2N + 3155 - (N + 3317)) + B_{\bar{N}}(2N + 3155 - (2N + 267)) \\
&= B_{\bar{N}}(595) + B_{\bar{N}}(N - 162) + B_{\bar{N}}(2888) = 595 + (N - 162) + 2888 = \mathbf{N} + \mathbf{3321} \\
&(N \geq 2888)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3156}) &= B_{\bar{N}}(2N + 3156 - B_{\bar{N}}(2N + 3155)) + B_{\bar{N}}(2N + 3156 - B_{\bar{N}}(2N + 3154)) + B_{\bar{N}}(2N + 3156 - B_{\bar{N}}(2N + 3153)) \\
&= B_{\bar{N}}(2N + 3156 - (N + 3321)) + B_{\bar{N}}(2N + 3156 - (2N + 2560)) + B_{\bar{N}}(2N + 3156 - (N + 3317)) \\
&= B_{\bar{N}}(N - 165) + B_{\bar{N}}(596) + B_{\bar{N}}(N - 161) = (N - 165) + 596 + (N - 161) = \mathbf{2N} + \mathbf{270} \\
&(N \geq 596)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3157}) &= B_{\bar{N}}(2N + 3157 - B_{\bar{N}}(2N + 3156)) + B_{\bar{N}}(2N + 3157 - B_{\bar{N}}(2N + 3155)) + B_{\bar{N}}(2N + 3157 - B_{\bar{N}}(2N + 3154)) \\
&= B_{\bar{N}}(2N + 3157 - (2N + 270)) + B_{\bar{N}}(2N + 3157 - (N + 3321)) + B_{\bar{N}}(2N + 3157 - (2N + 2560)) \\
&= B_{\bar{N}}(2887) + B_{\bar{N}}(N - 164) + B_{\bar{N}}(597) = 2887 + (N - 164) + 597 = \mathbf{N} + \mathbf{3320} \\
&(N \geq 2887)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3158}) &= B_{\bar{N}}(2N + 3158 - B_{\bar{N}}(2N + 3157)) + B_{\bar{N}}(2N + 3158 - B_{\bar{N}}(2N + 3156)) + B_{\bar{N}}(2N + 3158 - B_{\bar{N}}(2N + 3155)) \\
&= B_{\bar{N}}(2N + 3158 - (N + 3320)) + B_{\bar{N}}(2N + 3158 - (2N + 270)) + B_{\bar{N}}(2N + 3158 - (N + 3321)) \\
&= B_{\bar{N}}(N - 162) + B_{\bar{N}}(2888) + B_{\bar{N}}(N - 163) = (N - 162) + 2888 + (N - 163) = \mathbf{2N} + \mathbf{2563} \\
&(N \geq 2888)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3159}) &= B_{\bar{N}}(2N + 3159 - B_{\bar{N}}(2N + 3158)) + B_{\bar{N}}(2N + 3159 - B_{\bar{N}}(2N + 3157)) + B_{\bar{N}}(2N + 3159 - B_{\bar{N}}(2N + 3156)) \\
&= B_{\bar{N}}(2N + 3159 - (2N + 2563)) + B_{\bar{N}}(2N + 3159 - (N + 3320)) + B_{\bar{N}}(2N + 3159 - (2N + 270)) \\
&= B_{\bar{N}}(596) + B_{\bar{N}}(N - 161) + B_{\bar{N}}(2889) = 596 + (N - 161) + 2889 = \mathbf{N} + \mathbf{3324} \\
&(N \geq 2889)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3160}) &= B_{\bar{N}}(2N + 3160 - B_{\bar{N}}(2N + 3159)) + B_{\bar{N}}(2N + 3160 - B_{\bar{N}}(2N + 3158)) + B_{\bar{N}}(2N + 3160 - B_{\bar{N}}(2N + 3157)) \\
&= B_{\bar{N}}(2N + 3160 - (N + 3324)) + B_{\bar{N}}(2N + 3160 - (2N + 2563)) + B_{\bar{N}}(2N + 3160 - (N + 3320)) \\
&= B_{\bar{N}}(N - 164) + B_{\bar{N}}(597) + B_{\bar{N}}(N - 160) = (N - 164) + 597 + (N - 160) = \mathbf{2N} + \mathbf{273} \\
&(N \geq 597)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3161}) &= B_{\bar{N}}(2N + 3161 - B_{\bar{N}}(2N + 3160)) + B_{\bar{N}}(2N + 3161 - B_{\bar{N}}(2N + 3159)) + B_{\bar{N}}(2N + 3161 - B_{\bar{N}}(2N + 3158)) \\
&= B_{\bar{N}}(2N + 3161 - (2N + 273)) + B_{\bar{N}}(2N + 3161 - (N + 3324)) + B_{\bar{N}}(2N + 3161 - (2N + 2563)) \\
&= B_{\bar{N}}(2888) + B_{\bar{N}}(N - 163) + B_{\bar{N}}(598) = 2888 + (N - 163) + 598 = \mathbf{N} + \mathbf{3323} \\
&(N \geq 2888)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3162}) &= B_{\bar{N}}(2N + 3162 - B_{\bar{N}}(2N + 3161)) + B_{\bar{N}}(2N + 3162 - B_{\bar{N}}(2N + 3160)) + B_{\bar{N}}(2N + 3162 - B_{\bar{N}}(2N + 3159)) \\
&= B_{\bar{N}}(2N + 3162 - (N + 3323)) + B_{\bar{N}}(2N + 3162 - (2N + 273)) + B_{\bar{N}}(2N + 3162 - (N + 3324)) \\
&= B_{\bar{N}}(N - 161) + B_{\bar{N}}(2889) + B_{\bar{N}}(N - 162) = (N - 161) + 2889 + (N - 162) = \mathbf{2N} + \mathbf{2566} \\
&(N \geq 2889)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3163}) &= B_{\bar{N}}(2N + 3163 - B_{\bar{N}}(2N + 3162)) + B_{\bar{N}}(2N + 3163 - B_{\bar{N}}(2N + 3161)) + B_{\bar{N}}(2N + 3163 - B_{\bar{N}}(2N + 3160)) \\
&= B_{\bar{N}}(2N + 3163 - (2N + 2566)) + B_{\bar{N}}(2N + 3163 - (N + 3323)) + B_{\bar{N}}(2N + 3163 - (2N + 273)) \\
&= B_{\bar{N}}(597) + B_{\bar{N}}(N - 160) + B_{\bar{N}}(2890) = 597 + (N - 160) + 2890 = \mathbf{N} + \mathbf{3327} \\
&(N \geq 2890)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3164}) &= B_{\bar{N}}(2N + 3164 - B_{\bar{N}}(2N + 3163)) + B_{\bar{N}}(2N + 3164 - B_{\bar{N}}(2N + 3162)) + B_{\bar{N}}(2N + 3164 - B_{\bar{N}}(2N + 3161)) \\
&= B_{\bar{N}}(2N + 3164 - (N + 3327)) + B_{\bar{N}}(2N + 3164 - (2N + 2566)) + B_{\bar{N}}(2N + 3164 - (N + 3323)) \\
&= B_{\bar{N}}(N - 163) + B_{\bar{N}}(598) + B_{\bar{N}}(N - 159) = (N - 163) + 598 + (N - 159) = \mathbf{2N} + \mathbf{276} \\
&(N \geq 598)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3165}) &= B_{\bar{N}}(2N + 3165 - B_{\bar{N}}(2N + 3164)) + B_{\bar{N}}(2N + 3165 - B_{\bar{N}}(2N + 3163)) + B_{\bar{N}}(2N + 3165 - B_{\bar{N}}(2N + 3162)) \\
&= B_{\bar{N}}(2N + 3165 - (2N + 276)) + B_{\bar{N}}(2N + 3165 - (N + 3327)) + B_{\bar{N}}(2N + 3165 - (2N + 2566)) \\
&= B_{\bar{N}}(2889) + B_{\bar{N}}(N - 162) + B_{\bar{N}}(599) = 2889 + (N - 162) + 599 = \mathbf{N} + \mathbf{3326} \\
&(N \geq 2889)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3166}) &= B_{\bar{N}}(2N + 3166 - B_{\bar{N}}(2N + 3165)) + B_{\bar{N}}(2N + 3166 - B_{\bar{N}}(2N + 3164)) + B_{\bar{N}}(2N + 3166 - B_{\bar{N}}(2N + 3163)) \\
&= B_{\bar{N}}(2N + 3166 - (N + 3326)) + B_{\bar{N}}(2N + 3166 - (2N + 276)) + B_{\bar{N}}(2N + 3166 - (N + 3327)) \\
&= B_{\bar{N}}(N - 160) + B_{\bar{N}}(2890) + B_{\bar{N}}(N - 161) = (N - 160) + 2890 + (N - 161) = \mathbf{2N} + \mathbf{2569} \\
&(N \geq 2890)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3167}) &= B_{\bar{N}}(2N + 3167 - B_{\bar{N}}(2N + 3166)) + B_{\bar{N}}(2N + 3167 - B_{\bar{N}}(2N + 3165)) + B_{\bar{N}}(2N + 3167 - B_{\bar{N}}(2N + 3164)) \\
&= B_{\bar{N}}(2N + 3167 - (2N + 2569)) + B_{\bar{N}}(2N + 3167 - (N + 3326)) + B_{\bar{N}}(2N + 3167 - (2N + 276)) \\
&= B_{\bar{N}}(598) + B_{\bar{N}}(N - 159) + B_{\bar{N}}(2891) = 598 + (N - 159) + 2891 = \mathbf{N} + \mathbf{3330} \\
&(N \geq 2891)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3168}) &= B_{\bar{N}}(2N + 3168 - B_{\bar{N}}(2N + 3167)) + B_{\bar{N}}(2N + 3168 - B_{\bar{N}}(2N + 3166)) + B_{\bar{N}}(2N + 3168 - B_{\bar{N}}(2N + 3165)) \\
&= B_{\bar{N}}(2N + 3168 - (N + 3330)) + B_{\bar{N}}(2N + 3168 - (2N + 2569)) + B_{\bar{N}}(2N + 3168 - (N + 3326)) \\
&= B_{\bar{N}}(N - 162) + B_{\bar{N}}(599) + B_{\bar{N}}(N - 158) = (N - 162) + 599 + (N - 158) = \mathbf{2N} + \mathbf{279} \\
&(N \geq 599)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3169}) &= B_{\bar{N}}(2N + 3169 - B_{\bar{N}}(2N + 3168)) + B_{\bar{N}}(2N + 3169 - B_{\bar{N}}(2N + 3167)) + B_{\bar{N}}(2N + 3169 - B_{\bar{N}}(2N + 3166)) \\
&= B_{\bar{N}}(2N + 3169 - (2N + 279)) + B_{\bar{N}}(2N + 3169 - (N + 3330)) + B_{\bar{N}}(2N + 3169 - (2N + 2569)) \\
&= B_{\bar{N}}(2890) + B_{\bar{N}}(N - 161) + B_{\bar{N}}(600) = 2890 + (N - 161) + 600 = \mathbf{N} + \mathbf{3329} \\
&(N \geq 2890)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3170}) &= B_{\bar{N}}(2N + 3170 - B_{\bar{N}}(2N + 3169)) + B_{\bar{N}}(2N + 3170 - B_{\bar{N}}(2N + 3168)) + B_{\bar{N}}(2N + 3170 - B_{\bar{N}}(2N + 3167)) \\
&= B_{\bar{N}}(2N + 3170 - (N + 3329)) + B_{\bar{N}}(2N + 3170 - (2N + 279)) + B_{\bar{N}}(2N + 3170 - (N + 3330)) \\
&= B_{\bar{N}}(N - 159) + B_{\bar{N}}(2891) + B_{\bar{N}}(N - 160) = (N - 159) + 2891 + (N - 160) = \mathbf{2N} + \mathbf{2572} \\
&(N \geq 2891)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3171}) &= B_{\bar{N}}(2N + 3171 - B_{\bar{N}}(2N + 3170)) + B_{\bar{N}}(2N + 3171 - B_{\bar{N}}(2N + 3169)) + B_{\bar{N}}(2N + 3171 - B_{\bar{N}}(2N + 3168)) \\
&= B_{\bar{N}}(2N + 3171 - (2N + 2572)) + B_{\bar{N}}(2N + 3171 - (N + 3329)) + B_{\bar{N}}(2N + 3171 - (2N + 279)) \\
&= B_{\bar{N}}(599) + B_{\bar{N}}(N - 158) + B_{\bar{N}}(2892) = 599 + (N - 158) + 2892 = \mathbf{N} + \mathbf{3333} \\
&(N \geq 2892)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3172}) &= B_{\bar{N}}(2N + 3172 - B_{\bar{N}}(2N + 3171)) + B_{\bar{N}}(2N + 3172 - B_{\bar{N}}(2N + 3170)) + B_{\bar{N}}(2N + 3172 - B_{\bar{N}}(2N + 3169)) \\
&= B_{\bar{N}}(2N + 3172 - (N + 3333)) + B_{\bar{N}}(2N + 3172 - (2N + 2572)) + B_{\bar{N}}(2N + 3172 - (N + 3329)) \\
&= B_{\bar{N}}(N - 161) + B_{\bar{N}}(600) + B_{\bar{N}}(N - 157) = (N - 161) + 600 + (N - 157) = \mathbf{2N} + \mathbf{282} \\
&(N \geq 600)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3173}) &= B_{\bar{N}}(2N + 3173 - B_{\bar{N}}(2N + 3172)) + B_{\bar{N}}(2N + 3173 - B_{\bar{N}}(2N + 3171)) + B_{\bar{N}}(2N + 3173 - B_{\bar{N}}(2N + 3170)) \\
&= B_{\bar{N}}(2N + 3173 - (2N + 282)) + B_{\bar{N}}(2N + 3173 - (N + 3333)) + B_{\bar{N}}(2N + 3173 - (2N + 2572)) \\
&= B_{\bar{N}}(2891) + B_{\bar{N}}(N - 160) + B_{\bar{N}}(601) = 2891 + (N - 160) + 601 = \mathbf{N} + \mathbf{3332} \\
&(N \geq 2891)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3174}) &= B_{\bar{N}}(2N + 3174 - B_{\bar{N}}(2N + 3173)) + B_{\bar{N}}(2N + 3174 - B_{\bar{N}}(2N + 3172)) + B_{\bar{N}}(2N + 3174 - B_{\bar{N}}(2N + 3171)) \\
&= B_{\bar{N}}(2N + 3174 - (N + 3332)) + B_{\bar{N}}(2N + 3174 - (2N + 282)) + B_{\bar{N}}(2N + 3174 - (N + 3333)) \\
&= B_{\bar{N}}(N - 158) + B_{\bar{N}}(2892) + B_{\bar{N}}(N - 159) = (N - 158) + 2892 + (N - 159) = \mathbf{2N} + \mathbf{2575} \\
&(N \geq 2892)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3175}) &= B_{\bar{N}}(2N + 3175 - B_{\bar{N}}(2N + 3174)) + B_{\bar{N}}(2N + 3175 - B_{\bar{N}}(2N + 3173)) + B_{\bar{N}}(2N + 3175 - B_{\bar{N}}(2N + 3172)) \\
&= B_{\bar{N}}(2N + 3175 - (2N + 2575)) + B_{\bar{N}}(2N + 3175 - (N + 3332)) + B_{\bar{N}}(2N + 3175 - (2N + 282)) \\
&= B_{\bar{N}}(600) + B_{\bar{N}}(N - 157) + B_{\bar{N}}(2893) = 600 + (N - 157) + 2893 = \mathbf{N} + \mathbf{3336} \\
&(N \geq 2893)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3176}) &= B_{\bar{N}}(2N + 3176 - B_{\bar{N}}(2N + 3175)) + B_{\bar{N}}(2N + 3176 - B_{\bar{N}}(2N + 3174)) + B_{\bar{N}}(2N + 3176 - B_{\bar{N}}(2N + 3173)) \\
&= B_{\bar{N}}(2N + 3176 - (N + 3336)) + B_{\bar{N}}(2N + 3176 - (2N + 2575)) + B_{\bar{N}}(2N + 3176 - (N + 3332)) \\
&= B_{\bar{N}}(N - 160) + B_{\bar{N}}(601) + B_{\bar{N}}(N - 156) = (N - 160) + 601 + (N - 156) = \mathbf{2N} + \mathbf{285} \\
&(N \geq 601)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3177}) &= B_{\bar{N}}(2N + 3177 - B_{\bar{N}}(2N + 3176)) + B_{\bar{N}}(2N + 3177 - B_{\bar{N}}(2N + 3175)) + B_{\bar{N}}(2N + 3177 - B_{\bar{N}}(2N + 3174)) \\
&= B_{\bar{N}}(2N + 3177 - (2N + 285)) + B_{\bar{N}}(2N + 3177 - (N + 3336)) + B_{\bar{N}}(2N + 3177 - (2N + 2575)) \\
&= B_{\bar{N}}(2892) + B_{\bar{N}}(N - 159) + B_{\bar{N}}(602) = 2892 + (N - 159) + 602 = \mathbf{N} + \mathbf{3335} \\
&(N \geq 2892)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3178}) &= B_{\bar{N}}(2N + 3178 - B_{\bar{N}}(2N + 3177)) + B_{\bar{N}}(2N + 3178 - B_{\bar{N}}(2N + 3176)) + B_{\bar{N}}(2N + 3178 - B_{\bar{N}}(2N + 3175)) \\
&= B_{\bar{N}}(2N + 3178 - (N + 3335)) + B_{\bar{N}}(2N + 3178 - (2N + 285)) + B_{\bar{N}}(2N + 3178 - (N + 3336)) \\
&= B_{\bar{N}}(N - 157) + B_{\bar{N}}(2893) + B_{\bar{N}}(N - 158) = (N - 157) + 2893 + (N - 158) = \mathbf{2N} + \mathbf{2578} \\
&(N \geq 2893)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3179}) &= B_{\bar{N}}(2N + 3179 - B_{\bar{N}}(2N + 3178)) + B_{\bar{N}}(2N + 3179 - B_{\bar{N}}(2N + 3177)) + B_{\bar{N}}(2N + 3179 - B_{\bar{N}}(2N + 3176)) \\
&= B_{\bar{N}}(2N + 3179 - (2N + 2578)) + B_{\bar{N}}(2N + 3179 - (N + 3335)) + B_{\bar{N}}(2N + 3179 - (2N + 285)) \\
&= B_{\bar{N}}(601) + B_{\bar{N}}(N - 156) + B_{\bar{N}}(2894) = 601 + (N - 156) + 2894 = \mathbf{N} + \mathbf{3339} \\
&(N \geq 2894)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3180}) &= B_{\bar{N}}(2N + 3180 - B_{\bar{N}}(2N + 3179)) + B_{\bar{N}}(2N + 3180 - B_{\bar{N}}(2N + 3178)) + B_{\bar{N}}(2N + 3180 - B_{\bar{N}}(2N + 3177)) \\
&= B_{\bar{N}}(2N + 3180 - (N + 3339)) + B_{\bar{N}}(2N + 3180 - (2N + 2578)) + B_{\bar{N}}(2N + 3180 - (N + 3335)) \\
&= B_{\bar{N}}(N - 159) + B_{\bar{N}}(602) + B_{\bar{N}}(N - 155) = (N - 159) + 602 + (N - 155) = \mathbf{2N} + \mathbf{288} \\
&(N \geq 602)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3181}) &= B_{\bar{N}}(2N + 3181 - B_{\bar{N}}(2N + 3180)) + B_{\bar{N}}(2N + 3181 - B_{\bar{N}}(2N + 3179)) + B_{\bar{N}}(2N + 3181 - B_{\bar{N}}(2N + 3178)) \\
&= B_{\bar{N}}(2N + 3181 - (2N + 288)) + B_{\bar{N}}(2N + 3181 - (N + 3339)) + B_{\bar{N}}(2N + 3181 - (2N + 2578)) \\
&= B_{\bar{N}}(2893) + B_{\bar{N}}(N - 158) + B_{\bar{N}}(603) = 2893 + (N - 158) + 603 = \mathbf{N} + \mathbf{3338} \\
&(N \geq 2893)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3182}) &= B_{\bar{N}}(2N + 3182 - B_{\bar{N}}(2N + 3181)) + B_{\bar{N}}(2N + 3182 - B_{\bar{N}}(2N + 3180)) + B_{\bar{N}}(2N + 3182 - B_{\bar{N}}(2N + 3179)) \\
&= B_{\bar{N}}(2N + 3182 - (N + 3338)) + B_{\bar{N}}(2N + 3182 - (2N + 288)) + B_{\bar{N}}(2N + 3182 - (N + 3339)) \\
&= B_{\bar{N}}(N - 156) + B_{\bar{N}}(2894) + B_{\bar{N}}(N - 157) = (N - 156) + 2894 + (N - 157) = \mathbf{2N} + \mathbf{2581} \\
&(N \geq 2894)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3183}) &= B_{\bar{N}}(2N + 3183 - B_{\bar{N}}(2N + 3182)) + B_{\bar{N}}(2N + 3183 - B_{\bar{N}}(2N + 3181)) + B_{\bar{N}}(2N + 3183 - B_{\bar{N}}(2N + 3180)) \\
&= B_{\bar{N}}(2N + 3183 - (2N + 2581)) + B_{\bar{N}}(2N + 3183 - (N + 3338)) + B_{\bar{N}}(2N + 3183 - (2N + 288)) \\
&= B_{\bar{N}}(602) + B_{\bar{N}}(N - 155) + B_{\bar{N}}(2895) = 602 + (N - 155) + 2895 = \mathbf{N} + \mathbf{3342} \\
&(N \geq 2895)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3184}) &= B_{\bar{N}}(2N + 3184 - B_{\bar{N}}(2N + 3183)) + B_{\bar{N}}(2N + 3184 - B_{\bar{N}}(2N + 3182)) + B_{\bar{N}}(2N + 3184 - B_{\bar{N}}(2N + 3181)) \\
&= B_{\bar{N}}(2N + 3184 - (N + 3342)) + B_{\bar{N}}(2N + 3184 - (2N + 2581)) + B_{\bar{N}}(2N + 3184 - (N + 3338)) \\
&= B_{\bar{N}}(N - 158) + B_{\bar{N}}(603) + B_{\bar{N}}(N - 154) = (N - 158) + 603 + (N - 154) = \mathbf{2N} + \mathbf{291} \\
&(N \geq 603)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3185}) &= B_{\bar{N}}(2N + 3185 - B_{\bar{N}}(2N + 3184)) + B_{\bar{N}}(2N + 3185 - B_{\bar{N}}(2N + 3183)) + B_{\bar{N}}(2N + 3185 - B_{\bar{N}}(2N + 3182)) \\
&= B_{\bar{N}}(2N + 3185 - (2N + 291)) + B_{\bar{N}}(2N + 3185 - (N + 3342)) + B_{\bar{N}}(2N + 3185 - (2N + 2581)) \\
&= B_{\bar{N}}(2894) + B_{\bar{N}}(N - 157) + B_{\bar{N}}(604) = 2894 + (N - 157) + 604 = \mathbf{N} + \mathbf{3341} \\
&(N \geq 2894)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3186}) &= B_{\bar{N}}(2N + 3186 - B_{\bar{N}}(2N + 3185)) + B_{\bar{N}}(2N + 3186 - B_{\bar{N}}(2N + 3184)) + B_{\bar{N}}(2N + 3186 - B_{\bar{N}}(2N + 3183)) \\
&= B_{\bar{N}}(2N + 3186 - (N + 3341)) + B_{\bar{N}}(2N + 3186 - (2N + 291)) + B_{\bar{N}}(2N + 3186 - (N + 3342)) \\
&= B_{\bar{N}}(N - 155) + B_{\bar{N}}(2895) + B_{\bar{N}}(N - 156) = (N - 155) + 2895 + (N - 156) = \mathbf{2N} + \mathbf{2584} \\
&(N \geq 2895)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3187}) &= B_{\bar{N}}(2N + 3187 - B_{\bar{N}}(2N + 3186)) + B_{\bar{N}}(2N + 3187 - B_{\bar{N}}(2N + 3185)) + B_{\bar{N}}(2N + 3187 - B_{\bar{N}}(2N + 3184)) \\
&= B_{\bar{N}}(2N + 3187 - (2N + 2584)) + B_{\bar{N}}(2N + 3187 - (N + 3341)) + B_{\bar{N}}(2N + 3187 - (2N + 291)) \\
&= B_{\bar{N}}(603) + B_{\bar{N}}(N - 154) + B_{\bar{N}}(2896) = 603 + (N - 154) + 2896 = \mathbf{N} + \mathbf{3345} \\
&(N \geq 2896)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3188}) &= B_{\bar{N}}(2N + 3188 - B_{\bar{N}}(2N + 3187)) + B_{\bar{N}}(2N + 3188 - B_{\bar{N}}(2N + 3186)) + B_{\bar{N}}(2N + 3188 - B_{\bar{N}}(2N + 3185)) \\
&= B_{\bar{N}}(2N + 3188 - (N + 3345)) + B_{\bar{N}}(2N + 3188 - (2N + 2584)) + B_{\bar{N}}(2N + 3188 - (N + 3341)) \\
&= B_{\bar{N}}(N - 157) + B_{\bar{N}}(604) + B_{\bar{N}}(N - 153) = (N - 157) + 604 + (N - 153) = \mathbf{2N} + \mathbf{294} \\
&(N \geq 604)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3189}) &= B_{\bar{N}}(2N + 3189 - B_{\bar{N}}(2N + 3188)) + B_{\bar{N}}(2N + 3189 - B_{\bar{N}}(2N + 3187)) + B_{\bar{N}}(2N + 3189 - B_{\bar{N}}(2N + 3186)) \\
&= B_{\bar{N}}(2N + 3189 - (2N + 294)) + B_{\bar{N}}(2N + 3189 - (N + 3345)) + B_{\bar{N}}(2N + 3189 - (2N + 2584)) \\
&= B_{\bar{N}}(2895) + B_{\bar{N}}(N - 156) + B_{\bar{N}}(605) = 2895 + (N - 156) + 605 = \mathbf{N} + \mathbf{3344} \\
&(N \geq 2895)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3190}) &= B_{\bar{N}}(2N + 3190 - B_{\bar{N}}(2N + 3189)) + B_{\bar{N}}(2N + 3190 - B_{\bar{N}}(2N + 3188)) + B_{\bar{N}}(2N + 3190 - B_{\bar{N}}(2N + 3187)) \\
&= B_{\bar{N}}(2N + 3190 - (N + 3344)) + B_{\bar{N}}(2N + 3190 - (2N + 294)) + B_{\bar{N}}(2N + 3190 - (N + 3345)) \\
&= B_{\bar{N}}(N - 154) + B_{\bar{N}}(2896) + B_{\bar{N}}(N - 155) = (N - 154) + 2896 + (N - 155) = \mathbf{2N} + \mathbf{2587} \\
&(N \geq 2896)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3191}) &= B_{\bar{N}}(2N + 3191 - B_{\bar{N}}(2N + 3190)) + B_{\bar{N}}(2N + 3191 - B_{\bar{N}}(2N + 3189)) + B_{\bar{N}}(2N + 3191 - B_{\bar{N}}(2N + 3188)) \\
&= B_{\bar{N}}(2N + 3191 - (2N + 2587)) + B_{\bar{N}}(2N + 3191 - (N + 3344)) + B_{\bar{N}}(2N + 3191 - (2N + 294)) \\
&= B_{\bar{N}}(604) + B_{\bar{N}}(N - 153) + B_{\bar{N}}(2897) = 604 + (N - 153) + 2897 = \mathbf{N} + \mathbf{3348} \\
&(N \geq 2897)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3192}) &= B_{\bar{N}}(2N + 3192 - B_{\bar{N}}(2N + 3191)) + B_{\bar{N}}(2N + 3192 - B_{\bar{N}}(2N + 3190)) + B_{\bar{N}}(2N + 3192 - B_{\bar{N}}(2N + 3189)) \\
&= B_{\bar{N}}(2N + 3192 - (N + 3348)) + B_{\bar{N}}(2N + 3192 - (2N + 2587)) + B_{\bar{N}}(2N + 3192 - (N + 3344)) \\
&= B_{\bar{N}}(N - 156) + B_{\bar{N}}(605) + B_{\bar{N}}(N - 152) = (N - 156) + 605 + (N - 152) = \mathbf{2N} + \mathbf{297} \\
&(N \geq 605)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3193}) &= B_{\bar{N}}(2N + 3193 - B_{\bar{N}}(2N + 3192)) + B_{\bar{N}}(2N + 3193 - B_{\bar{N}}(2N + 3191)) + B_{\bar{N}}(2N + 3193 - B_{\bar{N}}(2N + 3190)) \\
&= B_{\bar{N}}(2N + 3193 - (2N + 297)) + B_{\bar{N}}(2N + 3193 - (N + 3348)) + B_{\bar{N}}(2N + 3193 - (2N + 2587)) \\
&= B_{\bar{N}}(2896) + B_{\bar{N}}(N - 155) + B_{\bar{N}}(606) = 2896 + (N - 155) + 606 = \mathbf{N} + \mathbf{3347} \\
&(N \geq 2896)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3194}) &= B_{\bar{N}}(2N + 3194 - B_{\bar{N}}(2N + 3193)) + B_{\bar{N}}(2N + 3194 - B_{\bar{N}}(2N + 3192)) + B_{\bar{N}}(2N + 3194 - B_{\bar{N}}(2N + 3191)) \\
&= B_{\bar{N}}(2N + 3194 - (N + 3347)) + B_{\bar{N}}(2N + 3194 - (2N + 297)) + B_{\bar{N}}(2N + 3194 - (N + 3348)) \\
&= B_{\bar{N}}(N - 153) + B_{\bar{N}}(2897) + B_{\bar{N}}(N - 154) = (N - 153) + 2897 + (N - 154) = \mathbf{2N} + \mathbf{2590} \\
&(N \geq 2897)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3195}) &= B_{\bar{N}}(2N + 3195 - B_{\bar{N}}(2N + 3194)) + B_{\bar{N}}(2N + 3195 - B_{\bar{N}}(2N + 3193)) + B_{\bar{N}}(2N + 3195 - B_{\bar{N}}(2N + 3192)) \\
&= B_{\bar{N}}(2N + 3195 - (2N + 2590)) + B_{\bar{N}}(2N + 3195 - (N + 3347)) + B_{\bar{N}}(2N + 3195 - (2N + 297)) \\
&= B_{\bar{N}}(605) + B_{\bar{N}}(N - 152) + B_{\bar{N}}(2898) = 605 + (N - 152) + 2898 = \mathbf{N} + \mathbf{3351} \\
&(N \geq 2898)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3196}) &= B_{\bar{N}}(2N + 3196 - B_{\bar{N}}(2N + 3195)) + B_{\bar{N}}(2N + 3196 - B_{\bar{N}}(2N + 3194)) + B_{\bar{N}}(2N + 3196 - B_{\bar{N}}(2N + 3193)) \\
&= B_{\bar{N}}(2N + 3196 - (N + 3351)) + B_{\bar{N}}(2N + 3196 - (2N + 2590)) + B_{\bar{N}}(2N + 3196 - (N + 3347)) \\
&= B_{\bar{N}}(N - 155) + B_{\bar{N}}(606) + B_{\bar{N}}(N - 151) = (N - 155) + 606 + (N - 151) = \mathbf{2N} + \mathbf{300} \\
&(N \geq 606)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3197}) &= B_{\bar{N}}(2N + 3197 - B_{\bar{N}}(2N + 3196)) + B_{\bar{N}}(2N + 3197 - B_{\bar{N}}(2N + 3195)) + B_{\bar{N}}(2N + 3197 - B_{\bar{N}}(2N + 3194)) \\
&= B_{\bar{N}}(2N + 3197 - (2N + 300)) + B_{\bar{N}}(2N + 3197 - (N + 3351)) + B_{\bar{N}}(2N + 3197 - (2N + 2590)) \\
&= B_{\bar{N}}(2897) + B_{\bar{N}}(N - 154) + B_{\bar{N}}(607) = 2897 + (N - 154) + 607 = \mathbf{N} + \mathbf{3350} \\
&(N \geq 2897)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3198}) &= B_{\bar{N}}(2N + 3198 - B_{\bar{N}}(2N + 3197)) + B_{\bar{N}}(2N + 3198 - B_{\bar{N}}(2N + 3196)) + B_{\bar{N}}(2N + 3198 - B_{\bar{N}}(2N + 3195)) \\
&= B_{\bar{N}}(2N + 3198 - (N + 3350)) + B_{\bar{N}}(2N + 3198 - (2N + 300)) + B_{\bar{N}}(2N + 3198 - (N + 3351)) \\
&= B_{\bar{N}}(N - 152) + B_{\bar{N}}(2898) + B_{\bar{N}}(N - 153) = (N - 152) + 2898 + (N - 153) = \mathbf{2N} + \mathbf{2593} \\
&(N \geq 2898)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3199}) &= B_{\bar{N}}(2N + 3199 - B_{\bar{N}}(2N + 3198)) + B_{\bar{N}}(2N + 3199 - B_{\bar{N}}(2N + 3197)) + B_{\bar{N}}(2N + 3199 - B_{\bar{N}}(2N + 3196)) \\
&= B_{\bar{N}}(2N + 3199 - (2N + 2593)) + B_{\bar{N}}(2N + 3199 - (N + 3350)) + B_{\bar{N}}(2N + 3199 - (2N + 300)) \\
&= B_{\bar{N}}(606) + B_{\bar{N}}(N - 151) + B_{\bar{N}}(2899) = 606 + (N - 151) + 2899 = \mathbf{N} + \mathbf{3354} \\
&(N \geq 2899)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3200}) &= B_{\bar{N}}(2N + 3200 - B_{\bar{N}}(2N + 3199)) + B_{\bar{N}}(2N + 3200 - B_{\bar{N}}(2N + 3198)) + B_{\bar{N}}(2N + 3200 - B_{\bar{N}}(2N + 3197)) \\
&= B_{\bar{N}}(2N + 3200 - (N + 3354)) + B_{\bar{N}}(2N + 3200 - (2N + 2593)) + B_{\bar{N}}(2N + 3200 - (N + 3350)) \\
&= B_{\bar{N}}(N - 154) + B_{\bar{N}}(607) + B_{\bar{N}}(N - 150) = (N - 154) + 607 + (N - 150) = \mathbf{2N} + \mathbf{303} \\
&(N \geq 607)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3201}) &= B_{\bar{N}}(2N + 3201 - B_{\bar{N}}(2N + 3200)) + B_{\bar{N}}(2N + 3201 - B_{\bar{N}}(2N + 3199)) + B_{\bar{N}}(2N + 3201 - B_{\bar{N}}(2N + 3198)) \\
&= B_{\bar{N}}(2N + 3201 - (2N + 303)) + B_{\bar{N}}(2N + 3201 - (N + 3354)) + B_{\bar{N}}(2N + 3201 - (2N + 2593)) \\
&= B_{\bar{N}}(2898) + B_{\bar{N}}(N - 153) + B_{\bar{N}}(608) = 2898 + (N - 153) + 608 = \mathbf{N} + \mathbf{3353} \\
&(N \geq 2898)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3202}) &= B_{\bar{N}}(2N + 3202 - B_{\bar{N}}(2N + 3201)) + B_{\bar{N}}(2N + 3202 - B_{\bar{N}}(2N + 3200)) + B_{\bar{N}}(2N + 3202 - B_{\bar{N}}(2N + 3199)) \\
&= B_{\bar{N}}(2N + 3202 - (N + 3353)) + B_{\bar{N}}(2N + 3202 - (2N + 303)) + B_{\bar{N}}(2N + 3202 - (N + 3354)) \\
&= B_{\bar{N}}(N - 151) + B_{\bar{N}}(2899) + B_{\bar{N}}(N - 152) = (N - 151) + 2899 + (N - 152) = \mathbf{2N} + \mathbf{2596} \\
&(N \geq 2899)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3203}) &= B_{\bar{N}}(2N + 3203 - B_{\bar{N}}(2N + 3202)) + B_{\bar{N}}(2N + 3203 - B_{\bar{N}}(2N + 3201)) + B_{\bar{N}}(2N + 3203 - B_{\bar{N}}(2N + 3200)) \\
&= B_{\bar{N}}(2N + 3203 - (2N + 2596)) + B_{\bar{N}}(2N + 3203 - (N + 3353)) + B_{\bar{N}}(2N + 3203 - (2N + 303)) \\
&= B_{\bar{N}}(607) + B_{\bar{N}}(N - 150) + B_{\bar{N}}(2900) = 607 + (N - 150) + 2900 = \mathbf{N} + \mathbf{3357} \\
&(N \geq 2900)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3204}) &= B_{\bar{N}}(2N + 3204 - B_{\bar{N}}(2N + 3203)) + B_{\bar{N}}(2N + 3204 - B_{\bar{N}}(2N + 3202)) + B_{\bar{N}}(2N + 3204 - B_{\bar{N}}(2N + 3201)) \\
&= B_{\bar{N}}(2N + 3204 - (N + 3357)) + B_{\bar{N}}(2N + 3204 - (2N + 2596)) + B_{\bar{N}}(2N + 3204 - (N + 3353)) \\
&= B_{\bar{N}}(N - 153) + B_{\bar{N}}(608) + B_{\bar{N}}(N - 149) = (N - 153) + 608 + (N - 149) = \mathbf{2N} + \mathbf{306} \\
&(N \geq 608)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3205}) &= B_{\bar{N}}(2N + 3205 - B_{\bar{N}}(2N + 3204)) + B_{\bar{N}}(2N + 3205 - B_{\bar{N}}(2N + 3203)) + B_{\bar{N}}(2N + 3205 - B_{\bar{N}}(2N + 3202)) \\
&= B_{\bar{N}}(2N + 3205 - (2N + 306)) + B_{\bar{N}}(2N + 3205 - (N + 3357)) + B_{\bar{N}}(2N + 3205 - (2N + 2596)) \\
&= B_{\bar{N}}(2899) + B_{\bar{N}}(N - 152) + B_{\bar{N}}(609) = 2899 + (N - 152) + 609 = \mathbf{N} + \mathbf{3356} \\
&(N \geq 2899)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3206}) &= B_{\bar{N}}(2N + 3206 - B_{\bar{N}}(2N + 3205)) + B_{\bar{N}}(2N + 3206 - B_{\bar{N}}(2N + 3204)) + B_{\bar{N}}(2N + 3206 - B_{\bar{N}}(2N + 3203)) \\
&= B_{\bar{N}}(2N + 3206 - (N + 3356)) + B_{\bar{N}}(2N + 3206 - (2N + 306)) + B_{\bar{N}}(2N + 3206 - (N + 3357)) \\
&= B_{\bar{N}}(N - 150) + B_{\bar{N}}(2900) + B_{\bar{N}}(N - 151) = (N - 150) + 2900 + (N - 151) = \mathbf{2N} + \mathbf{2599} \\
&(N \geq 2900)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3207}) &= B_{\bar{N}}(2N + 3207 - B_{\bar{N}}(2N + 3206)) + B_{\bar{N}}(2N + 3207 - B_{\bar{N}}(2N + 3205)) + B_{\bar{N}}(2N + 3207 - B_{\bar{N}}(2N + 3204)) \\
&= B_{\bar{N}}(2N + 3207 - (2N + 2599)) + B_{\bar{N}}(2N + 3207 - (N + 3356)) + B_{\bar{N}}(2N + 3207 - (2N + 306)) \\
&= B_{\bar{N}}(608) + B_{\bar{N}}(N - 149) + B_{\bar{N}}(2901) = 608 + (N - 149) + 2901 = \mathbf{N} + \mathbf{3360} \\
&(N \geq 2901)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3208}) &= B_{\bar{N}}(2N + 3208 - B_{\bar{N}}(2N + 3207)) + B_{\bar{N}}(2N + 3208 - B_{\bar{N}}(2N + 3206)) + B_{\bar{N}}(2N + 3208 - B_{\bar{N}}(2N + 3205)) \\
&= B_{\bar{N}}(2N + 3208 - (N + 3360)) + B_{\bar{N}}(2N + 3208 - (2N + 2599)) + B_{\bar{N}}(2N + 3208 - (N + 3356)) \\
&= B_{\bar{N}}(N - 152) + B_{\bar{N}}(609) + B_{\bar{N}}(N - 148) = (N - 152) + 609 + (N - 148) = \mathbf{2N} + \mathbf{309} \\
&(N \geq 609)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3209}) &= B_{\bar{N}}(2N + 3209 - B_{\bar{N}}(2N + 3208)) + B_{\bar{N}}(2N + 3209 - B_{\bar{N}}(2N + 3207)) + B_{\bar{N}}(2N + 3209 - B_{\bar{N}}(2N + 3206)) \\
&= B_{\bar{N}}(2N + 3209 - (2N + 309)) + B_{\bar{N}}(2N + 3209 - (N + 3360)) + B_{\bar{N}}(2N + 3209 - (2N + 2599)) \\
&= B_{\bar{N}}(2900) + B_{\bar{N}}(N - 151) + B_{\bar{N}}(610) = 2900 + (N - 151) + 610 = \mathbf{N} + \mathbf{3359} \\
&(N \geq 2900)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3210}) &= B_{\bar{N}}(2N + 3210 - B_{\bar{N}}(2N + 3209)) + B_{\bar{N}}(2N + 3210 - B_{\bar{N}}(2N + 3208)) + B_{\bar{N}}(2N + 3210 - B_{\bar{N}}(2N + 3207)) \\
&= B_{\bar{N}}(2N + 3210 - (N + 3359)) + B_{\bar{N}}(2N + 3210 - (2N + 309)) + B_{\bar{N}}(2N + 3210 - (N + 3360)) \\
&= B_{\bar{N}}(N - 149) + B_{\bar{N}}(2901) + B_{\bar{N}}(N - 150) = (N - 149) + 2901 + (N - 150) = \mathbf{2N} + \mathbf{2602} \\
&(N \geq 2901)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3211}) &= B_{\bar{N}}(2N + 3211 - B_{\bar{N}}(2N + 3210)) + B_{\bar{N}}(2N + 3211 - B_{\bar{N}}(2N + 3209)) + B_{\bar{N}}(2N + 3211 - B_{\bar{N}}(2N + 3208)) \\
&= B_{\bar{N}}(2N + 3211 - (2N + 2602)) + B_{\bar{N}}(2N + 3211 - (N + 3359)) + B_{\bar{N}}(2N + 3211 - (2N + 309)) \\
&= B_{\bar{N}}(609) + B_{\bar{N}}(N - 148) + B_{\bar{N}}(2902) = 609 + (N - 148) + 2902 = \mathbf{N} + \mathbf{3363} \\
&(N \geq 2902)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3212}) &= B_{\bar{N}}(2N + 3212 - B_{\bar{N}}(2N + 3211)) + B_{\bar{N}}(2N + 3212 - B_{\bar{N}}(2N + 3210)) + B_{\bar{N}}(2N + 3212 - B_{\bar{N}}(2N + 3209)) \\
&= B_{\bar{N}}(2N + 3212 - (N + 3363)) + B_{\bar{N}}(2N + 3212 - (2N + 2602)) + B_{\bar{N}}(2N + 3212 - (N + 3359)) \\
&= B_{\bar{N}}(N - 151) + B_{\bar{N}}(610) + B_{\bar{N}}(N - 147) = (N - 151) + 610 + (N - 147) = \mathbf{2N} + \mathbf{312} \\
&(N \geq 610)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3213}) &= B_{\bar{N}}(2N + 3213 - B_{\bar{N}}(2N + 3212)) + B_{\bar{N}}(2N + 3213 - B_{\bar{N}}(2N + 3211)) + B_{\bar{N}}(2N + 3213 - B_{\bar{N}}(2N + 3210)) \\
&= B_{\bar{N}}(2N + 3213 - (2N + 312)) + B_{\bar{N}}(2N + 3213 - (N + 3363)) + B_{\bar{N}}(2N + 3213 - (2N + 2602)) \\
&= B_{\bar{N}}(2901) + B_{\bar{N}}(N - 150) + B_{\bar{N}}(611) = 2901 + (N - 150) + 611 = \mathbf{N} + \mathbf{3362} \\
&(N \geq 2901)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3214}) &= B_{\bar{N}}(2N + 3214 - B_{\bar{N}}(2N + 3213)) + B_{\bar{N}}(2N + 3214 - B_{\bar{N}}(2N + 3212)) + B_{\bar{N}}(2N + 3214 - B_{\bar{N}}(2N + 3211)) \\
&= B_{\bar{N}}(2N + 3214 - (N + 3362)) + B_{\bar{N}}(2N + 3214 - (2N + 312)) + B_{\bar{N}}(2N + 3214 - (N + 3363)) \\
&= B_{\bar{N}}(N - 148) + B_{\bar{N}}(2902) + B_{\bar{N}}(N - 149) = (N - 148) + 2902 + (N - 149) = \mathbf{2N} + \mathbf{2605} \\
&(N \geq 2902)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3215}) &= B_{\bar{N}}(2N + 3215 - B_{\bar{N}}(2N + 3214)) + B_{\bar{N}}(2N + 3215 - B_{\bar{N}}(2N + 3213)) + B_{\bar{N}}(2N + 3215 - B_{\bar{N}}(2N + 3212)) \\
&= B_{\bar{N}}(2N + 3215 - (2N + 2605)) + B_{\bar{N}}(2N + 3215 - (N + 3362)) + B_{\bar{N}}(2N + 3215 - (2N + 312)) \\
&= B_{\bar{N}}(610) + B_{\bar{N}}(N - 147) + B_{\bar{N}}(2903) = 610 + (N - 147) + 2903 = \mathbf{N} + \mathbf{3366} \\
&(N \geq 2903)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3216}) &= B_{\bar{N}}(2N + 3216 - B_{\bar{N}}(2N + 3215)) + B_{\bar{N}}(2N + 3216 - B_{\bar{N}}(2N + 3214)) + B_{\bar{N}}(2N + 3216 - B_{\bar{N}}(2N + 3213)) \\
&= B_{\bar{N}}(2N + 3216 - (N + 3366)) + B_{\bar{N}}(2N + 3216 - (2N + 2605)) + B_{\bar{N}}(2N + 3216 - (N + 3362)) \\
&= B_{\bar{N}}(N - 150) + B_{\bar{N}}(611) + B_{\bar{N}}(N - 146) = (N - 150) + 611 + (N - 146) = \mathbf{2N} + \mathbf{315} \\
&(N \geq 611)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3217}) &= B_{\bar{N}}(2N + 3217 - B_{\bar{N}}(2N + 3216)) + B_{\bar{N}}(2N + 3217 - B_{\bar{N}}(2N + 3215)) + B_{\bar{N}}(2N + 3217 - B_{\bar{N}}(2N + 3214)) \\
&= B_{\bar{N}}(2N + 3217 - (2N + 315)) + B_{\bar{N}}(2N + 3217 - (N + 3366)) + B_{\bar{N}}(2N + 3217 - (2N + 2605)) \\
&= B_{\bar{N}}(2902) + B_{\bar{N}}(N - 149) + B_{\bar{N}}(612) = 2902 + (N - 149) + 612 = \mathbf{N} + \mathbf{3365} \\
&(N \geq 2902)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3218}) &= B_{\bar{N}}(2N + 3218 - B_{\bar{N}}(2N + 3217)) + B_{\bar{N}}(2N + 3218 - B_{\bar{N}}(2N + 3216)) + B_{\bar{N}}(2N + 3218 - B_{\bar{N}}(2N + 3215)) \\
&= B_{\bar{N}}(2N + 3218 - (N + 3365)) + B_{\bar{N}}(2N + 3218 - (2N + 315)) + B_{\bar{N}}(2N + 3218 - (N + 3366)) \\
&= B_{\bar{N}}(N - 147) + B_{\bar{N}}(2903) + B_{\bar{N}}(N - 148) = (N - 147) + 2903 + (N - 148) = \mathbf{2N} + \mathbf{2608} \\
&(N \geq 2903)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3219}) &= B_{\bar{N}}(2N + 3219 - B_{\bar{N}}(2N + 3218)) + B_{\bar{N}}(2N + 3219 - B_{\bar{N}}(2N + 3217)) + B_{\bar{N}}(2N + 3219 - B_{\bar{N}}(2N + 3216)) \\
&= B_{\bar{N}}(2N + 3219 - (2N + 2608)) + B_{\bar{N}}(2N + 3219 - (N + 3365)) + B_{\bar{N}}(2N + 3219 - (2N + 315)) \\
&= B_{\bar{N}}(611) + B_{\bar{N}}(N - 146) + B_{\bar{N}}(2904) = 611 + (N - 146) + 2904 = \mathbf{N} + \mathbf{3369} \\
&(N \geq 2904)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3220}) &= B_{\bar{N}}(2N + 3220 - B_{\bar{N}}(2N + 3219)) + B_{\bar{N}}(2N + 3220 - B_{\bar{N}}(2N + 3218)) + B_{\bar{N}}(2N + 3220 - B_{\bar{N}}(2N + 3217)) \\
&= B_{\bar{N}}(2N + 3220 - (N + 3369)) + B_{\bar{N}}(2N + 3220 - (2N + 2608)) + B_{\bar{N}}(2N + 3220 - (N + 3365)) \\
&= B_{\bar{N}}(N - 149) + B_{\bar{N}}(612) + B_{\bar{N}}(N - 145) = (N - 149) + 612 + (N - 145) = \mathbf{2N} + \mathbf{318} \\
&(N \geq 612)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3221}) &= B_{\bar{N}}(2N + 3221 - B_{\bar{N}}(2N + 3220)) + B_{\bar{N}}(2N + 3221 - B_{\bar{N}}(2N + 3219)) + B_{\bar{N}}(2N + 3221 - B_{\bar{N}}(2N + 3218)) \\
&= B_{\bar{N}}(2N + 3221 - (2N + 318)) + B_{\bar{N}}(2N + 3221 - (N + 3369)) + B_{\bar{N}}(2N + 3221 - (2N + 2608)) \\
&= B_{\bar{N}}(2903) + B_{\bar{N}}(N - 148) + B_{\bar{N}}(613) = 2903 + (N - 148) + 613 = \mathbf{N} + \mathbf{3368} \\
&(N \geq 2903)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3222}) &= B_{\bar{N}}(2N + 3222 - B_{\bar{N}}(2N + 3221)) + B_{\bar{N}}(2N + 3222 - B_{\bar{N}}(2N + 3220)) + B_{\bar{N}}(2N + 3222 - B_{\bar{N}}(2N + 3219)) \\
&= B_{\bar{N}}(2N + 3222 - (N + 3368)) + B_{\bar{N}}(2N + 3222 - (2N + 318)) + B_{\bar{N}}(2N + 3222 - (N + 3369)) \\
&= B_{\bar{N}}(N - 146) + B_{\bar{N}}(2904) + B_{\bar{N}}(N - 147) = (N - 146) + 2904 + (N - 147) = \mathbf{2N} + \mathbf{2611} \\
&(N \geq 2904)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3223}) &= B_{\bar{N}}(2N + 3223 - B_{\bar{N}}(2N + 3222)) + B_{\bar{N}}(2N + 3223 - B_{\bar{N}}(2N + 3221)) + B_{\bar{N}}(2N + 3223 - B_{\bar{N}}(2N + 3220)) \\
&= B_{\bar{N}}(2N + 3223 - (2N + 2611)) + B_{\bar{N}}(2N + 3223 - (N + 3368)) + B_{\bar{N}}(2N + 3223 - (2N + 318)) \\
&= B_{\bar{N}}(612) + B_{\bar{N}}(N - 145) + B_{\bar{N}}(2905) = 612 + (N - 145) + 2905 = \mathbf{N} + \mathbf{3372} \\
&(N \geq 2905)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3224}) &= B_{\bar{N}}(2N + 3224 - B_{\bar{N}}(2N + 3223)) + B_{\bar{N}}(2N + 3224 - B_{\bar{N}}(2N + 3222)) + B_{\bar{N}}(2N + 3224 - B_{\bar{N}}(2N + 3221)) \\
&= B_{\bar{N}}(2N + 3224 - (N + 3372)) + B_{\bar{N}}(2N + 3224 - (2N + 2611)) + B_{\bar{N}}(2N + 3224 - (N + 3368)) \\
&= B_{\bar{N}}(N - 148) + B_{\bar{N}}(613) + B_{\bar{N}}(N - 144) = (N - 148) + 613 + (N - 144) = \mathbf{2N} + \mathbf{321} \\
&(N \geq 613)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3225}) &= B_{\bar{N}}(2N + 3225 - B_{\bar{N}}(2N + 3224)) + B_{\bar{N}}(2N + 3225 - B_{\bar{N}}(2N + 3223)) + B_{\bar{N}}(2N + 3225 - B_{\bar{N}}(2N + 3222)) \\
&= B_{\bar{N}}(2N + 3225 - (2N + 321)) + B_{\bar{N}}(2N + 3225 - (N + 3372)) + B_{\bar{N}}(2N + 3225 - (2N + 2611)) \\
&= B_{\bar{N}}(2904) + B_{\bar{N}}(N - 147) + B_{\bar{N}}(614) = 2904 + (N - 147) + 614 = \mathbf{N} + \mathbf{3371} \\
&(N \geq 2904)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3226}) &= B_{\bar{N}}(2N + 3226 - B_{\bar{N}}(2N + 3225)) + B_{\bar{N}}(2N + 3226 - B_{\bar{N}}(2N + 3224)) + B_{\bar{N}}(2N + 3226 - B_{\bar{N}}(2N + 3223)) \\
&= B_{\bar{N}}(2N + 3226 - (N + 3371)) + B_{\bar{N}}(2N + 3226 - (2N + 321)) + B_{\bar{N}}(2N + 3226 - (N + 3372)) \\
&= B_{\bar{N}}(N - 145) + B_{\bar{N}}(2905) + B_{\bar{N}}(N - 146) = (N - 145) + 2905 + (N - 146) = \mathbf{2N} + \mathbf{2614} \\
&(N \geq 2905)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3227}) &= B_{\bar{N}}(2N + 3227 - B_{\bar{N}}(2N + 3226)) + B_{\bar{N}}(2N + 3227 - B_{\bar{N}}(2N + 3225)) + B_{\bar{N}}(2N + 3227 - B_{\bar{N}}(2N + 3224)) \\
&= B_{\bar{N}}(2N + 3227 - (2N + 2614)) + B_{\bar{N}}(2N + 3227 - (N + 3371)) + B_{\bar{N}}(2N + 3227 - (2N + 321)) \\
&= B_{\bar{N}}(613) + B_{\bar{N}}(N - 144) + B_{\bar{N}}(2906) = 613 + (N - 144) + 2906 = \mathbf{N} + \mathbf{3375} \\
&(N \geq 2906)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3228}) &= B_{\bar{N}}(2N + 3228 - B_{\bar{N}}(2N + 3227)) + B_{\bar{N}}(2N + 3228 - B_{\bar{N}}(2N + 3226)) + B_{\bar{N}}(2N + 3228 - B_{\bar{N}}(2N + 3225)) \\
&= B_{\bar{N}}(2N + 3228 - (N + 3375)) + B_{\bar{N}}(2N + 3228 - (2N + 2614)) + B_{\bar{N}}(2N + 3228 - (N + 3371)) \\
&= B_{\bar{N}}(N - 147) + B_{\bar{N}}(614) + B_{\bar{N}}(N - 143) = (N - 147) + 614 + (N - 143) = \mathbf{2N} + \mathbf{324} \\
&(N \geq 614)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3229}) &= B_{\bar{N}}(2N + 3229 - B_{\bar{N}}(2N + 3228)) + B_{\bar{N}}(2N + 3229 - B_{\bar{N}}(2N + 3227)) + B_{\bar{N}}(2N + 3229 - B_{\bar{N}}(2N + 3226)) \\
&= B_{\bar{N}}(2N + 3229 - (2N + 324)) + B_{\bar{N}}(2N + 3229 - (N + 3375)) + B_{\bar{N}}(2N + 3229 - (2N + 2614)) \\
&= B_{\bar{N}}(2905) + B_{\bar{N}}(N - 146) + B_{\bar{N}}(615) = 2905 + (N - 146) + 615 = \mathbf{N} + \mathbf{3374} \\
&(N \geq 2905)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3230}) &= B_{\bar{N}}(2N + 3230 - B_{\bar{N}}(2N + 3229)) + B_{\bar{N}}(2N + 3230 - B_{\bar{N}}(2N + 3228)) + B_{\bar{N}}(2N + 3230 - B_{\bar{N}}(2N + 3227)) \\
&= B_{\bar{N}}(2N + 3230 - (N + 3374)) + B_{\bar{N}}(2N + 3230 - (2N + 324)) + B_{\bar{N}}(2N + 3230 - (N + 3375)) \\
&= B_{\bar{N}}(N - 144) + B_{\bar{N}}(2906) + B_{\bar{N}}(N - 145) = (N - 144) + 2906 + (N - 145) = \mathbf{2N} + \mathbf{2617} \\
&(N \geq 2906)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3231}) &= B_{\bar{N}}(2N + 3231 - B_{\bar{N}}(2N + 3230)) + B_{\bar{N}}(2N + 3231 - B_{\bar{N}}(2N + 3229)) + B_{\bar{N}}(2N + 3231 - B_{\bar{N}}(2N + 3228)) \\
&= B_{\bar{N}}(2N + 3231 - (2N + 2617)) + B_{\bar{N}}(2N + 3231 - (N + 3374)) + B_{\bar{N}}(2N + 3231 - (2N + 324)) \\
&= B_{\bar{N}}(614) + B_{\bar{N}}(N - 143) + B_{\bar{N}}(2907) = 614 + (N - 143) + 2907 = \mathbf{N} + \mathbf{3378} \\
&(N \geq 2907)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3232}) &= B_{\bar{N}}(2N + 3232 - B_{\bar{N}}(2N + 3231)) + B_{\bar{N}}(2N + 3232 - B_{\bar{N}}(2N + 3230)) + B_{\bar{N}}(2N + 3232 - B_{\bar{N}}(2N + 3229)) \\
&= B_{\bar{N}}(2N + 3232 - (N + 3378)) + B_{\bar{N}}(2N + 3232 - (2N + 2617)) + B_{\bar{N}}(2N + 3232 - (N + 3374)) \\
&= B_{\bar{N}}(N - 146) + B_{\bar{N}}(615) + B_{\bar{N}}(N - 142) = (N - 146) + 615 + (N - 142) = \mathbf{2N} + \mathbf{327} \\
&(N \geq 615)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3233}) &= B_{\bar{N}}(2N + 3233 - B_{\bar{N}}(2N + 3232)) + B_{\bar{N}}(2N + 3233 - B_{\bar{N}}(2N + 3231)) + B_{\bar{N}}(2N + 3233 - B_{\bar{N}}(2N + 3230)) \\
&= B_{\bar{N}}(2N + 3233 - (2N + 327)) + B_{\bar{N}}(2N + 3233 - (N + 3378)) + B_{\bar{N}}(2N + 3233 - (2N + 2617)) \\
&= B_{\bar{N}}(2906) + B_{\bar{N}}(N - 145) + B_{\bar{N}}(616) = 2906 + (N - 145) + 616 = \mathbf{N} + \mathbf{3377} \\
&(N \geq 2906)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3234}) &= B_{\bar{N}}(2N + 3234 - B_{\bar{N}}(2N + 3233)) + B_{\bar{N}}(2N + 3234 - B_{\bar{N}}(2N + 3232)) + B_{\bar{N}}(2N + 3234 - B_{\bar{N}}(2N + 3231)) \\
&= B_{\bar{N}}(2N + 3234 - (N + 3377)) + B_{\bar{N}}(2N + 3234 - (2N + 327)) + B_{\bar{N}}(2N + 3234 - (N + 3378)) \\
&= B_{\bar{N}}(N - 143) + B_{\bar{N}}(2907) + B_{\bar{N}}(N - 144) = (N - 143) + 2907 + (N - 144) = \mathbf{2N} + \mathbf{2620} \\
&(N \geq 2907)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3235}) &= B_{\bar{N}}(2N + 3235 - B_{\bar{N}}(2N + 3234)) + B_{\bar{N}}(2N + 3235 - B_{\bar{N}}(2N + 3233)) + B_{\bar{N}}(2N + 3235 - B_{\bar{N}}(2N + 3232)) \\
&= B_{\bar{N}}(2N + 3235 - (2N + 2620)) + B_{\bar{N}}(2N + 3235 - (N + 3377)) + B_{\bar{N}}(2N + 3235 - (2N + 327)) \\
&= B_{\bar{N}}(615) + B_{\bar{N}}(N - 142) + B_{\bar{N}}(2908) = 615 + (N - 142) + 2908 = \mathbf{N} + \mathbf{3381} \\
&(N \geq 2908)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3236}) &= B_{\bar{N}}(2N + 3236 - B_{\bar{N}}(2N + 3235)) + B_{\bar{N}}(2N + 3236 - B_{\bar{N}}(2N + 3234)) + B_{\bar{N}}(2N + 3236 - B_{\bar{N}}(2N + 3233)) \\
&= B_{\bar{N}}(2N + 3236 - (N + 3381)) + B_{\bar{N}}(2N + 3236 - (2N + 2620)) + B_{\bar{N}}(2N + 3236 - (N + 3377)) \\
&= B_{\bar{N}}(N - 145) + B_{\bar{N}}(616) + B_{\bar{N}}(N - 141) = (N - 145) + 616 + (N - 141) = \mathbf{2N} + \mathbf{330} \\
&(N \geq 616)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3237}) &= B_{\bar{N}}(2N + 3237 - B_{\bar{N}}(2N + 3236)) + B_{\bar{N}}(2N + 3237 - B_{\bar{N}}(2N + 3235)) + B_{\bar{N}}(2N + 3237 - B_{\bar{N}}(2N + 3234)) \\
&= B_{\bar{N}}(2N + 3237 - (2N + 330)) + B_{\bar{N}}(2N + 3237 - (N + 3381)) + B_{\bar{N}}(2N + 3237 - (2N + 2620)) \\
&= B_{\bar{N}}(2907) + B_{\bar{N}}(N - 144) + B_{\bar{N}}(617) = 2907 + (N - 144) + 617 = \mathbf{N} + \mathbf{3380} \\
&(N \geq 2907)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3238}) &= B_{\bar{N}}(2N + 3238 - B_{\bar{N}}(2N + 3237)) + B_{\bar{N}}(2N + 3238 - B_{\bar{N}}(2N + 3236)) + B_{\bar{N}}(2N + 3238 - B_{\bar{N}}(2N + 3235)) \\
&= B_{\bar{N}}(2N + 3238 - (N + 3380)) + B_{\bar{N}}(2N + 3238 - (2N + 330)) + B_{\bar{N}}(2N + 3238 - (N + 3381)) \\
&= B_{\bar{N}}(N - 142) + B_{\bar{N}}(2908) + B_{\bar{N}}(N - 143) = (N - 142) + 2908 + (N - 143) = \mathbf{2N} + \mathbf{2623} \\
&(N \geq 2908)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3239}) &= B_{\bar{N}}(2N + 3239 - B_{\bar{N}}(2N + 3238)) + B_{\bar{N}}(2N + 3239 - B_{\bar{N}}(2N + 3237)) + B_{\bar{N}}(2N + 3239 - B_{\bar{N}}(2N + 3236)) \\
&= B_{\bar{N}}(2N + 3239 - (2N + 2623)) + B_{\bar{N}}(2N + 3239 - (N + 3380)) + B_{\bar{N}}(2N + 3239 - (2N + 330)) \\
&= B_{\bar{N}}(616) + B_{\bar{N}}(N - 141) + B_{\bar{N}}(2909) = 616 + (N - 141) + 2909 = \mathbf{N} + \mathbf{3384} \\
&(N \geq 2909)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3240}) &= B_{\bar{N}}(2N + 3240 - B_{\bar{N}}(2N + 3239)) + B_{\bar{N}}(2N + 3240 - B_{\bar{N}}(2N + 3238)) + B_{\bar{N}}(2N + 3240 - B_{\bar{N}}(2N + 3237)) \\
&= B_{\bar{N}}(2N + 3240 - (N + 3384)) + B_{\bar{N}}(2N + 3240 - (2N + 2623)) + B_{\bar{N}}(2N + 3240 - (N + 3380)) \\
&= B_{\bar{N}}(N - 144) + B_{\bar{N}}(617) + B_{\bar{N}}(N - 140) = (N - 144) + 617 + (N - 140) = \mathbf{2N} + \mathbf{333} \\
&(N \geq 617)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3241}) &= B_{\bar{N}}(2N + 3241 - B_{\bar{N}}(2N + 3240)) + B_{\bar{N}}(2N + 3241 - B_{\bar{N}}(2N + 3239)) + B_{\bar{N}}(2N + 3241 - B_{\bar{N}}(2N + 3238)) \\
&= B_{\bar{N}}(2N + 3241 - (2N + 333)) + B_{\bar{N}}(2N + 3241 - (N + 3384)) + B_{\bar{N}}(2N + 3241 - (2N + 2623)) \\
&= B_{\bar{N}}(2908) + B_{\bar{N}}(N - 143) + B_{\bar{N}}(618) = 2908 + (N - 143) + 618 = \mathbf{N} + \mathbf{3383} \\
&(N \geq 2908)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3242}) &= B_{\bar{N}}(2N + 3242 - B_{\bar{N}}(2N + 3241)) + B_{\bar{N}}(2N + 3242 - B_{\bar{N}}(2N + 3240)) + B_{\bar{N}}(2N + 3242 - B_{\bar{N}}(2N + 3239)) \\
&= B_{\bar{N}}(2N + 3242 - (N + 3383)) + B_{\bar{N}}(2N + 3242 - (2N + 333)) + B_{\bar{N}}(2N + 3242 - (N + 3384)) \\
&= B_{\bar{N}}(N - 141) + B_{\bar{N}}(2909) + B_{\bar{N}}(N - 142) = (N - 141) + 2909 + (N - 142) = \mathbf{2N} + \mathbf{2626} \\
&(N \geq 2909)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3243}) &= B_{\bar{N}}(2N + 3243 - B_{\bar{N}}(2N + 3242)) + B_{\bar{N}}(2N + 3243 - B_{\bar{N}}(2N + 3241)) + B_{\bar{N}}(2N + 3243 - B_{\bar{N}}(2N + 3240)) \\
&= B_{\bar{N}}(2N + 3243 - (2N + 2626)) + B_{\bar{N}}(2N + 3243 - (N + 3383)) + B_{\bar{N}}(2N + 3243 - (2N + 333)) \\
&= B_{\bar{N}}(617) + B_{\bar{N}}(N - 140) + B_{\bar{N}}(2910) = 617 + (N - 140) + 2910 = \mathbf{N} + \mathbf{3387} \\
&(N \geq 2910)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3244}) &= B_{\bar{N}}(2N + 3244 - B_{\bar{N}}(2N + 3243)) + B_{\bar{N}}(2N + 3244 - B_{\bar{N}}(2N + 3242)) + B_{\bar{N}}(2N + 3244 - B_{\bar{N}}(2N + 3241)) \\
&= B_{\bar{N}}(2N + 3244 - (N + 3387)) + B_{\bar{N}}(2N + 3244 - (2N + 2626)) + B_{\bar{N}}(2N + 3244 - (N + 3383)) \\
&= B_{\bar{N}}(N - 143) + B_{\bar{N}}(618) + B_{\bar{N}}(N - 139) = (N - 143) + 618 + (N - 139) = \mathbf{2N} + \mathbf{336} \\
&(N \geq 618)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3245}) &= B_{\bar{N}}(2N + 3245 - B_{\bar{N}}(2N + 3244)) + B_{\bar{N}}(2N + 3245 - B_{\bar{N}}(2N + 3243)) + B_{\bar{N}}(2N + 3245 - B_{\bar{N}}(2N + 3242)) \\
&= B_{\bar{N}}(2N + 3245 - (2N + 336)) + B_{\bar{N}}(2N + 3245 - (N + 3387)) + B_{\bar{N}}(2N + 3245 - (2N + 2626)) \\
&= B_{\bar{N}}(2909) + B_{\bar{N}}(N - 142) + B_{\bar{N}}(619) = 2909 + (N - 142) + 619 = \mathbf{N} + \mathbf{3386} \\
&(N \geq 2909)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3246}) &= B_{\bar{N}}(2N + 3246 - B_{\bar{N}}(2N + 3245)) + B_{\bar{N}}(2N + 3246 - B_{\bar{N}}(2N + 3244)) + B_{\bar{N}}(2N + 3246 - B_{\bar{N}}(2N + 3243)) \\
&= B_{\bar{N}}(2N + 3246 - (N + 3386)) + B_{\bar{N}}(2N + 3246 - (2N + 336)) + B_{\bar{N}}(2N + 3246 - (N + 3387)) \\
&= B_{\bar{N}}(N - 140) + B_{\bar{N}}(2910) + B_{\bar{N}}(N - 141) = (N - 140) + 2910 + (N - 141) = \mathbf{2N} + \mathbf{2629} \\
&(N \geq 2910)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3247}) &= B_{\bar{N}}(2N + 3247 - B_{\bar{N}}(2N + 3246)) + B_{\bar{N}}(2N + 3247 - B_{\bar{N}}(2N + 3245)) + B_{\bar{N}}(2N + 3247 - B_{\bar{N}}(2N + 3244)) \\
&= B_{\bar{N}}(2N + 3247 - (2N + 2629)) + B_{\bar{N}}(2N + 3247 - (N + 3386)) + B_{\bar{N}}(2N + 3247 - (2N + 336)) \\
&= B_{\bar{N}}(618) + B_{\bar{N}}(N - 139) + B_{\bar{N}}(2911) = 618 + (N - 139) + 2911 = \mathbf{N} + \mathbf{3390} \\
&(N \geq 2911)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3248}) &= B_{\bar{N}}(2N + 3248 - B_{\bar{N}}(2N + 3247)) + B_{\bar{N}}(2N + 3248 - B_{\bar{N}}(2N + 3246)) + B_{\bar{N}}(2N + 3248 - B_{\bar{N}}(2N + 3245)) \\
&= B_{\bar{N}}(2N + 3248 - (N + 3390)) + B_{\bar{N}}(2N + 3248 - (2N + 2629)) + B_{\bar{N}}(2N + 3248 - (N + 3386)) \\
&= B_{\bar{N}}(N - 142) + B_{\bar{N}}(619) + B_{\bar{N}}(N - 138) = (N - 142) + 619 + (N - 138) = \mathbf{2N} + \mathbf{339} \\
&(N \geq 619)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3249}) &= B_{\bar{N}}(2N + 3249 - B_{\bar{N}}(2N + 3248)) + B_{\bar{N}}(2N + 3249 - B_{\bar{N}}(2N + 3247)) + B_{\bar{N}}(2N + 3249 - B_{\bar{N}}(2N + 3246)) \\
&= B_{\bar{N}}(2N + 3249 - (2N + 339)) + B_{\bar{N}}(2N + 3249 - (N + 3390)) + B_{\bar{N}}(2N + 3249 - (2N + 2629)) \\
&= B_{\bar{N}}(2910) + B_{\bar{N}}(N - 141) + B_{\bar{N}}(620) = 2910 + (N - 141) + 620 = \mathbf{N} + \mathbf{3389} \\
&(N \geq 2910)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3250}) &= B_{\bar{N}}(2N + 3250 - B_{\bar{N}}(2N + 3249)) + B_{\bar{N}}(2N + 3250 - B_{\bar{N}}(2N + 3248)) + B_{\bar{N}}(2N + 3250 - B_{\bar{N}}(2N + 3247)) \\
&= B_{\bar{N}}(2N + 3250 - (N + 3389)) + B_{\bar{N}}(2N + 3250 - (2N + 339)) + B_{\bar{N}}(2N + 3250 - (N + 3390)) \\
&= B_{\bar{N}}(N - 139) + B_{\bar{N}}(2911) + B_{\bar{N}}(N - 140) = (N - 139) + 2911 + (N - 140) = \mathbf{2N} + \mathbf{2632} \\
&(N \geq 2911)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3251}) &= B_{\bar{N}}(2N + 3251 - B_{\bar{N}}(2N + 3250)) + B_{\bar{N}}(2N + 3251 - B_{\bar{N}}(2N + 3249)) + B_{\bar{N}}(2N + 3251 - B_{\bar{N}}(2N + 3248)) \\
&= B_{\bar{N}}(2N + 3251 - (2N + 2632)) + B_{\bar{N}}(2N + 3251 - (N + 3389)) + B_{\bar{N}}(2N + 3251 - (2N + 339)) \\
&= B_{\bar{N}}(619) + B_{\bar{N}}(N - 138) + B_{\bar{N}}(2912) = 619 + (N - 138) + 2912 = \mathbf{N} + \mathbf{3393} \\
&(N \geq 2912)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3252}) &= B_{\bar{N}}(2N + 3252 - B_{\bar{N}}(2N + 3251)) + B_{\bar{N}}(2N + 3252 - B_{\bar{N}}(2N + 3250)) + B_{\bar{N}}(2N + 3252 - B_{\bar{N}}(2N + 3249)) \\
&= B_{\bar{N}}(2N + 3252 - (N + 3393)) + B_{\bar{N}}(2N + 3252 - (2N + 2632)) + B_{\bar{N}}(2N + 3252 - (N + 3389)) \\
&= B_{\bar{N}}(N - 141) + B_{\bar{N}}(620) + B_{\bar{N}}(N - 137) = (N - 141) + 620 + (N - 137) = \mathbf{2N} + \mathbf{342} \\
&(N \geq 620)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3253}) &= B_{\bar{N}}(2N + 3253 - B_{\bar{N}}(2N + 3252)) + B_{\bar{N}}(2N + 3253 - B_{\bar{N}}(2N + 3251)) + B_{\bar{N}}(2N + 3253 - B_{\bar{N}}(2N + 3250)) \\
&= B_{\bar{N}}(2N + 3253 - (2N + 342)) + B_{\bar{N}}(2N + 3253 - (N + 3393)) + B_{\bar{N}}(2N + 3253 - (2N + 2632)) \\
&= B_{\bar{N}}(2911) + B_{\bar{N}}(N - 140) + B_{\bar{N}}(621) = 2911 + (N - 140) + 621 = \mathbf{N} + \mathbf{3392} \\
&(N \geq 2911)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3254}) &= B_{\bar{N}}(2N + 3254 - B_{\bar{N}}(2N + 3253)) + B_{\bar{N}}(2N + 3254 - B_{\bar{N}}(2N + 3252)) + B_{\bar{N}}(2N + 3254 - B_{\bar{N}}(2N + 3251)) \\
&= B_{\bar{N}}(2N + 3254 - (N + 3392)) + B_{\bar{N}}(2N + 3254 - (2N + 342)) + B_{\bar{N}}(2N + 3254 - (N + 3393)) \\
&= B_{\bar{N}}(N - 138) + B_{\bar{N}}(2912) + B_{\bar{N}}(N - 139) = (N - 138) + 2912 + (N - 139) = \mathbf{2N} + \mathbf{2635} \\
&(N \geq 2912)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3255}) &= B_{\bar{N}}(2N + 3255 - B_{\bar{N}}(2N + 3254)) + B_{\bar{N}}(2N + 3255 - B_{\bar{N}}(2N + 3253)) + B_{\bar{N}}(2N + 3255 - B_{\bar{N}}(2N + 3252)) \\
&= B_{\bar{N}}(2N + 3255 - (2N + 2635)) + B_{\bar{N}}(2N + 3255 - (N + 3392)) + B_{\bar{N}}(2N + 3255 - (2N + 342)) \\
&= B_{\bar{N}}(620) + B_{\bar{N}}(N - 137) + B_{\bar{N}}(2913) = 620 + (N - 137) + 2913 = \mathbf{N} + \mathbf{3396} \\
&(N \geq 2913)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3256}) &= B_{\bar{N}}(2N + 3256 - B_{\bar{N}}(2N + 3255)) + B_{\bar{N}}(2N + 3256 - B_{\bar{N}}(2N + 3254)) + B_{\bar{N}}(2N + 3256 - B_{\bar{N}}(2N + 3253)) \\
&= B_{\bar{N}}(2N + 3256 - (N + 3396)) + B_{\bar{N}}(2N + 3256 - (2N + 2635)) + B_{\bar{N}}(2N + 3256 - (N + 3392)) \\
&= B_{\bar{N}}(N - 140) + B_{\bar{N}}(621) + B_{\bar{N}}(N - 136) = (N - 140) + 621 + (N - 136) = \mathbf{2N} + \mathbf{345} \\
&(N \geq 621)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3257}) &= B_{\bar{N}}(2N + 3257 - B_{\bar{N}}(2N + 3256)) + B_{\bar{N}}(2N + 3257 - B_{\bar{N}}(2N + 3255)) + B_{\bar{N}}(2N + 3257 - B_{\bar{N}}(2N + 3254)) \\
&= B_{\bar{N}}(2N + 3257 - (2N + 345)) + B_{\bar{N}}(2N + 3257 - (N + 3396)) + B_{\bar{N}}(2N + 3257 - (2N + 2635)) \\
&= B_{\bar{N}}(2912) + B_{\bar{N}}(N - 139) + B_{\bar{N}}(622) = 2912 + (N - 139) + 622 = \mathbf{N} + \mathbf{3395} \\
&(N \geq 2912)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3258}) &= B_{\bar{N}}(2N + 3258 - B_{\bar{N}}(2N + 3257)) + B_{\bar{N}}(2N + 3258 - B_{\bar{N}}(2N + 3256)) + B_{\bar{N}}(2N + 3258 - B_{\bar{N}}(2N + 3255)) \\
&= B_{\bar{N}}(2N + 3258 - (N + 3395)) + B_{\bar{N}}(2N + 3258 - (2N + 345)) + B_{\bar{N}}(2N + 3258 - (N + 3396)) \\
&= B_{\bar{N}}(N - 137) + B_{\bar{N}}(2913) + B_{\bar{N}}(N - 138) = (N - 137) + 2913 + (N - 138) = \mathbf{2N} + \mathbf{2638} \\
&(N \geq 2913)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3259}) &= B_{\bar{N}}(2N + 3259 - B_{\bar{N}}(2N + 3258)) + B_{\bar{N}}(2N + 3259 - B_{\bar{N}}(2N + 3257)) + B_{\bar{N}}(2N + 3259 - B_{\bar{N}}(2N + 3256)) \\
&= B_{\bar{N}}(2N + 3259 - (2N + 2638)) + B_{\bar{N}}(2N + 3259 - (N + 3395)) + B_{\bar{N}}(2N + 3259 - (2N + 345)) \\
&= B_{\bar{N}}(621) + B_{\bar{N}}(N - 136) + B_{\bar{N}}(2914) = 621 + (N - 136) + 2914 = \mathbf{N} + \mathbf{3399} \\
&(N \geq 2914)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3260}) &= B_{\bar{N}}(2N + 3260 - B_{\bar{N}}(2N + 3259)) + B_{\bar{N}}(2N + 3260 - B_{\bar{N}}(2N + 3258)) + B_{\bar{N}}(2N + 3260 - B_{\bar{N}}(2N + 3257)) \\
&= B_{\bar{N}}(2N + 3260 - (N + 3399)) + B_{\bar{N}}(2N + 3260 - (2N + 2638)) + B_{\bar{N}}(2N + 3260 - (N + 3395)) \\
&= B_{\bar{N}}(N - 139) + B_{\bar{N}}(622) + B_{\bar{N}}(N - 135) = (N - 139) + 622 + (N - 135) = \mathbf{2N} + \mathbf{348} \\
&(N \geq 622)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3261}) &= B_{\bar{N}}(2N + 3261 - B_{\bar{N}}(2N + 3260)) + B_{\bar{N}}(2N + 3261 - B_{\bar{N}}(2N + 3259)) + B_{\bar{N}}(2N + 3261 - B_{\bar{N}}(2N + 3258)) \\
&= B_{\bar{N}}(2N + 3261 - (2N + 348)) + B_{\bar{N}}(2N + 3261 - (N + 3399)) + B_{\bar{N}}(2N + 3261 - (2N + 2638)) \\
&= B_{\bar{N}}(2913) + B_{\bar{N}}(N - 138) + B_{\bar{N}}(623) = 2913 + (N - 138) + 623 = \mathbf{N} + \mathbf{3398} \\
&(N \geq 2913)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3262}) &= B_{\bar{N}}(2N + 3262 - B_{\bar{N}}(2N + 3261)) + B_{\bar{N}}(2N + 3262 - B_{\bar{N}}(2N + 3260)) + B_{\bar{N}}(2N + 3262 - B_{\bar{N}}(2N + 3259)) \\
&= B_{\bar{N}}(2N + 3262 - (N + 3398)) + B_{\bar{N}}(2N + 3262 - (2N + 348)) + B_{\bar{N}}(2N + 3262 - (N + 3399)) \\
&= B_{\bar{N}}(N - 136) + B_{\bar{N}}(2914) + B_{\bar{N}}(N - 137) = (N - 136) + 2914 + (N - 137) = \mathbf{2N} + \mathbf{2641} \\
&(N \geq 2914)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3263}) &= B_{\bar{N}}(2N + 3263 - B_{\bar{N}}(2N + 3262)) + B_{\bar{N}}(2N + 3263 - B_{\bar{N}}(2N + 3261)) + B_{\bar{N}}(2N + 3263 - B_{\bar{N}}(2N + 3260)) \\
&= B_{\bar{N}}(2N + 3263 - (2N + 2641)) + B_{\bar{N}}(2N + 3263 - (N + 3398)) + B_{\bar{N}}(2N + 3263 - (2N + 348)) \\
&= B_{\bar{N}}(622) + B_{\bar{N}}(N - 135) + B_{\bar{N}}(2915) = 622 + (N - 135) + 2915 = \mathbf{N} + \mathbf{3402} \\
&(N \geq 2915)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3264}) &= B_{\bar{N}}(2N + 3264 - B_{\bar{N}}(2N + 3263)) + B_{\bar{N}}(2N + 3264 - B_{\bar{N}}(2N + 3262)) + B_{\bar{N}}(2N + 3264 - B_{\bar{N}}(2N + 3261)) \\
&= B_{\bar{N}}(2N + 3264 - (N + 3402)) + B_{\bar{N}}(2N + 3264 - (2N + 2641)) + B_{\bar{N}}(2N + 3264 - (N + 3398)) \\
&= B_{\bar{N}}(N - 138) + B_{\bar{N}}(623) + B_{\bar{N}}(N - 134) = (N - 138) + 623 + (N - 134) = \mathbf{2N} + \mathbf{351} \\
&(N \geq 623)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3265}) &= B_{\bar{N}}(2N + 3265 - B_{\bar{N}}(2N + 3264)) + B_{\bar{N}}(2N + 3265 - B_{\bar{N}}(2N + 3263)) + B_{\bar{N}}(2N + 3265 - B_{\bar{N}}(2N + 3262)) \\
&= B_{\bar{N}}(2N + 3265 - (2N + 351)) + B_{\bar{N}}(2N + 3265 - (N + 3402)) + B_{\bar{N}}(2N + 3265 - (2N + 2641)) \\
&= B_{\bar{N}}(2914) + B_{\bar{N}}(N - 137) + B_{\bar{N}}(624) = 2914 + (N - 137) + 624 = \mathbf{N} + \mathbf{3401} \\
&(N \geq 2914)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3266}) &= B_{\bar{N}}(2N + 3266 - B_{\bar{N}}(2N + 3265)) + B_{\bar{N}}(2N + 3266 - B_{\bar{N}}(2N + 3264)) + B_{\bar{N}}(2N + 3266 - B_{\bar{N}}(2N + 3263)) \\
&= B_{\bar{N}}(2N + 3266 - (N + 3401)) + B_{\bar{N}}(2N + 3266 - (2N + 351)) + B_{\bar{N}}(2N + 3266 - (N + 3402)) \\
&= B_{\bar{N}}(N - 135) + B_{\bar{N}}(2915) + B_{\bar{N}}(N - 136) = (N - 135) + 2915 + (N - 136) = \mathbf{2N} + \mathbf{2644} \\
&(N \geq 2915)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3267}) &= B_{\bar{N}}(2N + 3267 - B_{\bar{N}}(2N + 3266)) + B_{\bar{N}}(2N + 3267 - B_{\bar{N}}(2N + 3265)) + B_{\bar{N}}(2N + 3267 - B_{\bar{N}}(2N + 3264)) \\
&= B_{\bar{N}}(2N + 3267 - (2N + 2644)) + B_{\bar{N}}(2N + 3267 - (N + 3401)) + B_{\bar{N}}(2N + 3267 - (2N + 351)) \\
&= B_{\bar{N}}(623) + B_{\bar{N}}(N - 134) + B_{\bar{N}}(2916) = 623 + (N - 134) + 2916 = \mathbf{N} + \mathbf{3405} \\
&(N \geq 2916)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3268}) &= B_{\bar{N}}(2N + 3268 - B_{\bar{N}}(2N + 3267)) + B_{\bar{N}}(2N + 3268 - B_{\bar{N}}(2N + 3266)) + B_{\bar{N}}(2N + 3268 - B_{\bar{N}}(2N + 3265)) \\
&= B_{\bar{N}}(2N + 3268 - (N + 3405)) + B_{\bar{N}}(2N + 3268 - (2N + 2644)) + B_{\bar{N}}(2N + 3268 - (N + 3401)) \\
&= B_{\bar{N}}(N - 137) + B_{\bar{N}}(624) + B_{\bar{N}}(N - 133) = (N - 137) + 624 + (N - 133) = \mathbf{2N} + \mathbf{354} \\
&(N \geq 624)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3269}) &= B_{\bar{N}}(2N + 3269 - B_{\bar{N}}(2N + 3268)) + B_{\bar{N}}(2N + 3269 - B_{\bar{N}}(2N + 3267)) + B_{\bar{N}}(2N + 3269 - B_{\bar{N}}(2N + 3266)) \\
&= B_{\bar{N}}(2N + 3269 - (2N + 354)) + B_{\bar{N}}(2N + 3269 - (N + 3405)) + B_{\bar{N}}(2N + 3269 - (2N + 2644)) \\
&= B_{\bar{N}}(2915) + B_{\bar{N}}(N - 136) + B_{\bar{N}}(625) = 2915 + (N - 136) + 625 = \mathbf{N} + \mathbf{3404} \\
&(N \geq 2915)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3270}) &= B_{\bar{N}}(2N + 3270 - B_{\bar{N}}(2N + 3269)) + B_{\bar{N}}(2N + 3270 - B_{\bar{N}}(2N + 3268)) + B_{\bar{N}}(2N + 3270 - B_{\bar{N}}(2N + 3267)) \\
&= B_{\bar{N}}(2N + 3270 - (N + 3404)) + B_{\bar{N}}(2N + 3270 - (2N + 354)) + B_{\bar{N}}(2N + 3270 - (N + 3405)) \\
&= B_{\bar{N}}(N - 134) + B_{\bar{N}}(2916) + B_{\bar{N}}(N - 135) = (N - 134) + 2916 + (N - 135) = \mathbf{2N} + \mathbf{2647} \\
&(N \geq 2916)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3271}) &= B_{\bar{N}}(2N + 3271 - B_{\bar{N}}(2N + 3270)) + B_{\bar{N}}(2N + 3271 - B_{\bar{N}}(2N + 3269)) + B_{\bar{N}}(2N + 3271 - B_{\bar{N}}(2N + 3268)) \\
&= B_{\bar{N}}(2N + 3271 - (2N + 2647)) + B_{\bar{N}}(2N + 3271 - (N + 3404)) + B_{\bar{N}}(2N + 3271 - (2N + 354)) \\
&= B_{\bar{N}}(624) + B_{\bar{N}}(N - 133) + B_{\bar{N}}(2917) = 624 + (N - 133) + 2917 = \mathbf{N} + \mathbf{3408} \\
&(N \geq 2917)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3272}) &= B_{\bar{N}}(2N + 3272 - B_{\bar{N}}(2N + 3271)) + B_{\bar{N}}(2N + 3272 - B_{\bar{N}}(2N + 3270)) + B_{\bar{N}}(2N + 3272 - B_{\bar{N}}(2N + 3269)) \\
&= B_{\bar{N}}(2N + 3272 - (N + 3408)) + B_{\bar{N}}(2N + 3272 - (2N + 2647)) + B_{\bar{N}}(2N + 3272 - (N + 3404)) \\
&= B_{\bar{N}}(N - 136) + B_{\bar{N}}(625) + B_{\bar{N}}(N - 132) = (N - 136) + 625 + (N - 132) = \mathbf{2N} + \mathbf{357} \\
&(N \geq 625)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3273}) &= B_{\bar{N}}(2N + 3273 - B_{\bar{N}}(2N + 3272)) + B_{\bar{N}}(2N + 3273 - B_{\bar{N}}(2N + 3271)) + B_{\bar{N}}(2N + 3273 - B_{\bar{N}}(2N + 3270)) \\
&= B_{\bar{N}}(2N + 3273 - (2N + 357)) + B_{\bar{N}}(2N + 3273 - (N + 3408)) + B_{\bar{N}}(2N + 3273 - (2N + 2647)) \\
&= B_{\bar{N}}(2916) + B_{\bar{N}}(N - 135) + B_{\bar{N}}(626) = 2916 + (N - 135) + 626 = \mathbf{N} + \mathbf{3407} \\
&(N \geq 2916)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3274}) &= B_{\bar{N}}(2N + 3274 - B_{\bar{N}}(2N + 3273)) + B_{\bar{N}}(2N + 3274 - B_{\bar{N}}(2N + 3272)) + B_{\bar{N}}(2N + 3274 - B_{\bar{N}}(2N + 3271)) \\
&= B_{\bar{N}}(2N + 3274 - (N + 3407)) + B_{\bar{N}}(2N + 3274 - (2N + 357)) + B_{\bar{N}}(2N + 3274 - (N + 3408)) \\
&= B_{\bar{N}}(N - 133) + B_{\bar{N}}(2917) + B_{\bar{N}}(N - 134) = (N - 133) + 2917 + (N - 134) = \mathbf{2N} + \mathbf{2650} \\
&(N \geq 2917)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3275}) &= B_{\bar{N}}(2N + 3275 - B_{\bar{N}}(2N + 3274)) + B_{\bar{N}}(2N + 3275 - B_{\bar{N}}(2N + 3273)) + B_{\bar{N}}(2N + 3275 - B_{\bar{N}}(2N + 3272)) \\
&= B_{\bar{N}}(2N + 3275 - (2N + 2650)) + B_{\bar{N}}(2N + 3275 - (N + 3407)) + B_{\bar{N}}(2N + 3275 - (2N + 357)) \\
&= B_{\bar{N}}(625) + B_{\bar{N}}(N - 132) + B_{\bar{N}}(2918) = 625 + (N - 132) + 2918 = \mathbf{N} + \mathbf{3411} \\
&(N \geq 2918)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3276}) &= B_{\bar{N}}(2N + 3276 - B_{\bar{N}}(2N + 3275)) + B_{\bar{N}}(2N + 3276 - B_{\bar{N}}(2N + 3274)) + B_{\bar{N}}(2N + 3276 - B_{\bar{N}}(2N + 3273)) \\
&= B_{\bar{N}}(2N + 3276 - (N + 3411)) + B_{\bar{N}}(2N + 3276 - (2N + 2650)) + B_{\bar{N}}(2N + 3276 - (N + 3407)) \\
&= B_{\bar{N}}(N - 135) + B_{\bar{N}}(626) + B_{\bar{N}}(N - 131) = (N - 135) + 626 + (N - 131) = \mathbf{2N} + \mathbf{360} \\
&(N \geq 626)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3277}) &= B_{\bar{N}}(2N + 3277 - B_{\bar{N}}(2N + 3276)) + B_{\bar{N}}(2N + 3277 - B_{\bar{N}}(2N + 3275)) + B_{\bar{N}}(2N + 3277 - B_{\bar{N}}(2N + 3274)) \\
&= B_{\bar{N}}(2N + 3277 - (2N + 360)) + B_{\bar{N}}(2N + 3277 - (N + 3411)) + B_{\bar{N}}(2N + 3277 - (2N + 2650)) \\
&= B_{\bar{N}}(2917) + B_{\bar{N}}(N - 134) + B_{\bar{N}}(627) = 2917 + (N - 134) + 627 = \mathbf{N} + \mathbf{3410} \\
&(N \geq 2917)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3278}) &= B_{\bar{N}}(2N + 3278 - B_{\bar{N}}(2N + 3277)) + B_{\bar{N}}(2N + 3278 - B_{\bar{N}}(2N + 3276)) + B_{\bar{N}}(2N + 3278 - B_{\bar{N}}(2N + 3275)) \\
&= B_{\bar{N}}(2N + 3278 - (N + 3410)) + B_{\bar{N}}(2N + 3278 - (2N + 360)) + B_{\bar{N}}(2N + 3278 - (N + 3411)) \\
&= B_{\bar{N}}(N - 132) + B_{\bar{N}}(2918) + B_{\bar{N}}(N - 133) = (N - 132) + 2918 + (N - 133) = \mathbf{2N} + \mathbf{2653} \\
&(N \geq 2918)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3279}) &= B_{\bar{N}}(2N + 3279 - B_{\bar{N}}(2N + 3278)) + B_{\bar{N}}(2N + 3279 - B_{\bar{N}}(2N + 3277)) + B_{\bar{N}}(2N + 3279 - B_{\bar{N}}(2N + 3276)) \\
&= B_{\bar{N}}(2N + 3279 - (2N + 2653)) + B_{\bar{N}}(2N + 3279 - (N + 3410)) + B_{\bar{N}}(2N + 3279 - (2N + 360)) \\
&= B_{\bar{N}}(626) + B_{\bar{N}}(N - 131) + B_{\bar{N}}(2919) = 626 + (N - 131) + 2919 = \mathbf{N} + \mathbf{3414} \\
&(N \geq 2919)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3280}) &= B_{\bar{N}}(2N + 3280 - B_{\bar{N}}(2N + 3279)) + B_{\bar{N}}(2N + 3280 - B_{\bar{N}}(2N + 3278)) + B_{\bar{N}}(2N + 3280 - B_{\bar{N}}(2N + 3277)) \\
&= B_{\bar{N}}(2N + 3280 - (N + 3414)) + B_{\bar{N}}(2N + 3280 - (2N + 2653)) + B_{\bar{N}}(2N + 3280 - (N + 3410)) \\
&= B_{\bar{N}}(N - 134) + B_{\bar{N}}(627) + B_{\bar{N}}(N - 130) = (N - 134) + 627 + (N - 130) = \mathbf{2N} + \mathbf{363} \\
&(N \geq 627)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3281}) &= B_{\bar{N}}(2N + 3281 - B_{\bar{N}}(2N + 3280)) + B_{\bar{N}}(2N + 3281 - B_{\bar{N}}(2N + 3279)) + B_{\bar{N}}(2N + 3281 - B_{\bar{N}}(2N + 3278)) \\
&= B_{\bar{N}}(2N + 3281 - (2N + 363)) + B_{\bar{N}}(2N + 3281 - (N + 3414)) + B_{\bar{N}}(2N + 3281 - (2N + 2653)) \\
&= B_{\bar{N}}(2918) + B_{\bar{N}}(N - 133) + B_{\bar{N}}(628) = 2918 + (N - 133) + 628 = \mathbf{N} + \mathbf{3413} \\
&(N \geq 2918)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3282}) &= B_{\bar{N}}(2N + 3282 - B_{\bar{N}}(2N + 3281)) + B_{\bar{N}}(2N + 3282 - B_{\bar{N}}(2N + 3280)) + B_{\bar{N}}(2N + 3282 - B_{\bar{N}}(2N + 3279)) \\
&= B_{\bar{N}}(2N + 3282 - (N + 3413)) + B_{\bar{N}}(2N + 3282 - (2N + 363)) + B_{\bar{N}}(2N + 3282 - (N + 3414)) \\
&= B_{\bar{N}}(N - 131) + B_{\bar{N}}(2919) + B_{\bar{N}}(N - 132) = (N - 131) + 2919 + (N - 132) = \mathbf{2N} + \mathbf{2656} \\
&(N \geq 2919)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3283}) &= B_{\bar{N}}(2N + 3283 - B_{\bar{N}}(2N + 3282)) + B_{\bar{N}}(2N + 3283 - B_{\bar{N}}(2N + 3281)) + B_{\bar{N}}(2N + 3283 - B_{\bar{N}}(2N + 3280)) \\
&= B_{\bar{N}}(2N + 3283 - (2N + 2656)) + B_{\bar{N}}(2N + 3283 - (N + 3413)) + B_{\bar{N}}(2N + 3283 - (2N + 363)) \\
&= B_{\bar{N}}(627) + B_{\bar{N}}(N - 130) + B_{\bar{N}}(2920) = 627 + (N - 130) + 2920 = \mathbf{N} + \mathbf{3417} \\
&(N \geq 2920)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3284}) &= B_{\bar{N}}(2N + 3284 - B_{\bar{N}}(2N + 3283)) + B_{\bar{N}}(2N + 3284 - B_{\bar{N}}(2N + 3282)) + B_{\bar{N}}(2N + 3284 - B_{\bar{N}}(2N + 3281)) \\
&= B_{\bar{N}}(2N + 3284 - (N + 3417)) + B_{\bar{N}}(2N + 3284 - (2N + 2656)) + B_{\bar{N}}(2N + 3284 - (N + 3413)) \\
&= B_{\bar{N}}(N - 133) + B_{\bar{N}}(628) + B_{\bar{N}}(N - 129) = (N - 133) + 628 + (N - 129) = \mathbf{2N} + \mathbf{366} \\
&(N \geq 628)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3285}) &= B_{\bar{N}}(2N + 3285 - B_{\bar{N}}(2N + 3284)) + B_{\bar{N}}(2N + 3285 - B_{\bar{N}}(2N + 3283)) + B_{\bar{N}}(2N + 3285 - B_{\bar{N}}(2N + 3282)) \\
&= B_{\bar{N}}(2N + 3285 - (2N + 366)) + B_{\bar{N}}(2N + 3285 - (N + 3417)) + B_{\bar{N}}(2N + 3285 - (2N + 2656)) \\
&= B_{\bar{N}}(2919) + B_{\bar{N}}(N - 132) + B_{\bar{N}}(629) = 2919 + (N - 132) + 629 = \mathbf{N} + \mathbf{3416} \\
&(N \geq 2919)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3286}) &= B_{\bar{N}}(2N + 3286 - B_{\bar{N}}(2N + 3285)) + B_{\bar{N}}(2N + 3286 - B_{\bar{N}}(2N + 3284)) + B_{\bar{N}}(2N + 3286 - B_{\bar{N}}(2N + 3283)) \\
&= B_{\bar{N}}(2N + 3286 - (N + 3416)) + B_{\bar{N}}(2N + 3286 - (2N + 366)) + B_{\bar{N}}(2N + 3286 - (N + 3417)) \\
&= B_{\bar{N}}(N - 130) + B_{\bar{N}}(2920) + B_{\bar{N}}(N - 131) = (N - 130) + 2920 + (N - 131) = \mathbf{2N} + \mathbf{2659} \\
&(N \geq 2920)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3287}) &= B_{\bar{N}}(2N + 3287 - B_{\bar{N}}(2N + 3286)) + B_{\bar{N}}(2N + 3287 - B_{\bar{N}}(2N + 3285)) + B_{\bar{N}}(2N + 3287 - B_{\bar{N}}(2N + 3284)) \\
&= B_{\bar{N}}(2N + 3287 - (2N + 2659)) + B_{\bar{N}}(2N + 3287 - (N + 3416)) + B_{\bar{N}}(2N + 3287 - (2N + 366)) \\
&= B_{\bar{N}}(628) + B_{\bar{N}}(N - 129) + B_{\bar{N}}(2921) = 628 + (N - 129) + 2921 = \mathbf{N} + \mathbf{3420} \\
&(N \geq 2921)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3288}) &= B_{\bar{N}}(2N + 3288 - B_{\bar{N}}(2N + 3287)) + B_{\bar{N}}(2N + 3288 - B_{\bar{N}}(2N + 3286)) + B_{\bar{N}}(2N + 3288 - B_{\bar{N}}(2N + 3285)) \\
&= B_{\bar{N}}(2N + 3288 - (N + 3420)) + B_{\bar{N}}(2N + 3288 - (2N + 2659)) + B_{\bar{N}}(2N + 3288 - (N + 3416)) \\
&= B_{\bar{N}}(N - 132) + B_{\bar{N}}(629) + B_{\bar{N}}(N - 128) = (N - 132) + 629 + (N - 128) = \mathbf{2N} + \mathbf{369} \\
&(N \geq 629)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3289}) &= B_{\bar{N}}(2N + 3289 - B_{\bar{N}}(2N + 3288)) + B_{\bar{N}}(2N + 3289 - B_{\bar{N}}(2N + 3287)) + B_{\bar{N}}(2N + 3289 - B_{\bar{N}}(2N + 3286)) \\
&= B_{\bar{N}}(2N + 3289 - (2N + 369)) + B_{\bar{N}}(2N + 3289 - (N + 3420)) + B_{\bar{N}}(2N + 3289 - (2N + 2659)) \\
&= B_{\bar{N}}(2920) + B_{\bar{N}}(N - 131) + B_{\bar{N}}(630) = 2920 + (N - 131) + 630 = \mathbf{N} + \mathbf{3419} \\
&(N \geq 2920)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3290}) &= B_{\bar{N}}(2N + 3290 - B_{\bar{N}}(2N + 3289)) + B_{\bar{N}}(2N + 3290 - B_{\bar{N}}(2N + 3288)) + B_{\bar{N}}(2N + 3290 - B_{\bar{N}}(2N + 3287)) \\
&= B_{\bar{N}}(2N + 3290 - (N + 3419)) + B_{\bar{N}}(2N + 3290 - (2N + 369)) + B_{\bar{N}}(2N + 3290 - (N + 3420)) \\
&= B_{\bar{N}}(N - 129) + B_{\bar{N}}(2921) + B_{\bar{N}}(N - 130) = (N - 129) + 2921 + (N - 130) = \mathbf{2N} + \mathbf{2662} \\
&(N \geq 2921)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3291}) &= B_{\bar{N}}(2N + 3291 - B_{\bar{N}}(2N + 3290)) + B_{\bar{N}}(2N + 3291 - B_{\bar{N}}(2N + 3289)) + B_{\bar{N}}(2N + 3291 - B_{\bar{N}}(2N + 3288)) \\
&= B_{\bar{N}}(2N + 3291 - (2N + 2662)) + B_{\bar{N}}(2N + 3291 - (N + 3419)) + B_{\bar{N}}(2N + 3291 - (2N + 369)) \\
&= B_{\bar{N}}(629) + B_{\bar{N}}(N - 128) + B_{\bar{N}}(2922) = 629 + (N - 128) + 2922 = \mathbf{N} + \mathbf{3423} \\
&(N \geq 2922)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3292}) &= B_{\bar{N}}(2N + 3292 - B_{\bar{N}}(2N + 3291)) + B_{\bar{N}}(2N + 3292 - B_{\bar{N}}(2N + 3290)) + B_{\bar{N}}(2N + 3292 - B_{\bar{N}}(2N + 3289)) \\
&= B_{\bar{N}}(2N + 3292 - (N + 3423)) + B_{\bar{N}}(2N + 3292 - (2N + 2662)) + B_{\bar{N}}(2N + 3292 - (N + 3419)) \\
&= B_{\bar{N}}(N - 131) + B_{\bar{N}}(630) + B_{\bar{N}}(N - 127) = (N - 131) + 630 + (N - 127) = \mathbf{2N} + \mathbf{372} \\
&(N \geq 630)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3293}) &= B_{\bar{N}}(2N + 3293 - B_{\bar{N}}(2N + 3292)) + B_{\bar{N}}(2N + 3293 - B_{\bar{N}}(2N + 3291)) + B_{\bar{N}}(2N + 3293 - B_{\bar{N}}(2N + 3290)) \\
&= B_{\bar{N}}(2N + 3293 - (2N + 372)) + B_{\bar{N}}(2N + 3293 - (N + 3423)) + B_{\bar{N}}(2N + 3293 - (2N + 2662)) \\
&= B_{\bar{N}}(2921) + B_{\bar{N}}(N - 130) + B_{\bar{N}}(631) = 2921 + (N - 130) + 631 = \mathbf{N} + \mathbf{3422} \\
&(N \geq 2921)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3294}) &= B_{\bar{N}}(2N + 3294 - B_{\bar{N}}(2N + 3293)) + B_{\bar{N}}(2N + 3294 - B_{\bar{N}}(2N + 3292)) + B_{\bar{N}}(2N + 3294 - B_{\bar{N}}(2N + 3291)) \\
&= B_{\bar{N}}(2N + 3294 - (N + 3422)) + B_{\bar{N}}(2N + 3294 - (2N + 372)) + B_{\bar{N}}(2N + 3294 - (N + 3423)) \\
&= B_{\bar{N}}(N - 128) + B_{\bar{N}}(2922) + B_{\bar{N}}(N - 129) = (N - 128) + 2922 + (N - 129) = \mathbf{2N} + \mathbf{2665} \\
&(N \geq 2922)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3295}) &= B_{\bar{N}}(2N + 3295 - B_{\bar{N}}(2N + 3294)) + B_{\bar{N}}(2N + 3295 - B_{\bar{N}}(2N + 3293)) + B_{\bar{N}}(2N + 3295 - B_{\bar{N}}(2N + 3292)) \\
&= B_{\bar{N}}(2N + 3295 - (2N + 2665)) + B_{\bar{N}}(2N + 3295 - (N + 3422)) + B_{\bar{N}}(2N + 3295 - (2N + 372)) \\
&= B_{\bar{N}}(630) + B_{\bar{N}}(N - 127) + B_{\bar{N}}(2923) = 630 + (N - 127) + 2923 = \mathbf{N} + \mathbf{3426} \\
&(N \geq 2923)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3296}) &= B_{\bar{N}}(2N + 3296 - B_{\bar{N}}(2N + 3295)) + B_{\bar{N}}(2N + 3296 - B_{\bar{N}}(2N + 3294)) + B_{\bar{N}}(2N + 3296 - B_{\bar{N}}(2N + 3293)) \\
&= B_{\bar{N}}(2N + 3296 - (N + 3426)) + B_{\bar{N}}(2N + 3296 - (2N + 2665)) + B_{\bar{N}}(2N + 3296 - (N + 3422)) \\
&= B_{\bar{N}}(N - 130) + B_{\bar{N}}(631) + B_{\bar{N}}(N - 126) = (N - 130) + 631 + (N - 126) = \mathbf{2N} + \mathbf{375} \\
&(N \geq 631)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3297}) &= B_{\bar{N}}(2N + 3297 - B_{\bar{N}}(2N + 3296)) + B_{\bar{N}}(2N + 3297 - B_{\bar{N}}(2N + 3295)) + B_{\bar{N}}(2N + 3297 - B_{\bar{N}}(2N + 3294)) \\
&= B_{\bar{N}}(2N + 3297 - (2N + 375)) + B_{\bar{N}}(2N + 3297 - (N + 3426)) + B_{\bar{N}}(2N + 3297 - (2N + 2665)) \\
&= B_{\bar{N}}(2922) + B_{\bar{N}}(N - 129) + B_{\bar{N}}(632) = 2922 + (N - 129) + 632 = \mathbf{N} + \mathbf{3425} \\
&(N \geq 2922)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3298}) &= B_{\bar{N}}(2N + 3298 - B_{\bar{N}}(2N + 3297)) + B_{\bar{N}}(2N + 3298 - B_{\bar{N}}(2N + 3296)) + B_{\bar{N}}(2N + 3298 - B_{\bar{N}}(2N + 3295)) \\
&= B_{\bar{N}}(2N + 3298 - (N + 3425)) + B_{\bar{N}}(2N + 3298 - (2N + 375)) + B_{\bar{N}}(2N + 3298 - (N + 3426)) \\
&= B_{\bar{N}}(N - 127) + B_{\bar{N}}(2923) + B_{\bar{N}}(N - 128) = (N - 127) + 2923 + (N - 128) = \mathbf{2N} + \mathbf{2668} \\
&(N \geq 2923)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3299}) &= B_{\bar{N}}(2N + 3299 - B_{\bar{N}}(2N + 3298)) + B_{\bar{N}}(2N + 3299 - B_{\bar{N}}(2N + 3297)) + B_{\bar{N}}(2N + 3299 - B_{\bar{N}}(2N + 3296)) \\
&= B_{\bar{N}}(2N + 3299 - (2N + 2668)) + B_{\bar{N}}(2N + 3299 - (N + 3425)) + B_{\bar{N}}(2N + 3299 - (2N + 375)) \\
&= B_{\bar{N}}(631) + B_{\bar{N}}(N - 126) + B_{\bar{N}}(2924) = 631 + (N - 126) + 2924 = \mathbf{N} + \mathbf{3429} \\
&(N \geq 2924)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3300}) &= B_{\bar{N}}(2N + 3300 - B_{\bar{N}}(2N + 3299)) + B_{\bar{N}}(2N + 3300 - B_{\bar{N}}(2N + 3298)) + B_{\bar{N}}(2N + 3300 - B_{\bar{N}}(2N + 3297)) \\
&= B_{\bar{N}}(2N + 3300 - (N + 3429)) + B_{\bar{N}}(2N + 3300 - (2N + 2668)) + B_{\bar{N}}(2N + 3300 - (N + 3425)) \\
&= B_{\bar{N}}(N - 129) + B_{\bar{N}}(632) + B_{\bar{N}}(N - 125) = (N - 129) + 632 + (N - 125) = \mathbf{2N} + \mathbf{378} \\
&(N \geq 632)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3301}) &= B_{\bar{N}}(2N + 3301 - B_{\bar{N}}(2N + 3300)) + B_{\bar{N}}(2N + 3301 - B_{\bar{N}}(2N + 3299)) + B_{\bar{N}}(2N + 3301 - B_{\bar{N}}(2N + 3298)) \\
&= B_{\bar{N}}(2N + 3301 - (2N + 378)) + B_{\bar{N}}(2N + 3301 - (N + 3429)) + B_{\bar{N}}(2N + 3301 - (2N + 2668)) \\
&= B_{\bar{N}}(2923) + B_{\bar{N}}(N - 128) + B_{\bar{N}}(633) = 2923 + (N - 128) + 633 = \mathbf{N} + \mathbf{3428} \\
&(N \geq 2923)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3302}) &= B_{\bar{N}}(2N + 3302 - B_{\bar{N}}(2N + 3301)) + B_{\bar{N}}(2N + 3302 - B_{\bar{N}}(2N + 3300)) + B_{\bar{N}}(2N + 3302 - B_{\bar{N}}(2N + 3299)) \\
&= B_{\bar{N}}(2N + 3302 - (N + 3428)) + B_{\bar{N}}(2N + 3302 - (2N + 378)) + B_{\bar{N}}(2N + 3302 - (N + 3429)) \\
&= B_{\bar{N}}(N - 126) + B_{\bar{N}}(2924) + B_{\bar{N}}(N - 127) = (N - 126) + 2924 + (N - 127) = \mathbf{2N} + \mathbf{2671} \\
&(N \geq 2924)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3303}) &= B_{\bar{N}}(2N + 3303 - B_{\bar{N}}(2N + 3302)) + B_{\bar{N}}(2N + 3303 - B_{\bar{N}}(2N + 3301)) + B_{\bar{N}}(2N + 3303 - B_{\bar{N}}(2N + 3300)) \\
&= B_{\bar{N}}(2N + 3303 - (2N + 2671)) + B_{\bar{N}}(2N + 3303 - (N + 3428)) + B_{\bar{N}}(2N + 3303 - (2N + 378)) \\
&= B_{\bar{N}}(632) + B_{\bar{N}}(N - 125) + B_{\bar{N}}(2925) = 632 + (N - 125) + 2925 = \mathbf{N} + \mathbf{3432} \\
&(N \geq 2925)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3304}) &= B_{\bar{N}}(2N + 3304 - B_{\bar{N}}(2N + 3303)) + B_{\bar{N}}(2N + 3304 - B_{\bar{N}}(2N + 3302)) + B_{\bar{N}}(2N + 3304 - B_{\bar{N}}(2N + 3301)) \\
&= B_{\bar{N}}(2N + 3304 - (N + 3432)) + B_{\bar{N}}(2N + 3304 - (2N + 2671)) + B_{\bar{N}}(2N + 3304 - (N + 3428)) \\
&= B_{\bar{N}}(N - 128) + B_{\bar{N}}(633) + B_{\bar{N}}(N - 124) = (N - 128) + 633 + (N - 124) = \mathbf{2N} + \mathbf{381} \\
&(N \geq 633)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3305}) &= B_{\bar{N}}(2N + 3305 - B_{\bar{N}}(2N + 3304)) + B_{\bar{N}}(2N + 3305 - B_{\bar{N}}(2N + 3303)) + B_{\bar{N}}(2N + 3305 - B_{\bar{N}}(2N + 3302)) \\
&= B_{\bar{N}}(2N + 3305 - (2N + 381)) + B_{\bar{N}}(2N + 3305 - (N + 3432)) + B_{\bar{N}}(2N + 3305 - (2N + 2671)) \\
&= B_{\bar{N}}(2924) + B_{\bar{N}}(N - 127) + B_{\bar{N}}(634) = 2924 + (N - 127) + 634 = \mathbf{N} + \mathbf{3431} \\
&(N \geq 2924)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3306}) &= B_{\bar{N}}(2N + 3306 - B_{\bar{N}}(2N + 3305)) + B_{\bar{N}}(2N + 3306 - B_{\bar{N}}(2N + 3304)) + B_{\bar{N}}(2N + 3306 - B_{\bar{N}}(2N + 3303)) \\
&= B_{\bar{N}}(2N + 3306 - (N + 3431)) + B_{\bar{N}}(2N + 3306 - (2N + 381)) + B_{\bar{N}}(2N + 3306 - (N + 3432)) \\
&= B_{\bar{N}}(N - 125) + B_{\bar{N}}(2925) + B_{\bar{N}}(N - 126) = (N - 125) + 2925 + (N - 126) = \mathbf{2N} + \mathbf{2674} \\
&(N \geq 2925)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3307}) &= B_{\bar{N}}(2N + 3307 - B_{\bar{N}}(2N + 3306)) + B_{\bar{N}}(2N + 3307 - B_{\bar{N}}(2N + 3305)) + B_{\bar{N}}(2N + 3307 - B_{\bar{N}}(2N + 3304)) \\
&= B_{\bar{N}}(2N + 3307 - (2N + 2674)) + B_{\bar{N}}(2N + 3307 - (N + 3431)) + B_{\bar{N}}(2N + 3307 - (2N + 381)) \\
&= B_{\bar{N}}(633) + B_{\bar{N}}(N - 124) + B_{\bar{N}}(2926) = 633 + (N - 124) + 2926 = \mathbf{N} + \mathbf{3435} \\
&(N \geq 2926)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3308}) &= B_{\bar{N}}(2N + 3308 - B_{\bar{N}}(2N + 3307)) + B_{\bar{N}}(2N + 3308 - B_{\bar{N}}(2N + 3306)) + B_{\bar{N}}(2N + 3308 - B_{\bar{N}}(2N + 3305)) \\
&= B_{\bar{N}}(2N + 3308 - (N + 3435)) + B_{\bar{N}}(2N + 3308 - (2N + 2674)) + B_{\bar{N}}(2N + 3308 - (N + 3431)) \\
&= B_{\bar{N}}(N - 127) + B_{\bar{N}}(634) + B_{\bar{N}}(N - 123) = (N - 127) + 634 + (N - 123) = \mathbf{2N} + \mathbf{384} \\
&(N \geq 634)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3309}) &= B_{\bar{N}}(2N + 3309 - B_{\bar{N}}(2N + 3308)) + B_{\bar{N}}(2N + 3309 - B_{\bar{N}}(2N + 3307)) + B_{\bar{N}}(2N + 3309 - B_{\bar{N}}(2N + 3306)) \\
&= B_{\bar{N}}(2N + 3309 - (2N + 384)) + B_{\bar{N}}(2N + 3309 - (N + 3435)) + B_{\bar{N}}(2N + 3309 - (2N + 2674)) \\
&= B_{\bar{N}}(2925) + B_{\bar{N}}(N - 126) + B_{\bar{N}}(635) = 2925 + (N - 126) + 635 = \mathbf{N} + \mathbf{3434} \\
&(N \geq 2925)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3310}) &= B_{\bar{N}}(2N + 3310 - B_{\bar{N}}(2N + 3309)) + B_{\bar{N}}(2N + 3310 - B_{\bar{N}}(2N + 3308)) + B_{\bar{N}}(2N + 3310 - B_{\bar{N}}(2N + 3307)) \\
&= B_{\bar{N}}(2N + 3310 - (N + 3434)) + B_{\bar{N}}(2N + 3310 - (2N + 384)) + B_{\bar{N}}(2N + 3310 - (N + 3435)) \\
&= B_{\bar{N}}(N - 124) + B_{\bar{N}}(2926) + B_{\bar{N}}(N - 125) = (N - 124) + 2926 + (N - 125) = \mathbf{2N} + \mathbf{2677} \\
&(N \geq 2926)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3311}) &= B_{\bar{N}}(2N + 3311 - B_{\bar{N}}(2N + 3310)) + B_{\bar{N}}(2N + 3311 - B_{\bar{N}}(2N + 3309)) + B_{\bar{N}}(2N + 3311 - B_{\bar{N}}(2N + 3308)) \\
&= B_{\bar{N}}(2N + 3311 - (2N + 2677)) + B_{\bar{N}}(2N + 3311 - (N + 3434)) + B_{\bar{N}}(2N + 3311 - (2N + 384)) \\
&= B_{\bar{N}}(634) + B_{\bar{N}}(N - 123) + B_{\bar{N}}(2927) = 634 + (N - 123) + 2927 = \mathbf{N} + \mathbf{3438} \\
&(N \geq 2927)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3312}) &= B_{\bar{N}}(2N + 3312 - B_{\bar{N}}(2N + 3311)) + B_{\bar{N}}(2N + 3312 - B_{\bar{N}}(2N + 3310)) + B_{\bar{N}}(2N + 3312 - B_{\bar{N}}(2N + 3309)) \\
&= B_{\bar{N}}(2N + 3312 - (N + 3438)) + B_{\bar{N}}(2N + 3312 - (2N + 2677)) + B_{\bar{N}}(2N + 3312 - (N + 3434)) \\
&= B_{\bar{N}}(N - 126) + B_{\bar{N}}(635) + B_{\bar{N}}(N - 122) = (N - 126) + 635 + (N - 122) = \mathbf{2N} + \mathbf{387} \\
&(N \geq 635)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3313}) &= B_{\bar{N}}(2N + 3313 - B_{\bar{N}}(2N + 3312)) + B_{\bar{N}}(2N + 3313 - B_{\bar{N}}(2N + 3311)) + B_{\bar{N}}(2N + 3313 - B_{\bar{N}}(2N + 3310)) \\
&= B_{\bar{N}}(2N + 3313 - (2N + 387)) + B_{\bar{N}}(2N + 3313 - (N + 3438)) + B_{\bar{N}}(2N + 3313 - (2N + 2677)) \\
&= B_{\bar{N}}(2926) + B_{\bar{N}}(N - 125) + B_{\bar{N}}(636) = 2926 + (N - 125) + 636 = \mathbf{N} + \mathbf{3437} \\
&(N \geq 2926)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3314}) &= B_{\bar{N}}(2N + 3314 - B_{\bar{N}}(2N + 3313)) + B_{\bar{N}}(2N + 3314 - B_{\bar{N}}(2N + 3312)) + B_{\bar{N}}(2N + 3314 - B_{\bar{N}}(2N + 3311)) \\
&= B_{\bar{N}}(2N + 3314 - (N + 3437)) + B_{\bar{N}}(2N + 3314 - (2N + 387)) + B_{\bar{N}}(2N + 3314 - (N + 3438)) \\
&= B_{\bar{N}}(N - 123) + B_{\bar{N}}(2927) + B_{\bar{N}}(N - 124) = (N - 123) + 2927 + (N - 124) = \mathbf{2N} + \mathbf{2680} \\
&(N \geq 2927)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3315}) &= B_{\bar{N}}(2N + 3315 - B_{\bar{N}}(2N + 3314)) + B_{\bar{N}}(2N + 3315 - B_{\bar{N}}(2N + 3313)) + B_{\bar{N}}(2N + 3315 - B_{\bar{N}}(2N + 3312)) \\
&= B_{\bar{N}}(2N + 3315 - (2N + 2680)) + B_{\bar{N}}(2N + 3315 - (N + 3437)) + B_{\bar{N}}(2N + 3315 - (2N + 387)) \\
&= B_{\bar{N}}(635) + B_{\bar{N}}(N - 122) + B_{\bar{N}}(2928) = 635 + (N - 122) + 2928 = \mathbf{N} + \mathbf{3441} \\
&(N \geq 2928)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3316}) &= B_{\bar{N}}(2N + 3316 - B_{\bar{N}}(2N + 3315)) + B_{\bar{N}}(2N + 3316 - B_{\bar{N}}(2N + 3314)) + B_{\bar{N}}(2N + 3316 - B_{\bar{N}}(2N + 3313)) \\
&= B_{\bar{N}}(2N + 3316 - (N + 3441)) + B_{\bar{N}}(2N + 3316 - (2N + 2680)) + B_{\bar{N}}(2N + 3316 - (N + 3437)) \\
&= B_{\bar{N}}(N - 125) + B_{\bar{N}}(636) + B_{\bar{N}}(N - 121) = (N - 125) + 636 + (N - 121) = \mathbf{2N} + \mathbf{390} \\
&(N \geq 636)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3317}) &= B_{\bar{N}}(2N + 3317 - B_{\bar{N}}(2N + 3316)) + B_{\bar{N}}(2N + 3317 - B_{\bar{N}}(2N + 3315)) + B_{\bar{N}}(2N + 3317 - B_{\bar{N}}(2N + 3314)) \\
&= B_{\bar{N}}(2N + 3317 - (2N + 390)) + B_{\bar{N}}(2N + 3317 - (N + 3441)) + B_{\bar{N}}(2N + 3317 - (2N + 2680)) \\
&= B_{\bar{N}}(2927) + B_{\bar{N}}(N - 124) + B_{\bar{N}}(637) = 2927 + (N - 124) + 637 = \mathbf{N} + \mathbf{3440} \\
&(N \geq 2927)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3318}) &= B_{\bar{N}}(2N + 3318 - B_{\bar{N}}(2N + 3317)) + B_{\bar{N}}(2N + 3318 - B_{\bar{N}}(2N + 3316)) + B_{\bar{N}}(2N + 3318 - B_{\bar{N}}(2N + 3315)) \\
&= B_{\bar{N}}(2N + 3318 - (N + 3440)) + B_{\bar{N}}(2N + 3318 - (2N + 390)) + B_{\bar{N}}(2N + 3318 - (N + 3441)) \\
&= B_{\bar{N}}(N - 122) + B_{\bar{N}}(2928) + B_{\bar{N}}(N - 123) = (N - 122) + 2928 + (N - 123) = \mathbf{2N} + \mathbf{2683} \\
&(N \geq 2928)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3319}) &= B_{\bar{N}}(2N + 3319 - B_{\bar{N}}(2N + 3318)) + B_{\bar{N}}(2N + 3319 - B_{\bar{N}}(2N + 3317)) + B_{\bar{N}}(2N + 3319 - B_{\bar{N}}(2N + 3316)) \\
&= B_{\bar{N}}(2N + 3319 - (2N + 2683)) + B_{\bar{N}}(2N + 3319 - (N + 3440)) + B_{\bar{N}}(2N + 3319 - (2N + 390)) \\
&= B_{\bar{N}}(636) + B_{\bar{N}}(N - 121) + B_{\bar{N}}(2929) = 636 + (N - 121) + 2929 = \mathbf{N} + \mathbf{3444} \\
&(N \geq 2929)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3320}) &= B_{\bar{N}}(2N + 3320 - B_{\bar{N}}(2N + 3319)) + B_{\bar{N}}(2N + 3320 - B_{\bar{N}}(2N + 3318)) + B_{\bar{N}}(2N + 3320 - B_{\bar{N}}(2N + 3317)) \\
&= B_{\bar{N}}(2N + 3320 - (N + 3444)) + B_{\bar{N}}(2N + 3320 - (2N + 2683)) + B_{\bar{N}}(2N + 3320 - (N + 3440)) \\
&= B_{\bar{N}}(N - 124) + B_{\bar{N}}(637) + B_{\bar{N}}(N - 120) = (N - 124) + 637 + (N - 120) = \mathbf{2N} + \mathbf{393} \\
&(N \geq 637)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3321}) &= B_{\bar{N}}(2N + 3321 - B_{\bar{N}}(2N + 3320)) + B_{\bar{N}}(2N + 3321 - B_{\bar{N}}(2N + 3319)) + B_{\bar{N}}(2N + 3321 - B_{\bar{N}}(2N + 3318)) \\
&= B_{\bar{N}}(2N + 3321 - (2N + 393)) + B_{\bar{N}}(2N + 3321 - (N + 3444)) + B_{\bar{N}}(2N + 3321 - (2N + 2683)) \\
&= B_{\bar{N}}(2928) + B_{\bar{N}}(N - 123) + B_{\bar{N}}(638) = 2928 + (N - 123) + 638 = \mathbf{N} + \mathbf{3443} \\
&(N \geq 2928)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3322}) &= B_{\bar{N}}(2N + 3322 - B_{\bar{N}}(2N + 3321)) + B_{\bar{N}}(2N + 3322 - B_{\bar{N}}(2N + 3320)) + B_{\bar{N}}(2N + 3322 - B_{\bar{N}}(2N + 3319)) \\
&= B_{\bar{N}}(2N + 3322 - (N + 3443)) + B_{\bar{N}}(2N + 3322 - (2N + 393)) + B_{\bar{N}}(2N + 3322 - (N + 3444)) \\
&= B_{\bar{N}}(N - 121) + B_{\bar{N}}(2929) + B_{\bar{N}}(N - 122) = (N - 121) + 2929 + (N - 122) = \mathbf{2N} + \mathbf{2686} \\
&(N \geq 2929)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3323}) &= B_{\bar{N}}(2N + 3323 - B_{\bar{N}}(2N + 3322)) + B_{\bar{N}}(2N + 3323 - B_{\bar{N}}(2N + 3321)) + B_{\bar{N}}(2N + 3323 - B_{\bar{N}}(2N + 3320)) \\
&= B_{\bar{N}}(2N + 3323 - (2N + 2686)) + B_{\bar{N}}(2N + 3323 - (N + 3443)) + B_{\bar{N}}(2N + 3323 - (2N + 393)) \\
&= B_{\bar{N}}(637) + B_{\bar{N}}(N - 120) + B_{\bar{N}}(2930) = 637 + (N - 120) + 2930 = \mathbf{N} + \mathbf{3447} \\
&(N \geq 2930)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3324}) &= B_{\bar{N}}(2N + 3324 - B_{\bar{N}}(2N + 3323)) + B_{\bar{N}}(2N + 3324 - B_{\bar{N}}(2N + 3322)) + B_{\bar{N}}(2N + 3324 - B_{\bar{N}}(2N + 3321)) \\
&= B_{\bar{N}}(2N + 3324 - (N + 3447)) + B_{\bar{N}}(2N + 3324 - (2N + 2686)) + B_{\bar{N}}(2N + 3324 - (N + 3443)) \\
&= B_{\bar{N}}(N - 123) + B_{\bar{N}}(638) + B_{\bar{N}}(N - 119) = (N - 123) + 638 + (N - 119) = \mathbf{2N} + \mathbf{396} \\
&(N \geq 638)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3325}) &= B_{\bar{N}}(2N + 3325 - B_{\bar{N}}(2N + 3324)) + B_{\bar{N}}(2N + 3325 - B_{\bar{N}}(2N + 3323)) + B_{\bar{N}}(2N + 3325 - B_{\bar{N}}(2N + 3322)) \\
&= B_{\bar{N}}(2N + 3325 - (2N + 396)) + B_{\bar{N}}(2N + 3325 - (N + 3447)) + B_{\bar{N}}(2N + 3325 - (2N + 2686)) \\
&= B_{\bar{N}}(2929) + B_{\bar{N}}(N - 122) + B_{\bar{N}}(639) = 2929 + (N - 122) + 639 = \mathbf{N} + \mathbf{3446} \\
&(N \geq 2929)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3326}) &= B_{\bar{N}}(2N + 3326 - B_{\bar{N}}(2N + 3325)) + B_{\bar{N}}(2N + 3326 - B_{\bar{N}}(2N + 3324)) + B_{\bar{N}}(2N + 3326 - B_{\bar{N}}(2N + 3323)) \\
&= B_{\bar{N}}(2N + 3326 - (N + 3446)) + B_{\bar{N}}(2N + 3326 - (2N + 396)) + B_{\bar{N}}(2N + 3326 - (N + 3447)) \\
&= B_{\bar{N}}(N - 120) + B_{\bar{N}}(2930) + B_{\bar{N}}(N - 121) = (N - 120) + 2930 + (N - 121) = \mathbf{2N} + \mathbf{2689} \\
&(N \geq 2930)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3327}) &= B_{\bar{N}}(2N + 3327 - B_{\bar{N}}(2N + 3326)) + B_{\bar{N}}(2N + 3327 - B_{\bar{N}}(2N + 3325)) + B_{\bar{N}}(2N + 3327 - B_{\bar{N}}(2N + 3324)) \\
&= B_{\bar{N}}(2N + 3327 - (2N + 2689)) + B_{\bar{N}}(2N + 3327 - (N + 3446)) + B_{\bar{N}}(2N + 3327 - (2N + 396)) \\
&= B_{\bar{N}}(638) + B_{\bar{N}}(N - 119) + B_{\bar{N}}(2931) = 638 + (N - 119) + 2931 = \mathbf{N} + \mathbf{3450} \\
&(N \geq 2931)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3328}) &= B_{\bar{N}}(2N + 3328 - B_{\bar{N}}(2N + 3327)) + B_{\bar{N}}(2N + 3328 - B_{\bar{N}}(2N + 3326)) + B_{\bar{N}}(2N + 3328 - B_{\bar{N}}(2N + 3325)) \\
&= B_{\bar{N}}(2N + 3328 - (N + 3450)) + B_{\bar{N}}(2N + 3328 - (2N + 2689)) + B_{\bar{N}}(2N + 3328 - (N + 3446)) \\
&= B_{\bar{N}}(N - 122) + B_{\bar{N}}(639) + B_{\bar{N}}(N - 118) = (N - 122) + 639 + (N - 118) = \mathbf{2N} + \mathbf{399} \\
&(N \geq 639)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3329}) &= B_{\bar{N}}(2N + 3329 - B_{\bar{N}}(2N + 3328)) + B_{\bar{N}}(2N + 3329 - B_{\bar{N}}(2N + 3327)) + B_{\bar{N}}(2N + 3329 - B_{\bar{N}}(2N + 3326)) \\
&= B_{\bar{N}}(2N + 3329 - (2N + 399)) + B_{\bar{N}}(2N + 3329 - (N + 3450)) + B_{\bar{N}}(2N + 3329 - (2N + 2689)) \\
&= B_{\bar{N}}(2930) + B_{\bar{N}}(N - 121) + B_{\bar{N}}(640) = 2930 + (N - 121) + 640 = \mathbf{N} + \mathbf{3449} \\
&(N \geq 2930)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3330}) &= B_{\bar{N}}(2N + 3330 - B_{\bar{N}}(2N + 3329)) + B_{\bar{N}}(2N + 3330 - B_{\bar{N}}(2N + 3328)) + B_{\bar{N}}(2N + 3330 - B_{\bar{N}}(2N + 3327)) \\
&= B_{\bar{N}}(2N + 3330 - (N + 3449)) + B_{\bar{N}}(2N + 3330 - (2N + 399)) + B_{\bar{N}}(2N + 3330 - (N + 3450)) \\
&= B_{\bar{N}}(N - 119) + B_{\bar{N}}(2931) + B_{\bar{N}}(N - 120) = (N - 119) + 2931 + (N - 120) = \mathbf{2N} + \mathbf{2692} \\
&(N \geq 2931)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3331}) &= B_{\bar{N}}(2N + 3331 - B_{\bar{N}}(2N + 3330)) + B_{\bar{N}}(2N + 3331 - B_{\bar{N}}(2N + 3329)) + B_{\bar{N}}(2N + 3331 - B_{\bar{N}}(2N + 3328)) \\
&= B_{\bar{N}}(2N + 3331 - (2N + 2692)) + B_{\bar{N}}(2N + 3331 - (N + 3449)) + B_{\bar{N}}(2N + 3331 - (2N + 399)) \\
&= B_{\bar{N}}(639) + B_{\bar{N}}(N - 118) + B_{\bar{N}}(2932) = 639 + (N - 118) + 2932 = \mathbf{N} + \mathbf{3453} \\
&(N \geq 2932)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3332}) &= B_{\bar{N}}(2N + 3332 - B_{\bar{N}}(2N + 3331)) + B_{\bar{N}}(2N + 3332 - B_{\bar{N}}(2N + 3330)) + B_{\bar{N}}(2N + 3332 - B_{\bar{N}}(2N + 3329)) \\
&= B_{\bar{N}}(2N + 3332 - (N + 3453)) + B_{\bar{N}}(2N + 3332 - (2N + 2692)) + B_{\bar{N}}(2N + 3332 - (N + 3449)) \\
&= B_{\bar{N}}(N - 121) + B_{\bar{N}}(640) + B_{\bar{N}}(N - 117) = (N - 121) + 640 + (N - 117) = \mathbf{2N} + \mathbf{402} \\
&(N \geq 640)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3333}) &= B_{\bar{N}}(2N + 3333 - B_{\bar{N}}(2N + 3332)) + B_{\bar{N}}(2N + 3333 - B_{\bar{N}}(2N + 3331)) + B_{\bar{N}}(2N + 3333 - B_{\bar{N}}(2N + 3330)) \\
&= B_{\bar{N}}(2N + 3333 - (2N + 402)) + B_{\bar{N}}(2N + 3333 - (N + 3453)) + B_{\bar{N}}(2N + 3333 - (2N + 2692)) \\
&= B_{\bar{N}}(2931) + B_{\bar{N}}(N - 120) + B_{\bar{N}}(641) = 2931 + (N - 120) + 641 = \mathbf{N} + \mathbf{3452} \\
&(N \geq 2931)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3334}) &= B_{\bar{N}}(2N + 3334 - B_{\bar{N}}(2N + 3333)) + B_{\bar{N}}(2N + 3334 - B_{\bar{N}}(2N + 3332)) + B_{\bar{N}}(2N + 3334 - B_{\bar{N}}(2N + 3331)) \\
&= B_{\bar{N}}(2N + 3334 - (N + 3452)) + B_{\bar{N}}(2N + 3334 - (2N + 402)) + B_{\bar{N}}(2N + 3334 - (N + 3453)) \\
&= B_{\bar{N}}(N - 118) + B_{\bar{N}}(2932) + B_{\bar{N}}(N - 119) = (N - 118) + 2932 + (N - 119) = \mathbf{2N} + \mathbf{2695} \\
&(N \geq 2932)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3335}) &= B_{\bar{N}}(2N + 3335 - B_{\bar{N}}(2N + 3334)) + B_{\bar{N}}(2N + 3335 - B_{\bar{N}}(2N + 3333)) + B_{\bar{N}}(2N + 3335 - B_{\bar{N}}(2N + 3332)) \\
&= B_{\bar{N}}(2N + 3335 - (2N + 2695)) + B_{\bar{N}}(2N + 3335 - (N + 3452)) + B_{\bar{N}}(2N + 3335 - (2N + 402)) \\
&= B_{\bar{N}}(640) + B_{\bar{N}}(N - 117) + B_{\bar{N}}(2933) = 640 + (N - 117) + 2933 = \mathbf{N} + \mathbf{3456} \\
&(N \geq 2933)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3336}) &= B_{\bar{N}}(2N + 3336 - B_{\bar{N}}(2N + 3335)) + B_{\bar{N}}(2N + 3336 - B_{\bar{N}}(2N + 3334)) + B_{\bar{N}}(2N + 3336 - B_{\bar{N}}(2N + 3333)) \\
&= B_{\bar{N}}(2N + 3336 - (N + 3456)) + B_{\bar{N}}(2N + 3336 - (2N + 2695)) + B_{\bar{N}}(2N + 3336 - (N + 3452)) \\
&= B_{\bar{N}}(N - 120) + B_{\bar{N}}(641) + B_{\bar{N}}(N - 116) = (N - 120) + 641 + (N - 116) = \mathbf{2N} + \mathbf{405} \\
&(N \geq 641)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3337}) &= B_{\bar{N}}(2N + 3337 - B_{\bar{N}}(2N + 3336)) + B_{\bar{N}}(2N + 3337 - B_{\bar{N}}(2N + 3335)) + B_{\bar{N}}(2N + 3337 - B_{\bar{N}}(2N + 3334)) \\
&= B_{\bar{N}}(2N + 3337 - (2N + 405)) + B_{\bar{N}}(2N + 3337 - (N + 3456)) + B_{\bar{N}}(2N + 3337 - (2N + 2695)) \\
&= B_{\bar{N}}(2932) + B_{\bar{N}}(N - 119) + B_{\bar{N}}(642) = 2932 + (N - 119) + 642 = \mathbf{N} + \mathbf{3455} \\
&(N \geq 2932)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3338}) &= B_{\bar{N}}(2N + 3338 - B_{\bar{N}}(2N + 3337)) + B_{\bar{N}}(2N + 3338 - B_{\bar{N}}(2N + 3336)) + B_{\bar{N}}(2N + 3338 - B_{\bar{N}}(2N + 3335)) \\
&= B_{\bar{N}}(2N + 3338 - (N + 3455)) + B_{\bar{N}}(2N + 3338 - (2N + 405)) + B_{\bar{N}}(2N + 3338 - (N + 3456)) \\
&= B_{\bar{N}}(N - 117) + B_{\bar{N}}(2933) + B_{\bar{N}}(N - 118) = (N - 117) + 2933 + (N - 118) = \mathbf{2N} + \mathbf{2698} \\
&(N \geq 2933)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3339}) &= B_{\bar{N}}(2N + 3339 - B_{\bar{N}}(2N + 3338)) + B_{\bar{N}}(2N + 3339 - B_{\bar{N}}(2N + 3337)) + B_{\bar{N}}(2N + 3339 - B_{\bar{N}}(2N + 3336)) \\
&= B_{\bar{N}}(2N + 3339 - (2N + 2698)) + B_{\bar{N}}(2N + 3339 - (N + 3455)) + B_{\bar{N}}(2N + 3339 - (2N + 405)) \\
&= B_{\bar{N}}(641) + B_{\bar{N}}(N - 116) + B_{\bar{N}}(2934) = 641 + (N - 116) + 2934 = \mathbf{N} + \mathbf{3459} \\
&(N \geq 2934)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3340}) &= B_{\bar{N}}(2N + 3340 - B_{\bar{N}}(2N + 3339)) + B_{\bar{N}}(2N + 3340 - B_{\bar{N}}(2N + 3338)) + B_{\bar{N}}(2N + 3340 - B_{\bar{N}}(2N + 3337)) \\
&= B_{\bar{N}}(2N + 3340 - (N + 3459)) + B_{\bar{N}}(2N + 3340 - (2N + 2698)) + B_{\bar{N}}(2N + 3340 - (N + 3455)) \\
&= B_{\bar{N}}(N - 119) + B_{\bar{N}}(642) + B_{\bar{N}}(N - 115) = (N - 119) + 642 + (N - 115) = \mathbf{2N} + \mathbf{408} \\
&(N \geq 642)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3341}) &= B_{\bar{N}}(2N + 3341 - B_{\bar{N}}(2N + 3340)) + B_{\bar{N}}(2N + 3341 - B_{\bar{N}}(2N + 3339)) + B_{\bar{N}}(2N + 3341 - B_{\bar{N}}(2N + 3338)) \\
&= B_{\bar{N}}(2N + 3341 - (2N + 408)) + B_{\bar{N}}(2N + 3341 - (N + 3459)) + B_{\bar{N}}(2N + 3341 - (2N + 2698)) \\
&= B_{\bar{N}}(2933) + B_{\bar{N}}(N - 118) + B_{\bar{N}}(643) = 2933 + (N - 118) + 643 = \mathbf{N} + \mathbf{3458} \\
&(N \geq 2933)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3342}) &= B_{\bar{N}}(2N + 3342 - B_{\bar{N}}(2N + 3341)) + B_{\bar{N}}(2N + 3342 - B_{\bar{N}}(2N + 3340)) + B_{\bar{N}}(2N + 3342 - B_{\bar{N}}(2N + 3339)) \\
&= B_{\bar{N}}(2N + 3342 - (N + 3458)) + B_{\bar{N}}(2N + 3342 - (2N + 408)) + B_{\bar{N}}(2N + 3342 - (N + 3459)) \\
&= B_{\bar{N}}(N - 116) + B_{\bar{N}}(2934) + B_{\bar{N}}(N - 117) = (N - 116) + 2934 + (N - 117) = \mathbf{2N} + \mathbf{2701} \\
&(N \geq 2934)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3343}) &= B_{\bar{N}}(2N + 3343 - B_{\bar{N}}(2N + 3342)) + B_{\bar{N}}(2N + 3343 - B_{\bar{N}}(2N + 3341)) + B_{\bar{N}}(2N + 3343 - B_{\bar{N}}(2N + 3340)) \\
&= B_{\bar{N}}(2N + 3343 - (2N + 2701)) + B_{\bar{N}}(2N + 3343 - (N + 3458)) + B_{\bar{N}}(2N + 3343 - (2N + 408)) \\
&= B_{\bar{N}}(642) + B_{\bar{N}}(N - 115) + B_{\bar{N}}(2935) = 642 + (N - 115) + 2935 = \mathbf{N} + \mathbf{3462} \\
&(N \geq 2935)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3344}) &= B_{\bar{N}}(2N + 3344 - B_{\bar{N}}(2N + 3343)) + B_{\bar{N}}(2N + 3344 - B_{\bar{N}}(2N + 3342)) + B_{\bar{N}}(2N + 3344 - B_{\bar{N}}(2N + 3341)) \\
&= B_{\bar{N}}(2N + 3344 - (N + 3462)) + B_{\bar{N}}(2N + 3344 - (2N + 2701)) + B_{\bar{N}}(2N + 3344 - (N + 3458)) \\
&= B_{\bar{N}}(N - 118) + B_{\bar{N}}(643) + B_{\bar{N}}(N - 114) = (N - 118) + 643 + (N - 114) = \mathbf{2N} + \mathbf{411} \\
&(N \geq 643)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3345}) &= B_{\bar{N}}(2N + 3345 - B_{\bar{N}}(2N + 3344)) + B_{\bar{N}}(2N + 3345 - B_{\bar{N}}(2N + 3343)) + B_{\bar{N}}(2N + 3345 - B_{\bar{N}}(2N + 3342)) \\
&= B_{\bar{N}}(2N + 3345 - (2N + 411)) + B_{\bar{N}}(2N + 3345 - (N + 3462)) + B_{\bar{N}}(2N + 3345 - (2N + 2701)) \\
&= B_{\bar{N}}(2934) + B_{\bar{N}}(N - 117) + B_{\bar{N}}(644) = 2934 + (N - 117) + 644 = \mathbf{N} + \mathbf{3461} \\
&(N \geq 2934)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3346}) &= B_{\bar{N}}(2N + 3346 - B_{\bar{N}}(2N + 3345)) + B_{\bar{N}}(2N + 3346 - B_{\bar{N}}(2N + 3344)) + B_{\bar{N}}(2N + 3346 - B_{\bar{N}}(2N + 3343)) \\
&= B_{\bar{N}}(2N + 3346 - (N + 3461)) + B_{\bar{N}}(2N + 3346 - (2N + 411)) + B_{\bar{N}}(2N + 3346 - (N + 3462)) \\
&= B_{\bar{N}}(N - 115) + B_{\bar{N}}(2935) + B_{\bar{N}}(N - 116) = (N - 115) + 2935 + (N - 116) = \mathbf{2N} + \mathbf{2704} \\
&(N \geq 2935)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3347}) &= B_{\bar{N}}(2N + 3347 - B_{\bar{N}}(2N + 3346)) + B_{\bar{N}}(2N + 3347 - B_{\bar{N}}(2N + 3345)) + B_{\bar{N}}(2N + 3347 - B_{\bar{N}}(2N + 3344)) \\
&= B_{\bar{N}}(2N + 3347 - (2N + 2704)) + B_{\bar{N}}(2N + 3347 - (N + 3461)) + B_{\bar{N}}(2N + 3347 - (2N + 411)) \\
&= B_{\bar{N}}(643) + B_{\bar{N}}(N - 114) + B_{\bar{N}}(2936) = 643 + (N - 114) + 2936 = \mathbf{N} + \mathbf{3465} \\
&(N \geq 2936)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3348}) &= B_{\bar{N}}(2N + 3348 - B_{\bar{N}}(2N + 3347)) + B_{\bar{N}}(2N + 3348 - B_{\bar{N}}(2N + 3346)) + B_{\bar{N}}(2N + 3348 - B_{\bar{N}}(2N + 3345)) \\
&= B_{\bar{N}}(2N + 3348 - (N + 3465)) + B_{\bar{N}}(2N + 3348 - (2N + 2704)) + B_{\bar{N}}(2N + 3348 - (N + 3461)) \\
&= B_{\bar{N}}(N - 117) + B_{\bar{N}}(644) + B_{\bar{N}}(N - 113) = (N - 117) + 644 + (N - 113) = \mathbf{2N} + \mathbf{414} \\
&(N \geq 644)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3349}) &= B_{\bar{N}}(2N + 3349 - B_{\bar{N}}(2N + 3348)) + B_{\bar{N}}(2N + 3349 - B_{\bar{N}}(2N + 3347)) + B_{\bar{N}}(2N + 3349 - B_{\bar{N}}(2N + 3346)) \\
&= B_{\bar{N}}(2N + 3349 - (2N + 414)) + B_{\bar{N}}(2N + 3349 - (N + 3465)) + B_{\bar{N}}(2N + 3349 - (2N + 2704)) \\
&= B_{\bar{N}}(2935) + B_{\bar{N}}(N - 116) + B_{\bar{N}}(645) = 2935 + (N - 116) + 645 = \mathbf{N} + \mathbf{3464} \\
&(N \geq 2935)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3350}) &= B_{\bar{N}}(2N + 3350 - B_{\bar{N}}(2N + 3349)) + B_{\bar{N}}(2N + 3350 - B_{\bar{N}}(2N + 3348)) + B_{\bar{N}}(2N + 3350 - B_{\bar{N}}(2N + 3347)) \\
&= B_{\bar{N}}(2N + 3350 - (N + 3464)) + B_{\bar{N}}(2N + 3350 - (2N + 414)) + B_{\bar{N}}(2N + 3350 - (N + 3465)) \\
&= B_{\bar{N}}(N - 114) + B_{\bar{N}}(2936) + B_{\bar{N}}(N - 115) = (N - 114) + 2936 + (N - 115) = \mathbf{2N} + \mathbf{2707} \\
&(N \geq 2936)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3351}) &= B_{\bar{N}}(2N + 3351 - B_{\bar{N}}(2N + 3350)) + B_{\bar{N}}(2N + 3351 - B_{\bar{N}}(2N + 3349)) + B_{\bar{N}}(2N + 3351 - B_{\bar{N}}(2N + 3348)) \\
&= B_{\bar{N}}(2N + 3351 - (2N + 2707)) + B_{\bar{N}}(2N + 3351 - (N + 3464)) + B_{\bar{N}}(2N + 3351 - (2N + 414)) \\
&= B_{\bar{N}}(644) + B_{\bar{N}}(N - 113) + B_{\bar{N}}(2937) = 644 + (N - 113) + 2937 = \mathbf{N} + \mathbf{3468} \\
&(N \geq 2937)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3352}) &= B_{\bar{N}}(2N + 3352 - B_{\bar{N}}(2N + 3351)) + B_{\bar{N}}(2N + 3352 - B_{\bar{N}}(2N + 3350)) + B_{\bar{N}}(2N + 3352 - B_{\bar{N}}(2N + 3349)) \\
&= B_{\bar{N}}(2N + 3352 - (N + 3468)) + B_{\bar{N}}(2N + 3352 - (2N + 2707)) + B_{\bar{N}}(2N + 3352 - (N + 3464)) \\
&= B_{\bar{N}}(N - 116) + B_{\bar{N}}(645) + B_{\bar{N}}(N - 112) = (N - 116) + 645 + (N - 112) = \mathbf{2N} + \mathbf{417} \\
&(N \geq 645)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3353}) &= B_{\bar{N}}(2N + 3353 - B_{\bar{N}}(2N + 3352)) + B_{\bar{N}}(2N + 3353 - B_{\bar{N}}(2N + 3351)) + B_{\bar{N}}(2N + 3353 - B_{\bar{N}}(2N + 3350)) \\
&= B_{\bar{N}}(2N + 3353 - (2N + 417)) + B_{\bar{N}}(2N + 3353 - (N + 3468)) + B_{\bar{N}}(2N + 3353 - (2N + 2707)) \\
&= B_{\bar{N}}(2936) + B_{\bar{N}}(N - 115) + B_{\bar{N}}(646) = 2936 + (N - 115) + 646 = \mathbf{N} + \mathbf{3467} \\
&(N \geq 2936)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3354}) &= B_{\bar{N}}(2N + 3354 - B_{\bar{N}}(2N + 3353)) + B_{\bar{N}}(2N + 3354 - B_{\bar{N}}(2N + 3352)) + B_{\bar{N}}(2N + 3354 - B_{\bar{N}}(2N + 3351)) \\
&= B_{\bar{N}}(2N + 3354 - (N + 3467)) + B_{\bar{N}}(2N + 3354 - (2N + 417)) + B_{\bar{N}}(2N + 3354 - (N + 3468)) \\
&= B_{\bar{N}}(N - 113) + B_{\bar{N}}(2937) + B_{\bar{N}}(N - 114) = (N - 113) + 2937 + (N - 114) = \mathbf{2N} + \mathbf{2710} \\
&(N \geq 2937)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3355}) &= B_{\bar{N}}(2N + 3355 - B_{\bar{N}}(2N + 3354)) + B_{\bar{N}}(2N + 3355 - B_{\bar{N}}(2N + 3353)) + B_{\bar{N}}(2N + 3355 - B_{\bar{N}}(2N + 3352)) \\
&= B_{\bar{N}}(2N + 3355 - (2N + 2710)) + B_{\bar{N}}(2N + 3355 - (N + 3467)) + B_{\bar{N}}(2N + 3355 - (2N + 417)) \\
&= B_{\bar{N}}(645) + B_{\bar{N}}(N - 112) + B_{\bar{N}}(2938) = 645 + (N - 112) + 2938 = \mathbf{N} + \mathbf{3471} \\
&(N \geq 2938)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3356}) &= B_{\bar{N}}(2N + 3356 - B_{\bar{N}}(2N + 3355)) + B_{\bar{N}}(2N + 3356 - B_{\bar{N}}(2N + 3354)) + B_{\bar{N}}(2N + 3356 - B_{\bar{N}}(2N + 3353)) \\
&= B_{\bar{N}}(2N + 3356 - (N + 3471)) + B_{\bar{N}}(2N + 3356 - (2N + 2710)) + B_{\bar{N}}(2N + 3356 - (N + 3467)) \\
&= B_{\bar{N}}(N - 115) + B_{\bar{N}}(646) + B_{\bar{N}}(N - 111) = (N - 115) + 646 + (N - 111) = \mathbf{2N} + \mathbf{420} \\
&(N \geq 646)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3357}) &= B_{\bar{N}}(2N + 3357 - B_{\bar{N}}(2N + 3356)) + B_{\bar{N}}(2N + 3357 - B_{\bar{N}}(2N + 3355)) + B_{\bar{N}}(2N + 3357 - B_{\bar{N}}(2N + 3354)) \\
&= B_{\bar{N}}(2N + 3357 - (2N + 420)) + B_{\bar{N}}(2N + 3357 - (N + 3471)) + B_{\bar{N}}(2N + 3357 - (2N + 2710)) \\
&= B_{\bar{N}}(2937) + B_{\bar{N}}(N - 114) + B_{\bar{N}}(647) = 2937 + (N - 114) + 647 = \mathbf{N} + \mathbf{3470} \\
&(N \geq 2937)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3358}) &= B_{\bar{N}}(2N + 3358 - B_{\bar{N}}(2N + 3357)) + B_{\bar{N}}(2N + 3358 - B_{\bar{N}}(2N + 3356)) + B_{\bar{N}}(2N + 3358 - B_{\bar{N}}(2N + 3355)) \\
&= B_{\bar{N}}(2N + 3358 - (N + 3470)) + B_{\bar{N}}(2N + 3358 - (2N + 420)) + B_{\bar{N}}(2N + 3358 - (N + 3471)) \\
&= B_{\bar{N}}(N - 112) + B_{\bar{N}}(2938) + B_{\bar{N}}(N - 113) = (N - 112) + 2938 + (N - 113) = \mathbf{2N} + \mathbf{2713} \\
&(N \geq 2938)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3359}) &= B_{\bar{N}}(2N + 3359 - B_{\bar{N}}(2N + 3358)) + B_{\bar{N}}(2N + 3359 - B_{\bar{N}}(2N + 3357)) + B_{\bar{N}}(2N + 3359 - B_{\bar{N}}(2N + 3356)) \\
&= B_{\bar{N}}(2N + 3359 - (2N + 2713)) + B_{\bar{N}}(2N + 3359 - (N + 3470)) + B_{\bar{N}}(2N + 3359 - (2N + 420)) \\
&= B_{\bar{N}}(646) + B_{\bar{N}}(N - 111) + B_{\bar{N}}(2939) = 646 + (N - 111) + 2939 = \mathbf{N} + \mathbf{3474} \\
&(N \geq 2939)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3360}) &= B_{\bar{N}}(2N + 3360 - B_{\bar{N}}(2N + 3359)) + B_{\bar{N}}(2N + 3360 - B_{\bar{N}}(2N + 3358)) + B_{\bar{N}}(2N + 3360 - B_{\bar{N}}(2N + 3357)) \\
&= B_{\bar{N}}(2N + 3360 - (N + 3474)) + B_{\bar{N}}(2N + 3360 - (2N + 2713)) + B_{\bar{N}}(2N + 3360 - (N + 3470)) \\
&= B_{\bar{N}}(N - 114) + B_{\bar{N}}(647) + B_{\bar{N}}(N - 110) = (N - 114) + 647 + (N - 110) = \mathbf{2N} + \mathbf{423} \\
&(N \geq 647)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3361}) &= B_{\bar{N}}(2N + 3361 - B_{\bar{N}}(2N + 3360)) + B_{\bar{N}}(2N + 3361 - B_{\bar{N}}(2N + 3359)) + B_{\bar{N}}(2N + 3361 - B_{\bar{N}}(2N + 3358)) \\
&= B_{\bar{N}}(2N + 3361 - (2N + 423)) + B_{\bar{N}}(2N + 3361 - (N + 3474)) + B_{\bar{N}}(2N + 3361 - (2N + 2713)) \\
&= B_{\bar{N}}(2938) + B_{\bar{N}}(N - 113) + B_{\bar{N}}(648) = 2938 + (N - 113) + 648 = \mathbf{N} + \mathbf{3473} \\
&(N \geq 2938)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3362}) &= B_{\bar{N}}(2N + 3362 - B_{\bar{N}}(2N + 3361)) + B_{\bar{N}}(2N + 3362 - B_{\bar{N}}(2N + 3360)) + B_{\bar{N}}(2N + 3362 - B_{\bar{N}}(2N + 3359)) \\
&= B_{\bar{N}}(2N + 3362 - (N + 3473)) + B_{\bar{N}}(2N + 3362 - (2N + 423)) + B_{\bar{N}}(2N + 3362 - (N + 3474)) \\
&= B_{\bar{N}}(N - 111) + B_{\bar{N}}(2939) + B_{\bar{N}}(N - 112) = (N - 111) + 2939 + (N - 112) = \mathbf{2N} + \mathbf{2716} \\
&(N \geq 2939)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3363}) &= B_{\bar{N}}(2N + 3363 - B_{\bar{N}}(2N + 3362)) + B_{\bar{N}}(2N + 3363 - B_{\bar{N}}(2N + 3361)) + B_{\bar{N}}(2N + 3363 - B_{\bar{N}}(2N + 3360)) \\
&= B_{\bar{N}}(2N + 3363 - (2N + 2716)) + B_{\bar{N}}(2N + 3363 - (N + 3473)) + B_{\bar{N}}(2N + 3363 - (2N + 423)) \\
&= B_{\bar{N}}(647) + B_{\bar{N}}(N - 110) + B_{\bar{N}}(2940) = 647 + (N - 110) + 2940 = \mathbf{N} + \mathbf{3477} \\
&(N \geq 2940)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3364}) &= B_{\bar{N}}(2N + 3364 - B_{\bar{N}}(2N + 3363)) + B_{\bar{N}}(2N + 3364 - B_{\bar{N}}(2N + 3362)) + B_{\bar{N}}(2N + 3364 - B_{\bar{N}}(2N + 3361)) \\
&= B_{\bar{N}}(2N + 3364 - (N + 3477)) + B_{\bar{N}}(2N + 3364 - (2N + 2716)) + B_{\bar{N}}(2N + 3364 - (N + 3473)) \\
&= B_{\bar{N}}(N - 113) + B_{\bar{N}}(648) + B_{\bar{N}}(N - 109) = (N - 113) + 648 + (N - 109) = \mathbf{2N} + \mathbf{426} \\
&(N \geq 648)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3365}) &= B_{\bar{N}}(2N + 3365 - B_{\bar{N}}(2N + 3364)) + B_{\bar{N}}(2N + 3365 - B_{\bar{N}}(2N + 3363)) + B_{\bar{N}}(2N + 3365 - B_{\bar{N}}(2N + 3362)) \\
&= B_{\bar{N}}(2N + 3365 - (2N + 426)) + B_{\bar{N}}(2N + 3365 - (N + 3477)) + B_{\bar{N}}(2N + 3365 - (2N + 2716)) \\
&= B_{\bar{N}}(2939) + B_{\bar{N}}(N - 112) + B_{\bar{N}}(649) = 2939 + (N - 112) + 649 = \mathbf{N} + \mathbf{3476} \\
&(N \geq 2939)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3366}) &= B_{\bar{N}}(2N + 3366 - B_{\bar{N}}(2N + 3365)) + B_{\bar{N}}(2N + 3366 - B_{\bar{N}}(2N + 3364)) + B_{\bar{N}}(2N + 3366 - B_{\bar{N}}(2N + 3363)) \\
&= B_{\bar{N}}(2N + 3366 - (N + 3476)) + B_{\bar{N}}(2N + 3366 - (2N + 426)) + B_{\bar{N}}(2N + 3366 - (N + 3477)) \\
&= B_{\bar{N}}(N - 110) + B_{\bar{N}}(2940) + B_{\bar{N}}(N - 111) = (N - 110) + 2940 + (N - 111) = \mathbf{2N} + \mathbf{2719} \\
&(N \geq 2940)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3367}) &= B_{\bar{N}}(2N + 3367 - B_{\bar{N}}(2N + 3366)) + B_{\bar{N}}(2N + 3367 - B_{\bar{N}}(2N + 3365)) + B_{\bar{N}}(2N + 3367 - B_{\bar{N}}(2N + 3364)) \\
&= B_{\bar{N}}(2N + 3367 - (2N + 2719)) + B_{\bar{N}}(2N + 3367 - (N + 3476)) + B_{\bar{N}}(2N + 3367 - (2N + 426)) \\
&= B_{\bar{N}}(648) + B_{\bar{N}}(N - 109) + B_{\bar{N}}(2941) = 648 + (N - 109) + 2941 = \mathbf{N} + \mathbf{3480} \\
&(N \geq 2941)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3368}) &= B_{\bar{N}}(2N + 3368 - B_{\bar{N}}(2N + 3367)) + B_{\bar{N}}(2N + 3368 - B_{\bar{N}}(2N + 3366)) + B_{\bar{N}}(2N + 3368 - B_{\bar{N}}(2N + 3365)) \\
&= B_{\bar{N}}(2N + 3368 - (N + 3480)) + B_{\bar{N}}(2N + 3368 - (2N + 2719)) + B_{\bar{N}}(2N + 3368 - (N + 3476)) \\
&= B_{\bar{N}}(N - 112) + B_{\bar{N}}(649) + B_{\bar{N}}(N - 108) = (N - 112) + 649 + (N - 108) = \mathbf{2N} + \mathbf{429} \\
&(N \geq 649)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3369}) &= B_{\bar{N}}(2N + 3369 - B_{\bar{N}}(2N + 3368)) + B_{\bar{N}}(2N + 3369 - B_{\bar{N}}(2N + 3367)) + B_{\bar{N}}(2N + 3369 - B_{\bar{N}}(2N + 3366)) \\
&= B_{\bar{N}}(2N + 3369 - (2N + 429)) + B_{\bar{N}}(2N + 3369 - (N + 3480)) + B_{\bar{N}}(2N + 3369 - (2N + 2719)) \\
&= B_{\bar{N}}(2940) + B_{\bar{N}}(N - 111) + B_{\bar{N}}(650) = 2940 + (N - 111) + 650 = \mathbf{N} + \mathbf{3479} \\
&(N \geq 2940)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3370}) &= B_{\bar{N}}(2N + 3370 - B_{\bar{N}}(2N + 3369)) + B_{\bar{N}}(2N + 3370 - B_{\bar{N}}(2N + 3368)) + B_{\bar{N}}(2N + 3370 - B_{\bar{N}}(2N + 3367)) \\
&= B_{\bar{N}}(2N + 3370 - (N + 3479)) + B_{\bar{N}}(2N + 3370 - (2N + 429)) + B_{\bar{N}}(2N + 3370 - (N + 3480)) \\
&= B_{\bar{N}}(N - 109) + B_{\bar{N}}(2941) + B_{\bar{N}}(N - 110) = (N - 109) + 2941 + (N - 110) = \mathbf{2N} + \mathbf{2722} \\
&(N \geq 2941)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3371}) &= B_{\bar{N}}(2N + 3371 - B_{\bar{N}}(2N + 3370)) + B_{\bar{N}}(2N + 3371 - B_{\bar{N}}(2N + 3369)) + B_{\bar{N}}(2N + 3371 - B_{\bar{N}}(2N + 3368)) \\
&= B_{\bar{N}}(2N + 3371 - (2N + 2722)) + B_{\bar{N}}(2N + 3371 - (N + 3479)) + B_{\bar{N}}(2N + 3371 - (2N + 429)) \\
&= B_{\bar{N}}(649) + B_{\bar{N}}(N - 108) + B_{\bar{N}}(2942) = 649 + (N - 108) + 2942 = \mathbf{N} + \mathbf{3483} \\
&(N \geq 2942)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3372}) &= B_{\bar{N}}(2N + 3372 - B_{\bar{N}}(2N + 3371)) + B_{\bar{N}}(2N + 3372 - B_{\bar{N}}(2N + 3370)) + B_{\bar{N}}(2N + 3372 - B_{\bar{N}}(2N + 3369)) \\
&= B_{\bar{N}}(2N + 3372 - (N + 3483)) + B_{\bar{N}}(2N + 3372 - (2N + 2722)) + B_{\bar{N}}(2N + 3372 - (N + 3479)) \\
&= B_{\bar{N}}(N - 111) + B_{\bar{N}}(650) + B_{\bar{N}}(N - 107) = (N - 111) + 650 + (N - 107) = \mathbf{2N} + \mathbf{432} \\
&(N \geq 650)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3373}) &= B_{\bar{N}}(2N + 3373 - B_{\bar{N}}(2N + 3372)) + B_{\bar{N}}(2N + 3373 - B_{\bar{N}}(2N + 3371)) + B_{\bar{N}}(2N + 3373 - B_{\bar{N}}(2N + 3370)) \\
&= B_{\bar{N}}(2N + 3373 - (2N + 432)) + B_{\bar{N}}(2N + 3373 - (N + 3483)) + B_{\bar{N}}(2N + 3373 - (2N + 2722)) \\
&= B_{\bar{N}}(2941) + B_{\bar{N}}(N - 110) + B_{\bar{N}}(651) = 2941 + (N - 110) + 651 = \mathbf{N} + \mathbf{3482} \\
&(N \geq 2941)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3374}) &= B_{\bar{N}}(2N + 3374 - B_{\bar{N}}(2N + 3373)) + B_{\bar{N}}(2N + 3374 - B_{\bar{N}}(2N + 3372)) + B_{\bar{N}}(2N + 3374 - B_{\bar{N}}(2N + 3371)) \\
&= B_{\bar{N}}(2N + 3374 - (N + 3482)) + B_{\bar{N}}(2N + 3374 - (2N + 432)) + B_{\bar{N}}(2N + 3374 - (N + 3483)) \\
&= B_{\bar{N}}(N - 108) + B_{\bar{N}}(2942) + B_{\bar{N}}(N - 109) = (N - 108) + 2942 + (N - 109) = \mathbf{2N} + \mathbf{2725} \\
&(N \geq 2942)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3375}) &= B_{\bar{N}}(2N + 3375 - B_{\bar{N}}(2N + 3374)) + B_{\bar{N}}(2N + 3375 - B_{\bar{N}}(2N + 3373)) + B_{\bar{N}}(2N + 3375 - B_{\bar{N}}(2N + 3372)) \\
&= B_{\bar{N}}(2N + 3375 - (2N + 2725)) + B_{\bar{N}}(2N + 3375 - (N + 3482)) + B_{\bar{N}}(2N + 3375 - (2N + 432)) \\
&= B_{\bar{N}}(650) + B_{\bar{N}}(N - 107) + B_{\bar{N}}(2943) = 650 + (N - 107) + 2943 = \mathbf{N} + \mathbf{3486} \\
&(N \geq 2943)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3376}) &= B_{\bar{N}}(2N + 3376 - B_{\bar{N}}(2N + 3375)) + B_{\bar{N}}(2N + 3376 - B_{\bar{N}}(2N + 3374)) + B_{\bar{N}}(2N + 3376 - B_{\bar{N}}(2N + 3373)) \\
&= B_{\bar{N}}(2N + 3376 - (N + 3486)) + B_{\bar{N}}(2N + 3376 - (2N + 2725)) + B_{\bar{N}}(2N + 3376 - (N + 3482)) \\
&= B_{\bar{N}}(N - 110) + B_{\bar{N}}(651) + B_{\bar{N}}(N - 106) = (N - 110) + 651 + (N - 106) = \mathbf{2N} + \mathbf{435} \\
&(N \geq 651)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3377}) &= B_{\bar{N}}(2N + 3377 - B_{\bar{N}}(2N + 3376)) + B_{\bar{N}}(2N + 3377 - B_{\bar{N}}(2N + 3375)) + B_{\bar{N}}(2N + 3377 - B_{\bar{N}}(2N + 3374)) \\
&= B_{\bar{N}}(2N + 3377 - (2N + 435)) + B_{\bar{N}}(2N + 3377 - (N + 3486)) + B_{\bar{N}}(2N + 3377 - (2N + 2725)) \\
&= B_{\bar{N}}(2942) + B_{\bar{N}}(N - 109) + B_{\bar{N}}(652) = 2942 + (N - 109) + 652 = \mathbf{N} + \mathbf{3485} \\
&(N \geq 2942)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3378}) &= B_{\bar{N}}(2N + 3378 - B_{\bar{N}}(2N + 3377)) + B_{\bar{N}}(2N + 3378 - B_{\bar{N}}(2N + 3376)) + B_{\bar{N}}(2N + 3378 - B_{\bar{N}}(2N + 3375)) \\
&= B_{\bar{N}}(2N + 3378 - (N + 3485)) + B_{\bar{N}}(2N + 3378 - (2N + 435)) + B_{\bar{N}}(2N + 3378 - (N + 3486)) \\
&= B_{\bar{N}}(N - 107) + B_{\bar{N}}(2943) + B_{\bar{N}}(N - 108) = (N - 107) + 2943 + (N - 108) = \mathbf{2N} + \mathbf{2728} \\
&(N \geq 2943)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3379}) &= B_{\bar{N}}(2N + 3379 - B_{\bar{N}}(2N + 3378)) + B_{\bar{N}}(2N + 3379 - B_{\bar{N}}(2N + 3377)) + B_{\bar{N}}(2N + 3379 - B_{\bar{N}}(2N + 3376)) \\
&= B_{\bar{N}}(2N + 3379 - (2N + 2728)) + B_{\bar{N}}(2N + 3379 - (N + 3485)) + B_{\bar{N}}(2N + 3379 - (2N + 435)) \\
&= B_{\bar{N}}(651) + B_{\bar{N}}(N - 106) + B_{\bar{N}}(2944) = 651 + (N - 106) + 2944 = \mathbf{N} + \mathbf{3489} \\
&(N \geq 2944)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3380}) &= B_{\bar{N}}(2N + 3380 - B_{\bar{N}}(2N + 3379)) + B_{\bar{N}}(2N + 3380 - B_{\bar{N}}(2N + 3378)) + B_{\bar{N}}(2N + 3380 - B_{\bar{N}}(2N + 3377)) \\
&= B_{\bar{N}}(2N + 3380 - (N + 3489)) + B_{\bar{N}}(2N + 3380 - (2N + 2728)) + B_{\bar{N}}(2N + 3380 - (N + 3485)) \\
&= B_{\bar{N}}(N - 109) + B_{\bar{N}}(652) + B_{\bar{N}}(N - 105) = (N - 109) + 652 + (N - 105) = \mathbf{2N} + \mathbf{438} \\
&(N \geq 652)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3381}) &= B_{\bar{N}}(2N + 3381 - B_{\bar{N}}(2N + 3380)) + B_{\bar{N}}(2N + 3381 - B_{\bar{N}}(2N + 3379)) + B_{\bar{N}}(2N + 3381 - B_{\bar{N}}(2N + 3378)) \\
&= B_{\bar{N}}(2N + 3381 - (2N + 438)) + B_{\bar{N}}(2N + 3381 - (N + 3489)) + B_{\bar{N}}(2N + 3381 - (2N + 2728)) \\
&= B_{\bar{N}}(2943) + B_{\bar{N}}(N - 108) + B_{\bar{N}}(653) = 2943 + (N - 108) + 653 = \mathbf{N} + \mathbf{3488} \\
&(N \geq 2943)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3382}) &= B_{\bar{N}}(2N + 3382 - B_{\bar{N}}(2N + 3381)) + B_{\bar{N}}(2N + 3382 - B_{\bar{N}}(2N + 3380)) + B_{\bar{N}}(2N + 3382 - B_{\bar{N}}(2N + 3379)) \\
&= B_{\bar{N}}(2N + 3382 - (N + 3488)) + B_{\bar{N}}(2N + 3382 - (2N + 438)) + B_{\bar{N}}(2N + 3382 - (N + 3489)) \\
&= B_{\bar{N}}(N - 106) + B_{\bar{N}}(2944) + B_{\bar{N}}(N - 107) = (N - 106) + 2944 + (N - 107) = \mathbf{2N} + \mathbf{2731} \\
&(N \geq 2944)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3383}) &= B_{\bar{N}}(2N + 3383 - B_{\bar{N}}(2N + 3382)) + B_{\bar{N}}(2N + 3383 - B_{\bar{N}}(2N + 3381)) + B_{\bar{N}}(2N + 3383 - B_{\bar{N}}(2N + 3380)) \\
&= B_{\bar{N}}(2N + 3383 - (2N + 2731)) + B_{\bar{N}}(2N + 3383 - (N + 3488)) + B_{\bar{N}}(2N + 3383 - (2N + 438)) \\
&= B_{\bar{N}}(652) + B_{\bar{N}}(N - 105) + B_{\bar{N}}(2945) = 652 + (N - 105) + 2945 = \mathbf{N} + \mathbf{3492} \\
&(N \geq 2945)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3384}) &= B_{\bar{N}}(2N + 3384 - B_{\bar{N}}(2N + 3383)) + B_{\bar{N}}(2N + 3384 - B_{\bar{N}}(2N + 3382)) + B_{\bar{N}}(2N + 3384 - B_{\bar{N}}(2N + 3381)) \\
&= B_{\bar{N}}(2N + 3384 - (N + 3492)) + B_{\bar{N}}(2N + 3384 - (2N + 2731)) + B_{\bar{N}}(2N + 3384 - (N + 3488)) \\
&= B_{\bar{N}}(N - 108) + B_{\bar{N}}(653) + B_{\bar{N}}(N - 104) = (N - 108) + 653 + (N - 104) = \mathbf{2N} + \mathbf{441} \\
&(N \geq 653)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3385}) &= B_{\bar{N}}(2N + 3385 - B_{\bar{N}}(2N + 3384)) + B_{\bar{N}}(2N + 3385 - B_{\bar{N}}(2N + 3383)) + B_{\bar{N}}(2N + 3385 - B_{\bar{N}}(2N + 3382)) \\
&= B_{\bar{N}}(2N + 3385 - (2N + 441)) + B_{\bar{N}}(2N + 3385 - (N + 3492)) + B_{\bar{N}}(2N + 3385 - (2N + 2731)) \\
&= B_{\bar{N}}(2944) + B_{\bar{N}}(N - 107) + B_{\bar{N}}(654) = 2944 + (N - 107) + 654 = \mathbf{N} + \mathbf{3491} \\
&(N \geq 2944)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3386}) &= B_{\bar{N}}(2N + 3386 - B_{\bar{N}}(2N + 3385)) + B_{\bar{N}}(2N + 3386 - B_{\bar{N}}(2N + 3384)) + B_{\bar{N}}(2N + 3386 - B_{\bar{N}}(2N + 3383)) \\
&= B_{\bar{N}}(2N + 3386 - (N + 3491)) + B_{\bar{N}}(2N + 3386 - (2N + 441)) + B_{\bar{N}}(2N + 3386 - (N + 3492)) \\
&= B_{\bar{N}}(N - 105) + B_{\bar{N}}(2945) + B_{\bar{N}}(N - 106) = (N - 105) + 2945 + (N - 106) = \mathbf{2N} + \mathbf{2734} \\
&(N \geq 2945)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3387}) &= B_{\bar{N}}(2N + 3387 - B_{\bar{N}}(2N + 3386)) + B_{\bar{N}}(2N + 3387 - B_{\bar{N}}(2N + 3385)) + B_{\bar{N}}(2N + 3387 - B_{\bar{N}}(2N + 3384)) \\
&= B_{\bar{N}}(2N + 3387 - (2N + 2734)) + B_{\bar{N}}(2N + 3387 - (N + 3491)) + B_{\bar{N}}(2N + 3387 - (2N + 441)) \\
&= B_{\bar{N}}(653) + B_{\bar{N}}(N - 104) + B_{\bar{N}}(2946) = 653 + (N - 104) + 2946 = \mathbf{N} + \mathbf{3495} \\
&(N \geq 2946)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3388}) &= B_{\bar{N}}(2N + 3388 - B_{\bar{N}}(2N + 3387)) + B_{\bar{N}}(2N + 3388 - B_{\bar{N}}(2N + 3386)) + B_{\bar{N}}(2N + 3388 - B_{\bar{N}}(2N + 3385)) \\
&= B_{\bar{N}}(2N + 3388 - (N + 3495)) + B_{\bar{N}}(2N + 3388 - (2N + 2734)) + B_{\bar{N}}(2N + 3388 - (N + 3491)) \\
&= B_{\bar{N}}(N - 107) + B_{\bar{N}}(654) + B_{\bar{N}}(N - 103) = (N - 107) + 654 + (N - 103) = \mathbf{2N} + \mathbf{444} \\
&(N \geq 654)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3389}) &= B_{\bar{N}}(2N + 3389 - B_{\bar{N}}(2N + 3388)) + B_{\bar{N}}(2N + 3389 - B_{\bar{N}}(2N + 3387)) + B_{\bar{N}}(2N + 3389 - B_{\bar{N}}(2N + 3386)) \\
&= B_{\bar{N}}(2N + 3389 - (2N + 444)) + B_{\bar{N}}(2N + 3389 - (N + 3495)) + B_{\bar{N}}(2N + 3389 - (2N + 2734)) \\
&= B_{\bar{N}}(2945) + B_{\bar{N}}(N - 106) + B_{\bar{N}}(655) = 2945 + (N - 106) + 655 = \mathbf{N} + \mathbf{3494} \\
&(N \geq 2945)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3390}) &= B_{\bar{N}}(2N + 3390 - B_{\bar{N}}(2N + 3389)) + B_{\bar{N}}(2N + 3390 - B_{\bar{N}}(2N + 3388)) + B_{\bar{N}}(2N + 3390 - B_{\bar{N}}(2N + 3387)) \\
&= B_{\bar{N}}(2N + 3390 - (N + 3494)) + B_{\bar{N}}(2N + 3390 - (2N + 444)) + B_{\bar{N}}(2N + 3390 - (N + 3495)) \\
&= B_{\bar{N}}(N - 104) + B_{\bar{N}}(2946) + B_{\bar{N}}(N - 105) = (N - 104) + 2946 + (N - 105) = \mathbf{2N} + \mathbf{2737} \\
&(N \geq 2946)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3391}) &= B_{\bar{N}}(2N + 3391 - B_{\bar{N}}(2N + 3390)) + B_{\bar{N}}(2N + 3391 - B_{\bar{N}}(2N + 3389)) + B_{\bar{N}}(2N + 3391 - B_{\bar{N}}(2N + 3388)) \\
&= B_{\bar{N}}(2N + 3391 - (2N + 2737)) + B_{\bar{N}}(2N + 3391 - (N + 3494)) + B_{\bar{N}}(2N + 3391 - (2N + 444)) \\
&= B_{\bar{N}}(654) + B_{\bar{N}}(N - 103) + B_{\bar{N}}(2947) = 654 + (N - 103) + 2947 = \mathbf{N} + \mathbf{3498} \\
&(N \geq 2947)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3392}) &= B_{\bar{N}}(2N + 3392 - B_{\bar{N}}(2N + 3391)) + B_{\bar{N}}(2N + 3392 - B_{\bar{N}}(2N + 3390)) + B_{\bar{N}}(2N + 3392 - B_{\bar{N}}(2N + 3389)) \\
&= B_{\bar{N}}(2N + 3392 - (N + 3498)) + B_{\bar{N}}(2N + 3392 - (2N + 2737)) + B_{\bar{N}}(2N + 3392 - (N + 3494)) \\
&= B_{\bar{N}}(N - 106) + B_{\bar{N}}(655) + B_{\bar{N}}(N - 102) = (N - 106) + 655 + (N - 102) = \mathbf{2N} + \mathbf{447} \\
&(N \geq 655)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3393}) &= B_{\bar{N}}(2N + 3393 - B_{\bar{N}}(2N + 3392)) + B_{\bar{N}}(2N + 3393 - B_{\bar{N}}(2N + 3391)) + B_{\bar{N}}(2N + 3393 - B_{\bar{N}}(2N + 3390)) \\
&= B_{\bar{N}}(2N + 3393 - (2N + 447)) + B_{\bar{N}}(2N + 3393 - (N + 3498)) + B_{\bar{N}}(2N + 3393 - (2N + 2737)) \\
&= B_{\bar{N}}(2946) + B_{\bar{N}}(N - 105) + B_{\bar{N}}(656) = 2946 + (N - 105) + 656 = \mathbf{N} + \mathbf{3497} \\
&(N \geq 2946)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3394}) &= B_{\bar{N}}(2N + 3394 - B_{\bar{N}}(2N + 3393)) + B_{\bar{N}}(2N + 3394 - B_{\bar{N}}(2N + 3392)) + B_{\bar{N}}(2N + 3394 - B_{\bar{N}}(2N + 3391)) \\
&= B_{\bar{N}}(2N + 3394 - (N + 3497)) + B_{\bar{N}}(2N + 3394 - (2N + 447)) + B_{\bar{N}}(2N + 3394 - (N + 3498)) \\
&= B_{\bar{N}}(N - 103) + B_{\bar{N}}(2947) + B_{\bar{N}}(N - 104) = (N - 103) + 2947 + (N - 104) = \mathbf{2N} + \mathbf{2740} \\
&(N \geq 2947)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3395}) &= B_{\bar{N}}(2N + 3395 - B_{\bar{N}}(2N + 3394)) + B_{\bar{N}}(2N + 3395 - B_{\bar{N}}(2N + 3393)) + B_{\bar{N}}(2N + 3395 - B_{\bar{N}}(2N + 3392)) \\
&= B_{\bar{N}}(2N + 3395 - (2N + 2740)) + B_{\bar{N}}(2N + 3395 - (N + 3497)) + B_{\bar{N}}(2N + 3395 - (2N + 447)) \\
&= B_{\bar{N}}(655) + B_{\bar{N}}(N - 102) + B_{\bar{N}}(2948) = 655 + (N - 102) + 2948 = \mathbf{N} + \mathbf{3501} \\
&(N \geq 2948)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3396}) &= B_{\bar{N}}(2N + 3396 - B_{\bar{N}}(2N + 3395)) + B_{\bar{N}}(2N + 3396 - B_{\bar{N}}(2N + 3394)) + B_{\bar{N}}(2N + 3396 - B_{\bar{N}}(2N + 3393)) \\
&= B_{\bar{N}}(2N + 3396 - (N + 3501)) + B_{\bar{N}}(2N + 3396 - (2N + 2740)) + B_{\bar{N}}(2N + 3396 - (N + 3497)) \\
&= B_{\bar{N}}(N - 105) + B_{\bar{N}}(656) + B_{\bar{N}}(N - 101) = (N - 105) + 656 + (N - 101) = \mathbf{2N} + \mathbf{450} \\
&(N \geq 656)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3397}) &= B_{\bar{N}}(2N + 3397 - B_{\bar{N}}(2N + 3396)) + B_{\bar{N}}(2N + 3397 - B_{\bar{N}}(2N + 3395)) + B_{\bar{N}}(2N + 3397 - B_{\bar{N}}(2N + 3394)) \\
&= B_{\bar{N}}(2N + 3397 - (2N + 450)) + B_{\bar{N}}(2N + 3397 - (N + 3501)) + B_{\bar{N}}(2N + 3397 - (2N + 2740)) \\
&= B_{\bar{N}}(2947) + B_{\bar{N}}(N - 104) + B_{\bar{N}}(657) = 2947 + (N - 104) + 657 = \mathbf{N} + \mathbf{3500} \\
&(N \geq 2947)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3398}) &= B_{\bar{N}}(2N + 3398 - B_{\bar{N}}(2N + 3397)) + B_{\bar{N}}(2N + 3398 - B_{\bar{N}}(2N + 3396)) + B_{\bar{N}}(2N + 3398 - B_{\bar{N}}(2N + 3395)) \\
&= B_{\bar{N}}(2N + 3398 - (N + 3500)) + B_{\bar{N}}(2N + 3398 - (2N + 450)) + B_{\bar{N}}(2N + 3398 - (N + 3501)) \\
&= B_{\bar{N}}(N - 102) + B_{\bar{N}}(2948) + B_{\bar{N}}(N - 103) = (N - 102) + 2948 + (N - 103) = \mathbf{2N} + \mathbf{2743} \\
&(N \geq 2948)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3399}) &= B_{\bar{N}}(2N + 3399 - B_{\bar{N}}(2N + 3398)) + B_{\bar{N}}(2N + 3399 - B_{\bar{N}}(2N + 3397)) + B_{\bar{N}}(2N + 3399 - B_{\bar{N}}(2N + 3396)) \\
&= B_{\bar{N}}(2N + 3399 - (2N + 2743)) + B_{\bar{N}}(2N + 3399 - (N + 3500)) + B_{\bar{N}}(2N + 3399 - (2N + 450)) \\
&= B_{\bar{N}}(656) + B_{\bar{N}}(N - 101) + B_{\bar{N}}(2949) = 656 + (N - 101) + 2949 = \mathbf{N} + \mathbf{3504} \\
&(N \geq 2949)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3400}) &= B_{\bar{N}}(2N + 3400 - B_{\bar{N}}(2N + 3399)) + B_{\bar{N}}(2N + 3400 - B_{\bar{N}}(2N + 3398)) + B_{\bar{N}}(2N + 3400 - B_{\bar{N}}(2N + 3397)) \\
&= B_{\bar{N}}(2N + 3400 - (N + 3504)) + B_{\bar{N}}(2N + 3400 - (2N + 2743)) + B_{\bar{N}}(2N + 3400 - (N + 3500)) \\
&= B_{\bar{N}}(N - 104) + B_{\bar{N}}(657) + B_{\bar{N}}(N - 100) = (N - 104) + 657 + (N - 100) = \mathbf{2N} + \mathbf{453} \\
&(N \geq 657)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3401}) &= B_{\bar{N}}(2N + 3401 - B_{\bar{N}}(2N + 3400)) + B_{\bar{N}}(2N + 3401 - B_{\bar{N}}(2N + 3399)) + B_{\bar{N}}(2N + 3401 - B_{\bar{N}}(2N + 3398)) \\
&= B_{\bar{N}}(2N + 3401 - (2N + 453)) + B_{\bar{N}}(2N + 3401 - (N + 3504)) + B_{\bar{N}}(2N + 3401 - (2N + 2743)) \\
&= B_{\bar{N}}(2948) + B_{\bar{N}}(N - 103) + B_{\bar{N}}(658) = 2948 + (N - 103) + 658 = \mathbf{N} + \mathbf{3503} \\
&(N \geq 2948)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3402}) &= B_{\bar{N}}(2N + 3402 - B_{\bar{N}}(2N + 3401)) + B_{\bar{N}}(2N + 3402 - B_{\bar{N}}(2N + 3400)) + B_{\bar{N}}(2N + 3402 - B_{\bar{N}}(2N + 3399)) \\
&= B_{\bar{N}}(2N + 3402 - (N + 3503)) + B_{\bar{N}}(2N + 3402 - (2N + 453)) + B_{\bar{N}}(2N + 3402 - (N + 3504)) \\
&= B_{\bar{N}}(N - 101) + B_{\bar{N}}(2949) + B_{\bar{N}}(N - 102) = (N - 101) + 2949 + (N - 102) = \mathbf{2N} + \mathbf{2746} \\
&(N \geq 2949)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3403}) &= B_{\bar{N}}(2N + 3403 - B_{\bar{N}}(2N + 3402)) + B_{\bar{N}}(2N + 3403 - B_{\bar{N}}(2N + 3401)) + B_{\bar{N}}(2N + 3403 - B_{\bar{N}}(2N + 3400)) \\
&= B_{\bar{N}}(2N + 3403 - (2N + 2746)) + B_{\bar{N}}(2N + 3403 - (N + 3503)) + B_{\bar{N}}(2N + 3403 - (2N + 453)) \\
&= B_{\bar{N}}(657) + B_{\bar{N}}(N - 100) + B_{\bar{N}}(2950) = 657 + (N - 100) + 2950 = \mathbf{N} + \mathbf{3507} \\
&(N \geq 2950)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3404}) &= B_{\bar{N}}(2N + 3404 - B_{\bar{N}}(2N + 3403)) + B_{\bar{N}}(2N + 3404 - B_{\bar{N}}(2N + 3402)) + B_{\bar{N}}(2N + 3404 - B_{\bar{N}}(2N + 3401)) \\
&= B_{\bar{N}}(2N + 3404 - (N + 3507)) + B_{\bar{N}}(2N + 3404 - (2N + 2746)) + B_{\bar{N}}(2N + 3404 - (N + 3503)) \\
&= B_{\bar{N}}(N - 103) + B_{\bar{N}}(658) + B_{\bar{N}}(N - 99) = (N - 103) + 658 + (N - 99) = \mathbf{2N} + \mathbf{456} \\
&(N \geq 658)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3405}) &= B_{\bar{N}}(2N + 3405 - B_{\bar{N}}(2N + 3404)) + B_{\bar{N}}(2N + 3405 - B_{\bar{N}}(2N + 3403)) + B_{\bar{N}}(2N + 3405 - B_{\bar{N}}(2N + 3402)) \\
&= B_{\bar{N}}(2N + 3405 - (2N + 456)) + B_{\bar{N}}(2N + 3405 - (N + 3507)) + B_{\bar{N}}(2N + 3405 - (2N + 2746)) \\
&= B_{\bar{N}}(2949) + B_{\bar{N}}(N - 102) + B_{\bar{N}}(659) = 2949 + (N - 102) + 659 = \mathbf{N} + \mathbf{3506} \\
&(N \geq 2949)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3406}) &= B_{\bar{N}}(2N + 3406 - B_{\bar{N}}(2N + 3405)) + B_{\bar{N}}(2N + 3406 - B_{\bar{N}}(2N + 3404)) + B_{\bar{N}}(2N + 3406 - B_{\bar{N}}(2N + 3403)) \\
&= B_{\bar{N}}(2N + 3406 - (N + 3506)) + B_{\bar{N}}(2N + 3406 - (2N + 456)) + B_{\bar{N}}(2N + 3406 - (N + 3507)) \\
&= B_{\bar{N}}(N - 100) + B_{\bar{N}}(2950) + B_{\bar{N}}(N - 101) = (N - 100) + 2950 + (N - 101) = \mathbf{2N} + \mathbf{2749} \\
&(N \geq 2950)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3407}) &= B_{\bar{N}}(2N + 3407 - B_{\bar{N}}(2N + 3406)) + B_{\bar{N}}(2N + 3407 - B_{\bar{N}}(2N + 3405)) + B_{\bar{N}}(2N + 3407 - B_{\bar{N}}(2N + 3404)) \\
&= B_{\bar{N}}(2N + 3407 - (2N + 2749)) + B_{\bar{N}}(2N + 3407 - (N + 3506)) + B_{\bar{N}}(2N + 3407 - (2N + 456)) \\
&= B_{\bar{N}}(658) + B_{\bar{N}}(N - 99) + B_{\bar{N}}(2951) = 658 + (N - 99) + 2951 = \mathbf{N} + \mathbf{3510} \\
&(N \geq 2951)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3408}) &= B_{\bar{N}}(2N + 3408 - B_{\bar{N}}(2N + 3407)) + B_{\bar{N}}(2N + 3408 - B_{\bar{N}}(2N + 3406)) + B_{\bar{N}}(2N + 3408 - B_{\bar{N}}(2N + 3405)) \\
&= B_{\bar{N}}(2N + 3408 - (N + 3510)) + B_{\bar{N}}(2N + 3408 - (2N + 2749)) + B_{\bar{N}}(2N + 3408 - (N + 3506)) \\
&= B_{\bar{N}}(N - 102) + B_{\bar{N}}(659) + B_{\bar{N}}(N - 98) = (N - 102) + 659 + (N - 98) = \mathbf{2N} + \mathbf{459} \\
&(N \geq 659)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3409}) &= B_{\bar{N}}(2N + 3409 - B_{\bar{N}}(2N + 3408)) + B_{\bar{N}}(2N + 3409 - B_{\bar{N}}(2N + 3407)) + B_{\bar{N}}(2N + 3409 - B_{\bar{N}}(2N + 3406)) \\
&= B_{\bar{N}}(2N + 3409 - (2N + 459)) + B_{\bar{N}}(2N + 3409 - (N + 3510)) + B_{\bar{N}}(2N + 3409 - (2N + 2749)) \\
&= B_{\bar{N}}(2950) + B_{\bar{N}}(N - 101) + B_{\bar{N}}(660) = 2950 + (N - 101) + 660 = \mathbf{N} + \mathbf{3509} \\
&(N \geq 2950)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3410}) &= B_{\bar{N}}(2N + 3410 - B_{\bar{N}}(2N + 3409)) + B_{\bar{N}}(2N + 3410 - B_{\bar{N}}(2N + 3408)) + B_{\bar{N}}(2N + 3410 - B_{\bar{N}}(2N + 3407)) \\
&= B_{\bar{N}}(2N + 3410 - (N + 3509)) + B_{\bar{N}}(2N + 3410 - (2N + 459)) + B_{\bar{N}}(2N + 3410 - (N + 3510)) \\
&= B_{\bar{N}}(N - 99) + B_{\bar{N}}(2951) + B_{\bar{N}}(N - 100) = (N - 99) + 2951 + (N - 100) = \mathbf{2N} + \mathbf{2752} \\
&(N \geq 2951)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3411}) &= B_{\bar{N}}(2N + 3411 - B_{\bar{N}}(2N + 3410)) + B_{\bar{N}}(2N + 3411 - B_{\bar{N}}(2N + 3409)) + B_{\bar{N}}(2N + 3411 - B_{\bar{N}}(2N + 3408)) \\
&= B_{\bar{N}}(2N + 3411 - (2N + 2752)) + B_{\bar{N}}(2N + 3411 - (N + 3509)) + B_{\bar{N}}(2N + 3411 - (2N + 459)) \\
&= B_{\bar{N}}(659) + B_{\bar{N}}(N - 98) + B_{\bar{N}}(2952) = 659 + (N - 98) + 2952 = \mathbf{N} + \mathbf{3513} \\
&(N \geq 2952)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3412}) &= B_{\bar{N}}(2N + 3412 - B_{\bar{N}}(2N + 3411)) + B_{\bar{N}}(2N + 3412 - B_{\bar{N}}(2N + 3410)) + B_{\bar{N}}(2N + 3412 - B_{\bar{N}}(2N + 3409)) \\
&= B_{\bar{N}}(2N + 3412 - (N + 3513)) + B_{\bar{N}}(2N + 3412 - (2N + 2752)) + B_{\bar{N}}(2N + 3412 - (N + 3509)) \\
&= B_{\bar{N}}(N - 101) + B_{\bar{N}}(660) + B_{\bar{N}}(N - 97) = (N - 101) + 660 + (N - 97) = \mathbf{2N} + \mathbf{462} \\
&(N \geq 660)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3413}) &= B_{\bar{N}}(2N + 3413 - B_{\bar{N}}(2N + 3412)) + B_{\bar{N}}(2N + 3413 - B_{\bar{N}}(2N + 3411)) + B_{\bar{N}}(2N + 3413 - B_{\bar{N}}(2N + 3410)) \\
&= B_{\bar{N}}(2N + 3413 - (2N + 462)) + B_{\bar{N}}(2N + 3413 - (N + 3513)) + B_{\bar{N}}(2N + 3413 - (2N + 2752)) \\
&= B_{\bar{N}}(2951) + B_{\bar{N}}(N - 100) + B_{\bar{N}}(661) = 2951 + (N - 100) + 661 = \mathbf{N} + \mathbf{3512} \\
&(N \geq 2951)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3414}) &= B_{\bar{N}}(2N + 3414 - B_{\bar{N}}(2N + 3413)) + B_{\bar{N}}(2N + 3414 - B_{\bar{N}}(2N + 3412)) + B_{\bar{N}}(2N + 3414 - B_{\bar{N}}(2N + 3411)) \\
&= B_{\bar{N}}(2N + 3414 - (N + 3512)) + B_{\bar{N}}(2N + 3414 - (2N + 462)) + B_{\bar{N}}(2N + 3414 - (N + 3513)) \\
&= B_{\bar{N}}(N - 98) + B_{\bar{N}}(2952) + B_{\bar{N}}(N - 99) = (N - 98) + 2952 + (N - 99) = \mathbf{2N} + \mathbf{2755} \\
&(N \geq 2952)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3415}) &= B_{\bar{N}}(2N + 3415 - B_{\bar{N}}(2N + 3414)) + B_{\bar{N}}(2N + 3415 - B_{\bar{N}}(2N + 3413)) + B_{\bar{N}}(2N + 3415 - B_{\bar{N}}(2N + 3412)) \\
&= B_{\bar{N}}(2N + 3415 - (2N + 2755)) + B_{\bar{N}}(2N + 3415 - (N + 3512)) + B_{\bar{N}}(2N + 3415 - (2N + 462)) \\
&= B_{\bar{N}}(660) + B_{\bar{N}}(N - 97) + B_{\bar{N}}(2953) = 660 + (N - 97) + 2953 = \mathbf{N} + \mathbf{3516} \\
&(N \geq 2953)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3416}) &= B_{\bar{N}}(2N + 3416 - B_{\bar{N}}(2N + 3415)) + B_{\bar{N}}(2N + 3416 - B_{\bar{N}}(2N + 3414)) + B_{\bar{N}}(2N + 3416 - B_{\bar{N}}(2N + 3413)) \\
&= B_{\bar{N}}(2N + 3416 - (N + 3516)) + B_{\bar{N}}(2N + 3416 - (2N + 2755)) + B_{\bar{N}}(2N + 3416 - (N + 3512)) \\
&= B_{\bar{N}}(N - 100) + B_{\bar{N}}(661) + B_{\bar{N}}(N - 96) = (N - 100) + 661 + (N - 96) = \mathbf{2N} + \mathbf{465} \\
&(N \geq 661)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3417}) &= B_{\bar{N}}(2N + 3417 - B_{\bar{N}}(2N + 3416)) + B_{\bar{N}}(2N + 3417 - B_{\bar{N}}(2N + 3415)) + B_{\bar{N}}(2N + 3417 - B_{\bar{N}}(2N + 3414)) \\
&= B_{\bar{N}}(2N + 3417 - (2N + 465)) + B_{\bar{N}}(2N + 3417 - (N + 3516)) + B_{\bar{N}}(2N + 3417 - (2N + 2755)) \\
&= B_{\bar{N}}(2952) + B_{\bar{N}}(N - 99) + B_{\bar{N}}(662) = 2952 + (N - 99) + 662 = \mathbf{N} + \mathbf{3515} \\
&(N \geq 2952)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3418}) &= B_{\bar{N}}(2N + 3418 - B_{\bar{N}}(2N + 3417)) + B_{\bar{N}}(2N + 3418 - B_{\bar{N}}(2N + 3416)) + B_{\bar{N}}(2N + 3418 - B_{\bar{N}}(2N + 3415)) \\
&= B_{\bar{N}}(2N + 3418 - (N + 3515)) + B_{\bar{N}}(2N + 3418 - (2N + 465)) + B_{\bar{N}}(2N + 3418 - (N + 3516)) \\
&= B_{\bar{N}}(N - 97) + B_{\bar{N}}(2953) + B_{\bar{N}}(N - 98) = (N - 97) + 2953 + (N - 98) = \mathbf{2N} + \mathbf{2758} \\
&(N \geq 2953)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3419}) &= B_{\bar{N}}(2N + 3419 - B_{\bar{N}}(2N + 3418)) + B_{\bar{N}}(2N + 3419 - B_{\bar{N}}(2N + 3417)) + B_{\bar{N}}(2N + 3419 - B_{\bar{N}}(2N + 3416)) \\
&= B_{\bar{N}}(2N + 3419 - (2N + 2758)) + B_{\bar{N}}(2N + 3419 - (N + 3515)) + B_{\bar{N}}(2N + 3419 - (2N + 465)) \\
&= B_{\bar{N}}(661) + B_{\bar{N}}(N - 96) + B_{\bar{N}}(2954) = 661 + (N - 96) + 2954 = \mathbf{N} + \mathbf{3519} \\
&(N \geq 2954)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3420}) &= B_{\bar{N}}(2N + 3420 - B_{\bar{N}}(2N + 3419)) + B_{\bar{N}}(2N + 3420 - B_{\bar{N}}(2N + 3418)) + B_{\bar{N}}(2N + 3420 - B_{\bar{N}}(2N + 3417)) \\
&= B_{\bar{N}}(2N + 3420 - (N + 3519)) + B_{\bar{N}}(2N + 3420 - (2N + 2758)) + B_{\bar{N}}(2N + 3420 - (N + 3515)) \\
&= B_{\bar{N}}(N - 99) + B_{\bar{N}}(662) + B_{\bar{N}}(N - 95) = (N - 99) + 662 + (N - 95) = \mathbf{2N} + \mathbf{468} \\
&(N \geq 662)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3421}) &= B_{\bar{N}}(2N + 3421 - B_{\bar{N}}(2N + 3420)) + B_{\bar{N}}(2N + 3421 - B_{\bar{N}}(2N + 3419)) + B_{\bar{N}}(2N + 3421 - B_{\bar{N}}(2N + 3418)) \\
&= B_{\bar{N}}(2N + 3421 - (2N + 468)) + B_{\bar{N}}(2N + 3421 - (N + 3519)) + B_{\bar{N}}(2N + 3421 - (2N + 2758)) \\
&= B_{\bar{N}}(2953) + B_{\bar{N}}(N - 98) + B_{\bar{N}}(663) = 2953 + (N - 98) + 663 = \mathbf{N} + \mathbf{3518} \\
&(N \geq 2953)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3422}) &= B_{\bar{N}}(2N + 3422 - B_{\bar{N}}(2N + 3421)) + B_{\bar{N}}(2N + 3422 - B_{\bar{N}}(2N + 3420)) + B_{\bar{N}}(2N + 3422 - B_{\bar{N}}(2N + 3419)) \\
&= B_{\bar{N}}(2N + 3422 - (N + 3518)) + B_{\bar{N}}(2N + 3422 - (2N + 468)) + B_{\bar{N}}(2N + 3422 - (N + 3519)) \\
&= B_{\bar{N}}(N - 96) + B_{\bar{N}}(2954) + B_{\bar{N}}(N - 97) = (N - 96) + 2954 + (N - 97) = \mathbf{2N} + \mathbf{2761} \\
&(N \geq 2954)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3423}) &= B_{\bar{N}}(2N + 3423 - B_{\bar{N}}(2N + 3422)) + B_{\bar{N}}(2N + 3423 - B_{\bar{N}}(2N + 3421)) + B_{\bar{N}}(2N + 3423 - B_{\bar{N}}(2N + 3420)) \\
&= B_{\bar{N}}(2N + 3423 - (2N + 2761)) + B_{\bar{N}}(2N + 3423 - (N + 3518)) + B_{\bar{N}}(2N + 3423 - (2N + 468)) \\
&= B_{\bar{N}}(662) + B_{\bar{N}}(N - 95) + B_{\bar{N}}(2955) = 662 + (N - 95) + 2955 = \mathbf{N} + \mathbf{3522} \\
&(N \geq 2955)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3424}) &= B_{\bar{N}}(2N + 3424 - B_{\bar{N}}(2N + 3423)) + B_{\bar{N}}(2N + 3424 - B_{\bar{N}}(2N + 3422)) + B_{\bar{N}}(2N + 3424 - B_{\bar{N}}(2N + 3421)) \\
&= B_{\bar{N}}(2N + 3424 - (N + 3522)) + B_{\bar{N}}(2N + 3424 - (2N + 2761)) + B_{\bar{N}}(2N + 3424 - (N + 3518)) \\
&= B_{\bar{N}}(N - 98) + B_{\bar{N}}(663) + B_{\bar{N}}(N - 94) = (N - 98) + 663 + (N - 94) = \mathbf{2N} + \mathbf{471} \\
&(N \geq 663)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3425}) &= B_{\bar{N}}(2N + 3425 - B_{\bar{N}}(2N + 3424)) + B_{\bar{N}}(2N + 3425 - B_{\bar{N}}(2N + 3423)) + B_{\bar{N}}(2N + 3425 - B_{\bar{N}}(2N + 3422)) \\
&= B_{\bar{N}}(2N + 3425 - (2N + 471)) + B_{\bar{N}}(2N + 3425 - (N + 3522)) + B_{\bar{N}}(2N + 3425 - (2N + 2761)) \\
&= B_{\bar{N}}(2954) + B_{\bar{N}}(N - 97) + B_{\bar{N}}(664) = 2954 + (N - 97) + 664 = \mathbf{N} + \mathbf{3521} \\
&(N \geq 2954)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3426}) &= B_{\bar{N}}(2N + 3426 - B_{\bar{N}}(2N + 3425)) + B_{\bar{N}}(2N + 3426 - B_{\bar{N}}(2N + 3424)) + B_{\bar{N}}(2N + 3426 - B_{\bar{N}}(2N + 3423)) \\
&= B_{\bar{N}}(2N + 3426 - (N + 3521)) + B_{\bar{N}}(2N + 3426 - (2N + 471)) + B_{\bar{N}}(2N + 3426 - (N + 3522)) \\
&= B_{\bar{N}}(N - 95) + B_{\bar{N}}(2955) + B_{\bar{N}}(N - 96) = (N - 95) + 2955 + (N - 96) = \mathbf{2N} + \mathbf{2764} \\
&(N \geq 2955)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3427}) &= B_{\bar{N}}(2N + 3427 - B_{\bar{N}}(2N + 3426)) + B_{\bar{N}}(2N + 3427 - B_{\bar{N}}(2N + 3425)) + B_{\bar{N}}(2N + 3427 - B_{\bar{N}}(2N + 3424)) \\
&= B_{\bar{N}}(2N + 3427 - (2N + 2764)) + B_{\bar{N}}(2N + 3427 - (N + 3521)) + B_{\bar{N}}(2N + 3427 - (2N + 471)) \\
&= B_{\bar{N}}(663) + B_{\bar{N}}(N - 94) + B_{\bar{N}}(2956) = 663 + (N - 94) + 2956 = \mathbf{N} + \mathbf{3525} \\
&(N \geq 2956)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3428}) &= B_{\bar{N}}(2N + 3428 - B_{\bar{N}}(2N + 3427)) + B_{\bar{N}}(2N + 3428 - B_{\bar{N}}(2N + 3426)) + B_{\bar{N}}(2N + 3428 - B_{\bar{N}}(2N + 3425)) \\
&= B_{\bar{N}}(2N + 3428 - (N + 3525)) + B_{\bar{N}}(2N + 3428 - (2N + 2764)) + B_{\bar{N}}(2N + 3428 - (N + 3521)) \\
&= B_{\bar{N}}(N - 97) + B_{\bar{N}}(664) + B_{\bar{N}}(N - 93) = (N - 97) + 664 + (N - 93) = \mathbf{2N} + \mathbf{474} \\
&(N \geq 664)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3429}) &= B_{\bar{N}}(2N + 3429 - B_{\bar{N}}(2N + 3428)) + B_{\bar{N}}(2N + 3429 - B_{\bar{N}}(2N + 3427)) + B_{\bar{N}}(2N + 3429 - B_{\bar{N}}(2N + 3426)) \\
&= B_{\bar{N}}(2N + 3429 - (2N + 474)) + B_{\bar{N}}(2N + 3429 - (N + 3525)) + B_{\bar{N}}(2N + 3429 - (2N + 2764)) \\
&= B_{\bar{N}}(2955) + B_{\bar{N}}(N - 96) + B_{\bar{N}}(665) = 2955 + (N - 96) + 665 = \mathbf{N} + \mathbf{3524} \\
&(N \geq 2955)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3430}) &= B_{\bar{N}}(2N + 3430 - B_{\bar{N}}(2N + 3429)) + B_{\bar{N}}(2N + 3430 - B_{\bar{N}}(2N + 3428)) + B_{\bar{N}}(2N + 3430 - B_{\bar{N}}(2N + 3427)) \\
&= B_{\bar{N}}(2N + 3430 - (N + 3524)) + B_{\bar{N}}(2N + 3430 - (2N + 474)) + B_{\bar{N}}(2N + 3430 - (N + 3525)) \\
&= B_{\bar{N}}(N - 94) + B_{\bar{N}}(2956) + B_{\bar{N}}(N - 95) = (N - 94) + 2956 + (N - 95) = \mathbf{2N} + \mathbf{2767} \\
&(N \geq 2956)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3431}) &= B_{\bar{N}}(2N + 3431 - B_{\bar{N}}(2N + 3430)) + B_{\bar{N}}(2N + 3431 - B_{\bar{N}}(2N + 3429)) + B_{\bar{N}}(2N + 3431 - B_{\bar{N}}(2N + 3428)) \\
&= B_{\bar{N}}(2N + 3431 - (2N + 2767)) + B_{\bar{N}}(2N + 3431 - (N + 3524)) + B_{\bar{N}}(2N + 3431 - (2N + 474)) \\
&= B_{\bar{N}}(664) + B_{\bar{N}}(N - 93) + B_{\bar{N}}(2957) = 664 + (N - 93) + 2957 = \mathbf{N} + \mathbf{3528} \\
&(N \geq 2957)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3432}) &= B_{\bar{N}}(2N + 3432 - B_{\bar{N}}(2N + 3431)) + B_{\bar{N}}(2N + 3432 - B_{\bar{N}}(2N + 3430)) + B_{\bar{N}}(2N + 3432 - B_{\bar{N}}(2N + 3429)) \\
&= B_{\bar{N}}(2N + 3432 - (N + 3528)) + B_{\bar{N}}(2N + 3432 - (2N + 2767)) + B_{\bar{N}}(2N + 3432 - (N + 3524)) \\
&= B_{\bar{N}}(N - 96) + B_{\bar{N}}(665) + B_{\bar{N}}(N - 92) = (N - 96) + 665 + (N - 92) = \mathbf{2N} + \mathbf{477} \\
&(N \geq 665)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3433}) &= B_{\bar{N}}(2N + 3433 - B_{\bar{N}}(2N + 3432)) + B_{\bar{N}}(2N + 3433 - B_{\bar{N}}(2N + 3431)) + B_{\bar{N}}(2N + 3433 - B_{\bar{N}}(2N + 3430)) \\
&= B_{\bar{N}}(2N + 3433 - (2N + 477)) + B_{\bar{N}}(2N + 3433 - (N + 3528)) + B_{\bar{N}}(2N + 3433 - (2N + 2767)) \\
&= B_{\bar{N}}(2956) + B_{\bar{N}}(N - 95) + B_{\bar{N}}(666) = 2956 + (N - 95) + 666 = \mathbf{N} + \mathbf{3527} \\
&(N \geq 2956)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3434}) &= B_{\bar{N}}(2N + 3434 - B_{\bar{N}}(2N + 3433)) + B_{\bar{N}}(2N + 3434 - B_{\bar{N}}(2N + 3432)) + B_{\bar{N}}(2N + 3434 - B_{\bar{N}}(2N + 3431)) \\
&= B_{\bar{N}}(2N + 3434 - (N + 3527)) + B_{\bar{N}}(2N + 3434 - (2N + 477)) + B_{\bar{N}}(2N + 3434 - (N + 3528)) \\
&= B_{\bar{N}}(N - 93) + B_{\bar{N}}(2957) + B_{\bar{N}}(N - 94) = (N - 93) + 2957 + (N - 94) = \mathbf{2N} + \mathbf{2770} \\
&(N \geq 2957)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3435}) &= B_{\bar{N}}(2N + 3435 - B_{\bar{N}}(2N + 3434)) + B_{\bar{N}}(2N + 3435 - B_{\bar{N}}(2N + 3433)) + B_{\bar{N}}(2N + 3435 - B_{\bar{N}}(2N + 3432)) \\
&= B_{\bar{N}}(2N + 3435 - (2N + 2770)) + B_{\bar{N}}(2N + 3435 - (N + 3527)) + B_{\bar{N}}(2N + 3435 - (2N + 477)) \\
&= B_{\bar{N}}(665) + B_{\bar{N}}(N - 92) + B_{\bar{N}}(2958) = 665 + (N - 92) + 2958 = \mathbf{N} + \mathbf{3531} \\
&(N \geq 2958)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3436}) &= B_{\bar{N}}(2N + 3436 - B_{\bar{N}}(2N + 3435)) + B_{\bar{N}}(2N + 3436 - B_{\bar{N}}(2N + 3434)) + B_{\bar{N}}(2N + 3436 - B_{\bar{N}}(2N + 3433)) \\
&= B_{\bar{N}}(2N + 3436 - (N + 3531)) + B_{\bar{N}}(2N + 3436 - (2N + 2770)) + B_{\bar{N}}(2N + 3436 - (N + 3527)) \\
&= B_{\bar{N}}(N - 95) + B_{\bar{N}}(666) + B_{\bar{N}}(N - 91) = (N - 95) + 666 + (N - 91) = \mathbf{2N} + \mathbf{480} \\
&(N \geq 666)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3437}) &= B_{\bar{N}}(2N + 3437 - B_{\bar{N}}(2N + 3436)) + B_{\bar{N}}(2N + 3437 - B_{\bar{N}}(2N + 3435)) + B_{\bar{N}}(2N + 3437 - B_{\bar{N}}(2N + 3434)) \\
&= B_{\bar{N}}(2N + 3437 - (2N + 480)) + B_{\bar{N}}(2N + 3437 - (N + 3531)) + B_{\bar{N}}(2N + 3437 - (2N + 2770)) \\
&= B_{\bar{N}}(2957) + B_{\bar{N}}(N - 94) + B_{\bar{N}}(667) = 2957 + (N - 94) + 667 = \mathbf{N} + \mathbf{3530} \\
&(N \geq 2957)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3438}) &= B_{\bar{N}}(2N + 3438 - B_{\bar{N}}(2N + 3437)) + B_{\bar{N}}(2N + 3438 - B_{\bar{N}}(2N + 3436)) + B_{\bar{N}}(2N + 3438 - B_{\bar{N}}(2N + 3435)) \\
&= B_{\bar{N}}(2N + 3438 - (N + 3530)) + B_{\bar{N}}(2N + 3438 - (2N + 480)) + B_{\bar{N}}(2N + 3438 - (N + 3531)) \\
&= B_{\bar{N}}(N - 92) + B_{\bar{N}}(2958) + B_{\bar{N}}(N - 93) = (N - 92) + 2958 + (N - 93) = \mathbf{2N} + \mathbf{2773} \\
&(N \geq 2958)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3439}) &= B_{\bar{N}}(2N + 3439 - B_{\bar{N}}(2N + 3438)) + B_{\bar{N}}(2N + 3439 - B_{\bar{N}}(2N + 3437)) + B_{\bar{N}}(2N + 3439 - B_{\bar{N}}(2N + 3436)) \\
&= B_{\bar{N}}(2N + 3439 - (2N + 2773)) + B_{\bar{N}}(2N + 3439 - (N + 3530)) + B_{\bar{N}}(2N + 3439 - (2N + 480)) \\
&= B_{\bar{N}}(666) + B_{\bar{N}}(N - 91) + B_{\bar{N}}(2959) = 666 + (N - 91) + 2959 = \mathbf{N} + \mathbf{3534} \\
&(N \geq 2959)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3440}) &= B_{\bar{N}}(2N + 3440 - B_{\bar{N}}(2N + 3439)) + B_{\bar{N}}(2N + 3440 - B_{\bar{N}}(2N + 3438)) + B_{\bar{N}}(2N + 3440 - B_{\bar{N}}(2N + 3437)) \\
&= B_{\bar{N}}(2N + 3440 - (N + 3534)) + B_{\bar{N}}(2N + 3440 - (2N + 2773)) + B_{\bar{N}}(2N + 3440 - (N + 3530)) \\
&= B_{\bar{N}}(N - 94) + B_{\bar{N}}(667) + B_{\bar{N}}(N - 90) = (N - 94) + 667 + (N - 90) = \mathbf{2N} + \mathbf{483} \\
&(N \geq 667)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3441}) &= B_{\bar{N}}(2N + 3441 - B_{\bar{N}}(2N + 3440)) + B_{\bar{N}}(2N + 3441 - B_{\bar{N}}(2N + 3439)) + B_{\bar{N}}(2N + 3441 - B_{\bar{N}}(2N + 3438)) \\
&= B_{\bar{N}}(2N + 3441 - (2N + 483)) + B_{\bar{N}}(2N + 3441 - (N + 3534)) + B_{\bar{N}}(2N + 3441 - (2N + 2773)) \\
&= B_{\bar{N}}(2958) + B_{\bar{N}}(N - 93) + B_{\bar{N}}(668) = 2958 + (N - 93) + 668 = \mathbf{N} + \mathbf{3533} \\
&(N \geq 2958)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3442}) &= B_{\bar{N}}(2N + 3442 - B_{\bar{N}}(2N + 3441)) + B_{\bar{N}}(2N + 3442 - B_{\bar{N}}(2N + 3440)) + B_{\bar{N}}(2N + 3442 - B_{\bar{N}}(2N + 3439)) \\
&= B_{\bar{N}}(2N + 3442 - (N + 3533)) + B_{\bar{N}}(2N + 3442 - (2N + 483)) + B_{\bar{N}}(2N + 3442 - (N + 3534)) \\
&= B_{\bar{N}}(N - 91) + B_{\bar{N}}(2959) + B_{\bar{N}}(N - 92) = (N - 91) + 2959 + (N - 92) = \mathbf{2N} + \mathbf{2776} \\
&(N \geq 2959)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3443}) &= B_{\bar{N}}(2N + 3443 - B_{\bar{N}}(2N + 3442)) + B_{\bar{N}}(2N + 3443 - B_{\bar{N}}(2N + 3441)) + B_{\bar{N}}(2N + 3443 - B_{\bar{N}}(2N + 3440)) \\
&= B_{\bar{N}}(2N + 3443 - (2N + 2776)) + B_{\bar{N}}(2N + 3443 - (N + 3533)) + B_{\bar{N}}(2N + 3443 - (2N + 483)) \\
&= B_{\bar{N}}(667) + B_{\bar{N}}(N - 90) + B_{\bar{N}}(2960) = 667 + (N - 90) + 2960 = \mathbf{N} + \mathbf{3537} \\
&(N \geq 2960)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3444}) &= B_{\bar{N}}(2N + 3444 - B_{\bar{N}}(2N + 3443)) + B_{\bar{N}}(2N + 3444 - B_{\bar{N}}(2N + 3442)) + B_{\bar{N}}(2N + 3444 - B_{\bar{N}}(2N + 3441)) \\
&= B_{\bar{N}}(2N + 3444 - (N + 3537)) + B_{\bar{N}}(2N + 3444 - (2N + 2776)) + B_{\bar{N}}(2N + 3444 - (N + 3533)) \\
&= B_{\bar{N}}(N - 93) + B_{\bar{N}}(668) + B_{\bar{N}}(N - 89) = (N - 93) + 668 + (N - 89) = \mathbf{2N} + \mathbf{486} \\
&(N \geq 668)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3445}) &= B_{\bar{N}}(2N + 3445 - B_{\bar{N}}(2N + 3444)) + B_{\bar{N}}(2N + 3445 - B_{\bar{N}}(2N + 3443)) + B_{\bar{N}}(2N + 3445 - B_{\bar{N}}(2N + 3442)) \\
&= B_{\bar{N}}(2N + 3445 - (2N + 486)) + B_{\bar{N}}(2N + 3445 - (N + 3537)) + B_{\bar{N}}(2N + 3445 - (2N + 2776)) \\
&= B_{\bar{N}}(2959) + B_{\bar{N}}(N - 92) + B_{\bar{N}}(669) = 2959 + (N - 92) + 669 = \mathbf{N} + \mathbf{3536} \\
&(N \geq 2959)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3446}) &= B_{\bar{N}}(2N + 3446 - B_{\bar{N}}(2N + 3445)) + B_{\bar{N}}(2N + 3446 - B_{\bar{N}}(2N + 3444)) + B_{\bar{N}}(2N + 3446 - B_{\bar{N}}(2N + 3443)) \\
&= B_{\bar{N}}(2N + 3446 - (N + 3536)) + B_{\bar{N}}(2N + 3446 - (2N + 486)) + B_{\bar{N}}(2N + 3446 - (N + 3537)) \\
&= B_{\bar{N}}(N - 90) + B_{\bar{N}}(2960) + B_{\bar{N}}(N - 91) = (N - 90) + 2960 + (N - 91) = \mathbf{2N} + \mathbf{2779} \\
&(N \geq 2960)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3447}) &= B_{\bar{N}}(2N + 3447 - B_{\bar{N}}(2N + 3446)) + B_{\bar{N}}(2N + 3447 - B_{\bar{N}}(2N + 3445)) + B_{\bar{N}}(2N + 3447 - B_{\bar{N}}(2N + 3444)) \\
&= B_{\bar{N}}(2N + 3447 - (2N + 2779)) + B_{\bar{N}}(2N + 3447 - (N + 3536)) + B_{\bar{N}}(2N + 3447 - (2N + 486)) \\
&= B_{\bar{N}}(668) + B_{\bar{N}}(N - 89) + B_{\bar{N}}(2961) = 668 + (N - 89) + 2961 = \mathbf{N} + \mathbf{3540} \\
&(N \geq 2961)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3448}) &= B_{\bar{N}}(2N + 3448 - B_{\bar{N}}(2N + 3447)) + B_{\bar{N}}(2N + 3448 - B_{\bar{N}}(2N + 3446)) + B_{\bar{N}}(2N + 3448 - B_{\bar{N}}(2N + 3445)) \\
&= B_{\bar{N}}(2N + 3448 - (N + 3540)) + B_{\bar{N}}(2N + 3448 - (2N + 2779)) + B_{\bar{N}}(2N + 3448 - (N + 3536)) \\
&= B_{\bar{N}}(N - 92) + B_{\bar{N}}(669) + B_{\bar{N}}(N - 88) = (N - 92) + 669 + (N - 88) = \mathbf{2N} + \mathbf{489} \\
&(N \geq 669)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3449}) &= B_{\bar{N}}(2N + 3449 - B_{\bar{N}}(2N + 3448)) + B_{\bar{N}}(2N + 3449 - B_{\bar{N}}(2N + 3447)) + B_{\bar{N}}(2N + 3449 - B_{\bar{N}}(2N + 3446)) \\
&= B_{\bar{N}}(2N + 3449 - (2N + 489)) + B_{\bar{N}}(2N + 3449 - (N + 3540)) + B_{\bar{N}}(2N + 3449 - (2N + 2779)) \\
&= B_{\bar{N}}(2960) + B_{\bar{N}}(N - 91) + B_{\bar{N}}(670) = 2960 + (N - 91) + 670 = \mathbf{N} + \mathbf{3539} \\
&(N \geq 2960)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3450}) &= B_{\bar{N}}(2N + 3450 - B_{\bar{N}}(2N + 3449)) + B_{\bar{N}}(2N + 3450 - B_{\bar{N}}(2N + 3448)) + B_{\bar{N}}(2N + 3450 - B_{\bar{N}}(2N + 3447)) \\
&= B_{\bar{N}}(2N + 3450 - (N + 3539)) + B_{\bar{N}}(2N + 3450 - (2N + 489)) + B_{\bar{N}}(2N + 3450 - (N + 3540)) \\
&= B_{\bar{N}}(N - 89) + B_{\bar{N}}(2961) + B_{\bar{N}}(N - 90) = (N - 89) + 2961 + (N - 90) = \mathbf{2N} + \mathbf{2782} \\
&(N \geq 2961)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3451}) &= B_{\bar{N}}(2N + 3451 - B_{\bar{N}}(2N + 3450)) + B_{\bar{N}}(2N + 3451 - B_{\bar{N}}(2N + 3449)) + B_{\bar{N}}(2N + 3451 - B_{\bar{N}}(2N + 3448)) \\
&= B_{\bar{N}}(2N + 3451 - (2N + 2782)) + B_{\bar{N}}(2N + 3451 - (N + 3539)) + B_{\bar{N}}(2N + 3451 - (2N + 489)) \\
&= B_{\bar{N}}(669) + B_{\bar{N}}(N - 88) + B_{\bar{N}}(2962) = 669 + (N - 88) + 2962 = \mathbf{N} + \mathbf{3543} \\
&(N \geq 2962)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3452}) &= B_{\bar{N}}(2N + 3452 - B_{\bar{N}}(2N + 3451)) + B_{\bar{N}}(2N + 3452 - B_{\bar{N}}(2N + 3450)) + B_{\bar{N}}(2N + 3452 - B_{\bar{N}}(2N + 3449)) \\
&= B_{\bar{N}}(2N + 3452 - (N + 3543)) + B_{\bar{N}}(2N + 3452 - (2N + 2782)) + B_{\bar{N}}(2N + 3452 - (N + 3539)) \\
&= B_{\bar{N}}(N - 91) + B_{\bar{N}}(670) + B_{\bar{N}}(N - 87) = (N - 91) + 670 + (N - 87) = \mathbf{2N} + \mathbf{492} \\
&(N \geq 670)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3453}) &= B_{\bar{N}}(2N + 3453 - B_{\bar{N}}(2N + 3452)) + B_{\bar{N}}(2N + 3453 - B_{\bar{N}}(2N + 3451)) + B_{\bar{N}}(2N + 3453 - B_{\bar{N}}(2N + 3450)) \\
&= B_{\bar{N}}(2N + 3453 - (2N + 492)) + B_{\bar{N}}(2N + 3453 - (N + 3543)) + B_{\bar{N}}(2N + 3453 - (2N + 2782)) \\
&= B_{\bar{N}}(2961) + B_{\bar{N}}(N - 90) + B_{\bar{N}}(671) = 2961 + (N - 90) + 671 = \mathbf{N} + \mathbf{3542} \\
&(N \geq 2961)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3454}) &= B_{\bar{N}}(2N + 3454 - B_{\bar{N}}(2N + 3453)) + B_{\bar{N}}(2N + 3454 - B_{\bar{N}}(2N + 3452)) + B_{\bar{N}}(2N + 3454 - B_{\bar{N}}(2N + 3451)) \\
&= B_{\bar{N}}(2N + 3454 - (N + 3542)) + B_{\bar{N}}(2N + 3454 - (2N + 492)) + B_{\bar{N}}(2N + 3454 - (N + 3543)) \\
&= B_{\bar{N}}(N - 88) + B_{\bar{N}}(2962) + B_{\bar{N}}(N - 89) = (N - 88) + 2962 + (N - 89) = \mathbf{2N} + \mathbf{2785} \\
&(N \geq 2962)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3455}) &= B_{\bar{N}}(2N + 3455 - B_{\bar{N}}(2N + 3454)) + B_{\bar{N}}(2N + 3455 - B_{\bar{N}}(2N + 3453)) + B_{\bar{N}}(2N + 3455 - B_{\bar{N}}(2N + 3452)) \\
&= B_{\bar{N}}(2N + 3455 - (2N + 2785)) + B_{\bar{N}}(2N + 3455 - (N + 3542)) + B_{\bar{N}}(2N + 3455 - (2N + 492)) \\
&= B_{\bar{N}}(670) + B_{\bar{N}}(N - 87) + B_{\bar{N}}(2963) = 670 + (N - 87) + 2963 = \mathbf{N} + \mathbf{3546} \\
&(N \geq 2963)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3456}) &= B_{\bar{N}}(2N + 3456 - B_{\bar{N}}(2N + 3455)) + B_{\bar{N}}(2N + 3456 - B_{\bar{N}}(2N + 3454)) + B_{\bar{N}}(2N + 3456 - B_{\bar{N}}(2N + 3453)) \\
&= B_{\bar{N}}(2N + 3456 - (N + 3546)) + B_{\bar{N}}(2N + 3456 - (2N + 2785)) + B_{\bar{N}}(2N + 3456 - (N + 3542)) \\
&= B_{\bar{N}}(N - 90) + B_{\bar{N}}(671) + B_{\bar{N}}(N - 86) = (N - 90) + 671 + (N - 86) = \mathbf{2N} + \mathbf{495} \\
&(N \geq 671)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3457}) &= B_{\bar{N}}(2N + 3457 - B_{\bar{N}}(2N + 3456)) + B_{\bar{N}}(2N + 3457 - B_{\bar{N}}(2N + 3455)) + B_{\bar{N}}(2N + 3457 - B_{\bar{N}}(2N + 3454)) \\
&= B_{\bar{N}}(2N + 3457 - (2N + 495)) + B_{\bar{N}}(2N + 3457 - (N + 3546)) + B_{\bar{N}}(2N + 3457 - (2N + 2785)) \\
&= B_{\bar{N}}(2962) + B_{\bar{N}}(N - 89) + B_{\bar{N}}(672) = 2962 + (N - 89) + 672 = \mathbf{N} + \mathbf{3545} \\
&(N \geq 2962)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3458}) &= B_{\bar{N}}(2N + 3458 - B_{\bar{N}}(2N + 3457)) + B_{\bar{N}}(2N + 3458 - B_{\bar{N}}(2N + 3456)) + B_{\bar{N}}(2N + 3458 - B_{\bar{N}}(2N + 3455)) \\
&= B_{\bar{N}}(2N + 3458 - (N + 3545)) + B_{\bar{N}}(2N + 3458 - (2N + 495)) + B_{\bar{N}}(2N + 3458 - (N + 3546)) \\
&= B_{\bar{N}}(N - 87) + B_{\bar{N}}(2963) + B_{\bar{N}}(N - 88) = (N - 87) + 2963 + (N - 88) = \mathbf{2N} + \mathbf{2788} \\
&(N \geq 2963)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3459}) &= B_{\bar{N}}(2N + 3459 - B_{\bar{N}}(2N + 3458)) + B_{\bar{N}}(2N + 3459 - B_{\bar{N}}(2N + 3457)) + B_{\bar{N}}(2N + 3459 - B_{\bar{N}}(2N + 3456)) \\
&= B_{\bar{N}}(2N + 3459 - (2N + 2788)) + B_{\bar{N}}(2N + 3459 - (N + 3545)) + B_{\bar{N}}(2N + 3459 - (2N + 495)) \\
&= B_{\bar{N}}(671) + B_{\bar{N}}(N - 86) + B_{\bar{N}}(2964) = 671 + (N - 86) + 2964 = \mathbf{N} + \mathbf{3549} \\
&(N \geq 2964)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3460}) &= B_{\bar{N}}(2N + 3460 - B_{\bar{N}}(2N + 3459)) + B_{\bar{N}}(2N + 3460 - B_{\bar{N}}(2N + 3458)) + B_{\bar{N}}(2N + 3460 - B_{\bar{N}}(2N + 3457)) \\
&= B_{\bar{N}}(2N + 3460 - (N + 3549)) + B_{\bar{N}}(2N + 3460 - (2N + 2788)) + B_{\bar{N}}(2N + 3460 - (N + 3545)) \\
&= B_{\bar{N}}(N - 89) + B_{\bar{N}}(672) + B_{\bar{N}}(N - 85) = (N - 89) + 672 + (N - 85) = \mathbf{2N} + \mathbf{498} \\
&(N \geq 672)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3461}) &= B_{\bar{N}}(2N + 3461 - B_{\bar{N}}(2N + 3460)) + B_{\bar{N}}(2N + 3461 - B_{\bar{N}}(2N + 3459)) + B_{\bar{N}}(2N + 3461 - B_{\bar{N}}(2N + 3458)) \\
&= B_{\bar{N}}(2N + 3461 - (2N + 498)) + B_{\bar{N}}(2N + 3461 - (N + 3549)) + B_{\bar{N}}(2N + 3461 - (2N + 2788)) \\
&= B_{\bar{N}}(2963) + B_{\bar{N}}(N - 88) + B_{\bar{N}}(673) = 2963 + (N - 88) + 673 = \mathbf{N} + \mathbf{3548} \\
&(N \geq 2963)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3462}) &= B_{\bar{N}}(2N + 3462 - B_{\bar{N}}(2N + 3461)) + B_{\bar{N}}(2N + 3462 - B_{\bar{N}}(2N + 3460)) + B_{\bar{N}}(2N + 3462 - B_{\bar{N}}(2N + 3459)) \\
&= B_{\bar{N}}(2N + 3462 - (N + 3548)) + B_{\bar{N}}(2N + 3462 - (2N + 498)) + B_{\bar{N}}(2N + 3462 - (N + 3549)) \\
&= B_{\bar{N}}(N - 86) + B_{\bar{N}}(2964) + B_{\bar{N}}(N - 87) = (N - 86) + 2964 + (N - 87) = \mathbf{2N} + \mathbf{2791} \\
&(N \geq 2964)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3463}) &= B_{\bar{N}}(2N + 3463 - B_{\bar{N}}(2N + 3462)) + B_{\bar{N}}(2N + 3463 - B_{\bar{N}}(2N + 3461)) + B_{\bar{N}}(2N + 3463 - B_{\bar{N}}(2N + 3460)) \\
&= B_{\bar{N}}(2N + 3463 - (2N + 2791)) + B_{\bar{N}}(2N + 3463 - (N + 3548)) + B_{\bar{N}}(2N + 3463 - (2N + 498)) \\
&= B_{\bar{N}}(672) + B_{\bar{N}}(N - 85) + B_{\bar{N}}(2965) = 672 + (N - 85) + 2965 = \mathbf{N} + \mathbf{3552} \\
&(N \geq 2965)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3464}) &= B_{\bar{N}}(2N + 3464 - B_{\bar{N}}(2N + 3463)) + B_{\bar{N}}(2N + 3464 - B_{\bar{N}}(2N + 3462)) + B_{\bar{N}}(2N + 3464 - B_{\bar{N}}(2N + 3461)) \\
&= B_{\bar{N}}(2N + 3464 - (N + 3552)) + B_{\bar{N}}(2N + 3464 - (2N + 2791)) + B_{\bar{N}}(2N + 3464 - (N + 3548)) \\
&= B_{\bar{N}}(N - 88) + B_{\bar{N}}(673) + B_{\bar{N}}(N - 84) = (N - 88) + 673 + (N - 84) = \mathbf{2N} + \mathbf{501} \\
&(N \geq 673)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3465}) &= B_{\bar{N}}(2N + 3465 - B_{\bar{N}}(2N + 3464)) + B_{\bar{N}}(2N + 3465 - B_{\bar{N}}(2N + 3463)) + B_{\bar{N}}(2N + 3465 - B_{\bar{N}}(2N + 3462)) \\
&= B_{\bar{N}}(2N + 3465 - (2N + 501)) + B_{\bar{N}}(2N + 3465 - (N + 3552)) + B_{\bar{N}}(2N + 3465 - (2N + 2791)) \\
&= B_{\bar{N}}(2964) + B_{\bar{N}}(N - 87) + B_{\bar{N}}(674) = 2964 + (N - 87) + 674 = \mathbf{N} + \mathbf{3551} \\
&(N \geq 2964)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3466}) &= B_{\bar{N}}(2N + 3466 - B_{\bar{N}}(2N + 3465)) + B_{\bar{N}}(2N + 3466 - B_{\bar{N}}(2N + 3464)) + B_{\bar{N}}(2N + 3466 - B_{\bar{N}}(2N + 3463)) \\
&= B_{\bar{N}}(2N + 3466 - (N + 3551)) + B_{\bar{N}}(2N + 3466 - (2N + 501)) + B_{\bar{N}}(2N + 3466 - (N + 3552)) \\
&= B_{\bar{N}}(N - 85) + B_{\bar{N}}(2965) + B_{\bar{N}}(N - 86) = (N - 85) + 2965 + (N - 86) = \mathbf{2N} + \mathbf{2794} \\
&(N \geq 2965)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3467}) &= B_{\bar{N}}(2N + 3467 - B_{\bar{N}}(2N + 3466)) + B_{\bar{N}}(2N + 3467 - B_{\bar{N}}(2N + 3465)) + B_{\bar{N}}(2N + 3467 - B_{\bar{N}}(2N + 3464)) \\
&= B_{\bar{N}}(2N + 3467 - (2N + 2794)) + B_{\bar{N}}(2N + 3467 - (N + 3551)) + B_{\bar{N}}(2N + 3467 - (2N + 501)) \\
&= B_{\bar{N}}(673) + B_{\bar{N}}(N - 84) + B_{\bar{N}}(2966) = 673 + (N - 84) + 2966 = \mathbf{N} + \mathbf{3555} \\
&(N \geq 2966)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3468}) &= B_{\bar{N}}(2N + 3468 - B_{\bar{N}}(2N + 3467)) + B_{\bar{N}}(2N + 3468 - B_{\bar{N}}(2N + 3466)) + B_{\bar{N}}(2N + 3468 - B_{\bar{N}}(2N + 3465)) \\
&= B_{\bar{N}}(2N + 3468 - (N + 3555)) + B_{\bar{N}}(2N + 3468 - (2N + 2794)) + B_{\bar{N}}(2N + 3468 - (N + 3551)) \\
&= B_{\bar{N}}(N - 87) + B_{\bar{N}}(674) + B_{\bar{N}}(N - 83) = (N - 87) + 674 + (N - 83) = \mathbf{2N} + \mathbf{504} \\
&(N \geq 674)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3469}) &= B_{\bar{N}}(2N + 3469 - B_{\bar{N}}(2N + 3468)) + B_{\bar{N}}(2N + 3469 - B_{\bar{N}}(2N + 3467)) + B_{\bar{N}}(2N + 3469 - B_{\bar{N}}(2N + 3466)) \\
&= B_{\bar{N}}(2N + 3469 - (2N + 504)) + B_{\bar{N}}(2N + 3469 - (N + 3555)) + B_{\bar{N}}(2N + 3469 - (2N + 2794)) \\
&= B_{\bar{N}}(2965) + B_{\bar{N}}(N - 86) + B_{\bar{N}}(675) = 2965 + (N - 86) + 675 = \mathbf{N} + \mathbf{3554} \\
&(N \geq 2965)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3470}) &= B_{\bar{N}}(2N + 3470 - B_{\bar{N}}(2N + 3469)) + B_{\bar{N}}(2N + 3470 - B_{\bar{N}}(2N + 3468)) + B_{\bar{N}}(2N + 3470 - B_{\bar{N}}(2N + 3467)) \\
&= B_{\bar{N}}(2N + 3470 - (N + 3554)) + B_{\bar{N}}(2N + 3470 - (2N + 504)) + B_{\bar{N}}(2N + 3470 - (N + 3555)) \\
&= B_{\bar{N}}(N - 84) + B_{\bar{N}}(2966) + B_{\bar{N}}(N - 85) = (N - 84) + 2966 + (N - 85) = \mathbf{2N} + \mathbf{2797} \\
&(N \geq 2966)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3471}) &= B_{\bar{N}}(2N + 3471 - B_{\bar{N}}(2N + 3470)) + B_{\bar{N}}(2N + 3471 - B_{\bar{N}}(2N + 3469)) + B_{\bar{N}}(2N + 3471 - B_{\bar{N}}(2N + 3468)) \\
&= B_{\bar{N}}(2N + 3471 - (2N + 2797)) + B_{\bar{N}}(2N + 3471 - (N + 3554)) + B_{\bar{N}}(2N + 3471 - (2N + 504)) \\
&= B_{\bar{N}}(674) + B_{\bar{N}}(N - 83) + B_{\bar{N}}(2967) = 674 + (N - 83) + 2967 = \mathbf{N} + \mathbf{3558} \\
&(N \geq 2967)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3472}) &= B_{\bar{N}}(2N + 3472 - B_{\bar{N}}(2N + 3471)) + B_{\bar{N}}(2N + 3472 - B_{\bar{N}}(2N + 3470)) + B_{\bar{N}}(2N + 3472 - B_{\bar{N}}(2N + 3469)) \\
&= B_{\bar{N}}(2N + 3472 - (N + 3558)) + B_{\bar{N}}(2N + 3472 - (2N + 2797)) + B_{\bar{N}}(2N + 3472 - (N + 3554)) \\
&= B_{\bar{N}}(N - 86) + B_{\bar{N}}(675) + B_{\bar{N}}(N - 82) = (N - 86) + 675 + (N - 82) = \mathbf{2N} + \mathbf{507} \\
&(N \geq 675)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3473}) &= B_{\bar{N}}(2N + 3473 - B_{\bar{N}}(2N + 3472)) + B_{\bar{N}}(2N + 3473 - B_{\bar{N}}(2N + 3471)) + B_{\bar{N}}(2N + 3473 - B_{\bar{N}}(2N + 3470)) \\
&= B_{\bar{N}}(2N + 3473 - (2N + 507)) + B_{\bar{N}}(2N + 3473 - (N + 3558)) + B_{\bar{N}}(2N + 3473 - (2N + 2797)) \\
&= B_{\bar{N}}(2966) + B_{\bar{N}}(N - 85) + B_{\bar{N}}(676) = 2966 + (N - 85) + 676 = \mathbf{N} + \mathbf{3557} \\
&(N \geq 2966)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3474}) &= B_{\bar{N}}(2N + 3474 - B_{\bar{N}}(2N + 3473)) + B_{\bar{N}}(2N + 3474 - B_{\bar{N}}(2N + 3472)) + B_{\bar{N}}(2N + 3474 - B_{\bar{N}}(2N + 3471)) \\
&= B_{\bar{N}}(2N + 3474 - (N + 3557)) + B_{\bar{N}}(2N + 3474 - (2N + 507)) + B_{\bar{N}}(2N + 3474 - (N + 3558)) \\
&= B_{\bar{N}}(N - 83) + B_{\bar{N}}(2967) + B_{\bar{N}}(N - 84) = (N - 83) + 2967 + (N - 84) = \mathbf{2N} + \mathbf{2800} \\
&(N \geq 2967)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3475}) &= B_{\bar{N}}(2N + 3475 - B_{\bar{N}}(2N + 3474)) + B_{\bar{N}}(2N + 3475 - B_{\bar{N}}(2N + 3473)) + B_{\bar{N}}(2N + 3475 - B_{\bar{N}}(2N + 3472)) \\
&= B_{\bar{N}}(2N + 3475 - (2N + 2800)) + B_{\bar{N}}(2N + 3475 - (N + 3557)) + B_{\bar{N}}(2N + 3475 - (2N + 507)) \\
&= B_{\bar{N}}(675) + B_{\bar{N}}(N - 82) + B_{\bar{N}}(2968) = 675 + (N - 82) + 2968 = \mathbf{N} + \mathbf{3561} \\
&(N \geq 2968)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3476}) &= B_{\bar{N}}(2N + 3476 - B_{\bar{N}}(2N + 3475)) + B_{\bar{N}}(2N + 3476 - B_{\bar{N}}(2N + 3474)) + B_{\bar{N}}(2N + 3476 - B_{\bar{N}}(2N + 3473)) \\
&= B_{\bar{N}}(2N + 3476 - (N + 3561)) + B_{\bar{N}}(2N + 3476 - (2N + 2800)) + B_{\bar{N}}(2N + 3476 - (N + 3557)) \\
&= B_{\bar{N}}(N - 85) + B_{\bar{N}}(676) + B_{\bar{N}}(N - 81) = (N - 85) + 676 + (N - 81) = \mathbf{2N} + \mathbf{510} \\
&(N \geq 676)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3477}) &= B_{\bar{N}}(2N + 3477 - B_{\bar{N}}(2N + 3476)) + B_{\bar{N}}(2N + 3477 - B_{\bar{N}}(2N + 3475)) + B_{\bar{N}}(2N + 3477 - B_{\bar{N}}(2N + 3474)) \\
&= B_{\bar{N}}(2N + 3477 - (2N + 510)) + B_{\bar{N}}(2N + 3477 - (N + 3561)) + B_{\bar{N}}(2N + 3477 - (2N + 2800)) \\
&= B_{\bar{N}}(2967) + B_{\bar{N}}(N - 84) + B_{\bar{N}}(677) = 2967 + (N - 84) + 677 = \mathbf{N} + \mathbf{3560} \\
&(N \geq 2967)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3478}) &= B_{\bar{N}}(2N + 3478 - B_{\bar{N}}(2N + 3477)) + B_{\bar{N}}(2N + 3478 - B_{\bar{N}}(2N + 3476)) + B_{\bar{N}}(2N + 3478 - B_{\bar{N}}(2N + 3475)) \\
&= B_{\bar{N}}(2N + 3478 - (N + 3560)) + B_{\bar{N}}(2N + 3478 - (2N + 510)) + B_{\bar{N}}(2N + 3478 - (N + 3561)) \\
&= B_{\bar{N}}(N - 82) + B_{\bar{N}}(2968) + B_{\bar{N}}(N - 83) = (N - 82) + 2968 + (N - 83) = \mathbf{2N} + \mathbf{2803} \\
&(N \geq 2968)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3479}) &= B_{\bar{N}}(2N + 3479 - B_{\bar{N}}(2N + 3478)) + B_{\bar{N}}(2N + 3479 - B_{\bar{N}}(2N + 3477)) + B_{\bar{N}}(2N + 3479 - B_{\bar{N}}(2N + 3476)) \\
&= B_{\bar{N}}(2N + 3479 - (2N + 2803)) + B_{\bar{N}}(2N + 3479 - (N + 3560)) + B_{\bar{N}}(2N + 3479 - (2N + 510)) \\
&= B_{\bar{N}}(676) + B_{\bar{N}}(N - 81) + B_{\bar{N}}(2969) = 676 + (N - 81) + 2969 = \mathbf{N} + \mathbf{3564} \\
&(N \geq 2969)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3480}) &= B_{\bar{N}}(2N + 3480 - B_{\bar{N}}(2N + 3479)) + B_{\bar{N}}(2N + 3480 - B_{\bar{N}}(2N + 3478)) + B_{\bar{N}}(2N + 3480 - B_{\bar{N}}(2N + 3477)) \\
&= B_{\bar{N}}(2N + 3480 - (N + 3564)) + B_{\bar{N}}(2N + 3480 - (2N + 2803)) + B_{\bar{N}}(2N + 3480 - (N + 3560)) \\
&= B_{\bar{N}}(N - 84) + B_{\bar{N}}(677) + B_{\bar{N}}(N - 80) = (N - 84) + 677 + (N - 80) = \mathbf{2N} + \mathbf{513} \\
&(N \geq 677)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3481}) &= B_{\bar{N}}(2N + 3481 - B_{\bar{N}}(2N + 3480)) + B_{\bar{N}}(2N + 3481 - B_{\bar{N}}(2N + 3479)) + B_{\bar{N}}(2N + 3481 - B_{\bar{N}}(2N + 3478)) \\
&= B_{\bar{N}}(2N + 3481 - (2N + 513)) + B_{\bar{N}}(2N + 3481 - (N + 3564)) + B_{\bar{N}}(2N + 3481 - (2N + 2803)) \\
&= B_{\bar{N}}(2968) + B_{\bar{N}}(N - 83) + B_{\bar{N}}(678) = 2968 + (N - 83) + 678 = \mathbf{N} + \mathbf{3563} \\
&(N \geq 2968)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3482}) &= B_{\bar{N}}(2N + 3482 - B_{\bar{N}}(2N + 3481)) + B_{\bar{N}}(2N + 3482 - B_{\bar{N}}(2N + 3480)) + B_{\bar{N}}(2N + 3482 - B_{\bar{N}}(2N + 3479)) \\
&= B_{\bar{N}}(2N + 3482 - (N + 3563)) + B_{\bar{N}}(2N + 3482 - (2N + 513)) + B_{\bar{N}}(2N + 3482 - (N + 3564)) \\
&= B_{\bar{N}}(N - 81) + B_{\bar{N}}(2969) + B_{\bar{N}}(N - 82) = (N - 81) + 2969 + (N - 82) = \mathbf{2N} + \mathbf{2806} \\
&(N \geq 2969)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3483}) &= B_{\bar{N}}(2N + 3483 - B_{\bar{N}}(2N + 3482)) + B_{\bar{N}}(2N + 3483 - B_{\bar{N}}(2N + 3481)) + B_{\bar{N}}(2N + 3483 - B_{\bar{N}}(2N + 3480)) \\
&= B_{\bar{N}}(2N + 3483 - (2N + 2806)) + B_{\bar{N}}(2N + 3483 - (N + 3563)) + B_{\bar{N}}(2N + 3483 - (2N + 513)) \\
&= B_{\bar{N}}(677) + B_{\bar{N}}(N - 80) + B_{\bar{N}}(2970) = 677 + (N - 80) + 2970 = \mathbf{N} + \mathbf{3567} \\
&(N \geq 2970)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3484}) &= B_{\bar{N}}(2N + 3484 - B_{\bar{N}}(2N + 3483)) + B_{\bar{N}}(2N + 3484 - B_{\bar{N}}(2N + 3482)) + B_{\bar{N}}(2N + 3484 - B_{\bar{N}}(2N + 3481)) \\
&= B_{\bar{N}}(2N + 3484 - (N + 3567)) + B_{\bar{N}}(2N + 3484 - (2N + 2806)) + B_{\bar{N}}(2N + 3484 - (N + 3563)) \\
&= B_{\bar{N}}(N - 83) + B_{\bar{N}}(678) + B_{\bar{N}}(N - 79) = (N - 83) + 678 + (N - 79) = \mathbf{2N} + \mathbf{516} \\
&(N \geq 678)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3485}) &= B_{\bar{N}}(2N + 3485 - B_{\bar{N}}(2N + 3484)) + B_{\bar{N}}(2N + 3485 - B_{\bar{N}}(2N + 3483)) + B_{\bar{N}}(2N + 3485 - B_{\bar{N}}(2N + 3482)) \\
&= B_{\bar{N}}(2N + 3485 - (2N + 516)) + B_{\bar{N}}(2N + 3485 - (N + 3567)) + B_{\bar{N}}(2N + 3485 - (2N + 2806)) \\
&= B_{\bar{N}}(2969) + B_{\bar{N}}(N - 82) + B_{\bar{N}}(679) = 2969 + (N - 82) + 679 = \mathbf{N} + \mathbf{3566} \\
&(N \geq 2969)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3486}) &= B_{\bar{N}}(2N + 3486 - B_{\bar{N}}(2N + 3485)) + B_{\bar{N}}(2N + 3486 - B_{\bar{N}}(2N + 3484)) + B_{\bar{N}}(2N + 3486 - B_{\bar{N}}(2N + 3483)) \\
&= B_{\bar{N}}(2N + 3486 - (N + 3566)) + B_{\bar{N}}(2N + 3486 - (2N + 516)) + B_{\bar{N}}(2N + 3486 - (N + 3567)) \\
&= B_{\bar{N}}(N - 80) + B_{\bar{N}}(2970) + B_{\bar{N}}(N - 81) = (N - 80) + 2970 + (N - 81) = \mathbf{2N} + \mathbf{2809} \\
&(N \geq 2970)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3487}) &= B_{\bar{N}}(2N + 3487 - B_{\bar{N}}(2N + 3486)) + B_{\bar{N}}(2N + 3487 - B_{\bar{N}}(2N + 3485)) + B_{\bar{N}}(2N + 3487 - B_{\bar{N}}(2N + 3484)) \\
&= B_{\bar{N}}(2N + 3487 - (2N + 2809)) + B_{\bar{N}}(2N + 3487 - (N + 3566)) + B_{\bar{N}}(2N + 3487 - (2N + 516)) \\
&= B_{\bar{N}}(678) + B_{\bar{N}}(N - 79) + B_{\bar{N}}(2971) = 678 + (N - 79) + 2971 = \mathbf{N} + \mathbf{3570} \\
&(N \geq 2971)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3488}) &= B_{\bar{N}}(2N + 3488 - B_{\bar{N}}(2N + 3487)) + B_{\bar{N}}(2N + 3488 - B_{\bar{N}}(2N + 3486)) + B_{\bar{N}}(2N + 3488 - B_{\bar{N}}(2N + 3485)) \\
&= B_{\bar{N}}(2N + 3488 - (N + 3570)) + B_{\bar{N}}(2N + 3488 - (2N + 2809)) + B_{\bar{N}}(2N + 3488 - (N + 3566)) \\
&= B_{\bar{N}}(N - 82) + B_{\bar{N}}(679) + B_{\bar{N}}(N - 78) = (N - 82) + 679 + (N - 78) = \mathbf{2N} + \mathbf{519} \\
&(N \geq 679)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3489}) &= B_{\bar{N}}(2N + 3489 - B_{\bar{N}}(2N + 3488)) + B_{\bar{N}}(2N + 3489 - B_{\bar{N}}(2N + 3487)) + B_{\bar{N}}(2N + 3489 - B_{\bar{N}}(2N + 3486)) \\
&= B_{\bar{N}}(2N + 3489 - (2N + 519)) + B_{\bar{N}}(2N + 3489 - (N + 3570)) + B_{\bar{N}}(2N + 3489 - (2N + 2809)) \\
&= B_{\bar{N}}(2970) + B_{\bar{N}}(N - 81) + B_{\bar{N}}(680) = 2970 + (N - 81) + 680 = \mathbf{N} + \mathbf{3569} \\
&(N \geq 2970)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3490}) &= B_{\bar{N}}(2N + 3490 - B_{\bar{N}}(2N + 3489)) + B_{\bar{N}}(2N + 3490 - B_{\bar{N}}(2N + 3488)) + B_{\bar{N}}(2N + 3490 - B_{\bar{N}}(2N + 3487)) \\
&= B_{\bar{N}}(2N + 3490 - (N + 3569)) + B_{\bar{N}}(2N + 3490 - (2N + 519)) + B_{\bar{N}}(2N + 3490 - (N + 3570)) \\
&= B_{\bar{N}}(N - 79) + B_{\bar{N}}(2971) + B_{\bar{N}}(N - 80) = (N - 79) + 2971 + (N - 80) = \mathbf{2N} + \mathbf{2812} \\
&(N \geq 2971)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3491}) &= B_{\bar{N}}(2N + 3491 - B_{\bar{N}}(2N + 3490)) + B_{\bar{N}}(2N + 3491 - B_{\bar{N}}(2N + 3489)) + B_{\bar{N}}(2N + 3491 - B_{\bar{N}}(2N + 3488)) \\
&= B_{\bar{N}}(2N + 3491 - (2N + 2812)) + B_{\bar{N}}(2N + 3491 - (N + 3569)) + B_{\bar{N}}(2N + 3491 - (2N + 519)) \\
&= B_{\bar{N}}(679) + B_{\bar{N}}(N - 78) + B_{\bar{N}}(2972) = 679 + (N - 78) + 2972 = \mathbf{N} + \mathbf{3573} \\
&(N \geq 2972)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3492}) &= B_{\bar{N}}(2N + 3492 - B_{\bar{N}}(2N + 3491)) + B_{\bar{N}}(2N + 3492 - B_{\bar{N}}(2N + 3490)) + B_{\bar{N}}(2N + 3492 - B_{\bar{N}}(2N + 3489)) \\
&= B_{\bar{N}}(2N + 3492 - (N + 3573)) + B_{\bar{N}}(2N + 3492 - (2N + 2812)) + B_{\bar{N}}(2N + 3492 - (N + 3569)) \\
&= B_{\bar{N}}(N - 81) + B_{\bar{N}}(680) + B_{\bar{N}}(N - 77) = (N - 81) + 680 + (N - 77) = \mathbf{2N} + \mathbf{522} \\
&(N \geq 680)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3493}) &= B_{\bar{N}}(2N + 3493 - B_{\bar{N}}(2N + 3492)) + B_{\bar{N}}(2N + 3493 - B_{\bar{N}}(2N + 3491)) + B_{\bar{N}}(2N + 3493 - B_{\bar{N}}(2N + 3490)) \\
&= B_{\bar{N}}(2N + 3493 - (2N + 522)) + B_{\bar{N}}(2N + 3493 - (N + 3573)) + B_{\bar{N}}(2N + 3493 - (2N + 2812)) \\
&= B_{\bar{N}}(2971) + B_{\bar{N}}(N - 80) + B_{\bar{N}}(681) = 2971 + (N - 80) + 681 = \mathbf{N} + \mathbf{3572} \\
&(N \geq 2971)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3494}) &= B_{\bar{N}}(2N + 3494 - B_{\bar{N}}(2N + 3493)) + B_{\bar{N}}(2N + 3494 - B_{\bar{N}}(2N + 3492)) + B_{\bar{N}}(2N + 3494 - B_{\bar{N}}(2N + 3491)) \\
&= B_{\bar{N}}(2N + 3494 - (N + 3572)) + B_{\bar{N}}(2N + 3494 - (2N + 522)) + B_{\bar{N}}(2N + 3494 - (N + 3573)) \\
&= B_{\bar{N}}(N - 78) + B_{\bar{N}}(2972) + B_{\bar{N}}(N - 79) = (N - 78) + 2972 + (N - 79) = \mathbf{2N} + \mathbf{2815} \\
&(N \geq 2972)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3495}) &= B_{\bar{N}}(2N + 3495 - B_{\bar{N}}(2N + 3494)) + B_{\bar{N}}(2N + 3495 - B_{\bar{N}}(2N + 3493)) + B_{\bar{N}}(2N + 3495 - B_{\bar{N}}(2N + 3492)) \\
&= B_{\bar{N}}(2N + 3495 - (2N + 2815)) + B_{\bar{N}}(2N + 3495 - (N + 3572)) + B_{\bar{N}}(2N + 3495 - (2N + 522)) \\
&= B_{\bar{N}}(680) + B_{\bar{N}}(N - 77) + B_{\bar{N}}(2973) = 680 + (N - 77) + 2973 = \mathbf{N} + \mathbf{3576} \\
&(N \geq 2973)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3496}) &= B_{\bar{N}}(2N + 3496 - B_{\bar{N}}(2N + 3495)) + B_{\bar{N}}(2N + 3496 - B_{\bar{N}}(2N + 3494)) + B_{\bar{N}}(2N + 3496 - B_{\bar{N}}(2N + 3493)) \\
&= B_{\bar{N}}(2N + 3496 - (N + 3576)) + B_{\bar{N}}(2N + 3496 - (2N + 2815)) + B_{\bar{N}}(2N + 3496 - (N + 3572)) \\
&= B_{\bar{N}}(N - 80) + B_{\bar{N}}(681) + B_{\bar{N}}(N - 76) = (N - 80) + 681 + (N - 76) = \mathbf{2N} + \mathbf{525} \\
&(N \geq 681)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3497}) &= B_{\bar{N}}(2N + 3497 - B_{\bar{N}}(2N + 3496)) + B_{\bar{N}}(2N + 3497 - B_{\bar{N}}(2N + 3495)) + B_{\bar{N}}(2N + 3497 - B_{\bar{N}}(2N + 3494)) \\
&= B_{\bar{N}}(2N + 3497 - (2N + 525)) + B_{\bar{N}}(2N + 3497 - (N + 3576)) + B_{\bar{N}}(2N + 3497 - (2N + 2815)) \\
&= B_{\bar{N}}(2972) + B_{\bar{N}}(N - 79) + B_{\bar{N}}(682) = 2972 + (N - 79) + 682 = \mathbf{N} + \mathbf{3575} \\
&(N \geq 2972)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3498}) &= B_{\bar{N}}(2N + 3498 - B_{\bar{N}}(2N + 3497)) + B_{\bar{N}}(2N + 3498 - B_{\bar{N}}(2N + 3496)) + B_{\bar{N}}(2N + 3498 - B_{\bar{N}}(2N + 3495)) \\
&= B_{\bar{N}}(2N + 3498 - (N + 3575)) + B_{\bar{N}}(2N + 3498 - (2N + 525)) + B_{\bar{N}}(2N + 3498 - (N + 3576)) \\
&= B_{\bar{N}}(N - 77) + B_{\bar{N}}(2973) + B_{\bar{N}}(N - 78) = (N - 77) + 2973 + (N - 78) = \mathbf{2N} + \mathbf{2818} \\
&(N \geq 2973)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3499}) &= B_{\bar{N}}(2N + 3499 - B_{\bar{N}}(2N + 3498)) + B_{\bar{N}}(2N + 3499 - B_{\bar{N}}(2N + 3497)) + B_{\bar{N}}(2N + 3499 - B_{\bar{N}}(2N + 3496)) \\
&= B_{\bar{N}}(2N + 3499 - (2N + 2818)) + B_{\bar{N}}(2N + 3499 - (N + 3575)) + B_{\bar{N}}(2N + 3499 - (2N + 525)) \\
&= B_{\bar{N}}(681) + B_{\bar{N}}(N - 76) + B_{\bar{N}}(2974) = 681 + (N - 76) + 2974 = \mathbf{N} + \mathbf{3579} \\
&(N \geq 2974)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3500}) &= B_{\bar{N}}(2N + 3500 - B_{\bar{N}}(2N + 3499)) + B_{\bar{N}}(2N + 3500 - B_{\bar{N}}(2N + 3498)) + B_{\bar{N}}(2N + 3500 - B_{\bar{N}}(2N + 3497)) \\
&= B_{\bar{N}}(2N + 3500 - (N + 3579)) + B_{\bar{N}}(2N + 3500 - (2N + 2818)) + B_{\bar{N}}(2N + 3500 - (N + 3575)) \\
&= B_{\bar{N}}(N - 79) + B_{\bar{N}}(682) + B_{\bar{N}}(N - 75) = (N - 79) + 682 + (N - 75) = \mathbf{2N} + \mathbf{528} \\
&(N \geq 682)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3501}) &= B_{\bar{N}}(2N + 3501 - B_{\bar{N}}(2N + 3500)) + B_{\bar{N}}(2N + 3501 - B_{\bar{N}}(2N + 3499)) + B_{\bar{N}}(2N + 3501 - B_{\bar{N}}(2N + 3498)) \\
&= B_{\bar{N}}(2N + 3501 - (2N + 528)) + B_{\bar{N}}(2N + 3501 - (N + 3579)) + B_{\bar{N}}(2N + 3501 - (2N + 2818)) \\
&= B_{\bar{N}}(2973) + B_{\bar{N}}(N - 78) + B_{\bar{N}}(683) = 2973 + (N - 78) + 683 = \mathbf{N} + \mathbf{3578} \\
&(N \geq 2973)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3502}) &= B_{\bar{N}}(2N + 3502 - B_{\bar{N}}(2N + 3501)) + B_{\bar{N}}(2N + 3502 - B_{\bar{N}}(2N + 3500)) + B_{\bar{N}}(2N + 3502 - B_{\bar{N}}(2N + 3499)) \\
&= B_{\bar{N}}(2N + 3502 - (N + 3578)) + B_{\bar{N}}(2N + 3502 - (2N + 528)) + B_{\bar{N}}(2N + 3502 - (N + 3579)) \\
&= B_{\bar{N}}(N - 76) + B_{\bar{N}}(2974) + B_{\bar{N}}(N - 77) = (N - 76) + 2974 + (N - 77) = \mathbf{2N} + \mathbf{2821} \\
&(N \geq 2974)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3503}) &= B_{\bar{N}}(2N + 3503 - B_{\bar{N}}(2N + 3502)) + B_{\bar{N}}(2N + 3503 - B_{\bar{N}}(2N + 3501)) + B_{\bar{N}}(2N + 3503 - B_{\bar{N}}(2N + 3500)) \\
&= B_{\bar{N}}(2N + 3503 - (2N + 2821)) + B_{\bar{N}}(2N + 3503 - (N + 3578)) + B_{\bar{N}}(2N + 3503 - (2N + 528)) \\
&= B_{\bar{N}}(682) + B_{\bar{N}}(N - 75) + B_{\bar{N}}(2975) = 682 + (N - 75) + 2975 = \mathbf{N} + \mathbf{3582} \\
&(N \geq 2975)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3504}) &= B_{\bar{N}}(2N + 3504 - B_{\bar{N}}(2N + 3503)) + B_{\bar{N}}(2N + 3504 - B_{\bar{N}}(2N + 3502)) + B_{\bar{N}}(2N + 3504 - B_{\bar{N}}(2N + 3501)) \\
&= B_{\bar{N}}(2N + 3504 - (N + 3582)) + B_{\bar{N}}(2N + 3504 - (2N + 2821)) + B_{\bar{N}}(2N + 3504 - (N + 3578)) \\
&= B_{\bar{N}}(N - 78) + B_{\bar{N}}(683) + B_{\bar{N}}(N - 74) = (N - 78) + 683 + (N - 74) = \mathbf{2N} + \mathbf{531} \\
&(N \geq 683)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3505}) &= B_{\bar{N}}(2N + 3505 - B_{\bar{N}}(2N + 3504)) + B_{\bar{N}}(2N + 3505 - B_{\bar{N}}(2N + 3503)) + B_{\bar{N}}(2N + 3505 - B_{\bar{N}}(2N + 3502)) \\
&= B_{\bar{N}}(2N + 3505 - (2N + 531)) + B_{\bar{N}}(2N + 3505 - (N + 3582)) + B_{\bar{N}}(2N + 3505 - (2N + 2821)) \\
&= B_{\bar{N}}(2974) + B_{\bar{N}}(N - 77) + B_{\bar{N}}(684) = 2974 + (N - 77) + 684 = \mathbf{N} + \mathbf{3581} \\
&(N \geq 2974)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3506}) &= B_{\bar{N}}(2N + 3506 - B_{\bar{N}}(2N + 3505)) + B_{\bar{N}}(2N + 3506 - B_{\bar{N}}(2N + 3504)) + B_{\bar{N}}(2N + 3506 - B_{\bar{N}}(2N + 3503)) \\
&= B_{\bar{N}}(2N + 3506 - (N + 3581)) + B_{\bar{N}}(2N + 3506 - (2N + 531)) + B_{\bar{N}}(2N + 3506 - (N + 3582)) \\
&= B_{\bar{N}}(N - 75) + B_{\bar{N}}(2975) + B_{\bar{N}}(N - 76) = (N - 75) + 2975 + (N - 76) = \mathbf{2N} + \mathbf{2824} \\
&(N \geq 2975)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3507}) &= B_{\bar{N}}(2N + 3507 - B_{\bar{N}}(2N + 3506)) + B_{\bar{N}}(2N + 3507 - B_{\bar{N}}(2N + 3505)) + B_{\bar{N}}(2N + 3507 - B_{\bar{N}}(2N + 3504)) \\
&= B_{\bar{N}}(2N + 3507 - (2N + 2824)) + B_{\bar{N}}(2N + 3507 - (N + 3581)) + B_{\bar{N}}(2N + 3507 - (2N + 531)) \\
&= B_{\bar{N}}(683) + B_{\bar{N}}(N - 74) + B_{\bar{N}}(2976) = 683 + (N - 74) + 2976 = \mathbf{N} + \mathbf{3585} \\
&(N \geq 2976)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3508}) &= B_{\bar{N}}(2N + 3508 - B_{\bar{N}}(2N + 3507)) + B_{\bar{N}}(2N + 3508 - B_{\bar{N}}(2N + 3506)) + B_{\bar{N}}(2N + 3508 - B_{\bar{N}}(2N + 3505)) \\
&= B_{\bar{N}}(2N + 3508 - (N + 3585)) + B_{\bar{N}}(2N + 3508 - (2N + 2824)) + B_{\bar{N}}(2N + 3508 - (N + 3581)) \\
&= B_{\bar{N}}(N - 77) + B_{\bar{N}}(684) + B_{\bar{N}}(N - 73) = (N - 77) + 684 + (N - 73) = \mathbf{2N} + \mathbf{534} \\
&(N \geq 684)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3509}) &= B_{\bar{N}}(2N + 3509 - B_{\bar{N}}(2N + 3508)) + B_{\bar{N}}(2N + 3509 - B_{\bar{N}}(2N + 3507)) + B_{\bar{N}}(2N + 3509 - B_{\bar{N}}(2N + 3506)) \\
&= B_{\bar{N}}(2N + 3509 - (2N + 534)) + B_{\bar{N}}(2N + 3509 - (N + 3585)) + B_{\bar{N}}(2N + 3509 - (2N + 2824)) \\
&= B_{\bar{N}}(2975) + B_{\bar{N}}(N - 76) + B_{\bar{N}}(685) = 2975 + (N - 76) + 685 = \mathbf{N} + \mathbf{3584} \\
&(N \geq 2975)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3510}) &= B_{\bar{N}}(2N + 3510 - B_{\bar{N}}(2N + 3509)) + B_{\bar{N}}(2N + 3510 - B_{\bar{N}}(2N + 3508)) + B_{\bar{N}}(2N + 3510 - B_{\bar{N}}(2N + 3507)) \\
&= B_{\bar{N}}(2N + 3510 - (N + 3584)) + B_{\bar{N}}(2N + 3510 - (2N + 534)) + B_{\bar{N}}(2N + 3510 - (N + 3585)) \\
&= B_{\bar{N}}(N - 74) + B_{\bar{N}}(2976) + B_{\bar{N}}(N - 75) = (N - 74) + 2976 + (N - 75) = \mathbf{2N} + \mathbf{2827} \\
&(N \geq 2976)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3511}) &= B_{\bar{N}}(2N + 3511 - B_{\bar{N}}(2N + 3510)) + B_{\bar{N}}(2N + 3511 - B_{\bar{N}}(2N + 3509)) + B_{\bar{N}}(2N + 3511 - B_{\bar{N}}(2N + 3508)) \\
&= B_{\bar{N}}(2N + 3511 - (2N + 2827)) + B_{\bar{N}}(2N + 3511 - (N + 3584)) + B_{\bar{N}}(2N + 3511 - (2N + 534)) \\
&= B_{\bar{N}}(684) + B_{\bar{N}}(N - 73) + B_{\bar{N}}(2977) = 684 + (N - 73) + 2977 = \mathbf{N} + \mathbf{3588} \\
&(N \geq 2977)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3512}) &= B_{\bar{N}}(2N + 3512 - B_{\bar{N}}(2N + 3511)) + B_{\bar{N}}(2N + 3512 - B_{\bar{N}}(2N + 3510)) + B_{\bar{N}}(2N + 3512 - B_{\bar{N}}(2N + 3509)) \\
&= B_{\bar{N}}(2N + 3512 - (N + 3588)) + B_{\bar{N}}(2N + 3512 - (2N + 2827)) + B_{\bar{N}}(2N + 3512 - (N + 3584)) \\
&= B_{\bar{N}}(N - 76) + B_{\bar{N}}(685) + B_{\bar{N}}(N - 72) = (N - 76) + 685 + (N - 72) = \mathbf{2N} + \mathbf{537} \\
&(N \geq 685)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3513}) &= B_{\bar{N}}(2N + 3513 - B_{\bar{N}}(2N + 3512)) + B_{\bar{N}}(2N + 3513 - B_{\bar{N}}(2N + 3511)) + B_{\bar{N}}(2N + 3513 - B_{\bar{N}}(2N + 3510)) \\
&= B_{\bar{N}}(2N + 3513 - (2N + 537)) + B_{\bar{N}}(2N + 3513 - (N + 3588)) + B_{\bar{N}}(2N + 3513 - (2N + 2827)) \\
&= B_{\bar{N}}(2976) + B_{\bar{N}}(N - 75) + B_{\bar{N}}(686) = 2976 + (N - 75) + 686 = \mathbf{N} + \mathbf{3587} \\
&(N \geq 2976)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3514}) &= B_{\bar{N}}(2N + 3514 - B_{\bar{N}}(2N + 3513)) + B_{\bar{N}}(2N + 3514 - B_{\bar{N}}(2N + 3512)) + B_{\bar{N}}(2N + 3514 - B_{\bar{N}}(2N + 3511)) \\
&= B_{\bar{N}}(2N + 3514 - (N + 3587)) + B_{\bar{N}}(2N + 3514 - (2N + 537)) + B_{\bar{N}}(2N + 3514 - (N + 3588)) \\
&= B_{\bar{N}}(N - 73) + B_{\bar{N}}(2977) + B_{\bar{N}}(N - 74) = (N - 73) + 2977 + (N - 74) = \mathbf{2N} + \mathbf{2830} \\
&(N \geq 2977)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3515}) &= B_{\bar{N}}(2N + 3515 - B_{\bar{N}}(2N + 3514)) + B_{\bar{N}}(2N + 3515 - B_{\bar{N}}(2N + 3513)) + B_{\bar{N}}(2N + 3515 - B_{\bar{N}}(2N + 3512)) \\
&= B_{\bar{N}}(2N + 3515 - (2N + 2830)) + B_{\bar{N}}(2N + 3515 - (N + 3587)) + B_{\bar{N}}(2N + 3515 - (2N + 537)) \\
&= B_{\bar{N}}(685) + B_{\bar{N}}(N - 72) + B_{\bar{N}}(2978) = 685 + (N - 72) + 2978 = \mathbf{N} + \mathbf{3591} \\
&(N \geq 2978)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3516}) &= B_{\bar{N}}(2N + 3516 - B_{\bar{N}}(2N + 3515)) + B_{\bar{N}}(2N + 3516 - B_{\bar{N}}(2N + 3514)) + B_{\bar{N}}(2N + 3516 - B_{\bar{N}}(2N + 3513)) \\
&= B_{\bar{N}}(2N + 3516 - (N + 3591)) + B_{\bar{N}}(2N + 3516 - (2N + 2830)) + B_{\bar{N}}(2N + 3516 - (N + 3587)) \\
&= B_{\bar{N}}(N - 75) + B_{\bar{N}}(686) + B_{\bar{N}}(N - 71) = (N - 75) + 686 + (N - 71) = \mathbf{2N} + \mathbf{540} \\
&(N \geq 686)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3517}) &= B_{\bar{N}}(2N + 3517 - B_{\bar{N}}(2N + 3516)) + B_{\bar{N}}(2N + 3517 - B_{\bar{N}}(2N + 3515)) + B_{\bar{N}}(2N + 3517 - B_{\bar{N}}(2N + 3514)) \\
&= B_{\bar{N}}(2N + 3517 - (2N + 540)) + B_{\bar{N}}(2N + 3517 - (N + 3591)) + B_{\bar{N}}(2N + 3517 - (2N + 2830)) \\
&= B_{\bar{N}}(2977) + B_{\bar{N}}(N - 74) + B_{\bar{N}}(687) = 2977 + (N - 74) + 687 = \mathbf{N} + \mathbf{3590} \\
&(N \geq 2977)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3518}) &= B_{\bar{N}}(2N + 3518 - B_{\bar{N}}(2N + 3517)) + B_{\bar{N}}(2N + 3518 - B_{\bar{N}}(2N + 3516)) + B_{\bar{N}}(2N + 3518 - B_{\bar{N}}(2N + 3515)) \\
&= B_{\bar{N}}(2N + 3518 - (N + 3590)) + B_{\bar{N}}(2N + 3518 - (2N + 540)) + B_{\bar{N}}(2N + 3518 - (N + 3591)) \\
&= B_{\bar{N}}(N - 72) + B_{\bar{N}}(2978) + B_{\bar{N}}(N - 73) = (N - 72) + 2978 + (N - 73) = \mathbf{2N} + \mathbf{2833} \\
&(N \geq 2978)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3519}) &= B_{\bar{N}}(2N + 3519 - B_{\bar{N}}(2N + 3518)) + B_{\bar{N}}(2N + 3519 - B_{\bar{N}}(2N + 3517)) + B_{\bar{N}}(2N + 3519 - B_{\bar{N}}(2N + 3516)) \\
&= B_{\bar{N}}(2N + 3519 - (2N + 2833)) + B_{\bar{N}}(2N + 3519 - (N + 3590)) + B_{\bar{N}}(2N + 3519 - (2N + 540)) \\
&= B_{\bar{N}}(686) + B_{\bar{N}}(N - 71) + B_{\bar{N}}(2979) = 686 + (N - 71) + 2979 = \mathbf{N} + \mathbf{3594} \\
&(N \geq 2979)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3520}) &= B_{\bar{N}}(2N + 3520 - B_{\bar{N}}(2N + 3519)) + B_{\bar{N}}(2N + 3520 - B_{\bar{N}}(2N + 3518)) + B_{\bar{N}}(2N + 3520 - B_{\bar{N}}(2N + 3517)) \\
&= B_{\bar{N}}(2N + 3520 - (N + 3594)) + B_{\bar{N}}(2N + 3520 - (2N + 2833)) + B_{\bar{N}}(2N + 3520 - (N + 3590)) \\
&= B_{\bar{N}}(N - 74) + B_{\bar{N}}(687) + B_{\bar{N}}(N - 70) = (N - 74) + 687 + (N - 70) = \mathbf{2N} + \mathbf{543} \\
&(N \geq 687)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3521}) &= B_{\bar{N}}(2N + 3521 - B_{\bar{N}}(2N + 3520)) + B_{\bar{N}}(2N + 3521 - B_{\bar{N}}(2N + 3519)) + B_{\bar{N}}(2N + 3521 - B_{\bar{N}}(2N + 3518)) \\
&= B_{\bar{N}}(2N + 3521 - (2N + 543)) + B_{\bar{N}}(2N + 3521 - (N + 3594)) + B_{\bar{N}}(2N + 3521 - (2N + 2833)) \\
&= B_{\bar{N}}(2978) + B_{\bar{N}}(N - 73) + B_{\bar{N}}(688) = 2978 + (N - 73) + 688 = \mathbf{N} + \mathbf{3593} \\
&(N \geq 2978)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3522}) &= B_{\bar{N}}(2N + 3522 - B_{\bar{N}}(2N + 3521)) + B_{\bar{N}}(2N + 3522 - B_{\bar{N}}(2N + 3520)) + B_{\bar{N}}(2N + 3522 - B_{\bar{N}}(2N + 3519)) \\
&= B_{\bar{N}}(2N + 3522 - (N + 3593)) + B_{\bar{N}}(2N + 3522 - (2N + 543)) + B_{\bar{N}}(2N + 3522 - (N + 3594)) \\
&= B_{\bar{N}}(N - 71) + B_{\bar{N}}(2979) + B_{\bar{N}}(N - 72) = (N - 71) + 2979 + (N - 72) = \mathbf{2N} + \mathbf{2836} \\
&(N \geq 2979)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3523}) &= B_{\bar{N}}(2N + 3523 - B_{\bar{N}}(2N + 3522)) + B_{\bar{N}}(2N + 3523 - B_{\bar{N}}(2N + 3521)) + B_{\bar{N}}(2N + 3523 - B_{\bar{N}}(2N + 3520)) \\
&= B_{\bar{N}}(2N + 3523 - (2N + 2836)) + B_{\bar{N}}(2N + 3523 - (N + 3593)) + B_{\bar{N}}(2N + 3523 - (2N + 543)) \\
&= B_{\bar{N}}(687) + B_{\bar{N}}(N - 70) + B_{\bar{N}}(2980) = 687 + (N - 70) + 2980 = \mathbf{N} + \mathbf{3597} \\
&(N \geq 2980)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3524}) &= B_{\bar{N}}(2N + 3524 - B_{\bar{N}}(2N + 3523)) + B_{\bar{N}}(2N + 3524 - B_{\bar{N}}(2N + 3522)) + B_{\bar{N}}(2N + 3524 - B_{\bar{N}}(2N + 3521)) \\
&= B_{\bar{N}}(2N + 3524 - (N + 3597)) + B_{\bar{N}}(2N + 3524 - (2N + 2836)) + B_{\bar{N}}(2N + 3524 - (N + 3593)) \\
&= B_{\bar{N}}(N - 73) + B_{\bar{N}}(688) + B_{\bar{N}}(N - 69) = (N - 73) + 688 + (N - 69) = \mathbf{2N} + \mathbf{546} \\
&(N \geq 688)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3525}) &= B_{\bar{N}}(2N + 3525 - B_{\bar{N}}(2N + 3524)) + B_{\bar{N}}(2N + 3525 - B_{\bar{N}}(2N + 3523)) + B_{\bar{N}}(2N + 3525 - B_{\bar{N}}(2N + 3522)) \\
&= B_{\bar{N}}(2N + 3525 - (2N + 546)) + B_{\bar{N}}(2N + 3525 - (N + 3597)) + B_{\bar{N}}(2N + 3525 - (2N + 2836)) \\
&= B_{\bar{N}}(2979) + B_{\bar{N}}(N - 72) + B_{\bar{N}}(689) = 2979 + (N - 72) + 689 = \mathbf{N} + \mathbf{3596} \\
&(N \geq 2979)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3526}) &= B_{\bar{N}}(2N + 3526 - B_{\bar{N}}(2N + 3525)) + B_{\bar{N}}(2N + 3526 - B_{\bar{N}}(2N + 3524)) + B_{\bar{N}}(2N + 3526 - B_{\bar{N}}(2N + 3523)) \\
&= B_{\bar{N}}(2N + 3526 - (N + 3596)) + B_{\bar{N}}(2N + 3526 - (2N + 546)) + B_{\bar{N}}(2N + 3526 - (N + 3597)) \\
&= B_{\bar{N}}(N - 70) + B_{\bar{N}}(2980) + B_{\bar{N}}(N - 71) = (N - 70) + 2980 + (N - 71) = \mathbf{2N} + \mathbf{2839} \\
&(N \geq 2980)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3527}) &= B_{\bar{N}}(2N + 3527 - B_{\bar{N}}(2N + 3526)) + B_{\bar{N}}(2N + 3527 - B_{\bar{N}}(2N + 3525)) + B_{\bar{N}}(2N + 3527 - B_{\bar{N}}(2N + 3524)) \\
&= B_{\bar{N}}(2N + 3527 - (2N + 2839)) + B_{\bar{N}}(2N + 3527 - (N + 3596)) + B_{\bar{N}}(2N + 3527 - (2N + 546)) \\
&= B_{\bar{N}}(688) + B_{\bar{N}}(N - 69) + B_{\bar{N}}(2981) = 688 + (N - 69) + 2981 = \mathbf{N} + \mathbf{3600} \\
&(N \geq 2981)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3528}) &= B_{\bar{N}}(2N + 3528 - B_{\bar{N}}(2N + 3527)) + B_{\bar{N}}(2N + 3528 - B_{\bar{N}}(2N + 3526)) + B_{\bar{N}}(2N + 3528 - B_{\bar{N}}(2N + 3525)) \\
&= B_{\bar{N}}(2N + 3528 - (N + 3600)) + B_{\bar{N}}(2N + 3528 - (2N + 2839)) + B_{\bar{N}}(2N + 3528 - (N + 3596)) \\
&= B_{\bar{N}}(N - 72) + B_{\bar{N}}(689) + B_{\bar{N}}(N - 68) = (N - 72) + 689 + (N - 68) = \mathbf{2N} + \mathbf{549} \\
&(N \geq 689)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3529}) &= B_{\bar{N}}(2N + 3529 - B_{\bar{N}}(2N + 3528)) + B_{\bar{N}}(2N + 3529 - B_{\bar{N}}(2N + 3527)) + B_{\bar{N}}(2N + 3529 - B_{\bar{N}}(2N + 3526)) \\
&= B_{\bar{N}}(2N + 3529 - (2N + 549)) + B_{\bar{N}}(2N + 3529 - (N + 3600)) + B_{\bar{N}}(2N + 3529 - (2N + 2839)) \\
&= B_{\bar{N}}(2980) + B_{\bar{N}}(N - 71) + B_{\bar{N}}(690) = 2980 + (N - 71) + 690 = \mathbf{N} + \mathbf{3599} \\
&(N \geq 2980)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3530}) &= B_{\bar{N}}(2N + 3530 - B_{\bar{N}}(2N + 3529)) + B_{\bar{N}}(2N + 3530 - B_{\bar{N}}(2N + 3528)) + B_{\bar{N}}(2N + 3530 - B_{\bar{N}}(2N + 3527)) \\
&= B_{\bar{N}}(2N + 3530 - (N + 3599)) + B_{\bar{N}}(2N + 3530 - (2N + 549)) + B_{\bar{N}}(2N + 3530 - (N + 3600)) \\
&= B_{\bar{N}}(N - 69) + B_{\bar{N}}(2981) + B_{\bar{N}}(N - 70) = (N - 69) + 2981 + (N - 70) = \mathbf{2N} + \mathbf{2842} \\
&(N \geq 2981)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3531}) &= B_{\bar{N}}(2N + 3531 - B_{\bar{N}}(2N + 3530)) + B_{\bar{N}}(2N + 3531 - B_{\bar{N}}(2N + 3529)) + B_{\bar{N}}(2N + 3531 - B_{\bar{N}}(2N + 3528)) \\
&= B_{\bar{N}}(2N + 3531 - (2N + 2842)) + B_{\bar{N}}(2N + 3531 - (N + 3599)) + B_{\bar{N}}(2N + 3531 - (2N + 549)) \\
&= B_{\bar{N}}(689) + B_{\bar{N}}(N - 68) + B_{\bar{N}}(2982) = 689 + (N - 68) + 2982 = \mathbf{N} + \mathbf{3603} \\
&(N \geq 2982)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3532}) &= B_{\bar{N}}(2N + 3532 - B_{\bar{N}}(2N + 3531)) + B_{\bar{N}}(2N + 3532 - B_{\bar{N}}(2N + 3530)) + B_{\bar{N}}(2N + 3532 - B_{\bar{N}}(2N + 3529)) \\
&= B_{\bar{N}}(2N + 3532 - (N + 3603)) + B_{\bar{N}}(2N + 3532 - (2N + 2842)) + B_{\bar{N}}(2N + 3532 - (N + 3599)) \\
&= B_{\bar{N}}(N - 71) + B_{\bar{N}}(690) + B_{\bar{N}}(N - 67) = (N - 71) + 690 + (N - 67) = \mathbf{2N} + \mathbf{552} \\
&(N \geq 690)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3533}) &= B_{\bar{N}}(2N + 3533 - B_{\bar{N}}(2N + 3532)) + B_{\bar{N}}(2N + 3533 - B_{\bar{N}}(2N + 3531)) + B_{\bar{N}}(2N + 3533 - B_{\bar{N}}(2N + 3530)) \\
&= B_{\bar{N}}(2N + 3533 - (2N + 552)) + B_{\bar{N}}(2N + 3533 - (N + 3603)) + B_{\bar{N}}(2N + 3533 - (2N + 2842)) \\
&= B_{\bar{N}}(2981) + B_{\bar{N}}(N - 70) + B_{\bar{N}}(691) = 2981 + (N - 70) + 691 = \mathbf{N} + \mathbf{3602} \\
&(N \geq 2981)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3534}) &= B_{\bar{N}}(2N + 3534 - B_{\bar{N}}(2N + 3533)) + B_{\bar{N}}(2N + 3534 - B_{\bar{N}}(2N + 3532)) + B_{\bar{N}}(2N + 3534 - B_{\bar{N}}(2N + 3531)) \\
&= B_{\bar{N}}(2N + 3534 - (N + 3602)) + B_{\bar{N}}(2N + 3534 - (2N + 552)) + B_{\bar{N}}(2N + 3534 - (N + 3603)) \\
&= B_{\bar{N}}(N - 68) + B_{\bar{N}}(2982) + B_{\bar{N}}(N - 69) = (N - 68) + 2982 + (N - 69) = \mathbf{2N} + \mathbf{2845} \\
&(N \geq 2982)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3535}) &= B_{\bar{N}}(2N + 3535 - B_{\bar{N}}(2N + 3534)) + B_{\bar{N}}(2N + 3535 - B_{\bar{N}}(2N + 3533)) + B_{\bar{N}}(2N + 3535 - B_{\bar{N}}(2N + 3532)) \\
&= B_{\bar{N}}(2N + 3535 - (2N + 2845)) + B_{\bar{N}}(2N + 3535 - (N + 3602)) + B_{\bar{N}}(2N + 3535 - (2N + 552)) \\
&= B_{\bar{N}}(690) + B_{\bar{N}}(N - 67) + B_{\bar{N}}(2983) = 690 + (N - 67) + 2983 = \mathbf{N} + \mathbf{3606} \\
&(N \geq 2983)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3536}) &= B_{\bar{N}}(2N + 3536 - B_{\bar{N}}(2N + 3535)) + B_{\bar{N}}(2N + 3536 - B_{\bar{N}}(2N + 3534)) + B_{\bar{N}}(2N + 3536 - B_{\bar{N}}(2N + 3533)) \\
&= B_{\bar{N}}(2N + 3536 - (N + 3606)) + B_{\bar{N}}(2N + 3536 - (2N + 2845)) + B_{\bar{N}}(2N + 3536 - (N + 3602)) \\
&= B_{\bar{N}}(N - 70) + B_{\bar{N}}(691) + B_{\bar{N}}(N - 66) = (N - 70) + 691 + (N - 66) = \mathbf{2N} + \mathbf{555} \\
&(N \geq 691)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3537}) &= B_{\bar{N}}(2N + 3537 - B_{\bar{N}}(2N + 3536)) + B_{\bar{N}}(2N + 3537 - B_{\bar{N}}(2N + 3535)) + B_{\bar{N}}(2N + 3537 - B_{\bar{N}}(2N + 3534)) \\
&= B_{\bar{N}}(2N + 3537 - (2N + 555)) + B_{\bar{N}}(2N + 3537 - (N + 3606)) + B_{\bar{N}}(2N + 3537 - (2N + 2845)) \\
&= B_{\bar{N}}(2982) + B_{\bar{N}}(N - 69) + B_{\bar{N}}(692) = 2982 + (N - 69) + 692 = \mathbf{N} + \mathbf{3605} \\
&(N \geq 2982)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3538}) &= B_{\bar{N}}(2N + 3538 - B_{\bar{N}}(2N + 3537)) + B_{\bar{N}}(2N + 3538 - B_{\bar{N}}(2N + 3536)) + B_{\bar{N}}(2N + 3538 - B_{\bar{N}}(2N + 3535)) \\
&= B_{\bar{N}}(2N + 3538 - (N + 3605)) + B_{\bar{N}}(2N + 3538 - (2N + 555)) + B_{\bar{N}}(2N + 3538 - (N + 3606)) \\
&= B_{\bar{N}}(N - 67) + B_{\bar{N}}(2983) + B_{\bar{N}}(N - 68) = (N - 67) + 2983 + (N - 68) = \mathbf{2N} + \mathbf{2848} \\
&(N \geq 2983)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3539}) &= B_{\bar{N}}(2N + 3539 - B_{\bar{N}}(2N + 3538)) + B_{\bar{N}}(2N + 3539 - B_{\bar{N}}(2N + 3537)) + B_{\bar{N}}(2N + 3539 - B_{\bar{N}}(2N + 3536)) \\
&= B_{\bar{N}}(2N + 3539 - (2N + 2848)) + B_{\bar{N}}(2N + 3539 - (N + 3605)) + B_{\bar{N}}(2N + 3539 - (2N + 555)) \\
&= B_{\bar{N}}(691) + B_{\bar{N}}(N - 66) + B_{\bar{N}}(2984) = 691 + (N - 66) + 2984 = \mathbf{N} + \mathbf{3609} \\
&(N \geq 2984)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3540}) &= B_{\bar{N}}(2N + 3540 - B_{\bar{N}}(2N + 3539)) + B_{\bar{N}}(2N + 3540 - B_{\bar{N}}(2N + 3538)) + B_{\bar{N}}(2N + 3540 - B_{\bar{N}}(2N + 3537)) \\
&= B_{\bar{N}}(2N + 3540 - (N + 3609)) + B_{\bar{N}}(2N + 3540 - (2N + 2848)) + B_{\bar{N}}(2N + 3540 - (N + 3605)) \\
&= B_{\bar{N}}(N - 69) + B_{\bar{N}}(692) + B_{\bar{N}}(N - 65) = (N - 69) + 692 + (N - 65) = \mathbf{2N} + \mathbf{558} \\
&(N \geq 692)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3541}) &= B_{\bar{N}}(2N + 3541 - B_{\bar{N}}(2N + 3540)) + B_{\bar{N}}(2N + 3541 - B_{\bar{N}}(2N + 3539)) + B_{\bar{N}}(2N + 3541 - B_{\bar{N}}(2N + 3538)) \\
&= B_{\bar{N}}(2N + 3541 - (2N + 558)) + B_{\bar{N}}(2N + 3541 - (N + 3609)) + B_{\bar{N}}(2N + 3541 - (2N + 2848)) \\
&= B_{\bar{N}}(2983) + B_{\bar{N}}(N - 68) + B_{\bar{N}}(693) = 2983 + (N - 68) + 693 = \mathbf{N} + \mathbf{3608} \\
&(N \geq 2983)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3542}) &= B_{\bar{N}}(2N + 3542 - B_{\bar{N}}(2N + 3541)) + B_{\bar{N}}(2N + 3542 - B_{\bar{N}}(2N + 3540)) + B_{\bar{N}}(2N + 3542 - B_{\bar{N}}(2N + 3539)) \\
&= B_{\bar{N}}(2N + 3542 - (N + 3608)) + B_{\bar{N}}(2N + 3542 - (2N + 558)) + B_{\bar{N}}(2N + 3542 - (N + 3609)) \\
&= B_{\bar{N}}(N - 66) + B_{\bar{N}}(2984) + B_{\bar{N}}(N - 67) = (N - 66) + 2984 + (N - 67) = \mathbf{2N} + \mathbf{2851} \\
&(N \geq 2984)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3543}) &= B_{\bar{N}}(2N + 3543 - B_{\bar{N}}(2N + 3542)) + B_{\bar{N}}(2N + 3543 - B_{\bar{N}}(2N + 3541)) + B_{\bar{N}}(2N + 3543 - B_{\bar{N}}(2N + 3540)) \\
&= B_{\bar{N}}(2N + 3543 - (2N + 2851)) + B_{\bar{N}}(2N + 3543 - (N + 3608)) + B_{\bar{N}}(2N + 3543 - (2N + 558)) \\
&= B_{\bar{N}}(692) + B_{\bar{N}}(N - 65) + B_{\bar{N}}(2985) = 692 + (N - 65) + 2985 = \mathbf{N} + \mathbf{3612} \\
&(N \geq 2985)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3544}) &= B_{\bar{N}}(2N + 3544 - B_{\bar{N}}(2N + 3543)) + B_{\bar{N}}(2N + 3544 - B_{\bar{N}}(2N + 3542)) + B_{\bar{N}}(2N + 3544 - B_{\bar{N}}(2N + 3541)) \\
&= B_{\bar{N}}(2N + 3544 - (N + 3612)) + B_{\bar{N}}(2N + 3544 - (2N + 2851)) + B_{\bar{N}}(2N + 3544 - (N + 3608)) \\
&= B_{\bar{N}}(N - 68) + B_{\bar{N}}(693) + B_{\bar{N}}(N - 64) = (N - 68) + 693 + (N - 64) = \mathbf{2N} + \mathbf{561} \\
&(N \geq 693)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3545}) &= B_{\bar{N}}(2N + 3545 - B_{\bar{N}}(2N + 3544)) + B_{\bar{N}}(2N + 3545 - B_{\bar{N}}(2N + 3543)) + B_{\bar{N}}(2N + 3545 - B_{\bar{N}}(2N + 3542)) \\
&= B_{\bar{N}}(2N + 3545 - (2N + 561)) + B_{\bar{N}}(2N + 3545 - (N + 3612)) + B_{\bar{N}}(2N + 3545 - (2N + 2851)) \\
&= B_{\bar{N}}(2984) + B_{\bar{N}}(N - 67) + B_{\bar{N}}(694) = 2984 + (N - 67) + 694 = \mathbf{N} + \mathbf{3611} \\
&(N \geq 2984)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3546}) &= B_{\bar{N}}(2N + 3546 - B_{\bar{N}}(2N + 3545)) + B_{\bar{N}}(2N + 3546 - B_{\bar{N}}(2N + 3544)) + B_{\bar{N}}(2N + 3546 - B_{\bar{N}}(2N + 3543)) \\
&= B_{\bar{N}}(2N + 3546 - (N + 3611)) + B_{\bar{N}}(2N + 3546 - (2N + 561)) + B_{\bar{N}}(2N + 3546 - (N + 3612)) \\
&= B_{\bar{N}}(N - 65) + B_{\bar{N}}(2985) + B_{\bar{N}}(N - 66) = (N - 65) + 2985 + (N - 66) = \mathbf{2N} + \mathbf{2854} \\
&(N \geq 2985)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3547}) &= B_{\bar{N}}(2N + 3547 - B_{\bar{N}}(2N + 3546)) + B_{\bar{N}}(2N + 3547 - B_{\bar{N}}(2N + 3545)) + B_{\bar{N}}(2N + 3547 - B_{\bar{N}}(2N + 3544)) \\
&= B_{\bar{N}}(2N + 3547 - (2N + 2854)) + B_{\bar{N}}(2N + 3547 - (N + 3611)) + B_{\bar{N}}(2N + 3547 - (2N + 561)) \\
&= B_{\bar{N}}(693) + B_{\bar{N}}(N - 64) + B_{\bar{N}}(2986) = 693 + (N - 64) + 2986 = \mathbf{N} + \mathbf{3615} \\
&(N \geq 2986)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3548}) &= B_{\bar{N}}(2N + 3548 - B_{\bar{N}}(2N + 3547)) + B_{\bar{N}}(2N + 3548 - B_{\bar{N}}(2N + 3546)) + B_{\bar{N}}(2N + 3548 - B_{\bar{N}}(2N + 3545)) \\
&= B_{\bar{N}}(2N + 3548 - (N + 3615)) + B_{\bar{N}}(2N + 3548 - (2N + 2854)) + B_{\bar{N}}(2N + 3548 - (N + 3611)) \\
&= B_{\bar{N}}(N - 67) + B_{\bar{N}}(694) + B_{\bar{N}}(N - 63) = (N - 67) + 694 + (N - 63) = \mathbf{2N} + \mathbf{564} \\
&(N \geq 694)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3549}) &= B_{\bar{N}}(2N + 3549 - B_{\bar{N}}(2N + 3548)) + B_{\bar{N}}(2N + 3549 - B_{\bar{N}}(2N + 3547)) + B_{\bar{N}}(2N + 3549 - B_{\bar{N}}(2N + 3546)) \\
&= B_{\bar{N}}(2N + 3549 - (2N + 564)) + B_{\bar{N}}(2N + 3549 - (N + 3615)) + B_{\bar{N}}(2N + 3549 - (2N + 2854)) \\
&= B_{\bar{N}}(2985) + B_{\bar{N}}(N - 66) + B_{\bar{N}}(695) = 2985 + (N - 66) + 695 = \mathbf{N} + \mathbf{3614} \\
&(N \geq 2985)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3550}) &= B_{\bar{N}}(2N + 3550 - B_{\bar{N}}(2N + 3549)) + B_{\bar{N}}(2N + 3550 - B_{\bar{N}}(2N + 3548)) + B_{\bar{N}}(2N + 3550 - B_{\bar{N}}(2N + 3547)) \\
&= B_{\bar{N}}(2N + 3550 - (N + 3614)) + B_{\bar{N}}(2N + 3550 - (2N + 564)) + B_{\bar{N}}(2N + 3550 - (N + 3615)) \\
&= B_{\bar{N}}(N - 64) + B_{\bar{N}}(2986) + B_{\bar{N}}(N - 65) = (N - 64) + 2986 + (N - 65) = \mathbf{2N} + \mathbf{2857} \\
&(N \geq 2986)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3551}) &= B_{\bar{N}}(2N + 3551 - B_{\bar{N}}(2N + 3550)) + B_{\bar{N}}(2N + 3551 - B_{\bar{N}}(2N + 3549)) + B_{\bar{N}}(2N + 3551 - B_{\bar{N}}(2N + 3548)) \\
&= B_{\bar{N}}(2N + 3551 - (2N + 2857)) + B_{\bar{N}}(2N + 3551 - (N + 3614)) + B_{\bar{N}}(2N + 3551 - (2N + 564)) \\
&= B_{\bar{N}}(694) + B_{\bar{N}}(N - 63) + B_{\bar{N}}(2987) = 694 + (N - 63) + 2987 = \mathbf{N} + \mathbf{3618} \\
&(N \geq 2987)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3552}) &= B_{\bar{N}}(2N + 3552 - B_{\bar{N}}(2N + 3551)) + B_{\bar{N}}(2N + 3552 - B_{\bar{N}}(2N + 3550)) + B_{\bar{N}}(2N + 3552 - B_{\bar{N}}(2N + 3549)) \\
&= B_{\bar{N}}(2N + 3552 - (N + 3618)) + B_{\bar{N}}(2N + 3552 - (2N + 2857)) + B_{\bar{N}}(2N + 3552 - (N + 3614)) \\
&= B_{\bar{N}}(N - 66) + B_{\bar{N}}(695) + B_{\bar{N}}(N - 62) = (N - 66) + 695 + (N - 62) = \mathbf{2N} + \mathbf{567} \\
&(N \geq 695)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3553}) &= B_{\bar{N}}(2N + 3553 - B_{\bar{N}}(2N + 3552)) + B_{\bar{N}}(2N + 3553 - B_{\bar{N}}(2N + 3551)) + B_{\bar{N}}(2N + 3553 - B_{\bar{N}}(2N + 3550)) \\
&= B_{\bar{N}}(2N + 3553 - (2N + 567)) + B_{\bar{N}}(2N + 3553 - (N + 3618)) + B_{\bar{N}}(2N + 3553 - (2N + 2857)) \\
&= B_{\bar{N}}(2986) + B_{\bar{N}}(N - 65) + B_{\bar{N}}(696) = 2986 + (N - 65) + 696 = \mathbf{N} + \mathbf{3617} \\
&(N \geq 2986)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3554}) &= B_{\bar{N}}(2N + 3554 - B_{\bar{N}}(2N + 3553)) + B_{\bar{N}}(2N + 3554 - B_{\bar{N}}(2N + 3552)) + B_{\bar{N}}(2N + 3554 - B_{\bar{N}}(2N + 3551)) \\
&= B_{\bar{N}}(2N + 3554 - (N + 3617)) + B_{\bar{N}}(2N + 3554 - (2N + 567)) + B_{\bar{N}}(2N + 3554 - (N + 3618)) \\
&= B_{\bar{N}}(N - 63) + B_{\bar{N}}(2987) + B_{\bar{N}}(N - 64) = (N - 63) + 2987 + (N - 64) = \mathbf{2N} + \mathbf{2860} \\
&(N \geq 2987)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3555}) &= B_{\bar{N}}(2N + 3555 - B_{\bar{N}}(2N + 3554)) + B_{\bar{N}}(2N + 3555 - B_{\bar{N}}(2N + 3553)) + B_{\bar{N}}(2N + 3555 - B_{\bar{N}}(2N + 3552)) \\
&= B_{\bar{N}}(2N + 3555 - (2N + 2860)) + B_{\bar{N}}(2N + 3555 - (N + 3617)) + B_{\bar{N}}(2N + 3555 - (2N + 567)) \\
&= B_{\bar{N}}(695) + B_{\bar{N}}(N - 62) + B_{\bar{N}}(2988) = 695 + (N - 62) + 2988 = \mathbf{N} + \mathbf{3621} \\
&(N \geq 2988)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3556}) &= B_{\bar{N}}(2N + 3556 - B_{\bar{N}}(2N + 3555)) + B_{\bar{N}}(2N + 3556 - B_{\bar{N}}(2N + 3554)) + B_{\bar{N}}(2N + 3556 - B_{\bar{N}}(2N + 3553)) \\
&= B_{\bar{N}}(2N + 3556 - (N + 3621)) + B_{\bar{N}}(2N + 3556 - (2N + 2860)) + B_{\bar{N}}(2N + 3556 - (N + 3617)) \\
&= B_{\bar{N}}(N - 65) + B_{\bar{N}}(696) + B_{\bar{N}}(N - 61) = (N - 65) + 696 + (N - 61) = \mathbf{2N} + \mathbf{570} \\
&(N \geq 696)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3557}) &= B_{\bar{N}}(2N + 3557 - B_{\bar{N}}(2N + 3556)) + B_{\bar{N}}(2N + 3557 - B_{\bar{N}}(2N + 3555)) + B_{\bar{N}}(2N + 3557 - B_{\bar{N}}(2N + 3554)) \\
&= B_{\bar{N}}(2N + 3557 - (2N + 570)) + B_{\bar{N}}(2N + 3557 - (N + 3621)) + B_{\bar{N}}(2N + 3557 - (2N + 2860)) \\
&= B_{\bar{N}}(2987) + B_{\bar{N}}(N - 64) + B_{\bar{N}}(697) = 2987 + (N - 64) + 697 = \mathbf{N} + \mathbf{3620} \\
&(N \geq 2987)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3558}) &= B_{\bar{N}}(2N + 3558 - B_{\bar{N}}(2N + 3557)) + B_{\bar{N}}(2N + 3558 - B_{\bar{N}}(2N + 3556)) + B_{\bar{N}}(2N + 3558 - B_{\bar{N}}(2N + 3555)) \\
&= B_{\bar{N}}(2N + 3558 - (N + 3620)) + B_{\bar{N}}(2N + 3558 - (2N + 570)) + B_{\bar{N}}(2N + 3558 - (N + 3621)) \\
&= B_{\bar{N}}(N - 62) + B_{\bar{N}}(2988) + B_{\bar{N}}(N - 63) = (N - 62) + 2988 + (N - 63) = \mathbf{2N} + \mathbf{2863} \\
&(N \geq 2988)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3559}) &= B_{\bar{N}}(2N + 3559 - B_{\bar{N}}(2N + 3558)) + B_{\bar{N}}(2N + 3559 - B_{\bar{N}}(2N + 3557)) + B_{\bar{N}}(2N + 3559 - B_{\bar{N}}(2N + 3556)) \\
&= B_{\bar{N}}(2N + 3559 - (2N + 2863)) + B_{\bar{N}}(2N + 3559 - (N + 3620)) + B_{\bar{N}}(2N + 3559 - (2N + 570)) \\
&= B_{\bar{N}}(696) + B_{\bar{N}}(N - 61) + B_{\bar{N}}(2989) = 696 + (N - 61) + 2989 = \mathbf{N} + \mathbf{3624} \\
&(N \geq 2989)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3560}) &= B_{\bar{N}}(2N + 3560 - B_{\bar{N}}(2N + 3559)) + B_{\bar{N}}(2N + 3560 - B_{\bar{N}}(2N + 3558)) + B_{\bar{N}}(2N + 3560 - B_{\bar{N}}(2N + 3557)) \\
&= B_{\bar{N}}(2N + 3560 - (N + 3624)) + B_{\bar{N}}(2N + 3560 - (2N + 2863)) + B_{\bar{N}}(2N + 3560 - (N + 3620)) \\
&= B_{\bar{N}}(N - 64) + B_{\bar{N}}(697) + B_{\bar{N}}(N - 60) = (N - 64) + 697 + (N - 60) = \mathbf{2N} + \mathbf{573} \\
&(N \geq 697)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3561}) &= B_{\bar{N}}(2N + 3561 - B_{\bar{N}}(2N + 3560)) + B_{\bar{N}}(2N + 3561 - B_{\bar{N}}(2N + 3559)) + B_{\bar{N}}(2N + 3561 - B_{\bar{N}}(2N + 3558)) \\
&= B_{\bar{N}}(2N + 3561 - (2N + 573)) + B_{\bar{N}}(2N + 3561 - (N + 3624)) + B_{\bar{N}}(2N + 3561 - (2N + 2863)) \\
&= B_{\bar{N}}(2988) + B_{\bar{N}}(N - 63) + B_{\bar{N}}(698) = 2988 + (N - 63) + 698 = \mathbf{N} + \mathbf{3623} \\
&(N \geq 2988)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3562}) &= B_{\bar{N}}(2N + 3562 - B_{\bar{N}}(2N + 3561)) + B_{\bar{N}}(2N + 3562 - B_{\bar{N}}(2N + 3560)) + B_{\bar{N}}(2N + 3562 - B_{\bar{N}}(2N + 3559)) \\
&= B_{\bar{N}}(2N + 3562 - (N + 3623)) + B_{\bar{N}}(2N + 3562 - (2N + 573)) + B_{\bar{N}}(2N + 3562 - (N + 3624)) \\
&= B_{\bar{N}}(N - 61) + B_{\bar{N}}(2989) + B_{\bar{N}}(N - 62) = (N - 61) + 2989 + (N - 62) = \mathbf{2N} + \mathbf{2866} \\
&(N \geq 2989)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3563}) &= B_{\bar{N}}(2N + 3563 - B_{\bar{N}}(2N + 3562)) + B_{\bar{N}}(2N + 3563 - B_{\bar{N}}(2N + 3561)) + B_{\bar{N}}(2N + 3563 - B_{\bar{N}}(2N + 3560)) \\
&= B_{\bar{N}}(2N + 3563 - (2N + 2866)) + B_{\bar{N}}(2N + 3563 - (N + 3623)) + B_{\bar{N}}(2N + 3563 - (2N + 573)) \\
&= B_{\bar{N}}(697) + B_{\bar{N}}(N - 60) + B_{\bar{N}}(2990) = 697 + (N - 60) + 2990 = \mathbf{N} + \mathbf{3627} \\
&(N \geq 2990)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3564}) &= B_{\bar{N}}(2N + 3564 - B_{\bar{N}}(2N + 3563)) + B_{\bar{N}}(2N + 3564 - B_{\bar{N}}(2N + 3562)) + B_{\bar{N}}(2N + 3564 - B_{\bar{N}}(2N + 3561)) \\
&= B_{\bar{N}}(2N + 3564 - (N + 3627)) + B_{\bar{N}}(2N + 3564 - (2N + 2866)) + B_{\bar{N}}(2N + 3564 - (N + 3623)) \\
&= B_{\bar{N}}(N - 63) + B_{\bar{N}}(698) + B_{\bar{N}}(N - 59) = (N - 63) + 698 + (N - 59) = \mathbf{2N} + \mathbf{576} \\
&(N \geq 698)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3565}) &= B_{\bar{N}}(2N + 3565 - B_{\bar{N}}(2N + 3564)) + B_{\bar{N}}(2N + 3565 - B_{\bar{N}}(2N + 3563)) + B_{\bar{N}}(2N + 3565 - B_{\bar{N}}(2N + 3562)) \\
&= B_{\bar{N}}(2N + 3565 - (2N + 576)) + B_{\bar{N}}(2N + 3565 - (N + 3627)) + B_{\bar{N}}(2N + 3565 - (2N + 2866)) \\
&= B_{\bar{N}}(2989) + B_{\bar{N}}(N - 62) + B_{\bar{N}}(699) = 2989 + (N - 62) + 699 = \mathbf{N} + \mathbf{3626} \\
&(N \geq 2989)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3566}) &= B_{\bar{N}}(2N + 3566 - B_{\bar{N}}(2N + 3565)) + B_{\bar{N}}(2N + 3566 - B_{\bar{N}}(2N + 3564)) + B_{\bar{N}}(2N + 3566 - B_{\bar{N}}(2N + 3563)) \\
&= B_{\bar{N}}(2N + 3566 - (N + 3626)) + B_{\bar{N}}(2N + 3566 - (2N + 576)) + B_{\bar{N}}(2N + 3566 - (N + 3627)) \\
&= B_{\bar{N}}(N - 60) + B_{\bar{N}}(2990) + B_{\bar{N}}(N - 61) = (N - 60) + 2990 + (N - 61) = \mathbf{2N} + \mathbf{2869} \\
&(N \geq 2990)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3567}) &= B_{\bar{N}}(2N + 3567 - B_{\bar{N}}(2N + 3566)) + B_{\bar{N}}(2N + 3567 - B_{\bar{N}}(2N + 3565)) + B_{\bar{N}}(2N + 3567 - B_{\bar{N}}(2N + 3564)) \\
&= B_{\bar{N}}(2N + 3567 - (2N + 2869)) + B_{\bar{N}}(2N + 3567 - (N + 3626)) + B_{\bar{N}}(2N + 3567 - (2N + 576)) \\
&= B_{\bar{N}}(698) + B_{\bar{N}}(N - 59) + B_{\bar{N}}(2991) = 698 + (N - 59) + 2991 = \mathbf{N} + \mathbf{3630} \\
&(N \geq 2991)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3568}) &= B_{\bar{N}}(2N + 3568 - B_{\bar{N}}(2N + 3567)) + B_{\bar{N}}(2N + 3568 - B_{\bar{N}}(2N + 3566)) + B_{\bar{N}}(2N + 3568 - B_{\bar{N}}(2N + 3565)) \\
&= B_{\bar{N}}(2N + 3568 - (N + 3630)) + B_{\bar{N}}(2N + 3568 - (2N + 2869)) + B_{\bar{N}}(2N + 3568 - (N + 3626)) \\
&= B_{\bar{N}}(N - 62) + B_{\bar{N}}(699) + B_{\bar{N}}(N - 58) = (N - 62) + 699 + (N - 58) = \mathbf{2N} + \mathbf{579} \\
&(N \geq 699)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3569}) &= B_{\bar{N}}(2N + 3569 - B_{\bar{N}}(2N + 3568)) + B_{\bar{N}}(2N + 3569 - B_{\bar{N}}(2N + 3567)) + B_{\bar{N}}(2N + 3569 - B_{\bar{N}}(2N + 3566)) \\
&= B_{\bar{N}}(2N + 3569 - (2N + 579)) + B_{\bar{N}}(2N + 3569 - (N + 3630)) + B_{\bar{N}}(2N + 3569 - (2N + 2869)) \\
&= B_{\bar{N}}(2990) + B_{\bar{N}}(N - 61) + B_{\bar{N}}(700) = 2990 + (N - 61) + 700 = \mathbf{N} + \mathbf{3629} \\
&(N \geq 2990)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3570}) &= B_{\bar{N}}(2N + 3570 - B_{\bar{N}}(2N + 3569)) + B_{\bar{N}}(2N + 3570 - B_{\bar{N}}(2N + 3568)) + B_{\bar{N}}(2N + 3570 - B_{\bar{N}}(2N + 3567)) \\
&= B_{\bar{N}}(2N + 3570 - (N + 3629)) + B_{\bar{N}}(2N + 3570 - (2N + 579)) + B_{\bar{N}}(2N + 3570 - (N + 3630)) \\
&= B_{\bar{N}}(N - 59) + B_{\bar{N}}(2991) + B_{\bar{N}}(N - 60) = (N - 59) + 2991 + (N - 60) = \mathbf{2N} + \mathbf{2872} \\
&(N \geq 2991)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3571}) &= B_{\bar{N}}(2N + 3571 - B_{\bar{N}}(2N + 3570)) + B_{\bar{N}}(2N + 3571 - B_{\bar{N}}(2N + 3569)) + B_{\bar{N}}(2N + 3571 - B_{\bar{N}}(2N + 3568)) \\
&= B_{\bar{N}}(2N + 3571 - (2N + 2872)) + B_{\bar{N}}(2N + 3571 - (N + 3629)) + B_{\bar{N}}(2N + 3571 - (2N + 579)) \\
&= B_{\bar{N}}(699) + B_{\bar{N}}(N - 58) + B_{\bar{N}}(2992) = 699 + (N - 58) + 2992 = \mathbf{N} + \mathbf{3633} \\
&(N \geq 2992)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3572}) &= B_{\bar{N}}(2N + 3572 - B_{\bar{N}}(2N + 3571)) + B_{\bar{N}}(2N + 3572 - B_{\bar{N}}(2N + 3570)) + B_{\bar{N}}(2N + 3572 - B_{\bar{N}}(2N + 3569)) \\
&= B_{\bar{N}}(2N + 3572 - (N + 3633)) + B_{\bar{N}}(2N + 3572 - (2N + 2872)) + B_{\bar{N}}(2N + 3572 - (N + 3629)) \\
&= B_{\bar{N}}(N - 61) + B_{\bar{N}}(700) + B_{\bar{N}}(N - 57) = (N - 61) + 700 + (N - 57) = \mathbf{2N} + \mathbf{582} \\
&(N \geq 700)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3573}) &= B_{\bar{N}}(2N + 3573 - B_{\bar{N}}(2N + 3572)) + B_{\bar{N}}(2N + 3573 - B_{\bar{N}}(2N + 3571)) + B_{\bar{N}}(2N + 3573 - B_{\bar{N}}(2N + 3570)) \\
&= B_{\bar{N}}(2N + 3573 - (2N + 582)) + B_{\bar{N}}(2N + 3573 - (N + 3633)) + B_{\bar{N}}(2N + 3573 - (2N + 2872)) \\
&= B_{\bar{N}}(2991) + B_{\bar{N}}(N - 60) + B_{\bar{N}}(701) = 2991 + (N - 60) + 701 = \mathbf{N} + \mathbf{3632} \\
&(N \geq 2991)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3574}) &= B_{\bar{N}}(2N + 3574 - B_{\bar{N}}(2N + 3573)) + B_{\bar{N}}(2N + 3574 - B_{\bar{N}}(2N + 3572)) + B_{\bar{N}}(2N + 3574 - B_{\bar{N}}(2N + 3571)) \\
&= B_{\bar{N}}(2N + 3574 - (N + 3632)) + B_{\bar{N}}(2N + 3574 - (2N + 582)) + B_{\bar{N}}(2N + 3574 - (N + 3633)) \\
&= B_{\bar{N}}(N - 58) + B_{\bar{N}}(2992) + B_{\bar{N}}(N - 59) = (N - 58) + 2992 + (N - 59) = \mathbf{2N} + \mathbf{2875} \\
&(N \geq 2992)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3575}) &= B_{\bar{N}}(2N + 3575 - B_{\bar{N}}(2N + 3574)) + B_{\bar{N}}(2N + 3575 - B_{\bar{N}}(2N + 3573)) + B_{\bar{N}}(2N + 3575 - B_{\bar{N}}(2N + 3572)) \\
&= B_{\bar{N}}(2N + 3575 - (2N + 2875)) + B_{\bar{N}}(2N + 3575 - (N + 3632)) + B_{\bar{N}}(2N + 3575 - (2N + 582)) \\
&= B_{\bar{N}}(700) + B_{\bar{N}}(N - 57) + B_{\bar{N}}(2993) = 700 + (N - 57) + 2993 = \mathbf{N} + \mathbf{3636} \\
&(N \geq 2993)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3576}) &= B_{\bar{N}}(2N + 3576 - B_{\bar{N}}(2N + 3575)) + B_{\bar{N}}(2N + 3576 - B_{\bar{N}}(2N + 3574)) + B_{\bar{N}}(2N + 3576 - B_{\bar{N}}(2N + 3573)) \\
&= B_{\bar{N}}(2N + 3576 - (N + 3636)) + B_{\bar{N}}(2N + 3576 - (2N + 2875)) + B_{\bar{N}}(2N + 3576 - (N + 3632)) \\
&= B_{\bar{N}}(N - 60) + B_{\bar{N}}(701) + B_{\bar{N}}(N - 56) = (N - 60) + 701 + (N - 56) = \mathbf{2N} + \mathbf{585} \\
&(N \geq 701)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3577}) &= B_{\bar{N}}(2N + 3577 - B_{\bar{N}}(2N + 3576)) + B_{\bar{N}}(2N + 3577 - B_{\bar{N}}(2N + 3575)) + B_{\bar{N}}(2N + 3577 - B_{\bar{N}}(2N + 3574)) \\
&= B_{\bar{N}}(2N + 3577 - (2N + 585)) + B_{\bar{N}}(2N + 3577 - (N + 3636)) + B_{\bar{N}}(2N + 3577 - (2N + 2875)) \\
&= B_{\bar{N}}(2992) + B_{\bar{N}}(N - 59) + B_{\bar{N}}(702) = 2992 + (N - 59) + 702 = \mathbf{N} + \mathbf{3635} \\
&(N \geq 2992)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3578}) &= B_{\bar{N}}(2N + 3578 - B_{\bar{N}}(2N + 3577)) + B_{\bar{N}}(2N + 3578 - B_{\bar{N}}(2N + 3576)) + B_{\bar{N}}(2N + 3578 - B_{\bar{N}}(2N + 3575)) \\
&= B_{\bar{N}}(2N + 3578 - (N + 3635)) + B_{\bar{N}}(2N + 3578 - (2N + 585)) + B_{\bar{N}}(2N + 3578 - (N + 3636)) \\
&= B_{\bar{N}}(N - 57) + B_{\bar{N}}(2993) + B_{\bar{N}}(N - 58) = (N - 57) + 2993 + (N - 58) = \mathbf{2N} + \mathbf{2878} \\
&(N \geq 2993)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3579}) &= B_{\bar{N}}(2N + 3579 - B_{\bar{N}}(2N + 3578)) + B_{\bar{N}}(2N + 3579 - B_{\bar{N}}(2N + 3577)) + B_{\bar{N}}(2N + 3579 - B_{\bar{N}}(2N + 3576)) \\
&= B_{\bar{N}}(2N + 3579 - (2N + 2878)) + B_{\bar{N}}(2N + 3579 - (N + 3635)) + B_{\bar{N}}(2N + 3579 - (2N + 585)) \\
&= B_{\bar{N}}(701) + B_{\bar{N}}(N - 56) + B_{\bar{N}}(2994) = 701 + (N - 56) + 2994 = \mathbf{N} + \mathbf{3639} \\
&(N \geq 2994)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3580}) &= B_{\bar{N}}(2N + 3580 - B_{\bar{N}}(2N + 3579)) + B_{\bar{N}}(2N + 3580 - B_{\bar{N}}(2N + 3578)) + B_{\bar{N}}(2N + 3580 - B_{\bar{N}}(2N + 3577)) \\
&= B_{\bar{N}}(2N + 3580 - (N + 3639)) + B_{\bar{N}}(2N + 3580 - (2N + 2878)) + B_{\bar{N}}(2N + 3580 - (N + 3635)) \\
&= B_{\bar{N}}(N - 59) + B_{\bar{N}}(702) + B_{\bar{N}}(N - 55) = (N - 59) + 702 + (N - 55) = \mathbf{2N} + \mathbf{588} \\
&(N \geq 702)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3581}) &= B_{\bar{N}}(2N + 3581 - B_{\bar{N}}(2N + 3580)) + B_{\bar{N}}(2N + 3581 - B_{\bar{N}}(2N + 3579)) + B_{\bar{N}}(2N + 3581 - B_{\bar{N}}(2N + 3578)) \\
&= B_{\bar{N}}(2N + 3581 - (2N + 588)) + B_{\bar{N}}(2N + 3581 - (N + 3639)) + B_{\bar{N}}(2N + 3581 - (2N + 2878)) \\
&= B_{\bar{N}}(2993) + B_{\bar{N}}(N - 58) + B_{\bar{N}}(703) = 2993 + (N - 58) + 703 = \mathbf{N} + \mathbf{3638} \\
&(N \geq 2993)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3582}) &= B_{\bar{N}}(2N + 3582 - B_{\bar{N}}(2N + 3581)) + B_{\bar{N}}(2N + 3582 - B_{\bar{N}}(2N + 3580)) + B_{\bar{N}}(2N + 3582 - B_{\bar{N}}(2N + 3579)) \\
&= B_{\bar{N}}(2N + 3582 - (N + 3638)) + B_{\bar{N}}(2N + 3582 - (2N + 588)) + B_{\bar{N}}(2N + 3582 - (N + 3639)) \\
&= B_{\bar{N}}(N - 56) + B_{\bar{N}}(2994) + B_{\bar{N}}(N - 57) = (N - 56) + 2994 + (N - 57) = \mathbf{2N} + \mathbf{2881} \\
&(N \geq 2994)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3583}) &= B_{\bar{N}}(2N + 3583 - B_{\bar{N}}(2N + 3582)) + B_{\bar{N}}(2N + 3583 - B_{\bar{N}}(2N + 3581)) + B_{\bar{N}}(2N + 3583 - B_{\bar{N}}(2N + 3580)) \\
&= B_{\bar{N}}(2N + 3583 - (2N + 2881)) + B_{\bar{N}}(2N + 3583 - (N + 3638)) + B_{\bar{N}}(2N + 3583 - (2N + 588)) \\
&= B_{\bar{N}}(702) + B_{\bar{N}}(N - 55) + B_{\bar{N}}(2995) = 702 + (N - 55) + 2995 = \mathbf{N} + \mathbf{3642} \\
&(N \geq 2995)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3584}) &= B_{\bar{N}}(2N + 3584 - B_{\bar{N}}(2N + 3583)) + B_{\bar{N}}(2N + 3584 - B_{\bar{N}}(2N + 3582)) + B_{\bar{N}}(2N + 3584 - B_{\bar{N}}(2N + 3581)) \\
&= B_{\bar{N}}(2N + 3584 - (N + 3642)) + B_{\bar{N}}(2N + 3584 - (2N + 2881)) + B_{\bar{N}}(2N + 3584 - (N + 3638)) \\
&= B_{\bar{N}}(N - 58) + B_{\bar{N}}(703) + B_{\bar{N}}(N - 54) = (N - 58) + 703 + (N - 54) = \mathbf{2N} + \mathbf{591} \\
&(N \geq 703)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3585}) &= B_{\bar{N}}(2N + 3585 - B_{\bar{N}}(2N + 3584)) + B_{\bar{N}}(2N + 3585 - B_{\bar{N}}(2N + 3583)) + B_{\bar{N}}(2N + 3585 - B_{\bar{N}}(2N + 3582)) \\
&= B_{\bar{N}}(2N + 3585 - (2N + 591)) + B_{\bar{N}}(2N + 3585 - (N + 3642)) + B_{\bar{N}}(2N + 3585 - (2N + 2881)) \\
&= B_{\bar{N}}(2994) + B_{\bar{N}}(N - 57) + B_{\bar{N}}(704) = 2994 + (N - 57) + 704 = \mathbf{N} + \mathbf{3641} \\
&(N \geq 2994)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3586}) &= B_{\bar{N}}(2N + 3586 - B_{\bar{N}}(2N + 3585)) + B_{\bar{N}}(2N + 3586 - B_{\bar{N}}(2N + 3584)) + B_{\bar{N}}(2N + 3586 - B_{\bar{N}}(2N + 3583)) \\
&= B_{\bar{N}}(2N + 3586 - (N + 3641)) + B_{\bar{N}}(2N + 3586 - (2N + 591)) + B_{\bar{N}}(2N + 3586 - (N + 3642)) \\
&= B_{\bar{N}}(N - 55) + B_{\bar{N}}(2995) + B_{\bar{N}}(N - 56) = (N - 55) + 2995 + (N - 56) = \mathbf{2N} + \mathbf{2884} \\
&(N \geq 2995)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3587}) &= B_{\bar{N}}(2N + 3587 - B_{\bar{N}}(2N + 3586)) + B_{\bar{N}}(2N + 3587 - B_{\bar{N}}(2N + 3585)) + B_{\bar{N}}(2N + 3587 - B_{\bar{N}}(2N + 3584)) \\
&= B_{\bar{N}}(2N + 3587 - (2N + 2884)) + B_{\bar{N}}(2N + 3587 - (N + 3641)) + B_{\bar{N}}(2N + 3587 - (2N + 591)) \\
&= B_{\bar{N}}(703) + B_{\bar{N}}(N - 54) + B_{\bar{N}}(2996) = 703 + (N - 54) + 2996 = \mathbf{N} + \mathbf{3645} \\
&(N \geq 2996)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3588}) &= B_{\bar{N}}(2N + 3588 - B_{\bar{N}}(2N + 3587)) + B_{\bar{N}}(2N + 3588 - B_{\bar{N}}(2N + 3586)) + B_{\bar{N}}(2N + 3588 - B_{\bar{N}}(2N + 3585)) \\
&= B_{\bar{N}}(2N + 3588 - (N + 3645)) + B_{\bar{N}}(2N + 3588 - (2N + 2884)) + B_{\bar{N}}(2N + 3588 - (N + 3641)) \\
&= B_{\bar{N}}(N - 57) + B_{\bar{N}}(704) + B_{\bar{N}}(N - 53) = (N - 57) + 704 + (N - 53) = \mathbf{2N} + \mathbf{594} \\
&(N \geq 704)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3589}) &= B_{\bar{N}}(2N + 3589 - B_{\bar{N}}(2N + 3588)) + B_{\bar{N}}(2N + 3589 - B_{\bar{N}}(2N + 3587)) + B_{\bar{N}}(2N + 3589 - B_{\bar{N}}(2N + 3586)) \\
&= B_{\bar{N}}(2N + 3589 - (2N + 594)) + B_{\bar{N}}(2N + 3589 - (N + 3645)) + B_{\bar{N}}(2N + 3589 - (2N + 2884)) \\
&= B_{\bar{N}}(2995) + B_{\bar{N}}(N - 56) + B_{\bar{N}}(705) = 2995 + (N - 56) + 705 = \mathbf{N} + \mathbf{3644} \\
&(N \geq 2995)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3590}) &= B_{\bar{N}}(2N + 3590 - B_{\bar{N}}(2N + 3589)) + B_{\bar{N}}(2N + 3590 - B_{\bar{N}}(2N + 3588)) + B_{\bar{N}}(2N + 3590 - B_{\bar{N}}(2N + 3587)) \\
&= B_{\bar{N}}(2N + 3590 - (N + 3644)) + B_{\bar{N}}(2N + 3590 - (2N + 594)) + B_{\bar{N}}(2N + 3590 - (N + 3645)) \\
&= B_{\bar{N}}(N - 54) + B_{\bar{N}}(2996) + B_{\bar{N}}(N - 55) = (N - 54) + 2996 + (N - 55) = \mathbf{2N} + \mathbf{2887} \\
&(N \geq 2996)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3591}) &= B_{\bar{N}}(2N + 3591 - B_{\bar{N}}(2N + 3590)) + B_{\bar{N}}(2N + 3591 - B_{\bar{N}}(2N + 3589)) + B_{\bar{N}}(2N + 3591 - B_{\bar{N}}(2N + 3588)) \\
&= B_{\bar{N}}(2N + 3591 - (2N + 2887)) + B_{\bar{N}}(2N + 3591 - (N + 3644)) + B_{\bar{N}}(2N + 3591 - (2N + 594)) \\
&= B_{\bar{N}}(704) + B_{\bar{N}}(N - 53) + B_{\bar{N}}(2997) = 704 + (N - 53) + 2997 = \mathbf{N} + \mathbf{3648} \\
&(N \geq 2997)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3592}) &= B_{\bar{N}}(2N + 3592 - B_{\bar{N}}(2N + 3591)) + B_{\bar{N}}(2N + 3592 - B_{\bar{N}}(2N + 3590)) + B_{\bar{N}}(2N + 3592 - B_{\bar{N}}(2N + 3589)) \\
&= B_{\bar{N}}(2N + 3592 - (N + 3648)) + B_{\bar{N}}(2N + 3592 - (2N + 2887)) + B_{\bar{N}}(2N + 3592 - (N + 3644)) \\
&= B_{\bar{N}}(N - 56) + B_{\bar{N}}(705) + B_{\bar{N}}(N - 52) = (N - 56) + 705 + (N - 52) = \mathbf{2N} + \mathbf{597} \\
&(N \geq 705)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3593}) &= B_{\bar{N}}(2N + 3593 - B_{\bar{N}}(2N + 3592)) + B_{\bar{N}}(2N + 3593 - B_{\bar{N}}(2N + 3591)) + B_{\bar{N}}(2N + 3593 - B_{\bar{N}}(2N + 3590)) \\
&= B_{\bar{N}}(2N + 3593 - (2N + 597)) + B_{\bar{N}}(2N + 3593 - (N + 3648)) + B_{\bar{N}}(2N + 3593 - (2N + 2887)) \\
&= B_{\bar{N}}(2996) + B_{\bar{N}}(N - 55) + B_{\bar{N}}(706) = 2996 + (N - 55) + 706 = \mathbf{N} + \mathbf{3647} \\
&(N \geq 2996)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3594}) &= B_{\bar{N}}(2N + 3594 - B_{\bar{N}}(2N + 3593)) + B_{\bar{N}}(2N + 3594 - B_{\bar{N}}(2N + 3592)) + B_{\bar{N}}(2N + 3594 - B_{\bar{N}}(2N + 3591)) \\
&= B_{\bar{N}}(2N + 3594 - (N + 3647)) + B_{\bar{N}}(2N + 3594 - (2N + 597)) + B_{\bar{N}}(2N + 3594 - (N + 3648)) \\
&= B_{\bar{N}}(N - 53) + B_{\bar{N}}(2997) + B_{\bar{N}}(N - 54) = (N - 53) + 2997 + (N - 54) = \mathbf{2N} + \mathbf{2890} \\
&(N \geq 2997)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3595}) &= B_{\bar{N}}(2N + 3595 - B_{\bar{N}}(2N + 3594)) + B_{\bar{N}}(2N + 3595 - B_{\bar{N}}(2N + 3593)) + B_{\bar{N}}(2N + 3595 - B_{\bar{N}}(2N + 3592)) \\
&= B_{\bar{N}}(2N + 3595 - (2N + 2890)) + B_{\bar{N}}(2N + 3595 - (N + 3647)) + B_{\bar{N}}(2N + 3595 - (2N + 597)) \\
&= B_{\bar{N}}(705) + B_{\bar{N}}(N - 52) + B_{\bar{N}}(2998) = 705 + (N - 52) + 2998 = \mathbf{N} + \mathbf{3651} \\
&(N \geq 2998)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3596}) &= B_{\bar{N}}(2N + 3596 - B_{\bar{N}}(2N + 3595)) + B_{\bar{N}}(2N + 3596 - B_{\bar{N}}(2N + 3594)) + B_{\bar{N}}(2N + 3596 - B_{\bar{N}}(2N + 3593)) \\
&= B_{\bar{N}}(2N + 3596 - (N + 3651)) + B_{\bar{N}}(2N + 3596 - (2N + 2890)) + B_{\bar{N}}(2N + 3596 - (N + 3647)) \\
&= B_{\bar{N}}(N - 55) + B_{\bar{N}}(706) + B_{\bar{N}}(N - 51) = (N - 55) + 706 + (N - 51) = \mathbf{2N} + \mathbf{600} \\
&(N \geq 706)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3597}) &= B_{\bar{N}}(2N + 3597 - B_{\bar{N}}(2N + 3596)) + B_{\bar{N}}(2N + 3597 - B_{\bar{N}}(2N + 3595)) + B_{\bar{N}}(2N + 3597 - B_{\bar{N}}(2N + 3594)) \\
&= B_{\bar{N}}(2N + 3597 - (2N + 600)) + B_{\bar{N}}(2N + 3597 - (N + 3651)) + B_{\bar{N}}(2N + 3597 - (2N + 2890)) \\
&= B_{\bar{N}}(2997) + B_{\bar{N}}(N - 54) + B_{\bar{N}}(707) = 2997 + (N - 54) + 707 = \mathbf{N} + \mathbf{3650} \\
&(N \geq 2997)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3598}) &= B_{\bar{N}}(2N + 3598 - B_{\bar{N}}(2N + 3597)) + B_{\bar{N}}(2N + 3598 - B_{\bar{N}}(2N + 3596)) + B_{\bar{N}}(2N + 3598 - B_{\bar{N}}(2N + 3595)) \\
&= B_{\bar{N}}(2N + 3598 - (N + 3650)) + B_{\bar{N}}(2N + 3598 - (2N + 600)) + B_{\bar{N}}(2N + 3598 - (N + 3651)) \\
&= B_{\bar{N}}(N - 52) + B_{\bar{N}}(2998) + B_{\bar{N}}(N - 53) = (N - 52) + 2998 + (N - 53) = \mathbf{2N} + \mathbf{2893} \\
&(N \geq 2998)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3599}) &= B_{\bar{N}}(2N + 3599 - B_{\bar{N}}(2N + 3598)) + B_{\bar{N}}(2N + 3599 - B_{\bar{N}}(2N + 3597)) + B_{\bar{N}}(2N + 3599 - B_{\bar{N}}(2N + 3596)) \\
&= B_{\bar{N}}(2N + 3599 - (2N + 2893)) + B_{\bar{N}}(2N + 3599 - (N + 3650)) + B_{\bar{N}}(2N + 3599 - (2N + 600)) \\
&= B_{\bar{N}}(706) + B_{\bar{N}}(N - 51) + B_{\bar{N}}(2999) = 706 + (N - 51) + 2999 = \mathbf{N} + \mathbf{3654} \\
&(N \geq 2999)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3600}) &= B_{\bar{N}}(2N + 3600 - B_{\bar{N}}(2N + 3599)) + B_{\bar{N}}(2N + 3600 - B_{\bar{N}}(2N + 3598)) + B_{\bar{N}}(2N + 3600 - B_{\bar{N}}(2N + 3597)) \\
&= B_{\bar{N}}(2N + 3600 - (N + 3654)) + B_{\bar{N}}(2N + 3600 - (2N + 2893)) + B_{\bar{N}}(2N + 3600 - (N + 3650)) \\
&= B_{\bar{N}}(N - 54) + B_{\bar{N}}(707) + B_{\bar{N}}(N - 50) = (N - 54) + 707 + (N - 50) = \mathbf{2N} + \mathbf{603} \\
&(N \geq 707)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3601}) &= B_{\bar{N}}(2N + 3601 - B_{\bar{N}}(2N + 3600)) + B_{\bar{N}}(2N + 3601 - B_{\bar{N}}(2N + 3599)) + B_{\bar{N}}(2N + 3601 - B_{\bar{N}}(2N + 3598)) \\
&= B_{\bar{N}}(2N + 3601 - (2N + 603)) + B_{\bar{N}}(2N + 3601 - (N + 3654)) + B_{\bar{N}}(2N + 3601 - (2N + 2893)) \\
&= B_{\bar{N}}(2998) + B_{\bar{N}}(N - 53) + B_{\bar{N}}(708) = 2998 + (N - 53) + 708 = \mathbf{N} + \mathbf{3653} \\
&(N \geq 2998)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3602}) &= B_{\bar{N}}(2N + 3602 - B_{\bar{N}}(2N + 3601)) + B_{\bar{N}}(2N + 3602 - B_{\bar{N}}(2N + 3600)) + B_{\bar{N}}(2N + 3602 - B_{\bar{N}}(2N + 3599)) \\
&= B_{\bar{N}}(2N + 3602 - (N + 3653)) + B_{\bar{N}}(2N + 3602 - (2N + 603)) + B_{\bar{N}}(2N + 3602 - (N + 3654)) \\
&= B_{\bar{N}}(N - 51) + B_{\bar{N}}(2999) + B_{\bar{N}}(N - 52) = (N - 51) + 2999 + (N - 52) = \mathbf{2N} + \mathbf{2896} \\
&(N \geq 2999)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3603}) &= B_{\bar{N}}(2N + 3603 - B_{\bar{N}}(2N + 3602)) + B_{\bar{N}}(2N + 3603 - B_{\bar{N}}(2N + 3601)) + B_{\bar{N}}(2N + 3603 - B_{\bar{N}}(2N + 3600)) \\
&= B_{\bar{N}}(2N + 3603 - (2N + 2896)) + B_{\bar{N}}(2N + 3603 - (N + 3653)) + B_{\bar{N}}(2N + 3603 - (2N + 603)) \\
&= B_{\bar{N}}(707) + B_{\bar{N}}(N - 50) + B_{\bar{N}}(3000) = 707 + (N - 50) + 3000 = \mathbf{N} + \mathbf{3657} \\
&(N \geq 3000)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3604}) &= B_{\bar{N}}(2N + 3604 - B_{\bar{N}}(2N + 3603)) + B_{\bar{N}}(2N + 3604 - B_{\bar{N}}(2N + 3602)) + B_{\bar{N}}(2N + 3604 - B_{\bar{N}}(2N + 3601)) \\
&= B_{\bar{N}}(2N + 3604 - (N + 3657)) + B_{\bar{N}}(2N + 3604 - (2N + 2896)) + B_{\bar{N}}(2N + 3604 - (N + 3653)) \\
&= B_{\bar{N}}(N - 53) + B_{\bar{N}}(708) + B_{\bar{N}}(N - 49) = (N - 53) + 708 + (N - 49) = \mathbf{2N} + \mathbf{606} \\
&(N \geq 708)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3605}) &= B_{\bar{N}}(2N + 3605 - B_{\bar{N}}(2N + 3604)) + B_{\bar{N}}(2N + 3605 - B_{\bar{N}}(2N + 3603)) + B_{\bar{N}}(2N + 3605 - B_{\bar{N}}(2N + 3602)) \\
&= B_{\bar{N}}(2N + 3605 - (2N + 606)) + B_{\bar{N}}(2N + 3605 - (N + 3657)) + B_{\bar{N}}(2N + 3605 - (2N + 2896)) \\
&= B_{\bar{N}}(2999) + B_{\bar{N}}(N - 52) + B_{\bar{N}}(709) = 2999 + (N - 52) + 709 = \mathbf{N} + \mathbf{3656} \\
&(N \geq 2999)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3606}) &= B_{\bar{N}}(2N + 3606 - B_{\bar{N}}(2N + 3605)) + B_{\bar{N}}(2N + 3606 - B_{\bar{N}}(2N + 3604)) + B_{\bar{N}}(2N + 3606 - B_{\bar{N}}(2N + 3603)) \\
&= B_{\bar{N}}(2N + 3606 - (N + 3656)) + B_{\bar{N}}(2N + 3606 - (2N + 606)) + B_{\bar{N}}(2N + 3606 - (N + 3657)) \\
&= B_{\bar{N}}(N - 50) + B_{\bar{N}}(3000) + B_{\bar{N}}(N - 51) = (N - 50) + 3000 + (N - 51) = \mathbf{2N} + \mathbf{2899} \\
&(N \geq 3000)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3607}) &= B_{\bar{N}}(2N + 3607 - B_{\bar{N}}(2N + 3606)) + B_{\bar{N}}(2N + 3607 - B_{\bar{N}}(2N + 3605)) + B_{\bar{N}}(2N + 3607 - B_{\bar{N}}(2N + 3604)) \\
&= B_{\bar{N}}(2N + 3607 - (2N + 2899)) + B_{\bar{N}}(2N + 3607 - (N + 3656)) + B_{\bar{N}}(2N + 3607 - (2N + 606)) \\
&= B_{\bar{N}}(708) + B_{\bar{N}}(N - 49) + B_{\bar{N}}(3001) = 708 + (N - 49) + 3001 = \mathbf{N} + \mathbf{3660} \\
&(N \geq 3001)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3608}) &= B_{\bar{N}}(2N + 3608 - B_{\bar{N}}(2N + 3607)) + B_{\bar{N}}(2N + 3608 - B_{\bar{N}}(2N + 3606)) + B_{\bar{N}}(2N + 3608 - B_{\bar{N}}(2N + 3605)) \\
&= B_{\bar{N}}(2N + 3608 - (N + 3660)) + B_{\bar{N}}(2N + 3608 - (2N + 2899)) + B_{\bar{N}}(2N + 3608 - (N + 3656)) \\
&= B_{\bar{N}}(N - 52) + B_{\bar{N}}(709) + B_{\bar{N}}(N - 48) = (N - 52) + 709 + (N - 48) = \mathbf{2N} + \mathbf{609} \\
&(N \geq 709)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3609}) &= B_{\bar{N}}(2N + 3609 - B_{\bar{N}}(2N + 3608)) + B_{\bar{N}}(2N + 3609 - B_{\bar{N}}(2N + 3607)) + B_{\bar{N}}(2N + 3609 - B_{\bar{N}}(2N + 3606)) \\
&= B_{\bar{N}}(2N + 3609 - (2N + 609)) + B_{\bar{N}}(2N + 3609 - (N + 3660)) + B_{\bar{N}}(2N + 3609 - (2N + 2899)) \\
&= B_{\bar{N}}(3000) + B_{\bar{N}}(N - 51) + B_{\bar{N}}(710) = 3000 + (N - 51) + 710 = \mathbf{N} + \mathbf{3659} \\
&(N \geq 3000)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3610}) &= B_{\bar{N}}(2N + 3610 - B_{\bar{N}}(2N + 3609)) + B_{\bar{N}}(2N + 3610 - B_{\bar{N}}(2N + 3608)) + B_{\bar{N}}(2N + 3610 - B_{\bar{N}}(2N + 3607)) \\
&= B_{\bar{N}}(2N + 3610 - (N + 3659)) + B_{\bar{N}}(2N + 3610 - (2N + 609)) + B_{\bar{N}}(2N + 3610 - (N + 3660)) \\
&= B_{\bar{N}}(N - 49) + B_{\bar{N}}(3001) + B_{\bar{N}}(N - 50) = (N - 49) + 3001 + (N - 50) = \mathbf{2N} + \mathbf{2902} \\
&(N \geq 3001)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3611}) &= B_{\bar{N}}(2N + 3611 - B_{\bar{N}}(2N + 3610)) + B_{\bar{N}}(2N + 3611 - B_{\bar{N}}(2N + 3609)) + B_{\bar{N}}(2N + 3611 - B_{\bar{N}}(2N + 3608)) \\
&= B_{\bar{N}}(2N + 3611 - (2N + 2902)) + B_{\bar{N}}(2N + 3611 - (N + 3659)) + B_{\bar{N}}(2N + 3611 - (2N + 609)) \\
&= B_{\bar{N}}(709) + B_{\bar{N}}(N - 48) + B_{\bar{N}}(3002) = 709 + (N - 48) + 3002 = \mathbf{N} + \mathbf{3663} \\
&(N \geq 3002)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3612}) &= B_{\bar{N}}(2N + 3612 - B_{\bar{N}}(2N + 3611)) + B_{\bar{N}}(2N + 3612 - B_{\bar{N}}(2N + 3610)) + B_{\bar{N}}(2N + 3612 - B_{\bar{N}}(2N + 3609)) \\
&= B_{\bar{N}}(2N + 3612 - (N + 3663)) + B_{\bar{N}}(2N + 3612 - (2N + 2902)) + B_{\bar{N}}(2N + 3612 - (N + 3659)) \\
&= B_{\bar{N}}(N - 51) + B_{\bar{N}}(710) + B_{\bar{N}}(N - 47) = (N - 51) + 710 + (N - 47) = \mathbf{2N} + \mathbf{612} \\
&(N \geq 710)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3613}) &= B_{\bar{N}}(2N + 3613 - B_{\bar{N}}(2N + 3612)) + B_{\bar{N}}(2N + 3613 - B_{\bar{N}}(2N + 3611)) + B_{\bar{N}}(2N + 3613 - B_{\bar{N}}(2N + 3610)) \\
&= B_{\bar{N}}(2N + 3613 - (2N + 612)) + B_{\bar{N}}(2N + 3613 - (N + 3663)) + B_{\bar{N}}(2N + 3613 - (2N + 2902)) \\
&= B_{\bar{N}}(3001) + B_{\bar{N}}(N - 50) + B_{\bar{N}}(711) = 3001 + (N - 50) + 711 = \mathbf{N} + \mathbf{3662} \\
&(N \geq 3001)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3614}) &= B_{\bar{N}}(2N + 3614 - B_{\bar{N}}(2N + 3613)) + B_{\bar{N}}(2N + 3614 - B_{\bar{N}}(2N + 3612)) + B_{\bar{N}}(2N + 3614 - B_{\bar{N}}(2N + 3611)) \\
&= B_{\bar{N}}(2N + 3614 - (N + 3662)) + B_{\bar{N}}(2N + 3614 - (2N + 612)) + B_{\bar{N}}(2N + 3614 - (N + 3663)) \\
&= B_{\bar{N}}(N - 48) + B_{\bar{N}}(3002) + B_{\bar{N}}(N - 49) = (N - 48) + 3002 + (N - 49) = \mathbf{2N} + \mathbf{2905} \\
&(N \geq 3002)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3615}) &= B_{\bar{N}}(2N + 3615 - B_{\bar{N}}(2N + 3614)) + B_{\bar{N}}(2N + 3615 - B_{\bar{N}}(2N + 3613)) + B_{\bar{N}}(2N + 3615 - B_{\bar{N}}(2N + 3612)) \\
&= B_{\bar{N}}(2N + 3615 - (2N + 2905)) + B_{\bar{N}}(2N + 3615 - (N + 3662)) + B_{\bar{N}}(2N + 3615 - (2N + 612)) \\
&= B_{\bar{N}}(710) + B_{\bar{N}}(N - 47) + B_{\bar{N}}(3003) = 710 + (N - 47) + 3003 = \mathbf{N} + \mathbf{3666} \\
&(N \geq 3003)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3616}) &= B_{\bar{N}}(2N + 3616 - B_{\bar{N}}(2N + 3615)) + B_{\bar{N}}(2N + 3616 - B_{\bar{N}}(2N + 3614)) + B_{\bar{N}}(2N + 3616 - B_{\bar{N}}(2N + 3613)) \\
&= B_{\bar{N}}(2N + 3616 - (N + 3666)) + B_{\bar{N}}(2N + 3616 - (2N + 2905)) + B_{\bar{N}}(2N + 3616 - (N + 3662)) \\
&= B_{\bar{N}}(N - 50) + B_{\bar{N}}(711) + B_{\bar{N}}(N - 46) = (N - 50) + 711 + (N - 46) = \mathbf{2N} + \mathbf{615} \\
&(N \geq 711)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3617}) &= B_{\bar{N}}(2N + 3617 - B_{\bar{N}}(2N + 3616)) + B_{\bar{N}}(2N + 3617 - B_{\bar{N}}(2N + 3615)) + B_{\bar{N}}(2N + 3617 - B_{\bar{N}}(2N + 3614)) \\
&= B_{\bar{N}}(2N + 3617 - (2N + 615)) + B_{\bar{N}}(2N + 3617 - (N + 3666)) + B_{\bar{N}}(2N + 3617 - (2N + 2905)) \\
&= B_{\bar{N}}(3002) + B_{\bar{N}}(N - 49) + B_{\bar{N}}(712) = 3002 + (N - 49) + 712 = \mathbf{N} + \mathbf{3665} \\
&(N \geq 3002)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3618}) &= B_{\bar{N}}(2N + 3618 - B_{\bar{N}}(2N + 3617)) + B_{\bar{N}}(2N + 3618 - B_{\bar{N}}(2N + 3616)) + B_{\bar{N}}(2N + 3618 - B_{\bar{N}}(2N + 3615)) \\
&= B_{\bar{N}}(2N + 3618 - (N + 3665)) + B_{\bar{N}}(2N + 3618 - (2N + 615)) + B_{\bar{N}}(2N + 3618 - (N + 3666)) \\
&= B_{\bar{N}}(N - 47) + B_{\bar{N}}(3003) + B_{\bar{N}}(N - 48) = (N - 47) + 3003 + (N - 48) = \mathbf{2N} + \mathbf{2908} \\
&(N \geq 3003)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3619}) &= B_{\bar{N}}(2N + 3619 - B_{\bar{N}}(2N + 3618)) + B_{\bar{N}}(2N + 3619 - B_{\bar{N}}(2N + 3617)) + B_{\bar{N}}(2N + 3619 - B_{\bar{N}}(2N + 3616)) \\
&= B_{\bar{N}}(2N + 3619 - (2N + 2908)) + B_{\bar{N}}(2N + 3619 - (N + 3665)) + B_{\bar{N}}(2N + 3619 - (2N + 615)) \\
&= B_{\bar{N}}(711) + B_{\bar{N}}(N - 46) + B_{\bar{N}}(3004) = 711 + (N - 46) + 3004 = \mathbf{N} + \mathbf{3669} \\
&(N \geq 3004)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3620}) &= B_{\bar{N}}(2N + 3620 - B_{\bar{N}}(2N + 3619)) + B_{\bar{N}}(2N + 3620 - B_{\bar{N}}(2N + 3618)) + B_{\bar{N}}(2N + 3620 - B_{\bar{N}}(2N + 3617)) \\
&= B_{\bar{N}}(2N + 3620 - (N + 3669)) + B_{\bar{N}}(2N + 3620 - (2N + 2908)) + B_{\bar{N}}(2N + 3620 - (N + 3665)) \\
&= B_{\bar{N}}(N - 49) + B_{\bar{N}}(712) + B_{\bar{N}}(N - 45) = (N - 49) + 712 + (N - 45) = \mathbf{2N} + \mathbf{618} \\
&(N \geq 712)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3621}) &= B_{\bar{N}}(2N + 3621 - B_{\bar{N}}(2N + 3620)) + B_{\bar{N}}(2N + 3621 - B_{\bar{N}}(2N + 3619)) + B_{\bar{N}}(2N + 3621 - B_{\bar{N}}(2N + 3618)) \\
&= B_{\bar{N}}(2N + 3621 - (2N + 618)) + B_{\bar{N}}(2N + 3621 - (N + 3669)) + B_{\bar{N}}(2N + 3621 - (2N + 2908)) \\
&= B_{\bar{N}}(3003) + B_{\bar{N}}(N - 48) + B_{\bar{N}}(713) = 3003 + (N - 48) + 713 = \mathbf{N} + \mathbf{3668} \\
&(N \geq 3003)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3622}) &= B_{\bar{N}}(2N + 3622 - B_{\bar{N}}(2N + 3621)) + B_{\bar{N}}(2N + 3622 - B_{\bar{N}}(2N + 3620)) + B_{\bar{N}}(2N + 3622 - B_{\bar{N}}(2N + 3619)) \\
&= B_{\bar{N}}(2N + 3622 - (N + 3668)) + B_{\bar{N}}(2N + 3622 - (2N + 618)) + B_{\bar{N}}(2N + 3622 - (N + 3669)) \\
&= B_{\bar{N}}(N - 46) + B_{\bar{N}}(3004) + B_{\bar{N}}(N - 47) = (N - 46) + 3004 + (N - 47) = \mathbf{2N} + \mathbf{2911} \\
&(N \geq 3004)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3623}) &= B_{\bar{N}}(2N + 3623 - B_{\bar{N}}(2N + 3622)) + B_{\bar{N}}(2N + 3623 - B_{\bar{N}}(2N + 3621)) + B_{\bar{N}}(2N + 3623 - B_{\bar{N}}(2N + 3620)) \\
&= B_{\bar{N}}(2N + 3623 - (2N + 2911)) + B_{\bar{N}}(2N + 3623 - (N + 3668)) + B_{\bar{N}}(2N + 3623 - (2N + 618)) \\
&= B_{\bar{N}}(712) + B_{\bar{N}}(N - 45) + B_{\bar{N}}(3005) = 712 + (N - 45) + 3005 = \mathbf{N} + \mathbf{3672} \\
&(N \geq 3005)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3624}) &= B_{\bar{N}}(2N + 3624 - B_{\bar{N}}(2N + 3623)) + B_{\bar{N}}(2N + 3624 - B_{\bar{N}}(2N + 3622)) + B_{\bar{N}}(2N + 3624 - B_{\bar{N}}(2N + 3621)) \\
&= B_{\bar{N}}(2N + 3624 - (N + 3672)) + B_{\bar{N}}(2N + 3624 - (2N + 2911)) + B_{\bar{N}}(2N + 3624 - (N + 3668)) \\
&= B_{\bar{N}}(N - 48) + B_{\bar{N}}(713) + B_{\bar{N}}(N - 44) = (N - 48) + 713 + (N - 44) = \mathbf{2N} + \mathbf{621} \\
&(N \geq 713)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3625}) &= B_{\bar{N}}(2N + 3625 - B_{\bar{N}}(2N + 3624)) + B_{\bar{N}}(2N + 3625 - B_{\bar{N}}(2N + 3623)) + B_{\bar{N}}(2N + 3625 - B_{\bar{N}}(2N + 3622)) \\
&= B_{\bar{N}}(2N + 3625 - (2N + 621)) + B_{\bar{N}}(2N + 3625 - (N + 3672)) + B_{\bar{N}}(2N + 3625 - (2N + 2911)) \\
&= B_{\bar{N}}(3004) + B_{\bar{N}}(N - 47) + B_{\bar{N}}(714) = 3004 + (N - 47) + 714 = \mathbf{N} + \mathbf{3671} \\
&(N \geq 3004)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3626}) &= B_{\bar{N}}(2N + 3626 - B_{\bar{N}}(2N + 3625)) + B_{\bar{N}}(2N + 3626 - B_{\bar{N}}(2N + 3624)) + B_{\bar{N}}(2N + 3626 - B_{\bar{N}}(2N + 3623)) \\
&= B_{\bar{N}}(2N + 3626 - (N + 3671)) + B_{\bar{N}}(2N + 3626 - (2N + 621)) + B_{\bar{N}}(2N + 3626 - (N + 3672)) \\
&= B_{\bar{N}}(N - 45) + B_{\bar{N}}(3005) + B_{\bar{N}}(N - 46) = (N - 45) + 3005 + (N - 46) = \mathbf{2N} + \mathbf{2914} \\
&(N \geq 3005)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3627}) &= B_{\bar{N}}(2N + 3627 - B_{\bar{N}}(2N + 3626)) + B_{\bar{N}}(2N + 3627 - B_{\bar{N}}(2N + 3625)) + B_{\bar{N}}(2N + 3627 - B_{\bar{N}}(2N + 3624)) \\
&= B_{\bar{N}}(2N + 3627 - (2N + 2914)) + B_{\bar{N}}(2N + 3627 - (N + 3671)) + B_{\bar{N}}(2N + 3627 - (2N + 621)) \\
&= B_{\bar{N}}(713) + B_{\bar{N}}(N - 44) + B_{\bar{N}}(3006) = 713 + (N - 44) + 3006 = \mathbf{N} + \mathbf{3675} \\
&(N \geq 3006)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3628}) &= B_{\bar{N}}(2N + 3628 - B_{\bar{N}}(2N + 3627)) + B_{\bar{N}}(2N + 3628 - B_{\bar{N}}(2N + 3626)) + B_{\bar{N}}(2N + 3628 - B_{\bar{N}}(2N + 3625)) \\
&= B_{\bar{N}}(2N + 3628 - (N + 3675)) + B_{\bar{N}}(2N + 3628 - (2N + 2914)) + B_{\bar{N}}(2N + 3628 - (N + 3671)) \\
&= B_{\bar{N}}(N - 47) + B_{\bar{N}}(714) + B_{\bar{N}}(N - 43) = (N - 47) + 714 + (N - 43) = \mathbf{2N} + \mathbf{624} \\
&(N \geq 714)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3629}) &= B_{\bar{N}}(2N + 3629 - B_{\bar{N}}(2N + 3628)) + B_{\bar{N}}(2N + 3629 - B_{\bar{N}}(2N + 3627)) + B_{\bar{N}}(2N + 3629 - B_{\bar{N}}(2N + 3626)) \\
&= B_{\bar{N}}(2N + 3629 - (2N + 624)) + B_{\bar{N}}(2N + 3629 - (N + 3675)) + B_{\bar{N}}(2N + 3629 - (2N + 2914)) \\
&= B_{\bar{N}}(3005) + B_{\bar{N}}(N - 46) + B_{\bar{N}}(715) = 3005 + (N - 46) + 715 = \mathbf{N} + \mathbf{3674} \\
&(N \geq 3005)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3630}) &= B_{\bar{N}}(2N + 3630 - B_{\bar{N}}(2N + 3629)) + B_{\bar{N}}(2N + 3630 - B_{\bar{N}}(2N + 3628)) + B_{\bar{N}}(2N + 3630 - B_{\bar{N}}(2N + 3627)) \\
&= B_{\bar{N}}(2N + 3630 - (N + 3674)) + B_{\bar{N}}(2N + 3630 - (2N + 624)) + B_{\bar{N}}(2N + 3630 - (N + 3675)) \\
&= B_{\bar{N}}(N - 44) + B_{\bar{N}}(3006) + B_{\bar{N}}(N - 45) = (N - 44) + 3006 + (N - 45) = \mathbf{2N} + \mathbf{2917} \\
&(N \geq 3006)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3631}) &= B_{\bar{N}}(2N + 3631 - B_{\bar{N}}(2N + 3630)) + B_{\bar{N}}(2N + 3631 - B_{\bar{N}}(2N + 3629)) + B_{\bar{N}}(2N + 3631 - B_{\bar{N}}(2N + 3628)) \\
&= B_{\bar{N}}(2N + 3631 - (2N + 2917)) + B_{\bar{N}}(2N + 3631 - (N + 3674)) + B_{\bar{N}}(2N + 3631 - (2N + 624)) \\
&= B_{\bar{N}}(714) + B_{\bar{N}}(N - 43) + B_{\bar{N}}(3007) = 714 + (N - 43) + 3007 = \mathbf{N} + \mathbf{3678} \\
&(N \geq 3007)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3632}) &= B_{\bar{N}}(2N + 3632 - B_{\bar{N}}(2N + 3631)) + B_{\bar{N}}(2N + 3632 - B_{\bar{N}}(2N + 3630)) + B_{\bar{N}}(2N + 3632 - B_{\bar{N}}(2N + 3629)) \\
&= B_{\bar{N}}(2N + 3632 - (N + 3678)) + B_{\bar{N}}(2N + 3632 - (2N + 2917)) + B_{\bar{N}}(2N + 3632 - (N + 3674)) \\
&= B_{\bar{N}}(N - 46) + B_{\bar{N}}(715) + B_{\bar{N}}(N - 42) = (N - 46) + 715 + (N - 42) = \mathbf{2N} + \mathbf{627} \\
&(N \geq 715)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3633}) &= B_{\bar{N}}(2N + 3633 - B_{\bar{N}}(2N + 3632)) + B_{\bar{N}}(2N + 3633 - B_{\bar{N}}(2N + 3631)) + B_{\bar{N}}(2N + 3633 - B_{\bar{N}}(2N + 3630)) \\
&= B_{\bar{N}}(2N + 3633 - (2N + 627)) + B_{\bar{N}}(2N + 3633 - (N + 3678)) + B_{\bar{N}}(2N + 3633 - (2N + 2917)) \\
&= B_{\bar{N}}(3006) + B_{\bar{N}}(N - 45) + B_{\bar{N}}(716) = 3006 + (N - 45) + 716 = \mathbf{N} + \mathbf{3677} \\
&(N \geq 3006)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3634}) &= B_{\bar{N}}(2N + 3634 - B_{\bar{N}}(2N + 3633)) + B_{\bar{N}}(2N + 3634 - B_{\bar{N}}(2N + 3632)) + B_{\bar{N}}(2N + 3634 - B_{\bar{N}}(2N + 3631)) \\
&= B_{\bar{N}}(2N + 3634 - (N + 3677)) + B_{\bar{N}}(2N + 3634 - (2N + 627)) + B_{\bar{N}}(2N + 3634 - (N + 3678)) \\
&= B_{\bar{N}}(N - 43) + B_{\bar{N}}(3007) + B_{\bar{N}}(N - 44) = (N - 43) + 3007 + (N - 44) = \mathbf{2N} + \mathbf{2920} \\
&(N \geq 3007)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3635}) &= B_{\bar{N}}(2N + 3635 - B_{\bar{N}}(2N + 3634)) + B_{\bar{N}}(2N + 3635 - B_{\bar{N}}(2N + 3633)) + B_{\bar{N}}(2N + 3635 - B_{\bar{N}}(2N + 3632)) \\
&= B_{\bar{N}}(2N + 3635 - (2N + 2920)) + B_{\bar{N}}(2N + 3635 - (N + 3677)) + B_{\bar{N}}(2N + 3635 - (2N + 627)) \\
&= B_{\bar{N}}(715) + B_{\bar{N}}(N - 42) + B_{\bar{N}}(3008) = 715 + (N - 42) + 3008 = \mathbf{N} + \mathbf{3681} \\
&(N \geq 3008)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3636}) &= B_{\bar{N}}(2N + 3636 - B_{\bar{N}}(2N + 3635)) + B_{\bar{N}}(2N + 3636 - B_{\bar{N}}(2N + 3634)) + B_{\bar{N}}(2N + 3636 - B_{\bar{N}}(2N + 3633)) \\
&= B_{\bar{N}}(2N + 3636 - (N + 3681)) + B_{\bar{N}}(2N + 3636 - (2N + 2920)) + B_{\bar{N}}(2N + 3636 - (N + 3677)) \\
&= B_{\bar{N}}(N - 45) + B_{\bar{N}}(716) + B_{\bar{N}}(N - 41) = (N - 45) + 716 + (N - 41) = \mathbf{2N} + \mathbf{630} \\
&(N \geq 716)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3637}) &= B_{\bar{N}}(2N + 3637 - B_{\bar{N}}(2N + 3636)) + B_{\bar{N}}(2N + 3637 - B_{\bar{N}}(2N + 3635)) + B_{\bar{N}}(2N + 3637 - B_{\bar{N}}(2N + 3634)) \\
&= B_{\bar{N}}(2N + 3637 - (2N + 630)) + B_{\bar{N}}(2N + 3637 - (N + 3681)) + B_{\bar{N}}(2N + 3637 - (2N + 2920)) \\
&= B_{\bar{N}}(3007) + B_{\bar{N}}(N - 44) + B_{\bar{N}}(717) = 3007 + (N - 44) + 717 = \mathbf{N} + \mathbf{3680} \\
&(N \geq 3007)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3638}) &= B_{\bar{N}}(2N + 3638 - B_{\bar{N}}(2N + 3637)) + B_{\bar{N}}(2N + 3638 - B_{\bar{N}}(2N + 3636)) + B_{\bar{N}}(2N + 3638 - B_{\bar{N}}(2N + 3635)) \\
&= B_{\bar{N}}(2N + 3638 - (N + 3680)) + B_{\bar{N}}(2N + 3638 - (2N + 630)) + B_{\bar{N}}(2N + 3638 - (N + 3681)) \\
&= B_{\bar{N}}(N - 42) + B_{\bar{N}}(3008) + B_{\bar{N}}(N - 43) = (N - 42) + 3008 + (N - 43) = \mathbf{2N} + \mathbf{2923} \\
&(N \geq 3008)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3639}) &= B_{\bar{N}}(2N + 3639 - B_{\bar{N}}(2N + 3638)) + B_{\bar{N}}(2N + 3639 - B_{\bar{N}}(2N + 3637)) + B_{\bar{N}}(2N + 3639 - B_{\bar{N}}(2N + 3636)) \\
&= B_{\bar{N}}(2N + 3639 - (2N + 2923)) + B_{\bar{N}}(2N + 3639 - (N + 3680)) + B_{\bar{N}}(2N + 3639 - (2N + 630)) \\
&= B_{\bar{N}}(716) + B_{\bar{N}}(N - 41) + B_{\bar{N}}(3009) = 716 + (N - 41) + 3009 = \mathbf{N} + \mathbf{3684} \\
&(N \geq 3009)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3640}) &= B_{\bar{N}}(2N + 3640 - B_{\bar{N}}(2N + 3639)) + B_{\bar{N}}(2N + 3640 - B_{\bar{N}}(2N + 3638)) + B_{\bar{N}}(2N + 3640 - B_{\bar{N}}(2N + 3637)) \\
&= B_{\bar{N}}(2N + 3640 - (N + 3684)) + B_{\bar{N}}(2N + 3640 - (2N + 2923)) + B_{\bar{N}}(2N + 3640 - (N + 3680)) \\
&= B_{\bar{N}}(N - 44) + B_{\bar{N}}(717) + B_{\bar{N}}(N - 40) = (N - 44) + 717 + (N - 40) = \mathbf{2N} + \mathbf{633} \\
&(N \geq 717)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3641}) &= B_{\bar{N}}(2N + 3641 - B_{\bar{N}}(2N + 3640)) + B_{\bar{N}}(2N + 3641 - B_{\bar{N}}(2N + 3639)) + B_{\bar{N}}(2N + 3641 - B_{\bar{N}}(2N + 3638)) \\
&= B_{\bar{N}}(2N + 3641 - (2N + 633)) + B_{\bar{N}}(2N + 3641 - (N + 3684)) + B_{\bar{N}}(2N + 3641 - (2N + 2923)) \\
&= B_{\bar{N}}(3008) + B_{\bar{N}}(N - 43) + B_{\bar{N}}(718) = 3008 + (N - 43) + 718 = \mathbf{N} + \mathbf{3683} \\
&(N \geq 3008)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3642}) &= B_{\bar{N}}(2N + 3642 - B_{\bar{N}}(2N + 3641)) + B_{\bar{N}}(2N + 3642 - B_{\bar{N}}(2N + 3640)) + B_{\bar{N}}(2N + 3642 - B_{\bar{N}}(2N + 3639)) \\
&= B_{\bar{N}}(2N + 3642 - (N + 3683)) + B_{\bar{N}}(2N + 3642 - (2N + 633)) + B_{\bar{N}}(2N + 3642 - (N + 3684)) \\
&= B_{\bar{N}}(N - 41) + B_{\bar{N}}(3009) + B_{\bar{N}}(N - 42) = (N - 41) + 3009 + (N - 42) = \mathbf{2N} + \mathbf{2926} \\
&(N \geq 3009)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3643}) &= B_{\bar{N}}(2N + 3643 - B_{\bar{N}}(2N + 3642)) + B_{\bar{N}}(2N + 3643 - B_{\bar{N}}(2N + 3641)) + B_{\bar{N}}(2N + 3643 - B_{\bar{N}}(2N + 3640)) \\
&= B_{\bar{N}}(2N + 3643 - (2N + 2926)) + B_{\bar{N}}(2N + 3643 - (N + 3683)) + B_{\bar{N}}(2N + 3643 - (2N + 633)) \\
&= B_{\bar{N}}(717) + B_{\bar{N}}(N - 40) + B_{\bar{N}}(3010) = 717 + (N - 40) + 3010 = \mathbf{N} + \mathbf{3687} \\
&(N \geq 3010)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3644}) &= B_{\bar{N}}(2N + 3644 - B_{\bar{N}}(2N + 3643)) + B_{\bar{N}}(2N + 3644 - B_{\bar{N}}(2N + 3642)) + B_{\bar{N}}(2N + 3644 - B_{\bar{N}}(2N + 3641)) \\
&= B_{\bar{N}}(2N + 3644 - (N + 3687)) + B_{\bar{N}}(2N + 3644 - (2N + 2926)) + B_{\bar{N}}(2N + 3644 - (N + 3683)) \\
&= B_{\bar{N}}(N - 43) + B_{\bar{N}}(718) + B_{\bar{N}}(N - 39) = (N - 43) + 718 + (N - 39) = \mathbf{2N} + \mathbf{636} \\
&(N \geq 718)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3645}) &= B_{\bar{N}}(2N + 3645 - B_{\bar{N}}(2N + 3644)) + B_{\bar{N}}(2N + 3645 - B_{\bar{N}}(2N + 3643)) + B_{\bar{N}}(2N + 3645 - B_{\bar{N}}(2N + 3642)) \\
&= B_{\bar{N}}(2N + 3645 - (2N + 636)) + B_{\bar{N}}(2N + 3645 - (N + 3687)) + B_{\bar{N}}(2N + 3645 - (2N + 2926)) \\
&= B_{\bar{N}}(3009) + B_{\bar{N}}(N - 42) + B_{\bar{N}}(719) = 3009 + (N - 42) + 719 = \mathbf{N} + \mathbf{3686} \\
&(N \geq 3009)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3646}) &= B_{\bar{N}}(2N + 3646 - B_{\bar{N}}(2N + 3645)) + B_{\bar{N}}(2N + 3646 - B_{\bar{N}}(2N + 3644)) + B_{\bar{N}}(2N + 3646 - B_{\bar{N}}(2N + 3643)) \\
&= B_{\bar{N}}(2N + 3646 - (N + 3686)) + B_{\bar{N}}(2N + 3646 - (2N + 636)) + B_{\bar{N}}(2N + 3646 - (N + 3687)) \\
&= B_{\bar{N}}(N - 40) + B_{\bar{N}}(3010) + B_{\bar{N}}(N - 41) = (N - 40) + 3010 + (N - 41) = \mathbf{2N} + \mathbf{2929} \\
&(N \geq 3010)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3647}) &= B_{\bar{N}}(2N + 3647 - B_{\bar{N}}(2N + 3646)) + B_{\bar{N}}(2N + 3647 - B_{\bar{N}}(2N + 3645)) + B_{\bar{N}}(2N + 3647 - B_{\bar{N}}(2N + 3644)) \\
&= B_{\bar{N}}(2N + 3647 - (2N + 2929)) + B_{\bar{N}}(2N + 3647 - (N + 3686)) + B_{\bar{N}}(2N + 3647 - (2N + 636)) \\
&= B_{\bar{N}}(718) + B_{\bar{N}}(N - 39) + B_{\bar{N}}(3011) = 718 + (N - 39) + 3011 = \mathbf{N} + \mathbf{3690} \\
&(N \geq 3011)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3648}) &= B_{\bar{N}}(2N + 3648 - B_{\bar{N}}(2N + 3647)) + B_{\bar{N}}(2N + 3648 - B_{\bar{N}}(2N + 3646)) + B_{\bar{N}}(2N + 3648 - B_{\bar{N}}(2N + 3645)) \\
&= B_{\bar{N}}(2N + 3648 - (N + 3690)) + B_{\bar{N}}(2N + 3648 - (2N + 2929)) + B_{\bar{N}}(2N + 3648 - (N + 3686)) \\
&= B_{\bar{N}}(N - 42) + B_{\bar{N}}(719) + B_{\bar{N}}(N - 38) = (N - 42) + 719 + (N - 38) = \mathbf{2N} + \mathbf{639} \\
&(N \geq 719)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3649}) &= B_{\bar{N}}(2N + 3649 - B_{\bar{N}}(2N + 3648)) + B_{\bar{N}}(2N + 3649 - B_{\bar{N}}(2N + 3647)) + B_{\bar{N}}(2N + 3649 - B_{\bar{N}}(2N + 3646)) \\
&= B_{\bar{N}}(2N + 3649 - (2N + 639)) + B_{\bar{N}}(2N + 3649 - (N + 3690)) + B_{\bar{N}}(2N + 3649 - (2N + 2929)) \\
&= B_{\bar{N}}(3010) + B_{\bar{N}}(N - 41) + B_{\bar{N}}(720) = 3010 + (N - 41) + 720 = \mathbf{N} + \mathbf{3689} \\
&(N \geq 3010)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3650}) &= B_{\bar{N}}(2N + 3650 - B_{\bar{N}}(2N + 3649)) + B_{\bar{N}}(2N + 3650 - B_{\bar{N}}(2N + 3648)) + B_{\bar{N}}(2N + 3650 - B_{\bar{N}}(2N + 3647)) \\
&= B_{\bar{N}}(2N + 3650 - (N + 3689)) + B_{\bar{N}}(2N + 3650 - (2N + 639)) + B_{\bar{N}}(2N + 3650 - (N + 3690)) \\
&= B_{\bar{N}}(N - 39) + B_{\bar{N}}(3011) + B_{\bar{N}}(N - 40) = (N - 39) + 3011 + (N - 40) = \mathbf{2N} + \mathbf{2932} \\
&(N \geq 3011)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3651}) &= B_{\bar{N}}(2N + 3651 - B_{\bar{N}}(2N + 3650)) + B_{\bar{N}}(2N + 3651 - B_{\bar{N}}(2N + 3649)) + B_{\bar{N}}(2N + 3651 - B_{\bar{N}}(2N + 3648)) \\
&= B_{\bar{N}}(2N + 3651 - (2N + 2932)) + B_{\bar{N}}(2N + 3651 - (N + 3689)) + B_{\bar{N}}(2N + 3651 - (2N + 639)) \\
&= B_{\bar{N}}(719) + B_{\bar{N}}(N - 38) + B_{\bar{N}}(3012) = 719 + (N - 38) + 3012 = \mathbf{N} + \mathbf{3693} \\
&(N \geq 3012)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3652}) &= B_{\bar{N}}(2N + 3652 - B_{\bar{N}}(2N + 3651)) + B_{\bar{N}}(2N + 3652 - B_{\bar{N}}(2N + 3650)) + B_{\bar{N}}(2N + 3652 - B_{\bar{N}}(2N + 3649)) \\
&= B_{\bar{N}}(2N + 3652 - (N + 3693)) + B_{\bar{N}}(2N + 3652 - (2N + 2932)) + B_{\bar{N}}(2N + 3652 - (N + 3689)) \\
&= B_{\bar{N}}(N - 41) + B_{\bar{N}}(720) + B_{\bar{N}}(N - 37) = (N - 41) + 720 + (N - 37) = \mathbf{2N} + \mathbf{642} \\
&(N \geq 720)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3653}) &= B_{\bar{N}}(2N + 3653 - B_{\bar{N}}(2N + 3652)) + B_{\bar{N}}(2N + 3653 - B_{\bar{N}}(2N + 3651)) + B_{\bar{N}}(2N + 3653 - B_{\bar{N}}(2N + 3650)) \\
&= B_{\bar{N}}(2N + 3653 - (2N + 642)) + B_{\bar{N}}(2N + 3653 - (N + 3693)) + B_{\bar{N}}(2N + 3653 - (2N + 2932)) \\
&= B_{\bar{N}}(3011) + B_{\bar{N}}(N - 40) + B_{\bar{N}}(721) = 3011 + (N - 40) + 721 = \mathbf{N} + \mathbf{3692} \\
&(N \geq 3011)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3654}) &= B_{\bar{N}}(2N + 3654 - B_{\bar{N}}(2N + 3653)) + B_{\bar{N}}(2N + 3654 - B_{\bar{N}}(2N + 3652)) + B_{\bar{N}}(2N + 3654 - B_{\bar{N}}(2N + 3651)) \\
&= B_{\bar{N}}(2N + 3654 - (N + 3692)) + B_{\bar{N}}(2N + 3654 - (2N + 642)) + B_{\bar{N}}(2N + 3654 - (N + 3693)) \\
&= B_{\bar{N}}(N - 38) + B_{\bar{N}}(3012) + B_{\bar{N}}(N - 39) = (N - 38) + 3012 + (N - 39) = \mathbf{2N} + \mathbf{2935} \\
&(N \geq 3012)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3655}) &= B_{\bar{N}}(2N + 3655 - B_{\bar{N}}(2N + 3654)) + B_{\bar{N}}(2N + 3655 - B_{\bar{N}}(2N + 3653)) + B_{\bar{N}}(2N + 3655 - B_{\bar{N}}(2N + 3652)) \\
&= B_{\bar{N}}(2N + 3655 - (2N + 2935)) + B_{\bar{N}}(2N + 3655 - (N + 3692)) + B_{\bar{N}}(2N + 3655 - (2N + 642)) \\
&= B_{\bar{N}}(720) + B_{\bar{N}}(N - 37) + B_{\bar{N}}(3013) = 720 + (N - 37) + 3013 = \mathbf{N} + \mathbf{3696} \\
&(N \geq 3013)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3656}) &= B_{\bar{N}}(2N + 3656 - B_{\bar{N}}(2N + 3655)) + B_{\bar{N}}(2N + 3656 - B_{\bar{N}}(2N + 3654)) + B_{\bar{N}}(2N + 3656 - B_{\bar{N}}(2N + 3653)) \\
&= B_{\bar{N}}(2N + 3656 - (N + 3696)) + B_{\bar{N}}(2N + 3656 - (2N + 2935)) + B_{\bar{N}}(2N + 3656 - (N + 3692)) \\
&= B_{\bar{N}}(N - 40) + B_{\bar{N}}(721) + B_{\bar{N}}(N - 36) = (N - 40) + 721 + (N - 36) = \mathbf{2N} + \mathbf{645} \\
&(N \geq 721)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3657}) &= B_{\bar{N}}(2N + 3657 - B_{\bar{N}}(2N + 3656)) + B_{\bar{N}}(2N + 3657 - B_{\bar{N}}(2N + 3655)) + B_{\bar{N}}(2N + 3657 - B_{\bar{N}}(2N + 3654)) \\
&= B_{\bar{N}}(2N + 3657 - (2N + 645)) + B_{\bar{N}}(2N + 3657 - (N + 3696)) + B_{\bar{N}}(2N + 3657 - (2N + 2935)) \\
&= B_{\bar{N}}(3012) + B_{\bar{N}}(N - 39) + B_{\bar{N}}(722) = 3012 + (N - 39) + 722 = \mathbf{N} + \mathbf{3695} \\
&(N \geq 3012)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3658}) &= B_{\bar{N}}(2N + 3658 - B_{\bar{N}}(2N + 3657)) + B_{\bar{N}}(2N + 3658 - B_{\bar{N}}(2N + 3656)) + B_{\bar{N}}(2N + 3658 - B_{\bar{N}}(2N + 3655)) \\
&= B_{\bar{N}}(2N + 3658 - (N + 3695)) + B_{\bar{N}}(2N + 3658 - (2N + 645)) + B_{\bar{N}}(2N + 3658 - (N + 3696)) \\
&= B_{\bar{N}}(N - 37) + B_{\bar{N}}(3013) + B_{\bar{N}}(N - 38) = (N - 37) + 3013 + (N - 38) = \mathbf{2N} + \mathbf{2938} \\
&(N \geq 3013)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3659}) &= B_{\bar{N}}(2N + 3659 - B_{\bar{N}}(2N + 3658)) + B_{\bar{N}}(2N + 3659 - B_{\bar{N}}(2N + 3657)) + B_{\bar{N}}(2N + 3659 - B_{\bar{N}}(2N + 3656)) \\
&= B_{\bar{N}}(2N + 3659 - (2N + 2938)) + B_{\bar{N}}(2N + 3659 - (N + 3695)) + B_{\bar{N}}(2N + 3659 - (2N + 645)) \\
&= B_{\bar{N}}(721) + B_{\bar{N}}(N - 36) + B_{\bar{N}}(3014) = 721 + (N - 36) + 3014 = \mathbf{N} + \mathbf{3699} \\
&(N \geq 3014)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3660}) &= B_{\bar{N}}(2N + 3660 - B_{\bar{N}}(2N + 3659)) + B_{\bar{N}}(2N + 3660 - B_{\bar{N}}(2N + 3658)) + B_{\bar{N}}(2N + 3660 - B_{\bar{N}}(2N + 3657)) \\
&= B_{\bar{N}}(2N + 3660 - (N + 3699)) + B_{\bar{N}}(2N + 3660 - (2N + 2938)) + B_{\bar{N}}(2N + 3660 - (N + 3695)) \\
&= B_{\bar{N}}(N - 39) + B_{\bar{N}}(722) + B_{\bar{N}}(N - 35) = (N - 39) + 722 + (N - 35) = \mathbf{2N} + \mathbf{648} \\
&(N \geq 722)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3661}) &= B_{\bar{N}}(2N + 3661 - B_{\bar{N}}(2N + 3660)) + B_{\bar{N}}(2N + 3661 - B_{\bar{N}}(2N + 3659)) + B_{\bar{N}}(2N + 3661 - B_{\bar{N}}(2N + 3658)) \\
&= B_{\bar{N}}(2N + 3661 - (2N + 648)) + B_{\bar{N}}(2N + 3661 - (N + 3699)) + B_{\bar{N}}(2N + 3661 - (2N + 2938)) \\
&= B_{\bar{N}}(3013) + B_{\bar{N}}(N - 38) + B_{\bar{N}}(723) = 3013 + (N - 38) + 723 = \mathbf{N} + \mathbf{3698} \\
&(N \geq 3013)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3662}) &= B_{\bar{N}}(2N + 3662 - B_{\bar{N}}(2N + 3661)) + B_{\bar{N}}(2N + 3662 - B_{\bar{N}}(2N + 3660)) + B_{\bar{N}}(2N + 3662 - B_{\bar{N}}(2N + 3659)) \\
&= B_{\bar{N}}(2N + 3662 - (N + 3698)) + B_{\bar{N}}(2N + 3662 - (2N + 648)) + B_{\bar{N}}(2N + 3662 - (N + 3699)) \\
&= B_{\bar{N}}(N - 36) + B_{\bar{N}}(3014) + B_{\bar{N}}(N - 37) = (N - 36) + 3014 + (N - 37) = \mathbf{2N} + \mathbf{2941} \\
&(N \geq 3014)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3663}) &= B_{\bar{N}}(2N + 3663 - B_{\bar{N}}(2N + 3662)) + B_{\bar{N}}(2N + 3663 - B_{\bar{N}}(2N + 3661)) + B_{\bar{N}}(2N + 3663 - B_{\bar{N}}(2N + 3660)) \\
&= B_{\bar{N}}(2N + 3663 - (2N + 2941)) + B_{\bar{N}}(2N + 3663 - (N + 3698)) + B_{\bar{N}}(2N + 3663 - (2N + 648)) \\
&= B_{\bar{N}}(722) + B_{\bar{N}}(N - 35) + B_{\bar{N}}(3015) = 722 + (N - 35) + 3015 = \mathbf{N} + \mathbf{3702} \\
&(N \geq 3015)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3664}) &= B_{\bar{N}}(2N + 3664 - B_{\bar{N}}(2N + 3663)) + B_{\bar{N}}(2N + 3664 - B_{\bar{N}}(2N + 3662)) + B_{\bar{N}}(2N + 3664 - B_{\bar{N}}(2N + 3661)) \\
&= B_{\bar{N}}(2N + 3664 - (N + 3702)) + B_{\bar{N}}(2N + 3664 - (2N + 2941)) + B_{\bar{N}}(2N + 3664 - (N + 3698)) \\
&= B_{\bar{N}}(N - 38) + B_{\bar{N}}(723) + B_{\bar{N}}(N - 34) = (N - 38) + 723 + (N - 34) = \mathbf{2N} + \mathbf{651} \\
&(N \geq 723)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3665}) &= B_{\bar{N}}(2N + 3665 - B_{\bar{N}}(2N + 3664)) + B_{\bar{N}}(2N + 3665 - B_{\bar{N}}(2N + 3663)) + B_{\bar{N}}(2N + 3665 - B_{\bar{N}}(2N + 3662)) \\
&= B_{\bar{N}}(2N + 3665 - (2N + 651)) + B_{\bar{N}}(2N + 3665 - (N + 3702)) + B_{\bar{N}}(2N + 3665 - (2N + 2941)) \\
&= B_{\bar{N}}(3014) + B_{\bar{N}}(N - 37) + B_{\bar{N}}(724) = 3014 + (N - 37) + 724 = \mathbf{N} + \mathbf{3701} \\
&(N \geq 3014)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3666}) &= B_{\bar{N}}(2N + 3666 - B_{\bar{N}}(2N + 3665)) + B_{\bar{N}}(2N + 3666 - B_{\bar{N}}(2N + 3664)) + B_{\bar{N}}(2N + 3666 - B_{\bar{N}}(2N + 3663)) \\
&= B_{\bar{N}}(2N + 3666 - (N + 3701)) + B_{\bar{N}}(2N + 3666 - (2N + 651)) + B_{\bar{N}}(2N + 3666 - (N + 3702)) \\
&= B_{\bar{N}}(N - 35) + B_{\bar{N}}(3015) + B_{\bar{N}}(N - 36) = (N - 35) + 3015 + (N - 36) = \mathbf{2N} + \mathbf{2944} \\
&(N \geq 3015)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3667}) &= B_{\bar{N}}(2N + 3667 - B_{\bar{N}}(2N + 3666)) + B_{\bar{N}}(2N + 3667 - B_{\bar{N}}(2N + 3665)) + B_{\bar{N}}(2N + 3667 - B_{\bar{N}}(2N + 3664)) \\
&= B_{\bar{N}}(2N + 3667 - (2N + 2944)) + B_{\bar{N}}(2N + 3667 - (N + 3701)) + B_{\bar{N}}(2N + 3667 - (2N + 651)) \\
&= B_{\bar{N}}(723) + B_{\bar{N}}(N - 34) + B_{\bar{N}}(3016) = 723 + (N - 34) + 3016 = \mathbf{N} + \mathbf{3705} \\
&(N \geq 3016)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3668}) &= B_{\bar{N}}(2N + 3668 - B_{\bar{N}}(2N + 3667)) + B_{\bar{N}}(2N + 3668 - B_{\bar{N}}(2N + 3666)) + B_{\bar{N}}(2N + 3668 - B_{\bar{N}}(2N + 3665)) \\
&= B_{\bar{N}}(2N + 3668 - (N + 3705)) + B_{\bar{N}}(2N + 3668 - (2N + 2944)) + B_{\bar{N}}(2N + 3668 - (N + 3701)) \\
&= B_{\bar{N}}(N - 37) + B_{\bar{N}}(724) + B_{\bar{N}}(N - 33) = (N - 37) + 724 + (N - 33) = \mathbf{2N} + \mathbf{654} \\
&(N \geq 724)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3669}) &= B_{\bar{N}}(2N + 3669 - B_{\bar{N}}(2N + 3668)) + B_{\bar{N}}(2N + 3669 - B_{\bar{N}}(2N + 3667)) + B_{\bar{N}}(2N + 3669 - B_{\bar{N}}(2N + 3666)) \\
&= B_{\bar{N}}(2N + 3669 - (2N + 654)) + B_{\bar{N}}(2N + 3669 - (N + 3705)) + B_{\bar{N}}(2N + 3669 - (2N + 2944)) \\
&= B_{\bar{N}}(3015) + B_{\bar{N}}(N - 36) + B_{\bar{N}}(725) = 3015 + (N - 36) + 725 = \mathbf{N} + \mathbf{3704} \\
&(N \geq 3015)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3670}) &= B_{\bar{N}}(2N + 3670 - B_{\bar{N}}(2N + 3669)) + B_{\bar{N}}(2N + 3670 - B_{\bar{N}}(2N + 3668)) + B_{\bar{N}}(2N + 3670 - B_{\bar{N}}(2N + 3667)) \\
&= B_{\bar{N}}(2N + 3670 - (N + 3704)) + B_{\bar{N}}(2N + 3670 - (2N + 654)) + B_{\bar{N}}(2N + 3670 - (N + 3705)) \\
&= B_{\bar{N}}(N - 34) + B_{\bar{N}}(3016) + B_{\bar{N}}(N - 35) = (N - 34) + 3016 + (N - 35) = \mathbf{2N} + \mathbf{2947} \\
&(N \geq 3016)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3671}) &= B_{\bar{N}}(2N + 3671 - B_{\bar{N}}(2N + 3670)) + B_{\bar{N}}(2N + 3671 - B_{\bar{N}}(2N + 3669)) + B_{\bar{N}}(2N + 3671 - B_{\bar{N}}(2N + 3668)) \\
&= B_{\bar{N}}(2N + 3671 - (2N + 2947)) + B_{\bar{N}}(2N + 3671 - (N + 3704)) + B_{\bar{N}}(2N + 3671 - (2N + 654)) \\
&= B_{\bar{N}}(724) + B_{\bar{N}}(N - 33) + B_{\bar{N}}(3017) = 724 + (N - 33) + 3017 = \mathbf{N} + \mathbf{3708} \\
&(N \geq 3017)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3672}) &= B_{\bar{N}}(2N + 3672 - B_{\bar{N}}(2N + 3671)) + B_{\bar{N}}(2N + 3672 - B_{\bar{N}}(2N + 3670)) + B_{\bar{N}}(2N + 3672 - B_{\bar{N}}(2N + 3669)) \\
&= B_{\bar{N}}(2N + 3672 - (N + 3708)) + B_{\bar{N}}(2N + 3672 - (2N + 2947)) + B_{\bar{N}}(2N + 3672 - (N + 3704)) \\
&= B_{\bar{N}}(N - 36) + B_{\bar{N}}(725) + B_{\bar{N}}(N - 32) = (N - 36) + 725 + (N - 32) = \mathbf{2N} + \mathbf{657} \\
&(N \geq 725)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3673}) &= B_{\bar{N}}(2N + 3673 - B_{\bar{N}}(2N + 3672)) + B_{\bar{N}}(2N + 3673 - B_{\bar{N}}(2N + 3671)) + B_{\bar{N}}(2N + 3673 - B_{\bar{N}}(2N + 3670)) \\
&= B_{\bar{N}}(2N + 3673 - (2N + 657)) + B_{\bar{N}}(2N + 3673 - (N + 3708)) + B_{\bar{N}}(2N + 3673 - (2N + 2947)) \\
&= B_{\bar{N}}(3016) + B_{\bar{N}}(N - 35) + B_{\bar{N}}(726) = 3016 + (N - 35) + 726 = \mathbf{N} + \mathbf{3707} \\
&(N \geq 3016)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3674}) &= B_{\bar{N}}(2N + 3674 - B_{\bar{N}}(2N + 3673)) + B_{\bar{N}}(2N + 3674 - B_{\bar{N}}(2N + 3672)) + B_{\bar{N}}(2N + 3674 - B_{\bar{N}}(2N + 3671)) \\
&= B_{\bar{N}}(2N + 3674 - (N + 3707)) + B_{\bar{N}}(2N + 3674 - (2N + 657)) + B_{\bar{N}}(2N + 3674 - (N + 3708)) \\
&= B_{\bar{N}}(N - 33) + B_{\bar{N}}(3017) + B_{\bar{N}}(N - 34) = (N - 33) + 3017 + (N - 34) = \mathbf{2N} + \mathbf{2950} \\
&(N \geq 3017)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3675}) &= B_{\bar{N}}(2N + 3675 - B_{\bar{N}}(2N + 3674)) + B_{\bar{N}}(2N + 3675 - B_{\bar{N}}(2N + 3673)) + B_{\bar{N}}(2N + 3675 - B_{\bar{N}}(2N + 3672)) \\
&= B_{\bar{N}}(2N + 3675 - (2N + 2950)) + B_{\bar{N}}(2N + 3675 - (N + 3707)) + B_{\bar{N}}(2N + 3675 - (2N + 657)) \\
&= B_{\bar{N}}(725) + B_{\bar{N}}(N - 32) + B_{\bar{N}}(3018) = 725 + (N - 32) + 3018 = \mathbf{N} + \mathbf{3711} \\
&(N \geq 3018)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3676}) &= B_{\bar{N}}(2N + 3676 - B_{\bar{N}}(2N + 3675)) + B_{\bar{N}}(2N + 3676 - B_{\bar{N}}(2N + 3674)) + B_{\bar{N}}(2N + 3676 - B_{\bar{N}}(2N + 3673)) \\
&= B_{\bar{N}}(2N + 3676 - (N + 3711)) + B_{\bar{N}}(2N + 3676 - (2N + 2950)) + B_{\bar{N}}(2N + 3676 - (N + 3707)) \\
&= B_{\bar{N}}(N - 35) + B_{\bar{N}}(726) + B_{\bar{N}}(N - 31) = (N - 35) + 726 + (N - 31) = \mathbf{2N} + \mathbf{660} \\
&(N \geq 726)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3677}) &= B_{\bar{N}}(2N + 3677 - B_{\bar{N}}(2N + 3676)) + B_{\bar{N}}(2N + 3677 - B_{\bar{N}}(2N + 3675)) + B_{\bar{N}}(2N + 3677 - B_{\bar{N}}(2N + 3674)) \\
&= B_{\bar{N}}(2N + 3677 - (2N + 660)) + B_{\bar{N}}(2N + 3677 - (N + 3711)) + B_{\bar{N}}(2N + 3677 - (2N + 2950)) \\
&= B_{\bar{N}}(3017) + B_{\bar{N}}(N - 34) + B_{\bar{N}}(727) = 3017 + (N - 34) + 727 = \mathbf{N} + \mathbf{3710} \\
&(N \geq 3017)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3678}) &= B_{\bar{N}}(2N + 3678 - B_{\bar{N}}(2N + 3677)) + B_{\bar{N}}(2N + 3678 - B_{\bar{N}}(2N + 3676)) + B_{\bar{N}}(2N + 3678 - B_{\bar{N}}(2N + 3675)) \\
&= B_{\bar{N}}(2N + 3678 - (N + 3710)) + B_{\bar{N}}(2N + 3678 - (2N + 660)) + B_{\bar{N}}(2N + 3678 - (N + 3711)) \\
&= B_{\bar{N}}(N - 32) + B_{\bar{N}}(3018) + B_{\bar{N}}(N - 33) = (N - 32) + 3018 + (N - 33) = \mathbf{2N} + \mathbf{2953} \\
&(N \geq 3018)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3679}) &= B_{\bar{N}}(2N + 3679 - B_{\bar{N}}(2N + 3678)) + B_{\bar{N}}(2N + 3679 - B_{\bar{N}}(2N + 3677)) + B_{\bar{N}}(2N + 3679 - B_{\bar{N}}(2N + 3676)) \\
&= B_{\bar{N}}(2N + 3679 - (2N + 2953)) + B_{\bar{N}}(2N + 3679 - (N + 3710)) + B_{\bar{N}}(2N + 3679 - (2N + 660)) \\
&= B_{\bar{N}}(726) + B_{\bar{N}}(N - 31) + B_{\bar{N}}(3019) = 726 + (N - 31) + 3019 = \mathbf{N} + \mathbf{3714} \\
&(N \geq 3019)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3680}) &= B_{\bar{N}}(2N + 3680 - B_{\bar{N}}(2N + 3679)) + B_{\bar{N}}(2N + 3680 - B_{\bar{N}}(2N + 3678)) + B_{\bar{N}}(2N + 3680 - B_{\bar{N}}(2N + 3677)) \\
&= B_{\bar{N}}(2N + 3680 - (N + 3714)) + B_{\bar{N}}(2N + 3680 - (2N + 2953)) + B_{\bar{N}}(2N + 3680 - (N + 3710)) \\
&= B_{\bar{N}}(N - 34) + B_{\bar{N}}(727) + B_{\bar{N}}(N - 30) = (N - 34) + 727 + (N - 30) = \mathbf{2N} + \mathbf{663} \\
&(N \geq 727)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3681}) &= B_{\bar{N}}(2N + 3681 - B_{\bar{N}}(2N + 3680)) + B_{\bar{N}}(2N + 3681 - B_{\bar{N}}(2N + 3679)) + B_{\bar{N}}(2N + 3681 - B_{\bar{N}}(2N + 3678)) \\
&= B_{\bar{N}}(2N + 3681 - (2N + 663)) + B_{\bar{N}}(2N + 3681 - (N + 3714)) + B_{\bar{N}}(2N + 3681 - (2N + 2953)) \\
&= B_{\bar{N}}(3018) + B_{\bar{N}}(N - 33) + B_{\bar{N}}(728) = 3018 + (N - 33) + 728 = \mathbf{N} + \mathbf{3713} \\
&(N \geq 3018)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3682}) &= B_{\bar{N}}(2N + 3682 - B_{\bar{N}}(2N + 3681)) + B_{\bar{N}}(2N + 3682 - B_{\bar{N}}(2N + 3680)) + B_{\bar{N}}(2N + 3682 - B_{\bar{N}}(2N + 3679)) \\
&= B_{\bar{N}}(2N + 3682 - (N + 3713)) + B_{\bar{N}}(2N + 3682 - (2N + 663)) + B_{\bar{N}}(2N + 3682 - (N + 3714)) \\
&= B_{\bar{N}}(N - 31) + B_{\bar{N}}(3019) + B_{\bar{N}}(N - 32) = (N - 31) + 3019 + (N - 32) = \mathbf{2N} + \mathbf{2956} \\
&(N \geq 3019)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3683}) &= B_{\bar{N}}(2N + 3683 - B_{\bar{N}}(2N + 3682)) + B_{\bar{N}}(2N + 3683 - B_{\bar{N}}(2N + 3681)) + B_{\bar{N}}(2N + 3683 - B_{\bar{N}}(2N + 3680)) \\
&= B_{\bar{N}}(2N + 3683 - (2N + 2956)) + B_{\bar{N}}(2N + 3683 - (N + 3713)) + B_{\bar{N}}(2N + 3683 - (2N + 663)) \\
&= B_{\bar{N}}(727) + B_{\bar{N}}(N - 30) + B_{\bar{N}}(3020) = 727 + (N - 30) + 3020 = \mathbf{N} + \mathbf{3717} \\
&(N \geq 3020)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3684}) &= B_{\bar{N}}(2N + 3684 - B_{\bar{N}}(2N + 3683)) + B_{\bar{N}}(2N + 3684 - B_{\bar{N}}(2N + 3682)) + B_{\bar{N}}(2N + 3684 - B_{\bar{N}}(2N + 3681)) \\
&= B_{\bar{N}}(2N + 3684 - (N + 3717)) + B_{\bar{N}}(2N + 3684 - (2N + 2956)) + B_{\bar{N}}(2N + 3684 - (N + 3713)) \\
&= B_{\bar{N}}(N - 33) + B_{\bar{N}}(728) + B_{\bar{N}}(N - 29) = (N - 33) + 728 + (N - 29) = \mathbf{2N} + \mathbf{666} \\
&(N \geq 728)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3685}) &= B_{\bar{N}}(2N + 3685 - B_{\bar{N}}(2N + 3684)) + B_{\bar{N}}(2N + 3685 - B_{\bar{N}}(2N + 3683)) + B_{\bar{N}}(2N + 3685 - B_{\bar{N}}(2N + 3682)) \\
&= B_{\bar{N}}(2N + 3685 - (2N + 666)) + B_{\bar{N}}(2N + 3685 - (N + 3717)) + B_{\bar{N}}(2N + 3685 - (2N + 2956)) \\
&= B_{\bar{N}}(3019) + B_{\bar{N}}(N - 32) + B_{\bar{N}}(729) = 3019 + (N - 32) + 729 = \mathbf{N} + \mathbf{3716} \\
&(N \geq 3019)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3686}) &= B_{\bar{N}}(2N + 3686 - B_{\bar{N}}(2N + 3685)) + B_{\bar{N}}(2N + 3686 - B_{\bar{N}}(2N + 3684)) + B_{\bar{N}}(2N + 3686 - B_{\bar{N}}(2N + 3683)) \\
&= B_{\bar{N}}(2N + 3686 - (N + 3716)) + B_{\bar{N}}(2N + 3686 - (2N + 666)) + B_{\bar{N}}(2N + 3686 - (N + 3717)) \\
&= B_{\bar{N}}(N - 30) + B_{\bar{N}}(3020) + B_{\bar{N}}(N - 31) = (N - 30) + 3020 + (N - 31) = \mathbf{2N} + \mathbf{2959} \\
&(N \geq 3020)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3687}) &= B_{\bar{N}}(2N + 3687 - B_{\bar{N}}(2N + 3686)) + B_{\bar{N}}(2N + 3687 - B_{\bar{N}}(2N + 3685)) + B_{\bar{N}}(2N + 3687 - B_{\bar{N}}(2N + 3684)) \\
&= B_{\bar{N}}(2N + 3687 - (2N + 2959)) + B_{\bar{N}}(2N + 3687 - (N + 3716)) + B_{\bar{N}}(2N + 3687 - (2N + 666)) \\
&= B_{\bar{N}}(728) + B_{\bar{N}}(N - 29) + B_{\bar{N}}(3021) = 728 + (N - 29) + 3021 = \mathbf{N} + \mathbf{3720} \\
&(N \geq 3021)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3688}) &= B_{\bar{N}}(2N + 3688 - B_{\bar{N}}(2N + 3687)) + B_{\bar{N}}(2N + 3688 - B_{\bar{N}}(2N + 3686)) + B_{\bar{N}}(2N + 3688 - B_{\bar{N}}(2N + 3685)) \\
&= B_{\bar{N}}(2N + 3688 - (N + 3720)) + B_{\bar{N}}(2N + 3688 - (2N + 2959)) + B_{\bar{N}}(2N + 3688 - (N + 3716)) \\
&= B_{\bar{N}}(N - 32) + B_{\bar{N}}(729) + B_{\bar{N}}(N - 28) = (N - 32) + 729 + (N - 28) = \mathbf{2N} + \mathbf{669} \\
&(N \geq 729)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3689}) &= B_{\bar{N}}(2N + 3689 - B_{\bar{N}}(2N + 3688)) + B_{\bar{N}}(2N + 3689 - B_{\bar{N}}(2N + 3687)) + B_{\bar{N}}(2N + 3689 - B_{\bar{N}}(2N + 3686)) \\
&= B_{\bar{N}}(2N + 3689 - (2N + 669)) + B_{\bar{N}}(2N + 3689 - (N + 3720)) + B_{\bar{N}}(2N + 3689 - (2N + 2959)) \\
&= B_{\bar{N}}(3020) + B_{\bar{N}}(N - 31) + B_{\bar{N}}(730) = 3020 + (N - 31) + 730 = \mathbf{N} + \mathbf{3719} \\
&(N \geq 3020)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3690}) &= B_{\bar{N}}(2N + 3690 - B_{\bar{N}}(2N + 3689)) + B_{\bar{N}}(2N + 3690 - B_{\bar{N}}(2N + 3688)) + B_{\bar{N}}(2N + 3690 - B_{\bar{N}}(2N + 3687)) \\
&= B_{\bar{N}}(2N + 3690 - (N + 3719)) + B_{\bar{N}}(2N + 3690 - (2N + 669)) + B_{\bar{N}}(2N + 3690 - (N + 3720)) \\
&= B_{\bar{N}}(N - 29) + B_{\bar{N}}(3021) + B_{\bar{N}}(N - 30) = (N - 29) + 3021 + (N - 30) = \mathbf{2N} + \mathbf{2962} \\
&(N \geq 3021)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3691}) &= B_{\bar{N}}(2N + 3691 - B_{\bar{N}}(2N + 3690)) + B_{\bar{N}}(2N + 3691 - B_{\bar{N}}(2N + 3689)) + B_{\bar{N}}(2N + 3691 - B_{\bar{N}}(2N + 3688)) \\
&= B_{\bar{N}}(2N + 3691 - (2N + 2962)) + B_{\bar{N}}(2N + 3691 - (N + 3719)) + B_{\bar{N}}(2N + 3691 - (2N + 669)) \\
&= B_{\bar{N}}(729) + B_{\bar{N}}(N - 28) + B_{\bar{N}}(3022) = 729 + (N - 28) + 3022 = \mathbf{N} + \mathbf{3723} \\
&(N \geq 3022)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3692}) &= B_{\bar{N}}(2N + 3692 - B_{\bar{N}}(2N + 3691)) + B_{\bar{N}}(2N + 3692 - B_{\bar{N}}(2N + 3690)) + B_{\bar{N}}(2N + 3692 - B_{\bar{N}}(2N + 3689)) \\
&= B_{\bar{N}}(2N + 3692 - (N + 3723)) + B_{\bar{N}}(2N + 3692 - (2N + 2962)) + B_{\bar{N}}(2N + 3692 - (N + 3719)) \\
&= B_{\bar{N}}(N - 31) + B_{\bar{N}}(730) + B_{\bar{N}}(N - 27) = (N - 31) + 730 + (N - 27) = \mathbf{2N} + \mathbf{672} \\
&(N \geq 730)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3693}) &= B_{\bar{N}}(2N + 3693 - B_{\bar{N}}(2N + 3692)) + B_{\bar{N}}(2N + 3693 - B_{\bar{N}}(2N + 3691)) + B_{\bar{N}}(2N + 3693 - B_{\bar{N}}(2N + 3690)) \\
&= B_{\bar{N}}(2N + 3693 - (2N + 672)) + B_{\bar{N}}(2N + 3693 - (N + 3723)) + B_{\bar{N}}(2N + 3693 - (2N + 2962)) \\
&= B_{\bar{N}}(3021) + B_{\bar{N}}(N - 30) + B_{\bar{N}}(731) = 3021 + (N - 30) + 731 = \mathbf{N} + \mathbf{3722} \\
&(N \geq 3021)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3694}) &= B_{\bar{N}}(2N + 3694 - B_{\bar{N}}(2N + 3693)) + B_{\bar{N}}(2N + 3694 - B_{\bar{N}}(2N + 3692)) + B_{\bar{N}}(2N + 3694 - B_{\bar{N}}(2N + 3691)) \\
&= B_{\bar{N}}(2N + 3694 - (N + 3722)) + B_{\bar{N}}(2N + 3694 - (2N + 672)) + B_{\bar{N}}(2N + 3694 - (N + 3723)) \\
&= B_{\bar{N}}(N - 28) + B_{\bar{N}}(3022) + B_{\bar{N}}(N - 29) = (N - 28) + 3022 + (N - 29) = \mathbf{2N} + \mathbf{2965} \\
&(N \geq 3022)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3695}) &= B_{\bar{N}}(2N + 3695 - B_{\bar{N}}(2N + 3694)) + B_{\bar{N}}(2N + 3695 - B_{\bar{N}}(2N + 3693)) + B_{\bar{N}}(2N + 3695 - B_{\bar{N}}(2N + 3692)) \\
&= B_{\bar{N}}(2N + 3695 - (2N + 2965)) + B_{\bar{N}}(2N + 3695 - (N + 3722)) + B_{\bar{N}}(2N + 3695 - (2N + 672)) \\
&= B_{\bar{N}}(730) + B_{\bar{N}}(N - 27) + B_{\bar{N}}(3023) = 730 + (N - 27) + 3023 = \mathbf{N} + \mathbf{3726} \\
&(N \geq 3023)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3696}) &= B_{\bar{N}}(2N + 3696 - B_{\bar{N}}(2N + 3695)) + B_{\bar{N}}(2N + 3696 - B_{\bar{N}}(2N + 3694)) + B_{\bar{N}}(2N + 3696 - B_{\bar{N}}(2N + 3693)) \\
&= B_{\bar{N}}(2N + 3696 - (N + 3726)) + B_{\bar{N}}(2N + 3696 - (2N + 2965)) + B_{\bar{N}}(2N + 3696 - (N + 3722)) \\
&= B_{\bar{N}}(N - 30) + B_{\bar{N}}(731) + B_{\bar{N}}(N - 26) = (N - 30) + 731 + (N - 26) = \mathbf{2N} + \mathbf{675} \\
&(N \geq 731)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3697}) &= B_{\bar{N}}(2N + 3697 - B_{\bar{N}}(2N + 3696)) + B_{\bar{N}}(2N + 3697 - B_{\bar{N}}(2N + 3695)) + B_{\bar{N}}(2N + 3697 - B_{\bar{N}}(2N + 3694)) \\
&= B_{\bar{N}}(2N + 3697 - (2N + 675)) + B_{\bar{N}}(2N + 3697 - (N + 3726)) + B_{\bar{N}}(2N + 3697 - (2N + 2965)) \\
&= B_{\bar{N}}(3022) + B_{\bar{N}}(N - 29) + B_{\bar{N}}(732) = 3022 + (N - 29) + 732 = \mathbf{N} + \mathbf{3725} \\
&(N \geq 3022)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3698}) &= B_{\bar{N}}(2N + 3698 - B_{\bar{N}}(2N + 3697)) + B_{\bar{N}}(2N + 3698 - B_{\bar{N}}(2N + 3696)) + B_{\bar{N}}(2N + 3698 - B_{\bar{N}}(2N + 3695)) \\
&= B_{\bar{N}}(2N + 3698 - (N + 3725)) + B_{\bar{N}}(2N + 3698 - (2N + 675)) + B_{\bar{N}}(2N + 3698 - (N + 3726)) \\
&= B_{\bar{N}}(N - 27) + B_{\bar{N}}(3023) + B_{\bar{N}}(N - 28) = (N - 27) + 3023 + (N - 28) = \mathbf{2N} + \mathbf{2968} \\
&(N \geq 3023)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3699}) &= B_{\bar{N}}(2N + 3699 - B_{\bar{N}}(2N + 3698)) + B_{\bar{N}}(2N + 3699 - B_{\bar{N}}(2N + 3697)) + B_{\bar{N}}(2N + 3699 - B_{\bar{N}}(2N + 3696)) \\
&= B_{\bar{N}}(2N + 3699 - (2N + 2968)) + B_{\bar{N}}(2N + 3699 - (N + 3725)) + B_{\bar{N}}(2N + 3699 - (2N + 675)) \\
&= B_{\bar{N}}(731) + B_{\bar{N}}(N - 26) + B_{\bar{N}}(3024) = 731 + (N - 26) + 3024 = \mathbf{N} + \mathbf{3729} \\
&(N \geq 3024)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3700}) &= B_{\bar{N}}(2N + 3700 - B_{\bar{N}}(2N + 3699)) + B_{\bar{N}}(2N + 3700 - B_{\bar{N}}(2N + 3698)) + B_{\bar{N}}(2N + 3700 - B_{\bar{N}}(2N + 3697)) \\
&= B_{\bar{N}}(2N + 3700 - (N + 3729)) + B_{\bar{N}}(2N + 3700 - (2N + 2968)) + B_{\bar{N}}(2N + 3700 - (N + 3725)) \\
&= B_{\bar{N}}(N - 29) + B_{\bar{N}}(732) + B_{\bar{N}}(N - 25) = (N - 29) + 732 + (N - 25) = \mathbf{2N} + \mathbf{678} \\
&(N \geq 732)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3701}) &= B_{\bar{N}}(2N + 3701 - B_{\bar{N}}(2N + 3700)) + B_{\bar{N}}(2N + 3701 - B_{\bar{N}}(2N + 3699)) + B_{\bar{N}}(2N + 3701 - B_{\bar{N}}(2N + 3698)) \\
&= B_{\bar{N}}(2N + 3701 - (2N + 678)) + B_{\bar{N}}(2N + 3701 - (N + 3729)) + B_{\bar{N}}(2N + 3701 - (2N + 2968)) \\
&= B_{\bar{N}}(3023) + B_{\bar{N}}(N - 28) + B_{\bar{N}}(733) = 3023 + (N - 28) + 733 = \mathbf{N} + \mathbf{3728} \\
&(N \geq 3023)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3702}) &= B_{\bar{N}}(2N + 3702 - B_{\bar{N}}(2N + 3701)) + B_{\bar{N}}(2N + 3702 - B_{\bar{N}}(2N + 3700)) + B_{\bar{N}}(2N + 3702 - B_{\bar{N}}(2N + 3699)) \\
&= B_{\bar{N}}(2N + 3702 - (N + 3728)) + B_{\bar{N}}(2N + 3702 - (2N + 678)) + B_{\bar{N}}(2N + 3702 - (N + 3729)) \\
&= B_{\bar{N}}(N - 26) + B_{\bar{N}}(3024) + B_{\bar{N}}(N - 27) = (N - 26) + 3024 + (N - 27) = \mathbf{2N} + \mathbf{2971} \\
&(N \geq 3024)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3703}) &= B_{\bar{N}}(2N + 3703 - B_{\bar{N}}(2N + 3702)) + B_{\bar{N}}(2N + 3703 - B_{\bar{N}}(2N + 3701)) + B_{\bar{N}}(2N + 3703 - B_{\bar{N}}(2N + 3700)) \\
&= B_{\bar{N}}(2N + 3703 - (2N + 2971)) + B_{\bar{N}}(2N + 3703 - (N + 3728)) + B_{\bar{N}}(2N + 3703 - (2N + 678)) \\
&= B_{\bar{N}}(732) + B_{\bar{N}}(N - 25) + B_{\bar{N}}(3025) = 732 + (N - 25) + 3025 = \mathbf{N} + \mathbf{3732} \\
&(N \geq 3025)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3704}) &= B_{\bar{N}}(2N + 3704 - B_{\bar{N}}(2N + 3703)) + B_{\bar{N}}(2N + 3704 - B_{\bar{N}}(2N + 3702)) + B_{\bar{N}}(2N + 3704 - B_{\bar{N}}(2N + 3701)) \\
&= B_{\bar{N}}(2N + 3704 - (N + 3732)) + B_{\bar{N}}(2N + 3704 - (2N + 2971)) + B_{\bar{N}}(2N + 3704 - (N + 3728)) \\
&= B_{\bar{N}}(N - 28) + B_{\bar{N}}(733) + B_{\bar{N}}(N - 24) = (N - 28) + 733 + (N - 24) = \mathbf{2N} + \mathbf{681} \\
&(N \geq 733)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3705}) &= B_{\bar{N}}(2N + 3705 - B_{\bar{N}}(2N + 3704)) + B_{\bar{N}}(2N + 3705 - B_{\bar{N}}(2N + 3703)) + B_{\bar{N}}(2N + 3705 - B_{\bar{N}}(2N + 3702)) \\
&= B_{\bar{N}}(2N + 3705 - (2N + 681)) + B_{\bar{N}}(2N + 3705 - (N + 3732)) + B_{\bar{N}}(2N + 3705 - (2N + 2971)) \\
&= B_{\bar{N}}(3024) + B_{\bar{N}}(N - 27) + B_{\bar{N}}(734) = 3024 + (N - 27) + 734 = \mathbf{N} + \mathbf{3731} \\
&(N \geq 3024)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3706}) &= B_{\bar{N}}(2N + 3706 - B_{\bar{N}}(2N + 3705)) + B_{\bar{N}}(2N + 3706 - B_{\bar{N}}(2N + 3704)) + B_{\bar{N}}(2N + 3706 - B_{\bar{N}}(2N + 3703)) \\
&= B_{\bar{N}}(2N + 3706 - (N + 3731)) + B_{\bar{N}}(2N + 3706 - (2N + 681)) + B_{\bar{N}}(2N + 3706 - (N + 3732)) \\
&= B_{\bar{N}}(N - 25) + B_{\bar{N}}(3025) + B_{\bar{N}}(N - 26) = (N - 25) + 3025 + (N - 26) = \mathbf{2N} + \mathbf{2974} \\
&(N \geq 3025)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3707}) &= B_{\bar{N}}(2N + 3707 - B_{\bar{N}}(2N + 3706)) + B_{\bar{N}}(2N + 3707 - B_{\bar{N}}(2N + 3705)) + B_{\bar{N}}(2N + 3707 - B_{\bar{N}}(2N + 3704)) \\
&= B_{\bar{N}}(2N + 3707 - (2N + 2974)) + B_{\bar{N}}(2N + 3707 - (N + 3731)) + B_{\bar{N}}(2N + 3707 - (2N + 681)) \\
&= B_{\bar{N}}(733) + B_{\bar{N}}(N - 24) + B_{\bar{N}}(3026) = 733 + (N - 24) + 3026 = \mathbf{N} + \mathbf{3735} \\
&(N \geq 3026)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3708}) &= B_{\bar{N}}(2N + 3708 - B_{\bar{N}}(2N + 3707)) + B_{\bar{N}}(2N + 3708 - B_{\bar{N}}(2N + 3706)) + B_{\bar{N}}(2N + 3708 - B_{\bar{N}}(2N + 3705)) \\
&= B_{\bar{N}}(2N + 3708 - (N + 3735)) + B_{\bar{N}}(2N + 3708 - (2N + 2974)) + B_{\bar{N}}(2N + 3708 - (N + 3731)) \\
&= B_{\bar{N}}(N - 27) + B_{\bar{N}}(734) + B_{\bar{N}}(N - 23) = (N - 27) + 734 + (N - 23) = \mathbf{2N} + \mathbf{684} \\
&(N \geq 734)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3709}) &= B_{\bar{N}}(2N + 3709 - B_{\bar{N}}(2N + 3708)) + B_{\bar{N}}(2N + 3709 - B_{\bar{N}}(2N + 3707)) + B_{\bar{N}}(2N + 3709 - B_{\bar{N}}(2N + 3706)) \\
&= B_{\bar{N}}(2N + 3709 - (2N + 684)) + B_{\bar{N}}(2N + 3709 - (N + 3735)) + B_{\bar{N}}(2N + 3709 - (2N + 2974)) \\
&= B_{\bar{N}}(3025) + B_{\bar{N}}(N - 26) + B_{\bar{N}}(735) = 3025 + (N - 26) + 735 = \mathbf{N} + \mathbf{3734} \\
&(N \geq 3025)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3710}) &= B_{\bar{N}}(2N + 3710 - B_{\bar{N}}(2N + 3709)) + B_{\bar{N}}(2N + 3710 - B_{\bar{N}}(2N + 3708)) + B_{\bar{N}}(2N + 3710 - B_{\bar{N}}(2N + 3707)) \\
&= B_{\bar{N}}(2N + 3710 - (N + 3734)) + B_{\bar{N}}(2N + 3710 - (2N + 684)) + B_{\bar{N}}(2N + 3710 - (N + 3735)) \\
&= B_{\bar{N}}(N - 24) + B_{\bar{N}}(3026) + B_{\bar{N}}(N - 25) = (N - 24) + 3026 + (N - 25) = \mathbf{2N} + \mathbf{2977} \\
&(N \geq 3026)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3711}) &= B_{\bar{N}}(2N + 3711 - B_{\bar{N}}(2N + 3710)) + B_{\bar{N}}(2N + 3711 - B_{\bar{N}}(2N + 3709)) + B_{\bar{N}}(2N + 3711 - B_{\bar{N}}(2N + 3708)) \\
&= B_{\bar{N}}(2N + 3711 - (2N + 2977)) + B_{\bar{N}}(2N + 3711 - (N + 3734)) + B_{\bar{N}}(2N + 3711 - (2N + 684)) \\
&= B_{\bar{N}}(734) + B_{\bar{N}}(N - 23) + B_{\bar{N}}(3027) = 734 + (N - 23) + 3027 = \mathbf{N} + \mathbf{3738} \\
&(N \geq 3027)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3712}) &= B_{\bar{N}}(2N + 3712 - B_{\bar{N}}(2N + 3711)) + B_{\bar{N}}(2N + 3712 - B_{\bar{N}}(2N + 3710)) + B_{\bar{N}}(2N + 3712 - B_{\bar{N}}(2N + 3709)) \\
&= B_{\bar{N}}(2N + 3712 - (N + 3738)) + B_{\bar{N}}(2N + 3712 - (2N + 2977)) + B_{\bar{N}}(2N + 3712 - (N + 3734)) \\
&= B_{\bar{N}}(N - 26) + B_{\bar{N}}(735) + B_{\bar{N}}(N - 22) = (N - 26) + 735 + (N - 22) = \mathbf{2N} + \mathbf{687} \\
&(N \geq 735)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3713}) &= B_{\bar{N}}(2N + 3713 - B_{\bar{N}}(2N + 3712)) + B_{\bar{N}}(2N + 3713 - B_{\bar{N}}(2N + 3711)) + B_{\bar{N}}(2N + 3713 - B_{\bar{N}}(2N + 3710)) \\
&= B_{\bar{N}}(2N + 3713 - (2N + 687)) + B_{\bar{N}}(2N + 3713 - (N + 3738)) + B_{\bar{N}}(2N + 3713 - (2N + 2977)) \\
&= B_{\bar{N}}(3026) + B_{\bar{N}}(N - 25) + B_{\bar{N}}(736) = 3026 + (N - 25) + 736 = \mathbf{N} + \mathbf{3737} \\
&(N \geq 3026)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3714}) &= B_{\bar{N}}(2N + 3714 - B_{\bar{N}}(2N + 3713)) + B_{\bar{N}}(2N + 3714 - B_{\bar{N}}(2N + 3712)) + B_{\bar{N}}(2N + 3714 - B_{\bar{N}}(2N + 3711)) \\
&= B_{\bar{N}}(2N + 3714 - (N + 3737)) + B_{\bar{N}}(2N + 3714 - (2N + 687)) + B_{\bar{N}}(2N + 3714 - (N + 3738)) \\
&= B_{\bar{N}}(N - 23) + B_{\bar{N}}(3027) + B_{\bar{N}}(N - 24) = (N - 23) + 3027 + (N - 24) = \mathbf{2N} + \mathbf{2980} \\
&(N \geq 3027)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3715}) &= B_{\bar{N}}(2N + 3715 - B_{\bar{N}}(2N + 3714)) + B_{\bar{N}}(2N + 3715 - B_{\bar{N}}(2N + 3713)) + B_{\bar{N}}(2N + 3715 - B_{\bar{N}}(2N + 3712)) \\
&= B_{\bar{N}}(2N + 3715 - (2N + 2980)) + B_{\bar{N}}(2N + 3715 - (N + 3737)) + B_{\bar{N}}(2N + 3715 - (2N + 687)) \\
&= B_{\bar{N}}(735) + B_{\bar{N}}(N - 22) + B_{\bar{N}}(3028) = 735 + (N - 22) + 3028 = \mathbf{N} + \mathbf{3741} \\
&(N \geq 3028)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3716}) &= B_{\bar{N}}(2N + 3716 - B_{\bar{N}}(2N + 3715)) + B_{\bar{N}}(2N + 3716 - B_{\bar{N}}(2N + 3714)) + B_{\bar{N}}(2N + 3716 - B_{\bar{N}}(2N + 3713)) \\
&= B_{\bar{N}}(2N + 3716 - (N + 3741)) + B_{\bar{N}}(2N + 3716 - (2N + 2980)) + B_{\bar{N}}(2N + 3716 - (N + 3737)) \\
&= B_{\bar{N}}(N - 25) + B_{\bar{N}}(736) + B_{\bar{N}}(N - 21) = (N - 25) + 736 + (N - 21) = \mathbf{2N} + \mathbf{690} \\
&(N \geq 736)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3717}) &= B_{\bar{N}}(2N + 3717 - B_{\bar{N}}(2N + 3716)) + B_{\bar{N}}(2N + 3717 - B_{\bar{N}}(2N + 3715)) + B_{\bar{N}}(2N + 3717 - B_{\bar{N}}(2N + 3714)) \\
&= B_{\bar{N}}(2N + 3717 - (2N + 690)) + B_{\bar{N}}(2N + 3717 - (N + 3741)) + B_{\bar{N}}(2N + 3717 - (2N + 2980)) \\
&= B_{\bar{N}}(3027) + B_{\bar{N}}(N - 24) + B_{\bar{N}}(737) = 3027 + (N - 24) + 737 = \mathbf{N} + \mathbf{3740} \\
&(N \geq 3027)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3718}) &= B_{\bar{N}}(2N + 3718 - B_{\bar{N}}(2N + 3717)) + B_{\bar{N}}(2N + 3718 - B_{\bar{N}}(2N + 3716)) + B_{\bar{N}}(2N + 3718 - B_{\bar{N}}(2N + 3715)) \\
&= B_{\bar{N}}(2N + 3718 - (N + 3740)) + B_{\bar{N}}(2N + 3718 - (2N + 690)) + B_{\bar{N}}(2N + 3718 - (N + 3741)) \\
&= B_{\bar{N}}(N - 22) + B_{\bar{N}}(3028) + B_{\bar{N}}(N - 23) = (N - 22) + 3028 + (N - 23) = \mathbf{2N} + \mathbf{2983} \\
&(N \geq 3028)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3719}) &= B_{\bar{N}}(2N + 3719 - B_{\bar{N}}(2N + 3718)) + B_{\bar{N}}(2N + 3719 - B_{\bar{N}}(2N + 3717)) + B_{\bar{N}}(2N + 3719 - B_{\bar{N}}(2N + 3716)) \\
&= B_{\bar{N}}(2N + 3719 - (2N + 2983)) + B_{\bar{N}}(2N + 3719 - (N + 3740)) + B_{\bar{N}}(2N + 3719 - (2N + 690)) \\
&= B_{\bar{N}}(736) + B_{\bar{N}}(N - 21) + B_{\bar{N}}(3029) = 736 + (N - 21) + 3029 = \mathbf{N} + \mathbf{3744} \\
&(N \geq 3029)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3720}) &= B_{\bar{N}}(2N + 3720 - B_{\bar{N}}(2N + 3719)) + B_{\bar{N}}(2N + 3720 - B_{\bar{N}}(2N + 3718)) + B_{\bar{N}}(2N + 3720 - B_{\bar{N}}(2N + 3717)) \\
&= B_{\bar{N}}(2N + 3720 - (N + 3744)) + B_{\bar{N}}(2N + 3720 - (2N + 2983)) + B_{\bar{N}}(2N + 3720 - (N + 3740)) \\
&= B_{\bar{N}}(N - 24) + B_{\bar{N}}(737) + B_{\bar{N}}(N - 20) = (N - 24) + 737 + (N - 20) = \mathbf{2N} + \mathbf{693} \\
&(N \geq 737)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3721}) &= B_{\bar{N}}(2N + 3721 - B_{\bar{N}}(2N + 3720)) + B_{\bar{N}}(2N + 3721 - B_{\bar{N}}(2N + 3719)) + B_{\bar{N}}(2N + 3721 - B_{\bar{N}}(2N + 3718)) \\
&= B_{\bar{N}}(2N + 3721 - (2N + 693)) + B_{\bar{N}}(2N + 3721 - (N + 3744)) + B_{\bar{N}}(2N + 3721 - (2N + 2983)) \\
&= B_{\bar{N}}(3028) + B_{\bar{N}}(N - 23) + B_{\bar{N}}(738) = 3028 + (N - 23) + 738 = \mathbf{N} + \mathbf{3743} \\
&(N \geq 3028)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3722}) &= B_{\bar{N}}(2N + 3722 - B_{\bar{N}}(2N + 3721)) + B_{\bar{N}}(2N + 3722 - B_{\bar{N}}(2N + 3720)) + B_{\bar{N}}(2N + 3722 - B_{\bar{N}}(2N + 3719)) \\
&= B_{\bar{N}}(2N + 3722 - (N + 3743)) + B_{\bar{N}}(2N + 3722 - (2N + 693)) + B_{\bar{N}}(2N + 3722 - (N + 3744)) \\
&= B_{\bar{N}}(N - 21) + B_{\bar{N}}(3029) + B_{\bar{N}}(N - 22) = (N - 21) + 3029 + (N - 22) = \mathbf{2N} + \mathbf{2986} \\
&(N \geq 3029)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3723}) &= B_{\bar{N}}(2N + 3723 - B_{\bar{N}}(2N + 3722)) + B_{\bar{N}}(2N + 3723 - B_{\bar{N}}(2N + 3721)) + B_{\bar{N}}(2N + 3723 - B_{\bar{N}}(2N + 3720)) \\
&= B_{\bar{N}}(2N + 3723 - (2N + 2986)) + B_{\bar{N}}(2N + 3723 - (N + 3743)) + B_{\bar{N}}(2N + 3723 - (2N + 693)) \\
&= B_{\bar{N}}(737) + B_{\bar{N}}(N - 20) + B_{\bar{N}}(3030) = 737 + (N - 20) + 3030 = \mathbf{N} + \mathbf{3747} \\
&(N \geq 3030)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3724}) &= B_{\bar{N}}(2N + 3724 - B_{\bar{N}}(2N + 3723)) + B_{\bar{N}}(2N + 3724 - B_{\bar{N}}(2N + 3722)) + B_{\bar{N}}(2N + 3724 - B_{\bar{N}}(2N + 3721)) \\
&= B_{\bar{N}}(2N + 3724 - (N + 3747)) + B_{\bar{N}}(2N + 3724 - (2N + 2986)) + B_{\bar{N}}(2N + 3724 - (N + 3743)) \\
&= B_{\bar{N}}(N - 23) + B_{\bar{N}}(738) + B_{\bar{N}}(N - 19) = (N - 23) + 738 + (N - 19) = \mathbf{2N} + \mathbf{696} \\
&(N \geq 738)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3725}) &= B_{\bar{N}}(2N + 3725 - B_{\bar{N}}(2N + 3724)) + B_{\bar{N}}(2N + 3725 - B_{\bar{N}}(2N + 3723)) + B_{\bar{N}}(2N + 3725 - B_{\bar{N}}(2N + 3722)) \\
&= B_{\bar{N}}(2N + 3725 - (2N + 696)) + B_{\bar{N}}(2N + 3725 - (N + 3747)) + B_{\bar{N}}(2N + 3725 - (2N + 2986)) \\
&= B_{\bar{N}}(3029) + B_{\bar{N}}(N - 22) + B_{\bar{N}}(739) = 3029 + (N - 22) + 739 = \mathbf{N} + \mathbf{3746} \\
&(N \geq 3029)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3726}) &= B_{\bar{N}}(2N + 3726 - B_{\bar{N}}(2N + 3725)) + B_{\bar{N}}(2N + 3726 - B_{\bar{N}}(2N + 3724)) + B_{\bar{N}}(2N + 3726 - B_{\bar{N}}(2N + 3723)) \\
&= B_{\bar{N}}(2N + 3726 - (N + 3746)) + B_{\bar{N}}(2N + 3726 - (2N + 696)) + B_{\bar{N}}(2N + 3726 - (N + 3747)) \\
&= B_{\bar{N}}(N - 20) + B_{\bar{N}}(3030) + B_{\bar{N}}(N - 21) = (N - 20) + 3030 + (N - 21) = \mathbf{2N} + \mathbf{2989} \\
&(N \geq 3030)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3727}) &= B_{\bar{N}}(2N + 3727 - B_{\bar{N}}(2N + 3726)) + B_{\bar{N}}(2N + 3727 - B_{\bar{N}}(2N + 3725)) + B_{\bar{N}}(2N + 3727 - B_{\bar{N}}(2N + 3724)) \\
&= B_{\bar{N}}(2N + 3727 - (2N + 2989)) + B_{\bar{N}}(2N + 3727 - (N + 3746)) + B_{\bar{N}}(2N + 3727 - (2N + 696)) \\
&= B_{\bar{N}}(738) + B_{\bar{N}}(N - 19) + B_{\bar{N}}(3031) = 738 + (N - 19) + 3031 = \mathbf{N} + \mathbf{3750} \\
&(N \geq 3031)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3728}) &= B_{\bar{N}}(2N + 3728 - B_{\bar{N}}(2N + 3727)) + B_{\bar{N}}(2N + 3728 - B_{\bar{N}}(2N + 3726)) + B_{\bar{N}}(2N + 3728 - B_{\bar{N}}(2N + 3725)) \\
&= B_{\bar{N}}(2N + 3728 - (N + 3750)) + B_{\bar{N}}(2N + 3728 - (2N + 2989)) + B_{\bar{N}}(2N + 3728 - (N + 3746)) \\
&= B_{\bar{N}}(N - 22) + B_{\bar{N}}(739) + B_{\bar{N}}(N - 18) = (N - 22) + 739 + (N - 18) = \mathbf{2N} + \mathbf{699} \\
&(N \geq 739)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3729}) &= B_{\bar{N}}(2N + 3729 - B_{\bar{N}}(2N + 3728)) + B_{\bar{N}}(2N + 3729 - B_{\bar{N}}(2N + 3727)) + B_{\bar{N}}(2N + 3729 - B_{\bar{N}}(2N + 3726)) \\
&= B_{\bar{N}}(2N + 3729 - (2N + 699)) + B_{\bar{N}}(2N + 3729 - (N + 3750)) + B_{\bar{N}}(2N + 3729 - (2N + 2989)) \\
&= B_{\bar{N}}(3030) + B_{\bar{N}}(N - 21) + B_{\bar{N}}(740) = 3030 + (N - 21) + 740 = \mathbf{N} + \mathbf{3749} \\
&(N \geq 3030)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3730}) &= B_{\bar{N}}(2N + 3730 - B_{\bar{N}}(2N + 3729)) + B_{\bar{N}}(2N + 3730 - B_{\bar{N}}(2N + 3728)) + B_{\bar{N}}(2N + 3730 - B_{\bar{N}}(2N + 3727)) \\
&= B_{\bar{N}}(2N + 3730 - (N + 3749)) + B_{\bar{N}}(2N + 3730 - (2N + 699)) + B_{\bar{N}}(2N + 3730 - (N + 3750)) \\
&= B_{\bar{N}}(N - 19) + B_{\bar{N}}(3031) + B_{\bar{N}}(N - 20) = (N - 19) + 3031 + (N - 20) = \mathbf{2N} + \mathbf{2992} \\
&(N \geq 3031)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3731}) &= B_{\bar{N}}(2N + 3731 - B_{\bar{N}}(2N + 3730)) + B_{\bar{N}}(2N + 3731 - B_{\bar{N}}(2N + 3729)) + B_{\bar{N}}(2N + 3731 - B_{\bar{N}}(2N + 3728)) \\
&= B_{\bar{N}}(2N + 3731 - (2N + 2992)) + B_{\bar{N}}(2N + 3731 - (N + 3749)) + B_{\bar{N}}(2N + 3731 - (2N + 699)) \\
&= B_{\bar{N}}(739) + B_{\bar{N}}(N - 18) + B_{\bar{N}}(3032) = 739 + (N - 18) + 3032 = \mathbf{N} + \mathbf{3753} \\
&(N \geq 3032)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3732}) &= B_{\bar{N}}(2N + 3732 - B_{\bar{N}}(2N + 3731)) + B_{\bar{N}}(2N + 3732 - B_{\bar{N}}(2N + 3730)) + B_{\bar{N}}(2N + 3732 - B_{\bar{N}}(2N + 3729)) \\
&= B_{\bar{N}}(2N + 3732 - (N + 3753)) + B_{\bar{N}}(2N + 3732 - (2N + 2992)) + B_{\bar{N}}(2N + 3732 - (N + 3749)) \\
&= B_{\bar{N}}(N - 21) + B_{\bar{N}}(740) + B_{\bar{N}}(N - 17) = (N - 21) + 740 + (N - 17) = \mathbf{2N} + \mathbf{702} \\
&(N \geq 740)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3733}) &= B_{\bar{N}}(2N + 3733 - B_{\bar{N}}(2N + 3732)) + B_{\bar{N}}(2N + 3733 - B_{\bar{N}}(2N + 3731)) + B_{\bar{N}}(2N + 3733 - B_{\bar{N}}(2N + 3730)) \\
&= B_{\bar{N}}(2N + 3733 - (2N + 702)) + B_{\bar{N}}(2N + 3733 - (N + 3753)) + B_{\bar{N}}(2N + 3733 - (2N + 2992)) \\
&= B_{\bar{N}}(3031) + B_{\bar{N}}(N - 20) + B_{\bar{N}}(741) = 3031 + (N - 20) + 741 = \mathbf{N} + \mathbf{3752} \\
&(N \geq 3031)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3734}) &= B_{\bar{N}}(2N + 3734 - B_{\bar{N}}(2N + 3733)) + B_{\bar{N}}(2N + 3734 - B_{\bar{N}}(2N + 3732)) + B_{\bar{N}}(2N + 3734 - B_{\bar{N}}(2N + 3731)) \\
&= B_{\bar{N}}(2N + 3734 - (N + 3752)) + B_{\bar{N}}(2N + 3734 - (2N + 702)) + B_{\bar{N}}(2N + 3734 - (N + 3753)) \\
&= B_{\bar{N}}(N - 18) + B_{\bar{N}}(3032) + B_{\bar{N}}(N - 19) = (N - 18) + 3032 + (N - 19) = \mathbf{2N} + \mathbf{2995} \\
&(N \geq 3032)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3735}) &= B_{\bar{N}}(2N + 3735 - B_{\bar{N}}(2N + 3734)) + B_{\bar{N}}(2N + 3735 - B_{\bar{N}}(2N + 3733)) + B_{\bar{N}}(2N + 3735 - B_{\bar{N}}(2N + 3732)) \\
&= B_{\bar{N}}(2N + 3735 - (2N + 2995)) + B_{\bar{N}}(2N + 3735 - (N + 3752)) + B_{\bar{N}}(2N + 3735 - (2N + 702)) \\
&= B_{\bar{N}}(740) + B_{\bar{N}}(N - 17) + B_{\bar{N}}(3033) = 740 + (N - 17) + 3033 = \mathbf{N} + \mathbf{3756} \\
&(N \geq 3033)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3736}) &= B_{\bar{N}}(2N + 3736 - B_{\bar{N}}(2N + 3735)) + B_{\bar{N}}(2N + 3736 - B_{\bar{N}}(2N + 3734)) + B_{\bar{N}}(2N + 3736 - B_{\bar{N}}(2N + 3733)) \\
&= B_{\bar{N}}(2N + 3736 - (N + 3756)) + B_{\bar{N}}(2N + 3736 - (2N + 2995)) + B_{\bar{N}}(2N + 3736 - (N + 3752)) \\
&= B_{\bar{N}}(N - 20) + B_{\bar{N}}(741) + B_{\bar{N}}(N - 16) = (N - 20) + 741 + (N - 16) = \mathbf{2N} + \mathbf{705} \\
&(N \geq 741)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3737}) &= B_{\bar{N}}(2N + 3737 - B_{\bar{N}}(2N + 3736)) + B_{\bar{N}}(2N + 3737 - B_{\bar{N}}(2N + 3735)) + B_{\bar{N}}(2N + 3737 - B_{\bar{N}}(2N + 3734)) \\
&= B_{\bar{N}}(2N + 3737 - (2N + 705)) + B_{\bar{N}}(2N + 3737 - (N + 3756)) + B_{\bar{N}}(2N + 3737 - (2N + 2995)) \\
&= B_{\bar{N}}(3032) + B_{\bar{N}}(N - 19) + B_{\bar{N}}(742) = 3032 + (N - 19) + 742 = \mathbf{N} + \mathbf{3755} \\
&(N \geq 3032)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3738}) &= B_{\bar{N}}(2N + 3738 - B_{\bar{N}}(2N + 3737)) + B_{\bar{N}}(2N + 3738 - B_{\bar{N}}(2N + 3736)) + B_{\bar{N}}(2N + 3738 - B_{\bar{N}}(2N + 3735)) \\
&= B_{\bar{N}}(2N + 3738 - (N + 3755)) + B_{\bar{N}}(2N + 3738 - (2N + 705)) + B_{\bar{N}}(2N + 3738 - (N + 3756)) \\
&= B_{\bar{N}}(N - 17) + B_{\bar{N}}(3033) + B_{\bar{N}}(N - 18) = (N - 17) + 3033 + (N - 18) = \mathbf{2N} + \mathbf{2998} \\
&(N \geq 3033)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3739}) &= B_{\bar{N}}(2N + 3739 - B_{\bar{N}}(2N + 3738)) + B_{\bar{N}}(2N + 3739 - B_{\bar{N}}(2N + 3737)) + B_{\bar{N}}(2N + 3739 - B_{\bar{N}}(2N + 3736)) \\
&= B_{\bar{N}}(2N + 3739 - (2N + 2998)) + B_{\bar{N}}(2N + 3739 - (N + 3755)) + B_{\bar{N}}(2N + 3739 - (2N + 705)) \\
&= B_{\bar{N}}(741) + B_{\bar{N}}(N - 16) + B_{\bar{N}}(3034) = 741 + (N - 16) + 3034 = \mathbf{N} + \mathbf{3759} \\
&(N \geq 3034)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3740}) &= B_{\bar{N}}(2N + 3740 - B_{\bar{N}}(2N + 3739)) + B_{\bar{N}}(2N + 3740 - B_{\bar{N}}(2N + 3738)) + B_{\bar{N}}(2N + 3740 - B_{\bar{N}}(2N + 3737)) \\
&= B_{\bar{N}}(2N + 3740 - (N + 3759)) + B_{\bar{N}}(2N + 3740 - (2N + 2998)) + B_{\bar{N}}(2N + 3740 - (N + 3755)) \\
&= B_{\bar{N}}(N - 19) + B_{\bar{N}}(742) + B_{\bar{N}}(N - 15) = (N - 19) + 742 + (N - 15) = \mathbf{2N} + \mathbf{708} \\
&(N \geq 742)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3741}) &= B_{\bar{N}}(2N + 3741 - B_{\bar{N}}(2N + 3740)) + B_{\bar{N}}(2N + 3741 - B_{\bar{N}}(2N + 3739)) + B_{\bar{N}}(2N + 3741 - B_{\bar{N}}(2N + 3738)) \\
&= B_{\bar{N}}(2N + 3741 - (2N + 708)) + B_{\bar{N}}(2N + 3741 - (N + 3759)) + B_{\bar{N}}(2N + 3741 - (2N + 2998)) \\
&= B_{\bar{N}}(3033) + B_{\bar{N}}(N - 18) + B_{\bar{N}}(743) = 3033 + (N - 18) + 743 = \mathbf{N} + \mathbf{3758} \\
&(N \geq 3033)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3742}) &= B_{\bar{N}}(2N + 3742 - B_{\bar{N}}(2N + 3741)) + B_{\bar{N}}(2N + 3742 - B_{\bar{N}}(2N + 3740)) + B_{\bar{N}}(2N + 3742 - B_{\bar{N}}(2N + 3739)) \\
&= B_{\bar{N}}(2N + 3742 - (N + 3758)) + B_{\bar{N}}(2N + 3742 - (2N + 708)) + B_{\bar{N}}(2N + 3742 - (N + 3759)) \\
&= B_{\bar{N}}(N - 16) + B_{\bar{N}}(3034) + B_{\bar{N}}(N - 17) = (N - 16) + 3034 + (N - 17) = \mathbf{2N} + \mathbf{3001} \\
&(N \geq 3034)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3743}) &= B_{\bar{N}}(2N + 3743 - B_{\bar{N}}(2N + 3742)) + B_{\bar{N}}(2N + 3743 - B_{\bar{N}}(2N + 3741)) + B_{\bar{N}}(2N + 3743 - B_{\bar{N}}(2N + 3740)) \\
&= B_{\bar{N}}(2N + 3743 - (2N + 3001)) + B_{\bar{N}}(2N + 3743 - (N + 3758)) + B_{\bar{N}}(2N + 3743 - (2N + 708)) \\
&= B_{\bar{N}}(742) + B_{\bar{N}}(N - 15) + B_{\bar{N}}(3035) = 742 + (N - 15) + 3035 = \mathbf{N} + \mathbf{3762} \\
&(N \geq 3035)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3744}) &= B_{\bar{N}}(2N + 3744 - B_{\bar{N}}(2N + 3743)) + B_{\bar{N}}(2N + 3744 - B_{\bar{N}}(2N + 3742)) + B_{\bar{N}}(2N + 3744 - B_{\bar{N}}(2N + 3741)) \\
&= B_{\bar{N}}(2N + 3744 - (N + 3762)) + B_{\bar{N}}(2N + 3744 - (2N + 3001)) + B_{\bar{N}}(2N + 3744 - (N + 3758)) \\
&= B_{\bar{N}}(N - 18) + B_{\bar{N}}(743) + B_{\bar{N}}(N - 14) = (N - 18) + 743 + (N - 14) = \mathbf{2N} + \mathbf{711} \\
&(N \geq 743)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3745}) &= B_{\bar{N}}(2N + 3745 - B_{\bar{N}}(2N + 3744)) + B_{\bar{N}}(2N + 3745 - B_{\bar{N}}(2N + 3743)) + B_{\bar{N}}(2N + 3745 - B_{\bar{N}}(2N + 3742)) \\
&= B_{\bar{N}}(2N + 3745 - (2N + 711)) + B_{\bar{N}}(2N + 3745 - (N + 3762)) + B_{\bar{N}}(2N + 3745 - (2N + 3001)) \\
&= B_{\bar{N}}(3034) + B_{\bar{N}}(N - 17) + B_{\bar{N}}(744) = 3034 + (N - 17) + 744 = \mathbf{N} + \mathbf{3761} \\
&(N \geq 3034)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3746}) &= B_{\bar{N}}(2N + 3746 - B_{\bar{N}}(2N + 3745)) + B_{\bar{N}}(2N + 3746 - B_{\bar{N}}(2N + 3744)) + B_{\bar{N}}(2N + 3746 - B_{\bar{N}}(2N + 3743)) \\
&= B_{\bar{N}}(2N + 3746 - (N + 3761)) + B_{\bar{N}}(2N + 3746 - (2N + 711)) + B_{\bar{N}}(2N + 3746 - (N + 3762)) \\
&= B_{\bar{N}}(N - 15) + B_{\bar{N}}(3035) + B_{\bar{N}}(N - 16) = (N - 15) + 3035 + (N - 16) = \mathbf{2N} + \mathbf{3004} \\
&(N \geq 3035)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3747}) &= B_{\bar{N}}(2N + 3747 - B_{\bar{N}}(2N + 3746)) + B_{\bar{N}}(2N + 3747 - B_{\bar{N}}(2N + 3745)) + B_{\bar{N}}(2N + 3747 - B_{\bar{N}}(2N + 3744)) \\
&= B_{\bar{N}}(2N + 3747 - (2N + 3004)) + B_{\bar{N}}(2N + 3747 - (N + 3761)) + B_{\bar{N}}(2N + 3747 - (2N + 711)) \\
&= B_{\bar{N}}(743) + B_{\bar{N}}(N - 14) + B_{\bar{N}}(3036) = 743 + (N - 14) + 3036 = \mathbf{N} + \mathbf{3765} \\
&(N \geq 3036)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3748}) &= B_{\bar{N}}(2N + 3748 - B_{\bar{N}}(2N + 3747)) + B_{\bar{N}}(2N + 3748 - B_{\bar{N}}(2N + 3746)) + B_{\bar{N}}(2N + 3748 - B_{\bar{N}}(2N + 3745)) \\
&= B_{\bar{N}}(2N + 3748 - (N + 3765)) + B_{\bar{N}}(2N + 3748 - (2N + 3004)) + B_{\bar{N}}(2N + 3748 - (N + 3761)) \\
&= B_{\bar{N}}(N - 17) + B_{\bar{N}}(744) + B_{\bar{N}}(N - 13) = (N - 17) + 744 + (N - 13) = \mathbf{2N} + \mathbf{714} \\
&(N \geq 744)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3749}) &= B_{\bar{N}}(2N + 3749 - B_{\bar{N}}(2N + 3748)) + B_{\bar{N}}(2N + 3749 - B_{\bar{N}}(2N + 3747)) + B_{\bar{N}}(2N + 3749 - B_{\bar{N}}(2N + 3746)) \\
&= B_{\bar{N}}(2N + 3749 - (2N + 714)) + B_{\bar{N}}(2N + 3749 - (N + 3765)) + B_{\bar{N}}(2N + 3749 - (2N + 3004)) \\
&= B_{\bar{N}}(3035) + B_{\bar{N}}(N - 16) + B_{\bar{N}}(745) = 3035 + (N - 16) + 745 = \mathbf{N} + \mathbf{3764} \\
&(N \geq 3035)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3750}) &= B_{\bar{N}}(2N + 3750 - B_{\bar{N}}(2N + 3749)) + B_{\bar{N}}(2N + 3750 - B_{\bar{N}}(2N + 3748)) + B_{\bar{N}}(2N + 3750 - B_{\bar{N}}(2N + 3747)) \\
&= B_{\bar{N}}(2N + 3750 - (N + 3764)) + B_{\bar{N}}(2N + 3750 - (2N + 714)) + B_{\bar{N}}(2N + 3750 - (N + 3765)) \\
&= B_{\bar{N}}(N - 14) + B_{\bar{N}}(3036) + B_{\bar{N}}(N - 15) = (N - 14) + 3036 + (N - 15) = \mathbf{2N} + \mathbf{3007} \\
&(N \geq 3036)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3751}) &= B_{\bar{N}}(2N + 3751 - B_{\bar{N}}(2N + 3750)) + B_{\bar{N}}(2N + 3751 - B_{\bar{N}}(2N + 3749)) + B_{\bar{N}}(2N + 3751 - B_{\bar{N}}(2N + 3748)) \\
&= B_{\bar{N}}(2N + 3751 - (2N + 3007)) + B_{\bar{N}}(2N + 3751 - (N + 3764)) + B_{\bar{N}}(2N + 3751 - (2N + 714)) \\
&= B_{\bar{N}}(744) + B_{\bar{N}}(N - 13) + B_{\bar{N}}(3037) = 744 + (N - 13) + 3037 = \mathbf{N} + \mathbf{3768} \\
&(N \geq 3037)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3752}) &= B_{\bar{N}}(2N + 3752 - B_{\bar{N}}(2N + 3751)) + B_{\bar{N}}(2N + 3752 - B_{\bar{N}}(2N + 3750)) + B_{\bar{N}}(2N + 3752 - B_{\bar{N}}(2N + 3749)) \\
&= B_{\bar{N}}(2N + 3752 - (N + 3768)) + B_{\bar{N}}(2N + 3752 - (2N + 3007)) + B_{\bar{N}}(2N + 3752 - (N + 3764)) \\
&= B_{\bar{N}}(N - 16) + B_{\bar{N}}(745) + B_{\bar{N}}(N - 12) = (N - 16) + 745 + (N - 12) = \mathbf{2N} + \mathbf{717} \\
&(N \geq 745)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3753}) &= B_{\bar{N}}(2N + 3753 - B_{\bar{N}}(2N + 3752)) + B_{\bar{N}}(2N + 3753 - B_{\bar{N}}(2N + 3751)) + B_{\bar{N}}(2N + 3753 - B_{\bar{N}}(2N + 3750)) \\
&= B_{\bar{N}}(2N + 3753 - (2N + 717)) + B_{\bar{N}}(2N + 3753 - (N + 3768)) + B_{\bar{N}}(2N + 3753 - (2N + 3007)) \\
&= B_{\bar{N}}(3036) + B_{\bar{N}}(N - 15) + B_{\bar{N}}(746) = 3036 + (N - 15) + 746 = \mathbf{N} + \mathbf{3767} \\
&(N \geq 3036)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3754}) &= B_{\bar{N}}(2N + 3754 - B_{\bar{N}}(2N + 3753)) + B_{\bar{N}}(2N + 3754 - B_{\bar{N}}(2N + 3752)) + B_{\bar{N}}(2N + 3754 - B_{\bar{N}}(2N + 3751)) \\
&= B_{\bar{N}}(2N + 3754 - (N + 3767)) + B_{\bar{N}}(2N + 3754 - (2N + 717)) + B_{\bar{N}}(2N + 3754 - (N + 3768)) \\
&= B_{\bar{N}}(N - 13) + B_{\bar{N}}(3037) + B_{\bar{N}}(N - 14) = (N - 13) + 3037 + (N - 14) = \mathbf{2N} + \mathbf{3010} \\
&(N \geq 3037)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3755}) &= B_{\bar{N}}(2N + 3755 - B_{\bar{N}}(2N + 3754)) + B_{\bar{N}}(2N + 3755 - B_{\bar{N}}(2N + 3753)) + B_{\bar{N}}(2N + 3755 - B_{\bar{N}}(2N + 3752)) \\
&= B_{\bar{N}}(2N + 3755 - (2N + 3010)) + B_{\bar{N}}(2N + 3755 - (N + 3767)) + B_{\bar{N}}(2N + 3755 - (2N + 717)) \\
&= B_{\bar{N}}(745) + B_{\bar{N}}(N - 12) + B_{\bar{N}}(3038) = 745 + (N - 12) + 3038 = \mathbf{N} + \mathbf{3771} \\
&(N \geq 3038)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3756}) &= B_{\bar{N}}(2N + 3756 - B_{\bar{N}}(2N + 3755)) + B_{\bar{N}}(2N + 3756 - B_{\bar{N}}(2N + 3754)) + B_{\bar{N}}(2N + 3756 - B_{\bar{N}}(2N + 3753)) \\
&= B_{\bar{N}}(2N + 3756 - (N + 3771)) + B_{\bar{N}}(2N + 3756 - (2N + 3010)) + B_{\bar{N}}(2N + 3756 - (N + 3767)) \\
&= B_{\bar{N}}(N - 15) + B_{\bar{N}}(746) + B_{\bar{N}}(N - 11) = (N - 15) + 746 + (N - 11) = \mathbf{2N} + \mathbf{720} \\
&(N \geq 746)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3757}) &= B_{\bar{N}}(2N + 3757 - B_{\bar{N}}(2N + 3756)) + B_{\bar{N}}(2N + 3757 - B_{\bar{N}}(2N + 3755)) + B_{\bar{N}}(2N + 3757 - B_{\bar{N}}(2N + 3754)) \\
&= B_{\bar{N}}(2N + 3757 - (2N + 720)) + B_{\bar{N}}(2N + 3757 - (N + 3771)) + B_{\bar{N}}(2N + 3757 - (2N + 3010)) \\
&= B_{\bar{N}}(3037) + B_{\bar{N}}(N - 14) + B_{\bar{N}}(747) = 3037 + (N - 14) + 747 = \mathbf{N} + \mathbf{3770} \\
&(N \geq 3037)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3758}) &= B_{\bar{N}}(2N + 3758 - B_{\bar{N}}(2N + 3757)) + B_{\bar{N}}(2N + 3758 - B_{\bar{N}}(2N + 3756)) + B_{\bar{N}}(2N + 3758 - B_{\bar{N}}(2N + 3755)) \\
&= B_{\bar{N}}(2N + 3758 - (N + 3770)) + B_{\bar{N}}(2N + 3758 - (2N + 720)) + B_{\bar{N}}(2N + 3758 - (N + 3771)) \\
&= B_{\bar{N}}(N - 12) + B_{\bar{N}}(3038) + B_{\bar{N}}(N - 13) = (N - 12) + 3038 + (N - 13) = \mathbf{2N} + \mathbf{3013} \\
&(N \geq 3038)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3759}) &= B_{\bar{N}}(2N + 3759 - B_{\bar{N}}(2N + 3758)) + B_{\bar{N}}(2N + 3759 - B_{\bar{N}}(2N + 3757)) + B_{\bar{N}}(2N + 3759 - B_{\bar{N}}(2N + 3756)) \\
&= B_{\bar{N}}(2N + 3759 - (2N + 3013)) + B_{\bar{N}}(2N + 3759 - (N + 3770)) + B_{\bar{N}}(2N + 3759 - (2N + 720)) \\
&= B_{\bar{N}}(746) + B_{\bar{N}}(N - 11) + B_{\bar{N}}(3039) = 746 + (N - 11) + 3039 = \mathbf{N} + \mathbf{3774} \\
&(N \geq 3039)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3760}) &= B_{\bar{N}}(2N + 3760 - B_{\bar{N}}(2N + 3759)) + B_{\bar{N}}(2N + 3760 - B_{\bar{N}}(2N + 3758)) + B_{\bar{N}}(2N + 3760 - B_{\bar{N}}(2N + 3757)) \\
&= B_{\bar{N}}(2N + 3760 - (N + 3774)) + B_{\bar{N}}(2N + 3760 - (2N + 3013)) + B_{\bar{N}}(2N + 3760 - (N + 3770)) \\
&= B_{\bar{N}}(N - 14) + B_{\bar{N}}(747) + B_{\bar{N}}(N - 10) = (N - 14) + 747 + (N - 10) = \mathbf{2N} + \mathbf{723} \\
&(N \geq 747)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3761}) &= B_{\bar{N}}(2N + 3761 - B_{\bar{N}}(2N + 3760)) + B_{\bar{N}}(2N + 3761 - B_{\bar{N}}(2N + 3759)) + B_{\bar{N}}(2N + 3761 - B_{\bar{N}}(2N + 3758)) \\
&= B_{\bar{N}}(2N + 3761 - (2N + 723)) + B_{\bar{N}}(2N + 3761 - (N + 3774)) + B_{\bar{N}}(2N + 3761 - (2N + 3013)) \\
&= B_{\bar{N}}(3038) + B_{\bar{N}}(N - 13) + B_{\bar{N}}(748) = 3038 + (N - 13) + 748 = \mathbf{N} + \mathbf{3773} \\
&(N \geq 3038)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3762}) &= B_{\bar{N}}(2N + 3762 - B_{\bar{N}}(2N + 3761)) + B_{\bar{N}}(2N + 3762 - B_{\bar{N}}(2N + 3760)) + B_{\bar{N}}(2N + 3762 - B_{\bar{N}}(2N + 3759)) \\
&= B_{\bar{N}}(2N + 3762 - (N + 3773)) + B_{\bar{N}}(2N + 3762 - (2N + 723)) + B_{\bar{N}}(2N + 3762 - (N + 3774)) \\
&= B_{\bar{N}}(N - 11) + B_{\bar{N}}(3039) + B_{\bar{N}}(N - 12) = (N - 11) + 3039 + (N - 12) = \mathbf{2N} + \mathbf{3016} \\
&(N \geq 3039)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3763}) &= B_{\bar{N}}(2N + 3763 - B_{\bar{N}}(2N + 3762)) + B_{\bar{N}}(2N + 3763 - B_{\bar{N}}(2N + 3761)) + B_{\bar{N}}(2N + 3763 - B_{\bar{N}}(2N + 3760)) \\
&= B_{\bar{N}}(2N + 3763 - (2N + 3016)) + B_{\bar{N}}(2N + 3763 - (N + 3773)) + B_{\bar{N}}(2N + 3763 - (2N + 723)) \\
&= B_{\bar{N}}(747) + B_{\bar{N}}(N - 10) + B_{\bar{N}}(3040) = 747 + (N - 10) + 3040 = \mathbf{N} + \mathbf{3777} \\
&(N \geq 3040)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3764}) &= B_{\bar{N}}(2N + 3764 - B_{\bar{N}}(2N + 3763)) + B_{\bar{N}}(2N + 3764 - B_{\bar{N}}(2N + 3762)) + B_{\bar{N}}(2N + 3764 - B_{\bar{N}}(2N + 3761)) \\
&= B_{\bar{N}}(2N + 3764 - (N + 3777)) + B_{\bar{N}}(2N + 3764 - (2N + 3016)) + B_{\bar{N}}(2N + 3764 - (N + 3773)) \\
&= B_{\bar{N}}(N - 13) + B_{\bar{N}}(748) + B_{\bar{N}}(N - 9) = (N - 13) + 748 + (N - 9) = \mathbf{2N} + \mathbf{726} \\
&(N \geq 748)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3765}) &= B_{\bar{N}}(2N + 3765 - B_{\bar{N}}(2N + 3764)) + B_{\bar{N}}(2N + 3765 - B_{\bar{N}}(2N + 3763)) + B_{\bar{N}}(2N + 3765 - B_{\bar{N}}(2N + 3762)) \\
&= B_{\bar{N}}(2N + 3765 - (2N + 726)) + B_{\bar{N}}(2N + 3765 - (N + 3777)) + B_{\bar{N}}(2N + 3765 - (2N + 3016)) \\
&= B_{\bar{N}}(3039) + B_{\bar{N}}(N - 12) + B_{\bar{N}}(749) = 3039 + (N - 12) + 749 = \mathbf{N} + \mathbf{3776} \\
&(N \geq 3039)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3766}) &= B_{\bar{N}}(2N + 3766 - B_{\bar{N}}(2N + 3765)) + B_{\bar{N}}(2N + 3766 - B_{\bar{N}}(2N + 3764)) + B_{\bar{N}}(2N + 3766 - B_{\bar{N}}(2N + 3763)) \\
&= B_{\bar{N}}(2N + 3766 - (N + 3776)) + B_{\bar{N}}(2N + 3766 - (2N + 726)) + B_{\bar{N}}(2N + 3766 - (N + 3777)) \\
&= B_{\bar{N}}(N - 10) + B_{\bar{N}}(3040) + B_{\bar{N}}(N - 11) = (N - 10) + 3040 + (N - 11) = \mathbf{2N} + \mathbf{3019} \\
&(N \geq 3040)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3767}) &= B_{\bar{N}}(2N + 3767 - B_{\bar{N}}(2N + 3766)) + B_{\bar{N}}(2N + 3767 - B_{\bar{N}}(2N + 3765)) + B_{\bar{N}}(2N + 3767 - B_{\bar{N}}(2N + 3764)) \\
&= B_{\bar{N}}(2N + 3767 - (2N + 3019)) + B_{\bar{N}}(2N + 3767 - (N + 3776)) + B_{\bar{N}}(2N + 3767 - (2N + 726)) \\
&= B_{\bar{N}}(748) + B_{\bar{N}}(N - 9) + B_{\bar{N}}(3041) = 748 + (N - 9) + 3041 = \mathbf{N} + \mathbf{3780} \\
&(N \geq 3041)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3768}) &= B_{\bar{N}}(2N + 3768 - B_{\bar{N}}(2N + 3767)) + B_{\bar{N}}(2N + 3768 - B_{\bar{N}}(2N + 3766)) + B_{\bar{N}}(2N + 3768 - B_{\bar{N}}(2N + 3765)) \\
&= B_{\bar{N}}(2N + 3768 - (N + 3780)) + B_{\bar{N}}(2N + 3768 - (2N + 3019)) + B_{\bar{N}}(2N + 3768 - (N + 3776)) \\
&= B_{\bar{N}}(N - 12) + B_{\bar{N}}(749) + B_{\bar{N}}(N - 8) = (N - 12) + 749 + (N - 8) = \mathbf{2N} + \mathbf{729} \\
&(N \geq 749)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3769}) &= B_{\bar{N}}(2N + 3769 - B_{\bar{N}}(2N + 3768)) + B_{\bar{N}}(2N + 3769 - B_{\bar{N}}(2N + 3767)) + B_{\bar{N}}(2N + 3769 - B_{\bar{N}}(2N + 3766)) \\
&= B_{\bar{N}}(2N + 3769 - (2N + 729)) + B_{\bar{N}}(2N + 3769 - (N + 3780)) + B_{\bar{N}}(2N + 3769 - (2N + 3019)) \\
&= B_{\bar{N}}(3040) + B_{\bar{N}}(N - 11) + B_{\bar{N}}(750) = 3040 + (N - 11) + 750 = \mathbf{N} + \mathbf{3779} \\
&(N \geq 3040)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3770}) &= B_{\bar{N}}(2N + 3770 - B_{\bar{N}}(2N + 3769)) + B_{\bar{N}}(2N + 3770 - B_{\bar{N}}(2N + 3768)) + B_{\bar{N}}(2N + 3770 - B_{\bar{N}}(2N + 3767)) \\
&= B_{\bar{N}}(2N + 3770 - (N + 3779)) + B_{\bar{N}}(2N + 3770 - (2N + 729)) + B_{\bar{N}}(2N + 3770 - (N + 3780)) \\
&= B_{\bar{N}}(N - 9) + B_{\bar{N}}(3041) + B_{\bar{N}}(N - 10) = (N - 9) + 3041 + (N - 10) = \mathbf{2N} + \mathbf{3022} \\
&(N \geq 3041)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3771}) &= B_{\bar{N}}(2N + 3771 - B_{\bar{N}}(2N + 3770)) + B_{\bar{N}}(2N + 3771 - B_{\bar{N}}(2N + 3769)) + B_{\bar{N}}(2N + 3771 - B_{\bar{N}}(2N + 3768)) \\
&= B_{\bar{N}}(2N + 3771 - (2N + 3022)) + B_{\bar{N}}(2N + 3771 - (N + 3779)) + B_{\bar{N}}(2N + 3771 - (2N + 729)) \\
&= B_{\bar{N}}(749) + B_{\bar{N}}(N - 8) + B_{\bar{N}}(3042) = 749 + (N - 8) + 3042 = \mathbf{N} + \mathbf{3783} \\
&(N \geq 3042)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3772}) &= B_{\bar{N}}(2N + 3772 - B_{\bar{N}}(2N + 3771)) + B_{\bar{N}}(2N + 3772 - B_{\bar{N}}(2N + 3770)) + B_{\bar{N}}(2N + 3772 - B_{\bar{N}}(2N + 3769)) \\
&= B_{\bar{N}}(2N + 3772 - (N + 3783)) + B_{\bar{N}}(2N + 3772 - (2N + 3022)) + B_{\bar{N}}(2N + 3772 - (N + 3779)) \\
&= B_{\bar{N}}(N - 11) + B_{\bar{N}}(750) + B_{\bar{N}}(N - 7) = (N - 11) + 750 + (N - 7) = \mathbf{2N} + \mathbf{732} \\
&(N \geq 750)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3773}) &= B_{\bar{N}}(2N + 3773 - B_{\bar{N}}(2N + 3772)) + B_{\bar{N}}(2N + 3773 - B_{\bar{N}}(2N + 3771)) + B_{\bar{N}}(2N + 3773 - B_{\bar{N}}(2N + 3770)) \\
&= B_{\bar{N}}(2N + 3773 - (2N + 732)) + B_{\bar{N}}(2N + 3773 - (N + 3783)) + B_{\bar{N}}(2N + 3773 - (2N + 3022)) \\
&= B_{\bar{N}}(3041) + B_{\bar{N}}(N - 10) + B_{\bar{N}}(751) = 3041 + (N - 10) + 751 = \mathbf{N} + \mathbf{3782} \\
&(N \geq 3041)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3774}) &= B_{\bar{N}}(2N + 3774 - B_{\bar{N}}(2N + 3773)) + B_{\bar{N}}(2N + 3774 - B_{\bar{N}}(2N + 3772)) + B_{\bar{N}}(2N + 3774 - B_{\bar{N}}(2N + 3771)) \\
&= B_{\bar{N}}(2N + 3774 - (N + 3782)) + B_{\bar{N}}(2N + 3774 - (2N + 732)) + B_{\bar{N}}(2N + 3774 - (N + 3783)) \\
&= B_{\bar{N}}(N - 8) + B_{\bar{N}}(3042) + B_{\bar{N}}(N - 9) = (N - 8) + 3042 + (N - 9) = \mathbf{2N} + \mathbf{3025} \\
&(N \geq 3042)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3775}) &= B_{\bar{N}}(2N + 3775 - B_{\bar{N}}(2N + 3774)) + B_{\bar{N}}(2N + 3775 - B_{\bar{N}}(2N + 3773)) + B_{\bar{N}}(2N + 3775 - B_{\bar{N}}(2N + 3772)) \\
&= B_{\bar{N}}(2N + 3775 - (2N + 3025)) + B_{\bar{N}}(2N + 3775 - (N + 3782)) + B_{\bar{N}}(2N + 3775 - (2N + 732)) \\
&= B_{\bar{N}}(750) + B_{\bar{N}}(N - 7) + B_{\bar{N}}(3043) = 750 + (N - 7) + 3043 = \mathbf{N} + \mathbf{3786} \\
&(N \geq 3043)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3776}) &= B_{\bar{N}}(2N + 3776 - B_{\bar{N}}(2N + 3775)) + B_{\bar{N}}(2N + 3776 - B_{\bar{N}}(2N + 3774)) + B_{\bar{N}}(2N + 3776 - B_{\bar{N}}(2N + 3773)) \\
&= B_{\bar{N}}(2N + 3776 - (N + 3786)) + B_{\bar{N}}(2N + 3776 - (2N + 3025)) + B_{\bar{N}}(2N + 3776 - (N + 3782)) \\
&= B_{\bar{N}}(N - 10) + B_{\bar{N}}(751) + B_{\bar{N}}(N - 6) = (N - 10) + 751 + (N - 6) = \mathbf{2N} + \mathbf{735} \\
&(N \geq 751)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3777) &= B_{\bar{N}}(2N + 3777 - B_{\bar{N}}(2N + 3776)) + B_{\bar{N}}(2N + 3777 - B_{\bar{N}}(2N + 3775)) + B_{\bar{N}}(2N + 3777 - B_{\bar{N}}(2N + 3774)) \\
&= B_{\bar{N}}(2N + 3777 - (2N + 735)) + B_{\bar{N}}(2N + 3777 - (N + 3786)) + B_{\bar{N}}(2N + 3777 - (2N + 3025)) \\
&= B_{\bar{N}}(3042) + B_{\bar{N}}(N - 9) + B_{\bar{N}}(752) = 3042 + (N - 9) + 752 = \mathbf{N} + \mathbf{3785} \\
&(N \geq 3042)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3778) &= B_{\bar{N}}(2N + 3778 - B_{\bar{N}}(2N + 3777)) + B_{\bar{N}}(2N + 3778 - B_{\bar{N}}(2N + 3776)) + B_{\bar{N}}(2N + 3778 - B_{\bar{N}}(2N + 3775)) \\
&= B_{\bar{N}}(2N + 3778 - (N + 3785)) + B_{\bar{N}}(2N + 3778 - (2N + 735)) + B_{\bar{N}}(2N + 3778 - (N + 3786)) \\
&= B_{\bar{N}}(N - 7) + B_{\bar{N}}(3043) + B_{\bar{N}}(N - 8) = (N - 7) + 3043 + (N - 8) = \mathbf{2N} + \mathbf{3028} \\
&(N \geq 3043)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3779) &= B_{\bar{N}}(2N + 3779 - B_{\bar{N}}(2N + 3778)) + B_{\bar{N}}(2N + 3779 - B_{\bar{N}}(2N + 3777)) + B_{\bar{N}}(2N + 3779 - B_{\bar{N}}(2N + 3776)) \\
&= B_{\bar{N}}(2N + 3779 - (2N + 3028)) + B_{\bar{N}}(2N + 3779 - (N + 3785)) + B_{\bar{N}}(2N + 3779 - (2N + 735)) \\
&= B_{\bar{N}}(751) + B_{\bar{N}}(N - 6) + B_{\bar{N}}(3044) = 751 + (N - 6) + 3044 = \mathbf{N} + \mathbf{3789} \\
&(N \geq 3044)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3780) &= B_{\bar{N}}(2N + 3780 - B_{\bar{N}}(2N + 3779)) + B_{\bar{N}}(2N + 3780 - B_{\bar{N}}(2N + 3778)) + B_{\bar{N}}(2N + 3780 - B_{\bar{N}}(2N + 3777)) \\
&= B_{\bar{N}}(2N + 3780 - (N + 3789)) + B_{\bar{N}}(2N + 3780 - (2N + 3028)) + B_{\bar{N}}(2N + 3780 - (N + 3785)) \\
&= B_{\bar{N}}(N - 9) + B_{\bar{N}}(752) + B_{\bar{N}}(N - 5) = (N - 9) + 752 + (N - 5) = \mathbf{2N} + \mathbf{738} \\
&(N \geq 752)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3781) &= B_{\bar{N}}(2N + 3781 - B_{\bar{N}}(2N + 3780)) + B_{\bar{N}}(2N + 3781 - B_{\bar{N}}(2N + 3779)) + B_{\bar{N}}(2N + 3781 - B_{\bar{N}}(2N + 3778)) \\
&= B_{\bar{N}}(2N + 3781 - (2N + 738)) + B_{\bar{N}}(2N + 3781 - (N + 3789)) + B_{\bar{N}}(2N + 3781 - (2N + 3028)) \\
&= B_{\bar{N}}(3043) + B_{\bar{N}}(N - 8) + B_{\bar{N}}(753) = 3043 + (N - 8) + 753 = \mathbf{N} + \mathbf{3788} \\
&(N \geq 3043)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3782}) &= B_{\bar{N}}(2N + 3782 - B_{\bar{N}}(2N + 3781)) + B_{\bar{N}}(2N + 3782 - B_{\bar{N}}(2N + 3780)) + B_{\bar{N}}(2N + 3782 - B_{\bar{N}}(2N + 3779)) \\
&= B_{\bar{N}}(2N + 3782 - (N + 3788)) + B_{\bar{N}}(2N + 3782 - (2N + 738)) + B_{\bar{N}}(2N + 3782 - (N + 3789)) \\
&= B_{\bar{N}}(N - 6) + B_{\bar{N}}(3044) + B_{\bar{N}}(N - 7) = (N - 6) + 3044 + (N - 7) = \mathbf{2N} + \mathbf{3031} \\
&(N \geq 3044)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3783}) &= B_{\bar{N}}(2N + 3783 - B_{\bar{N}}(2N + 3782)) + B_{\bar{N}}(2N + 3783 - B_{\bar{N}}(2N + 3781)) + B_{\bar{N}}(2N + 3783 - B_{\bar{N}}(2N + 3780)) \\
&= B_{\bar{N}}(2N + 3783 - (2N + 3031)) + B_{\bar{N}}(2N + 3783 - (N + 3788)) + B_{\bar{N}}(2N + 3783 - (2N + 738)) \\
&= B_{\bar{N}}(752) + B_{\bar{N}}(N - 5) + B_{\bar{N}}(3045) = 752 + (N - 5) + 3045 = \mathbf{N} + \mathbf{3792} \\
&(N \geq 3045)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3784}) &= B_{\bar{N}}(2N + 3784 - B_{\bar{N}}(2N + 3783)) + B_{\bar{N}}(2N + 3784 - B_{\bar{N}}(2N + 3782)) + B_{\bar{N}}(2N + 3784 - B_{\bar{N}}(2N + 3781)) \\
&= B_{\bar{N}}(2N + 3784 - (N + 3792)) + B_{\bar{N}}(2N + 3784 - (2N + 3031)) + B_{\bar{N}}(2N + 3784 - (N + 3788)) \\
&= B_{\bar{N}}(N - 8) + B_{\bar{N}}(753) + B_{\bar{N}}(N - 4) = (N - 8) + 753 + (N - 4) = \mathbf{2N} + \mathbf{741} \\
&(N \geq 753)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3785}) &= B_{\bar{N}}(2N + 3785 - B_{\bar{N}}(2N + 3784)) + B_{\bar{N}}(2N + 3785 - B_{\bar{N}}(2N + 3783)) + B_{\bar{N}}(2N + 3785 - B_{\bar{N}}(2N + 3782)) \\
&= B_{\bar{N}}(2N + 3785 - (2N + 741)) + B_{\bar{N}}(2N + 3785 - (N + 3792)) + B_{\bar{N}}(2N + 3785 - (2N + 3031)) \\
&= B_{\bar{N}}(3044) + B_{\bar{N}}(N - 7) + B_{\bar{N}}(754) = 3044 + (N - 7) + 754 = \mathbf{N} + \mathbf{3791} \\
&(N \geq 3044)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3786}) &= B_{\bar{N}}(2N + 3786 - B_{\bar{N}}(2N + 3785)) + B_{\bar{N}}(2N + 3786 - B_{\bar{N}}(2N + 3784)) + B_{\bar{N}}(2N + 3786 - B_{\bar{N}}(2N + 3783)) \\
&= B_{\bar{N}}(2N + 3786 - (N + 3791)) + B_{\bar{N}}(2N + 3786 - (2N + 741)) + B_{\bar{N}}(2N + 3786 - (N + 3792)) \\
&= B_{\bar{N}}(N - 5) + B_{\bar{N}}(3045) + B_{\bar{N}}(N - 6) = (N - 5) + 3045 + (N - 6) = \mathbf{2N} + \mathbf{3034} \\
&(N \geq 3045)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3787}) &= B_{\bar{N}}(2N + 3787 - B_{\bar{N}}(2N + 3786)) + B_{\bar{N}}(2N + 3787 - B_{\bar{N}}(2N + 3785)) + B_{\bar{N}}(2N + 3787 - B_{\bar{N}}(2N + 3784)) \\
&= B_{\bar{N}}(2N + 3787 - (2N + 3034)) + B_{\bar{N}}(2N + 3787 - (N + 3791)) + B_{\bar{N}}(2N + 3787 - (2N + 741)) \\
&= B_{\bar{N}}(753) + B_{\bar{N}}(N - 4) + B_{\bar{N}}(3046) = 753 + (N - 4) + 3046 = \mathbf{N} + \mathbf{3795} \\
&(N \geq 3046)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3788}) &= B_{\bar{N}}(2N + 3788 - B_{\bar{N}}(2N + 3787)) + B_{\bar{N}}(2N + 3788 - B_{\bar{N}}(2N + 3786)) + B_{\bar{N}}(2N + 3788 - B_{\bar{N}}(2N + 3785)) \\
&= B_{\bar{N}}(2N + 3788 - (N + 3795)) + B_{\bar{N}}(2N + 3788 - (2N + 3034)) + B_{\bar{N}}(2N + 3788 - (N + 3791)) \\
&= B_{\bar{N}}(N - 7) + B_{\bar{N}}(754) + B_{\bar{N}}(N - 3) = (N - 7) + 754 + (N - 3) = \mathbf{2N} + \mathbf{744} \\
&(N \geq 754)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3789}) &= B_{\bar{N}}(2N + 3789 - B_{\bar{N}}(2N + 3788)) + B_{\bar{N}}(2N + 3789 - B_{\bar{N}}(2N + 3787)) + B_{\bar{N}}(2N + 3789 - B_{\bar{N}}(2N + 3786)) \\
&= B_{\bar{N}}(2N + 3789 - (2N + 744)) + B_{\bar{N}}(2N + 3789 - (N + 3795)) + B_{\bar{N}}(2N + 3789 - (2N + 3034)) \\
&= B_{\bar{N}}(3045) + B_{\bar{N}}(N - 6) + B_{\bar{N}}(755) = 3045 + (N - 6) + 755 = \mathbf{N} + \mathbf{3794} \\
&(N \geq 3045)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3790}) &= B_{\bar{N}}(2N + 3790 - B_{\bar{N}}(2N + 3789)) + B_{\bar{N}}(2N + 3790 - B_{\bar{N}}(2N + 3788)) + B_{\bar{N}}(2N + 3790 - B_{\bar{N}}(2N + 3787)) \\
&= B_{\bar{N}}(2N + 3790 - (N + 3794)) + B_{\bar{N}}(2N + 3790 - (2N + 744)) + B_{\bar{N}}(2N + 3790 - (N + 3795)) \\
&= B_{\bar{N}}(N - 4) + B_{\bar{N}}(3046) + B_{\bar{N}}(N - 5) = (N - 4) + 3046 + (N - 5) = \mathbf{2N} + \mathbf{3037} \\
&(N \geq 3046)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3791}) &= B_{\bar{N}}(2N + 3791 - B_{\bar{N}}(2N + 3790)) + B_{\bar{N}}(2N + 3791 - B_{\bar{N}}(2N + 3789)) + B_{\bar{N}}(2N + 3791 - B_{\bar{N}}(2N + 3788)) \\
&= B_{\bar{N}}(2N + 3791 - (2N + 3037)) + B_{\bar{N}}(2N + 3791 - (N + 3794)) + B_{\bar{N}}(2N + 3791 - (2N + 744)) \\
&= B_{\bar{N}}(754) + B_{\bar{N}}(N - 3) + B_{\bar{N}}(3047) = 754 + (N - 3) + 3047 = \mathbf{N} + \mathbf{3798} \\
&(N \geq 3047)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3792}) &= B_{\bar{N}}(2N + 3792 - B_{\bar{N}}(2N + 3791)) + B_{\bar{N}}(2N + 3792 - B_{\bar{N}}(2N + 3790)) + B_{\bar{N}}(2N + 3792 - B_{\bar{N}}(2N + 3789)) \\
&= B_{\bar{N}}(2N + 3792 - (N + 3798)) + B_{\bar{N}}(2N + 3792 - (2N + 3037)) + B_{\bar{N}}(2N + 3792 - (N + 3794)) \\
&= B_{\bar{N}}(N - 6) + B_{\bar{N}}(755) + B_{\bar{N}}(N - 2) = (N - 6) + 755 + (N - 2) = \mathbf{2N} + \mathbf{747} \\
&(N \geq 755)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3793}) &= B_{\bar{N}}(2N + 3793 - B_{\bar{N}}(2N + 3792)) + B_{\bar{N}}(2N + 3793 - B_{\bar{N}}(2N + 3791)) + B_{\bar{N}}(2N + 3793 - B_{\bar{N}}(2N + 3790)) \\
&= B_{\bar{N}}(2N + 3793 - (2N + 747)) + B_{\bar{N}}(2N + 3793 - (N + 3798)) + B_{\bar{N}}(2N + 3793 - (2N + 3037)) \\
&= B_{\bar{N}}(3046) + B_{\bar{N}}(N - 5) + B_{\bar{N}}(756) = 3046 + (N - 5) + 756 = \mathbf{N} + \mathbf{3797} \\
&(N \geq 3046)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3794}) &= B_{\bar{N}}(2N + 3794 - B_{\bar{N}}(2N + 3793)) + B_{\bar{N}}(2N + 3794 - B_{\bar{N}}(2N + 3792)) + B_{\bar{N}}(2N + 3794 - B_{\bar{N}}(2N + 3791)) \\
&= B_{\bar{N}}(2N + 3794 - (N + 3797)) + B_{\bar{N}}(2N + 3794 - (2N + 747)) + B_{\bar{N}}(2N + 3794 - (N + 3798)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(3047) + B_{\bar{N}}(N - 4) = (N - 3) + 3047 + (N - 4) = \mathbf{2N} + \mathbf{3040} \\
&(N \geq 3047)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3795}) &= B_{\bar{N}}(2N + 3795 - B_{\bar{N}}(2N + 3794)) + B_{\bar{N}}(2N + 3795 - B_{\bar{N}}(2N + 3793)) + B_{\bar{N}}(2N + 3795 - B_{\bar{N}}(2N + 3792)) \\
&= B_{\bar{N}}(2N + 3795 - (2N + 3040)) + B_{\bar{N}}(2N + 3795 - (N + 3797)) + B_{\bar{N}}(2N + 3795 - (2N + 747)) \\
&= B_{\bar{N}}(755) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(3048) = 755 + (N - 2) + 3048 = \mathbf{N} + \mathbf{3801} \\
&(N \geq 3048)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3796}) &= B_{\bar{N}}(2N + 3796 - B_{\bar{N}}(2N + 3795)) + B_{\bar{N}}(2N + 3796 - B_{\bar{N}}(2N + 3794)) + B_{\bar{N}}(2N + 3796 - B_{\bar{N}}(2N + 3793)) \\
&= B_{\bar{N}}(2N + 3796 - (N + 3801)) + B_{\bar{N}}(2N + 3796 - (2N + 3040)) + B_{\bar{N}}(2N + 3796 - (N + 3797)) \\
&= B_{\bar{N}}(N - 5) + B_{\bar{N}}(756) + B_{\bar{N}}(N - 1) = (N - 5) + 756 + (N - 1) = \mathbf{2N} + \mathbf{750} \\
&(N \geq 756)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3797}) &= B_{\bar{N}}(2N + 3797 - B_{\bar{N}}(2N + 3796)) + B_{\bar{N}}(2N + 3797 - B_{\bar{N}}(2N + 3795)) + B_{\bar{N}}(2N + 3797 - B_{\bar{N}}(2N + 3794)) \\
&= B_{\bar{N}}(2N + 3797 - (2N + 750)) + B_{\bar{N}}(2N + 3797 - (N + 3801)) + B_{\bar{N}}(2N + 3797 - (2N + 3040)) \\
&= B_{\bar{N}}(3047) + B_{\bar{N}}(N - 4) + B_{\bar{N}}(757) = 3047 + (N - 4) + 757 = \mathbf{N} + \mathbf{3800} \\
&(N \geq 3047)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3798}) &= B_{\bar{N}}(2N + 3798 - B_{\bar{N}}(2N + 3797)) + B_{\bar{N}}(2N + 3798 - B_{\bar{N}}(2N + 3796)) + B_{\bar{N}}(2N + 3798 - B_{\bar{N}}(2N + 3795)) \\
&= B_{\bar{N}}(2N + 3798 - (N + 3800)) + B_{\bar{N}}(2N + 3798 - (2N + 750)) + B_{\bar{N}}(2N + 3798 - (N + 3801)) \\
&= B_{\bar{N}}(N - 2) + B_{\bar{N}}(3048) + B_{\bar{N}}(N - 3) = (N - 2) + 3048 + (N - 3) = \mathbf{2N} + \mathbf{3043} \\
&(N \geq 3048)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3799}) &= B_{\bar{N}}(2N + 3799 - B_{\bar{N}}(2N + 3798)) + B_{\bar{N}}(2N + 3799 - B_{\bar{N}}(2N + 3797)) + B_{\bar{N}}(2N + 3799 - B_{\bar{N}}(2N + 3796)) \\
&= B_{\bar{N}}(2N + 3799 - (2N + 3043)) + B_{\bar{N}}(2N + 3799 - (N + 3800)) + B_{\bar{N}}(2N + 3799 - (2N + 750)) \\
&= B_{\bar{N}}(756) + B_{\bar{N}}(N - 1) + B_{\bar{N}}(3049) = 756 + (N - 1) + 3049 = \mathbf{N} + \mathbf{3804} \\
&(N \geq 3049)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3800}) &= B_{\bar{N}}(2N + 3800 - B_{\bar{N}}(2N + 3799)) + B_{\bar{N}}(2N + 3800 - B_{\bar{N}}(2N + 3798)) + B_{\bar{N}}(2N + 3800 - B_{\bar{N}}(2N + 3797)) \\
&= B_{\bar{N}}(2N + 3800 - (N + 3804)) + B_{\bar{N}}(2N + 3800 - (2N + 3043)) + B_{\bar{N}}(2N + 3800 - (N + 3800)) \\
&= B_{\bar{N}}(N - 4) + B_{\bar{N}}(757) + B_{\bar{N}}(N) = (N - 4) + 757 + N = \mathbf{2N} + \mathbf{753} \\
&(N \geq 757)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3801}) &= B_{\bar{N}}(2N + 3801 - B_{\bar{N}}(2N + 3800)) + B_{\bar{N}}(2N + 3801 - B_{\bar{N}}(2N + 3799)) + B_{\bar{N}}(2N + 3801 - B_{\bar{N}}(2N + 3798)) \\
&= B_{\bar{N}}(2N + 3801 - (2N + 753)) + B_{\bar{N}}(2N + 3801 - (N + 3804)) + B_{\bar{N}}(2N + 3801 - (2N + 3043)) \\
&= B_{\bar{N}}(3048) + B_{\bar{N}}(N - 3) + B_{\bar{N}}(758) = 3048 + (N - 3) + 758 = \mathbf{N} + \mathbf{3803} \\
&(N \geq 3048)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3802}) &= B_{\bar{N}}(2N + 3802 - B_{\bar{N}}(2N + 3801)) + B_{\bar{N}}(2N + 3802 - B_{\bar{N}}(2N + 3800)) + B_{\bar{N}}(2N + 3802 - B_{\bar{N}}(2N + 3799)) \\
&= B_{\bar{N}}(2N + 3802 - (N + 3803)) + B_{\bar{N}}(2N + 3802 - (2N + 753)) + B_{\bar{N}}(2N + 3802 - (N + 3804)) \\
&= B_{\bar{N}}(N - 1) + B_{\bar{N}}(3049) + B_{\bar{N}}(N - 2) = (N - 1) + 3049 + (N - 2) = \mathbf{2N} + \mathbf{3046} \\
&(N \geq 3049)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3803}) &= B_{\bar{N}}(2N + 3803 - B_{\bar{N}}(2N + 3802)) + B_{\bar{N}}(2N + 3803 - B_{\bar{N}}(2N + 3801)) + B_{\bar{N}}(2N + 3803 - B_{\bar{N}}(2N + 3800)) \\
&= B_{\bar{N}}(2N + 3803 - (2N + 3046)) + B_{\bar{N}}(2N + 3803 - (N + 3803)) + B_{\bar{N}}(2N + 3803 - (2N + 753)) \\
&= B_{\bar{N}}(757) + B_{\bar{N}}(N) + B_{\bar{N}}(3050) = 757 + N + 3050 = \mathbf{N} + \mathbf{3807} \\
&(N \geq 3050)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3804}) &= B_{\bar{N}}(2N + 3804 - B_{\bar{N}}(2N + 3803)) + B_{\bar{N}}(2N + 3804 - B_{\bar{N}}(2N + 3802)) + B_{\bar{N}}(2N + 3804 - B_{\bar{N}}(2N + 3801)) \\
&= B_{\bar{N}}(2N + 3804 - (N + 3807)) + B_{\bar{N}}(2N + 3804 - (2N + 3046)) + B_{\bar{N}}(2N + 3804 - (N + 3803)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(758) + B_{\bar{N}}(N + 1) = (N - 3) + 758 + 6 = \mathbf{N} + \mathbf{761} \\
&(N \geq 758)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3805}) &= B_{\bar{N}}(2N + 3805 - B_{\bar{N}}(2N + 3804)) + B_{\bar{N}}(2N + 3805 - B_{\bar{N}}(2N + 3803)) + B_{\bar{N}}(2N + 3805 - B_{\bar{N}}(2N + 3802)) \\
&= B_{\bar{N}}(2N + 3805 - (N + 761)) + B_{\bar{N}}(2N + 3805 - (N + 3807)) + B_{\bar{N}}(2N + 3805 - (2N + 3046)) \\
&= B_{\bar{N}}(N + 3044) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(759) = (N - 2) + (N - 2) + 759 = \mathbf{2N} + \mathbf{755} \\
&(N \geq 759)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3806}) &= B_{\bar{N}}(2N + 3806 - B_{\bar{N}}(2N + 3805)) + B_{\bar{N}}(2N + 3806 - B_{\bar{N}}(2N + 3804)) + B_{\bar{N}}(2N + 3806 - B_{\bar{N}}(2N + 3803)) \\
&= B_{\bar{N}}(2N + 3806 - (2N + 755)) + B_{\bar{N}}(2N + 3806 - (N + 761)) + B_{\bar{N}}(2N + 3806 - (N + 3807)) \\
&= B_{\bar{N}}(3051) + B_{\bar{N}}(N + 3045) + B_{\bar{N}}(N - 1) = 3051 + 3047 + (N - 1) = \mathbf{N} + \mathbf{6097} \\
&(N \geq 3051)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3807}) &= B_{\bar{N}}(2N + 3807 - B_{\bar{N}}(2N + 3806)) + B_{\bar{N}}(2N + 3807 - B_{\bar{N}}(2N + 3805)) + B_{\bar{N}}(2N + 3807 - B_{\bar{N}}(2N + 3804)) \\
&= B_{\bar{N}}(2N + 3807 - (N + 6097)) + B_{\bar{N}}(2N + 3807 - (2N + 755)) + B_{\bar{N}}(2N + 3807 - (N + 761)) \\
&= B_{\bar{N}}(N - 2290) + B_{\bar{N}}(3052) + B_{\bar{N}}(N + 3046) = (N - 2290) + 3052 + (N + 3047) = \mathbf{2N} + \mathbf{3809} \\
&(N \geq 3052)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3808}) &= B_{\bar{N}}(2N + 3808 - B_{\bar{N}}(2N + 3807)) + B_{\bar{N}}(2N + 3808 - B_{\bar{N}}(2N + 3806)) + B_{\bar{N}}(2N + 3808 - B_{\bar{N}}(2N + 3805)) \\
&= B_{\bar{N}}(2N + 3808 - (2N + 3809)) + B_{\bar{N}}(2N + 3808 - (N + 6097)) + B_{\bar{N}}(2N + 3808 - (2N + 755)) \\
&= B_{\bar{N}}(-1) + B_{\bar{N}}(N - 2289) + B_{\bar{N}}(3053) = 0 + (N - 2289) + 3053 = \mathbf{N} + \mathbf{764} \\
&(N \geq 3053)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3809}) &= B_{\bar{N}}(2N + 3809 - B_{\bar{N}}(2N + 3808)) + B_{\bar{N}}(2N + 3809 - B_{\bar{N}}(2N + 3807)) + B_{\bar{N}}(2N + 3809 - B_{\bar{N}}(2N + 3806)) \\
&= B_{\bar{N}}(2N + 3809 - (N + 764)) + B_{\bar{N}}(2N + 3809 - (2N + 3809)) + B_{\bar{N}}(2N + 3809 - (N + 6097)) \\
&= B_{\bar{N}}(N + 3045) + B_{\bar{N}}(0) + B_{\bar{N}}(N - 2288) = 3047 + 0 + (N - 2288) = \mathbf{N} + \mathbf{759} \\
&(N \geq 2289)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3810}) &= B_{\bar{N}}(2N + 3810 - B_{\bar{N}}(2N + 3809)) + B_{\bar{N}}(2N + 3810 - B_{\bar{N}}(2N + 3808)) + B_{\bar{N}}(2N + 3810 - B_{\bar{N}}(2N + 3807)) \\
&= B_{\bar{N}}(2N + 3810 - (N + 759)) + B_{\bar{N}}(2N + 3810 - (N + 764)) + B_{\bar{N}}(2N + 3810 - (2N + 3809)) \\
&= B_{\bar{N}}(N + 3051) + B_{\bar{N}}(N + 3046) + B_{\bar{N}}(1) = (N - 2) + (N + 3047) + 1 = \mathbf{2N} + \mathbf{3046} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3811}) &= B_{\bar{N}}(2N + 3811 - B_{\bar{N}}(2N + 3810)) + B_{\bar{N}}(2N + 3811 - B_{\bar{N}}(2N + 3809)) + B_{\bar{N}}(2N + 3811 - B_{\bar{N}}(2N + 3808)) \\
&= B_{\bar{N}}(2N + 3811 - (2N + 3046)) + B_{\bar{N}}(2N + 3811 - (N + 759)) + B_{\bar{N}}(2N + 3811 - (N + 764)) \\
&= B_{\bar{N}}(765) + B_{\bar{N}}(N + 3052) + B_{\bar{N}}(N + 3047) = 765 + 3054 + (N + 3049) = \mathbf{N} + \mathbf{6868} \\
&(N \geq 765)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3812}) &= B_{\bar{N}}(2N + 3812 - B_{\bar{N}}(2N + 3811)) + B_{\bar{N}}(2N + 3812 - B_{\bar{N}}(2N + 3810)) + B_{\bar{N}}(2N + 3812 - B_{\bar{N}}(2N + 3809)) \\
&= B_{\bar{N}}(2N + 3812 - (N + 6868)) + B_{\bar{N}}(2N + 3812 - (2N + 3046)) + B_{\bar{N}}(2N + 3812 - (N + 759)) \\
&= B_{\bar{N}}(N - 3056) + B_{\bar{N}}(766) + B_{\bar{N}}(N + 3053) = (N - 3056) + 766 + (N + 3054) = \mathbf{2N} + \mathbf{764} \\
&(N \geq 3057)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3813}) &= B_{\bar{N}}(2N + 3813 - B_{\bar{N}}(2N + 3812)) + B_{\bar{N}}(2N + 3813 - B_{\bar{N}}(2N + 3811)) + B_{\bar{N}}(2N + 3813 - B_{\bar{N}}(2N + 3810)) \\
&= B_{\bar{N}}(2N + 3813 - (2N + 764)) + B_{\bar{N}}(2N + 3813 - (N + 6868)) + B_{\bar{N}}(2N + 3813 - (2N + 3046)) \\
&= B_{\bar{N}}(3049) + B_{\bar{N}}(N - 3055) + B_{\bar{N}}(767) = 3049 + (N - 3055) + 767 = \mathbf{N} + \mathbf{761} \\
&(N \geq 3056)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3814}) &= B_{\bar{N}}(2N + 3814 - B_{\bar{N}}(2N + 3813)) + B_{\bar{N}}(2N + 3814 - B_{\bar{N}}(2N + 3812)) + B_{\bar{N}}(2N + 3814 - B_{\bar{N}}(2N + 3811)) \\
&= B_{\bar{N}}(2N + 3814 - (N + 761)) + B_{\bar{N}}(2N + 3814 - (2N + 764)) + B_{\bar{N}}(2N + 3814 - (N + 6868)) \\
&= B_{\bar{N}}(N + 3053) + B_{\bar{N}}(3050) + B_{\bar{N}}(N - 3054) = (N + 3054) + 3050 + (N - 3054) = \mathbf{2N} + \mathbf{3050} \\
&(N \geq 3055)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3815}) &= B_{\bar{N}}(2N + 3815 - B_{\bar{N}}(2N + 3814)) + B_{\bar{N}}(2N + 3815 - B_{\bar{N}}(2N + 3813)) + B_{\bar{N}}(2N + 3815 - B_{\bar{N}}(2N + 3812)) \\
&= B_{\bar{N}}(2N + 3815 - (2N + 3050)) + B_{\bar{N}}(2N + 3815 - (N + 761)) + B_{\bar{N}}(2N + 3815 - (2N + 764)) \\
&= B_{\bar{N}}(765) + B_{\bar{N}}(N + 3054) + B_{\bar{N}}(3051) = 765 + (N + 3056) + 3051 = \mathbf{N} + \mathbf{6872} \\
&(N \geq 3051)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3816}) &= B_{\bar{N}}(2N + 3816 - B_{\bar{N}}(2N + 3815)) + B_{\bar{N}}(2N + 3816 - B_{\bar{N}}(2N + 3814)) + B_{\bar{N}}(2N + 3816 - B_{\bar{N}}(2N + 3813)) \\
&= B_{\bar{N}}(2N + 3816 - (N + 6872)) + B_{\bar{N}}(2N + 3816 - (2N + 3050)) + B_{\bar{N}}(2N + 3816 - (N + 761)) \\
&= B_{\bar{N}}(N - 3056) + B_{\bar{N}}(766) + B_{\bar{N}}(N + 3055) = (N - 3056) + 766 + 7 = \mathbf{N} - \mathbf{2283} \\
&(N \geq 3057)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3817}) &= B_{\bar{N}}(2N + 3817 - B_{\bar{N}}(2N + 3816)) + B_{\bar{N}}(2N + 3817 - B_{\bar{N}}(2N + 3815)) + B_{\bar{N}}(2N + 3817 - B_{\bar{N}}(2N + 3814)) \\
&= B_{\bar{N}}(2N + 3817 - (N - 2283)) + B_{\bar{N}}(2N + 3817 - (N + 6872)) + B_{\bar{N}}(2N + 3817 - (2N + 3050)) \\
&= B_{\bar{N}}(N + 6100) + B_{\bar{N}}(N - 3055) + B_{\bar{N}}(767) = 7 + (N - 3055) + 767 = \mathbf{N} - \mathbf{2281} \\
&(N \geq 3056)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3818}) &= B_{\bar{N}}(2N + 3818 - B_{\bar{N}}(2N + 3817)) + B_{\bar{N}}(2N + 3818 - B_{\bar{N}}(2N + 3816)) + B_{\bar{N}}(2N + 3818 - B_{\bar{N}}(2N + 3815)) \\
&= B_{\bar{N}}(2N + 3818 - (N - 2281)) + B_{\bar{N}}(2N + 3818 - (N - 2283)) + B_{\bar{N}}(2N + 3818 - (N + 6872)) \\
&= B_{\bar{N}}(N + 6099) + B_{\bar{N}}(N + 6101) + B_{\bar{N}}(N - 3054) = (N + 6101) + (2N + 1787) + (N - 3054) = \mathbf{4N} + \mathbf{4834} \\
&(N \geq 3055)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3819}) &= B_{\bar{N}}(2N + 3819 - B_{\bar{N}}(2N + 3818)) + B_{\bar{N}}(2N + 3819 - B_{\bar{N}}(2N + 3817)) + B_{\bar{N}}(2N + 3819 - B_{\bar{N}}(2N + 3816)) \\
&= B_{\bar{N}}(2N + 3819 - (4N + 4834)) + B_{\bar{N}}(2N + 3819 - (N - 2281)) + B_{\bar{N}}(2N + 3819 - (N - 2283)) \\
&= B_{\bar{N}}(-2N - 1015) + B_{\bar{N}}(N + 6100) + B_{\bar{N}}(N + 6102) = 0 + 7 + (2N + 864) = \mathbf{2N} + \mathbf{871} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3820}) &= B_{\bar{N}}(2N + 3820 - B_{\bar{N}}(2N + 3819)) + B_{\bar{N}}(2N + 3820 - B_{\bar{N}}(2N + 3818)) + B_{\bar{N}}(2N + 3820 - B_{\bar{N}}(2N + 3817)) \\
&= B_{\bar{N}}(2N + 3820 - (2N + 871)) + B_{\bar{N}}(2N + 3820 - (4N + 4834)) + B_{\bar{N}}(2N + 3820 - (N - 2281)) \\
&= B_{\bar{N}}(2949) + B_{\bar{N}}(-2N - 1014) + B_{\bar{N}}(N + 6101) = 2949 + 0 + (2N + 1787) = \mathbf{2N} + \mathbf{4736} \\
&(N \geq 2949)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3821}) &= B_{\bar{N}}(2N + 3821 - B_{\bar{N}}(2N + 3820)) + B_{\bar{N}}(2N + 3821 - B_{\bar{N}}(2N + 3819)) + B_{\bar{N}}(2N + 3821 - B_{\bar{N}}(2N + 3818)) \\
&= B_{\bar{N}}(2N + 3821 - (2N + 4736)) + B_{\bar{N}}(2N + 3821 - (2N + 871)) + B_{\bar{N}}(2N + 3821 - (4N + 4834)) \\
&= B_{\bar{N}}(-915) + B_{\bar{N}}(2950) + B_{\bar{N}}(-2N - 1013) = 0 + 2950 + 0 = \mathbf{2950} \\
&(N \geq 2950)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3822}) &= B_{\bar{N}}(2N + 3822 - B_{\bar{N}}(2N + 3821)) + B_{\bar{N}}(2N + 3822 - B_{\bar{N}}(2N + 3820)) + B_{\bar{N}}(2N + 3822 - B_{\bar{N}}(2N + 3819)) \\
&= B_{\bar{N}}(2N + 3822 - 2950) + B_{\bar{N}}(2N + 3822 - (2N + 4736)) + B_{\bar{N}}(2N + 3822 - (2N + 871)) \\
&= B_{\bar{N}}(2N + 872) + B_{\bar{N}}(-914) + B_{\bar{N}}(2951) = (2N - 1443) + 0 + 2951 = \mathbf{2N} + \mathbf{1508} \\
&(N \geq 2951)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3823}) &= B_{\bar{N}}(2N + 3823 - B_{\bar{N}}(2N + 3822)) + B_{\bar{N}}(2N + 3823 - B_{\bar{N}}(2N + 3821)) + B_{\bar{N}}(2N + 3823 - B_{\bar{N}}(2N + 3820)) \\
&= B_{\bar{N}}(2N + 3823 - (2N + 1508)) + B_{\bar{N}}(2N + 3823 - 2950) + B_{\bar{N}}(2N + 3823 - (2N + 4736)) \\
&= B_{\bar{N}}(2315) + B_{\bar{N}}(2N + 873) + B_{\bar{N}}(-913) = 2315 + (N + 1607) + 0 = \mathbf{N} + \mathbf{3922} \\
&(N \geq 2315)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3824}) &= B_{\bar{N}}(2N + 3824 - B_{\bar{N}}(2N + 3823)) + B_{\bar{N}}(2N + 3824 - B_{\bar{N}}(2N + 3822)) + B_{\bar{N}}(2N + 3824 - B_{\bar{N}}(2N + 3821)) \\
&= B_{\bar{N}}(2N + 3824 - (N + 3922)) + B_{\bar{N}}(2N + 3824 - (2N + 1508)) + B_{\bar{N}}(2N + 3824 - 2950) \\
&= B_{\bar{N}}(N - 98) + B_{\bar{N}}(2316) + B_{\bar{N}}(2N + 874) = (N - 98) + 2316 + (2N + 850) = \mathbf{3N} + \mathbf{3068} \\
&(N \geq 2316)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3825}) &= B_{\bar{N}}(2N + 3825 - B_{\bar{N}}(2N + 3824)) + B_{\bar{N}}(2N + 3825 - B_{\bar{N}}(2N + 3823)) + B_{\bar{N}}(2N + 3825 - B_{\bar{N}}(2N + 3822)) \\
&= B_{\bar{N}}(2N + 3825 - (3N + 3068)) + B_{\bar{N}}(2N + 3825 - (N + 3922)) + B_{\bar{N}}(2N + 3825 - (2N + 1508)) \\
&= B_{\bar{N}}(-N + 757) + B_{\bar{N}}(N - 97) + B_{\bar{N}}(2317) = 0 + (N - 97) + 2317 = \mathbf{N} + \mathbf{2220} \\
&(N \geq 2317)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3826}) &= B_{\bar{N}}(2N + 3826 - B_{\bar{N}}(2N + 3825)) + B_{\bar{N}}(2N + 3826 - B_{\bar{N}}(2N + 3824)) + B_{\bar{N}}(2N + 3826 - B_{\bar{N}}(2N + 3823)) \\
&= B_{\bar{N}}(2N + 3826 - (N + 2220)) + B_{\bar{N}}(2N + 3826 - (3N + 3068)) + B_{\bar{N}}(2N + 3826 - (N + 3922)) \\
&= B_{\bar{N}}(N + 1606) + B_{\bar{N}}(-N + 758) + B_{\bar{N}}(N - 96) = 7 + 0 + (N - 96) = \mathbf{N} - \mathbf{89} \\
&(N \geq 758)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3827}) &= B_{\bar{N}}(2N + 3827 - B_{\bar{N}}(2N + 3826)) + B_{\bar{N}}(2N + 3827 - B_{\bar{N}}(2N + 3825)) + B_{\bar{N}}(2N + 3827 - B_{\bar{N}}(2N + 3824)) \\
&= B_{\bar{N}}(2N + 3827 - (N - 89)) + B_{\bar{N}}(2N + 3827 - (N + 2220)) + B_{\bar{N}}(2N + 3827 - (3N + 3068)) \\
&= B_{\bar{N}}(N + 3916) + B_{\bar{N}}(N + 1607) + B_{\bar{N}}(-N + 759) = 7 + (2N + 503) + 0 = \mathbf{2N} + \mathbf{510} \\
&(N \geq 759)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3828}) &= B_{\bar{N}}(2N + 3828 - B_{\bar{N}}(2N + 3827)) + B_{\bar{N}}(2N + 3828 - B_{\bar{N}}(2N + 3826)) + B_{\bar{N}}(2N + 3828 - B_{\bar{N}}(2N + 3825)) \\
&= B_{\bar{N}}(2N + 3828 - (2N + 510)) + B_{\bar{N}}(2N + 3828 - (N - 89)) + B_{\bar{N}}(2N + 3828 - (N + 2220)) \\
&= B_{\bar{N}}(3318) + B_{\bar{N}}(N + 3917) + B_{\bar{N}}(N + 1608) = 3318 + (2N + 1163) + (2N + 222) = \mathbf{4N} + \mathbf{4703} \\
&(N \geq 3318)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3829}) &= B_{\bar{N}}(2N + 3829 - B_{\bar{N}}(2N + 3828)) + B_{\bar{N}}(2N + 3829 - B_{\bar{N}}(2N + 3827)) + B_{\bar{N}}(2N + 3829 - B_{\bar{N}}(2N + 3826)) \\
&= B_{\bar{N}}(2N + 3829 - (4N + 4703)) + B_{\bar{N}}(2N + 3829 - (2N + 510)) + B_{\bar{N}}(2N + 3829 - (N - 89)) \\
&= B_{\bar{N}}(-2N - 874) + B_{\bar{N}}(3319) + B_{\bar{N}}(N + 3918) = 0 + 3319 + (2N + 552) = \mathbf{2N} + \mathbf{3871} \\
&(N \geq 3319)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3830}) &= B_{\bar{N}}(2N + 3830 - B_{\bar{N}}(2N + 3829)) + B_{\bar{N}}(2N + 3830 - B_{\bar{N}}(2N + 3828)) + B_{\bar{N}}(2N + 3830 - B_{\bar{N}}(2N + 3827)) \\
&= B_{\bar{N}}(2N + 3830 - (2N + 3871)) + B_{\bar{N}}(2N + 3830 - (4N + 4703)) + B_{\bar{N}}(2N + 3830 - (2N + 510)) \\
&= B_{\bar{N}}(-41) + B_{\bar{N}}(-2N - 873) + B_{\bar{N}}(3320) = 0 + 0 + 3320 = \mathbf{3320} \\
&(N \geq 3320)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3831}) &= B_{\bar{N}}(2N + 3831 - B_{\bar{N}}(2N + 3830)) + B_{\bar{N}}(2N + 3831 - B_{\bar{N}}(2N + 3829)) + B_{\bar{N}}(2N + 3831 - B_{\bar{N}}(2N + 3828)) \\
&= B_{\bar{N}}(2N + 3831 - 3320) + B_{\bar{N}}(2N + 3831 - (2N + 3871)) + B_{\bar{N}}(2N + 3831 - (4N + 4703)) \\
&= B_{\bar{N}}(2N + 511) + B_{\bar{N}}(-40) + B_{\bar{N}}(-2N - 872) = (2N + 415) + 0 + 0 = \mathbf{2N} + \mathbf{415} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3832}) &= B_{\bar{N}}(2N + 3832 - B_{\bar{N}}(2N + 3831)) + B_{\bar{N}}(2N + 3832 - B_{\bar{N}}(2N + 3830)) + B_{\bar{N}}(2N + 3832 - B_{\bar{N}}(2N + 3829)) \\
&= B_{\bar{N}}(2N + 3832 - (2N + 415)) + B_{\bar{N}}(2N + 3832 - 3320) + B_{\bar{N}}(2N + 3832 - (2N + 3871)) \\
&= B_{\bar{N}}(3417) + B_{\bar{N}}(2N + 512) + B_{\bar{N}}(-39) = 3417 + (N + 525) + 0 = \mathbf{N} + \mathbf{3942} \\
&(N \geq 3417)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3833}) &= B_{\bar{N}}(2N + 3833 - B_{\bar{N}}(2N + 3832)) + B_{\bar{N}}(2N + 3833 - B_{\bar{N}}(2N + 3831)) + B_{\bar{N}}(2N + 3833 - B_{\bar{N}}(2N + 3830)) \\
&= B_{\bar{N}}(2N + 3833 - (N + 3942)) + B_{\bar{N}}(2N + 3833 - (2N + 415)) + B_{\bar{N}}(2N + 3833 - 3320) \\
&= B_{\bar{N}}(N - 109) + B_{\bar{N}}(3418) + B_{\bar{N}}(2N + 513) = (N - 109) + 3418 + (2N + 78) = \mathbf{3N} + \mathbf{3387} \\
&(N \geq 3418)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3834}) &= B_{\bar{N}}(2N + 3834 - B_{\bar{N}}(2N + 3833)) + B_{\bar{N}}(2N + 3834 - B_{\bar{N}}(2N + 3832)) + B_{\bar{N}}(2N + 3834 - B_{\bar{N}}(2N + 3831)) \\
&= B_{\bar{N}}(2N + 3834 - (3N + 3387)) + B_{\bar{N}}(2N + 3834 - (N + 3942)) + B_{\bar{N}}(2N + 3834 - (2N + 415)) \\
&= B_{\bar{N}}(-N + 447) + B_{\bar{N}}(N - 108) + B_{\bar{N}}(3419) = 0 + (N - 108) + 3419 = \mathbf{N} + \mathbf{3311} \\
&(N \geq 3419)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3835}) &= B_{\bar{N}}(2N + 3835 - B_{\bar{N}}(2N + 3834)) + B_{\bar{N}}(2N + 3835 - B_{\bar{N}}(2N + 3833)) + B_{\bar{N}}(2N + 3835 - B_{\bar{N}}(2N + 3832)) \\
&= B_{\bar{N}}(2N + 3835 - (N + 3311)) + B_{\bar{N}}(2N + 3835 - (3N + 3387)) + B_{\bar{N}}(2N + 3835 - (N + 3942)) \\
&= B_{\bar{N}}(N + 524) + B_{\bar{N}}(-N + 448) + B_{\bar{N}}(N - 107) = (N - 2) + 0 + (N - 107) = \mathbf{2N} - \mathbf{109} \\
&(N \geq 448)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3836}) &= B_{\bar{N}}(2N + 3836 - B_{\bar{N}}(2N + 3835)) + B_{\bar{N}}(2N + 3836 - B_{\bar{N}}(2N + 3834)) + B_{\bar{N}}(2N + 3836 - B_{\bar{N}}(2N + 3833)) \\
&= B_{\bar{N}}(2N + 3836 - (2N - 109)) + B_{\bar{N}}(2N + 3836 - (N + 3311)) + B_{\bar{N}}(2N + 3836 - (3N + 3387)) \\
&= B_{\bar{N}}(3945) + B_{\bar{N}}(N + 525) + B_{\bar{N}}(-N + 449) = 3945 + 527 + 0 = \mathbf{4472} \\
&(N \geq 3945)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3837}) &= B_{\bar{N}}(2N + 3837 - B_{\bar{N}}(2N + 3836)) + B_{\bar{N}}(2N + 3837 - B_{\bar{N}}(2N + 3835)) + B_{\bar{N}}(2N + 3837 - B_{\bar{N}}(2N + 3834)) \\
&= B_{\bar{N}}(2N + 3837 - 4472) + B_{\bar{N}}(2N + 3837 - (2N - 109)) + B_{\bar{N}}(2N + 3837 - (N + 3311)) \\
&= B_{\bar{N}}(2N - 635) + B_{\bar{N}}(3946) + B_{\bar{N}}(N + 526) = (N - 633) + 3946 + (N + 527) = \mathbf{2N} + \mathbf{3840} \\
&(N \geq 3946)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3838}) &= B_{\bar{N}}(2N + 3838 - B_{\bar{N}}(2N + 3837)) + B_{\bar{N}}(2N + 3838 - B_{\bar{N}}(2N + 3836)) + B_{\bar{N}}(2N + 3838 - B_{\bar{N}}(2N + 3835)) \\
&= B_{\bar{N}}(2N + 3838 - (2N + 3840)) + B_{\bar{N}}(2N + 3838 - 4472) + B_{\bar{N}}(2N + 3838 - (2N - 109)) \\
&= B_{\bar{N}}(-2) + B_{\bar{N}}(2N - 634) + B_{\bar{N}}(3947) = 0 + (2N - 633) + 3947 = \mathbf{2N} + \mathbf{3314} \\
&(N \geq 3947)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3839}) &= B_{\bar{N}}(2N + 3839 - B_{\bar{N}}(2N + 3838)) + B_{\bar{N}}(2N + 3839 - B_{\bar{N}}(2N + 3837)) + B_{\bar{N}}(2N + 3839 - B_{\bar{N}}(2N + 3836)) \\
&= B_{\bar{N}}(2N + 3839 - (2N + 3314)) + B_{\bar{N}}(2N + 3839 - (2N + 3840)) + B_{\bar{N}}(2N + 3839 - 4472) \\
&= B_{\bar{N}}(525) + B_{\bar{N}}(-1) + B_{\bar{N}}(2N - 633) = 525 + 0 + (2N - 631) = \mathbf{2N} - \mathbf{106} \\
&(N \geq 700)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3840}) &= B_{\bar{N}}(2N + 3840 - B_{\bar{N}}(2N + 3839)) + B_{\bar{N}}(2N + 3840 - B_{\bar{N}}(2N + 3838)) + B_{\bar{N}}(2N + 3840 - B_{\bar{N}}(2N + 3837)) \\
&= B_{\bar{N}}(2N + 3840 - (2N - 106)) + B_{\bar{N}}(2N + 3840 - (2N + 3314)) + B_{\bar{N}}(2N + 3840 - (2N + 3840)) \\
&= B_{\bar{N}}(3946) + B_{\bar{N}}(526) + B_{\bar{N}}(0) = 3946 + 526 + 0 = \mathbf{4472} \\
&(N \geq 3946)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3841}) &= B_{\bar{N}}(2N + 3841 - B_{\bar{N}}(2N + 3840)) + B_{\bar{N}}(2N + 3841 - B_{\bar{N}}(2N + 3839)) + B_{\bar{N}}(2N + 3841 - B_{\bar{N}}(2N + 3838)) \\
&= B_{\bar{N}}(2N + 3841 - 4472) + B_{\bar{N}}(2N + 3841 - (2N - 106)) + B_{\bar{N}}(2N + 3841 - (2N + 3314)) \\
&= B_{\bar{N}}(2N - 631) + B_{\bar{N}}(3947) + B_{\bar{N}}(527) = \left(\frac{16N}{7} - \frac{955}{7} \right) + 3947 + 527 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{30363}}{\mathbf{7}} \\
&(N \geq 3947)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3842}) &= B_{\bar{N}}(2N + 3842 - B_{\bar{N}}(2N + 3841)) + B_{\bar{N}}(2N + 3842 - B_{\bar{N}}(2N + 3840)) + B_{\bar{N}}(2N + 3842 - B_{\bar{N}}(2N + 3839)) \\
&= B_{\bar{N}}\left(2N + 3842 - \left(\frac{16N}{7} + \frac{30363}{7}\right)\right) + B_{\bar{N}}(2N + 3842 - 4472) + B_{\bar{N}}(2N + 3842 - (2N - 106)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} - \frac{3469}{7}\right) + B_{\bar{N}}(2N - 630) + B_{\bar{N}}(3948) = 0 + \left(\frac{15N}{7} - \frac{684}{7}\right) + 3948 = \frac{\mathbf{15N}}{\mathbf{7}} + \frac{\mathbf{26952}}{\mathbf{7}} \\
&\quad (N \geq 3948)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3843}) &= B_{\bar{N}}(2N + 3843 - B_{\bar{N}}(2N + 3842)) + B_{\bar{N}}(2N + 3843 - B_{\bar{N}}(2N + 3841)) + B_{\bar{N}}(2N + 3843 - B_{\bar{N}}(2N + 3840)) \\
&= B_{\bar{N}}\left(2N + 3843 - \left(\frac{15N}{7} + \frac{26952}{7}\right)\right) + B_{\bar{N}}\left(2N + 3843 - \left(\frac{16N}{7} + \frac{30363}{7}\right)\right) + B_{\bar{N}}(2N + 3843 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} - \frac{51}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} - \frac{3462}{7}\right) + B_{\bar{N}}(2N - 629) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&\quad (N \geq 696)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3844}) &= B_{\bar{N}}(2N + 3844 - B_{\bar{N}}(2N + 3843)) + B_{\bar{N}}(2N + 3844 - B_{\bar{N}}(2N + 3842)) + B_{\bar{N}}(2N + 3844 - B_{\bar{N}}(2N + 3841)) \\
&= B_{\bar{N}}(2N + 3844 - (N - 2)) + B_{\bar{N}}\left(2N + 3844 - \left(\frac{15N}{7} + \frac{26952}{7}\right)\right) + B_{\bar{N}}\left(2N + 3844 - \left(\frac{16N}{7} + \frac{30363}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3846) + B_{\bar{N}}\left(-\frac{N}{7} - \frac{44}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} - \frac{3455}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&\quad (N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3845}) &= B_{\bar{N}}(2N + 3845 - B_{\bar{N}}(2N + 3844)) + B_{\bar{N}}(2N + 3845 - B_{\bar{N}}(2N + 3843)) + B_{\bar{N}}(2N + 3845 - B_{\bar{N}}(2N + 3842)) \\
&= B_{\bar{N}}(2N + 3845 - 7) + B_{\bar{N}}(2N + 3845 - (N - 2)) + B_{\bar{N}}\left(2N + 3845 - \left(\frac{15N}{7} + \frac{26952}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3838) + B_{\bar{N}}(N + 3847) + B_{\bar{N}}\left(-\frac{N}{7} - \frac{37}{7}\right) = (2N + 3314) + (2N + 1143) + 0 = \mathbf{4N} + \mathbf{4457} \\
&\quad (N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3846}) &= B_{\bar{N}}(2N + 3846 - B_{\bar{N}}(2N + 3845)) + B_{\bar{N}}(2N + 3846 - B_{\bar{N}}(2N + 3844)) + B_{\bar{N}}(2N + 3846 - B_{\bar{N}}(2N + 3843)) \\
&= B_{\bar{N}}(2N + 3846 - (4N + 4457)) + B_{\bar{N}}(2N + 3846 - 7) + B_{\bar{N}}(2N + 3846 - (N - 2)) \\
&= B_{\bar{N}}(-2N - 611) + B_{\bar{N}}(2N + 3839) + B_{\bar{N}}(N + 3848) = 0 + (2N - 106) + (2N + 542) = \mathbf{4N} + \mathbf{436} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3847}) &= B_{\bar{N}}(2N + 3847 - B_{\bar{N}}(2N + 3846)) + B_{\bar{N}}(2N + 3847 - B_{\bar{N}}(2N + 3845)) + B_{\bar{N}}(2N + 3847 - B_{\bar{N}}(2N + 3844)) \\
&= B_{\bar{N}}(2N + 3847 - (4N + 436)) + B_{\bar{N}}(2N + 3847 - (4N + 4457)) + B_{\bar{N}}(2N + 3847 - 7) \\
&= B_{\bar{N}}(-2N + 3411) + B_{\bar{N}}(-2N - 610) + B_{\bar{N}}(2N + 3840) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1706)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3848}) &= B_{\bar{N}}(2N + 3848 - B_{\bar{N}}(2N + 3847)) + B_{\bar{N}}(2N + 3848 - B_{\bar{N}}(2N + 3846)) + B_{\bar{N}}(2N + 3848 - B_{\bar{N}}(2N + 3845)) \\
&= B_{\bar{N}}(2N + 3848 - 4472) + B_{\bar{N}}(2N + 3848 - (4N + 436)) + B_{\bar{N}}(2N + 3848 - (4N + 4457)) \\
&= B_{\bar{N}}(2N - 624) + B_{\bar{N}}(-2N + 3412) + B_{\bar{N}}(-2N - 609) = \left(\frac{16N}{7} - \frac{941}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{941}}{\mathbf{7}} \\
&(N \geq 1706)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3849}) &= B_{\bar{N}}(2N + 3849 - B_{\bar{N}}(2N + 3848)) + B_{\bar{N}}(2N + 3849 - B_{\bar{N}}(2N + 3847)) + B_{\bar{N}}(2N + 3849 - B_{\bar{N}}(2N + 3846)) \\
&= B_{\bar{N}}\left(2N + 3849 - \left(\frac{16N}{7} - \frac{941}{7}\right)\right) + B_{\bar{N}}(2N + 3849 - 4472) + B_{\bar{N}}(2N + 3849 - (4N + 436)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{27884}{7}\right) + B_{\bar{N}}(2N - 623) + B_{\bar{N}}(-2N + 3413) = 0 + \left(\frac{15N}{7} - \frac{677}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{677}}{\mathbf{7}} \\
&(\mathbf{N} \geq \mathbf{13942})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3850) &= B_{\bar{N}}(2N + 3850 - B_{\bar{N}}(2N + 3849)) + B_{\bar{N}}(2N + 3850 - B_{\bar{N}}(2N + 3848)) + B_{\bar{N}}(2N + 3850 - B_{\bar{N}}(2N + 3847)) \\
&= B_{\bar{N}}\left(2N + 3850 - \left(\frac{15N}{7} - \frac{677}{7}\right)\right) + B_{\bar{N}}\left(2N + 3850 - \left(\frac{16N}{7} - \frac{941}{7}\right)\right) + B_{\bar{N}}(2N + 3850 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{27627}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{27891}{7}\right) + B_{\bar{N}}(2N - 622) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 27627)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3851) &= B_{\bar{N}}(2N + 3851 - B_{\bar{N}}(2N + 3850)) + B_{\bar{N}}(2N + 3851 - B_{\bar{N}}(2N + 3849)) + B_{\bar{N}}(2N + 3851 - B_{\bar{N}}(2N + 3848)) \\
&= B_{\bar{N}}(2N + 3851 - (N - 2)) + B_{\bar{N}}\left(2N + 3851 - \left(\frac{15N}{7} - \frac{677}{7}\right)\right) + B_{\bar{N}}\left(2N + 3851 - \left(\frac{16N}{7} - \frac{941}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3853) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27634}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{27898}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 27634)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3852) &= B_{\bar{N}}(2N + 3852 - B_{\bar{N}}(2N + 3851)) + B_{\bar{N}}(2N + 3852 - B_{\bar{N}}(2N + 3850)) + B_{\bar{N}}(2N + 3852 - B_{\bar{N}}(2N + 3849)) \\
&= B_{\bar{N}}(2N + 3852 - 7) + B_{\bar{N}}(2N + 3852 - (N - 2)) + B_{\bar{N}}\left(2N + 3852 - \left(\frac{15N}{7} - \frac{677}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3845) + B_{\bar{N}}(N + 3854) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27641}{7}\right) = (4N + 4457) + (2N + 1145) + 0 = 6\mathbf{N} + 5602 \\
&(\mathbf{N} \geq 27641)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3853) &= B_{\bar{N}}(2N + 3853 - B_{\bar{N}}(2N + 3852)) + B_{\bar{N}}(2N + 3853 - B_{\bar{N}}(2N + 3851)) + B_{\bar{N}}(2N + 3853 - B_{\bar{N}}(2N + 3850)) \\
&= B_{\bar{N}}(2N + 3853 - (6N + 5602)) + B_{\bar{N}}(2N + 3853 - 7) + B_{\bar{N}}(2N + 3853 - (N - 2)) \\
&= B_{\bar{N}}(-4N - 1749) + B_{\bar{N}}(2N + 3846) + B_{\bar{N}}(N + 3855) = 0 + (4N + 436) + (2N + 543) = 6\mathbf{N} + 979 \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3854}) &= B_{\bar{N}}(2N + 3854 - B_{\bar{N}}(2N + 3853)) + B_{\bar{N}}(2N + 3854 - B_{\bar{N}}(2N + 3852)) + B_{\bar{N}}(2N + 3854 - B_{\bar{N}}(2N + 3851)) \\
&= B_{\bar{N}}(2N + 3854 - (6N + 979)) + B_{\bar{N}}(2N + 3854 - (6N + 5602)) + B_{\bar{N}}(2N + 3854 - 7) \\
&= B_{\bar{N}}(-4N + 2875) + B_{\bar{N}}(-4N - 1748) + B_{\bar{N}}(2N + 3847) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 719)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3855}) &= B_{\bar{N}}(2N + 3855 - B_{\bar{N}}(2N + 3854)) + B_{\bar{N}}(2N + 3855 - B_{\bar{N}}(2N + 3853)) + B_{\bar{N}}(2N + 3855 - B_{\bar{N}}(2N + 3852)) \\
&= B_{\bar{N}}(2N + 3855 - 4472) + B_{\bar{N}}(2N + 3855 - (6N + 979)) + B_{\bar{N}}(2N + 3855 - (6N + 5602)) \\
&= B_{\bar{N}}(2N - 617) + B_{\bar{N}}(-4N + 2876) + B_{\bar{N}}(-4N - 1747) = \left(\frac{16N}{7} - \frac{927}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{927}}{\mathbf{7}} \\
&(N \geq 719)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3856}) &= B_{\bar{N}}(2N + 3856 - B_{\bar{N}}(2N + 3855)) + B_{\bar{N}}(2N + 3856 - B_{\bar{N}}(2N + 3854)) + B_{\bar{N}}(2N + 3856 - B_{\bar{N}}(2N + 3853)) \\
&= B_{\bar{N}}\left(2N + 3856 - \left(\frac{16N}{7} - \frac{927}{7}\right)\right) + B_{\bar{N}}(2N + 3856 - 4472) + B_{\bar{N}}(2N + 3856 - (6N + 979)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{27919}{7}\right) + B_{\bar{N}}(2N - 616) + B_{\bar{N}}(-4N + 2877) = 0 + \left(\frac{15N}{7} - \frac{670}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{670}}{\mathbf{7}} \\
&(N \geq 13960)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3857}) &= B_{\bar{N}}(2N + 3857 - B_{\bar{N}}(2N + 3856)) + B_{\bar{N}}(2N + 3857 - B_{\bar{N}}(2N + 3855)) + B_{\bar{N}}(2N + 3857 - B_{\bar{N}}(2N + 3854)) \\
&= B_{\bar{N}}\left(2N + 3857 - \left(\frac{15N}{7} - \frac{670}{7}\right)\right) + B_{\bar{N}}\left(2N + 3857 - \left(\frac{16N}{7} - \frac{927}{7}\right)\right) + B_{\bar{N}}(2N + 3857 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{27669}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{27926}{7}\right) + B_{\bar{N}}(2N - 615) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{27669})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3858) &= B_{\bar{N}}(2N + 3858 - B_{\bar{N}}(2N + 3857)) + B_{\bar{N}}(2N + 3858 - B_{\bar{N}}(2N + 3856)) + B_{\bar{N}}(2N + 3858 - B_{\bar{N}}(2N + 3855)) \\
&= B_{\bar{N}}(2N + 3858 - (N - 2)) + B_{\bar{N}}\left(2N + 3858 - \left(\frac{15N}{7} - \frac{670}{7}\right)\right) + B_{\bar{N}}\left(2N + 3858 - \left(\frac{16N}{7} - \frac{927}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3860) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27676}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{27933}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{27676})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3859) &= B_{\bar{N}}(2N + 3859 - B_{\bar{N}}(2N + 3858)) + B_{\bar{N}}(2N + 3859 - B_{\bar{N}}(2N + 3857)) + B_{\bar{N}}(2N + 3859 - B_{\bar{N}}(2N + 3856)) \\
&= B_{\bar{N}}(2N + 3859 - 7) + B_{\bar{N}}(2N + 3859 - (N - 2)) + B_{\bar{N}}\left(2N + 3859 - \left(\frac{15N}{7} - \frac{670}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3852) + B_{\bar{N}}(N + 3861) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27683}{7}\right) = (6N + 5602) + (2N + 1147) + 0 = \mathbf{8N} + \mathbf{6749} \\
&(\mathbf{N} \geq \mathbf{27683})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3860) &= B_{\bar{N}}(2N + 3860 - B_{\bar{N}}(2N + 3859)) + B_{\bar{N}}(2N + 3860 - B_{\bar{N}}(2N + 3858)) + B_{\bar{N}}(2N + 3860 - B_{\bar{N}}(2N + 3857)) \\
&= B_{\bar{N}}(2N + 3860 - (8N + 6749)) + B_{\bar{N}}(2N + 3860 - 7) + B_{\bar{N}}(2N + 3860 - (N - 2)) \\
&= B_{\bar{N}}(-6N - 2889) + B_{\bar{N}}(2N + 3853) + B_{\bar{N}}(N + 3862) = 0 + (6N + 979) + (2N + 544) = \mathbf{8N} + \mathbf{1523} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3861) &= B_{\bar{N}}(2N + 3861 - B_{\bar{N}}(2N + 3860)) + B_{\bar{N}}(2N + 3861 - B_{\bar{N}}(2N + 3859)) + B_{\bar{N}}(2N + 3861 - B_{\bar{N}}(2N + 3858)) \\
&= B_{\bar{N}}(2N + 3861 - (8N + 1523)) + B_{\bar{N}}(2N + 3861 - (8N + 6749)) + B_{\bar{N}}(2N + 3861 - 7) \\
&= B_{\bar{N}}(-6N + 2338) + B_{\bar{N}}(-6N - 2888) + B_{\bar{N}}(2N + 3854) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 390)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3862) &= B_{\bar{N}}(2N + 3862 - B_{\bar{N}}(2N + 3861)) + B_{\bar{N}}(2N + 3862 - B_{\bar{N}}(2N + 3860)) + B_{\bar{N}}(2N + 3862 - B_{\bar{N}}(2N + 3859)) \\
&= B_{\bar{N}}(2N + 3862 - 4472) + B_{\bar{N}}(2N + 3862 - (8N + 1523)) + B_{\bar{N}}(2N + 3862 - (8N + 6749)) \\
&= B_{\bar{N}}(2N - 610) + B_{\bar{N}}(-6N + 2339) + B_{\bar{N}}(-6N - 2887) = \left(\frac{16N}{7} - \frac{913}{7}\right) + 0 + 0 = \frac{16\mathbf{N}}{7} - \frac{913}{7} \\
&(N \geq 677)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3863) &= B_{\bar{N}}(2N + 3863 - B_{\bar{N}}(2N + 3862)) + B_{\bar{N}}(2N + 3863 - B_{\bar{N}}(2N + 3861)) + B_{\bar{N}}(2N + 3863 - B_{\bar{N}}(2N + 3860)) \\
&= B_{\bar{N}}\left(2N + 3863 - \left(\frac{16N}{7} - \frac{913}{7}\right)\right) + B_{\bar{N}}(2N + 3863 - 4472) + B_{\bar{N}}(2N + 3863 - (8N + 1523)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{27954}{7}\right) + B_{\bar{N}}(2N - 609) + B_{\bar{N}}(-6N + 2340) = 0 + \left(\frac{15N}{7} - \frac{663}{7}\right) + 0 = \frac{15\mathbf{N}}{7} - \frac{663}{7} \\
&(N \geq 13977)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3864) &= B_{\bar{N}}(2N + 3864 - B_{\bar{N}}(2N + 3863)) + B_{\bar{N}}(2N + 3864 - B_{\bar{N}}(2N + 3862)) + B_{\bar{N}}(2N + 3864 - B_{\bar{N}}(2N + 3861)) \\
&= B_{\bar{N}}\left(2N + 3864 - \left(\frac{15N}{7} - \frac{663}{7}\right)\right) + B_{\bar{N}}\left(2N + 3864 - \left(\frac{16N}{7} - \frac{913}{7}\right)\right) + B_{\bar{N}}(2N + 3864 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{27711}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{27961}{7}\right) + B_{\bar{N}}(2N - 608) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 27711)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3865) &= B_{\bar{N}}(2N + 3865 - B_{\bar{N}}(2N + 3864)) + B_{\bar{N}}(2N + 3865 - B_{\bar{N}}(2N + 3863)) + B_{\bar{N}}(2N + 3865 - B_{\bar{N}}(2N + 3862)) \\
&= B_{\bar{N}}(2N + 3865 - (N - 2)) + B_{\bar{N}}\left(2N + 3865 - \left(\frac{15N}{7} - \frac{663}{7}\right)\right) + B_{\bar{N}}\left(2N + 3865 - \left(\frac{16N}{7} - \frac{913}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3867) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27718}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{27968}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 27718)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3866) &= B_{\bar{N}}(2N + 3866 - B_{\bar{N}}(2N + 3865)) + B_{\bar{N}}(2N + 3866 - B_{\bar{N}}(2N + 3864)) + B_{\bar{N}}(2N + 3866 - B_{\bar{N}}(2N + 3863)) \\
&= B_{\bar{N}}(2N + 3866 - 7) + B_{\bar{N}}(2N + 3866 - (N - 2)) + B_{\bar{N}}\left(2N + 3866 - \left(\frac{15N}{7} - \frac{663}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3859) + B_{\bar{N}}(N + 3868) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27725}{7}\right) = (8N + 6749) + (2N + 1149) + 0 = \mathbf{10N + 7898} \\
&(\mathbf{N} \geq \mathbf{27725})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3867) &= B_{\bar{N}}(2N + 3867 - B_{\bar{N}}(2N + 3866)) + B_{\bar{N}}(2N + 3867 - B_{\bar{N}}(2N + 3865)) + B_{\bar{N}}(2N + 3867 - B_{\bar{N}}(2N + 3864)) \\
&= B_{\bar{N}}(2N + 3867 - (10N + 7898)) + B_{\bar{N}}(2N + 3867 - 7) + B_{\bar{N}}(2N + 3867 - (N - 2)) \\
&= B_{\bar{N}}(-8N - 4031) + B_{\bar{N}}(2N + 3860) + B_{\bar{N}}(N + 3869) = 0 + (8N + 1523) + (2N + 545) = \mathbf{10N + 2068} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3868) &= B_{\bar{N}}(2N + 3868 - B_{\bar{N}}(2N + 3867)) + B_{\bar{N}}(2N + 3868 - B_{\bar{N}}(2N + 3866)) + B_{\bar{N}}(2N + 3868 - B_{\bar{N}}(2N + 3865)) \\
&= B_{\bar{N}}(2N + 3868 - (10N + 2068)) + B_{\bar{N}}(2N + 3868 - (10N + 7898)) + B_{\bar{N}}(2N + 3868 - 7) \\
&= B_{\bar{N}}(-8N + 1800) + B_{\bar{N}}(-8N - 4030) + B_{\bar{N}}(2N + 3861) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 225)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3869) &= B_{\bar{N}}(2N + 3869 - B_{\bar{N}}(2N + 3868)) + B_{\bar{N}}(2N + 3869 - B_{\bar{N}}(2N + 3867)) + B_{\bar{N}}(2N + 3869 - B_{\bar{N}}(2N + 3866)) \\
&= B_{\bar{N}}(2N + 3869 - 4472) + B_{\bar{N}}(2N + 3869 - (10N + 2068)) + B_{\bar{N}}(2N + 3869 - (10N + 7898)) \\
&= B_{\bar{N}}(2N - 603) + B_{\bar{N}}(-8N + 1801) + B_{\bar{N}}(-8N - 4029) = \left(\frac{16N}{7} - \frac{899}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{899}}{\mathbf{7}} \\
&(N \geq 670)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3870}) &= B_{\bar{N}}(2N + 3870 - B_{\bar{N}}(2N + 3869)) + B_{\bar{N}}(2N + 3870 - B_{\bar{N}}(2N + 3868)) + B_{\bar{N}}(2N + 3870 - B_{\bar{N}}(2N + 3867)) \\
&= B_{\bar{N}}\left(2N + 3870 - \left(\frac{16N}{7} - \frac{899}{7}\right)\right) + B_{\bar{N}}(2N + 3870 - 4472) + B_{\bar{N}}(2N + 3870 - (10N + 2068)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{27989}{7}\right) + B_{\bar{N}}(2N - 602) + B_{\bar{N}}(-8N + 1802) = 0 + \left(\frac{15N}{7} - \frac{656}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{656}}{\mathbf{7}} \\
&(N \geq 13995)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3871}) &= B_{\bar{N}}(2N + 3871 - B_{\bar{N}}(2N + 3870)) + B_{\bar{N}}(2N + 3871 - B_{\bar{N}}(2N + 3869)) + B_{\bar{N}}(2N + 3871 - B_{\bar{N}}(2N + 3868)) \\
&= B_{\bar{N}}\left(2N + 3871 - \left(\frac{15N}{7} - \frac{656}{7}\right)\right) + B_{\bar{N}}\left(2N + 3871 - \left(\frac{16N}{7} - \frac{899}{7}\right)\right) + B_{\bar{N}}(2N + 3871 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{27753}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{27996}{7}\right) + B_{\bar{N}}(2N - 601) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{27753})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3872}) &= B_{\bar{N}}(2N + 3872 - B_{\bar{N}}(2N + 3871)) + B_{\bar{N}}(2N + 3872 - B_{\bar{N}}(2N + 3870)) + B_{\bar{N}}(2N + 3872 - B_{\bar{N}}(2N + 3869)) \\
&= B_{\bar{N}}(2N + 3872 - (N - 2)) + B_{\bar{N}}\left(2N + 3872 - \left(\frac{15N}{7} - \frac{656}{7}\right)\right) + B_{\bar{N}}\left(2N + 3872 - \left(\frac{16N}{7} - \frac{899}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3874) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27760}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28003}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{27760})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3873}) &= B_{\bar{N}}(2N + 3873 - B_{\bar{N}}(2N + 3872)) + B_{\bar{N}}(2N + 3873 - B_{\bar{N}}(2N + 3871)) + B_{\bar{N}}(2N + 3873 - B_{\bar{N}}(2N + 3870)) \\
&= B_{\bar{N}}(2N + 3873 - 7) + B_{\bar{N}}(2N + 3873 - (N - 2)) + B_{\bar{N}}\left(2N + 3873 - \left(\frac{15N}{7} - \frac{656}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3866) + B_{\bar{N}}(N + 3875) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27767}{7}\right) = (10N + 7898) + (2N + 1151) + 0 = \mathbf{12N} + \mathbf{9049} \\
&(\mathbf{N} \geq \mathbf{27767})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3874}) &= B_{\bar{N}}(2N + 3874 - B_{\bar{N}}(2N + 3873)) + B_{\bar{N}}(2N + 3874 - B_{\bar{N}}(2N + 3872)) + B_{\bar{N}}(2N + 3874 - B_{\bar{N}}(2N + 3871)) \\
&= B_{\bar{N}}(2N + 3874 - (12N + 9049)) + B_{\bar{N}}(2N + 3874 - 7) + B_{\bar{N}}(2N + 3874 - (N - 2)) \\
&= B_{\bar{N}}(-10N - 5175) + B_{\bar{N}}(2N + 3867) + B_{\bar{N}}(N + 3876) = 0 + (10N + 2068) + (2N + 546) = \mathbf{12N} + \mathbf{2614} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3875}) &= B_{\bar{N}}(2N + 3875 - B_{\bar{N}}(2N + 3874)) + B_{\bar{N}}(2N + 3875 - B_{\bar{N}}(2N + 3873)) + B_{\bar{N}}(2N + 3875 - B_{\bar{N}}(2N + 3872)) \\
&= B_{\bar{N}}(2N + 3875 - (12N + 2614)) + B_{\bar{N}}(2N + 3875 - (12N + 9049)) + B_{\bar{N}}(2N + 3875 - 7) \\
&= B_{\bar{N}}(-10N + 1261) + B_{\bar{N}}(-10N - 5174) + B_{\bar{N}}(2N + 3868) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 127)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3876}) &= B_{\bar{N}}(2N + 3876 - B_{\bar{N}}(2N + 3875)) + B_{\bar{N}}(2N + 3876 - B_{\bar{N}}(2N + 3874)) + B_{\bar{N}}(2N + 3876 - B_{\bar{N}}(2N + 3873)) \\
&= B_{\bar{N}}(2N + 3876 - 4472) + B_{\bar{N}}(2N + 3876 - (12N + 2614)) + B_{\bar{N}}(2N + 3876 - (12N + 9049)) \\
&= B_{\bar{N}}(2N - 596) + B_{\bar{N}}(-10N + 1262) + B_{\bar{N}}(-10N - 5173) = \left(\frac{16N}{7} - \frac{885}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{885}}{\mathbf{7}} \\
&(N \geq 663)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3877}) &= B_{\bar{N}}(2N + 3877 - B_{\bar{N}}(2N + 3876)) + B_{\bar{N}}(2N + 3877 - B_{\bar{N}}(2N + 3875)) + B_{\bar{N}}(2N + 3877 - B_{\bar{N}}(2N + 3874)) \\
&= B_{\bar{N}}\left(2N + 3877 - \left(\frac{16N}{7} - \frac{885}{7}\right)\right) + B_{\bar{N}}(2N + 3877 - 4472) + B_{\bar{N}}(2N + 3877 - (12N + 2614)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28024}{7}\right) + B_{\bar{N}}(2N - 595) + B_{\bar{N}}(-10N + 1263) = 0 + \left(\frac{15N}{7} - \frac{649}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{649}}{\mathbf{7}} \\
&(N \geq 14012)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3878) &= B_{\bar{N}}(2N + 3878 - B_{\bar{N}}(2N + 3877)) + B_{\bar{N}}(2N + 3878 - B_{\bar{N}}(2N + 3876)) + B_{\bar{N}}(2N + 3878 - B_{\bar{N}}(2N + 3875)) \\
&= B_{\bar{N}}\left(2N + 3878 - \left(\frac{15N}{7} - \frac{649}{7}\right)\right) + B_{\bar{N}}\left(2N + 3878 - \left(\frac{16N}{7} - \frac{885}{7}\right)\right) + B_{\bar{N}}(2N + 3878 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{27795}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28031}{7}\right) + B_{\bar{N}}(2N - 594) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq \mathbf{27795})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3879) &= B_{\bar{N}}(2N + 3879 - B_{\bar{N}}(2N + 3878)) + B_{\bar{N}}(2N + 3879 - B_{\bar{N}}(2N + 3877)) + B_{\bar{N}}(2N + 3879 - B_{\bar{N}}(2N + 3876)) \\
&= B_{\bar{N}}(2N + 3879 - (N - 2)) + B_{\bar{N}}\left(2N + 3879 - \left(\frac{15N}{7} - \frac{649}{7}\right)\right) + B_{\bar{N}}\left(2N + 3879 - \left(\frac{16N}{7} - \frac{885}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3881) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27802}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28038}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{27802})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3880) &= B_{\bar{N}}(2N + 3880 - B_{\bar{N}}(2N + 3879)) + B_{\bar{N}}(2N + 3880 - B_{\bar{N}}(2N + 3878)) + B_{\bar{N}}(2N + 3880 - B_{\bar{N}}(2N + 3877)) \\
&= B_{\bar{N}}(2N + 3880 - 7) + B_{\bar{N}}(2N + 3880 - (N - 2)) + B_{\bar{N}}\left(2N + 3880 - \left(\frac{15N}{7} - \frac{649}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3873) + B_{\bar{N}}(N + 3882) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27809}{7}\right) = (12N + 9049) + (2N + 1153) + 0 = \mathbf{14N} + \mathbf{10202} \\
&(\mathbf{N} \geq \mathbf{27809})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3881) &= B_{\bar{N}}(2N + 3881 - B_{\bar{N}}(2N + 3880)) + B_{\bar{N}}(2N + 3881 - B_{\bar{N}}(2N + 3879)) + B_{\bar{N}}(2N + 3881 - B_{\bar{N}}(2N + 3878)) \\
&= B_{\bar{N}}(2N + 3881 - (14N + 10202)) + B_{\bar{N}}(2N + 3881 - 7) + B_{\bar{N}}(2N + 3881 - (N - 2)) \\
&= B_{\bar{N}}(-12N - 6321) + B_{\bar{N}}(2N + 3874) + B_{\bar{N}}(N + 3883) = 0 + (12N + 2614) + (2N + 547) = \mathbf{14N} + \mathbf{3161} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3882}) &= B_{\bar{N}}(2N + 3882 - B_{\bar{N}}(2N + 3881)) + B_{\bar{N}}(2N + 3882 - B_{\bar{N}}(2N + 3880)) + B_{\bar{N}}(2N + 3882 - B_{\bar{N}}(2N + 3879)) \\
&= B_{\bar{N}}(2N + 3882 - (14N + 3161)) + B_{\bar{N}}(2N + 3882 - (14N + 10202)) + B_{\bar{N}}(2N + 3882 - 7) \\
&= B_{\bar{N}}(-12N + 721) + B_{\bar{N}}(-12N - 6320) + B_{\bar{N}}(2N + 3875) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 61)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3883}) &= B_{\bar{N}}(2N + 3883 - B_{\bar{N}}(2N + 3882)) + B_{\bar{N}}(2N + 3883 - B_{\bar{N}}(2N + 3881)) + B_{\bar{N}}(2N + 3883 - B_{\bar{N}}(2N + 3880)) \\
&= B_{\bar{N}}(2N + 3883 - 4472) + B_{\bar{N}}(2N + 3883 - (14N + 3161)) + B_{\bar{N}}(2N + 3883 - (14N + 10202)) \\
&= B_{\bar{N}}(2N - 589) + B_{\bar{N}}(-12N + 722) + B_{\bar{N}}(-12N - 6319) = \left(\frac{16N}{7} - \frac{871}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{871}}{\mathbf{7}} \\
&(N \geq 656)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3884}) &= B_{\bar{N}}(2N + 3884 - B_{\bar{N}}(2N + 3883)) + B_{\bar{N}}(2N + 3884 - B_{\bar{N}}(2N + 3882)) + B_{\bar{N}}(2N + 3884 - B_{\bar{N}}(2N + 3881)) \\
&= B_{\bar{N}}\left(2N + 3884 - \left(\frac{16N}{7} - \frac{871}{7}\right)\right) + B_{\bar{N}}(2N + 3884 - 4472) + B_{\bar{N}}(2N + 3884 - (14N + 3161)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28059}{7}\right) + B_{\bar{N}}(2N - 588) + B_{\bar{N}}(-12N + 723) = 0 + \left(\frac{15N}{7} - \frac{642}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{642}}{\mathbf{7}} \\
&(N \geq 14030)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3885}) &= B_{\bar{N}}(2N + 3885 - B_{\bar{N}}(2N + 3884)) + B_{\bar{N}}(2N + 3885 - B_{\bar{N}}(2N + 3883)) + B_{\bar{N}}(2N + 3885 - B_{\bar{N}}(2N + 3882)) \\
&= B_{\bar{N}}\left(2N + 3885 - \left(\frac{15N}{7} - \frac{642}{7}\right)\right) + B_{\bar{N}}\left(2N + 3885 - \left(\frac{16N}{7} - \frac{871}{7}\right)\right) + B_{\bar{N}}(2N + 3885 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{27837}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28066}{7}\right) + B_{\bar{N}}(2N - 587) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{27837})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3886) &= B_{\bar{N}}(2N + 3886 - B_{\bar{N}}(2N + 3885)) + B_{\bar{N}}(2N + 3886 - B_{\bar{N}}(2N + 3884)) + B_{\bar{N}}(2N + 3886 - B_{\bar{N}}(2N + 3883)) \\
&= B_{\bar{N}}(2N + 3886 - (N - 2)) + B_{\bar{N}}\left(2N + 3886 - \left(\frac{15N}{7} - \frac{642}{7}\right)\right) + B_{\bar{N}}\left(2N + 3886 - \left(\frac{16N}{7} - \frac{871}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3888) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27844}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28073}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{27844})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3887) &= B_{\bar{N}}(2N + 3887 - B_{\bar{N}}(2N + 3886)) + B_{\bar{N}}(2N + 3887 - B_{\bar{N}}(2N + 3885)) + B_{\bar{N}}(2N + 3887 - B_{\bar{N}}(2N + 3884)) \\
&= B_{\bar{N}}(2N + 3887 - 7) + B_{\bar{N}}(2N + 3887 - (N - 2)) + B_{\bar{N}}\left(2N + 3887 - \left(\frac{15N}{7} - \frac{642}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3880) + B_{\bar{N}}(N + 3889) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27851}{7}\right) = (14N + 10202) + (2N + 1155) + 0 = \mathbf{16N} + \mathbf{11357} \\
&(\mathbf{N} \geq \mathbf{27851})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3888) &= B_{\bar{N}}(2N + 3888 - B_{\bar{N}}(2N + 3887)) + B_{\bar{N}}(2N + 3888 - B_{\bar{N}}(2N + 3886)) + B_{\bar{N}}(2N + 3888 - B_{\bar{N}}(2N + 3885)) \\
&= B_{\bar{N}}(2N + 3888 - (16N + 11357)) + B_{\bar{N}}(2N + 3888 - 7) + B_{\bar{N}}(2N + 3888 - (N - 2)) \\
&= B_{\bar{N}}(-14N - 7469) + B_{\bar{N}}(2N + 3881) + B_{\bar{N}}(N + 3890) = 0 + (14N + 3161) + (2N + 548) = \mathbf{16N} + \mathbf{3709} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3889) &= B_{\bar{N}}(2N + 3889 - B_{\bar{N}}(2N + 3888)) + B_{\bar{N}}(2N + 3889 - B_{\bar{N}}(2N + 3887)) + B_{\bar{N}}(2N + 3889 - B_{\bar{N}}(2N + 3886)) \\
&= B_{\bar{N}}(2N + 3889 - (16N + 3709)) + B_{\bar{N}}(2N + 3889 - (16N + 11357)) + B_{\bar{N}}(2N + 3889 - 7) \\
&= B_{\bar{N}}(-14N + 180) + B_{\bar{N}}(-14N - 7468) + B_{\bar{N}}(2N + 3882) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 13)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3890}) &= B_{\bar{N}}(2N + 3890 - B_{\bar{N}}(2N + 3889)) + B_{\bar{N}}(2N + 3890 - B_{\bar{N}}(2N + 3888)) + B_{\bar{N}}(2N + 3890 - B_{\bar{N}}(2N + 3887)) \\
&= B_{\bar{N}}(2N + 3890 - 4472) + B_{\bar{N}}(2N + 3890 - (16N + 3709)) + B_{\bar{N}}(2N + 3890 - (16N + 11357)) \\
&= B_{\bar{N}}(2N - 582) + B_{\bar{N}}(-14N + 181) + B_{\bar{N}}(-14N - 7467) = \left(\frac{16N}{7} - \frac{857}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{857}}{\mathbf{7}} \\
&(N \geq 649)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3891}) &= B_{\bar{N}}(2N + 3891 - B_{\bar{N}}(2N + 3890)) + B_{\bar{N}}(2N + 3891 - B_{\bar{N}}(2N + 3889)) + B_{\bar{N}}(2N + 3891 - B_{\bar{N}}(2N + 3888)) \\
&= B_{\bar{N}}\left(2N + 3891 - \left(\frac{16N}{7} - \frac{857}{7}\right)\right) + B_{\bar{N}}(2N + 3891 - 4472) + B_{\bar{N}}(2N + 3891 - (16N + 3709)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28094}{7}\right) + B_{\bar{N}}(2N - 581) + B_{\bar{N}}(-14N + 182) = 0 + \left(\frac{15N}{7} - \frac{635}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{635}}{\mathbf{7}} \\
&(N \geq 14047)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3892}) &= B_{\bar{N}}(2N + 3892 - B_{\bar{N}}(2N + 3891)) + B_{\bar{N}}(2N + 3892 - B_{\bar{N}}(2N + 3890)) + B_{\bar{N}}(2N + 3892 - B_{\bar{N}}(2N + 3889)) \\
&= B_{\bar{N}}\left(2N + 3892 - \left(\frac{15N}{7} - \frac{635}{7}\right)\right) + B_{\bar{N}}\left(2N + 3892 - \left(\frac{16N}{7} - \frac{857}{7}\right)\right) + B_{\bar{N}}(2N + 3892 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{27879}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28101}{7}\right) + B_{\bar{N}}(2N - 580) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{27879})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3893}) &= B_{\bar{N}}(2N + 3893 - B_{\bar{N}}(2N + 3892)) + B_{\bar{N}}(2N + 3893 - B_{\bar{N}}(2N + 3891)) + B_{\bar{N}}(2N + 3893 - B_{\bar{N}}(2N + 3890)) \\
&= B_{\bar{N}}(2N + 3893 - (N - 2)) + B_{\bar{N}}\left(2N + 3893 - \left(\frac{15N}{7} - \frac{635}{7}\right)\right) + B_{\bar{N}}\left(2N + 3893 - \left(\frac{16N}{7} - \frac{857}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3895) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27886}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28108}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{27886})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3894) &= B_{\bar{N}}(2N + 3894 - B_{\bar{N}}(2N + 3893)) + B_{\bar{N}}(2N + 3894 - B_{\bar{N}}(2N + 3892)) + B_{\bar{N}}(2N + 3894 - B_{\bar{N}}(2N + 3891)) \\
&= B_{\bar{N}}(2N + 3894 - 7) + B_{\bar{N}}(2N + 3894 - (N - 2)) + B_{\bar{N}}\left(2N + 3894 - \left(\frac{15N}{7} - \frac{635}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3887) + B_{\bar{N}}(N + 3896) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27893}{7}\right) = (16N + 11357) + (2N + 1157) + 0 = \mathbf{18N + 12514} \\
&(\mathbf{N} \geq \mathbf{27893})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3895) &= B_{\bar{N}}(2N + 3895 - B_{\bar{N}}(2N + 3894)) + B_{\bar{N}}(2N + 3895 - B_{\bar{N}}(2N + 3893)) + B_{\bar{N}}(2N + 3895 - B_{\bar{N}}(2N + 3892)) \\
&= B_{\bar{N}}(2N + 3895 - (18N + 12514)) + B_{\bar{N}}(2N + 3895 - 7) + B_{\bar{N}}(2N + 3895 - (N - 2)) \\
&= B_{\bar{N}}(-16N - 8619) + B_{\bar{N}}(2N + 3888) + B_{\bar{N}}(N + 3897) = 0 + (16N + 3709) + (2N + 549) = \mathbf{18N + 4258} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3896) &= B_{\bar{N}}(2N + 3896 - B_{\bar{N}}(2N + 3895)) + B_{\bar{N}}(2N + 3896 - B_{\bar{N}}(2N + 3894)) + B_{\bar{N}}(2N + 3896 - B_{\bar{N}}(2N + 3893)) \\
&= B_{\bar{N}}(2N + 3896 - (18N + 4258)) + B_{\bar{N}}(2N + 3896 - (18N + 12514)) + B_{\bar{N}}(2N + 3896 - 7) \\
&= B_{\bar{N}}(-16N - 362) + B_{\bar{N}}(-16N - 8618) + B_{\bar{N}}(2N + 3889) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3897) &= B_{\bar{N}}(2N + 3897 - B_{\bar{N}}(2N + 3896)) + B_{\bar{N}}(2N + 3897 - B_{\bar{N}}(2N + 3895)) + B_{\bar{N}}(2N + 3897 - B_{\bar{N}}(2N + 3894)) \\
&= B_{\bar{N}}(2N + 3897 - 4472) + B_{\bar{N}}(2N + 3897 - (18N + 4258)) + B_{\bar{N}}(2N + 3897 - (18N + 12514)) \\
&= B_{\bar{N}}(2N - 575) + B_{\bar{N}}(-16N - 361) + B_{\bar{N}}(-16N - 8617) = \left(\frac{16N}{7} - \frac{843}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{843}}{\mathbf{7}} \\
&(N \geq 642)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3898}) &= B_{\bar{N}}(2N + 3898 - B_{\bar{N}}(2N + 3897)) + B_{\bar{N}}(2N + 3898 - B_{\bar{N}}(2N + 3896)) + B_{\bar{N}}(2N + 3898 - B_{\bar{N}}(2N + 3895)) \\
&= B_{\bar{N}}\left(2N + 3898 - \left(\frac{16N}{7} - \frac{843}{7}\right)\right) + B_{\bar{N}}(2N + 3898 - 4472) + B_{\bar{N}}(2N + 3898 - (18N + 4258)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28129}{7}\right) + B_{\bar{N}}(2N - 574) + B_{\bar{N}}(-16N - 360) = 0 + \left(\frac{15N}{7} - \frac{628}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{628}}{\mathbf{7}} \\
&(N \geq 14065)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3899}) &= B_{\bar{N}}(2N + 3899 - B_{\bar{N}}(2N + 3898)) + B_{\bar{N}}(2N + 3899 - B_{\bar{N}}(2N + 3897)) + B_{\bar{N}}(2N + 3899 - B_{\bar{N}}(2N + 3896)) \\
&= B_{\bar{N}}\left(2N + 3899 - \left(\frac{15N}{7} - \frac{628}{7}\right)\right) + B_{\bar{N}}\left(2N + 3899 - \left(\frac{16N}{7} - \frac{843}{7}\right)\right) + B_{\bar{N}}(2N + 3899 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{27921}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28136}{7}\right) + B_{\bar{N}}(2N - 573) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{27921})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3900}) &= B_{\bar{N}}(2N + 3900 - B_{\bar{N}}(2N + 3899)) + B_{\bar{N}}(2N + 3900 - B_{\bar{N}}(2N + 3898)) + B_{\bar{N}}(2N + 3900 - B_{\bar{N}}(2N + 3897)) \\
&= B_{\bar{N}}(2N + 3900 - (N - 2)) + B_{\bar{N}}\left(2N + 3900 - \left(\frac{15N}{7} - \frac{628}{7}\right)\right) + B_{\bar{N}}\left(2N + 3900 - \left(\frac{16N}{7} - \frac{843}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3902) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27928}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28143}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{27928})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3901}) &= B_{\bar{N}}(2N + 3901 - B_{\bar{N}}(2N + 3900)) + B_{\bar{N}}(2N + 3901 - B_{\bar{N}}(2N + 3899)) + B_{\bar{N}}(2N + 3901 - B_{\bar{N}}(2N + 3898)) \\
&= B_{\bar{N}}(2N + 3901 - 7) + B_{\bar{N}}(2N + 3901 - (N - 2)) + B_{\bar{N}}\left(2N + 3901 - \left(\frac{15N}{7} - \frac{628}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3894) + B_{\bar{N}}(N + 3903) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27935}{7}\right) = (18N + 12514) + (2N + 1159) + 0 = \mathbf{20N} + \mathbf{13673} \\
&(\mathbf{N} \geq \mathbf{27935})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3902}) &= B_{\bar{N}}(2N + 3902 - B_{\bar{N}}(2N + 3901)) + B_{\bar{N}}(2N + 3902 - B_{\bar{N}}(2N + 3900)) + B_{\bar{N}}(2N + 3902 - B_{\bar{N}}(2N + 3899)) \\
&= B_{\bar{N}}(2N + 3902 - (20N + 13673)) + B_{\bar{N}}(2N + 3902 - 7) + B_{\bar{N}}(2N + 3902 - (N - 2)) \\
&= B_{\bar{N}}(-18N - 9771) + B_{\bar{N}}(2N + 3895) + B_{\bar{N}}(N + 3904) = 0 + (18N + 4258) + (2N + 550) = \mathbf{20N} + \mathbf{4808} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3903}) &= B_{\bar{N}}(2N + 3903 - B_{\bar{N}}(2N + 3902)) + B_{\bar{N}}(2N + 3903 - B_{\bar{N}}(2N + 3901)) + B_{\bar{N}}(2N + 3903 - B_{\bar{N}}(2N + 3900)) \\
&= B_{\bar{N}}(2N + 3903 - (20N + 4808)) + B_{\bar{N}}(2N + 3903 - (20N + 13673)) + B_{\bar{N}}(2N + 3903 - 7) \\
&= B_{\bar{N}}(-18N - 905) + B_{\bar{N}}(-18N - 9770) + B_{\bar{N}}(2N + 3896) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3904}) &= B_{\bar{N}}(2N + 3904 - B_{\bar{N}}(2N + 3903)) + B_{\bar{N}}(2N + 3904 - B_{\bar{N}}(2N + 3902)) + B_{\bar{N}}(2N + 3904 - B_{\bar{N}}(2N + 3901)) \\
&= B_{\bar{N}}(2N + 3904 - 4472) + B_{\bar{N}}(2N + 3904 - (20N + 4808)) + B_{\bar{N}}(2N + 3904 - (20N + 13673)) \\
&= B_{\bar{N}}(2N - 568) + B_{\bar{N}}(-18N - 904) + B_{\bar{N}}(-18N - 9769) = \left(\frac{16N}{7} - \frac{829}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{829}}{\mathbf{7}} \\
&(N \geq 635)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3905}) &= B_{\bar{N}}(2N + 3905 - B_{\bar{N}}(2N + 3904)) + B_{\bar{N}}(2N + 3905 - B_{\bar{N}}(2N + 3903)) + B_{\bar{N}}(2N + 3905 - B_{\bar{N}}(2N + 3902)) \\
&= B_{\bar{N}}\left(2N + 3905 - \left(\frac{16N}{7} - \frac{829}{7}\right)\right) + B_{\bar{N}}(2N + 3905 - 4472) + B_{\bar{N}}(2N + 3905 - (20N + 4808)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28164}{7}\right) + B_{\bar{N}}(2N - 567) + B_{\bar{N}}(-18N - 903) = 0 + \left(\frac{15N}{7} - \frac{621}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{621}}{\mathbf{7}} \\
&(N \geq 14082)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3906) &= B_{\bar{N}}(2N + 3906 - B_{\bar{N}}(2N + 3905)) + B_{\bar{N}}(2N + 3906 - B_{\bar{N}}(2N + 3904)) + B_{\bar{N}}(2N + 3906 - B_{\bar{N}}(2N + 3903)) \\
&= B_{\bar{N}}\left(2N + 3906 - \left(\frac{15N}{7} - \frac{621}{7}\right)\right) + B_{\bar{N}}\left(2N + 3906 - \left(\frac{16N}{7} - \frac{829}{7}\right)\right) + B_{\bar{N}}(2N + 3906 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{27963}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28171}{7}\right) + B_{\bar{N}}(2N - 566) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq \mathbf{27963})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3907) &= B_{\bar{N}}(2N + 3907 - B_{\bar{N}}(2N + 3906)) + B_{\bar{N}}(2N + 3907 - B_{\bar{N}}(2N + 3905)) + B_{\bar{N}}(2N + 3907 - B_{\bar{N}}(2N + 3904)) \\
&= B_{\bar{N}}(2N + 3907 - (N - 2)) + B_{\bar{N}}\left(2N + 3907 - \left(\frac{15N}{7} - \frac{621}{7}\right)\right) + B_{\bar{N}}\left(2N + 3907 - \left(\frac{16N}{7} - \frac{829}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3909) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27970}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28178}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{27970})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3908) &= B_{\bar{N}}(2N + 3908 - B_{\bar{N}}(2N + 3907)) + B_{\bar{N}}(2N + 3908 - B_{\bar{N}}(2N + 3906)) + B_{\bar{N}}(2N + 3908 - B_{\bar{N}}(2N + 3905)) \\
&= B_{\bar{N}}(2N + 3908 - 7) + B_{\bar{N}}(2N + 3908 - (N - 2)) + B_{\bar{N}}\left(2N + 3908 - \left(\frac{15N}{7} - \frac{621}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3901) + B_{\bar{N}}(N + 3910) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{27977}{7}\right) = (20N + 13673) + (2N + 1161) + 0 = \mathbf{22N} + \mathbf{14834} \\
&(\mathbf{N} \geq \mathbf{27977})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3909) &= B_{\bar{N}}(2N + 3909 - B_{\bar{N}}(2N + 3908)) + B_{\bar{N}}(2N + 3909 - B_{\bar{N}}(2N + 3907)) + B_{\bar{N}}(2N + 3909 - B_{\bar{N}}(2N + 3906)) \\
&= B_{\bar{N}}(2N + 3909 - (22N + 14834)) + B_{\bar{N}}(2N + 3909 - 7) + B_{\bar{N}}(2N + 3909 - (N - 2)) \\
&= B_{\bar{N}}(-20N - 10925) + B_{\bar{N}}(2N + 3902) + B_{\bar{N}}(N + 3911) = 0 + (20N + 4808) + (2N + 551) = \mathbf{22N} + \mathbf{5359} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3910}) &= B_{\bar{N}}(2N + 3910 - B_{\bar{N}}(2N + 3909)) + B_{\bar{N}}(2N + 3910 - B_{\bar{N}}(2N + 3908)) + B_{\bar{N}}(2N + 3910 - B_{\bar{N}}(2N + 3907)) \\
&= B_{\bar{N}}(2N + 3910 - (22N + 5359)) + B_{\bar{N}}(2N + 3910 - (22N + 14834)) + B_{\bar{N}}(2N + 3910 - 7) \\
&= B_{\bar{N}}(-20N - 1449) + B_{\bar{N}}(-20N - 10924) + B_{\bar{N}}(2N + 3903) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3911}) &= B_{\bar{N}}(2N + 3911 - B_{\bar{N}}(2N + 3910)) + B_{\bar{N}}(2N + 3911 - B_{\bar{N}}(2N + 3909)) + B_{\bar{N}}(2N + 3911 - B_{\bar{N}}(2N + 3908)) \\
&= B_{\bar{N}}(2N + 3911 - 4472) + B_{\bar{N}}(2N + 3911 - (22N + 5359)) + B_{\bar{N}}(2N + 3911 - (22N + 14834)) \\
&= B_{\bar{N}}(2N - 561) + B_{\bar{N}}(-20N - 1448) + B_{\bar{N}}(-20N - 10923) = \left(\frac{16N}{7} - \frac{815}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{815}}{\mathbf{7}} \\
&(N \geq 628)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3912}) &= B_{\bar{N}}(2N + 3912 - B_{\bar{N}}(2N + 3911)) + B_{\bar{N}}(2N + 3912 - B_{\bar{N}}(2N + 3910)) + B_{\bar{N}}(2N + 3912 - B_{\bar{N}}(2N + 3909)) \\
&= B_{\bar{N}}\left(2N + 3912 - \left(\frac{16N}{7} - \frac{815}{7}\right)\right) + B_{\bar{N}}(2N + 3912 - 4472) + B_{\bar{N}}(2N + 3912 - (22N + 5359)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28199}{7}\right) + B_{\bar{N}}(2N - 560) + B_{\bar{N}}(-20N - 1447) = 0 + \left(\frac{15N}{7} - \frac{614}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{614}}{\mathbf{7}} \\
&(N \geq 14100)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3913}) &= B_{\bar{N}}(2N + 3913 - B_{\bar{N}}(2N + 3912)) + B_{\bar{N}}(2N + 3913 - B_{\bar{N}}(2N + 3911)) + B_{\bar{N}}(2N + 3913 - B_{\bar{N}}(2N + 3910)) \\
&= B_{\bar{N}}\left(2N + 3913 - \left(\frac{15N}{7} - \frac{614}{7}\right)\right) + B_{\bar{N}}\left(2N + 3913 - \left(\frac{16N}{7} - \frac{815}{7}\right)\right) + B_{\bar{N}}(2N + 3913 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28005}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28206}{7}\right) + B_{\bar{N}}(2N - 559) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28005})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3914) &= B_{\bar{N}}(2N + 3914 - B_{\bar{N}}(2N + 3913)) + B_{\bar{N}}(2N + 3914 - B_{\bar{N}}(2N + 3912)) + B_{\bar{N}}(2N + 3914 - B_{\bar{N}}(2N + 3911)) \\
&= B_{\bar{N}}(2N + 3914 - (N - 2)) + B_{\bar{N}}\left(2N + 3914 - \left(\frac{15N}{7} - \frac{614}{7}\right)\right) + B_{\bar{N}}\left(2N + 3914 - \left(\frac{16N}{7} - \frac{815}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3916) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28012}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28213}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28012})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3915) &= B_{\bar{N}}(2N + 3915 - B_{\bar{N}}(2N + 3914)) + B_{\bar{N}}(2N + 3915 - B_{\bar{N}}(2N + 3913)) + B_{\bar{N}}(2N + 3915 - B_{\bar{N}}(2N + 3912)) \\
&= B_{\bar{N}}(2N + 3915 - 7) + B_{\bar{N}}(2N + 3915 - (N - 2)) + B_{\bar{N}}\left(2N + 3915 - \left(\frac{15N}{7} - \frac{614}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3908) + B_{\bar{N}}(N + 3917) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28019}{7}\right) = (22N + 14834) + (2N + 1163) + 0 = \mathbf{24N} + \mathbf{15997} \\
&(\mathbf{N} \geq \mathbf{28019})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3916) &= B_{\bar{N}}(2N + 3916 - B_{\bar{N}}(2N + 3915)) + B_{\bar{N}}(2N + 3916 - B_{\bar{N}}(2N + 3914)) + B_{\bar{N}}(2N + 3916 - B_{\bar{N}}(2N + 3913)) \\
&= B_{\bar{N}}(2N + 3916 - (24N + 15997)) + B_{\bar{N}}(2N + 3916 - 7) + B_{\bar{N}}(2N + 3916 - (N - 2)) \\
&= B_{\bar{N}}(-22N - 12081) + B_{\bar{N}}(2N + 3909) + B_{\bar{N}}(N + 3918) = 0 + (22N + 5359) + (2N + 552) = \mathbf{24N} + \mathbf{5911} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3917) &= B_{\bar{N}}(2N + 3917 - B_{\bar{N}}(2N + 3916)) + B_{\bar{N}}(2N + 3917 - B_{\bar{N}}(2N + 3915)) + B_{\bar{N}}(2N + 3917 - B_{\bar{N}}(2N + 3914)) \\
&= B_{\bar{N}}(2N + 3917 - (24N + 5911)) + B_{\bar{N}}(2N + 3917 - (24N + 15997)) + B_{\bar{N}}(2N + 3917 - 7) \\
&= B_{\bar{N}}(-22N - 1994) + B_{\bar{N}}(-22N - 12080) + B_{\bar{N}}(2N + 3910) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3918}) &= B_{\bar{N}}(2N + 3918 - B_{\bar{N}}(2N + 3917)) + B_{\bar{N}}(2N + 3918 - B_{\bar{N}}(2N + 3916)) + B_{\bar{N}}(2N + 3918 - B_{\bar{N}}(2N + 3915)) \\
&= B_{\bar{N}}(2N + 3918 - 4472) + B_{\bar{N}}(2N + 3918 - (24N + 5911)) + B_{\bar{N}}(2N + 3918 - (24N + 15997)) \\
&= B_{\bar{N}}(2N - 554) + B_{\bar{N}}(-22N - 1993) + B_{\bar{N}}(-22N - 12079) = \left(\frac{16N}{7} - \frac{801}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{801}}{\mathbf{7}} \\
&(N \geq 621)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3919}) &= B_{\bar{N}}(2N + 3919 - B_{\bar{N}}(2N + 3918)) + B_{\bar{N}}(2N + 3919 - B_{\bar{N}}(2N + 3917)) + B_{\bar{N}}(2N + 3919 - B_{\bar{N}}(2N + 3916)) \\
&= B_{\bar{N}}\left(2N + 3919 - \left(\frac{16N}{7} - \frac{801}{7}\right)\right) + B_{\bar{N}}(2N + 3919 - 4472) + B_{\bar{N}}(2N + 3919 - (24N + 5911)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28234}{7}\right) + B_{\bar{N}}(2N - 553) + B_{\bar{N}}(-22N - 1992) = 0 + \left(\frac{15N}{7} - \frac{607}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{607}}{\mathbf{7}} \\
&(N \geq 14117)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3920}) &= B_{\bar{N}}(2N + 3920 - B_{\bar{N}}(2N + 3919)) + B_{\bar{N}}(2N + 3920 - B_{\bar{N}}(2N + 3918)) + B_{\bar{N}}(2N + 3920 - B_{\bar{N}}(2N + 3917)) \\
&= B_{\bar{N}}\left(2N + 3920 - \left(\frac{15N}{7} - \frac{607}{7}\right)\right) + B_{\bar{N}}\left(2N + 3920 - \left(\frac{16N}{7} - \frac{801}{7}\right)\right) + B_{\bar{N}}(2N + 3920 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28047}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28241}{7}\right) + B_{\bar{N}}(2N - 552) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28047})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3921}) &= B_{\bar{N}}(2N + 3921 - B_{\bar{N}}(2N + 3920)) + B_{\bar{N}}(2N + 3921 - B_{\bar{N}}(2N + 3919)) + B_{\bar{N}}(2N + 3921 - B_{\bar{N}}(2N + 3918)) \\
&= B_{\bar{N}}(2N + 3921 - (N - 2)) + B_{\bar{N}}\left(2N + 3921 - \left(\frac{15N}{7} - \frac{607}{7}\right)\right) + B_{\bar{N}}\left(2N + 3921 - \left(\frac{16N}{7} - \frac{801}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3923) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28054}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28248}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28054})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3922}) &= B_{\bar{N}}(2N + 3922 - B_{\bar{N}}(2N + 3921)) + B_{\bar{N}}(2N + 3922 - B_{\bar{N}}(2N + 3920)) + B_{\bar{N}}(2N + 3922 - B_{\bar{N}}(2N + 3919)) \\
&= B_{\bar{N}}(2N + 3922 - 7) + B_{\bar{N}}(2N + 3922 - (N - 2)) + B_{\bar{N}}\left(2N + 3922 - \left(\frac{15N}{7} - \frac{607}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3915) + B_{\bar{N}}(N + 3924) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28061}{7}\right) = (24N + 15997) + (2N + 1165) + 0 = \mathbf{26N} + \mathbf{17162} \\
&(\mathbf{N} \geq \mathbf{28061})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3923}) &= B_{\bar{N}}(2N + 3923 - B_{\bar{N}}(2N + 3922)) + B_{\bar{N}}(2N + 3923 - B_{\bar{N}}(2N + 3921)) + B_{\bar{N}}(2N + 3923 - B_{\bar{N}}(2N + 3920)) \\
&= B_{\bar{N}}(2N + 3923 - (26N + 17162)) + B_{\bar{N}}(2N + 3923 - 7) + B_{\bar{N}}(2N + 3923 - (N - 2)) \\
&= B_{\bar{N}}(-24N - 13239) + B_{\bar{N}}(2N + 3916) + B_{\bar{N}}(N + 3925) = 0 + (24N + 5911) + (2N + 553) = \mathbf{26N} + \mathbf{6464} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3924}) &= B_{\bar{N}}(2N + 3924 - B_{\bar{N}}(2N + 3923)) + B_{\bar{N}}(2N + 3924 - B_{\bar{N}}(2N + 3922)) + B_{\bar{N}}(2N + 3924 - B_{\bar{N}}(2N + 3921)) \\
&= B_{\bar{N}}(2N + 3924 - (26N + 6464)) + B_{\bar{N}}(2N + 3924 - (26N + 17162)) + B_{\bar{N}}(2N + 3924 - 7) \\
&= B_{\bar{N}}(-24N - 2540) + B_{\bar{N}}(-24N - 13238) + B_{\bar{N}}(2N + 3917) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3925}) &= B_{\bar{N}}(2N + 3925 - B_{\bar{N}}(2N + 3924)) + B_{\bar{N}}(2N + 3925 - B_{\bar{N}}(2N + 3923)) + B_{\bar{N}}(2N + 3925 - B_{\bar{N}}(2N + 3922)) \\
&= B_{\bar{N}}(2N + 3925 - 4472) + B_{\bar{N}}(2N + 3925 - (26N + 6464)) + B_{\bar{N}}(2N + 3925 - (26N + 17162)) \\
&= B_{\bar{N}}(2N - 547) + B_{\bar{N}}(-24N - 2539) + B_{\bar{N}}(-24N - 13237) = \left(\frac{16N}{7} - \frac{787}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{787}}{\mathbf{7}} \\
&(N \geq 614)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3926}) &= B_{\bar{N}}(2N + 3926 - B_{\bar{N}}(2N + 3925)) + B_{\bar{N}}(2N + 3926 - B_{\bar{N}}(2N + 3924)) + B_{\bar{N}}(2N + 3926 - B_{\bar{N}}(2N + 3923)) \\
&= B_{\bar{N}}\left(2N + 3926 - \left(\frac{16N}{7} - \frac{787}{7}\right)\right) + B_{\bar{N}}(2N + 3926 - 4472) + B_{\bar{N}}(2N + 3926 - (26N + 6464)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28269}{7}\right) + B_{\bar{N}}(2N - 546) + B_{\bar{N}}(-24N - 2538) = 0 + \left(\frac{15N}{7} - \frac{600}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{600}}{\mathbf{7}} \\
&(N \geq 14135)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3927}) &= B_{\bar{N}}(2N + 3927 - B_{\bar{N}}(2N + 3926)) + B_{\bar{N}}(2N + 3927 - B_{\bar{N}}(2N + 3925)) + B_{\bar{N}}(2N + 3927 - B_{\bar{N}}(2N + 3924)) \\
&= B_{\bar{N}}\left(2N + 3927 - \left(\frac{15N}{7} - \frac{600}{7}\right)\right) + B_{\bar{N}}\left(2N + 3927 - \left(\frac{16N}{7} - \frac{787}{7}\right)\right) + B_{\bar{N}}(2N + 3927 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28089}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28276}{7}\right) + B_{\bar{N}}(2N - 545) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28089})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3928}) &= B_{\bar{N}}(2N + 3928 - B_{\bar{N}}(2N + 3927)) + B_{\bar{N}}(2N + 3928 - B_{\bar{N}}(2N + 3926)) + B_{\bar{N}}(2N + 3928 - B_{\bar{N}}(2N + 3925)) \\
&= B_{\bar{N}}(2N + 3928 - (N - 2)) + B_{\bar{N}}\left(2N + 3928 - \left(\frac{15N}{7} - \frac{600}{7}\right)\right) + B_{\bar{N}}\left(2N + 3928 - \left(\frac{16N}{7} - \frac{787}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3930) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28096}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28283}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28096})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3929}) &= B_{\bar{N}}(2N + 3929 - B_{\bar{N}}(2N + 3928)) + B_{\bar{N}}(2N + 3929 - B_{\bar{N}}(2N + 3927)) + B_{\bar{N}}(2N + 3929 - B_{\bar{N}}(2N + 3926)) \\
&= B_{\bar{N}}(2N + 3929 - 7) + B_{\bar{N}}(2N + 3929 - (N - 2)) + B_{\bar{N}}\left(2N + 3929 - \left(\frac{15N}{7} - \frac{600}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3922) + B_{\bar{N}}(N + 3931) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28103}{7}\right) = (26N + 17162) + (2N + 1167) + 0 = \mathbf{28N} + \mathbf{18329} \\
&(\mathbf{N} \geq \mathbf{28103})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3930}) &= B_{\bar{N}}(2N + 3930 - B_{\bar{N}}(2N + 3929)) + B_{\bar{N}}(2N + 3930 - B_{\bar{N}}(2N + 3928)) + B_{\bar{N}}(2N + 3930 - B_{\bar{N}}(2N + 3927)) \\
&= B_{\bar{N}}(2N + 3930 - (28N + 18329)) + B_{\bar{N}}(2N + 3930 - 7) + B_{\bar{N}}(2N + 3930 - (N - 2)) \\
&= B_{\bar{N}}(-26N - 14399) + B_{\bar{N}}(2N + 3923) + B_{\bar{N}}(N + 3932) = 0 + (26N + 6464) + (2N + 554) = \mathbf{28N} + \mathbf{7018} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3931}) &= B_{\bar{N}}(2N + 3931 - B_{\bar{N}}(2N + 3930)) + B_{\bar{N}}(2N + 3931 - B_{\bar{N}}(2N + 3929)) + B_{\bar{N}}(2N + 3931 - B_{\bar{N}}(2N + 3928)) \\
&= B_{\bar{N}}(2N + 3931 - (28N + 7018)) + B_{\bar{N}}(2N + 3931 - (28N + 18329)) + B_{\bar{N}}(2N + 3931 - 7) \\
&= B_{\bar{N}}(-26N - 3087) + B_{\bar{N}}(-26N - 14398) + B_{\bar{N}}(2N + 3924) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3932}) &= B_{\bar{N}}(2N + 3932 - B_{\bar{N}}(2N + 3931)) + B_{\bar{N}}(2N + 3932 - B_{\bar{N}}(2N + 3930)) + B_{\bar{N}}(2N + 3932 - B_{\bar{N}}(2N + 3929)) \\
&= B_{\bar{N}}(2N + 3932 - 4472) + B_{\bar{N}}(2N + 3932 - (28N + 7018)) + B_{\bar{N}}(2N + 3932 - (28N + 18329)) \\
&= B_{\bar{N}}(2N - 540) + B_{\bar{N}}(-26N - 3086) + B_{\bar{N}}(-26N - 14397) = \left(\frac{16N}{7} - \frac{773}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{773}}{\mathbf{7}} \\
&(N \geq 607)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3933}) &= B_{\bar{N}}(2N + 3933 - B_{\bar{N}}(2N + 3932)) + B_{\bar{N}}(2N + 3933 - B_{\bar{N}}(2N + 3931)) + B_{\bar{N}}(2N + 3933 - B_{\bar{N}}(2N + 3930)) \\
&= B_{\bar{N}}\left(2N + 3933 - \left(\frac{16N}{7} - \frac{773}{7}\right)\right) + B_{\bar{N}}(2N + 3933 - 4472) + B_{\bar{N}}(2N + 3933 - (28N + 7018)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28304}{7}\right) + B_{\bar{N}}(2N - 539) + B_{\bar{N}}(-26N - 3085) = 0 + \left(\frac{15N}{7} - \frac{593}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{593}}{\mathbf{7}} \\
&(N \geq 14152)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3934) &= B_{\bar{N}}(2N + 3934 - B_{\bar{N}}(2N + 3933)) + B_{\bar{N}}(2N + 3934 - B_{\bar{N}}(2N + 3932)) + B_{\bar{N}}(2N + 3934 - B_{\bar{N}}(2N + 3931)) \\
&= B_{\bar{N}}\left(2N + 3934 - \left(\frac{15N}{7} - \frac{593}{7}\right)\right) + B_{\bar{N}}\left(2N + 3934 - \left(\frac{16N}{7} - \frac{773}{7}\right)\right) + B_{\bar{N}}(2N + 3934 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28131}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28311}{7}\right) + B_{\bar{N}}(2N - 538) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28131})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3935) &= B_{\bar{N}}(2N + 3935 - B_{\bar{N}}(2N + 3934)) + B_{\bar{N}}(2N + 3935 - B_{\bar{N}}(2N + 3933)) + B_{\bar{N}}(2N + 3935 - B_{\bar{N}}(2N + 3932)) \\
&= B_{\bar{N}}(2N + 3935 - (N - 2)) + B_{\bar{N}}\left(2N + 3935 - \left(\frac{15N}{7} - \frac{593}{7}\right)\right) + B_{\bar{N}}\left(2N + 3935 - \left(\frac{16N}{7} - \frac{773}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3937) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28138}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28318}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28138})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3936) &= B_{\bar{N}}(2N + 3936 - B_{\bar{N}}(2N + 3935)) + B_{\bar{N}}(2N + 3936 - B_{\bar{N}}(2N + 3934)) + B_{\bar{N}}(2N + 3936 - B_{\bar{N}}(2N + 3933)) \\
&= B_{\bar{N}}(2N + 3936 - 7) + B_{\bar{N}}(2N + 3936 - (N - 2)) + B_{\bar{N}}\left(2N + 3936 - \left(\frac{15N}{7} - \frac{593}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3929) + B_{\bar{N}}(N + 3938) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28145}{7}\right) = (28N + 18329) + (2N + 1169) + 0 = \mathbf{30N} + \mathbf{19498} \\
&(\mathbf{N} \geq \mathbf{28145})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3937) &= B_{\bar{N}}(2N + 3937 - B_{\bar{N}}(2N + 3936)) + B_{\bar{N}}(2N + 3937 - B_{\bar{N}}(2N + 3935)) + B_{\bar{N}}(2N + 3937 - B_{\bar{N}}(2N + 3934)) \\
&= B_{\bar{N}}(2N + 3937 - (30N + 19498)) + B_{\bar{N}}(2N + 3937 - 7) + B_{\bar{N}}(2N + 3937 - (N - 2)) \\
&= B_{\bar{N}}(-28N - 15561) + B_{\bar{N}}(2N + 3930) + B_{\bar{N}}(N + 3939) = 0 + (28N + 7018) + (2N + 555) = \mathbf{30N} + \mathbf{7573} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3938}) &= B_{\bar{N}}(2N + 3938 - B_{\bar{N}}(2N + 3937)) + B_{\bar{N}}(2N + 3938 - B_{\bar{N}}(2N + 3936)) + B_{\bar{N}}(2N + 3938 - B_{\bar{N}}(2N + 3935)) \\
&= B_{\bar{N}}(2N + 3938 - (30N + 7573)) + B_{\bar{N}}(2N + 3938 - (30N + 19498)) + B_{\bar{N}}(2N + 3938 - 7) \\
&= B_{\bar{N}}(-28N - 3635) + B_{\bar{N}}(-28N - 15560) + B_{\bar{N}}(2N + 3931) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3939}) &= B_{\bar{N}}(2N + 3939 - B_{\bar{N}}(2N + 3938)) + B_{\bar{N}}(2N + 3939 - B_{\bar{N}}(2N + 3937)) + B_{\bar{N}}(2N + 3939 - B_{\bar{N}}(2N + 3936)) \\
&= B_{\bar{N}}(2N + 3939 - 4472) + B_{\bar{N}}(2N + 3939 - (30N + 7573)) + B_{\bar{N}}(2N + 3939 - (30N + 19498)) \\
&= B_{\bar{N}}(2N - 533) + B_{\bar{N}}(-28N - 3634) + B_{\bar{N}}(-28N - 15559) = \left(\frac{16N}{7} - \frac{759}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{759}}{\mathbf{7}} \\
&(N \geq 600)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3940}) &= B_{\bar{N}}(2N + 3940 - B_{\bar{N}}(2N + 3939)) + B_{\bar{N}}(2N + 3940 - B_{\bar{N}}(2N + 3938)) + B_{\bar{N}}(2N + 3940 - B_{\bar{N}}(2N + 3937)) \\
&= B_{\bar{N}}\left(2N + 3940 - \left(\frac{16N}{7} - \frac{759}{7}\right)\right) + B_{\bar{N}}(2N + 3940 - 4472) + B_{\bar{N}}(2N + 3940 - (30N + 7573)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28339}{7}\right) + B_{\bar{N}}(2N - 532) + B_{\bar{N}}(-28N - 3633) = 0 + \left(\frac{15N}{7} - \frac{586}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{586}}{\mathbf{7}} \\
&(N \geq 14170)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3941}) &= B_{\bar{N}}(2N + 3941 - B_{\bar{N}}(2N + 3940)) + B_{\bar{N}}(2N + 3941 - B_{\bar{N}}(2N + 3939)) + B_{\bar{N}}(2N + 3941 - B_{\bar{N}}(2N + 3938)) \\
&= B_{\bar{N}}\left(2N + 3941 - \left(\frac{15N}{7} - \frac{586}{7}\right)\right) + B_{\bar{N}}\left(2N + 3941 - \left(\frac{16N}{7} - \frac{759}{7}\right)\right) + B_{\bar{N}}(2N + 3941 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28173}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28346}{7}\right) + B_{\bar{N}}(2N - 531) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28173})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3942) &= B_{\bar{N}}(2N + 3942 - B_{\bar{N}}(2N + 3941)) + B_{\bar{N}}(2N + 3942 - B_{\bar{N}}(2N + 3940)) + B_{\bar{N}}(2N + 3942 - B_{\bar{N}}(2N + 3939)) \\
&= B_{\bar{N}}(2N + 3942 - (N - 2)) + B_{\bar{N}}\left(2N + 3942 - \left(\frac{15N}{7} - \frac{586}{7}\right)\right) + B_{\bar{N}}\left(2N + 3942 - \left(\frac{16N}{7} - \frac{759}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3944) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28180}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28353}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28180})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3943) &= B_{\bar{N}}(2N + 3943 - B_{\bar{N}}(2N + 3942)) + B_{\bar{N}}(2N + 3943 - B_{\bar{N}}(2N + 3941)) + B_{\bar{N}}(2N + 3943 - B_{\bar{N}}(2N + 3940)) \\
&= B_{\bar{N}}(2N + 3943 - 7) + B_{\bar{N}}(2N + 3943 - (N - 2)) + B_{\bar{N}}\left(2N + 3943 - \left(\frac{15N}{7} - \frac{586}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3936) + B_{\bar{N}}(N + 3945) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28187}{7}\right) = (30N + 19498) + (2N + 1171) + 0 = \mathbf{32N} + \mathbf{20669} \\
&(\mathbf{N} \geq \mathbf{28187})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3944) &= B_{\bar{N}}(2N + 3944 - B_{\bar{N}}(2N + 3943)) + B_{\bar{N}}(2N + 3944 - B_{\bar{N}}(2N + 3942)) + B_{\bar{N}}(2N + 3944 - B_{\bar{N}}(2N + 3941)) \\
&= B_{\bar{N}}(2N + 3944 - (32N + 20669)) + B_{\bar{N}}(2N + 3944 - 7) + B_{\bar{N}}(2N + 3944 - (N - 2)) \\
&= B_{\bar{N}}(-30N - 16725) + B_{\bar{N}}(2N + 3937) + B_{\bar{N}}(N + 3946) = 0 + (30N + 7573) + (2N + 556) = \mathbf{32N} + \mathbf{8129} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3945) &= B_{\bar{N}}(2N + 3945 - B_{\bar{N}}(2N + 3944)) + B_{\bar{N}}(2N + 3945 - B_{\bar{N}}(2N + 3943)) + B_{\bar{N}}(2N + 3945 - B_{\bar{N}}(2N + 3942)) \\
&= B_{\bar{N}}(2N + 3945 - (32N + 8129)) + B_{\bar{N}}(2N + 3945 - (32N + 20669)) + B_{\bar{N}}(2N + 3945 - 7) \\
&= B_{\bar{N}}(-30N - 4184) + B_{\bar{N}}(-30N - 16724) + B_{\bar{N}}(2N + 3938) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3946}) &= B_{\bar{N}}(2N + 3946 - B_{\bar{N}}(2N + 3945)) + B_{\bar{N}}(2N + 3946 - B_{\bar{N}}(2N + 3944)) + B_{\bar{N}}(2N + 3946 - B_{\bar{N}}(2N + 3943)) \\
&= B_{\bar{N}}(2N + 3946 - 4472) + B_{\bar{N}}(2N + 3946 - (32N + 8129)) + B_{\bar{N}}(2N + 3946 - (32N + 20669)) \\
&= B_{\bar{N}}(2N - 526) + B_{\bar{N}}(-30N - 4183) + B_{\bar{N}}(-30N - 16723) = \left(\frac{16N}{7} - \frac{745}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{745}}{\mathbf{7}} \\
&(N \geq 593)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3947}) &= B_{\bar{N}}(2N + 3947 - B_{\bar{N}}(2N + 3946)) + B_{\bar{N}}(2N + 3947 - B_{\bar{N}}(2N + 3945)) + B_{\bar{N}}(2N + 3947 - B_{\bar{N}}(2N + 3944)) \\
&= B_{\bar{N}}\left(2N + 3947 - \left(\frac{16N}{7} - \frac{745}{7}\right)\right) + B_{\bar{N}}(2N + 3947 - 4472) + B_{\bar{N}}(2N + 3947 - (32N + 8129)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28374}{7}\right) + B_{\bar{N}}(2N - 525) + B_{\bar{N}}(-30N - 4182) = 0 + \left(\frac{15N}{7} - \frac{579}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{579}}{\mathbf{7}} \\
&(N \geq 14187)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3948}) &= B_{\bar{N}}(2N + 3948 - B_{\bar{N}}(2N + 3947)) + B_{\bar{N}}(2N + 3948 - B_{\bar{N}}(2N + 3946)) + B_{\bar{N}}(2N + 3948 - B_{\bar{N}}(2N + 3945)) \\
&= B_{\bar{N}}\left(2N + 3948 - \left(\frac{15N}{7} - \frac{579}{7}\right)\right) + B_{\bar{N}}\left(2N + 3948 - \left(\frac{16N}{7} - \frac{745}{7}\right)\right) + B_{\bar{N}}(2N + 3948 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28215}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28381}{7}\right) + B_{\bar{N}}(2N - 524) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28215})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3949}) &= B_{\bar{N}}(2N + 3949 - B_{\bar{N}}(2N + 3948)) + B_{\bar{N}}(2N + 3949 - B_{\bar{N}}(2N + 3947)) + B_{\bar{N}}(2N + 3949 - B_{\bar{N}}(2N + 3946)) \\
&= B_{\bar{N}}(2N + 3949 - (N - 2)) + B_{\bar{N}}\left(2N + 3949 - \left(\frac{15N}{7} - \frac{579}{7}\right)\right) + B_{\bar{N}}\left(2N + 3949 - \left(\frac{16N}{7} - \frac{745}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3951) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28222}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28388}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28222})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3950) &= B_{\bar{N}}(2N + 3950 - B_{\bar{N}}(2N + 3949)) + B_{\bar{N}}(2N + 3950 - B_{\bar{N}}(2N + 3948)) + B_{\bar{N}}(2N + 3950 - B_{\bar{N}}(2N + 3947)) \\
&= B_{\bar{N}}(2N + 3950 - 7) + B_{\bar{N}}(2N + 3950 - (N - 2)) + B_{\bar{N}}\left(2N + 3950 - \left(\frac{15N}{7} - \frac{579}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3943) + B_{\bar{N}}(N + 3952) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28229}{7}\right) = (32N + 20669) + (2N + 1173) + 0 = \mathbf{34N} + \mathbf{21842} \\
&(\mathbf{N} \geq \mathbf{28229})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3951) &= B_{\bar{N}}(2N + 3951 - B_{\bar{N}}(2N + 3950)) + B_{\bar{N}}(2N + 3951 - B_{\bar{N}}(2N + 3949)) + B_{\bar{N}}(2N + 3951 - B_{\bar{N}}(2N + 3948)) \\
&= B_{\bar{N}}(2N + 3951 - (34N + 21842)) + B_{\bar{N}}(2N + 3951 - 7) + B_{\bar{N}}(2N + 3951 - (N - 2)) \\
&= B_{\bar{N}}(-32N - 17891) + B_{\bar{N}}(2N + 3944) + B_{\bar{N}}(N + 3953) = 0 + (32N + 8129) + (2N + 557) = \mathbf{34N} + \mathbf{8686} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3952) &= B_{\bar{N}}(2N + 3952 - B_{\bar{N}}(2N + 3951)) + B_{\bar{N}}(2N + 3952 - B_{\bar{N}}(2N + 3950)) + B_{\bar{N}}(2N + 3952 - B_{\bar{N}}(2N + 3949)) \\
&= B_{\bar{N}}(2N + 3952 - (34N + 8686)) + B_{\bar{N}}(2N + 3952 - (34N + 21842)) + B_{\bar{N}}(2N + 3952 - 7) \\
&= B_{\bar{N}}(-32N - 4734) + B_{\bar{N}}(-32N - 17890) + B_{\bar{N}}(2N + 3945) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3953) &= B_{\bar{N}}(2N + 3953 - B_{\bar{N}}(2N + 3952)) + B_{\bar{N}}(2N + 3953 - B_{\bar{N}}(2N + 3951)) + B_{\bar{N}}(2N + 3953 - B_{\bar{N}}(2N + 3950)) \\
&= B_{\bar{N}}(2N + 3953 - 4472) + B_{\bar{N}}(2N + 3953 - (34N + 8686)) + B_{\bar{N}}(2N + 3953 - (34N + 21842)) \\
&= B_{\bar{N}}(2N - 519) + B_{\bar{N}}(-32N - 4733) + B_{\bar{N}}(-32N - 17889) = \left(\frac{16N}{7} - \frac{731}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{731}}{\mathbf{7}} \\
&(N \geq 586)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3954}) &= B_{\bar{N}}(2N + 3954 - B_{\bar{N}}(2N + 3953)) + B_{\bar{N}}(2N + 3954 - B_{\bar{N}}(2N + 3952)) + B_{\bar{N}}(2N + 3954 - B_{\bar{N}}(2N + 3951)) \\
&= B_{\bar{N}}\left(2N + 3954 - \left(\frac{16N}{7} - \frac{731}{7}\right)\right) + B_{\bar{N}}(2N + 3954 - 4472) + B_{\bar{N}}(2N + 3954 - (34N + 8686)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28409}{7}\right) + B_{\bar{N}}(2N - 518) + B_{\bar{N}}(-32N - 4732) = 0 + \left(\frac{15N}{7} - \frac{572}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{572}}{\mathbf{7}} \\
&(N \geq 14205)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3955}) &= B_{\bar{N}}(2N + 3955 - B_{\bar{N}}(2N + 3954)) + B_{\bar{N}}(2N + 3955 - B_{\bar{N}}(2N + 3953)) + B_{\bar{N}}(2N + 3955 - B_{\bar{N}}(2N + 3952)) \\
&= B_{\bar{N}}\left(2N + 3955 - \left(\frac{15N}{7} - \frac{572}{7}\right)\right) + B_{\bar{N}}\left(2N + 3955 - \left(\frac{16N}{7} - \frac{731}{7}\right)\right) + B_{\bar{N}}(2N + 3955 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28257}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28416}{7}\right) + B_{\bar{N}}(2N - 517) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28257})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3956}) &= B_{\bar{N}}(2N + 3956 - B_{\bar{N}}(2N + 3955)) + B_{\bar{N}}(2N + 3956 - B_{\bar{N}}(2N + 3954)) + B_{\bar{N}}(2N + 3956 - B_{\bar{N}}(2N + 3953)) \\
&= B_{\bar{N}}(2N + 3956 - (N - 2)) + B_{\bar{N}}\left(2N + 3956 - \left(\frac{15N}{7} - \frac{572}{7}\right)\right) + B_{\bar{N}}\left(2N + 3956 - \left(\frac{16N}{7} - \frac{731}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3958) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28264}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28423}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28264})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3957}) &= B_{\bar{N}}(2N + 3957 - B_{\bar{N}}(2N + 3956)) + B_{\bar{N}}(2N + 3957 - B_{\bar{N}}(2N + 3955)) + B_{\bar{N}}(2N + 3957 - B_{\bar{N}}(2N + 3954)) \\
&= B_{\bar{N}}(2N + 3957 - 7) + B_{\bar{N}}(2N + 3957 - (N - 2)) + B_{\bar{N}}\left(2N + 3957 - \left(\frac{15N}{7} - \frac{572}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3950) + B_{\bar{N}}(N + 3959) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28271}{7}\right) = (34N + 21842) + (2N + 1175) + 0 = \mathbf{36N} + \mathbf{23017} \\
&(\mathbf{N} \geq \mathbf{28271})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3958) &= B_{\bar{N}}(2N + 3958 - B_{\bar{N}}(2N + 3957)) + B_{\bar{N}}(2N + 3958 - B_{\bar{N}}(2N + 3956)) + B_{\bar{N}}(2N + 3958 - B_{\bar{N}}(2N + 3955)) \\
&= B_{\bar{N}}(2N + 3958 - (36N + 23017)) + B_{\bar{N}}(2N + 3958 - 7) + B_{\bar{N}}(2N + 3958 - (N - 2)) \\
&= B_{\bar{N}}(-34N - 19059) + B_{\bar{N}}(2N + 3951) + B_{\bar{N}}(N + 3960) = 0 + (34N + 8686) + (2N + 558) = \mathbf{36N} + \mathbf{9244} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3959) &= B_{\bar{N}}(2N + 3959 - B_{\bar{N}}(2N + 3958)) + B_{\bar{N}}(2N + 3959 - B_{\bar{N}}(2N + 3957)) + B_{\bar{N}}(2N + 3959 - B_{\bar{N}}(2N + 3956)) \\
&= B_{\bar{N}}(2N + 3959 - (36N + 9244)) + B_{\bar{N}}(2N + 3959 - (36N + 23017)) + B_{\bar{N}}(2N + 3959 - 7) \\
&= B_{\bar{N}}(-34N - 5285) + B_{\bar{N}}(-34N - 19058) + B_{\bar{N}}(2N + 3952) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3960) &= B_{\bar{N}}(2N + 3960 - B_{\bar{N}}(2N + 3959)) + B_{\bar{N}}(2N + 3960 - B_{\bar{N}}(2N + 3958)) + B_{\bar{N}}(2N + 3960 - B_{\bar{N}}(2N + 3957)) \\
&= B_{\bar{N}}(2N + 3960 - 4472) + B_{\bar{N}}(2N + 3960 - (36N + 9244)) + B_{\bar{N}}(2N + 3960 - (36N + 23017)) \\
&= B_{\bar{N}}(2N - 512) + B_{\bar{N}}(-34N - 5284) + B_{\bar{N}}(-34N - 19057) = \left(\frac{16N}{7} - \frac{717}{7} \right) + 0 + 0 = \frac{16\mathbf{N}}{7} - \frac{717}{7} \\
&(N \geq 579)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3961) &= B_{\bar{N}}(2N + 3961 - B_{\bar{N}}(2N + 3960)) + B_{\bar{N}}(2N + 3961 - B_{\bar{N}}(2N + 3959)) + B_{\bar{N}}(2N + 3961 - B_{\bar{N}}(2N + 3958)) \\
&= B_{\bar{N}}\left(2N + 3961 - \left(\frac{16N}{7} - \frac{717}{7}\right)\right) + B_{\bar{N}}(2N + 3961 - 4472) + B_{\bar{N}}(2N + 3961 - (36N + 9244)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28444}{7}\right) + B_{\bar{N}}(2N - 511) + B_{\bar{N}}(-34N - 5283) = 0 + \left(\frac{15N}{7} - \frac{565}{7}\right) + 0 = \frac{15\mathbf{N}}{7} - \frac{565}{7} \\
&(N \geq 14222)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3962) &= B_{\bar{N}}(2N + 3962 - B_{\bar{N}}(2N + 3961)) + B_{\bar{N}}(2N + 3962 - B_{\bar{N}}(2N + 3960)) + B_{\bar{N}}(2N + 3962 - B_{\bar{N}}(2N + 3959)) \\
&= B_{\bar{N}}\left(2N + 3962 - \left(\frac{15N}{7} - \frac{565}{7}\right)\right) + B_{\bar{N}}\left(2N + 3962 - \left(\frac{16N}{7} - \frac{717}{7}\right)\right) + B_{\bar{N}}(2N + 3962 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28299}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28451}{7}\right) + B_{\bar{N}}(2N - 510) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 28299)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3963) &= B_{\bar{N}}(2N + 3963 - B_{\bar{N}}(2N + 3962)) + B_{\bar{N}}(2N + 3963 - B_{\bar{N}}(2N + 3961)) + B_{\bar{N}}(2N + 3963 - B_{\bar{N}}(2N + 3960)) \\
&= B_{\bar{N}}(2N + 3963 - (N - 2)) + B_{\bar{N}}\left(2N + 3963 - \left(\frac{15N}{7} - \frac{565}{7}\right)\right) + B_{\bar{N}}\left(2N + 3963 - \left(\frac{16N}{7} - \frac{717}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3965) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28306}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28458}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 28306)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3964) &= B_{\bar{N}}(2N + 3964 - B_{\bar{N}}(2N + 3963)) + B_{\bar{N}}(2N + 3964 - B_{\bar{N}}(2N + 3962)) + B_{\bar{N}}(2N + 3964 - B_{\bar{N}}(2N + 3961)) \\
&= B_{\bar{N}}(2N + 3964 - 7) + B_{\bar{N}}(2N + 3964 - (N - 2)) + B_{\bar{N}}\left(2N + 3964 - \left(\frac{15N}{7} - \frac{565}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3957) + B_{\bar{N}}(N + 3966) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28313}{7}\right) = (36N + 23017) + (2N + 1177) + 0 = \mathbf{38N} + \mathbf{24194} \\
&(\mathbf{N} \geq 28313)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3965) &= B_{\bar{N}}(2N + 3965 - B_{\bar{N}}(2N + 3964)) + B_{\bar{N}}(2N + 3965 - B_{\bar{N}}(2N + 3963)) + B_{\bar{N}}(2N + 3965 - B_{\bar{N}}(2N + 3962)) \\
&= B_{\bar{N}}(2N + 3965 - (38N + 24194)) + B_{\bar{N}}(2N + 3965 - 7) + B_{\bar{N}}(2N + 3965 - (N - 2)) \\
&= B_{\bar{N}}(-36N - 20229) + B_{\bar{N}}(2N + 3958) + B_{\bar{N}}(N + 3967) = 0 + (36N + 9244) + (2N + 559) = \mathbf{38N} + \mathbf{9803} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3966}) &= B_{\bar{N}}(2N + 3966 - B_{\bar{N}}(2N + 3965)) + B_{\bar{N}}(2N + 3966 - B_{\bar{N}}(2N + 3964)) + B_{\bar{N}}(2N + 3966 - B_{\bar{N}}(2N + 3963)) \\
&= B_{\bar{N}}(2N + 3966 - (38N + 9803)) + B_{\bar{N}}(2N + 3966 - (38N + 24194)) + B_{\bar{N}}(2N + 3966 - 7) \\
&= B_{\bar{N}}(-36N - 5837) + B_{\bar{N}}(-36N - 20228) + B_{\bar{N}}(2N + 3959) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3967}) &= B_{\bar{N}}(2N + 3967 - B_{\bar{N}}(2N + 3966)) + B_{\bar{N}}(2N + 3967 - B_{\bar{N}}(2N + 3965)) + B_{\bar{N}}(2N + 3967 - B_{\bar{N}}(2N + 3964)) \\
&= B_{\bar{N}}(2N + 3967 - 4472) + B_{\bar{N}}(2N + 3967 - (38N + 9803)) + B_{\bar{N}}(2N + 3967 - (38N + 24194)) \\
&= B_{\bar{N}}(2N - 505) + B_{\bar{N}}(-36N - 5836) + B_{\bar{N}}(-36N - 20227) = \left(\frac{16N}{7} - \frac{703}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{703}}{\mathbf{7}} \\
&(N \geq 572)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3968}) &= B_{\bar{N}}(2N + 3968 - B_{\bar{N}}(2N + 3967)) + B_{\bar{N}}(2N + 3968 - B_{\bar{N}}(2N + 3966)) + B_{\bar{N}}(2N + 3968 - B_{\bar{N}}(2N + 3965)) \\
&= B_{\bar{N}}\left(2N + 3968 - \left(\frac{16N}{7} - \frac{703}{7}\right)\right) + B_{\bar{N}}(2N + 3968 - 4472) + B_{\bar{N}}(2N + 3968 - (38N + 9803)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28479}{7}\right) + B_{\bar{N}}(2N - 504) + B_{\bar{N}}(-36N - 5835) = 0 + \left(\frac{15N}{7} - \frac{558}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{558}}{\mathbf{7}} \\
&(N \geq 14240)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3969}) &= B_{\bar{N}}(2N + 3969 - B_{\bar{N}}(2N + 3968)) + B_{\bar{N}}(2N + 3969 - B_{\bar{N}}(2N + 3967)) + B_{\bar{N}}(2N + 3969 - B_{\bar{N}}(2N + 3966)) \\
&= B_{\bar{N}}\left(2N + 3969 - \left(\frac{15N}{7} - \frac{558}{7}\right)\right) + B_{\bar{N}}\left(2N + 3969 - \left(\frac{16N}{7} - \frac{703}{7}\right)\right) + B_{\bar{N}}(2N + 3969 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28341}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28486}{7}\right) + B_{\bar{N}}(2N - 503) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28341})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3970) &= B_{\bar{N}}(2N + 3970 - B_{\bar{N}}(2N + 3969)) + B_{\bar{N}}(2N + 3970 - B_{\bar{N}}(2N + 3968)) + B_{\bar{N}}(2N + 3970 - B_{\bar{N}}(2N + 3967)) \\
&= B_{\bar{N}}(2N + 3970 - (N - 2)) + B_{\bar{N}}\left(2N + 3970 - \left(\frac{15N}{7} - \frac{558}{7}\right)\right) + B_{\bar{N}}\left(2N + 3970 - \left(\frac{16N}{7} - \frac{703}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3972) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28348}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28493}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28348})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3971) &= B_{\bar{N}}(2N + 3971 - B_{\bar{N}}(2N + 3970)) + B_{\bar{N}}(2N + 3971 - B_{\bar{N}}(2N + 3969)) + B_{\bar{N}}(2N + 3971 - B_{\bar{N}}(2N + 3968)) \\
&= B_{\bar{N}}(2N + 3971 - 7) + B_{\bar{N}}(2N + 3971 - (N - 2)) + B_{\bar{N}}\left(2N + 3971 - \left(\frac{15N}{7} - \frac{558}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3964) + B_{\bar{N}}(N + 3973) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28355}{7}\right) = (38N + 24194) + (2N + 1179) + 0 = \mathbf{40N} + \mathbf{25373} \\
&(\mathbf{N} \geq \mathbf{28355})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3972) &= B_{\bar{N}}(2N + 3972 - B_{\bar{N}}(2N + 3971)) + B_{\bar{N}}(2N + 3972 - B_{\bar{N}}(2N + 3970)) + B_{\bar{N}}(2N + 3972 - B_{\bar{N}}(2N + 3969)) \\
&= B_{\bar{N}}(2N + 3972 - (40N + 25373)) + B_{\bar{N}}(2N + 3972 - 7) + B_{\bar{N}}(2N + 3972 - (N - 2)) \\
&= B_{\bar{N}}(-38N - 21401) + B_{\bar{N}}(2N + 3965) + B_{\bar{N}}(N + 3974) = 0 + (38N + 9803) + (2N + 560) = \mathbf{40N} + \mathbf{10363} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3973) &= B_{\bar{N}}(2N + 3973 - B_{\bar{N}}(2N + 3972)) + B_{\bar{N}}(2N + 3973 - B_{\bar{N}}(2N + 3971)) + B_{\bar{N}}(2N + 3973 - B_{\bar{N}}(2N + 3970)) \\
&= B_{\bar{N}}(2N + 3973 - (40N + 10363)) + B_{\bar{N}}(2N + 3973 - (40N + 25373)) + B_{\bar{N}}(2N + 3973 - 7) \\
&= B_{\bar{N}}(-38N - 6390) + B_{\bar{N}}(-38N - 21400) + B_{\bar{N}}(2N + 3966) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3974) &= B_{\bar{N}}(2N + 3974 - B_{\bar{N}}(2N + 3973)) + B_{\bar{N}}(2N + 3974 - B_{\bar{N}}(2N + 3972)) + B_{\bar{N}}(2N + 3974 - B_{\bar{N}}(2N + 3971)) \\
&= B_{\bar{N}}(2N + 3974 - 4472) + B_{\bar{N}}(2N + 3974 - (40N + 10363)) + B_{\bar{N}}(2N + 3974 - (40N + 25373)) \\
&= B_{\bar{N}}(2N - 498) + B_{\bar{N}}(-38N - 6389) + B_{\bar{N}}(-38N - 21399) = \left(\frac{16N}{7} - \frac{689}{7}\right) + 0 + 0 = \frac{16\mathbf{N}}{7} - \frac{689}{7} \\
&(N \geq 565)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3975) &= B_{\bar{N}}(2N + 3975 - B_{\bar{N}}(2N + 3974)) + B_{\bar{N}}(2N + 3975 - B_{\bar{N}}(2N + 3973)) + B_{\bar{N}}(2N + 3975 - B_{\bar{N}}(2N + 3972)) \\
&= B_{\bar{N}}\left(2N + 3975 - \left(\frac{16N}{7} - \frac{689}{7}\right)\right) + B_{\bar{N}}(2N + 3975 - 4472) + B_{\bar{N}}(2N + 3975 - (40N + 10363)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28514}{7}\right) + B_{\bar{N}}(2N - 497) + B_{\bar{N}}(-38N - 6388) = 0 + \left(\frac{15N}{7} - \frac{551}{7}\right) + 0 = \frac{15\mathbf{N}}{7} - \frac{551}{7} \\
&(N \geq 14257)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3976) &= B_{\bar{N}}(2N + 3976 - B_{\bar{N}}(2N + 3975)) + B_{\bar{N}}(2N + 3976 - B_{\bar{N}}(2N + 3974)) + B_{\bar{N}}(2N + 3976 - B_{\bar{N}}(2N + 3973)) \\
&= B_{\bar{N}}\left(2N + 3976 - \left(\frac{15N}{7} - \frac{551}{7}\right)\right) + B_{\bar{N}}\left(2N + 3976 - \left(\frac{16N}{7} - \frac{689}{7}\right)\right) + B_{\bar{N}}(2N + 3976 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28383}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28521}{7}\right) + B_{\bar{N}}(2N - 496) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 28383)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3977) &= B_{\bar{N}}(2N + 3977 - B_{\bar{N}}(2N + 3976)) + B_{\bar{N}}(2N + 3977 - B_{\bar{N}}(2N + 3975)) + B_{\bar{N}}(2N + 3977 - B_{\bar{N}}(2N + 3974)) \\
&= B_{\bar{N}}(2N + 3977 - (N - 2)) + B_{\bar{N}}\left(2N + 3977 - \left(\frac{15N}{7} - \frac{551}{7}\right)\right) + B_{\bar{N}}\left(2N + 3977 - \left(\frac{16N}{7} - \frac{689}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3979) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28390}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28528}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 28390)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3978}) &= B_{\bar{N}}(2N + 3978 - B_{\bar{N}}(2N + 3977)) + B_{\bar{N}}(2N + 3978 - B_{\bar{N}}(2N + 3976)) + B_{\bar{N}}(2N + 3978 - B_{\bar{N}}(2N + 3975)) \\
&= B_{\bar{N}}(2N + 3978 - 7) + B_{\bar{N}}(2N + 3978 - (N - 2)) + B_{\bar{N}}\left(2N + 3978 - \left(\frac{15N}{7} - \frac{551}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3971) + B_{\bar{N}}(N + 3980) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28397}{7}\right) = (40N + 25373) + (2N + 1181) + 0 = \mathbf{42N} + \mathbf{26554} \\
&(\mathbf{N} \geq \mathbf{28397})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3979}) &= B_{\bar{N}}(2N + 3979 - B_{\bar{N}}(2N + 3978)) + B_{\bar{N}}(2N + 3979 - B_{\bar{N}}(2N + 3977)) + B_{\bar{N}}(2N + 3979 - B_{\bar{N}}(2N + 3976)) \\
&= B_{\bar{N}}(2N + 3979 - (42N + 26554)) + B_{\bar{N}}(2N + 3979 - 7) + B_{\bar{N}}(2N + 3979 - (N - 2)) \\
&= B_{\bar{N}}(-40N - 22575) + B_{\bar{N}}(2N + 3972) + B_{\bar{N}}(N + 3981) = 0 + (40N + 10363) + (2N + 561) = \mathbf{42N} + \mathbf{10924} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3980}) &= B_{\bar{N}}(2N + 3980 - B_{\bar{N}}(2N + 3979)) + B_{\bar{N}}(2N + 3980 - B_{\bar{N}}(2N + 3978)) + B_{\bar{N}}(2N + 3980 - B_{\bar{N}}(2N + 3977)) \\
&= B_{\bar{N}}(2N + 3980 - (42N + 10924)) + B_{\bar{N}}(2N + 3980 - (42N + 26554)) + B_{\bar{N}}(2N + 3980 - 7) \\
&= B_{\bar{N}}(-40N - 6944) + B_{\bar{N}}(-40N - 22574) + B_{\bar{N}}(2N + 3973) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3981}) &= B_{\bar{N}}(2N + 3981 - B_{\bar{N}}(2N + 3980)) + B_{\bar{N}}(2N + 3981 - B_{\bar{N}}(2N + 3979)) + B_{\bar{N}}(2N + 3981 - B_{\bar{N}}(2N + 3978)) \\
&= B_{\bar{N}}(2N + 3981 - 4472) + B_{\bar{N}}(2N + 3981 - (42N + 10924)) + B_{\bar{N}}(2N + 3981 - (42N + 26554)) \\
&= B_{\bar{N}}(2N - 491) + B_{\bar{N}}(-40N - 6943) + B_{\bar{N}}(-40N - 22573) = \left(\frac{16N}{7} - \frac{675}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{675}}{\mathbf{7}} \\
&(N \geq 558)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3982}) &= B_{\bar{N}}(2N + 3982 - B_{\bar{N}}(2N + 3981)) + B_{\bar{N}}(2N + 3982 - B_{\bar{N}}(2N + 3980)) + B_{\bar{N}}(2N + 3982 - B_{\bar{N}}(2N + 3979)) \\
&= B_{\bar{N}}\left(2N + 3982 - \left(\frac{16N}{7} - \frac{675}{7}\right)\right) + B_{\bar{N}}(2N + 3982 - 4472) + B_{\bar{N}}(2N + 3982 - (42N + 10924)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28549}{7}\right) + B_{\bar{N}}(2N - 490) + B_{\bar{N}}(-40N - 6942) = 0 + \left(\frac{15N}{7} - \frac{544}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{544}}{\mathbf{7}} \\
&(N \geq 14275)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3983}) &= B_{\bar{N}}(2N + 3983 - B_{\bar{N}}(2N + 3982)) + B_{\bar{N}}(2N + 3983 - B_{\bar{N}}(2N + 3981)) + B_{\bar{N}}(2N + 3983 - B_{\bar{N}}(2N + 3980)) \\
&= B_{\bar{N}}\left(2N + 3983 - \left(\frac{15N}{7} - \frac{544}{7}\right)\right) + B_{\bar{N}}\left(2N + 3983 - \left(\frac{16N}{7} - \frac{675}{7}\right)\right) + B_{\bar{N}}(2N + 3983 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28425}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28556}{7}\right) + B_{\bar{N}}(2N - 489) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28425})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3984}) &= B_{\bar{N}}(2N + 3984 - B_{\bar{N}}(2N + 3983)) + B_{\bar{N}}(2N + 3984 - B_{\bar{N}}(2N + 3982)) + B_{\bar{N}}(2N + 3984 - B_{\bar{N}}(2N + 3981)) \\
&= B_{\bar{N}}(2N + 3984 - (N - 2)) + B_{\bar{N}}\left(2N + 3984 - \left(\frac{15N}{7} - \frac{544}{7}\right)\right) + B_{\bar{N}}\left(2N + 3984 - \left(\frac{16N}{7} - \frac{675}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3986) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28432}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28563}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28432})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3985}) &= B_{\bar{N}}(2N + 3985 - B_{\bar{N}}(2N + 3984)) + B_{\bar{N}}(2N + 3985 - B_{\bar{N}}(2N + 3983)) + B_{\bar{N}}(2N + 3985 - B_{\bar{N}}(2N + 3982)) \\
&= B_{\bar{N}}(2N + 3985 - 7) + B_{\bar{N}}(2N + 3985 - (N - 2)) + B_{\bar{N}}\left(2N + 3985 - \left(\frac{15N}{7} - \frac{544}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3978) + B_{\bar{N}}(N + 3987) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28439}{7}\right) = (42N + 26554) + (2N + 1183) + 0 = \mathbf{44N} + \mathbf{27737} \\
&(\mathbf{N} \geq \mathbf{28439})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3986}) &= B_{\bar{N}}(2N + 3986 - B_{\bar{N}}(2N + 3985)) + B_{\bar{N}}(2N + 3986 - B_{\bar{N}}(2N + 3984)) + B_{\bar{N}}(2N + 3986 - B_{\bar{N}}(2N + 3983)) \\
&= B_{\bar{N}}(2N + 3986 - (44N + 27737)) + B_{\bar{N}}(2N + 3986 - 7) + B_{\bar{N}}(2N + 3986 - (N - 2)) \\
&= B_{\bar{N}}(-42N - 23751) + B_{\bar{N}}(2N + 3979) + B_{\bar{N}}(N + 3988) = 0 + (42N + 10924) + (2N + 562) = \mathbf{44N} + \mathbf{11486} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3987}) &= B_{\bar{N}}(2N + 3987 - B_{\bar{N}}(2N + 3986)) + B_{\bar{N}}(2N + 3987 - B_{\bar{N}}(2N + 3985)) + B_{\bar{N}}(2N + 3987 - B_{\bar{N}}(2N + 3984)) \\
&= B_{\bar{N}}(2N + 3987 - (44N + 11486)) + B_{\bar{N}}(2N + 3987 - (44N + 27737)) + B_{\bar{N}}(2N + 3987 - 7) \\
&= B_{\bar{N}}(-42N - 7499) + B_{\bar{N}}(-42N - 23750) + B_{\bar{N}}(2N + 3980) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3988}) &= B_{\bar{N}}(2N + 3988 - B_{\bar{N}}(2N + 3987)) + B_{\bar{N}}(2N + 3988 - B_{\bar{N}}(2N + 3986)) + B_{\bar{N}}(2N + 3988 - B_{\bar{N}}(2N + 3985)) \\
&= B_{\bar{N}}(2N + 3988 - 4472) + B_{\bar{N}}(2N + 3988 - (44N + 11486)) + B_{\bar{N}}(2N + 3988 - (44N + 27737)) \\
&= B_{\bar{N}}(2N - 484) + B_{\bar{N}}(-42N - 7498) + B_{\bar{N}}(-42N - 23749) = \left(\frac{16N}{7} - \frac{661}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{661}}{\mathbf{7}} \\
&(N \geq 551)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{3989}) &= B_{\bar{N}}(2N + 3989 - B_{\bar{N}}(2N + 3988)) + B_{\bar{N}}(2N + 3989 - B_{\bar{N}}(2N + 3987)) + B_{\bar{N}}(2N + 3989 - B_{\bar{N}}(2N + 3986)) \\
&= B_{\bar{N}}\left(2N + 3989 - \left(\frac{16N}{7} - \frac{661}{7}\right)\right) + B_{\bar{N}}(2N + 3989 - 4472) + B_{\bar{N}}(2N + 3989 - (44N + 11486)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28584}{7}\right) + B_{\bar{N}}(2N - 483) + B_{\bar{N}}(-42N - 7497) = 0 + \left(\frac{15N}{7} - \frac{537}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{537}}{\mathbf{7}} \\
&(N \geq 14292)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3990) &= B_{\bar{N}}(2N + 3990 - B_{\bar{N}}(2N + 3989)) + B_{\bar{N}}(2N + 3990 - B_{\bar{N}}(2N + 3988)) + B_{\bar{N}}(2N + 3990 - B_{\bar{N}}(2N + 3987)) \\
&= B_{\bar{N}}\left(2N + 3990 - \left(\frac{15N}{7} - \frac{537}{7}\right)\right) + B_{\bar{N}}\left(2N + 3990 - \left(\frac{16N}{7} - \frac{661}{7}\right)\right) + B_{\bar{N}}(2N + 3990 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28467}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28591}{7}\right) + B_{\bar{N}}(2N - 482) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 28467)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3991) &= B_{\bar{N}}(2N + 3991 - B_{\bar{N}}(2N + 3990)) + B_{\bar{N}}(2N + 3991 - B_{\bar{N}}(2N + 3989)) + B_{\bar{N}}(2N + 3991 - B_{\bar{N}}(2N + 3988)) \\
&= B_{\bar{N}}(2N + 3991 - (N - 2)) + B_{\bar{N}}\left(2N + 3991 - \left(\frac{15N}{7} - \frac{537}{7}\right)\right) + B_{\bar{N}}\left(2N + 3991 - \left(\frac{16N}{7} - \frac{661}{7}\right)\right) \\
&= B_{\bar{N}}(N + 3993) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28474}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28598}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 28474)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3992) &= B_{\bar{N}}(2N + 3992 - B_{\bar{N}}(2N + 3991)) + B_{\bar{N}}(2N + 3992 - B_{\bar{N}}(2N + 3990)) + B_{\bar{N}}(2N + 3992 - B_{\bar{N}}(2N + 3989)) \\
&= B_{\bar{N}}(2N + 3992 - 7) + B_{\bar{N}}(2N + 3992 - (N - 2)) + B_{\bar{N}}\left(2N + 3992 - \left(\frac{15N}{7} - \frac{537}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3985) + B_{\bar{N}}(N + 3994) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28481}{7}\right) = (44N + 27737) + (2N + 1185) + 0 = 46\mathbf{N} + 28922 \\
&(\mathbf{N} \geq 28481)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3993) &= B_{\bar{N}}(2N + 3993 - B_{\bar{N}}(2N + 3992)) + B_{\bar{N}}(2N + 3993 - B_{\bar{N}}(2N + 3991)) + B_{\bar{N}}(2N + 3993 - B_{\bar{N}}(2N + 3990)) \\
&= B_{\bar{N}}(2N + 3993 - (46N + 28922)) + B_{\bar{N}}(2N + 3993 - 7) + B_{\bar{N}}(2N + 3993 - (N - 2)) \\
&= B_{\bar{N}}(-44N - 24929) + B_{\bar{N}}(2N + 3986) + B_{\bar{N}}(N + 3995) = 0 + (44N + 11486) + (2N + 563) = 46\mathbf{N} + 12049 \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3994}) &= B_{\bar{N}}(2N + 3994 - B_{\bar{N}}(2N + 3993)) + B_{\bar{N}}(2N + 3994 - B_{\bar{N}}(2N + 3992)) + B_{\bar{N}}(2N + 3994 - B_{\bar{N}}(2N + 3991)) \\
&= B_{\bar{N}}(2N + 3994 - (46N + 12049)) + B_{\bar{N}}(2N + 3994 - (46N + 28922)) + B_{\bar{N}}(2N + 3994 - 7) \\
&= B_{\bar{N}}(-44N - 8055) + B_{\bar{N}}(-44N - 24928) + B_{\bar{N}}(2N + 3987) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3995}) &= B_{\bar{N}}(2N + 3995 - B_{\bar{N}}(2N + 3994)) + B_{\bar{N}}(2N + 3995 - B_{\bar{N}}(2N + 3993)) + B_{\bar{N}}(2N + 3995 - B_{\bar{N}}(2N + 3992)) \\
&= B_{\bar{N}}(2N + 3995 - 4472) + B_{\bar{N}}(2N + 3995 - (46N + 12049)) + B_{\bar{N}}(2N + 3995 - (46N + 28922)) \\
&= B_{\bar{N}}(2N - 477) + B_{\bar{N}}(-44N - 8054) + B_{\bar{N}}(-44N - 24927) = \left(\frac{16N}{7} - \frac{647}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{647}}{\mathbf{7}} \\
&(N \geq 544)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3996}) &= B_{\bar{N}}(2N + 3996 - B_{\bar{N}}(2N + 3995)) + B_{\bar{N}}(2N + 3996 - B_{\bar{N}}(2N + 3994)) + B_{\bar{N}}(2N + 3996 - B_{\bar{N}}(2N + 3993)) \\
&= B_{\bar{N}}\left(2N + 3996 - \left(\frac{16N}{7} - \frac{647}{7}\right)\right) + B_{\bar{N}}(2N + 3996 - 4472) + B_{\bar{N}}(2N + 3996 - (46N + 12049)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28619}{7}\right) + B_{\bar{N}}(2N - 476) + B_{\bar{N}}(-44N - 8053) = 0 + \left(\frac{15N}{7} - \frac{530}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{530}}{\mathbf{7}} \\
&(N \geq 14310)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{3997}) &= B_{\bar{N}}(2N + 3997 - B_{\bar{N}}(2N + 3996)) + B_{\bar{N}}(2N + 3997 - B_{\bar{N}}(2N + 3995)) + B_{\bar{N}}(2N + 3997 - B_{\bar{N}}(2N + 3994)) \\
&= B_{\bar{N}}\left(2N + 3997 - \left(\frac{15N}{7} - \frac{530}{7}\right)\right) + B_{\bar{N}}\left(2N + 3997 - \left(\frac{16N}{7} - \frac{647}{7}\right)\right) + B_{\bar{N}}(2N + 3997 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28509}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28626}{7}\right) + B_{\bar{N}}(2N - 475) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28509})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3998) &= B_{\bar{N}}(2N + 3998 - B_{\bar{N}}(2N + 3997)) + B_{\bar{N}}(2N + 3998 - B_{\bar{N}}(2N + 3996)) + B_{\bar{N}}(2N + 3998 - B_{\bar{N}}(2N + 3995)) \\
&= B_{\bar{N}}(2N + 3998 - (N - 2)) + B_{\bar{N}}\left(2N + 3998 - \left(\frac{15N}{7} - \frac{530}{7}\right)\right) + B_{\bar{N}}\left(2N + 3998 - \left(\frac{16N}{7} - \frac{647}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4000) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28516}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28633}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28516})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 3999) &= B_{\bar{N}}(2N + 3999 - B_{\bar{N}}(2N + 3998)) + B_{\bar{N}}(2N + 3999 - B_{\bar{N}}(2N + 3997)) + B_{\bar{N}}(2N + 3999 - B_{\bar{N}}(2N + 3996)) \\
&= B_{\bar{N}}(2N + 3999 - 7) + B_{\bar{N}}(2N + 3999 - (N - 2)) + B_{\bar{N}}\left(2N + 3999 - \left(\frac{15N}{7} - \frac{530}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3992) + B_{\bar{N}}(N + 4001) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28523}{7}\right) = (46N + 28922) + (2N + 1187) + 0 = \mathbf{48N} + \mathbf{30109} \\
&(\mathbf{N} \geq \mathbf{28523})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4000) &= B_{\bar{N}}(2N + 4000 - B_{\bar{N}}(2N + 3999)) + B_{\bar{N}}(2N + 4000 - B_{\bar{N}}(2N + 3998)) + B_{\bar{N}}(2N + 4000 - B_{\bar{N}}(2N + 3997)) \\
&= B_{\bar{N}}(2N + 4000 - (48N + 30109)) + B_{\bar{N}}(2N + 4000 - 7) + B_{\bar{N}}(2N + 4000 - (N - 2)) \\
&= B_{\bar{N}}(-46N - 26109) + B_{\bar{N}}(2N + 3993) + B_{\bar{N}}(N + 4002) = 0 + (46N + 12049) + (2N + 564) = \mathbf{48N} + \mathbf{12613} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4001) &= B_{\bar{N}}(2N + 4001 - B_{\bar{N}}(2N + 4000)) + B_{\bar{N}}(2N + 4001 - B_{\bar{N}}(2N + 3999)) + B_{\bar{N}}(2N + 4001 - B_{\bar{N}}(2N + 3998)) \\
&= B_{\bar{N}}(2N + 4001 - (48N + 12613)) + B_{\bar{N}}(2N + 4001 - (48N + 30109)) + B_{\bar{N}}(2N + 4001 - 7) \\
&= B_{\bar{N}}(-46N - 8612) + B_{\bar{N}}(-46N - 26108) + B_{\bar{N}}(2N + 3994) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4002}) &= B_{\bar{N}}(2N + 4002 - B_{\bar{N}}(2N + 4001)) + B_{\bar{N}}(2N + 4002 - B_{\bar{N}}(2N + 4000)) + B_{\bar{N}}(2N + 4002 - B_{\bar{N}}(2N + 3999)) \\
&= B_{\bar{N}}(2N + 4002 - 4472) + B_{\bar{N}}(2N + 4002 - (48N + 12613)) + B_{\bar{N}}(2N + 4002 - (48N + 30109)) \\
&= B_{\bar{N}}(2N - 470) + B_{\bar{N}}(-46N - 8611) + B_{\bar{N}}(-46N - 26107) = \left(\frac{16N}{7} - \frac{633}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{633}}{\mathbf{7}} \\
&(N \geq 537)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4003}) &= B_{\bar{N}}(2N + 4003 - B_{\bar{N}}(2N + 4002)) + B_{\bar{N}}(2N + 4003 - B_{\bar{N}}(2N + 4001)) + B_{\bar{N}}(2N + 4003 - B_{\bar{N}}(2N + 4000)) \\
&= B_{\bar{N}}\left(2N + 4003 - \left(\frac{16N}{7} - \frac{633}{7}\right)\right) + B_{\bar{N}}(2N + 4003 - 4472) + B_{\bar{N}}(2N + 4003 - (48N + 12613)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28654}{7}\right) + B_{\bar{N}}(2N - 469) + B_{\bar{N}}(-46N - 8610) = 0 + \left(\frac{15N}{7} - \frac{523}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{523}}{\mathbf{7}} \\
&(N \geq 14327)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4004}) &= B_{\bar{N}}(2N + 4004 - B_{\bar{N}}(2N + 4003)) + B_{\bar{N}}(2N + 4004 - B_{\bar{N}}(2N + 4002)) + B_{\bar{N}}(2N + 4004 - B_{\bar{N}}(2N + 4001)) \\
&= B_{\bar{N}}\left(2N + 4004 - \left(\frac{15N}{7} - \frac{523}{7}\right)\right) + B_{\bar{N}}\left(2N + 4004 - \left(\frac{16N}{7} - \frac{633}{7}\right)\right) + B_{\bar{N}}(2N + 4004 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28551}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28661}{7}\right) + B_{\bar{N}}(2N - 468) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28551})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4005}) &= B_{\bar{N}}(2N + 4005 - B_{\bar{N}}(2N + 4004)) + B_{\bar{N}}(2N + 4005 - B_{\bar{N}}(2N + 4003)) + B_{\bar{N}}(2N + 4005 - B_{\bar{N}}(2N + 4002)) \\
&= B_{\bar{N}}(2N + 4005 - (N - 2)) + B_{\bar{N}}\left(2N + 4005 - \left(\frac{15N}{7} - \frac{523}{7}\right)\right) + B_{\bar{N}}\left(2N + 4005 - \left(\frac{16N}{7} - \frac{633}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4007) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28558}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28668}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28558})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4006) &= B_{\bar{N}}(2N + 4006 - B_{\bar{N}}(2N + 4005)) + B_{\bar{N}}(2N + 4006 - B_{\bar{N}}(2N + 4004)) + B_{\bar{N}}(2N + 4006 - B_{\bar{N}}(2N + 4003)) \\
&= B_{\bar{N}}(2N + 4006 - 7) + B_{\bar{N}}(2N + 4006 - (N - 2)) + B_{\bar{N}}\left(2N + 4006 - \left(\frac{15N}{7} - \frac{523}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 3999) + B_{\bar{N}}(N + 4008) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28565}{7}\right) = (48N + 30109) + (2N + 1189) + 0 = \mathbf{50N} + \mathbf{31298} \\
&(\mathbf{N} \geq \mathbf{28565})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4007) &= B_{\bar{N}}(2N + 4007 - B_{\bar{N}}(2N + 4006)) + B_{\bar{N}}(2N + 4007 - B_{\bar{N}}(2N + 4005)) + B_{\bar{N}}(2N + 4007 - B_{\bar{N}}(2N + 4004)) \\
&= B_{\bar{N}}(2N + 4007 - (50N + 31298)) + B_{\bar{N}}(2N + 4007 - 7) + B_{\bar{N}}(2N + 4007 - (N - 2)) \\
&= B_{\bar{N}}(-48N - 27291) + B_{\bar{N}}(2N + 4000) + B_{\bar{N}}(N + 4009) = 0 + (48N + 12613) + (2N + 565) = \mathbf{50N} + \mathbf{13178} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4008) &= B_{\bar{N}}(2N + 4008 - B_{\bar{N}}(2N + 4007)) + B_{\bar{N}}(2N + 4008 - B_{\bar{N}}(2N + 4006)) + B_{\bar{N}}(2N + 4008 - B_{\bar{N}}(2N + 4005)) \\
&= B_{\bar{N}}(2N + 4008 - (50N + 13178)) + B_{\bar{N}}(2N + 4008 - (50N + 31298)) + B_{\bar{N}}(2N + 4008 - 7) \\
&= B_{\bar{N}}(-48N - 9170) + B_{\bar{N}}(-48N - 27290) + B_{\bar{N}}(2N + 4001) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4009) &= B_{\bar{N}}(2N + 4009 - B_{\bar{N}}(2N + 4008)) + B_{\bar{N}}(2N + 4009 - B_{\bar{N}}(2N + 4007)) + B_{\bar{N}}(2N + 4009 - B_{\bar{N}}(2N + 4006)) \\
&= B_{\bar{N}}(2N + 4009 - 4472) + B_{\bar{N}}(2N + 4009 - (50N + 13178)) + B_{\bar{N}}(2N + 4009 - (50N + 31298)) \\
&= B_{\bar{N}}(2N - 463) + B_{\bar{N}}(-48N - 9169) + B_{\bar{N}}(-48N - 27289) = \left(\frac{16N}{7} - \frac{619}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{619}}{\mathbf{7}} \\
&(N \geq 530)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4010}) &= B_{\bar{N}}(2N + 4010 - B_{\bar{N}}(2N + 4009)) + B_{\bar{N}}(2N + 4010 - B_{\bar{N}}(2N + 4008)) + B_{\bar{N}}(2N + 4010 - B_{\bar{N}}(2N + 4007)) \\
&= B_{\bar{N}}\left(2N + 4010 - \left(\frac{16N}{7} - \frac{619}{7}\right)\right) + B_{\bar{N}}(2N + 4010 - 4472) + B_{\bar{N}}(2N + 4010 - (50N + 13178)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28689}{7}\right) + B_{\bar{N}}(2N - 462) + B_{\bar{N}}(-48N - 9168) = 0 + \left(\frac{15N}{7} - \frac{516}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{516}}{\mathbf{7}} \\
&(N \geq 14345)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4011}) &= B_{\bar{N}}(2N + 4011 - B_{\bar{N}}(2N + 4010)) + B_{\bar{N}}(2N + 4011 - B_{\bar{N}}(2N + 4009)) + B_{\bar{N}}(2N + 4011 - B_{\bar{N}}(2N + 4008)) \\
&= B_{\bar{N}}\left(2N + 4011 - \left(\frac{15N}{7} - \frac{516}{7}\right)\right) + B_{\bar{N}}\left(2N + 4011 - \left(\frac{16N}{7} - \frac{619}{7}\right)\right) + B_{\bar{N}}(2N + 4011 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28593}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28696}{7}\right) + B_{\bar{N}}(2N - 461) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28593})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4012}) &= B_{\bar{N}}(2N + 4012 - B_{\bar{N}}(2N + 4011)) + B_{\bar{N}}(2N + 4012 - B_{\bar{N}}(2N + 4010)) + B_{\bar{N}}(2N + 4012 - B_{\bar{N}}(2N + 4009)) \\
&= B_{\bar{N}}(2N + 4012 - (N - 2)) + B_{\bar{N}}\left(2N + 4012 - \left(\frac{15N}{7} - \frac{516}{7}\right)\right) + B_{\bar{N}}\left(2N + 4012 - \left(\frac{16N}{7} - \frac{619}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4014) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28600}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28703}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28600})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4013}) &= B_{\bar{N}}(2N + 4013 - B_{\bar{N}}(2N + 4012)) + B_{\bar{N}}(2N + 4013 - B_{\bar{N}}(2N + 4011)) + B_{\bar{N}}(2N + 4013 - B_{\bar{N}}(2N + 4010)) \\
&= B_{\bar{N}}(2N + 4013 - 7) + B_{\bar{N}}(2N + 4013 - (N - 2)) + B_{\bar{N}}\left(2N + 4013 - \left(\frac{15N}{7} - \frac{516}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4006) + B_{\bar{N}}(N + 4015) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28607}{7}\right) = (50N + 31298) + (2N + 1191) + 0 = \mathbf{52N} + \mathbf{32489} \\
&(\mathbf{N} \geq \mathbf{28607})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4014}) &= B_{\bar{N}}(2N + 4014 - B_{\bar{N}}(2N + 4013)) + B_{\bar{N}}(2N + 4014 - B_{\bar{N}}(2N + 4012)) + B_{\bar{N}}(2N + 4014 - B_{\bar{N}}(2N + 4011)) \\
&= B_{\bar{N}}(2N + 4014 - (52N + 32489)) + B_{\bar{N}}(2N + 4014 - 7) + B_{\bar{N}}(2N + 4014 - (N - 2)) \\
&= B_{\bar{N}}(-50N - 28475) + B_{\bar{N}}(2N + 4007) + B_{\bar{N}}(N + 4016) = 0 + (50N + 13178) + (2N + 566) = \mathbf{52N} + \mathbf{13744} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4015}) &= B_{\bar{N}}(2N + 4015 - B_{\bar{N}}(2N + 4014)) + B_{\bar{N}}(2N + 4015 - B_{\bar{N}}(2N + 4013)) + B_{\bar{N}}(2N + 4015 - B_{\bar{N}}(2N + 4012)) \\
&= B_{\bar{N}}(2N + 4015 - (52N + 13744)) + B_{\bar{N}}(2N + 4015 - (52N + 32489)) + B_{\bar{N}}(2N + 4015 - 7) \\
&= B_{\bar{N}}(-50N - 9729) + B_{\bar{N}}(-50N - 28474) + B_{\bar{N}}(2N + 4008) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4016}) &= B_{\bar{N}}(2N + 4016 - B_{\bar{N}}(2N + 4015)) + B_{\bar{N}}(2N + 4016 - B_{\bar{N}}(2N + 4014)) + B_{\bar{N}}(2N + 4016 - B_{\bar{N}}(2N + 4013)) \\
&= B_{\bar{N}}(2N + 4016 - 4472) + B_{\bar{N}}(2N + 4016 - (52N + 13744)) + B_{\bar{N}}(2N + 4016 - (52N + 32489)) \\
&= B_{\bar{N}}(2N - 456) + B_{\bar{N}}(-50N - 9728) + B_{\bar{N}}(-50N - 28473) = \left(\frac{16N}{7} - \frac{605}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{605}}{\mathbf{7}} \\
&(N \geq 523)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4017}) &= B_{\bar{N}}(2N + 4017 - B_{\bar{N}}(2N + 4016)) + B_{\bar{N}}(2N + 4017 - B_{\bar{N}}(2N + 4015)) + B_{\bar{N}}(2N + 4017 - B_{\bar{N}}(2N + 4014)) \\
&= B_{\bar{N}}\left(2N + 4017 - \left(\frac{16N}{7} - \frac{605}{7}\right)\right) + B_{\bar{N}}(2N + 4017 - 4472) + B_{\bar{N}}(2N + 4017 - (52N + 13744)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28724}{7}\right) + B_{\bar{N}}(2N - 455) + B_{\bar{N}}(-50N - 9727) = 0 + \left(\frac{15N}{7} - \frac{509}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{509}}{\mathbf{7}} \\
&(N \geq 14362)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4018) &= B_{\bar{N}}(2N + 4018 - B_{\bar{N}}(2N + 4017)) + B_{\bar{N}}(2N + 4018 - B_{\bar{N}}(2N + 4016)) + B_{\bar{N}}(2N + 4018 - B_{\bar{N}}(2N + 4015)) \\
&= B_{\bar{N}}\left(2N + 4018 - \left(\frac{15N}{7} - \frac{509}{7}\right)\right) + B_{\bar{N}}\left(2N + 4018 - \left(\frac{16N}{7} - \frac{605}{7}\right)\right) + B_{\bar{N}}(2N + 4018 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28635}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28731}{7}\right) + B_{\bar{N}}(2N - 454) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq \mathbf{28635})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4019) &= B_{\bar{N}}(2N + 4019 - B_{\bar{N}}(2N + 4018)) + B_{\bar{N}}(2N + 4019 - B_{\bar{N}}(2N + 4017)) + B_{\bar{N}}(2N + 4019 - B_{\bar{N}}(2N + 4016)) \\
&= B_{\bar{N}}(2N + 4019 - (N - 2)) + B_{\bar{N}}\left(2N + 4019 - \left(\frac{15N}{7} - \frac{509}{7}\right)\right) + B_{\bar{N}}\left(2N + 4019 - \left(\frac{16N}{7} - \frac{605}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4021) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28642}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28738}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28642})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4020) &= B_{\bar{N}}(2N + 4020 - B_{\bar{N}}(2N + 4019)) + B_{\bar{N}}(2N + 4020 - B_{\bar{N}}(2N + 4018)) + B_{\bar{N}}(2N + 4020 - B_{\bar{N}}(2N + 4017)) \\
&= B_{\bar{N}}(2N + 4020 - 7) + B_{\bar{N}}(2N + 4020 - (N - 2)) + B_{\bar{N}}\left(2N + 4020 - \left(\frac{15N}{7} - \frac{509}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4013) + B_{\bar{N}}(N + 4022) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28649}{7}\right) = (52N + 32489) + (2N + 1193) + 0 = \mathbf{54N} + \mathbf{33682} \\
&(\mathbf{N} \geq \mathbf{28649})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4021) &= B_{\bar{N}}(2N + 4021 - B_{\bar{N}}(2N + 4020)) + B_{\bar{N}}(2N + 4021 - B_{\bar{N}}(2N + 4019)) + B_{\bar{N}}(2N + 4021 - B_{\bar{N}}(2N + 4018)) \\
&= B_{\bar{N}}(2N + 4021 - (54N + 33682)) + B_{\bar{N}}(2N + 4021 - 7) + B_{\bar{N}}(2N + 4021 - (N - 2)) \\
&= B_{\bar{N}}(-52N - 29661) + B_{\bar{N}}(2N + 4014) + B_{\bar{N}}(N + 4023) = 0 + (52N + 13744) + (2N + 567) = \mathbf{54N} + \mathbf{14311} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4022}) &= B_{\bar{N}}(2N + 4022 - B_{\bar{N}}(2N + 4021)) + B_{\bar{N}}(2N + 4022 - B_{\bar{N}}(2N + 4020)) + B_{\bar{N}}(2N + 4022 - B_{\bar{N}}(2N + 4019)) \\
&= B_{\bar{N}}(2N + 4022 - (54N + 14311)) + B_{\bar{N}}(2N + 4022 - (54N + 33682)) + B_{\bar{N}}(2N + 4022 - 7) \\
&= B_{\bar{N}}(-52N - 10289) + B_{\bar{N}}(-52N - 29660) + B_{\bar{N}}(2N + 4015) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4023}) &= B_{\bar{N}}(2N + 4023 - B_{\bar{N}}(2N + 4022)) + B_{\bar{N}}(2N + 4023 - B_{\bar{N}}(2N + 4021)) + B_{\bar{N}}(2N + 4023 - B_{\bar{N}}(2N + 4020)) \\
&= B_{\bar{N}}(2N + 4023 - 4472) + B_{\bar{N}}(2N + 4023 - (54N + 14311)) + B_{\bar{N}}(2N + 4023 - (54N + 33682)) \\
&= B_{\bar{N}}(2N - 449) + B_{\bar{N}}(-52N - 10288) + B_{\bar{N}}(-52N - 29659) = \left(\frac{16N}{7} - \frac{591}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{591}}{\mathbf{7}} \\
&(N \geq 516)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4024}) &= B_{\bar{N}}(2N + 4024 - B_{\bar{N}}(2N + 4023)) + B_{\bar{N}}(2N + 4024 - B_{\bar{N}}(2N + 4022)) + B_{\bar{N}}(2N + 4024 - B_{\bar{N}}(2N + 4021)) \\
&= B_{\bar{N}}\left(2N + 4024 - \left(\frac{16N}{7} - \frac{591}{7}\right)\right) + B_{\bar{N}}(2N + 4024 - 4472) + B_{\bar{N}}(2N + 4024 - (54N + 14311)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28759}{7}\right) + B_{\bar{N}}(2N - 448) + B_{\bar{N}}(-52N - 10287) = 0 + \left(\frac{15N}{7} - \frac{502}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{502}}{\mathbf{7}} \\
&(N \geq 14380)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4025}) &= B_{\bar{N}}(2N + 4025 - B_{\bar{N}}(2N + 4024)) + B_{\bar{N}}(2N + 4025 - B_{\bar{N}}(2N + 4023)) + B_{\bar{N}}(2N + 4025 - B_{\bar{N}}(2N + 4022)) \\
&= B_{\bar{N}}\left(2N + 4025 - \left(\frac{15N}{7} - \frac{502}{7}\right)\right) + B_{\bar{N}}\left(2N + 4025 - \left(\frac{16N}{7} - \frac{591}{7}\right)\right) + B_{\bar{N}}(2N + 4025 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28677}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28766}{7}\right) + B_{\bar{N}}(2N - 447) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28677})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4026) &= B_{\bar{N}}(2N + 4026 - B_{\bar{N}}(2N + 4025)) + B_{\bar{N}}(2N + 4026 - B_{\bar{N}}(2N + 4024)) + B_{\bar{N}}(2N + 4026 - B_{\bar{N}}(2N + 4023)) \\
&= B_{\bar{N}}(2N + 4026 - (N - 2)) + B_{\bar{N}}\left(2N + 4026 - \left(\frac{15N}{7} - \frac{502}{7}\right)\right) + B_{\bar{N}}\left(2N + 4026 - \left(\frac{16N}{7} - \frac{591}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4028) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28684}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28773}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28684})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4027) &= B_{\bar{N}}(2N + 4027 - B_{\bar{N}}(2N + 4026)) + B_{\bar{N}}(2N + 4027 - B_{\bar{N}}(2N + 4025)) + B_{\bar{N}}(2N + 4027 - B_{\bar{N}}(2N + 4024)) \\
&= B_{\bar{N}}(2N + 4027 - 7) + B_{\bar{N}}(2N + 4027 - (N - 2)) + B_{\bar{N}}\left(2N + 4027 - \left(\frac{15N}{7} - \frac{502}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4020) + B_{\bar{N}}(N + 4029) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28691}{7}\right) = (54N + 33682) + (2N + 1195) + 0 = \mathbf{56N} + \mathbf{34877} \\
&(\mathbf{N} \geq \mathbf{28691})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4028) &= B_{\bar{N}}(2N + 4028 - B_{\bar{N}}(2N + 4027)) + B_{\bar{N}}(2N + 4028 - B_{\bar{N}}(2N + 4026)) + B_{\bar{N}}(2N + 4028 - B_{\bar{N}}(2N + 4025)) \\
&= B_{\bar{N}}(2N + 4028 - (56N + 34877)) + B_{\bar{N}}(2N + 4028 - 7) + B_{\bar{N}}(2N + 4028 - (N - 2)) \\
&= B_{\bar{N}}(-54N - 30849) + B_{\bar{N}}(2N + 4021) + B_{\bar{N}}(N + 4030) = 0 + (54N + 14311) + (2N + 568) = \mathbf{56N} + \mathbf{14879} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4029) &= B_{\bar{N}}(2N + 4029 - B_{\bar{N}}(2N + 4028)) + B_{\bar{N}}(2N + 4029 - B_{\bar{N}}(2N + 4027)) + B_{\bar{N}}(2N + 4029 - B_{\bar{N}}(2N + 4026)) \\
&= B_{\bar{N}}(2N + 4029 - (56N + 14879)) + B_{\bar{N}}(2N + 4029 - (56N + 34877)) + B_{\bar{N}}(2N + 4029 - 7) \\
&= B_{\bar{N}}(-54N - 10850) + B_{\bar{N}}(-54N - 30848) + B_{\bar{N}}(2N + 4022) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4030}) &= B_{\bar{N}}(2N + 4030 - B_{\bar{N}}(2N + 4029)) + B_{\bar{N}}(2N + 4030 - B_{\bar{N}}(2N + 4028)) + B_{\bar{N}}(2N + 4030 - B_{\bar{N}}(2N + 4027)) \\
&= B_{\bar{N}}(2N + 4030 - 4472) + B_{\bar{N}}(2N + 4030 - (56N + 14879)) + B_{\bar{N}}(2N + 4030 - (56N + 34877)) \\
&= B_{\bar{N}}(2N - 442) + B_{\bar{N}}(-54N - 10849) + B_{\bar{N}}(-54N - 30847) = \left(\frac{16N}{7} - \frac{577}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{577}}{\mathbf{7}} \\
&(N \geq 509)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4031}) &= B_{\bar{N}}(2N + 4031 - B_{\bar{N}}(2N + 4030)) + B_{\bar{N}}(2N + 4031 - B_{\bar{N}}(2N + 4029)) + B_{\bar{N}}(2N + 4031 - B_{\bar{N}}(2N + 4028)) \\
&= B_{\bar{N}}\left(2N + 4031 - \left(\frac{16N}{7} - \frac{577}{7}\right)\right) + B_{\bar{N}}(2N + 4031 - 4472) + B_{\bar{N}}(2N + 4031 - (56N + 14879)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28794}{7}\right) + B_{\bar{N}}(2N - 441) + B_{\bar{N}}(-54N - 10848) = 0 + \left(\frac{15N}{7} - \frac{495}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{495}}{\mathbf{7}} \\
&(N \geq 14397)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4032}) &= B_{\bar{N}}(2N + 4032 - B_{\bar{N}}(2N + 4031)) + B_{\bar{N}}(2N + 4032 - B_{\bar{N}}(2N + 4030)) + B_{\bar{N}}(2N + 4032 - B_{\bar{N}}(2N + 4029)) \\
&= B_{\bar{N}}\left(2N + 4032 - \left(\frac{15N}{7} - \frac{495}{7}\right)\right) + B_{\bar{N}}\left(2N + 4032 - \left(\frac{16N}{7} - \frac{577}{7}\right)\right) + B_{\bar{N}}(2N + 4032 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28719}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28801}{7}\right) + B_{\bar{N}}(2N - 440) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28719})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4033}) &= B_{\bar{N}}(2N + 4033 - B_{\bar{N}}(2N + 4032)) + B_{\bar{N}}(2N + 4033 - B_{\bar{N}}(2N + 4031)) + B_{\bar{N}}(2N + 4033 - B_{\bar{N}}(2N + 4030)) \\
&= B_{\bar{N}}(2N + 4033 - (N - 2)) + B_{\bar{N}}\left(2N + 4033 - \left(\frac{15N}{7} - \frac{495}{7}\right)\right) + B_{\bar{N}}\left(2N + 4033 - \left(\frac{16N}{7} - \frac{577}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4035) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28726}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28808}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28726})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4034}) &= B_{\bar{N}}(2N + 4034 - B_{\bar{N}}(2N + 4033)) + B_{\bar{N}}(2N + 4034 - B_{\bar{N}}(2N + 4032)) + B_{\bar{N}}(2N + 4034 - B_{\bar{N}}(2N + 4031)) \\
&= B_{\bar{N}}(2N + 4034 - 7) + B_{\bar{N}}(2N + 4034 - (N - 2)) + B_{\bar{N}}\left(2N + 4034 - \left(\frac{15N}{7} - \frac{495}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4027) + B_{\bar{N}}(N + 4036) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28733}{7}\right) = (56N + 34877) + (2N + 1197) + 0 = \mathbf{58N} + \mathbf{36074} \\
&(\mathbf{N} \geq \mathbf{28733})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4035}) &= B_{\bar{N}}(2N + 4035 - B_{\bar{N}}(2N + 4034)) + B_{\bar{N}}(2N + 4035 - B_{\bar{N}}(2N + 4033)) + B_{\bar{N}}(2N + 4035 - B_{\bar{N}}(2N + 4032)) \\
&= B_{\bar{N}}(2N + 4035 - (58N + 36074)) + B_{\bar{N}}(2N + 4035 - 7) + B_{\bar{N}}(2N + 4035 - (N - 2)) \\
&= B_{\bar{N}}(-56N - 32039) + B_{\bar{N}}(2N + 4028) + B_{\bar{N}}(N + 4037) = 0 + (56N + 14879) + (2N + 569) = \mathbf{58N} + \mathbf{15448} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4036}) &= B_{\bar{N}}(2N + 4036 - B_{\bar{N}}(2N + 4035)) + B_{\bar{N}}(2N + 4036 - B_{\bar{N}}(2N + 4034)) + B_{\bar{N}}(2N + 4036 - B_{\bar{N}}(2N + 4033)) \\
&= B_{\bar{N}}(2N + 4036 - (58N + 15448)) + B_{\bar{N}}(2N + 4036 - (58N + 36074)) + B_{\bar{N}}(2N + 4036 - 7) \\
&= B_{\bar{N}}(-56N - 11412) + B_{\bar{N}}(-56N - 32038) + B_{\bar{N}}(2N + 4029) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4037}) &= B_{\bar{N}}(2N + 4037 - B_{\bar{N}}(2N + 4036)) + B_{\bar{N}}(2N + 4037 - B_{\bar{N}}(2N + 4035)) + B_{\bar{N}}(2N + 4037 - B_{\bar{N}}(2N + 4034)) \\
&= B_{\bar{N}}(2N + 4037 - 4472) + B_{\bar{N}}(2N + 4037 - (58N + 15448)) + B_{\bar{N}}(2N + 4037 - (58N + 36074)) \\
&= B_{\bar{N}}(2N - 435) + B_{\bar{N}}(-56N - 11411) + B_{\bar{N}}(-56N - 32037) = \left(\frac{16N}{7} - \frac{563}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{563}}{\mathbf{7}} \\
&(N \geq 502)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4038}) &= B_{\bar{N}}(2N + 4038 - B_{\bar{N}}(2N + 4037)) + B_{\bar{N}}(2N + 4038 - B_{\bar{N}}(2N + 4036)) + B_{\bar{N}}(2N + 4038 - B_{\bar{N}}(2N + 4035)) \\
&= B_{\bar{N}}\left(2N + 4038 - \left(\frac{16N}{7} - \frac{563}{7}\right)\right) + B_{\bar{N}}(2N + 4038 - 4472) + B_{\bar{N}}(2N + 4038 - (58N + 15448)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28829}{7}\right) + B_{\bar{N}}(2N - 434) + B_{\bar{N}}(-56N - 11410) = 0 + \left(\frac{15N}{7} - \frac{488}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{488}}{\mathbf{7}} \\
&(N \geq 14415)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4039}) &= B_{\bar{N}}(2N + 4039 - B_{\bar{N}}(2N + 4038)) + B_{\bar{N}}(2N + 4039 - B_{\bar{N}}(2N + 4037)) + B_{\bar{N}}(2N + 4039 - B_{\bar{N}}(2N + 4036)) \\
&= B_{\bar{N}}\left(2N + 4039 - \left(\frac{15N}{7} - \frac{488}{7}\right)\right) + B_{\bar{N}}\left(2N + 4039 - \left(\frac{16N}{7} - \frac{563}{7}\right)\right) + B_{\bar{N}}(2N + 4039 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28761}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28836}{7}\right) + B_{\bar{N}}(2N - 433) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28761})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4040}) &= B_{\bar{N}}(2N + 4040 - B_{\bar{N}}(2N + 4039)) + B_{\bar{N}}(2N + 4040 - B_{\bar{N}}(2N + 4038)) + B_{\bar{N}}(2N + 4040 - B_{\bar{N}}(2N + 4037)) \\
&= B_{\bar{N}}(2N + 4040 - (N - 2)) + B_{\bar{N}}\left(2N + 4040 - \left(\frac{15N}{7} - \frac{488}{7}\right)\right) + B_{\bar{N}}\left(2N + 4040 - \left(\frac{16N}{7} - \frac{563}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4042) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28768}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28843}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28768})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4041}) &= B_{\bar{N}}(2N + 4041 - B_{\bar{N}}(2N + 4040)) + B_{\bar{N}}(2N + 4041 - B_{\bar{N}}(2N + 4039)) + B_{\bar{N}}(2N + 4041 - B_{\bar{N}}(2N + 4038)) \\
&= B_{\bar{N}}(2N + 4041 - 7) + B_{\bar{N}}(2N + 4041 - (N - 2)) + B_{\bar{N}}\left(2N + 4041 - \left(\frac{15N}{7} - \frac{488}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4034) + B_{\bar{N}}(N + 4043) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28775}{7}\right) = (58N + 36074) + (2N + 1199) + 0 = \mathbf{60N} + \mathbf{37273} \\
&(\mathbf{N} \geq \mathbf{28775})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4042}) &= B_{\bar{N}}(2N + 4042 - B_{\bar{N}}(2N + 4041)) + B_{\bar{N}}(2N + 4042 - B_{\bar{N}}(2N + 4040)) + B_{\bar{N}}(2N + 4042 - B_{\bar{N}}(2N + 4039)) \\
&= B_{\bar{N}}(2N + 4042 - (60N + 37273)) + B_{\bar{N}}(2N + 4042 - 7) + B_{\bar{N}}(2N + 4042 - (N - 2)) \\
&= B_{\bar{N}}(-58N - 33231) + B_{\bar{N}}(2N + 4035) + B_{\bar{N}}(N + 4044) = 0 + (58N + 15448) + (2N + 570) = \mathbf{60N} + \mathbf{16018} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4043}) &= B_{\bar{N}}(2N + 4043 - B_{\bar{N}}(2N + 4042)) + B_{\bar{N}}(2N + 4043 - B_{\bar{N}}(2N + 4041)) + B_{\bar{N}}(2N + 4043 - B_{\bar{N}}(2N + 4040)) \\
&= B_{\bar{N}}(2N + 4043 - (60N + 16018)) + B_{\bar{N}}(2N + 4043 - (60N + 37273)) + B_{\bar{N}}(2N + 4043 - 7) \\
&= B_{\bar{N}}(-58N - 11975) + B_{\bar{N}}(-58N - 33230) + B_{\bar{N}}(2N + 4036) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4044}) &= B_{\bar{N}}(2N + 4044 - B_{\bar{N}}(2N + 4043)) + B_{\bar{N}}(2N + 4044 - B_{\bar{N}}(2N + 4042)) + B_{\bar{N}}(2N + 4044 - B_{\bar{N}}(2N + 4041)) \\
&= B_{\bar{N}}(2N + 4044 - 4472) + B_{\bar{N}}(2N + 4044 - (60N + 16018)) + B_{\bar{N}}(2N + 4044 - (60N + 37273)) \\
&= B_{\bar{N}}(2N - 428) + B_{\bar{N}}(-58N - 11974) + B_{\bar{N}}(-58N - 33229) = \left(\frac{16N}{7} - \frac{549}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{549}}{\mathbf{7}} \\
&(N \geq 495)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4045}) &= B_{\bar{N}}(2N + 4045 - B_{\bar{N}}(2N + 4044)) + B_{\bar{N}}(2N + 4045 - B_{\bar{N}}(2N + 4043)) + B_{\bar{N}}(2N + 4045 - B_{\bar{N}}(2N + 4042)) \\
&= B_{\bar{N}}\left(2N + 4045 - \left(\frac{16N}{7} - \frac{549}{7}\right)\right) + B_{\bar{N}}(2N + 4045 - 4472) + B_{\bar{N}}(2N + 4045 - (60N + 16018)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28864}{7}\right) + B_{\bar{N}}(2N - 427) + B_{\bar{N}}(-58N - 11973) = 0 + \left(\frac{15N}{7} - \frac{481}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{481}}{\mathbf{7}} \\
&(N \geq 14432)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4046) &= B_{\bar{N}}(2N + 4046 - B_{\bar{N}}(2N + 4045)) + B_{\bar{N}}(2N + 4046 - B_{\bar{N}}(2N + 4044)) + B_{\bar{N}}(2N + 4046 - B_{\bar{N}}(2N + 4043)) \\
&= B_{\bar{N}}\left(2N + 4046 - \left(\frac{15N}{7} - \frac{481}{7}\right)\right) + B_{\bar{N}}\left(2N + 4046 - \left(\frac{16N}{7} - \frac{549}{7}\right)\right) + B_{\bar{N}}(2N + 4046 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28803}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28871}{7}\right) + B_{\bar{N}}(2N - 426) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 28803)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4047) &= B_{\bar{N}}(2N + 4047 - B_{\bar{N}}(2N + 4046)) + B_{\bar{N}}(2N + 4047 - B_{\bar{N}}(2N + 4045)) + B_{\bar{N}}(2N + 4047 - B_{\bar{N}}(2N + 4044)) \\
&= B_{\bar{N}}(2N + 4047 - (N - 2)) + B_{\bar{N}}\left(2N + 4047 - \left(\frac{15N}{7} - \frac{481}{7}\right)\right) + B_{\bar{N}}\left(2N + 4047 - \left(\frac{16N}{7} - \frac{549}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4049) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28810}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28878}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 28810)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4048) &= B_{\bar{N}}(2N + 4048 - B_{\bar{N}}(2N + 4047)) + B_{\bar{N}}(2N + 4048 - B_{\bar{N}}(2N + 4046)) + B_{\bar{N}}(2N + 4048 - B_{\bar{N}}(2N + 4045)) \\
&= B_{\bar{N}}(2N + 4048 - 7) + B_{\bar{N}}(2N + 4048 - (N - 2)) + B_{\bar{N}}\left(2N + 4048 - \left(\frac{15N}{7} - \frac{481}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4041) + B_{\bar{N}}(N + 4050) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28817}{7}\right) = (60N + 37273) + (2N + 1201) + 0 = \mathbf{62N} + \mathbf{38474} \\
&(\mathbf{N} \geq 28817)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4049) &= B_{\bar{N}}(2N + 4049 - B_{\bar{N}}(2N + 4048)) + B_{\bar{N}}(2N + 4049 - B_{\bar{N}}(2N + 4047)) + B_{\bar{N}}(2N + 4049 - B_{\bar{N}}(2N + 4046)) \\
&= B_{\bar{N}}(2N + 4049 - (62N + 38474)) + B_{\bar{N}}(2N + 4049 - 7) + B_{\bar{N}}(2N + 4049 - (N - 2)) \\
&= B_{\bar{N}}(-60N - 34425) + B_{\bar{N}}(2N + 4042) + B_{\bar{N}}(N + 4051) = 0 + (60N + 16018) + (2N + 571) = \mathbf{62N} + \mathbf{16589} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4050}) &= B_{\bar{N}}(2N + 4050 - B_{\bar{N}}(2N + 4049)) + B_{\bar{N}}(2N + 4050 - B_{\bar{N}}(2N + 4048)) + B_{\bar{N}}(2N + 4050 - B_{\bar{N}}(2N + 4047)) \\
&= B_{\bar{N}}(2N + 4050 - (62N + 16589)) + B_{\bar{N}}(2N + 4050 - (62N + 38474)) + B_{\bar{N}}(2N + 4050 - 7) \\
&= B_{\bar{N}}(-60N - 12539) + B_{\bar{N}}(-60N - 34424) + B_{\bar{N}}(2N + 4043) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4051}) &= B_{\bar{N}}(2N + 4051 - B_{\bar{N}}(2N + 4050)) + B_{\bar{N}}(2N + 4051 - B_{\bar{N}}(2N + 4049)) + B_{\bar{N}}(2N + 4051 - B_{\bar{N}}(2N + 4048)) \\
&= B_{\bar{N}}(2N + 4051 - 4472) + B_{\bar{N}}(2N + 4051 - (62N + 16589)) + B_{\bar{N}}(2N + 4051 - (62N + 38474)) \\
&= B_{\bar{N}}(2N - 421) + B_{\bar{N}}(-60N - 12538) + B_{\bar{N}}(-60N - 34423) = \left(\frac{16N}{7} - \frac{535}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{535}}{\mathbf{7}} \\
&(N \geq 488)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4052}) &= B_{\bar{N}}(2N + 4052 - B_{\bar{N}}(2N + 4051)) + B_{\bar{N}}(2N + 4052 - B_{\bar{N}}(2N + 4050)) + B_{\bar{N}}(2N + 4052 - B_{\bar{N}}(2N + 4049)) \\
&= B_{\bar{N}}\left(2N + 4052 - \left(\frac{16N}{7} - \frac{535}{7}\right)\right) + B_{\bar{N}}(2N + 4052 - 4472) + B_{\bar{N}}(2N + 4052 - (62N + 16589)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28899}{7}\right) + B_{\bar{N}}(2N - 420) + B_{\bar{N}}(-60N - 12537) = 0 + \left(\frac{15N}{7} - \frac{474}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{474}}{\mathbf{7}} \\
&(N \geq 14450)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4053}) &= B_{\bar{N}}(2N + 4053 - B_{\bar{N}}(2N + 4052)) + B_{\bar{N}}(2N + 4053 - B_{\bar{N}}(2N + 4051)) + B_{\bar{N}}(2N + 4053 - B_{\bar{N}}(2N + 4050)) \\
&= B_{\bar{N}}\left(2N + 4053 - \left(\frac{15N}{7} - \frac{474}{7}\right)\right) + B_{\bar{N}}\left(2N + 4053 - \left(\frac{16N}{7} - \frac{535}{7}\right)\right) + B_{\bar{N}}(2N + 4053 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28845}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28906}{7}\right) + B_{\bar{N}}(2N - 419) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28845})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4054) &= B_{\bar{N}}(2N + 4054 - B_{\bar{N}}(2N + 4053)) + B_{\bar{N}}(2N + 4054 - B_{\bar{N}}(2N + 4052)) + B_{\bar{N}}(2N + 4054 - B_{\bar{N}}(2N + 4051)) \\
&= B_{\bar{N}}(2N + 4054 - (N - 2)) + B_{\bar{N}}\left(2N + 4054 - \left(\frac{15N}{7} - \frac{474}{7}\right)\right) + B_{\bar{N}}\left(2N + 4054 - \left(\frac{16N}{7} - \frac{535}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4056) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28852}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28913}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28852})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4055) &= B_{\bar{N}}(2N + 4055 - B_{\bar{N}}(2N + 4054)) + B_{\bar{N}}(2N + 4055 - B_{\bar{N}}(2N + 4053)) + B_{\bar{N}}(2N + 4055 - B_{\bar{N}}(2N + 4052)) \\
&= B_{\bar{N}}(2N + 4055 - 7) + B_{\bar{N}}(2N + 4055 - (N - 2)) + B_{\bar{N}}\left(2N + 4055 - \left(\frac{15N}{7} - \frac{474}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4048) + B_{\bar{N}}(N + 4057) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28859}{7}\right) = (62N + 38474) + (2N + 1203) + 0 = \mathbf{64N} + \mathbf{39677} \\
&(\mathbf{N} \geq \mathbf{28859})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4056) &= B_{\bar{N}}(2N + 4056 - B_{\bar{N}}(2N + 4055)) + B_{\bar{N}}(2N + 4056 - B_{\bar{N}}(2N + 4054)) + B_{\bar{N}}(2N + 4056 - B_{\bar{N}}(2N + 4053)) \\
&= B_{\bar{N}}(2N + 4056 - (64N + 39677)) + B_{\bar{N}}(2N + 4056 - 7) + B_{\bar{N}}(2N + 4056 - (N - 2)) \\
&= B_{\bar{N}}(-62N - 35621) + B_{\bar{N}}(2N + 4049) + B_{\bar{N}}(N + 4058) = 0 + (62N + 16589) + (2N + 572) = \mathbf{64N} + \mathbf{17161} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4057) &= B_{\bar{N}}(2N + 4057 - B_{\bar{N}}(2N + 4056)) + B_{\bar{N}}(2N + 4057 - B_{\bar{N}}(2N + 4055)) + B_{\bar{N}}(2N + 4057 - B_{\bar{N}}(2N + 4054)) \\
&= B_{\bar{N}}(2N + 4057 - (64N + 17161)) + B_{\bar{N}}(2N + 4057 - (64N + 39677)) + B_{\bar{N}}(2N + 4057 - 7) \\
&= B_{\bar{N}}(-62N - 13104) + B_{\bar{N}}(-62N - 35620) + B_{\bar{N}}(2N + 4050) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4058}) &= B_{\bar{N}}(2N + 4058 - B_{\bar{N}}(2N + 4057)) + B_{\bar{N}}(2N + 4058 - B_{\bar{N}}(2N + 4056)) + B_{\bar{N}}(2N + 4058 - B_{\bar{N}}(2N + 4055)) \\
&= B_{\bar{N}}(2N + 4058 - 4472) + B_{\bar{N}}(2N + 4058 - (64N + 17161)) + B_{\bar{N}}(2N + 4058 - (64N + 39677)) \\
&= B_{\bar{N}}(2N - 414) + B_{\bar{N}}(-62N - 13103) + B_{\bar{N}}(-62N - 35619) = \left(\frac{16N}{7} - \frac{521}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{521}}{\mathbf{7}} \\
&(N \geq 481)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4059}) &= B_{\bar{N}}(2N + 4059 - B_{\bar{N}}(2N + 4058)) + B_{\bar{N}}(2N + 4059 - B_{\bar{N}}(2N + 4057)) + B_{\bar{N}}(2N + 4059 - B_{\bar{N}}(2N + 4056)) \\
&= B_{\bar{N}}\left(2N + 4059 - \left(\frac{16N}{7} - \frac{521}{7}\right)\right) + B_{\bar{N}}(2N + 4059 - 4472) + B_{\bar{N}}(2N + 4059 - (64N + 17161)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28934}{7}\right) + B_{\bar{N}}(2N - 413) + B_{\bar{N}}(-62N - 13102) = 0 + \left(\frac{15N}{7} - \frac{467}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{467}}{\mathbf{7}} \\
&(N \geq 14467)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4060}) &= B_{\bar{N}}(2N + 4060 - B_{\bar{N}}(2N + 4059)) + B_{\bar{N}}(2N + 4060 - B_{\bar{N}}(2N + 4058)) + B_{\bar{N}}(2N + 4060 - B_{\bar{N}}(2N + 4057)) \\
&= B_{\bar{N}}\left(2N + 4060 - \left(\frac{15N}{7} - \frac{467}{7}\right)\right) + B_{\bar{N}}\left(2N + 4060 - \left(\frac{16N}{7} - \frac{521}{7}\right)\right) + B_{\bar{N}}(2N + 4060 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28887}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28941}{7}\right) + B_{\bar{N}}(2N - 412) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{28887})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4061}) &= B_{\bar{N}}(2N + 4061 - B_{\bar{N}}(2N + 4060)) + B_{\bar{N}}(2N + 4061 - B_{\bar{N}}(2N + 4059)) + B_{\bar{N}}(2N + 4061 - B_{\bar{N}}(2N + 4058)) \\
&= B_{\bar{N}}(2N + 4061 - (N - 2)) + B_{\bar{N}}\left(2N + 4061 - \left(\frac{15N}{7} - \frac{467}{7}\right)\right) + B_{\bar{N}}\left(2N + 4061 - \left(\frac{16N}{7} - \frac{521}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4063) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28894}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28948}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{28894})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4062) &= B_{\bar{N}}(2N + 4062 - B_{\bar{N}}(2N + 4061)) + B_{\bar{N}}(2N + 4062 - B_{\bar{N}}(2N + 4060)) + B_{\bar{N}}(2N + 4062 - B_{\bar{N}}(2N + 4059)) \\
&= B_{\bar{N}}(2N + 4062 - 7) + B_{\bar{N}}(2N + 4062 - (N - 2)) + B_{\bar{N}}\left(2N + 4062 - \left(\frac{15N}{7} - \frac{467}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4055) + B_{\bar{N}}(N + 4064) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28901}{7}\right) = (64N + 39677) + (2N + 1205) + 0 = \mathbf{66N} + \mathbf{40882} \\
&(\mathbf{N} \geq \mathbf{28901})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4063) &= B_{\bar{N}}(2N + 4063 - B_{\bar{N}}(2N + 4062)) + B_{\bar{N}}(2N + 4063 - B_{\bar{N}}(2N + 4061)) + B_{\bar{N}}(2N + 4063 - B_{\bar{N}}(2N + 4060)) \\
&= B_{\bar{N}}(2N + 4063 - (66N + 40882)) + B_{\bar{N}}(2N + 4063 - 7) + B_{\bar{N}}(2N + 4063 - (N - 2)) \\
&= B_{\bar{N}}(-64N - 36819) + B_{\bar{N}}(2N + 4056) + B_{\bar{N}}(N + 4065) = 0 + (64N + 17161) + (2N + 573) = \mathbf{66N} + \mathbf{17734} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4064) &= B_{\bar{N}}(2N + 4064 - B_{\bar{N}}(2N + 4063)) + B_{\bar{N}}(2N + 4064 - B_{\bar{N}}(2N + 4062)) + B_{\bar{N}}(2N + 4064 - B_{\bar{N}}(2N + 4061)) \\
&= B_{\bar{N}}(2N + 4064 - (66N + 17734)) + B_{\bar{N}}(2N + 4064 - (66N + 40882)) + B_{\bar{N}}(2N + 4064 - 7) \\
&= B_{\bar{N}}(-64N - 13670) + B_{\bar{N}}(-64N - 36818) + B_{\bar{N}}(2N + 4057) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4065) &= B_{\bar{N}}(2N + 4065 - B_{\bar{N}}(2N + 4064)) + B_{\bar{N}}(2N + 4065 - B_{\bar{N}}(2N + 4063)) + B_{\bar{N}}(2N + 4065 - B_{\bar{N}}(2N + 4062)) \\
&= B_{\bar{N}}(2N + 4065 - 4472) + B_{\bar{N}}(2N + 4065 - (66N + 17734)) + B_{\bar{N}}(2N + 4065 - (66N + 40882)) \\
&= B_{\bar{N}}(2N - 407) + B_{\bar{N}}(-64N - 13669) + B_{\bar{N}}(-64N - 36817) = \left(\frac{16N}{7} - \frac{507}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{507}}{\mathbf{7}} \\
&(N \geq 474)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4066}) &= B_{\bar{N}}(2N + 4066 - B_{\bar{N}}(2N + 4065)) + B_{\bar{N}}(2N + 4066 - B_{\bar{N}}(2N + 4064)) + B_{\bar{N}}(2N + 4066 - B_{\bar{N}}(2N + 4063)) \\
&= B_{\bar{N}}\left(2N + 4066 - \left(\frac{16N}{7} - \frac{507}{7}\right)\right) + B_{\bar{N}}(2N + 4066 - 4472) + B_{\bar{N}}(2N + 4066 - (66N + 17734)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28969}{7}\right) + B_{\bar{N}}(2N - 406) + B_{\bar{N}}(-64N - 13668) = 0 + \left(\frac{15N}{7} - \frac{460}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{460}}{\mathbf{7}} \\
&\quad (N \geq 14485)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4067}) &= B_{\bar{N}}(2N + 4067 - B_{\bar{N}}(2N + 4066)) + B_{\bar{N}}(2N + 4067 - B_{\bar{N}}(2N + 4065)) + B_{\bar{N}}(2N + 4067 - B_{\bar{N}}(2N + 4064)) \\
&= B_{\bar{N}}\left(2N + 4067 - \left(\frac{15N}{7} - \frac{460}{7}\right)\right) + B_{\bar{N}}\left(2N + 4067 - \left(\frac{16N}{7} - \frac{507}{7}\right)\right) + B_{\bar{N}}(2N + 4067 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28929}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28976}{7}\right) + B_{\bar{N}}(2N - 405) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&\quad (\mathbf{N} \geq \mathbf{28929})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4068}) &= B_{\bar{N}}(2N + 4068 - B_{\bar{N}}(2N + 4067)) + B_{\bar{N}}(2N + 4068 - B_{\bar{N}}(2N + 4066)) + B_{\bar{N}}(2N + 4068 - B_{\bar{N}}(2N + 4065)) \\
&= B_{\bar{N}}(2N + 4068 - (N - 2)) + B_{\bar{N}}\left(2N + 4068 - \left(\frac{15N}{7} - \frac{460}{7}\right)\right) + B_{\bar{N}}\left(2N + 4068 - \left(\frac{16N}{7} - \frac{507}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4070) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28936}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{28983}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&\quad (\mathbf{N} \geq \mathbf{28936})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4069}) &= B_{\bar{N}}(2N + 4069 - B_{\bar{N}}(2N + 4068)) + B_{\bar{N}}(2N + 4069 - B_{\bar{N}}(2N + 4067)) + B_{\bar{N}}(2N + 4069 - B_{\bar{N}}(2N + 4066)) \\
&= B_{\bar{N}}(2N + 4069 - 7) + B_{\bar{N}}(2N + 4069 - (N - 2)) + B_{\bar{N}}\left(2N + 4069 - \left(\frac{15N}{7} - \frac{460}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4062) + B_{\bar{N}}(N + 4071) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28943}{7}\right) = (66N + 40882) + (2N + 1207) + 0 = \mathbf{68N} + \mathbf{42089} \\
&\quad (\mathbf{N} \geq \mathbf{28943})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4070) &= B_{\bar{N}}(2N + 4070 - B_{\bar{N}}(2N + 4069)) + B_{\bar{N}}(2N + 4070 - B_{\bar{N}}(2N + 4068)) + B_{\bar{N}}(2N + 4070 - B_{\bar{N}}(2N + 4067)) \\
&= B_{\bar{N}}(2N + 4070 - (68N + 42089)) + B_{\bar{N}}(2N + 4070 - 7) + B_{\bar{N}}(2N + 4070 - (N - 2)) \\
&= B_{\bar{N}}(-66N - 38019) + B_{\bar{N}}(2N + 4063) + B_{\bar{N}}(N + 4072) = 0 + (66N + 17734) + (2N + 574) = \mathbf{68N} + \mathbf{18308} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4071) &= B_{\bar{N}}(2N + 4071 - B_{\bar{N}}(2N + 4070)) + B_{\bar{N}}(2N + 4071 - B_{\bar{N}}(2N + 4069)) + B_{\bar{N}}(2N + 4071 - B_{\bar{N}}(2N + 4068)) \\
&= B_{\bar{N}}(2N + 4071 - (68N + 18308)) + B_{\bar{N}}(2N + 4071 - (68N + 42089)) + B_{\bar{N}}(2N + 4071 - 7) \\
&= B_{\bar{N}}(-66N - 14237) + B_{\bar{N}}(-66N - 38018) + B_{\bar{N}}(2N + 4064) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4072) &= B_{\bar{N}}(2N + 4072 - B_{\bar{N}}(2N + 4071)) + B_{\bar{N}}(2N + 4072 - B_{\bar{N}}(2N + 4070)) + B_{\bar{N}}(2N + 4072 - B_{\bar{N}}(2N + 4069)) \\
&= B_{\bar{N}}(2N + 4072 - 4472) + B_{\bar{N}}(2N + 4072 - (68N + 18308)) + B_{\bar{N}}(2N + 4072 - (68N + 42089)) \\
&= B_{\bar{N}}(2N - 400) + B_{\bar{N}}(-66N - 14236) + B_{\bar{N}}(-66N - 38017) = \left(\frac{16N}{7} - \frac{493}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{493}}{\mathbf{7}} \\
&(N \geq 467)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4073) &= B_{\bar{N}}(2N + 4073 - B_{\bar{N}}(2N + 4072)) + B_{\bar{N}}(2N + 4073 - B_{\bar{N}}(2N + 4071)) + B_{\bar{N}}(2N + 4073 - B_{\bar{N}}(2N + 4070)) \\
&= B_{\bar{N}}\left(2N + 4073 - \left(\frac{16N}{7} - \frac{493}{7}\right)\right) + B_{\bar{N}}(2N + 4073 - 4472) + B_{\bar{N}}(2N + 4073 - (68N + 18308)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29004}{7}\right) + B_{\bar{N}}(2N - 399) + B_{\bar{N}}(-66N - 14235) = 0 + \left(\frac{15N}{7} - \frac{453}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{453}}{\mathbf{7}} \\
&(N \geq 14502)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4074) &= B_{\bar{N}}(2N + 4074 - B_{\bar{N}}(2N + 4073)) + B_{\bar{N}}(2N + 4074 - B_{\bar{N}}(2N + 4072)) + B_{\bar{N}}(2N + 4074 - B_{\bar{N}}(2N + 4071)) \\
&= B_{\bar{N}}\left(2N + 4074 - \left(\frac{15N}{7} - \frac{453}{7}\right)\right) + B_{\bar{N}}\left(2N + 4074 - \left(\frac{16N}{7} - \frac{493}{7}\right)\right) + B_{\bar{N}}(2N + 4074 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{28971}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29011}{7}\right) + B_{\bar{N}}(2N - 398) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 28971)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4075) &= B_{\bar{N}}(2N + 4075 - B_{\bar{N}}(2N + 4074)) + B_{\bar{N}}(2N + 4075 - B_{\bar{N}}(2N + 4073)) + B_{\bar{N}}(2N + 4075 - B_{\bar{N}}(2N + 4072)) \\
&= B_{\bar{N}}(2N + 4075 - (N - 2)) + B_{\bar{N}}\left(2N + 4075 - \left(\frac{15N}{7} - \frac{453}{7}\right)\right) + B_{\bar{N}}\left(2N + 4075 - \left(\frac{16N}{7} - \frac{493}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4077) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28978}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29018}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 28978)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4076) &= B_{\bar{N}}(2N + 4076 - B_{\bar{N}}(2N + 4075)) + B_{\bar{N}}(2N + 4076 - B_{\bar{N}}(2N + 4074)) + B_{\bar{N}}(2N + 4076 - B_{\bar{N}}(2N + 4073)) \\
&= B_{\bar{N}}(2N + 4076 - 7) + B_{\bar{N}}(2N + 4076 - (N - 2)) + B_{\bar{N}}\left(2N + 4076 - \left(\frac{15N}{7} - \frac{453}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4069) + B_{\bar{N}}(N + 4078) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{28985}{7}\right) = (68N + 42089) + (2N + 1209) + 0 = \mathbf{70N} + \mathbf{43298} \\
&(\mathbf{N} \geq 28985)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4077) &= B_{\bar{N}}(2N + 4077 - B_{\bar{N}}(2N + 4076)) + B_{\bar{N}}(2N + 4077 - B_{\bar{N}}(2N + 4075)) + B_{\bar{N}}(2N + 4077 - B_{\bar{N}}(2N + 4074)) \\
&= B_{\bar{N}}(2N + 4077 - (70N + 43298)) + B_{\bar{N}}(2N + 4077 - 7) + B_{\bar{N}}(2N + 4077 - (N - 2)) \\
&= B_{\bar{N}}(-68N - 39221) + B_{\bar{N}}(2N + 4070) + B_{\bar{N}}(N + 4079) = 0 + (68N + 18308) + (2N + 575) = \mathbf{70N} + \mathbf{18883} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4078}) &= B_{\bar{N}}(2N + 4078 - B_{\bar{N}}(2N + 4077)) + B_{\bar{N}}(2N + 4078 - B_{\bar{N}}(2N + 4076)) + B_{\bar{N}}(2N + 4078 - B_{\bar{N}}(2N + 4075)) \\
&= B_{\bar{N}}(2N + 4078 - (70N + 18883)) + B_{\bar{N}}(2N + 4078 - (70N + 43298)) + B_{\bar{N}}(2N + 4078 - 7) \\
&= B_{\bar{N}}(-68N - 14805) + B_{\bar{N}}(-68N - 39220) + B_{\bar{N}}(2N + 4071) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4079}) &= B_{\bar{N}}(2N + 4079 - B_{\bar{N}}(2N + 4078)) + B_{\bar{N}}(2N + 4079 - B_{\bar{N}}(2N + 4077)) + B_{\bar{N}}(2N + 4079 - B_{\bar{N}}(2N + 4076)) \\
&= B_{\bar{N}}(2N + 4079 - 4472) + B_{\bar{N}}(2N + 4079 - (70N + 18883)) + B_{\bar{N}}(2N + 4079 - (70N + 43298)) \\
&= B_{\bar{N}}(2N - 393) + B_{\bar{N}}(-68N - 14804) + B_{\bar{N}}(-68N - 39219) = \left(\frac{16N}{7} - \frac{479}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{479}}{\mathbf{7}} \\
&(N \geq 460)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4080}) &= B_{\bar{N}}(2N + 4080 - B_{\bar{N}}(2N + 4079)) + B_{\bar{N}}(2N + 4080 - B_{\bar{N}}(2N + 4078)) + B_{\bar{N}}(2N + 4080 - B_{\bar{N}}(2N + 4077)) \\
&= B_{\bar{N}}\left(2N + 4080 - \left(\frac{16N}{7} - \frac{479}{7}\right)\right) + B_{\bar{N}}(2N + 4080 - 4472) + B_{\bar{N}}(2N + 4080 - (70N + 18883)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29039}{7}\right) + B_{\bar{N}}(2N - 392) + B_{\bar{N}}(-68N - 14803) = 0 + \left(\frac{15N}{7} - \frac{446}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{446}}{\mathbf{7}} \\
&(N \geq 14520)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4081}) &= B_{\bar{N}}(2N + 4081 - B_{\bar{N}}(2N + 4080)) + B_{\bar{N}}(2N + 4081 - B_{\bar{N}}(2N + 4079)) + B_{\bar{N}}(2N + 4081 - B_{\bar{N}}(2N + 4078)) \\
&= B_{\bar{N}}\left(2N + 4081 - \left(\frac{15N}{7} - \frac{446}{7}\right)\right) + B_{\bar{N}}\left(2N + 4081 - \left(\frac{16N}{7} - \frac{479}{7}\right)\right) + B_{\bar{N}}(2N + 4081 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29013}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29046}{7}\right) + B_{\bar{N}}(2N - 391) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29013})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4082) &= B_{\bar{N}}(2N + 4082 - B_{\bar{N}}(2N + 4081)) + B_{\bar{N}}(2N + 4082 - B_{\bar{N}}(2N + 4080)) + B_{\bar{N}}(2N + 4082 - B_{\bar{N}}(2N + 4079)) \\
&= B_{\bar{N}}(2N + 4082 - (N - 2)) + B_{\bar{N}}\left(2N + 4082 - \left(\frac{15N}{7} - \frac{446}{7}\right)\right) + B_{\bar{N}}\left(2N + 4082 - \left(\frac{16N}{7} - \frac{479}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4084) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29020}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29053}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29020})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4083) &= B_{\bar{N}}(2N + 4083 - B_{\bar{N}}(2N + 4082)) + B_{\bar{N}}(2N + 4083 - B_{\bar{N}}(2N + 4081)) + B_{\bar{N}}(2N + 4083 - B_{\bar{N}}(2N + 4080)) \\
&= B_{\bar{N}}(2N + 4083 - 7) + B_{\bar{N}}(2N + 4083 - (N - 2)) + B_{\bar{N}}\left(2N + 4083 - \left(\frac{15N}{7} - \frac{446}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4076) + B_{\bar{N}}(N + 4085) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29027}{7}\right) = (70N + 43298) + (2N + 1211) + 0 = \mathbf{72N} + \mathbf{44509} \\
&(\mathbf{N} \geq \mathbf{29027})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4084) &= B_{\bar{N}}(2N + 4084 - B_{\bar{N}}(2N + 4083)) + B_{\bar{N}}(2N + 4084 - B_{\bar{N}}(2N + 4082)) + B_{\bar{N}}(2N + 4084 - B_{\bar{N}}(2N + 4081)) \\
&= B_{\bar{N}}(2N + 4084 - (72N + 44509)) + B_{\bar{N}}(2N + 4084 - 7) + B_{\bar{N}}(2N + 4084 - (N - 2)) \\
&= B_{\bar{N}}(-70N - 40425) + B_{\bar{N}}(2N + 4077) + B_{\bar{N}}(N + 4086) = 0 + (70N + 18883) + (2N + 576) = \mathbf{72N} + \mathbf{19459} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4085) &= B_{\bar{N}}(2N + 4085 - B_{\bar{N}}(2N + 4084)) + B_{\bar{N}}(2N + 4085 - B_{\bar{N}}(2N + 4083)) + B_{\bar{N}}(2N + 4085 - B_{\bar{N}}(2N + 4082)) \\
&= B_{\bar{N}}(2N + 4085 - (72N + 19459)) + B_{\bar{N}}(2N + 4085 - (72N + 44509)) + B_{\bar{N}}(2N + 4085 - 7) \\
&= B_{\bar{N}}(-70N - 15374) + B_{\bar{N}}(-70N - 40424) + B_{\bar{N}}(2N + 4078) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4086) &= B_{\bar{N}}(2N + 4086 - B_{\bar{N}}(2N + 4085)) + B_{\bar{N}}(2N + 4086 - B_{\bar{N}}(2N + 4084)) + B_{\bar{N}}(2N + 4086 - B_{\bar{N}}(2N + 4083)) \\
&= B_{\bar{N}}(2N + 4086 - 4472) + B_{\bar{N}}(2N + 4086 - (72N + 19459)) + B_{\bar{N}}(2N + 4086 - (72N + 44509)) \\
&= B_{\bar{N}}(2N - 386) + B_{\bar{N}}(-70N - 15373) + B_{\bar{N}}(-70N - 40423) = \left(\frac{16N}{7} - \frac{465}{7}\right) + 0 + 0 = \frac{16\mathbf{N}}{7} - \frac{465}{7} \\
&(N \geq 453)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4087) &= B_{\bar{N}}(2N + 4087 - B_{\bar{N}}(2N + 4086)) + B_{\bar{N}}(2N + 4087 - B_{\bar{N}}(2N + 4085)) + B_{\bar{N}}(2N + 4087 - B_{\bar{N}}(2N + 4084)) \\
&= B_{\bar{N}}\left(2N + 4087 - \left(\frac{16N}{7} - \frac{465}{7}\right)\right) + B_{\bar{N}}(2N + 4087 - 4472) + B_{\bar{N}}(2N + 4087 - (72N + 19459)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29074}{7}\right) + B_{\bar{N}}(2N - 385) + B_{\bar{N}}(-70N - 15372) = 0 + \left(\frac{15N}{7} - \frac{439}{7}\right) + 0 = \frac{15\mathbf{N}}{7} - \frac{439}{7} \\
&(N \geq 14537)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4088) &= B_{\bar{N}}(2N + 4088 - B_{\bar{N}}(2N + 4087)) + B_{\bar{N}}(2N + 4088 - B_{\bar{N}}(2N + 4086)) + B_{\bar{N}}(2N + 4088 - B_{\bar{N}}(2N + 4085)) \\
&= B_{\bar{N}}\left(2N + 4088 - \left(\frac{15N}{7} - \frac{439}{7}\right)\right) + B_{\bar{N}}\left(2N + 4088 - \left(\frac{16N}{7} - \frac{465}{7}\right)\right) + B_{\bar{N}}(2N + 4088 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29055}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29081}{7}\right) + B_{\bar{N}}(2N - 384) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 29055)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4089) &= B_{\bar{N}}(2N + 4089 - B_{\bar{N}}(2N + 4088)) + B_{\bar{N}}(2N + 4089 - B_{\bar{N}}(2N + 4087)) + B_{\bar{N}}(2N + 4089 - B_{\bar{N}}(2N + 4086)) \\
&= B_{\bar{N}}(2N + 4089 - (N - 2)) + B_{\bar{N}}\left(2N + 4089 - \left(\frac{15N}{7} - \frac{439}{7}\right)\right) + B_{\bar{N}}\left(2N + 4089 - \left(\frac{16N}{7} - \frac{465}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4091) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29062}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29088}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 29062)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4090}) &= B_{\bar{N}}(2N + 4090 - B_{\bar{N}}(2N + 4089)) + B_{\bar{N}}(2N + 4090 - B_{\bar{N}}(2N + 4088)) + B_{\bar{N}}(2N + 4090 - B_{\bar{N}}(2N + 4087)) \\
&= B_{\bar{N}}(2N + 4090 - 7) + B_{\bar{N}}(2N + 4090 - (N - 2)) + B_{\bar{N}}\left(2N + 4090 - \left(\frac{15N}{7} - \frac{439}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4083) + B_{\bar{N}}(N + 4092) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29069}{7}\right) = (72N + 44509) + (2N + 1213) + 0 = \mathbf{74N} + \mathbf{45722} \\
&(\mathbf{N} \geq \mathbf{29069})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4091}) &= B_{\bar{N}}(2N + 4091 - B_{\bar{N}}(2N + 4090)) + B_{\bar{N}}(2N + 4091 - B_{\bar{N}}(2N + 4089)) + B_{\bar{N}}(2N + 4091 - B_{\bar{N}}(2N + 4088)) \\
&= B_{\bar{N}}(2N + 4091 - (74N + 45722)) + B_{\bar{N}}(2N + 4091 - 7) + B_{\bar{N}}(2N + 4091 - (N - 2)) \\
&= B_{\bar{N}}(-72N - 41631) + B_{\bar{N}}(2N + 4084) + B_{\bar{N}}(N + 4093) = 0 + (72N + 19459) + (2N + 577) = \mathbf{74N} + \mathbf{20036} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4092}) &= B_{\bar{N}}(2N + 4092 - B_{\bar{N}}(2N + 4091)) + B_{\bar{N}}(2N + 4092 - B_{\bar{N}}(2N + 4090)) + B_{\bar{N}}(2N + 4092 - B_{\bar{N}}(2N + 4089)) \\
&= B_{\bar{N}}(2N + 4092 - (74N + 20036)) + B_{\bar{N}}(2N + 4092 - (74N + 45722)) + B_{\bar{N}}(2N + 4092 - 7) \\
&= B_{\bar{N}}(-72N - 15944) + B_{\bar{N}}(-72N - 41630) + B_{\bar{N}}(2N + 4085) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4093}) &= B_{\bar{N}}(2N + 4093 - B_{\bar{N}}(2N + 4092)) + B_{\bar{N}}(2N + 4093 - B_{\bar{N}}(2N + 4091)) + B_{\bar{N}}(2N + 4093 - B_{\bar{N}}(2N + 4090)) \\
&= B_{\bar{N}}(2N + 4093 - 4472) + B_{\bar{N}}(2N + 4093 - (74N + 20036)) + B_{\bar{N}}(2N + 4093 - (74N + 45722)) \\
&= B_{\bar{N}}(2N - 379) + B_{\bar{N}}(-72N - 15943) + B_{\bar{N}}(-72N - 41629) = \left(\frac{16N}{7} - \frac{451}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{451}}{\mathbf{7}} \\
&(N \geq 446)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4094}) &= B_{\bar{N}}(2N + 4094 - B_{\bar{N}}(2N + 4093)) + B_{\bar{N}}(2N + 4094 - B_{\bar{N}}(2N + 4092)) + B_{\bar{N}}(2N + 4094 - B_{\bar{N}}(2N + 4091)) \\
&= B_{\bar{N}}\left(2N + 4094 - \left(\frac{16N}{7} - \frac{451}{7}\right)\right) + B_{\bar{N}}(2N + 4094 - 4472) + B_{\bar{N}}(2N + 4094 - (74N + 20036)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29109}{7}\right) + B_{\bar{N}}(2N - 378) + B_{\bar{N}}(-72N - 15942) = 0 + \left(\frac{15N}{7} - \frac{432}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{432}}{\mathbf{7}} \\
&\quad (N \geq 14555)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4095}) &= B_{\bar{N}}(2N + 4095 - B_{\bar{N}}(2N + 4094)) + B_{\bar{N}}(2N + 4095 - B_{\bar{N}}(2N + 4093)) + B_{\bar{N}}(2N + 4095 - B_{\bar{N}}(2N + 4092)) \\
&= B_{\bar{N}}\left(2N + 4095 - \left(\frac{15N}{7} - \frac{432}{7}\right)\right) + B_{\bar{N}}\left(2N + 4095 - \left(\frac{16N}{7} - \frac{451}{7}\right)\right) + B_{\bar{N}}(2N + 4095 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29097}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29116}{7}\right) + B_{\bar{N}}(2N - 377) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&\quad (\mathbf{N} \geq \mathbf{29097})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4096}) &= B_{\bar{N}}(2N + 4096 - B_{\bar{N}}(2N + 4095)) + B_{\bar{N}}(2N + 4096 - B_{\bar{N}}(2N + 4094)) + B_{\bar{N}}(2N + 4096 - B_{\bar{N}}(2N + 4093)) \\
&= B_{\bar{N}}(2N + 4096 - (N - 2)) + B_{\bar{N}}\left(2N + 4096 - \left(\frac{15N}{7} - \frac{432}{7}\right)\right) + B_{\bar{N}}\left(2N + 4096 - \left(\frac{16N}{7} - \frac{451}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4098) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29104}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29123}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&\quad (\mathbf{N} \geq \mathbf{29104})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4097}) &= B_{\bar{N}}(2N + 4097 - B_{\bar{N}}(2N + 4096)) + B_{\bar{N}}(2N + 4097 - B_{\bar{N}}(2N + 4095)) + B_{\bar{N}}(2N + 4097 - B_{\bar{N}}(2N + 4094)) \\
&= B_{\bar{N}}(2N + 4097 - 7) + B_{\bar{N}}(2N + 4097 - (N - 2)) + B_{\bar{N}}\left(2N + 4097 - \left(\frac{15N}{7} - \frac{432}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4090) + B_{\bar{N}}(N + 4099) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29111}{7}\right) = (74N + 45722) + (2N + 1215) + 0 = \mathbf{76N} + \mathbf{46937} \\
&\quad (\mathbf{N} \geq \mathbf{29111})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4098}) &= B_{\bar{N}}(2N + 4098 - B_{\bar{N}}(2N + 4097)) + B_{\bar{N}}(2N + 4098 - B_{\bar{N}}(2N + 4096)) + B_{\bar{N}}(2N + 4098 - B_{\bar{N}}(2N + 4095)) \\
&= B_{\bar{N}}(2N + 4098 - (76N + 46937)) + B_{\bar{N}}(2N + 4098 - 7) + B_{\bar{N}}(2N + 4098 - (N - 2)) \\
&= B_{\bar{N}}(-74N - 42839) + B_{\bar{N}}(2N + 4091) + B_{\bar{N}}(N + 4100) = 0 + (74N + 20036) + (2N + 578) = \mathbf{76N} + \mathbf{20614} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4099}) &= B_{\bar{N}}(2N + 4099 - B_{\bar{N}}(2N + 4098)) + B_{\bar{N}}(2N + 4099 - B_{\bar{N}}(2N + 4097)) + B_{\bar{N}}(2N + 4099 - B_{\bar{N}}(2N + 4096)) \\
&= B_{\bar{N}}(2N + 4099 - (76N + 20614)) + B_{\bar{N}}(2N + 4099 - (76N + 46937)) + B_{\bar{N}}(2N + 4099 - 7) \\
&= B_{\bar{N}}(-74N - 16515) + B_{\bar{N}}(-74N - 42838) + B_{\bar{N}}(2N + 4092) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4100}) &= B_{\bar{N}}(2N + 4100 - B_{\bar{N}}(2N + 4099)) + B_{\bar{N}}(2N + 4100 - B_{\bar{N}}(2N + 4098)) + B_{\bar{N}}(2N + 4100 - B_{\bar{N}}(2N + 4097)) \\
&= B_{\bar{N}}(2N + 4100 - 4472) + B_{\bar{N}}(2N + 4100 - (76N + 20614)) + B_{\bar{N}}(2N + 4100 - (76N + 46937)) \\
&= B_{\bar{N}}(2N - 372) + B_{\bar{N}}(-74N - 16514) + B_{\bar{N}}(-74N - 42837) = \left(\frac{16N}{7} - \frac{437}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{437}}{\mathbf{7}} \\
&(N \geq 439)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4101}) &= B_{\bar{N}}(2N + 4101 - B_{\bar{N}}(2N + 4100)) + B_{\bar{N}}(2N + 4101 - B_{\bar{N}}(2N + 4099)) + B_{\bar{N}}(2N + 4101 - B_{\bar{N}}(2N + 4098)) \\
&= B_{\bar{N}}\left(2N + 4101 - \left(\frac{16N}{7} - \frac{437}{7}\right)\right) + B_{\bar{N}}(2N + 4101 - 4472) + B_{\bar{N}}(2N + 4101 - (76N + 20614)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29144}{7}\right) + B_{\bar{N}}(2N - 371) + B_{\bar{N}}(-74N - 16513) = 0 + \left(\frac{15N}{7} - \frac{425}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{425}}{\mathbf{7}} \\
&(N \geq 14572)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4102}) &= B_{\bar{N}}(2N + 4102 - B_{\bar{N}}(2N + 4101)) + B_{\bar{N}}(2N + 4102 - B_{\bar{N}}(2N + 4100)) + B_{\bar{N}}(2N + 4102 - B_{\bar{N}}(2N + 4099)) \\
&= B_{\bar{N}}\left(2N + 4102 - \left(\frac{15N}{7} - \frac{425}{7}\right)\right) + B_{\bar{N}}\left(2N + 4102 - \left(\frac{16N}{7} - \frac{437}{7}\right)\right) + B_{\bar{N}}(2N + 4102 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29139}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29151}{7}\right) + B_{\bar{N}}(2N - 370) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29139})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4103}) &= B_{\bar{N}}(2N + 4103 - B_{\bar{N}}(2N + 4102)) + B_{\bar{N}}(2N + 4103 - B_{\bar{N}}(2N + 4101)) + B_{\bar{N}}(2N + 4103 - B_{\bar{N}}(2N + 4100)) \\
&= B_{\bar{N}}(2N + 4103 - (N - 2)) + B_{\bar{N}}\left(2N + 4103 - \left(\frac{15N}{7} - \frac{425}{7}\right)\right) + B_{\bar{N}}\left(2N + 4103 - \left(\frac{16N}{7} - \frac{437}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4105) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29146}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29158}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29146})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4104}) &= B_{\bar{N}}(2N + 4104 - B_{\bar{N}}(2N + 4103)) + B_{\bar{N}}(2N + 4104 - B_{\bar{N}}(2N + 4102)) + B_{\bar{N}}(2N + 4104 - B_{\bar{N}}(2N + 4101)) \\
&= B_{\bar{N}}(2N + 4104 - 7) + B_{\bar{N}}(2N + 4104 - (N - 2)) + B_{\bar{N}}\left(2N + 4104 - \left(\frac{15N}{7} - \frac{425}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4097) + B_{\bar{N}}(N + 4106) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29153}{7}\right) = (76N + 46937) + (2N + 1217) + 0 = \mathbf{78N} + \mathbf{48154} \\
&(\mathbf{N} \geq \mathbf{29153})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4105}) &= B_{\bar{N}}(2N + 4105 - B_{\bar{N}}(2N + 4104)) + B_{\bar{N}}(2N + 4105 - B_{\bar{N}}(2N + 4103)) + B_{\bar{N}}(2N + 4105 - B_{\bar{N}}(2N + 4102)) \\
&= B_{\bar{N}}(2N + 4105 - (78N + 48154)) + B_{\bar{N}}(2N + 4105 - 7) + B_{\bar{N}}(2N + 4105 - (N - 2)) \\
&= B_{\bar{N}}(-76N - 44049) + B_{\bar{N}}(2N + 4098) + B_{\bar{N}}(N + 4107) = 0 + (76N + 20614) + (2N + 579) = \mathbf{78N} + \mathbf{21193} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4106}) &= B_{\bar{N}}(2N + 4106 - B_{\bar{N}}(2N + 4105)) + B_{\bar{N}}(2N + 4106 - B_{\bar{N}}(2N + 4104)) + B_{\bar{N}}(2N + 4106 - B_{\bar{N}}(2N + 4103)) \\
&= B_{\bar{N}}(2N + 4106 - (78N + 21193)) + B_{\bar{N}}(2N + 4106 - (78N + 48154)) + B_{\bar{N}}(2N + 4106 - 7) \\
&= B_{\bar{N}}(-76N - 17087) + B_{\bar{N}}(-76N - 44048) + B_{\bar{N}}(2N + 4099) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4107}) &= B_{\bar{N}}(2N + 4107 - B_{\bar{N}}(2N + 4106)) + B_{\bar{N}}(2N + 4107 - B_{\bar{N}}(2N + 4105)) + B_{\bar{N}}(2N + 4107 - B_{\bar{N}}(2N + 4104)) \\
&= B_{\bar{N}}(2N + 4107 - 4472) + B_{\bar{N}}(2N + 4107 - (78N + 21193)) + B_{\bar{N}}(2N + 4107 - (78N + 48154)) \\
&= B_{\bar{N}}(2N - 365) + B_{\bar{N}}(-76N - 17086) + B_{\bar{N}}(-76N - 44047) = \left(\frac{16N}{7} - \frac{423}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{423}}{\mathbf{7}} \\
&(N \geq 432)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4108}) &= B_{\bar{N}}(2N + 4108 - B_{\bar{N}}(2N + 4107)) + B_{\bar{N}}(2N + 4108 - B_{\bar{N}}(2N + 4106)) + B_{\bar{N}}(2N + 4108 - B_{\bar{N}}(2N + 4105)) \\
&= B_{\bar{N}}\left(2N + 4108 - \left(\frac{16N}{7} - \frac{423}{7}\right)\right) + B_{\bar{N}}(2N + 4108 - 4472) + B_{\bar{N}}(2N + 4108 - (78N + 21193)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29179}{7}\right) + B_{\bar{N}}(2N - 364) + B_{\bar{N}}(-76N - 17085) = 0 + \left(\frac{15N}{7} - \frac{418}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{418}}{\mathbf{7}} \\
&(N \geq 14590)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4109}) &= B_{\bar{N}}(2N + 4109 - B_{\bar{N}}(2N + 4108)) + B_{\bar{N}}(2N + 4109 - B_{\bar{N}}(2N + 4107)) + B_{\bar{N}}(2N + 4109 - B_{\bar{N}}(2N + 4106)) \\
&= B_{\bar{N}}\left(2N + 4109 - \left(\frac{15N}{7} - \frac{418}{7}\right)\right) + B_{\bar{N}}\left(2N + 4109 - \left(\frac{16N}{7} - \frac{423}{7}\right)\right) + B_{\bar{N}}(2N + 4109 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29181}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29186}{7}\right) + B_{\bar{N}}(2N - 363) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29181})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4110}) &= B_{\bar{N}}(2N + 4110 - B_{\bar{N}}(2N + 4109)) + B_{\bar{N}}(2N + 4110 - B_{\bar{N}}(2N + 4108)) + B_{\bar{N}}(2N + 4110 - B_{\bar{N}}(2N + 4107)) \\
&= B_{\bar{N}}(2N + 4110 - (N - 2)) + B_{\bar{N}}\left(2N + 4110 - \left(\frac{15N}{7} - \frac{418}{7}\right)\right) + B_{\bar{N}}\left(2N + 4110 - \left(\frac{16N}{7} - \frac{423}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4112) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29188}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29193}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29188})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4111}) &= B_{\bar{N}}(2N + 4111 - B_{\bar{N}}(2N + 4110)) + B_{\bar{N}}(2N + 4111 - B_{\bar{N}}(2N + 4109)) + B_{\bar{N}}(2N + 4111 - B_{\bar{N}}(2N + 4108)) \\
&= B_{\bar{N}}(2N + 4111 - 7) + B_{\bar{N}}(2N + 4111 - (N - 2)) + B_{\bar{N}}\left(2N + 4111 - \left(\frac{15N}{7} - \frac{418}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4104) + B_{\bar{N}}(N + 4113) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29195}{7}\right) = (78N + 48154) + (2N + 1219) + 0 = \mathbf{80N} + \mathbf{49373} \\
&(\mathbf{N} \geq \mathbf{29195})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4112}) &= B_{\bar{N}}(2N + 4112 - B_{\bar{N}}(2N + 4111)) + B_{\bar{N}}(2N + 4112 - B_{\bar{N}}(2N + 4110)) + B_{\bar{N}}(2N + 4112 - B_{\bar{N}}(2N + 4109)) \\
&= B_{\bar{N}}(2N + 4112 - (80N + 49373)) + B_{\bar{N}}(2N + 4112 - 7) + B_{\bar{N}}(2N + 4112 - (N - 2)) \\
&= B_{\bar{N}}(-78N - 45261) + B_{\bar{N}}(2N + 4105) + B_{\bar{N}}(N + 4114) = 0 + (78N + 21193) + (2N + 580) = \mathbf{80N} + \mathbf{21773} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4113}) &= B_{\bar{N}}(2N + 4113 - B_{\bar{N}}(2N + 4112)) + B_{\bar{N}}(2N + 4113 - B_{\bar{N}}(2N + 4111)) + B_{\bar{N}}(2N + 4113 - B_{\bar{N}}(2N + 4110)) \\
&= B_{\bar{N}}(2N + 4113 - (80N + 21773)) + B_{\bar{N}}(2N + 4113 - (80N + 49373)) + B_{\bar{N}}(2N + 4113 - 7) \\
&= B_{\bar{N}}(-78N - 17660) + B_{\bar{N}}(-78N - 45260) + B_{\bar{N}}(2N + 4106) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4114}) &= B_{\bar{N}}(2N + 4114 - B_{\bar{N}}(2N + 4113)) + B_{\bar{N}}(2N + 4114 - B_{\bar{N}}(2N + 4112)) + B_{\bar{N}}(2N + 4114 - B_{\bar{N}}(2N + 4111)) \\
&= B_{\bar{N}}(2N + 4114 - 4472) + B_{\bar{N}}(2N + 4114 - (80N + 21773)) + B_{\bar{N}}(2N + 4114 - (80N + 49373)) \\
&= B_{\bar{N}}(2N - 358) + B_{\bar{N}}(-78N - 17659) + B_{\bar{N}}(-78N - 45259) = \left(\frac{16N}{7} - \frac{409}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{409}}{\mathbf{7}} \\
&(N \geq 425)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4115}) &= B_{\bar{N}}(2N + 4115 - B_{\bar{N}}(2N + 4114)) + B_{\bar{N}}(2N + 4115 - B_{\bar{N}}(2N + 4113)) + B_{\bar{N}}(2N + 4115 - B_{\bar{N}}(2N + 4112)) \\
&= B_{\bar{N}}\left(2N + 4115 - \left(\frac{16N}{7} - \frac{409}{7}\right)\right) + B_{\bar{N}}(2N + 4115 - 4472) + B_{\bar{N}}(2N + 4115 - (80N + 21773)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29214}{7}\right) + B_{\bar{N}}(2N - 357) + B_{\bar{N}}(-78N - 17658) = 0 + \left(\frac{15N}{7} - \frac{411}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{411}}{\mathbf{7}} \\
&(N \geq 14607)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4116}) &= B_{\bar{N}}(2N + 4116 - B_{\bar{N}}(2N + 4115)) + B_{\bar{N}}(2N + 4116 - B_{\bar{N}}(2N + 4114)) + B_{\bar{N}}(2N + 4116 - B_{\bar{N}}(2N + 4113)) \\
&= B_{\bar{N}}\left(2N + 4116 - \left(\frac{15N}{7} - \frac{411}{7}\right)\right) + B_{\bar{N}}\left(2N + 4116 - \left(\frac{16N}{7} - \frac{409}{7}\right)\right) + B_{\bar{N}}(2N + 4116 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29223}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29221}{7}\right) + B_{\bar{N}}(2N - 356) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29223})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4117}) &= B_{\bar{N}}(2N + 4117 - B_{\bar{N}}(2N + 4116)) + B_{\bar{N}}(2N + 4117 - B_{\bar{N}}(2N + 4115)) + B_{\bar{N}}(2N + 4117 - B_{\bar{N}}(2N + 4114)) \\
&= B_{\bar{N}}(2N + 4117 - (N - 2)) + B_{\bar{N}}\left(2N + 4117 - \left(\frac{15N}{7} - \frac{411}{7}\right)\right) + B_{\bar{N}}\left(2N + 4117 - \left(\frac{16N}{7} - \frac{409}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4119) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29230}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29228}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29230})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4118}) &= B_{\bar{N}}(2N + 4118 - B_{\bar{N}}(2N + 4117)) + B_{\bar{N}}(2N + 4118 - B_{\bar{N}}(2N + 4116)) + B_{\bar{N}}(2N + 4118 - B_{\bar{N}}(2N + 4115)) \\
&= B_{\bar{N}}(2N + 4118 - 7) + B_{\bar{N}}(2N + 4118 - (N - 2)) + B_{\bar{N}}\left(2N + 4118 - \left(\frac{15N}{7} - \frac{411}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4111) + B_{\bar{N}}(N + 4120) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29237}{7}\right) = (80N + 49373) + (2N + 1221) + 0 = \mathbf{82N} + \mathbf{50594} \\
&(\mathbf{N} \geq \mathbf{29237})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4119}) &= B_{\bar{N}}(2N + 4119 - B_{\bar{N}}(2N + 4118)) + B_{\bar{N}}(2N + 4119 - B_{\bar{N}}(2N + 4117)) + B_{\bar{N}}(2N + 4119 - B_{\bar{N}}(2N + 4116)) \\
&= B_{\bar{N}}(2N + 4119 - (82N + 50594)) + B_{\bar{N}}(2N + 4119 - 7) + B_{\bar{N}}(2N + 4119 - (N - 2)) \\
&= B_{\bar{N}}(-80N - 46475) + B_{\bar{N}}(2N + 4112) + B_{\bar{N}}(N + 4121) = 0 + (80N + 21773) + (2N + 581) = \mathbf{82N} + \mathbf{22354} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4120}) &= B_{\bar{N}}(2N + 4120 - B_{\bar{N}}(2N + 4119)) + B_{\bar{N}}(2N + 4120 - B_{\bar{N}}(2N + 4118)) + B_{\bar{N}}(2N + 4120 - B_{\bar{N}}(2N + 4117)) \\
&= B_{\bar{N}}(2N + 4120 - (82N + 22354)) + B_{\bar{N}}(2N + 4120 - (82N + 50594)) + B_{\bar{N}}(2N + 4120 - 7) \\
&= B_{\bar{N}}(-80N - 18234) + B_{\bar{N}}(-80N - 46474) + B_{\bar{N}}(2N + 4113) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4121}) &= B_{\bar{N}}(2N + 4121 - B_{\bar{N}}(2N + 4120)) + B_{\bar{N}}(2N + 4121 - B_{\bar{N}}(2N + 4119)) + B_{\bar{N}}(2N + 4121 - B_{\bar{N}}(2N + 4118)) \\
&= B_{\bar{N}}(2N + 4121 - 4472) + B_{\bar{N}}(2N + 4121 - (82N + 22354)) + B_{\bar{N}}(2N + 4121 - (82N + 50594)) \\
&= B_{\bar{N}}(2N - 351) + B_{\bar{N}}(-80N - 18233) + B_{\bar{N}}(-80N - 46473) = \left(\frac{16N}{7} - \frac{395}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{395}}{\mathbf{7}} \\
&(N \geq 418)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4122}) &= B_{\bar{N}}(2N + 4122 - B_{\bar{N}}(2N + 4121)) + B_{\bar{N}}(2N + 4122 - B_{\bar{N}}(2N + 4120)) + B_{\bar{N}}(2N + 4122 - B_{\bar{N}}(2N + 4119)) \\
&= B_{\bar{N}}\left(2N + 4122 - \left(\frac{16N}{7} - \frac{395}{7}\right)\right) + B_{\bar{N}}(2N + 4122 - 4472) + B_{\bar{N}}(2N + 4122 - (82N + 22354)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29249}{7}\right) + B_{\bar{N}}(2N - 350) + B_{\bar{N}}(-80N - 18232) = 0 + \left(\frac{15N}{7} - \frac{404}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{404}}{\mathbf{7}} \\
&(N \geq 14625)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4123}) &= B_{\bar{N}}(2N + 4123 - B_{\bar{N}}(2N + 4122)) + B_{\bar{N}}(2N + 4123 - B_{\bar{N}}(2N + 4121)) + B_{\bar{N}}(2N + 4123 - B_{\bar{N}}(2N + 4120)) \\
&= B_{\bar{N}}\left(2N + 4123 - \left(\frac{15N}{7} - \frac{404}{7}\right)\right) + B_{\bar{N}}\left(2N + 4123 - \left(\frac{16N}{7} - \frac{395}{7}\right)\right) + B_{\bar{N}}(2N + 4123 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29265}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29256}{7}\right) + B_{\bar{N}}(2N - 349) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29265})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4124}) &= B_{\bar{N}}(2N + 4124 - B_{\bar{N}}(2N + 4123)) + B_{\bar{N}}(2N + 4124 - B_{\bar{N}}(2N + 4122)) + B_{\bar{N}}(2N + 4124 - B_{\bar{N}}(2N + 4121)) \\
&= B_{\bar{N}}(2N + 4124 - (N - 2)) + B_{\bar{N}}\left(2N + 4124 - \left(\frac{15N}{7} - \frac{404}{7}\right)\right) + B_{\bar{N}}\left(2N + 4124 - \left(\frac{16N}{7} - \frac{395}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4126) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29272}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29263}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29272})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4125}) &= B_{\bar{N}}(2N + 4125 - B_{\bar{N}}(2N + 4124)) + B_{\bar{N}}(2N + 4125 - B_{\bar{N}}(2N + 4123)) + B_{\bar{N}}(2N + 4125 - B_{\bar{N}}(2N + 4122)) \\
&= B_{\bar{N}}(2N + 4125 - 7) + B_{\bar{N}}(2N + 4125 - (N - 2)) + B_{\bar{N}}\left(2N + 4125 - \left(\frac{15N}{7} - \frac{404}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4118) + B_{\bar{N}}(N + 4127) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29279}{7}\right) = (82N + 50594) + (2N + 1223) + 0 = \mathbf{84N} + \mathbf{51817} \\
&(\mathbf{N} \geq \mathbf{29279})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4126}) &= B_{\bar{N}}(2N + 4126 - B_{\bar{N}}(2N + 4125)) + B_{\bar{N}}(2N + 4126 - B_{\bar{N}}(2N + 4124)) + B_{\bar{N}}(2N + 4126 - B_{\bar{N}}(2N + 4123)) \\
&= B_{\bar{N}}(2N + 4126 - (84N + 51817)) + B_{\bar{N}}(2N + 4126 - 7) + B_{\bar{N}}(2N + 4126 - (N - 2)) \\
&= B_{\bar{N}}(-82N - 47691) + B_{\bar{N}}(2N + 4119) + B_{\bar{N}}(N + 4128) = 0 + (82N + 22354) + (2N + 582) = \mathbf{84N} + \mathbf{22936} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4127}) &= B_{\bar{N}}(2N + 4127 - B_{\bar{N}}(2N + 4126)) + B_{\bar{N}}(2N + 4127 - B_{\bar{N}}(2N + 4125)) + B_{\bar{N}}(2N + 4127 - B_{\bar{N}}(2N + 4124)) \\
&= B_{\bar{N}}(2N + 4127 - (84N + 22936)) + B_{\bar{N}}(2N + 4127 - (84N + 51817)) + B_{\bar{N}}(2N + 4127 - 7) \\
&= B_{\bar{N}}(-82N - 18809) + B_{\bar{N}}(-82N - 47690) + B_{\bar{N}}(2N + 4120) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4128}) &= B_{\bar{N}}(2N + 4128 - B_{\bar{N}}(2N + 4127)) + B_{\bar{N}}(2N + 4128 - B_{\bar{N}}(2N + 4126)) + B_{\bar{N}}(2N + 4128 - B_{\bar{N}}(2N + 4125)) \\
&= B_{\bar{N}}(2N + 4128 - 4472) + B_{\bar{N}}(2N + 4128 - (84N + 22936)) + B_{\bar{N}}(2N + 4128 - (84N + 51817)) \\
&= B_{\bar{N}}(2N - 344) + B_{\bar{N}}(-82N - 18808) + B_{\bar{N}}(-82N - 47689) = \left(\frac{16N}{7} - \frac{381}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{381}}{\mathbf{7}} \\
&(N \geq 411)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4129}) &= B_{\bar{N}}(2N + 4129 - B_{\bar{N}}(2N + 4128)) + B_{\bar{N}}(2N + 4129 - B_{\bar{N}}(2N + 4127)) + B_{\bar{N}}(2N + 4129 - B_{\bar{N}}(2N + 4126)) \\
&= B_{\bar{N}}\left(2N + 4129 - \left(\frac{16N}{7} - \frac{381}{7}\right)\right) + B_{\bar{N}}(2N + 4129 - 4472) + B_{\bar{N}}(2N + 4129 - (84N + 22936)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29284}{7}\right) + B_{\bar{N}}(2N - 343) + B_{\bar{N}}(-82N - 18807) = 0 + \left(\frac{15N}{7} - \frac{397}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{397}}{\mathbf{7}} \\
&(N \geq 14642)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4130}) &= B_{\bar{N}}(2N + 4130 - B_{\bar{N}}(2N + 4129)) + B_{\bar{N}}(2N + 4130 - B_{\bar{N}}(2N + 4128)) + B_{\bar{N}}(2N + 4130 - B_{\bar{N}}(2N + 4127)) \\
&= B_{\bar{N}}\left(2N + 4130 - \left(\frac{15N}{7} - \frac{397}{7}\right)\right) + B_{\bar{N}}\left(2N + 4130 - \left(\frac{16N}{7} - \frac{381}{7}\right)\right) + B_{\bar{N}}(2N + 4130 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29307}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29291}{7}\right) + B_{\bar{N}}(2N - 342) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29307})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4131}) &= B_{\bar{N}}(2N + 4131 - B_{\bar{N}}(2N + 4130)) + B_{\bar{N}}(2N + 4131 - B_{\bar{N}}(2N + 4129)) + B_{\bar{N}}(2N + 4131 - B_{\bar{N}}(2N + 4128)) \\
&= B_{\bar{N}}(2N + 4131 - (N - 2)) + B_{\bar{N}}\left(2N + 4131 - \left(\frac{15N}{7} - \frac{397}{7}\right)\right) + B_{\bar{N}}\left(2N + 4131 - \left(\frac{16N}{7} - \frac{381}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4133) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29314}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29298}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29314})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4132}) &= B_{\bar{N}}(2N + 4132 - B_{\bar{N}}(2N + 4131)) + B_{\bar{N}}(2N + 4132 - B_{\bar{N}}(2N + 4130)) + B_{\bar{N}}(2N + 4132 - B_{\bar{N}}(2N + 4129)) \\
&= B_{\bar{N}}(2N + 4132 - 7) + B_{\bar{N}}(2N + 4132 - (N - 2)) + B_{\bar{N}}\left(2N + 4132 - \left(\frac{15N}{7} - \frac{397}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4125) + B_{\bar{N}}(N + 4134) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29321}{7}\right) = (84N + 51817) + (2N + 1225) + 0 = \mathbf{86N} + \mathbf{53042} \\
&(\mathbf{N} \geq \mathbf{29321})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4133}) &= B_{\bar{N}}(2N + 4133 - B_{\bar{N}}(2N + 4132)) + B_{\bar{N}}(2N + 4133 - B_{\bar{N}}(2N + 4131)) + B_{\bar{N}}(2N + 4133 - B_{\bar{N}}(2N + 4130)) \\
&= B_{\bar{N}}(2N + 4133 - (86N + 53042)) + B_{\bar{N}}(2N + 4133 - 7) + B_{\bar{N}}(2N + 4133 - (N - 2)) \\
&= B_{\bar{N}}(-84N - 48909) + B_{\bar{N}}(2N + 4126) + B_{\bar{N}}(N + 4135) = 0 + (84N + 22936) + (2N + 583) = \mathbf{86N} + \mathbf{23519} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4134}) &= B_{\bar{N}}(2N + 4134 - B_{\bar{N}}(2N + 4133)) + B_{\bar{N}}(2N + 4134 - B_{\bar{N}}(2N + 4132)) + B_{\bar{N}}(2N + 4134 - B_{\bar{N}}(2N + 4131)) \\
&= B_{\bar{N}}(2N + 4134 - (86N + 23519)) + B_{\bar{N}}(2N + 4134 - (86N + 53042)) + B_{\bar{N}}(2N + 4134 - 7) \\
&= B_{\bar{N}}(-84N - 19385) + B_{\bar{N}}(-84N - 48908) + B_{\bar{N}}(2N + 4127) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4135}) &= B_{\bar{N}}(2N + 4135 - B_{\bar{N}}(2N + 4134)) + B_{\bar{N}}(2N + 4135 - B_{\bar{N}}(2N + 4133)) + B_{\bar{N}}(2N + 4135 - B_{\bar{N}}(2N + 4132)) \\
&= B_{\bar{N}}(2N + 4135 - 4472) + B_{\bar{N}}(2N + 4135 - (86N + 23519)) + B_{\bar{N}}(2N + 4135 - (86N + 53042)) \\
&= B_{\bar{N}}(2N - 337) + B_{\bar{N}}(-84N - 19384) + B_{\bar{N}}(-84N - 48907) = \left(\frac{16N}{7} - \frac{367}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{367}}{\mathbf{7}} \\
&(N \geq 404)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4136}) &= B_{\bar{N}}(2N + 4136 - B_{\bar{N}}(2N + 4135)) + B_{\bar{N}}(2N + 4136 - B_{\bar{N}}(2N + 4134)) + B_{\bar{N}}(2N + 4136 - B_{\bar{N}}(2N + 4133)) \\
&= B_{\bar{N}}\left(2N + 4136 - \left(\frac{16N}{7} - \frac{367}{7}\right)\right) + B_{\bar{N}}(2N + 4136 - 4472) + B_{\bar{N}}(2N + 4136 - (86N + 23519)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29319}{7}\right) + B_{\bar{N}}(2N - 336) + B_{\bar{N}}(-84N - 19383) = 0 + \left(\frac{15N}{7} - \frac{390}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{390}}{\mathbf{7}} \\
&(N \geq 14660)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4137}) &= B_{\bar{N}}(2N + 4137 - B_{\bar{N}}(2N + 4136)) + B_{\bar{N}}(2N + 4137 - B_{\bar{N}}(2N + 4135)) + B_{\bar{N}}(2N + 4137 - B_{\bar{N}}(2N + 4134)) \\
&= B_{\bar{N}}\left(2N + 4137 - \left(\frac{15N}{7} - \frac{390}{7}\right)\right) + B_{\bar{N}}\left(2N + 4137 - \left(\frac{16N}{7} - \frac{367}{7}\right)\right) + B_{\bar{N}}(2N + 4137 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29349}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29326}{7}\right) + B_{\bar{N}}(2N - 335) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29349})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4138) &= B_{\bar{N}}(2N + 4138 - B_{\bar{N}}(2N + 4137)) + B_{\bar{N}}(2N + 4138 - B_{\bar{N}}(2N + 4136)) + B_{\bar{N}}(2N + 4138 - B_{\bar{N}}(2N + 4135)) \\
&= B_{\bar{N}}(2N + 4138 - (N - 2)) + B_{\bar{N}}\left(2N + 4138 - \left(\frac{15N}{7} - \frac{390}{7}\right)\right) + B_{\bar{N}}\left(2N + 4138 - \left(\frac{16N}{7} - \frac{367}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4140) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29356}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29333}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29356})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4139) &= B_{\bar{N}}(2N + 4139 - B_{\bar{N}}(2N + 4138)) + B_{\bar{N}}(2N + 4139 - B_{\bar{N}}(2N + 4137)) + B_{\bar{N}}(2N + 4139 - B_{\bar{N}}(2N + 4136)) \\
&= B_{\bar{N}}(2N + 4139 - 7) + B_{\bar{N}}(2N + 4139 - (N - 2)) + B_{\bar{N}}\left(2N + 4139 - \left(\frac{15N}{7} - \frac{390}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4132) + B_{\bar{N}}(N + 4141) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29363}{7}\right) = (86N + 53042) + (2N + 1227) + 0 = \mathbf{88N} + \mathbf{54269} \\
&(\mathbf{N} \geq \mathbf{29363})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4140) &= B_{\bar{N}}(2N + 4140 - B_{\bar{N}}(2N + 4139)) + B_{\bar{N}}(2N + 4140 - B_{\bar{N}}(2N + 4138)) + B_{\bar{N}}(2N + 4140 - B_{\bar{N}}(2N + 4137)) \\
&= B_{\bar{N}}(2N + 4140 - (88N + 54269)) + B_{\bar{N}}(2N + 4140 - 7) + B_{\bar{N}}(2N + 4140 - (N - 2)) \\
&= B_{\bar{N}}(-86N - 50129) + B_{\bar{N}}(2N + 4133) + B_{\bar{N}}(N + 4142) = 0 + (86N + 23519) + (2N + 584) = \mathbf{88N} + \mathbf{24103} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4141) &= B_{\bar{N}}(2N + 4141 - B_{\bar{N}}(2N + 4140)) + B_{\bar{N}}(2N + 4141 - B_{\bar{N}}(2N + 4139)) + B_{\bar{N}}(2N + 4141 - B_{\bar{N}}(2N + 4138)) \\
&= B_{\bar{N}}(2N + 4141 - (88N + 24103)) + B_{\bar{N}}(2N + 4141 - (88N + 54269)) + B_{\bar{N}}(2N + 4141 - 7) \\
&= B_{\bar{N}}(-86N - 19962) + B_{\bar{N}}(-86N - 50128) + B_{\bar{N}}(2N + 4134) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4142}) &= B_{\bar{N}}(2N + 4142 - B_{\bar{N}}(2N + 4141)) + B_{\bar{N}}(2N + 4142 - B_{\bar{N}}(2N + 4140)) + B_{\bar{N}}(2N + 4142 - B_{\bar{N}}(2N + 4139)) \\
&= B_{\bar{N}}(2N + 4142 - 4472) + B_{\bar{N}}(2N + 4142 - (88N + 24103)) + B_{\bar{N}}(2N + 4142 - (88N + 54269)) \\
&= B_{\bar{N}}(2N - 330) + B_{\bar{N}}(-86N - 19961) + B_{\bar{N}}(-86N - 50127) = \left(\frac{16N}{7} - \frac{353}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{353}}{\mathbf{7}} \\
&(N \geq 397)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4143}) &= B_{\bar{N}}(2N + 4143 - B_{\bar{N}}(2N + 4142)) + B_{\bar{N}}(2N + 4143 - B_{\bar{N}}(2N + 4141)) + B_{\bar{N}}(2N + 4143 - B_{\bar{N}}(2N + 4140)) \\
&= B_{\bar{N}}\left(2N + 4143 - \left(\frac{16N}{7} - \frac{353}{7}\right)\right) + B_{\bar{N}}(2N + 4143 - 4472) + B_{\bar{N}}(2N + 4143 - (88N + 24103)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29354}{7}\right) + B_{\bar{N}}(2N - 329) + B_{\bar{N}}(-86N - 19960) = 0 + \left(\frac{15N}{7} - \frac{383}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{383}}{\mathbf{7}} \\
&(N \geq 14677)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4144}) &= B_{\bar{N}}(2N + 4144 - B_{\bar{N}}(2N + 4143)) + B_{\bar{N}}(2N + 4144 - B_{\bar{N}}(2N + 4142)) + B_{\bar{N}}(2N + 4144 - B_{\bar{N}}(2N + 4141)) \\
&= B_{\bar{N}}\left(2N + 4144 - \left(\frac{15N}{7} - \frac{383}{7}\right)\right) + B_{\bar{N}}\left(2N + 4144 - \left(\frac{16N}{7} - \frac{353}{7}\right)\right) + B_{\bar{N}}(2N + 4144 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29391}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29361}{7}\right) + B_{\bar{N}}(2N - 328) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29391})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4145}) &= B_{\bar{N}}(2N + 4145 - B_{\bar{N}}(2N + 4144)) + B_{\bar{N}}(2N + 4145 - B_{\bar{N}}(2N + 4143)) + B_{\bar{N}}(2N + 4145 - B_{\bar{N}}(2N + 4142)) \\
&= B_{\bar{N}}(2N + 4145 - (N - 2)) + B_{\bar{N}}\left(2N + 4145 - \left(\frac{15N}{7} - \frac{383}{7}\right)\right) + B_{\bar{N}}\left(2N + 4145 - \left(\frac{16N}{7} - \frac{353}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4147) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29398}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29368}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29398})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4146) &= B_{\bar{N}}(2N + 4146 - B_{\bar{N}}(2N + 4145)) + B_{\bar{N}}(2N + 4146 - B_{\bar{N}}(2N + 4144)) + B_{\bar{N}}(2N + 4146 - B_{\bar{N}}(2N + 4143)) \\
&= B_{\bar{N}}(2N + 4146 - 7) + B_{\bar{N}}(2N + 4146 - (N - 2)) + B_{\bar{N}}\left(2N + 4146 - \left(\frac{15N}{7} - \frac{383}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4139) + B_{\bar{N}}(N + 4148) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29405}{7}\right) = (88N + 54269) + (2N + 1229) + 0 = \mathbf{90N} + \mathbf{55498} \\
&(\mathbf{N} \geq \mathbf{29405})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4147) &= B_{\bar{N}}(2N + 4147 - B_{\bar{N}}(2N + 4146)) + B_{\bar{N}}(2N + 4147 - B_{\bar{N}}(2N + 4145)) + B_{\bar{N}}(2N + 4147 - B_{\bar{N}}(2N + 4144)) \\
&= B_{\bar{N}}(2N + 4147 - (90N + 55498)) + B_{\bar{N}}(2N + 4147 - 7) + B_{\bar{N}}(2N + 4147 - (N - 2)) \\
&= B_{\bar{N}}(-88N - 51351) + B_{\bar{N}}(2N + 4140) + B_{\bar{N}}(N + 4149) = 0 + (88N + 24103) + (2N + 585) = \mathbf{90N} + \mathbf{24688} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4148) &= B_{\bar{N}}(2N + 4148 - B_{\bar{N}}(2N + 4147)) + B_{\bar{N}}(2N + 4148 - B_{\bar{N}}(2N + 4146)) + B_{\bar{N}}(2N + 4148 - B_{\bar{N}}(2N + 4145)) \\
&= B_{\bar{N}}(2N + 4148 - (90N + 24688)) + B_{\bar{N}}(2N + 4148 - (90N + 55498)) + B_{\bar{N}}(2N + 4148 - 7) \\
&= B_{\bar{N}}(-88N - 20540) + B_{\bar{N}}(-88N - 51350) + B_{\bar{N}}(2N + 4141) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4149) &= B_{\bar{N}}(2N + 4149 - B_{\bar{N}}(2N + 4148)) + B_{\bar{N}}(2N + 4149 - B_{\bar{N}}(2N + 4147)) + B_{\bar{N}}(2N + 4149 - B_{\bar{N}}(2N + 4146)) \\
&= B_{\bar{N}}(2N + 4149 - 4472) + B_{\bar{N}}(2N + 4149 - (90N + 24688)) + B_{\bar{N}}(2N + 4149 - (90N + 55498)) \\
&= B_{\bar{N}}(2N - 323) + B_{\bar{N}}(-88N - 20539) + B_{\bar{N}}(-88N - 51349) = \left(\frac{16N}{7} - \frac{339}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{339}}{\mathbf{7}} \\
&(N \geq 390)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4150}) &= B_{\bar{N}}(2N + 4150 - B_{\bar{N}}(2N + 4149)) + B_{\bar{N}}(2N + 4150 - B_{\bar{N}}(2N + 4148)) + B_{\bar{N}}(2N + 4150 - B_{\bar{N}}(2N + 4147)) \\
&= B_{\bar{N}}\left(2N + 4150 - \left(\frac{16N}{7} - \frac{339}{7}\right)\right) + B_{\bar{N}}(2N + 4150 - 4472) + B_{\bar{N}}(2N + 4150 - (90N + 24688)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29389}{7}\right) + B_{\bar{N}}(2N - 322) + B_{\bar{N}}(-88N - 20538) = 0 + \left(\frac{15N}{7} - \frac{376}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{376}}{\mathbf{7}} \\
&(N \geq 14695)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4151}) &= B_{\bar{N}}(2N + 4151 - B_{\bar{N}}(2N + 4150)) + B_{\bar{N}}(2N + 4151 - B_{\bar{N}}(2N + 4149)) + B_{\bar{N}}(2N + 4151 - B_{\bar{N}}(2N + 4148)) \\
&= B_{\bar{N}}\left(2N + 4151 - \left(\frac{15N}{7} - \frac{376}{7}\right)\right) + B_{\bar{N}}\left(2N + 4151 - \left(\frac{16N}{7} - \frac{339}{7}\right)\right) + B_{\bar{N}}(2N + 4151 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29433}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29396}{7}\right) + B_{\bar{N}}(2N - 321) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29433})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4152}) &= B_{\bar{N}}(2N + 4152 - B_{\bar{N}}(2N + 4151)) + B_{\bar{N}}(2N + 4152 - B_{\bar{N}}(2N + 4150)) + B_{\bar{N}}(2N + 4152 - B_{\bar{N}}(2N + 4149)) \\
&= B_{\bar{N}}(2N + 4152 - (N - 2)) + B_{\bar{N}}\left(2N + 4152 - \left(\frac{15N}{7} - \frac{376}{7}\right)\right) + B_{\bar{N}}\left(2N + 4152 - \left(\frac{16N}{7} - \frac{339}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4154) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29440}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29403}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29440})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4153}) &= B_{\bar{N}}(2N + 4153 - B_{\bar{N}}(2N + 4152)) + B_{\bar{N}}(2N + 4153 - B_{\bar{N}}(2N + 4151)) + B_{\bar{N}}(2N + 4153 - B_{\bar{N}}(2N + 4150)) \\
&= B_{\bar{N}}(2N + 4153 - 7) + B_{\bar{N}}(2N + 4153 - (N - 2)) + B_{\bar{N}}\left(2N + 4153 - \left(\frac{15N}{7} - \frac{376}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4146) + B_{\bar{N}}(N + 4155) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29447}{7}\right) = (90N + 55498) + (2N + 1231) + 0 = \mathbf{92N} + \mathbf{56729} \\
&(\mathbf{N} \geq \mathbf{29447})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4154) &= B_{\bar{N}}(2N + 4154 - B_{\bar{N}}(2N + 4153)) + B_{\bar{N}}(2N + 4154 - B_{\bar{N}}(2N + 4152)) + B_{\bar{N}}(2N + 4154 - B_{\bar{N}}(2N + 4151)) \\
&= B_{\bar{N}}(2N + 4154 - (92N + 56729)) + B_{\bar{N}}(2N + 4154 - 7) + B_{\bar{N}}(2N + 4154 - (N - 2)) \\
&= B_{\bar{N}}(-90N - 52575) + B_{\bar{N}}(2N + 4147) + B_{\bar{N}}(N + 4156) = 0 + (90N + 24688) + (2N + 586) = \mathbf{92N} + \mathbf{25274} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4155) &= B_{\bar{N}}(2N + 4155 - B_{\bar{N}}(2N + 4154)) + B_{\bar{N}}(2N + 4155 - B_{\bar{N}}(2N + 4153)) + B_{\bar{N}}(2N + 4155 - B_{\bar{N}}(2N + 4152)) \\
&= B_{\bar{N}}(2N + 4155 - (92N + 25274)) + B_{\bar{N}}(2N + 4155 - (92N + 56729)) + B_{\bar{N}}(2N + 4155 - 7) \\
&= B_{\bar{N}}(-90N - 21119) + B_{\bar{N}}(-90N - 52574) + B_{\bar{N}}(2N + 4148) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4156) &= B_{\bar{N}}(2N + 4156 - B_{\bar{N}}(2N + 4155)) + B_{\bar{N}}(2N + 4156 - B_{\bar{N}}(2N + 4154)) + B_{\bar{N}}(2N + 4156 - B_{\bar{N}}(2N + 4153)) \\
&= B_{\bar{N}}(2N + 4156 - 4472) + B_{\bar{N}}(2N + 4156 - (92N + 25274)) + B_{\bar{N}}(2N + 4156 - (92N + 56729)) \\
&= B_{\bar{N}}(2N - 316) + B_{\bar{N}}(-90N - 21118) + B_{\bar{N}}(-90N - 52573) = \left(\frac{16N}{7} - \frac{325}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{325}}{\mathbf{7}} \\
&(N \geq 383)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4157) &= B_{\bar{N}}(2N + 4157 - B_{\bar{N}}(2N + 4156)) + B_{\bar{N}}(2N + 4157 - B_{\bar{N}}(2N + 4155)) + B_{\bar{N}}(2N + 4157 - B_{\bar{N}}(2N + 4154)) \\
&= B_{\bar{N}}\left(2N + 4157 - \left(\frac{16N}{7} - \frac{325}{7}\right)\right) + B_{\bar{N}}(2N + 4157 - 4472) + B_{\bar{N}}(2N + 4157 - (92N + 25274)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29424}{7}\right) + B_{\bar{N}}(2N - 315) + B_{\bar{N}}(-90N - 21117) = 0 + \left(\frac{15N}{7} - \frac{369}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{369}}{\mathbf{7}} \\
&(N \geq 14712)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4158) &= B_{\bar{N}}(2N + 4158 - B_{\bar{N}}(2N + 4157)) + B_{\bar{N}}(2N + 4158 - B_{\bar{N}}(2N + 4156)) + B_{\bar{N}}(2N + 4158 - B_{\bar{N}}(2N + 4155)) \\
&= B_{\bar{N}}\left(2N + 4158 - \left(\frac{15N}{7} - \frac{369}{7}\right)\right) + B_{\bar{N}}\left(2N + 4158 - \left(\frac{16N}{7} - \frac{325}{7}\right)\right) + B_{\bar{N}}(2N + 4158 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29475}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29431}{7}\right) + B_{\bar{N}}(2N - 314) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 29475)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4159) &= B_{\bar{N}}(2N + 4159 - B_{\bar{N}}(2N + 4158)) + B_{\bar{N}}(2N + 4159 - B_{\bar{N}}(2N + 4157)) + B_{\bar{N}}(2N + 4159 - B_{\bar{N}}(2N + 4156)) \\
&= B_{\bar{N}}(2N + 4159 - (N - 2)) + B_{\bar{N}}\left(2N + 4159 - \left(\frac{15N}{7} - \frac{369}{7}\right)\right) + B_{\bar{N}}\left(2N + 4159 - \left(\frac{16N}{7} - \frac{325}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4161) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29482}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29438}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 29482)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4160) &= B_{\bar{N}}(2N + 4160 - B_{\bar{N}}(2N + 4159)) + B_{\bar{N}}(2N + 4160 - B_{\bar{N}}(2N + 4158)) + B_{\bar{N}}(2N + 4160 - B_{\bar{N}}(2N + 4157)) \\
&= B_{\bar{N}}(2N + 4160 - 7) + B_{\bar{N}}(2N + 4160 - (N - 2)) + B_{\bar{N}}\left(2N + 4160 - \left(\frac{15N}{7} - \frac{369}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4153) + B_{\bar{N}}(N + 4162) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29489}{7}\right) = (92N + 56729) + (2N + 1233) + 0 = \mathbf{94N} + \mathbf{57962} \\
&(\mathbf{N} \geq 29489)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4161) &= B_{\bar{N}}(2N + 4161 - B_{\bar{N}}(2N + 4160)) + B_{\bar{N}}(2N + 4161 - B_{\bar{N}}(2N + 4159)) + B_{\bar{N}}(2N + 4161 - B_{\bar{N}}(2N + 4158)) \\
&= B_{\bar{N}}(2N + 4161 - (94N + 57962)) + B_{\bar{N}}(2N + 4161 - 7) + B_{\bar{N}}(2N + 4161 - (N - 2)) \\
&= B_{\bar{N}}(-92N - 53801) + B_{\bar{N}}(2N + 4154) + B_{\bar{N}}(N + 4163) = 0 + (92N + 25274) + (2N + 587) = \mathbf{94N} + \mathbf{25861} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4162}) &= B_{\bar{N}}(2N + 4162 - B_{\bar{N}}(2N + 4161)) + B_{\bar{N}}(2N + 4162 - B_{\bar{N}}(2N + 4160)) + B_{\bar{N}}(2N + 4162 - B_{\bar{N}}(2N + 4159)) \\
&= B_{\bar{N}}(2N + 4162 - (94N + 25861)) + B_{\bar{N}}(2N + 4162 - (94N + 57962)) + B_{\bar{N}}(2N + 4162 - 7) \\
&= B_{\bar{N}}(-92N - 21699) + B_{\bar{N}}(-92N - 53800) + B_{\bar{N}}(2N + 4155) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4163}) &= B_{\bar{N}}(2N + 4163 - B_{\bar{N}}(2N + 4162)) + B_{\bar{N}}(2N + 4163 - B_{\bar{N}}(2N + 4161)) + B_{\bar{N}}(2N + 4163 - B_{\bar{N}}(2N + 4160)) \\
&= B_{\bar{N}}(2N + 4163 - 4472) + B_{\bar{N}}(2N + 4163 - (94N + 25861)) + B_{\bar{N}}(2N + 4163 - (94N + 57962)) \\
&= B_{\bar{N}}(2N - 309) + B_{\bar{N}}(-92N - 21698) + B_{\bar{N}}(-92N - 53799) = \left(\frac{16N}{7} - \frac{311}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{311}}{\mathbf{7}} \\
&(N \geq 376)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4164}) &= B_{\bar{N}}(2N + 4164 - B_{\bar{N}}(2N + 4163)) + B_{\bar{N}}(2N + 4164 - B_{\bar{N}}(2N + 4162)) + B_{\bar{N}}(2N + 4164 - B_{\bar{N}}(2N + 4161)) \\
&= B_{\bar{N}}\left(2N + 4164 - \left(\frac{16N}{7} - \frac{311}{7}\right)\right) + B_{\bar{N}}(2N + 4164 - 4472) + B_{\bar{N}}(2N + 4164 - (94N + 25861)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29459}{7}\right) + B_{\bar{N}}(2N - 308) + B_{\bar{N}}(-92N - 21697) = 0 + \left(\frac{15N}{7} - \frac{362}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{362}}{\mathbf{7}} \\
&(N \geq 14730)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4165}) &= B_{\bar{N}}(2N + 4165 - B_{\bar{N}}(2N + 4164)) + B_{\bar{N}}(2N + 4165 - B_{\bar{N}}(2N + 4163)) + B_{\bar{N}}(2N + 4165 - B_{\bar{N}}(2N + 4162)) \\
&= B_{\bar{N}}\left(2N + 4165 - \left(\frac{15N}{7} - \frac{362}{7}\right)\right) + B_{\bar{N}}\left(2N + 4165 - \left(\frac{16N}{7} - \frac{311}{7}\right)\right) + B_{\bar{N}}(2N + 4165 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29517}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29466}{7}\right) + B_{\bar{N}}(2N - 307) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29517})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4166) &= B_{\bar{N}}(2N + 4166 - B_{\bar{N}}(2N + 4165)) + B_{\bar{N}}(2N + 4166 - B_{\bar{N}}(2N + 4164)) + B_{\bar{N}}(2N + 4166 - B_{\bar{N}}(2N + 4163)) \\
&= B_{\bar{N}}(2N + 4166 - (N - 2)) + B_{\bar{N}}\left(2N + 4166 - \left(\frac{15N}{7} - \frac{362}{7}\right)\right) + B_{\bar{N}}\left(2N + 4166 - \left(\frac{16N}{7} - \frac{311}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4168) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29524}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29473}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29524})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4167) &= B_{\bar{N}}(2N + 4167 - B_{\bar{N}}(2N + 4166)) + B_{\bar{N}}(2N + 4167 - B_{\bar{N}}(2N + 4165)) + B_{\bar{N}}(2N + 4167 - B_{\bar{N}}(2N + 4164)) \\
&= B_{\bar{N}}(2N + 4167 - 7) + B_{\bar{N}}(2N + 4167 - (N - 2)) + B_{\bar{N}}\left(2N + 4167 - \left(\frac{15N}{7} - \frac{362}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4160) + B_{\bar{N}}(N + 4169) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29531}{7}\right) = (94N + 57962) + (2N + 1235) + 0 = \mathbf{96N} + \mathbf{59197} \\
&(\mathbf{N} \geq \mathbf{29531})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4168) &= B_{\bar{N}}(2N + 4168 - B_{\bar{N}}(2N + 4167)) + B_{\bar{N}}(2N + 4168 - B_{\bar{N}}(2N + 4166)) + B_{\bar{N}}(2N + 4168 - B_{\bar{N}}(2N + 4165)) \\
&= B_{\bar{N}}(2N + 4168 - (96N + 59197)) + B_{\bar{N}}(2N + 4168 - 7) + B_{\bar{N}}(2N + 4168 - (N - 2)) \\
&= B_{\bar{N}}(-94N - 55029) + B_{\bar{N}}(2N + 4161) + B_{\bar{N}}(N + 4170) = 0 + (94N + 25861) + (2N + 588) = \mathbf{96N} + \mathbf{26449} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4169) &= B_{\bar{N}}(2N + 4169 - B_{\bar{N}}(2N + 4168)) + B_{\bar{N}}(2N + 4169 - B_{\bar{N}}(2N + 4167)) + B_{\bar{N}}(2N + 4169 - B_{\bar{N}}(2N + 4166)) \\
&= B_{\bar{N}}(2N + 4169 - (96N + 26449)) + B_{\bar{N}}(2N + 4169 - (96N + 59197)) + B_{\bar{N}}(2N + 4169 - 7) \\
&= B_{\bar{N}}(-94N - 22280) + B_{\bar{N}}(-94N - 55028) + B_{\bar{N}}(2N + 4162) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4170}) &= B_{\bar{N}}(2N + 4170 - B_{\bar{N}}(2N + 4169)) + B_{\bar{N}}(2N + 4170 - B_{\bar{N}}(2N + 4168)) + B_{\bar{N}}(2N + 4170 - B_{\bar{N}}(2N + 4167)) \\
&= B_{\bar{N}}(2N + 4170 - 4472) + B_{\bar{N}}(2N + 4170 - (96N + 26449)) + B_{\bar{N}}(2N + 4170 - (96N + 59197)) \\
&= B_{\bar{N}}(2N - 302) + B_{\bar{N}}(-94N - 22279) + B_{\bar{N}}(-94N - 55027) = \left(\frac{16N}{7} - \frac{297}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{297}}{\mathbf{7}} \\
&(N \geq 369)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4171}) &= B_{\bar{N}}(2N + 4171 - B_{\bar{N}}(2N + 4170)) + B_{\bar{N}}(2N + 4171 - B_{\bar{N}}(2N + 4169)) + B_{\bar{N}}(2N + 4171 - B_{\bar{N}}(2N + 4168)) \\
&= B_{\bar{N}}\left(2N + 4171 - \left(\frac{16N}{7} - \frac{297}{7}\right)\right) + B_{\bar{N}}(2N + 4171 - 4472) + B_{\bar{N}}(2N + 4171 - (96N + 26449)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29494}{7}\right) + B_{\bar{N}}(2N - 301) + B_{\bar{N}}(-94N - 22278) = 0 + \left(\frac{15N}{7} - \frac{355}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{355}}{\mathbf{7}} \\
&(N \geq 14747)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4172}) &= B_{\bar{N}}(2N + 4172 - B_{\bar{N}}(2N + 4171)) + B_{\bar{N}}(2N + 4172 - B_{\bar{N}}(2N + 4170)) + B_{\bar{N}}(2N + 4172 - B_{\bar{N}}(2N + 4169)) \\
&= B_{\bar{N}}\left(2N + 4172 - \left(\frac{15N}{7} - \frac{355}{7}\right)\right) + B_{\bar{N}}\left(2N + 4172 - \left(\frac{16N}{7} - \frac{297}{7}\right)\right) + B_{\bar{N}}(2N + 4172 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29559}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29501}{7}\right) + B_{\bar{N}}(2N - 300) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29559})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4173}) &= B_{\bar{N}}(2N + 4173 - B_{\bar{N}}(2N + 4172)) + B_{\bar{N}}(2N + 4173 - B_{\bar{N}}(2N + 4171)) + B_{\bar{N}}(2N + 4173 - B_{\bar{N}}(2N + 4170)) \\
&= B_{\bar{N}}(2N + 4173 - (N - 2)) + B_{\bar{N}}\left(2N + 4173 - \left(\frac{15N}{7} - \frac{355}{7}\right)\right) + B_{\bar{N}}\left(2N + 4173 - \left(\frac{16N}{7} - \frac{297}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4175) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29566}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29508}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29566})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4174}) &= B_{\bar{N}}(2N + 4174 - B_{\bar{N}}(2N + 4173)) + B_{\bar{N}}(2N + 4174 - B_{\bar{N}}(2N + 4172)) + B_{\bar{N}}(2N + 4174 - B_{\bar{N}}(2N + 4171)) \\
&= B_{\bar{N}}(2N + 4174 - 7) + B_{\bar{N}}(2N + 4174 - (N - 2)) + B_{\bar{N}}\left(2N + 4174 - \left(\frac{15N}{7} - \frac{355}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4167) + B_{\bar{N}}(N + 4176) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29573}{7}\right) = (96N + 59197) + (2N + 1237) + 0 = \mathbf{98N} + \mathbf{60434} \\
&(\mathbf{N} \geq \mathbf{29573})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4175}) &= B_{\bar{N}}(2N + 4175 - B_{\bar{N}}(2N + 4174)) + B_{\bar{N}}(2N + 4175 - B_{\bar{N}}(2N + 4173)) + B_{\bar{N}}(2N + 4175 - B_{\bar{N}}(2N + 4172)) \\
&= B_{\bar{N}}(2N + 4175 - (98N + 60434)) + B_{\bar{N}}(2N + 4175 - 7) + B_{\bar{N}}(2N + 4175 - (N - 2)) \\
&= B_{\bar{N}}(-96N - 56259) + B_{\bar{N}}(2N + 4168) + B_{\bar{N}}(N + 4177) = 0 + (96N + 26449) + (2N + 589) = \mathbf{98N} + \mathbf{27038} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4176}) &= B_{\bar{N}}(2N + 4176 - B_{\bar{N}}(2N + 4175)) + B_{\bar{N}}(2N + 4176 - B_{\bar{N}}(2N + 4174)) + B_{\bar{N}}(2N + 4176 - B_{\bar{N}}(2N + 4173)) \\
&= B_{\bar{N}}(2N + 4176 - (98N + 27038)) + B_{\bar{N}}(2N + 4176 - (98N + 60434)) + B_{\bar{N}}(2N + 4176 - 7) \\
&= B_{\bar{N}}(-96N - 22862) + B_{\bar{N}}(-96N - 56258) + B_{\bar{N}}(2N + 4169) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4177}) &= B_{\bar{N}}(2N + 4177 - B_{\bar{N}}(2N + 4176)) + B_{\bar{N}}(2N + 4177 - B_{\bar{N}}(2N + 4175)) + B_{\bar{N}}(2N + 4177 - B_{\bar{N}}(2N + 4174)) \\
&= B_{\bar{N}}(2N + 4177 - 4472) + B_{\bar{N}}(2N + 4177 - (98N + 27038)) + B_{\bar{N}}(2N + 4177 - (98N + 60434)) \\
&= B_{\bar{N}}(2N - 295) + B_{\bar{N}}(-96N - 22861) + B_{\bar{N}}(-96N - 56257) = \left(\frac{16N}{7} - \frac{283}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{283}}{\mathbf{7}} \\
&(N \geq 362)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4178}) &= B_{\bar{N}}(2N + 4178 - B_{\bar{N}}(2N + 4177)) + B_{\bar{N}}(2N + 4178 - B_{\bar{N}}(2N + 4176)) + B_{\bar{N}}(2N + 4178 - B_{\bar{N}}(2N + 4175)) \\
&= B_{\bar{N}}\left(2N + 4178 - \left(\frac{16N}{7} - \frac{283}{7}\right)\right) + B_{\bar{N}}(2N + 4178 - 4472) + B_{\bar{N}}(2N + 4178 - (98N + 27038)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29529}{7}\right) + B_{\bar{N}}(2N - 294) + B_{\bar{N}}(-96N - 22860) = 0 + \left(\frac{15N}{7} - \frac{348}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{348}}{\mathbf{7}} \\
&(N \geq 14765)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4179}) &= B_{\bar{N}}(2N + 4179 - B_{\bar{N}}(2N + 4178)) + B_{\bar{N}}(2N + 4179 - B_{\bar{N}}(2N + 4177)) + B_{\bar{N}}(2N + 4179 - B_{\bar{N}}(2N + 4176)) \\
&= B_{\bar{N}}\left(2N + 4179 - \left(\frac{15N}{7} - \frac{348}{7}\right)\right) + B_{\bar{N}}\left(2N + 4179 - \left(\frac{16N}{7} - \frac{283}{7}\right)\right) + B_{\bar{N}}(2N + 4179 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29601}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29536}{7}\right) + B_{\bar{N}}(2N - 293) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29601})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4180}) &= B_{\bar{N}}(2N + 4180 - B_{\bar{N}}(2N + 4179)) + B_{\bar{N}}(2N + 4180 - B_{\bar{N}}(2N + 4178)) + B_{\bar{N}}(2N + 4180 - B_{\bar{N}}(2N + 4177)) \\
&= B_{\bar{N}}(2N + 4180 - (N - 2)) + B_{\bar{N}}\left(2N + 4180 - \left(\frac{15N}{7} - \frac{348}{7}\right)\right) + B_{\bar{N}}\left(2N + 4180 - \left(\frac{16N}{7} - \frac{283}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4182) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29608}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29543}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29608})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4181}) &= B_{\bar{N}}(2N + 4181 - B_{\bar{N}}(2N + 4180)) + B_{\bar{N}}(2N + 4181 - B_{\bar{N}}(2N + 4179)) + B_{\bar{N}}(2N + 4181 - B_{\bar{N}}(2N + 4178)) \\
&= B_{\bar{N}}(2N + 4181 - 7) + B_{\bar{N}}(2N + 4181 - (N - 2)) + B_{\bar{N}}\left(2N + 4181 - \left(\frac{15N}{7} - \frac{348}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4174) + B_{\bar{N}}(N + 4183) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29615}{7}\right) = (98N + 60434) + (2N + 1239) + 0 = \mathbf{100N} + \mathbf{61673} \\
&(\mathbf{N} \geq \mathbf{29615})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4182}) &= B_{\bar{N}}(2N + 4182 - B_{\bar{N}}(2N + 4181)) + B_{\bar{N}}(2N + 4182 - B_{\bar{N}}(2N + 4180)) + B_{\bar{N}}(2N + 4182 - B_{\bar{N}}(2N + 4179)) \\
&= B_{\bar{N}}(2N + 4182 - (100N + 61673)) + B_{\bar{N}}(2N + 4182 - 7) + B_{\bar{N}}(2N + 4182 - (N - 2)) \\
&= B_{\bar{N}}(-98N - 57491) + B_{\bar{N}}(2N + 4175) + B_{\bar{N}}(N + 4184) = 0 + (98N + 27038) + (2N + 590) = \mathbf{100N} + \mathbf{27628} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4183}) &= B_{\bar{N}}(2N + 4183 - B_{\bar{N}}(2N + 4182)) + B_{\bar{N}}(2N + 4183 - B_{\bar{N}}(2N + 4181)) + B_{\bar{N}}(2N + 4183 - B_{\bar{N}}(2N + 4180)) \\
&= B_{\bar{N}}(2N + 4183 - (100N + 27628)) + B_{\bar{N}}(2N + 4183 - (100N + 61673)) + B_{\bar{N}}(2N + 4183 - 7) \\
&= B_{\bar{N}}(-98N - 23445) + B_{\bar{N}}(-98N - 57490) + B_{\bar{N}}(2N + 4176) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4184}) &= B_{\bar{N}}(2N + 4184 - B_{\bar{N}}(2N + 4183)) + B_{\bar{N}}(2N + 4184 - B_{\bar{N}}(2N + 4182)) + B_{\bar{N}}(2N + 4184 - B_{\bar{N}}(2N + 4181)) \\
&= B_{\bar{N}}(2N + 4184 - 4472) + B_{\bar{N}}(2N + 4184 - (100N + 27628)) + B_{\bar{N}}(2N + 4184 - (100N + 61673)) \\
&= B_{\bar{N}}(2N - 288) + B_{\bar{N}}(-98N - 23444) + B_{\bar{N}}(-98N - 57489) = \left(\frac{16N}{7} - \frac{269}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{269}}{\mathbf{7}} \\
&(N \geq 355)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4185}) &= B_{\bar{N}}(2N + 4185 - B_{\bar{N}}(2N + 4184)) + B_{\bar{N}}(2N + 4185 - B_{\bar{N}}(2N + 4183)) + B_{\bar{N}}(2N + 4185 - B_{\bar{N}}(2N + 4182)) \\
&= B_{\bar{N}}\left(2N + 4185 - \left(\frac{16N}{7} - \frac{269}{7}\right)\right) + B_{\bar{N}}(2N + 4185 - 4472) + B_{\bar{N}}(2N + 4185 - (100N + 27628)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29564}{7}\right) + B_{\bar{N}}(2N - 287) + B_{\bar{N}}(-98N - 23443) = 0 + \left(\frac{15N}{7} - \frac{341}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{341}}{\mathbf{7}} \\
&(N \geq 14782)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4186) &= B_{\bar{N}}(2N + 4186 - B_{\bar{N}}(2N + 4185)) + B_{\bar{N}}(2N + 4186 - B_{\bar{N}}(2N + 4184)) + B_{\bar{N}}(2N + 4186 - B_{\bar{N}}(2N + 4183)) \\
&= B_{\bar{N}}\left(2N + 4186 - \left(\frac{15N}{7} - \frac{341}{7}\right)\right) + B_{\bar{N}}\left(2N + 4186 - \left(\frac{16N}{7} - \frac{269}{7}\right)\right) + B_{\bar{N}}(2N + 4186 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29643}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29571}{7}\right) + B_{\bar{N}}(2N - 286) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 29643)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4187) &= B_{\bar{N}}(2N + 4187 - B_{\bar{N}}(2N + 4186)) + B_{\bar{N}}(2N + 4187 - B_{\bar{N}}(2N + 4185)) + B_{\bar{N}}(2N + 4187 - B_{\bar{N}}(2N + 4184)) \\
&= B_{\bar{N}}(2N + 4187 - (N - 2)) + B_{\bar{N}}\left(2N + 4187 - \left(\frac{15N}{7} - \frac{341}{7}\right)\right) + B_{\bar{N}}\left(2N + 4187 - \left(\frac{16N}{7} - \frac{269}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4189) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29650}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29578}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 29650)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4188) &= B_{\bar{N}}(2N + 4188 - B_{\bar{N}}(2N + 4187)) + B_{\bar{N}}(2N + 4188 - B_{\bar{N}}(2N + 4186)) + B_{\bar{N}}(2N + 4188 - B_{\bar{N}}(2N + 4185)) \\
&= B_{\bar{N}}(2N + 4188 - 7) + B_{\bar{N}}(2N + 4188 - (N - 2)) + B_{\bar{N}}\left(2N + 4188 - \left(\frac{15N}{7} - \frac{341}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4181) + B_{\bar{N}}(N + 4190) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29657}{7}\right) = (100N + 61673) + (2N + 1241) + 0 = \mathbf{102N} + \mathbf{62914} \\
&(\mathbf{N} \geq 29657)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4189) &= B_{\bar{N}}(2N + 4189 - B_{\bar{N}}(2N + 4188)) + B_{\bar{N}}(2N + 4189 - B_{\bar{N}}(2N + 4187)) + B_{\bar{N}}(2N + 4189 - B_{\bar{N}}(2N + 4186)) \\
&= B_{\bar{N}}(2N + 4189 - (102N + 62914)) + B_{\bar{N}}(2N + 4189 - 7) + B_{\bar{N}}(2N + 4189 - (N - 2)) \\
&= B_{\bar{N}}(-100N - 58725) + B_{\bar{N}}(2N + 4182) + B_{\bar{N}}(N + 4191) = 0 + (100N + 27628) + (2N + 591) = \mathbf{102N} + \mathbf{28219} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4190}) &= B_{\bar{N}}(2N + 4190 - B_{\bar{N}}(2N + 4189)) + B_{\bar{N}}(2N + 4190 - B_{\bar{N}}(2N + 4188)) + B_{\bar{N}}(2N + 4190 - B_{\bar{N}}(2N + 4187)) \\
&= B_{\bar{N}}(2N + 4190 - (102N + 28219)) + B_{\bar{N}}(2N + 4190 - (102N + 62914)) + B_{\bar{N}}(2N + 4190 - 7) \\
&= B_{\bar{N}}(-100N - 24029) + B_{\bar{N}}(-100N - 58724) + B_{\bar{N}}(2N + 4183) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4191}) &= B_{\bar{N}}(2N + 4191 - B_{\bar{N}}(2N + 4190)) + B_{\bar{N}}(2N + 4191 - B_{\bar{N}}(2N + 4189)) + B_{\bar{N}}(2N + 4191 - B_{\bar{N}}(2N + 4188)) \\
&= B_{\bar{N}}(2N + 4191 - 4472) + B_{\bar{N}}(2N + 4191 - (102N + 28219)) + B_{\bar{N}}(2N + 4191 - (102N + 62914)) \\
&= B_{\bar{N}}(2N - 281) + B_{\bar{N}}(-100N - 24028) + B_{\bar{N}}(-100N - 58723) = \left(\frac{16N}{7} - \frac{255}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{255}}{\mathbf{7}} \\
&(N \geq 348)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4192}) &= B_{\bar{N}}(2N + 4192 - B_{\bar{N}}(2N + 4191)) + B_{\bar{N}}(2N + 4192 - B_{\bar{N}}(2N + 4190)) + B_{\bar{N}}(2N + 4192 - B_{\bar{N}}(2N + 4189)) \\
&= B_{\bar{N}}\left(2N + 4192 - \left(\frac{16N}{7} - \frac{255}{7}\right)\right) + B_{\bar{N}}(2N + 4192 - 4472) + B_{\bar{N}}(2N + 4192 - (102N + 28219)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29599}{7}\right) + B_{\bar{N}}(2N - 280) + B_{\bar{N}}(-100N - 24027) = 0 + \left(\frac{15N}{7} - \frac{334}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{334}}{\mathbf{7}} \\
&(N \geq 14800)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4193}) &= B_{\bar{N}}(2N + 4193 - B_{\bar{N}}(2N + 4192)) + B_{\bar{N}}(2N + 4193 - B_{\bar{N}}(2N + 4191)) + B_{\bar{N}}(2N + 4193 - B_{\bar{N}}(2N + 4190)) \\
&= B_{\bar{N}}\left(2N + 4193 - \left(\frac{15N}{7} - \frac{334}{7}\right)\right) + B_{\bar{N}}\left(2N + 4193 - \left(\frac{16N}{7} - \frac{255}{7}\right)\right) + B_{\bar{N}}(2N + 4193 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29685}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29606}{7}\right) + B_{\bar{N}}(2N - 279) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29685})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4194) &= B_{\bar{N}}(2N + 4194 - B_{\bar{N}}(2N + 4193)) + B_{\bar{N}}(2N + 4194 - B_{\bar{N}}(2N + 4192)) + B_{\bar{N}}(2N + 4194 - B_{\bar{N}}(2N + 4191)) \\
&= B_{\bar{N}}(2N + 4194 - (N - 2)) + B_{\bar{N}}\left(2N + 4194 - \left(\frac{15N}{7} - \frac{334}{7}\right)\right) + B_{\bar{N}}\left(2N + 4194 - \left(\frac{16N}{7} - \frac{255}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4196) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29692}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29613}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29692})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4195) &= B_{\bar{N}}(2N + 4195 - B_{\bar{N}}(2N + 4194)) + B_{\bar{N}}(2N + 4195 - B_{\bar{N}}(2N + 4193)) + B_{\bar{N}}(2N + 4195 - B_{\bar{N}}(2N + 4192)) \\
&= B_{\bar{N}}(2N + 4195 - 7) + B_{\bar{N}}(2N + 4195 - (N - 2)) + B_{\bar{N}}\left(2N + 4195 - \left(\frac{15N}{7} - \frac{334}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4188) + B_{\bar{N}}(N + 4197) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29699}{7}\right) = (102N + 62914) + (2N + 1243) + 0 = \mathbf{104N} + \mathbf{64157} \\
&(\mathbf{N} \geq \mathbf{29699})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4196) &= B_{\bar{N}}(2N + 4196 - B_{\bar{N}}(2N + 4195)) + B_{\bar{N}}(2N + 4196 - B_{\bar{N}}(2N + 4194)) + B_{\bar{N}}(2N + 4196 - B_{\bar{N}}(2N + 4193)) \\
&= B_{\bar{N}}(2N + 4196 - (104N + 64157)) + B_{\bar{N}}(2N + 4196 - 7) + B_{\bar{N}}(2N + 4196 - (N - 2)) \\
&= B_{\bar{N}}(-102N - 59961) + B_{\bar{N}}(2N + 4189) + B_{\bar{N}}(N + 4198) = 0 + (102N + 28219) + (2N + 592) = \mathbf{104N} + \mathbf{28811} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4197) &= B_{\bar{N}}(2N + 4197 - B_{\bar{N}}(2N + 4196)) + B_{\bar{N}}(2N + 4197 - B_{\bar{N}}(2N + 4195)) + B_{\bar{N}}(2N + 4197 - B_{\bar{N}}(2N + 4194)) \\
&= B_{\bar{N}}(2N + 4197 - (104N + 28811)) + B_{\bar{N}}(2N + 4197 - (104N + 64157)) + B_{\bar{N}}(2N + 4197 - 7) \\
&= B_{\bar{N}}(-102N - 24614) + B_{\bar{N}}(-102N - 59960) + B_{\bar{N}}(2N + 4190) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4198}) &= B_{\bar{N}}(2N + 4198 - B_{\bar{N}}(2N + 4197)) + B_{\bar{N}}(2N + 4198 - B_{\bar{N}}(2N + 4196)) + B_{\bar{N}}(2N + 4198 - B_{\bar{N}}(2N + 4195)) \\
&= B_{\bar{N}}(2N + 4198 - 4472) + B_{\bar{N}}(2N + 4198 - (104N + 28811)) + B_{\bar{N}}(2N + 4198 - (104N + 64157)) \\
&= B_{\bar{N}}(2N - 274) + B_{\bar{N}}(-102N - 24613) + B_{\bar{N}}(-102N - 59959) = \left(\frac{16N}{7} - \frac{241}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{241}}{\mathbf{7}} \\
&(N \geq 341)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4199}) &= B_{\bar{N}}(2N + 4199 - B_{\bar{N}}(2N + 4198)) + B_{\bar{N}}(2N + 4199 - B_{\bar{N}}(2N + 4197)) + B_{\bar{N}}(2N + 4199 - B_{\bar{N}}(2N + 4196)) \\
&= B_{\bar{N}}\left(2N + 4199 - \left(\frac{16N}{7} - \frac{241}{7}\right)\right) + B_{\bar{N}}(2N + 4199 - 4472) + B_{\bar{N}}(2N + 4199 - (104N + 28811)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29634}{7}\right) + B_{\bar{N}}(2N - 273) + B_{\bar{N}}(-102N - 24612) = 0 + \left(\frac{15N}{7} - \frac{327}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{327}}{\mathbf{7}} \\
&(N \geq 14817)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4200}) &= B_{\bar{N}}(2N + 4200 - B_{\bar{N}}(2N + 4199)) + B_{\bar{N}}(2N + 4200 - B_{\bar{N}}(2N + 4198)) + B_{\bar{N}}(2N + 4200 - B_{\bar{N}}(2N + 4197)) \\
&= B_{\bar{N}}\left(2N + 4200 - \left(\frac{15N}{7} - \frac{327}{7}\right)\right) + B_{\bar{N}}\left(2N + 4200 - \left(\frac{16N}{7} - \frac{241}{7}\right)\right) + B_{\bar{N}}(2N + 4200 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29727}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29641}{7}\right) + B_{\bar{N}}(2N - 272) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29727})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4201}) &= B_{\bar{N}}(2N + 4201 - B_{\bar{N}}(2N + 4200)) + B_{\bar{N}}(2N + 4201 - B_{\bar{N}}(2N + 4199)) + B_{\bar{N}}(2N + 4201 - B_{\bar{N}}(2N + 4198)) \\
&= B_{\bar{N}}(2N + 4201 - (N - 2)) + B_{\bar{N}}\left(2N + 4201 - \left(\frac{15N}{7} - \frac{327}{7}\right)\right) + B_{\bar{N}}\left(2N + 4201 - \left(\frac{16N}{7} - \frac{241}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4203) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29734}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29648}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29734})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4202}) &= B_{\bar{N}}(2N + 4202 - B_{\bar{N}}(2N + 4201)) + B_{\bar{N}}(2N + 4202 - B_{\bar{N}}(2N + 4200)) + B_{\bar{N}}(2N + 4202 - B_{\bar{N}}(2N + 4199)) \\
&= B_{\bar{N}}(2N + 4202 - 7) + B_{\bar{N}}(2N + 4202 - (N - 2)) + B_{\bar{N}}\left(2N + 4202 - \left(\frac{15N}{7} - \frac{327}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4195) + B_{\bar{N}}(N + 4204) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29741}{7}\right) = (104N + 64157) + (2N + 1245) + 0 = \mathbf{106N} + \mathbf{65402} \\
&(\mathbf{N} \geq \mathbf{29741})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4203}) &= B_{\bar{N}}(2N + 4203 - B_{\bar{N}}(2N + 4202)) + B_{\bar{N}}(2N + 4203 - B_{\bar{N}}(2N + 4201)) + B_{\bar{N}}(2N + 4203 - B_{\bar{N}}(2N + 4200)) \\
&= B_{\bar{N}}(2N + 4203 - (106N + 65402)) + B_{\bar{N}}(2N + 4203 - 7) + B_{\bar{N}}(2N + 4203 - (N - 2)) \\
&= B_{\bar{N}}(-104N - 61199) + B_{\bar{N}}(2N + 4196) + B_{\bar{N}}(N + 4205) = 0 + (104N + 28811) + (2N + 593) = \mathbf{106N} + \mathbf{29404} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4204}) &= B_{\bar{N}}(2N + 4204 - B_{\bar{N}}(2N + 4203)) + B_{\bar{N}}(2N + 4204 - B_{\bar{N}}(2N + 4202)) + B_{\bar{N}}(2N + 4204 - B_{\bar{N}}(2N + 4201)) \\
&= B_{\bar{N}}(2N + 4204 - (106N + 29404)) + B_{\bar{N}}(2N + 4204 - (106N + 65402)) + B_{\bar{N}}(2N + 4204 - 7) \\
&= B_{\bar{N}}(-104N - 25200) + B_{\bar{N}}(-104N - 61198) + B_{\bar{N}}(2N + 4197) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4205}) &= B_{\bar{N}}(2N + 4205 - B_{\bar{N}}(2N + 4204)) + B_{\bar{N}}(2N + 4205 - B_{\bar{N}}(2N + 4203)) + B_{\bar{N}}(2N + 4205 - B_{\bar{N}}(2N + 4202)) \\
&= B_{\bar{N}}(2N + 4205 - 4472) + B_{\bar{N}}(2N + 4205 - (106N + 29404)) + B_{\bar{N}}(2N + 4205 - (106N + 65402)) \\
&= B_{\bar{N}}(2N - 267) + B_{\bar{N}}(-104N - 25199) + B_{\bar{N}}(-104N - 61197) = \left(\frac{16N}{7} - \frac{227}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{227}}{\mathbf{7}} \\
&(N \geq 334)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4206}) &= B_{\bar{N}}(2N + 4206 - B_{\bar{N}}(2N + 4205)) + B_{\bar{N}}(2N + 4206 - B_{\bar{N}}(2N + 4204)) + B_{\bar{N}}(2N + 4206 - B_{\bar{N}}(2N + 4203)) \\
&= B_{\bar{N}}\left(2N + 4206 - \left(\frac{16N}{7} - \frac{227}{7}\right)\right) + B_{\bar{N}}(2N + 4206 - 4472) + B_{\bar{N}}(2N + 4206 - (106N + 29404)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29669}{7}\right) + B_{\bar{N}}(2N - 266) + B_{\bar{N}}(-104N - 25198) = 0 + \left(\frac{15N}{7} - \frac{320}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{320}}{\mathbf{7}} \\
&(N \geq 14835)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4207}) &= B_{\bar{N}}(2N + 4207 - B_{\bar{N}}(2N + 4206)) + B_{\bar{N}}(2N + 4207 - B_{\bar{N}}(2N + 4205)) + B_{\bar{N}}(2N + 4207 - B_{\bar{N}}(2N + 4204)) \\
&= B_{\bar{N}}\left(2N + 4207 - \left(\frac{15N}{7} - \frac{320}{7}\right)\right) + B_{\bar{N}}\left(2N + 4207 - \left(\frac{16N}{7} - \frac{227}{7}\right)\right) + B_{\bar{N}}(2N + 4207 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29769}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29676}{7}\right) + B_{\bar{N}}(2N - 265) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29769})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4208}) &= B_{\bar{N}}(2N + 4208 - B_{\bar{N}}(2N + 4207)) + B_{\bar{N}}(2N + 4208 - B_{\bar{N}}(2N + 4206)) + B_{\bar{N}}(2N + 4208 - B_{\bar{N}}(2N + 4205)) \\
&= B_{\bar{N}}(2N + 4208 - (N - 2)) + B_{\bar{N}}\left(2N + 4208 - \left(\frac{15N}{7} - \frac{320}{7}\right)\right) + B_{\bar{N}}\left(2N + 4208 - \left(\frac{16N}{7} - \frac{227}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4210) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29776}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29683}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29776})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4209}) &= B_{\bar{N}}(2N + 4209 - B_{\bar{N}}(2N + 4208)) + B_{\bar{N}}(2N + 4209 - B_{\bar{N}}(2N + 4207)) + B_{\bar{N}}(2N + 4209 - B_{\bar{N}}(2N + 4206)) \\
&= B_{\bar{N}}(2N + 4209 - 7) + B_{\bar{N}}(2N + 4209 - (N - 2)) + B_{\bar{N}}\left(2N + 4209 - \left(\frac{15N}{7} - \frac{320}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4202) + B_{\bar{N}}(N + 4211) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29783}{7}\right) = (106N + 65402) + (2N + 1247) + 0 = \mathbf{108N} + \mathbf{66649} \\
&(\mathbf{N} \geq \mathbf{29783})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4210}) &= B_{\bar{N}}(2N + 4210 - B_{\bar{N}}(2N + 4209)) + B_{\bar{N}}(2N + 4210 - B_{\bar{N}}(2N + 4208)) + B_{\bar{N}}(2N + 4210 - B_{\bar{N}}(2N + 4207)) \\
&= B_{\bar{N}}(2N + 4210 - (108N + 66649)) + B_{\bar{N}}(2N + 4210 - 7) + B_{\bar{N}}(2N + 4210 - (N - 2)) \\
&= B_{\bar{N}}(-106N - 62439) + B_{\bar{N}}(2N + 4203) + B_{\bar{N}}(N + 4212) = 0 + (106N + 29404) + (2N + 594) = \mathbf{108N} + \mathbf{29998} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4211}) &= B_{\bar{N}}(2N + 4211 - B_{\bar{N}}(2N + 4210)) + B_{\bar{N}}(2N + 4211 - B_{\bar{N}}(2N + 4209)) + B_{\bar{N}}(2N + 4211 - B_{\bar{N}}(2N + 4208)) \\
&= B_{\bar{N}}(2N + 4211 - (108N + 29998)) + B_{\bar{N}}(2N + 4211 - (108N + 66649)) + B_{\bar{N}}(2N + 4211 - 7) \\
&= B_{\bar{N}}(-106N - 25787) + B_{\bar{N}}(-106N - 62438) + B_{\bar{N}}(2N + 4204) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4212}) &= B_{\bar{N}}(2N + 4212 - B_{\bar{N}}(2N + 4211)) + B_{\bar{N}}(2N + 4212 - B_{\bar{N}}(2N + 4210)) + B_{\bar{N}}(2N + 4212 - B_{\bar{N}}(2N + 4209)) \\
&= B_{\bar{N}}(2N + 4212 - 4472) + B_{\bar{N}}(2N + 4212 - (108N + 29998)) + B_{\bar{N}}(2N + 4212 - (108N + 66649)) \\
&= B_{\bar{N}}(2N - 260) + B_{\bar{N}}(-106N - 25786) + B_{\bar{N}}(-106N - 62437) = \left(\frac{16N}{7} - \frac{213}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{213}}{\mathbf{7}} \\
&(N \geq 327)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4213}) &= B_{\bar{N}}(2N + 4213 - B_{\bar{N}}(2N + 4212)) + B_{\bar{N}}(2N + 4213 - B_{\bar{N}}(2N + 4211)) + B_{\bar{N}}(2N + 4213 - B_{\bar{N}}(2N + 4210)) \\
&= B_{\bar{N}}\left(2N + 4213 - \left(\frac{16N}{7} - \frac{213}{7}\right)\right) + B_{\bar{N}}(2N + 4213 - 4472) + B_{\bar{N}}(2N + 4213 - (108N + 29998)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29704}{7}\right) + B_{\bar{N}}(2N - 259) + B_{\bar{N}}(-106N - 25785) = 0 + \left(\frac{15N}{7} - \frac{313}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{313}}{\mathbf{7}} \\
&(N \geq 14852)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4214}) &= B_{\bar{N}}(2N + 4214 - B_{\bar{N}}(2N + 4213)) + B_{\bar{N}}(2N + 4214 - B_{\bar{N}}(2N + 4212)) + B_{\bar{N}}(2N + 4214 - B_{\bar{N}}(2N + 4211)) \\
&= B_{\bar{N}}\left(2N + 4214 - \left(\frac{15N}{7} - \frac{313}{7}\right)\right) + B_{\bar{N}}\left(2N + 4214 - \left(\frac{16N}{7} - \frac{213}{7}\right)\right) + B_{\bar{N}}(2N + 4214 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29811}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29711}{7}\right) + B_{\bar{N}}(2N - 258) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29811})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4215}) &= B_{\bar{N}}(2N + 4215 - B_{\bar{N}}(2N + 4214)) + B_{\bar{N}}(2N + 4215 - B_{\bar{N}}(2N + 4213)) + B_{\bar{N}}(2N + 4215 - B_{\bar{N}}(2N + 4212)) \\
&= B_{\bar{N}}(2N + 4215 - (N - 2)) + B_{\bar{N}}\left(2N + 4215 - \left(\frac{15N}{7} - \frac{313}{7}\right)\right) + B_{\bar{N}}\left(2N + 4215 - \left(\frac{16N}{7} - \frac{213}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4217) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29818}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29718}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29818})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4216}) &= B_{\bar{N}}(2N + 4216 - B_{\bar{N}}(2N + 4215)) + B_{\bar{N}}(2N + 4216 - B_{\bar{N}}(2N + 4214)) + B_{\bar{N}}(2N + 4216 - B_{\bar{N}}(2N + 4213)) \\
&= B_{\bar{N}}(2N + 4216 - 7) + B_{\bar{N}}(2N + 4216 - (N - 2)) + B_{\bar{N}}\left(2N + 4216 - \left(\frac{15N}{7} - \frac{313}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4209) + B_{\bar{N}}(N + 4218) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29825}{7}\right) = (108N + 66649) + (2N + 1249) + 0 = \mathbf{110N} + \mathbf{67898} \\
&(\mathbf{N} \geq \mathbf{29825})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4217}) &= B_{\bar{N}}(2N + 4217 - B_{\bar{N}}(2N + 4216)) + B_{\bar{N}}(2N + 4217 - B_{\bar{N}}(2N + 4215)) + B_{\bar{N}}(2N + 4217 - B_{\bar{N}}(2N + 4214)) \\
&= B_{\bar{N}}(2N + 4217 - (110N + 67898)) + B_{\bar{N}}(2N + 4217 - 7) + B_{\bar{N}}(2N + 4217 - (N - 2)) \\
&= B_{\bar{N}}(-108N - 63681) + B_{\bar{N}}(2N + 4210) + B_{\bar{N}}(N + 4219) = 0 + (108N + 29998) + (2N + 595) = \mathbf{110N} + \mathbf{30593} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4218}) &= B_{\bar{N}}(2N + 4218 - B_{\bar{N}}(2N + 4217)) + B_{\bar{N}}(2N + 4218 - B_{\bar{N}}(2N + 4216)) + B_{\bar{N}}(2N + 4218 - B_{\bar{N}}(2N + 4215)) \\
&= B_{\bar{N}}(2N + 4218 - (110N + 30593)) + B_{\bar{N}}(2N + 4218 - (110N + 67898)) + B_{\bar{N}}(2N + 4218 - 7) \\
&= B_{\bar{N}}(-108N - 26375) + B_{\bar{N}}(-108N - 63680) + B_{\bar{N}}(2N + 4211) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4219}) &= B_{\bar{N}}(2N + 4219 - B_{\bar{N}}(2N + 4218)) + B_{\bar{N}}(2N + 4219 - B_{\bar{N}}(2N + 4217)) + B_{\bar{N}}(2N + 4219 - B_{\bar{N}}(2N + 4216)) \\
&= B_{\bar{N}}(2N + 4219 - 4472) + B_{\bar{N}}(2N + 4219 - (110N + 30593)) + B_{\bar{N}}(2N + 4219 - (110N + 67898)) \\
&= B_{\bar{N}}(2N - 253) + B_{\bar{N}}(-108N - 26374) + B_{\bar{N}}(-108N - 63679) = \left(\frac{16N}{7} - \frac{199}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{199}}{\mathbf{7}} \\
&(N \geq 320)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4220}) &= B_{\bar{N}}(2N + 4220 - B_{\bar{N}}(2N + 4219)) + B_{\bar{N}}(2N + 4220 - B_{\bar{N}}(2N + 4218)) + B_{\bar{N}}(2N + 4220 - B_{\bar{N}}(2N + 4217)) \\
&= B_{\bar{N}}\left(2N + 4220 - \left(\frac{16N}{7} - \frac{199}{7}\right)\right) + B_{\bar{N}}(2N + 4220 - 4472) + B_{\bar{N}}(2N + 4220 - (110N + 30593)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29739}{7}\right) + B_{\bar{N}}(2N - 252) + B_{\bar{N}}(-108N - 26373) = 0 + \left(\frac{15N}{7} - \frac{306}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{306}}{\mathbf{7}} \\
&(N \geq 14870)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4221}) &= B_{\bar{N}}(2N + 4221 - B_{\bar{N}}(2N + 4220)) + B_{\bar{N}}(2N + 4221 - B_{\bar{N}}(2N + 4219)) + B_{\bar{N}}(2N + 4221 - B_{\bar{N}}(2N + 4218)) \\
&= B_{\bar{N}}\left(2N + 4221 - \left(\frac{15N}{7} - \frac{306}{7}\right)\right) + B_{\bar{N}}\left(2N + 4221 - \left(\frac{16N}{7} - \frac{199}{7}\right)\right) + B_{\bar{N}}(2N + 4221 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29853}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29746}{7}\right) + B_{\bar{N}}(2N - 251) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29853})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4222}) &= B_{\bar{N}}(2N + 4222 - B_{\bar{N}}(2N + 4221)) + B_{\bar{N}}(2N + 4222 - B_{\bar{N}}(2N + 4220)) + B_{\bar{N}}(2N + 4222 - B_{\bar{N}}(2N + 4219)) \\
&= B_{\bar{N}}(2N + 4222 - (N - 2)) + B_{\bar{N}}\left(2N + 4222 - \left(\frac{15N}{7} - \frac{306}{7}\right)\right) + B_{\bar{N}}\left(2N + 4222 - \left(\frac{16N}{7} - \frac{199}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4224) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29860}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29753}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29860})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4223}) &= B_{\bar{N}}(2N + 4223 - B_{\bar{N}}(2N + 4222)) + B_{\bar{N}}(2N + 4223 - B_{\bar{N}}(2N + 4221)) + B_{\bar{N}}(2N + 4223 - B_{\bar{N}}(2N + 4220)) \\
&= B_{\bar{N}}(2N + 4223 - 7) + B_{\bar{N}}(2N + 4223 - (N - 2)) + B_{\bar{N}}\left(2N + 4223 - \left(\frac{15N}{7} - \frac{306}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4216) + B_{\bar{N}}(N + 4225) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29867}{7}\right) = (110N + 67898) + (2N + 1251) + 0 = \mathbf{112N} + \mathbf{69149} \\
&(\mathbf{N} \geq \mathbf{29867})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4224}) &= B_{\bar{N}}(2N + 4224 - B_{\bar{N}}(2N + 4223)) + B_{\bar{N}}(2N + 4224 - B_{\bar{N}}(2N + 4222)) + B_{\bar{N}}(2N + 4224 - B_{\bar{N}}(2N + 4221)) \\
&= B_{\bar{N}}(2N + 4224 - (112N + 69149)) + B_{\bar{N}}(2N + 4224 - 7) + B_{\bar{N}}(2N + 4224 - (N - 2)) \\
&= B_{\bar{N}}(-110N - 64925) + B_{\bar{N}}(2N + 4217) + B_{\bar{N}}(N + 4226) = 0 + (110N + 30593) + (2N + 596) = \mathbf{112N} + \mathbf{31189} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4225}) &= B_{\bar{N}}(2N + 4225 - B_{\bar{N}}(2N + 4224)) + B_{\bar{N}}(2N + 4225 - B_{\bar{N}}(2N + 4223)) + B_{\bar{N}}(2N + 4225 - B_{\bar{N}}(2N + 4222)) \\
&= B_{\bar{N}}(2N + 4225 - (112N + 31189)) + B_{\bar{N}}(2N + 4225 - (112N + 69149)) + B_{\bar{N}}(2N + 4225 - 7) \\
&= B_{\bar{N}}(-110N - 26964) + B_{\bar{N}}(-110N - 64924) + B_{\bar{N}}(2N + 4218) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4226}) &= B_{\bar{N}}(2N + 4226 - B_{\bar{N}}(2N + 4225)) + B_{\bar{N}}(2N + 4226 - B_{\bar{N}}(2N + 4224)) + B_{\bar{N}}(2N + 4226 - B_{\bar{N}}(2N + 4223)) \\
&= B_{\bar{N}}(2N + 4226 - 4472) + B_{\bar{N}}(2N + 4226 - (112N + 31189)) + B_{\bar{N}}(2N + 4226 - (112N + 69149)) \\
&= B_{\bar{N}}(2N - 246) + B_{\bar{N}}(-110N - 26963) + B_{\bar{N}}(-110N - 64923) = \left(\frac{16N}{7} - \frac{185}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{185}}{\mathbf{7}} \\
&(N \geq 313)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4227}) &= B_{\bar{N}}(2N + 4227 - B_{\bar{N}}(2N + 4226)) + B_{\bar{N}}(2N + 4227 - B_{\bar{N}}(2N + 4225)) + B_{\bar{N}}(2N + 4227 - B_{\bar{N}}(2N + 4224)) \\
&= B_{\bar{N}}\left(2N + 4227 - \left(\frac{16N}{7} - \frac{185}{7}\right)\right) + B_{\bar{N}}(2N + 4227 - 4472) + B_{\bar{N}}(2N + 4227 - (112N + 31189)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29774}{7}\right) + B_{\bar{N}}(2N - 245) + B_{\bar{N}}(-110N - 26962) = 0 + \left(\frac{15N}{7} - \frac{299}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{299}}{\mathbf{7}} \\
&(N \geq 14887)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4228}) &= B_{\bar{N}}(2N + 4228 - B_{\bar{N}}(2N + 4227)) + B_{\bar{N}}(2N + 4228 - B_{\bar{N}}(2N + 4226)) + B_{\bar{N}}(2N + 4228 - B_{\bar{N}}(2N + 4225)) \\
&= B_{\bar{N}}\left(2N + 4228 - \left(\frac{15N}{7} - \frac{299}{7}\right)\right) + B_{\bar{N}}\left(2N + 4228 - \left(\frac{16N}{7} - \frac{185}{7}\right)\right) + B_{\bar{N}}(2N + 4228 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29895}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29781}{7}\right) + B_{\bar{N}}(2N - 244) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29895})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4229}) &= B_{\bar{N}}(2N + 4229 - B_{\bar{N}}(2N + 4228)) + B_{\bar{N}}(2N + 4229 - B_{\bar{N}}(2N + 4227)) + B_{\bar{N}}(2N + 4229 - B_{\bar{N}}(2N + 4226)) \\
&= B_{\bar{N}}(2N + 4229 - (N - 2)) + B_{\bar{N}}\left(2N + 4229 - \left(\frac{15N}{7} - \frac{299}{7}\right)\right) + B_{\bar{N}}\left(2N + 4229 - \left(\frac{16N}{7} - \frac{185}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4231) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29902}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29788}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29902})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4230}) &= B_{\bar{N}}(2N + 4230 - B_{\bar{N}}(2N + 4229)) + B_{\bar{N}}(2N + 4230 - B_{\bar{N}}(2N + 4228)) + B_{\bar{N}}(2N + 4230 - B_{\bar{N}}(2N + 4227)) \\
&= B_{\bar{N}}(2N + 4230 - 7) + B_{\bar{N}}(2N + 4230 - (N - 2)) + B_{\bar{N}}\left(2N + 4230 - \left(\frac{15N}{7} - \frac{299}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4223) + B_{\bar{N}}(N + 4232) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29909}{7}\right) = (112N + 69149) + (2N + 1253) + 0 = \mathbf{114N} + \mathbf{70402} \\
&(\mathbf{N} \geq \mathbf{29909})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4231}) &= B_{\bar{N}}(2N + 4231 - B_{\bar{N}}(2N + 4230)) + B_{\bar{N}}(2N + 4231 - B_{\bar{N}}(2N + 4229)) + B_{\bar{N}}(2N + 4231 - B_{\bar{N}}(2N + 4228)) \\
&= B_{\bar{N}}(2N + 4231 - (114N + 70402)) + B_{\bar{N}}(2N + 4231 - 7) + B_{\bar{N}}(2N + 4231 - (N - 2)) \\
&= B_{\bar{N}}(-112N - 66171) + B_{\bar{N}}(2N + 4224) + B_{\bar{N}}(N + 4233) = 0 + (112N + 31189) + (2N + 597) = \mathbf{114N} + \mathbf{31786} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4232}) &= B_{\bar{N}}(2N + 4232 - B_{\bar{N}}(2N + 4231)) + B_{\bar{N}}(2N + 4232 - B_{\bar{N}}(2N + 4230)) + B_{\bar{N}}(2N + 4232 - B_{\bar{N}}(2N + 4229)) \\
&= B_{\bar{N}}(2N + 4232 - (114N + 31786)) + B_{\bar{N}}(2N + 4232 - (114N + 70402)) + B_{\bar{N}}(2N + 4232 - 7) \\
&= B_{\bar{N}}(-112N - 27554) + B_{\bar{N}}(-112N - 66170) + B_{\bar{N}}(2N + 4225) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4233}) &= B_{\bar{N}}(2N + 4233 - B_{\bar{N}}(2N + 4232)) + B_{\bar{N}}(2N + 4233 - B_{\bar{N}}(2N + 4231)) + B_{\bar{N}}(2N + 4233 - B_{\bar{N}}(2N + 4230)) \\
&= B_{\bar{N}}(2N + 4233 - 4472) + B_{\bar{N}}(2N + 4233 - (114N + 31786)) + B_{\bar{N}}(2N + 4233 - (114N + 70402)) \\
&= B_{\bar{N}}(2N - 239) + B_{\bar{N}}(-112N - 27553) + B_{\bar{N}}(-112N - 66169) = \left(\frac{16N}{7} - \frac{171}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{171}}{\mathbf{7}} \\
&(N \geq 306)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4234}) &= B_{\bar{N}}(2N + 4234 - B_{\bar{N}}(2N + 4233)) + B_{\bar{N}}(2N + 4234 - B_{\bar{N}}(2N + 4232)) + B_{\bar{N}}(2N + 4234 - B_{\bar{N}}(2N + 4231)) \\
&= B_{\bar{N}}\left(2N + 4234 - \left(\frac{16N}{7} - \frac{171}{7}\right)\right) + B_{\bar{N}}(2N + 4234 - 4472) + B_{\bar{N}}(2N + 4234 - (114N + 31786)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29809}{7}\right) + B_{\bar{N}}(2N - 238) + B_{\bar{N}}(-112N - 27552) = 0 + \left(\frac{15N}{7} - \frac{292}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{292}}{\mathbf{7}} \\
&(N \geq 14905)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4235}) &= B_{\bar{N}}(2N + 4235 - B_{\bar{N}}(2N + 4234)) + B_{\bar{N}}(2N + 4235 - B_{\bar{N}}(2N + 4233)) + B_{\bar{N}}(2N + 4235 - B_{\bar{N}}(2N + 4232)) \\
&= B_{\bar{N}}\left(2N + 4235 - \left(\frac{15N}{7} - \frac{292}{7}\right)\right) + B_{\bar{N}}\left(2N + 4235 - \left(\frac{16N}{7} - \frac{171}{7}\right)\right) + B_{\bar{N}}(2N + 4235 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29937}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29816}{7}\right) + B_{\bar{N}}(2N - 237) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{29937})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4236}) &= B_{\bar{N}}(2N + 4236 - B_{\bar{N}}(2N + 4235)) + B_{\bar{N}}(2N + 4236 - B_{\bar{N}}(2N + 4234)) + B_{\bar{N}}(2N + 4236 - B_{\bar{N}}(2N + 4233)) \\
&= B_{\bar{N}}(2N + 4236 - (N - 2)) + B_{\bar{N}}\left(2N + 4236 - \left(\frac{15N}{7} - \frac{292}{7}\right)\right) + B_{\bar{N}}\left(2N + 4236 - \left(\frac{16N}{7} - \frac{171}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4238) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29944}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29823}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{29944})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4237}) &= B_{\bar{N}}(2N + 4237 - B_{\bar{N}}(2N + 4236)) + B_{\bar{N}}(2N + 4237 - B_{\bar{N}}(2N + 4235)) + B_{\bar{N}}(2N + 4237 - B_{\bar{N}}(2N + 4234)) \\
&= B_{\bar{N}}(2N + 4237 - 7) + B_{\bar{N}}(2N + 4237 - (N - 2)) + B_{\bar{N}}\left(2N + 4237 - \left(\frac{15N}{7} - \frac{292}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4230) + B_{\bar{N}}(N + 4239) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29951}{7}\right) = (114N + 70402) + (2N + 1255) + 0 = \mathbf{116N} + \mathbf{71657} \\
&(\mathbf{N} \geq \mathbf{29951})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4238}) &= B_{\bar{N}}(2N + 4238 - B_{\bar{N}}(2N + 4237)) + B_{\bar{N}}(2N + 4238 - B_{\bar{N}}(2N + 4236)) + B_{\bar{N}}(2N + 4238 - B_{\bar{N}}(2N + 4235)) \\
&= B_{\bar{N}}(2N + 4238 - (116N + 71657)) + B_{\bar{N}}(2N + 4238 - 7) + B_{\bar{N}}(2N + 4238 - (N - 2)) \\
&= B_{\bar{N}}(-114N - 67419) + B_{\bar{N}}(2N + 4231) + B_{\bar{N}}(N + 4240) = 0 + (114N + 31786) + (2N + 598) = \mathbf{116N} + \mathbf{32384} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4239}) &= B_{\bar{N}}(2N + 4239 - B_{\bar{N}}(2N + 4238)) + B_{\bar{N}}(2N + 4239 - B_{\bar{N}}(2N + 4237)) + B_{\bar{N}}(2N + 4239 - B_{\bar{N}}(2N + 4236)) \\
&= B_{\bar{N}}(2N + 4239 - (116N + 32384)) + B_{\bar{N}}(2N + 4239 - (116N + 71657)) + B_{\bar{N}}(2N + 4239 - 7) \\
&= B_{\bar{N}}(-114N - 28145) + B_{\bar{N}}(-114N - 67418) + B_{\bar{N}}(2N + 4232) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4240}) &= B_{\bar{N}}(2N + 4240 - B_{\bar{N}}(2N + 4239)) + B_{\bar{N}}(2N + 4240 - B_{\bar{N}}(2N + 4238)) + B_{\bar{N}}(2N + 4240 - B_{\bar{N}}(2N + 4237)) \\
&= B_{\bar{N}}(2N + 4240 - 4472) + B_{\bar{N}}(2N + 4240 - (116N + 32384)) + B_{\bar{N}}(2N + 4240 - (116N + 71657)) \\
&= B_{\bar{N}}(2N - 232) + B_{\bar{N}}(-114N - 28144) + B_{\bar{N}}(-114N - 67417) = \left(\frac{16N}{7} - \frac{157}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{157}}{\mathbf{7}} \\
&(N \geq 299)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4241}) &= B_{\bar{N}}(2N + 4241 - B_{\bar{N}}(2N + 4240)) + B_{\bar{N}}(2N + 4241 - B_{\bar{N}}(2N + 4239)) + B_{\bar{N}}(2N + 4241 - B_{\bar{N}}(2N + 4238)) \\
&= B_{\bar{N}}\left(2N + 4241 - \left(\frac{16N}{7} - \frac{157}{7}\right)\right) + B_{\bar{N}}(2N + 4241 - 4472) + B_{\bar{N}}(2N + 4241 - (116N + 32384)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29844}{7}\right) + B_{\bar{N}}(2N - 231) + B_{\bar{N}}(-114N - 28143) = 0 + \left(\frac{15N}{7} - \frac{285}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{285}}{\mathbf{7}} \\
&(N \geq 14922)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4242) &= B_{\bar{N}}(2N + 4242 - B_{\bar{N}}(2N + 4241)) + B_{\bar{N}}(2N + 4242 - B_{\bar{N}}(2N + 4240)) + B_{\bar{N}}(2N + 4242 - B_{\bar{N}}(2N + 4239)) \\
&= B_{\bar{N}}\left(2N + 4242 - \left(\frac{15N}{7} - \frac{285}{7}\right)\right) + B_{\bar{N}}\left(2N + 4242 - \left(\frac{16N}{7} - \frac{157}{7}\right)\right) + B_{\bar{N}}(2N + 4242 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{29979}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29851}{7}\right) + B_{\bar{N}}(2N - 230) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 29979)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4243) &= B_{\bar{N}}(2N + 4243 - B_{\bar{N}}(2N + 4242)) + B_{\bar{N}}(2N + 4243 - B_{\bar{N}}(2N + 4241)) + B_{\bar{N}}(2N + 4243 - B_{\bar{N}}(2N + 4240)) \\
&= B_{\bar{N}}(2N + 4243 - (N - 2)) + B_{\bar{N}}\left(2N + 4243 - \left(\frac{15N}{7} - \frac{285}{7}\right)\right) + B_{\bar{N}}\left(2N + 4243 - \left(\frac{16N}{7} - \frac{157}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4245) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29986}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29858}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 29986)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4244) &= B_{\bar{N}}(2N + 4244 - B_{\bar{N}}(2N + 4243)) + B_{\bar{N}}(2N + 4244 - B_{\bar{N}}(2N + 4242)) + B_{\bar{N}}(2N + 4244 - B_{\bar{N}}(2N + 4241)) \\
&= B_{\bar{N}}(2N + 4244 - 7) + B_{\bar{N}}(2N + 4244 - (N - 2)) + B_{\bar{N}}\left(2N + 4244 - \left(\frac{15N}{7} - \frac{285}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4237) + B_{\bar{N}}(N + 4246) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{29993}{7}\right) = (116N + 71657) + (2N + 1257) + 0 = \mathbf{118N} + \mathbf{72914} \\
&(\mathbf{N} \geq 29993)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4245) &= B_{\bar{N}}(2N + 4245 - B_{\bar{N}}(2N + 4244)) + B_{\bar{N}}(2N + 4245 - B_{\bar{N}}(2N + 4243)) + B_{\bar{N}}(2N + 4245 - B_{\bar{N}}(2N + 4242)) \\
&= B_{\bar{N}}(2N + 4245 - (118N + 72914)) + B_{\bar{N}}(2N + 4245 - 7) + B_{\bar{N}}(2N + 4245 - (N - 2)) \\
&= B_{\bar{N}}(-116N - 68669) + B_{\bar{N}}(2N + 4238) + B_{\bar{N}}(N + 4247) = 0 + (116N + 32384) + (2N + 599) = \mathbf{118N} + \mathbf{32983} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4246}) &= B_{\bar{N}}(2N + 4246 - B_{\bar{N}}(2N + 4245)) + B_{\bar{N}}(2N + 4246 - B_{\bar{N}}(2N + 4244)) + B_{\bar{N}}(2N + 4246 - B_{\bar{N}}(2N + 4243)) \\
&= B_{\bar{N}}(2N + 4246 - (118N + 32983)) + B_{\bar{N}}(2N + 4246 - (118N + 72914)) + B_{\bar{N}}(2N + 4246 - 7) \\
&= B_{\bar{N}}(-116N - 28737) + B_{\bar{N}}(-116N - 68668) + B_{\bar{N}}(2N + 4239) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4247}) &= B_{\bar{N}}(2N + 4247 - B_{\bar{N}}(2N + 4246)) + B_{\bar{N}}(2N + 4247 - B_{\bar{N}}(2N + 4245)) + B_{\bar{N}}(2N + 4247 - B_{\bar{N}}(2N + 4244)) \\
&= B_{\bar{N}}(2N + 4247 - 4472) + B_{\bar{N}}(2N + 4247 - (118N + 32983)) + B_{\bar{N}}(2N + 4247 - (118N + 72914)) \\
&= B_{\bar{N}}(2N - 225) + B_{\bar{N}}(-116N - 28736) + B_{\bar{N}}(-116N - 68667) = \left(\frac{16N}{7} - \frac{143}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{143}}{\mathbf{7}} \\
&(N \geq 292)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4248}) &= B_{\bar{N}}(2N + 4248 - B_{\bar{N}}(2N + 4247)) + B_{\bar{N}}(2N + 4248 - B_{\bar{N}}(2N + 4246)) + B_{\bar{N}}(2N + 4248 - B_{\bar{N}}(2N + 4245)) \\
&= B_{\bar{N}}\left(2N + 4248 - \left(\frac{16N}{7} - \frac{143}{7}\right)\right) + B_{\bar{N}}(2N + 4248 - 4472) + B_{\bar{N}}(2N + 4248 - (118N + 32983)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29879}{7}\right) + B_{\bar{N}}(2N - 224) + B_{\bar{N}}(-116N - 28735) = 0 + \left(\frac{15N}{7} - \frac{278}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{278}}{\mathbf{7}} \\
&(N \geq 14940)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4249}) &= B_{\bar{N}}(2N + 4249 - B_{\bar{N}}(2N + 4248)) + B_{\bar{N}}(2N + 4249 - B_{\bar{N}}(2N + 4247)) + B_{\bar{N}}(2N + 4249 - B_{\bar{N}}(2N + 4246)) \\
&= B_{\bar{N}}\left(2N + 4249 - \left(\frac{15N}{7} - \frac{278}{7}\right)\right) + B_{\bar{N}}\left(2N + 4249 - \left(\frac{16N}{7} - \frac{143}{7}\right)\right) + B_{\bar{N}}(2N + 4249 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30021}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29886}{7}\right) + B_{\bar{N}}(2N - 223) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30021})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4250) &= B_{\bar{N}}(2N + 4250 - B_{\bar{N}}(2N + 4249)) + B_{\bar{N}}(2N + 4250 - B_{\bar{N}}(2N + 4248)) + B_{\bar{N}}(2N + 4250 - B_{\bar{N}}(2N + 4247)) \\
&= B_{\bar{N}}(2N + 4250 - (N - 2)) + B_{\bar{N}}\left(2N + 4250 - \left(\frac{15N}{7} - \frac{278}{7}\right)\right) + B_{\bar{N}}\left(2N + 4250 - \left(\frac{16N}{7} - \frac{143}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4252) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30028}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29893}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30028})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4251) &= B_{\bar{N}}(2N + 4251 - B_{\bar{N}}(2N + 4250)) + B_{\bar{N}}(2N + 4251 - B_{\bar{N}}(2N + 4249)) + B_{\bar{N}}(2N + 4251 - B_{\bar{N}}(2N + 4248)) \\
&= B_{\bar{N}}(2N + 4251 - 7) + B_{\bar{N}}(2N + 4251 - (N - 2)) + B_{\bar{N}}\left(2N + 4251 - \left(\frac{15N}{7} - \frac{278}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4244) + B_{\bar{N}}(N + 4253) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30035}{7}\right) = (118N + 72914) + (2N + 1259) + 0 = \mathbf{120N} + \mathbf{74173} \\
&(\mathbf{N} \geq \mathbf{30035})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4252) &= B_{\bar{N}}(2N + 4252 - B_{\bar{N}}(2N + 4251)) + B_{\bar{N}}(2N + 4252 - B_{\bar{N}}(2N + 4250)) + B_{\bar{N}}(2N + 4252 - B_{\bar{N}}(2N + 4249)) \\
&= B_{\bar{N}}(2N + 4252 - (120N + 74173)) + B_{\bar{N}}(2N + 4252 - 7) + B_{\bar{N}}(2N + 4252 - (N - 2)) \\
&= B_{\bar{N}}(-118N - 69921) + B_{\bar{N}}(2N + 4245) + B_{\bar{N}}(N + 4254) = 0 + (118N + 32983) + (2N + 600) = \mathbf{120N} + \mathbf{33583} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4253) &= B_{\bar{N}}(2N + 4253 - B_{\bar{N}}(2N + 4252)) + B_{\bar{N}}(2N + 4253 - B_{\bar{N}}(2N + 4251)) + B_{\bar{N}}(2N + 4253 - B_{\bar{N}}(2N + 4250)) \\
&= B_{\bar{N}}(2N + 4253 - (120N + 33583)) + B_{\bar{N}}(2N + 4253 - (120N + 74173)) + B_{\bar{N}}(2N + 4253 - 7) \\
&= B_{\bar{N}}(-118N - 29330) + B_{\bar{N}}(-118N - 69920) + B_{\bar{N}}(2N + 4246) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4254}) &= B_{\bar{N}}(2N + 4254 - B_{\bar{N}}(2N + 4253)) + B_{\bar{N}}(2N + 4254 - B_{\bar{N}}(2N + 4252)) + B_{\bar{N}}(2N + 4254 - B_{\bar{N}}(2N + 4251)) \\
&= B_{\bar{N}}(2N + 4254 - 4472) + B_{\bar{N}}(2N + 4254 - (120N + 33583)) + B_{\bar{N}}(2N + 4254 - (120N + 74173)) \\
&= B_{\bar{N}}(2N - 218) + B_{\bar{N}}(-118N - 29329) + B_{\bar{N}}(-118N - 69919) = \left(\frac{16N}{7} - \frac{129}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{129}}{\mathbf{7}} \\
&(N \geq 285)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4255}) &= B_{\bar{N}}(2N + 4255 - B_{\bar{N}}(2N + 4254)) + B_{\bar{N}}(2N + 4255 - B_{\bar{N}}(2N + 4253)) + B_{\bar{N}}(2N + 4255 - B_{\bar{N}}(2N + 4252)) \\
&= B_{\bar{N}}\left(2N + 4255 - \left(\frac{16N}{7} - \frac{129}{7}\right)\right) + B_{\bar{N}}(2N + 4255 - 4472) + B_{\bar{N}}(2N + 4255 - (120N + 33583)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29914}{7}\right) + B_{\bar{N}}(2N - 217) + B_{\bar{N}}(-118N - 29328) = 0 + \left(\frac{15N}{7} - \frac{271}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{271}}{\mathbf{7}} \\
&(N \geq 14957)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4256}) &= B_{\bar{N}}(2N + 4256 - B_{\bar{N}}(2N + 4255)) + B_{\bar{N}}(2N + 4256 - B_{\bar{N}}(2N + 4254)) + B_{\bar{N}}(2N + 4256 - B_{\bar{N}}(2N + 4253)) \\
&= B_{\bar{N}}\left(2N + 4256 - \left(\frac{15N}{7} - \frac{271}{7}\right)\right) + B_{\bar{N}}\left(2N + 4256 - \left(\frac{16N}{7} - \frac{129}{7}\right)\right) + B_{\bar{N}}(2N + 4256 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30063}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29921}{7}\right) + B_{\bar{N}}(2N - 216) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30063})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4257}) &= B_{\bar{N}}(2N + 4257 - B_{\bar{N}}(2N + 4256)) + B_{\bar{N}}(2N + 4257 - B_{\bar{N}}(2N + 4255)) + B_{\bar{N}}(2N + 4257 - B_{\bar{N}}(2N + 4254)) \\
&= B_{\bar{N}}(2N + 4257 - (N - 2)) + B_{\bar{N}}\left(2N + 4257 - \left(\frac{15N}{7} - \frac{271}{7}\right)\right) + B_{\bar{N}}\left(2N + 4257 - \left(\frac{16N}{7} - \frac{129}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4259) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30070}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29928}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30070})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4258) &= B_{\bar{N}}(2N + 4258 - B_{\bar{N}}(2N + 4257)) + B_{\bar{N}}(2N + 4258 - B_{\bar{N}}(2N + 4256)) + B_{\bar{N}}(2N + 4258 - B_{\bar{N}}(2N + 4255)) \\
&= B_{\bar{N}}(2N + 4258 - 7) + B_{\bar{N}}(2N + 4258 - (N - 2)) + B_{\bar{N}}\left(2N + 4258 - \left(\frac{15N}{7} - \frac{271}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4251) + B_{\bar{N}}(N + 4260) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30077}{7}\right) = (120N + 74173) + (2N + 1261) + 0 = \mathbf{122N} + \mathbf{75434} \\
&(\mathbf{N} \geq \mathbf{30077})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4259) &= B_{\bar{N}}(2N + 4259 - B_{\bar{N}}(2N + 4258)) + B_{\bar{N}}(2N + 4259 - B_{\bar{N}}(2N + 4257)) + B_{\bar{N}}(2N + 4259 - B_{\bar{N}}(2N + 4256)) \\
&= B_{\bar{N}}(2N + 4259 - (122N + 75434)) + B_{\bar{N}}(2N + 4259 - 7) + B_{\bar{N}}(2N + 4259 - (N - 2)) \\
&= B_{\bar{N}}(-120N - 71175) + B_{\bar{N}}(2N + 4252) + B_{\bar{N}}(N + 4261) = 0 + (120N + 33583) + (2N + 601) = \mathbf{122N} + \mathbf{34184} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4260) &= B_{\bar{N}}(2N + 4260 - B_{\bar{N}}(2N + 4259)) + B_{\bar{N}}(2N + 4260 - B_{\bar{N}}(2N + 4258)) + B_{\bar{N}}(2N + 4260 - B_{\bar{N}}(2N + 4257)) \\
&= B_{\bar{N}}(2N + 4260 - (122N + 34184)) + B_{\bar{N}}(2N + 4260 - (122N + 75434)) + B_{\bar{N}}(2N + 4260 - 7) \\
&= B_{\bar{N}}(-120N - 29924) + B_{\bar{N}}(-120N - 71174) + B_{\bar{N}}(2N + 4253) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4261) &= B_{\bar{N}}(2N + 4261 - B_{\bar{N}}(2N + 4260)) + B_{\bar{N}}(2N + 4261 - B_{\bar{N}}(2N + 4259)) + B_{\bar{N}}(2N + 4261 - B_{\bar{N}}(2N + 4258)) \\
&= B_{\bar{N}}(2N + 4261 - 4472) + B_{\bar{N}}(2N + 4261 - (122N + 34184)) + B_{\bar{N}}(2N + 4261 - (122N + 75434)) \\
&= B_{\bar{N}}(2N - 211) + B_{\bar{N}}(-120N - 29923) + B_{\bar{N}}(-120N - 71173) = \left(\frac{16N}{7} - \frac{115}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{115}}{\mathbf{7}} \\
&(N \geq 278)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4262}) &= B_{\bar{N}}(2N + 4262 - B_{\bar{N}}(2N + 4261)) + B_{\bar{N}}(2N + 4262 - B_{\bar{N}}(2N + 4260)) + B_{\bar{N}}(2N + 4262 - B_{\bar{N}}(2N + 4259)) \\
&= B_{\bar{N}}\left(2N + 4262 - \left(\frac{16N}{7} - \frac{115}{7}\right)\right) + B_{\bar{N}}(2N + 4262 - 4472) + B_{\bar{N}}(2N + 4262 - (122N + 34184)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29949}{7}\right) + B_{\bar{N}}(2N - 210) + B_{\bar{N}}(-120N - 29922) = 0 + \left(\frac{15N}{7} - \frac{264}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{264}}{\mathbf{7}} \\
&(N \geq 14975)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4263}) &= B_{\bar{N}}(2N + 4263 - B_{\bar{N}}(2N + 4262)) + B_{\bar{N}}(2N + 4263 - B_{\bar{N}}(2N + 4261)) + B_{\bar{N}}(2N + 4263 - B_{\bar{N}}(2N + 4260)) \\
&= B_{\bar{N}}\left(2N + 4263 - \left(\frac{15N}{7} - \frac{264}{7}\right)\right) + B_{\bar{N}}\left(2N + 4263 - \left(\frac{16N}{7} - \frac{115}{7}\right)\right) + B_{\bar{N}}(2N + 4263 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30105}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29956}{7}\right) + B_{\bar{N}}(2N - 209) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30105})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4264}) &= B_{\bar{N}}(2N + 4264 - B_{\bar{N}}(2N + 4263)) + B_{\bar{N}}(2N + 4264 - B_{\bar{N}}(2N + 4262)) + B_{\bar{N}}(2N + 4264 - B_{\bar{N}}(2N + 4261)) \\
&= B_{\bar{N}}(2N + 4264 - (N - 2)) + B_{\bar{N}}\left(2N + 4264 - \left(\frac{15N}{7} - \frac{264}{7}\right)\right) + B_{\bar{N}}\left(2N + 4264 - \left(\frac{16N}{7} - \frac{115}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4266) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30112}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29963}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30112})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4265}) &= B_{\bar{N}}(2N + 4265 - B_{\bar{N}}(2N + 4264)) + B_{\bar{N}}(2N + 4265 - B_{\bar{N}}(2N + 4263)) + B_{\bar{N}}(2N + 4265 - B_{\bar{N}}(2N + 4262)) \\
&= B_{\bar{N}}(2N + 4265 - 7) + B_{\bar{N}}(2N + 4265 - (N - 2)) + B_{\bar{N}}\left(2N + 4265 - \left(\frac{15N}{7} - \frac{264}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4258) + B_{\bar{N}}(N + 4267) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30119}{7}\right) = (122N + 75434) + (2N + 1263) + 0 = \mathbf{124N} + \mathbf{76697} \\
&(\mathbf{N} \geq \mathbf{30119})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4266}) &= B_{\bar{N}}(2N + 4266 - B_{\bar{N}}(2N + 4265)) + B_{\bar{N}}(2N + 4266 - B_{\bar{N}}(2N + 4264)) + B_{\bar{N}}(2N + 4266 - B_{\bar{N}}(2N + 4263)) \\
&= B_{\bar{N}}(2N + 4266 - (124N + 76697)) + B_{\bar{N}}(2N + 4266 - 7) + B_{\bar{N}}(2N + 4266 - (N - 2)) \\
&= B_{\bar{N}}(-122N - 72431) + B_{\bar{N}}(2N + 4259) + B_{\bar{N}}(N + 4268) = 0 + (122N + 34184) + (2N + 602) = \mathbf{124N} + \mathbf{34786} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4267}) &= B_{\bar{N}}(2N + 4267 - B_{\bar{N}}(2N + 4266)) + B_{\bar{N}}(2N + 4267 - B_{\bar{N}}(2N + 4265)) + B_{\bar{N}}(2N + 4267 - B_{\bar{N}}(2N + 4264)) \\
&= B_{\bar{N}}(2N + 4267 - (124N + 34786)) + B_{\bar{N}}(2N + 4267 - (124N + 76697)) + B_{\bar{N}}(2N + 4267 - 7) \\
&= B_{\bar{N}}(-122N - 30519) + B_{\bar{N}}(-122N - 72430) + B_{\bar{N}}(2N + 4260) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4268}) &= B_{\bar{N}}(2N + 4268 - B_{\bar{N}}(2N + 4267)) + B_{\bar{N}}(2N + 4268 - B_{\bar{N}}(2N + 4266)) + B_{\bar{N}}(2N + 4268 - B_{\bar{N}}(2N + 4265)) \\
&= B_{\bar{N}}(2N + 4268 - 4472) + B_{\bar{N}}(2N + 4268 - (124N + 34786)) + B_{\bar{N}}(2N + 4268 - (124N + 76697)) \\
&= B_{\bar{N}}(2N - 204) + B_{\bar{N}}(-122N - 30518) + B_{\bar{N}}(-122N - 72429) = \left(\frac{16N}{7} - \frac{101}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{101}}{\mathbf{7}} \\
&(N \geq 271)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4269}) &= B_{\bar{N}}(2N + 4269 - B_{\bar{N}}(2N + 4268)) + B_{\bar{N}}(2N + 4269 - B_{\bar{N}}(2N + 4267)) + B_{\bar{N}}(2N + 4269 - B_{\bar{N}}(2N + 4266)) \\
&= B_{\bar{N}}\left(2N + 4269 - \left(\frac{16N}{7} - \frac{101}{7}\right)\right) + B_{\bar{N}}(2N + 4269 - 4472) + B_{\bar{N}}(2N + 4269 - (124N + 34786)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29984}{7}\right) + B_{\bar{N}}(2N - 203) + B_{\bar{N}}(-122N - 30517) = 0 + \left(\frac{15N}{7} - \frac{257}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{257}}{\mathbf{7}} \\
&(N \geq 14992)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4270}) &= B_{\bar{N}}(2N + 4270 - B_{\bar{N}}(2N + 4269)) + B_{\bar{N}}(2N + 4270 - B_{\bar{N}}(2N + 4268)) + B_{\bar{N}}(2N + 4270 - B_{\bar{N}}(2N + 4267)) \\
&= B_{\bar{N}}\left(2N + 4270 - \left(\frac{15N}{7} - \frac{257}{7}\right)\right) + B_{\bar{N}}\left(2N + 4270 - \left(\frac{16N}{7} - \frac{101}{7}\right)\right) + B_{\bar{N}}(2N + 4270 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30147}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29991}{7}\right) + B_{\bar{N}}(2N - 202) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30147})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4271}) &= B_{\bar{N}}(2N + 4271 - B_{\bar{N}}(2N + 4270)) + B_{\bar{N}}(2N + 4271 - B_{\bar{N}}(2N + 4269)) + B_{\bar{N}}(2N + 4271 - B_{\bar{N}}(2N + 4268)) \\
&= B_{\bar{N}}(2N + 4271 - (N - 2)) + B_{\bar{N}}\left(2N + 4271 - \left(\frac{15N}{7} - \frac{257}{7}\right)\right) + B_{\bar{N}}\left(2N + 4271 - \left(\frac{16N}{7} - \frac{101}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4273) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30154}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{29998}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30154})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4272}) &= B_{\bar{N}}(2N + 4272 - B_{\bar{N}}(2N + 4271)) + B_{\bar{N}}(2N + 4272 - B_{\bar{N}}(2N + 4270)) + B_{\bar{N}}(2N + 4272 - B_{\bar{N}}(2N + 4269)) \\
&= B_{\bar{N}}(2N + 4272 - 7) + B_{\bar{N}}(2N + 4272 - (N - 2)) + B_{\bar{N}}\left(2N + 4272 - \left(\frac{15N}{7} - \frac{257}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4265) + B_{\bar{N}}(N + 4274) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30161}{7}\right) = (124N + 76697) + (2N + 1265) + 0 = \mathbf{126N} + \mathbf{77962} \\
&(\mathbf{N} \geq \mathbf{30161})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4273}) &= B_{\bar{N}}(2N + 4273 - B_{\bar{N}}(2N + 4272)) + B_{\bar{N}}(2N + 4273 - B_{\bar{N}}(2N + 4271)) + B_{\bar{N}}(2N + 4273 - B_{\bar{N}}(2N + 4270)) \\
&= B_{\bar{N}}(2N + 4273 - (126N + 77962)) + B_{\bar{N}}(2N + 4273 - 7) + B_{\bar{N}}(2N + 4273 - (N - 2)) \\
&= B_{\bar{N}}(-124N - 73689) + B_{\bar{N}}(2N + 4266) + B_{\bar{N}}(N + 4275) = 0 + (124N + 34786) + (2N + 603) = \mathbf{126N} + \mathbf{35389} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4274}) &= B_{\bar{N}}(2N + 4274 - B_{\bar{N}}(2N + 4273)) + B_{\bar{N}}(2N + 4274 - B_{\bar{N}}(2N + 4272)) + B_{\bar{N}}(2N + 4274 - B_{\bar{N}}(2N + 4271)) \\
&= B_{\bar{N}}(2N + 4274 - (126N + 35389)) + B_{\bar{N}}(2N + 4274 - (126N + 77962)) + B_{\bar{N}}(2N + 4274 - 7) \\
&= B_{\bar{N}}(-124N - 31115) + B_{\bar{N}}(-124N - 73688) + B_{\bar{N}}(2N + 4267) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4275}) &= B_{\bar{N}}(2N + 4275 - B_{\bar{N}}(2N + 4274)) + B_{\bar{N}}(2N + 4275 - B_{\bar{N}}(2N + 4273)) + B_{\bar{N}}(2N + 4275 - B_{\bar{N}}(2N + 4272)) \\
&= B_{\bar{N}}(2N + 4275 - 4472) + B_{\bar{N}}(2N + 4275 - (126N + 35389)) + B_{\bar{N}}(2N + 4275 - (126N + 77962)) \\
&= B_{\bar{N}}(2N - 197) + B_{\bar{N}}(-124N - 31114) + B_{\bar{N}}(-124N - 73687) = \left(\frac{16N}{7} - \frac{87}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{87}}{\mathbf{7}} \\
&(N \geq 264)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4276}) &= B_{\bar{N}}(2N + 4276 - B_{\bar{N}}(2N + 4275)) + B_{\bar{N}}(2N + 4276 - B_{\bar{N}}(2N + 4274)) + B_{\bar{N}}(2N + 4276 - B_{\bar{N}}(2N + 4273)) \\
&= B_{\bar{N}}\left(2N + 4276 - \left(\frac{16N}{7} - \frac{87}{7}\right)\right) + B_{\bar{N}}(2N + 4276 - 4472) + B_{\bar{N}}(2N + 4276 - (126N + 35389)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30019}{7}\right) + B_{\bar{N}}(2N - 196) + B_{\bar{N}}(-124N - 31113) = 0 + \left(\frac{15N}{7} - \frac{250}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{250}}{\mathbf{7}} \\
&(N \geq 15010)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4277}) &= B_{\bar{N}}(2N + 4277 - B_{\bar{N}}(2N + 4276)) + B_{\bar{N}}(2N + 4277 - B_{\bar{N}}(2N + 4275)) + B_{\bar{N}}(2N + 4277 - B_{\bar{N}}(2N + 4274)) \\
&= B_{\bar{N}}\left(2N + 4277 - \left(\frac{15N}{7} - \frac{250}{7}\right)\right) + B_{\bar{N}}\left(2N + 4277 - \left(\frac{16N}{7} - \frac{87}{7}\right)\right) + B_{\bar{N}}(2N + 4277 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30189}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30026}{7}\right) + B_{\bar{N}}(2N - 195) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30189})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4278) &= B_{\bar{N}}(2N + 4278 - B_{\bar{N}}(2N + 4277)) + B_{\bar{N}}(2N + 4278 - B_{\bar{N}}(2N + 4276)) + B_{\bar{N}}(2N + 4278 - B_{\bar{N}}(2N + 4275)) \\
&= B_{\bar{N}}(2N + 4278 - (N - 2)) + B_{\bar{N}}\left(2N + 4278 - \left(\frac{15N}{7} - \frac{250}{7}\right)\right) + B_{\bar{N}}\left(2N + 4278 - \left(\frac{16N}{7} - \frac{87}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4280) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30196}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30033}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30196})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4279) &= B_{\bar{N}}(2N + 4279 - B_{\bar{N}}(2N + 4278)) + B_{\bar{N}}(2N + 4279 - B_{\bar{N}}(2N + 4277)) + B_{\bar{N}}(2N + 4279 - B_{\bar{N}}(2N + 4276)) \\
&= B_{\bar{N}}(2N + 4279 - 7) + B_{\bar{N}}(2N + 4279 - (N - 2)) + B_{\bar{N}}\left(2N + 4279 - \left(\frac{15N}{7} - \frac{250}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4272) + B_{\bar{N}}(N + 4281) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30203}{7}\right) = (126N + 77962) + (2N + 1267) + 0 = \mathbf{128N} + \mathbf{79229} \\
&(\mathbf{N} \geq \mathbf{30203})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4280) &= B_{\bar{N}}(2N + 4280 - B_{\bar{N}}(2N + 4279)) + B_{\bar{N}}(2N + 4280 - B_{\bar{N}}(2N + 4278)) + B_{\bar{N}}(2N + 4280 - B_{\bar{N}}(2N + 4277)) \\
&= B_{\bar{N}}(2N + 4280 - (128N + 79229)) + B_{\bar{N}}(2N + 4280 - 7) + B_{\bar{N}}(2N + 4280 - (N - 2)) \\
&= B_{\bar{N}}(-126N - 74949) + B_{\bar{N}}(2N + 4273) + B_{\bar{N}}(N + 4282) = 0 + (126N + 35389) + (2N + 604) = \mathbf{128N} + \mathbf{35993} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4281) &= B_{\bar{N}}(2N + 4281 - B_{\bar{N}}(2N + 4280)) + B_{\bar{N}}(2N + 4281 - B_{\bar{N}}(2N + 4279)) + B_{\bar{N}}(2N + 4281 - B_{\bar{N}}(2N + 4278)) \\
&= B_{\bar{N}}(2N + 4281 - (128N + 35993)) + B_{\bar{N}}(2N + 4281 - (128N + 79229)) + B_{\bar{N}}(2N + 4281 - 7) \\
&= B_{\bar{N}}(-126N - 31712) + B_{\bar{N}}(-126N - 74948) + B_{\bar{N}}(2N + 4274) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4282}) &= B_{\bar{N}}(2N + 4282 - B_{\bar{N}}(2N + 4281)) + B_{\bar{N}}(2N + 4282 - B_{\bar{N}}(2N + 4280)) + B_{\bar{N}}(2N + 4282 - B_{\bar{N}}(2N + 4279)) \\
&= B_{\bar{N}}(2N + 4282 - 4472) + B_{\bar{N}}(2N + 4282 - (128N + 35993)) + B_{\bar{N}}(2N + 4282 - (128N + 79229)) \\
&= B_{\bar{N}}(2N - 190) + B_{\bar{N}}(-126N - 31711) + B_{\bar{N}}(-126N - 74947) = \left(\frac{16N}{7} - \frac{73}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{73}}{\mathbf{7}} \\
&(N \geq 257)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4283}) &= B_{\bar{N}}(2N + 4283 - B_{\bar{N}}(2N + 4282)) + B_{\bar{N}}(2N + 4283 - B_{\bar{N}}(2N + 4281)) + B_{\bar{N}}(2N + 4283 - B_{\bar{N}}(2N + 4280)) \\
&= B_{\bar{N}}\left(2N + 4283 - \left(\frac{16N}{7} - \frac{73}{7}\right)\right) + B_{\bar{N}}(2N + 4283 - 4472) + B_{\bar{N}}(2N + 4283 - (128N + 35993)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30054}{7}\right) + B_{\bar{N}}(2N - 189) + B_{\bar{N}}(-126N - 31710) = 0 + \left(\frac{15N}{7} - \frac{243}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{243}}{\mathbf{7}} \\
&(N \geq 15027)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4284}) &= B_{\bar{N}}(2N + 4284 - B_{\bar{N}}(2N + 4283)) + B_{\bar{N}}(2N + 4284 - B_{\bar{N}}(2N + 4282)) + B_{\bar{N}}(2N + 4284 - B_{\bar{N}}(2N + 4281)) \\
&= B_{\bar{N}}\left(2N + 4284 - \left(\frac{15N}{7} - \frac{243}{7}\right)\right) + B_{\bar{N}}\left(2N + 4284 - \left(\frac{16N}{7} - \frac{73}{7}\right)\right) + B_{\bar{N}}(2N + 4284 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30231}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30061}{7}\right) + B_{\bar{N}}(2N - 188) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30231})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4285}) &= B_{\bar{N}}(2N + 4285 - B_{\bar{N}}(2N + 4284)) + B_{\bar{N}}(2N + 4285 - B_{\bar{N}}(2N + 4283)) + B_{\bar{N}}(2N + 4285 - B_{\bar{N}}(2N + 4282)) \\
&= B_{\bar{N}}(2N + 4285 - (N - 2)) + B_{\bar{N}}\left(2N + 4285 - \left(\frac{15N}{7} - \frac{243}{7}\right)\right) + B_{\bar{N}}\left(2N + 4285 - \left(\frac{16N}{7} - \frac{73}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4287) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30238}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30068}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30238})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4286) &= B_{\bar{N}}(2N + 4286 - B_{\bar{N}}(2N + 4285)) + B_{\bar{N}}(2N + 4286 - B_{\bar{N}}(2N + 4284)) + B_{\bar{N}}(2N + 4286 - B_{\bar{N}}(2N + 4283)) \\
&= B_{\bar{N}}(2N + 4286 - 7) + B_{\bar{N}}(2N + 4286 - (N - 2)) + B_{\bar{N}}\left(2N + 4286 - \left(\frac{15N}{7} - \frac{243}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4279) + B_{\bar{N}}(N + 4288) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30245}{7}\right) = (128N + 79229) + (2N + 1269) + 0 = \mathbf{130N} + \mathbf{80498} \\
&(\mathbf{N} \geq \mathbf{30245})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4287) &= B_{\bar{N}}(2N + 4287 - B_{\bar{N}}(2N + 4286)) + B_{\bar{N}}(2N + 4287 - B_{\bar{N}}(2N + 4285)) + B_{\bar{N}}(2N + 4287 - B_{\bar{N}}(2N + 4284)) \\
&= B_{\bar{N}}(2N + 4287 - (130N + 80498)) + B_{\bar{N}}(2N + 4287 - 7) + B_{\bar{N}}(2N + 4287 - (N - 2)) \\
&= B_{\bar{N}}(-128N - 76211) + B_{\bar{N}}(2N + 4280) + B_{\bar{N}}(N + 4289) = 0 + (128N + 35993) + (2N + 605) = \mathbf{130N} + \mathbf{36598} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4288) &= B_{\bar{N}}(2N + 4288 - B_{\bar{N}}(2N + 4287)) + B_{\bar{N}}(2N + 4288 - B_{\bar{N}}(2N + 4286)) + B_{\bar{N}}(2N + 4288 - B_{\bar{N}}(2N + 4285)) \\
&= B_{\bar{N}}(2N + 4288 - (130N + 36598)) + B_{\bar{N}}(2N + 4288 - (130N + 80498)) + B_{\bar{N}}(2N + 4288 - 7) \\
&= B_{\bar{N}}(-128N - 32310) + B_{\bar{N}}(-128N - 76210) + B_{\bar{N}}(2N + 4281) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4289) &= B_{\bar{N}}(2N + 4289 - B_{\bar{N}}(2N + 4288)) + B_{\bar{N}}(2N + 4289 - B_{\bar{N}}(2N + 4287)) + B_{\bar{N}}(2N + 4289 - B_{\bar{N}}(2N + 4286)) \\
&= B_{\bar{N}}(2N + 4289 - 4472) + B_{\bar{N}}(2N + 4289 - (130N + 36598)) + B_{\bar{N}}(2N + 4289 - (130N + 80498)) \\
&= B_{\bar{N}}(2N - 183) + B_{\bar{N}}(-128N - 32309) + B_{\bar{N}}(-128N - 76209) = \left(\frac{16N}{7} - \frac{59}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{59}}{\mathbf{7}} \\
&(N \geq 250)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4290}) &= B_{\bar{N}}(2N + 4290 - B_{\bar{N}}(2N + 4289)) + B_{\bar{N}}(2N + 4290 - B_{\bar{N}}(2N + 4288)) + B_{\bar{N}}(2N + 4290 - B_{\bar{N}}(2N + 4287)) \\
&= B_{\bar{N}}\left(2N + 4290 - \left(\frac{16N}{7} - \frac{59}{7}\right)\right) + B_{\bar{N}}(2N + 4290 - 4472) + B_{\bar{N}}(2N + 4290 - (130N + 36598)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30089}{7}\right) + B_{\bar{N}}(2N - 182) + B_{\bar{N}}(-128N - 32308) = 0 + \left(\frac{15N}{7} - \frac{236}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{236}}{\mathbf{7}} \\
&(N \geq 15045)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4291}) &= B_{\bar{N}}(2N + 4291 - B_{\bar{N}}(2N + 4290)) + B_{\bar{N}}(2N + 4291 - B_{\bar{N}}(2N + 4289)) + B_{\bar{N}}(2N + 4291 - B_{\bar{N}}(2N + 4288)) \\
&= B_{\bar{N}}\left(2N + 4291 - \left(\frac{15N}{7} - \frac{236}{7}\right)\right) + B_{\bar{N}}\left(2N + 4291 - \left(\frac{16N}{7} - \frac{59}{7}\right)\right) + B_{\bar{N}}(2N + 4291 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30273}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30096}{7}\right) + B_{\bar{N}}(2N - 181) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30273})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4292}) &= B_{\bar{N}}(2N + 4292 - B_{\bar{N}}(2N + 4291)) + B_{\bar{N}}(2N + 4292 - B_{\bar{N}}(2N + 4290)) + B_{\bar{N}}(2N + 4292 - B_{\bar{N}}(2N + 4289)) \\
&= B_{\bar{N}}(2N + 4292 - (N - 2)) + B_{\bar{N}}\left(2N + 4292 - \left(\frac{15N}{7} - \frac{236}{7}\right)\right) + B_{\bar{N}}\left(2N + 4292 - \left(\frac{16N}{7} - \frac{59}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4294) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30280}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30103}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30280})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4293}) &= B_{\bar{N}}(2N + 4293 - B_{\bar{N}}(2N + 4292)) + B_{\bar{N}}(2N + 4293 - B_{\bar{N}}(2N + 4291)) + B_{\bar{N}}(2N + 4293 - B_{\bar{N}}(2N + 4290)) \\
&= B_{\bar{N}}(2N + 4293 - 7) + B_{\bar{N}}(2N + 4293 - (N - 2)) + B_{\bar{N}}\left(2N + 4293 - \left(\frac{15N}{7} - \frac{236}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4286) + B_{\bar{N}}(N + 4295) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30287}{7}\right) = (130N + 80498) + (2N + 1271) + 0 = \mathbf{132N} + \mathbf{81769} \\
&(\mathbf{N} \geq \mathbf{30287})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4294) &= B_{\bar{N}}(2N + 4294 - B_{\bar{N}}(2N + 4293)) + B_{\bar{N}}(2N + 4294 - B_{\bar{N}}(2N + 4292)) + B_{\bar{N}}(2N + 4294 - B_{\bar{N}}(2N + 4291)) \\
&= B_{\bar{N}}(2N + 4294 - (132N + 81769)) + B_{\bar{N}}(2N + 4294 - 7) + B_{\bar{N}}(2N + 4294 - (N - 2)) \\
&= B_{\bar{N}}(-130N - 77475) + B_{\bar{N}}(2N + 4287) + B_{\bar{N}}(N + 4296) = 0 + (130N + 36598) + (2N + 606) = \mathbf{132N} + \mathbf{37204} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4295) &= B_{\bar{N}}(2N + 4295 - B_{\bar{N}}(2N + 4294)) + B_{\bar{N}}(2N + 4295 - B_{\bar{N}}(2N + 4293)) + B_{\bar{N}}(2N + 4295 - B_{\bar{N}}(2N + 4292)) \\
&= B_{\bar{N}}(2N + 4295 - (132N + 37204)) + B_{\bar{N}}(2N + 4295 - (132N + 81769)) + B_{\bar{N}}(2N + 4295 - 7) \\
&= B_{\bar{N}}(-130N - 32909) + B_{\bar{N}}(-130N - 77474) + B_{\bar{N}}(2N + 4288) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4296) &= B_{\bar{N}}(2N + 4296 - B_{\bar{N}}(2N + 4295)) + B_{\bar{N}}(2N + 4296 - B_{\bar{N}}(2N + 4294)) + B_{\bar{N}}(2N + 4296 - B_{\bar{N}}(2N + 4293)) \\
&= B_{\bar{N}}(2N + 4296 - 4472) + B_{\bar{N}}(2N + 4296 - (132N + 37204)) + B_{\bar{N}}(2N + 4296 - (132N + 81769)) \\
&= B_{\bar{N}}(2N - 176) + B_{\bar{N}}(-130N - 32908) + B_{\bar{N}}(-130N - 77473) = \left(\frac{16N}{7} - \frac{45}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{45}}{\mathbf{7}} \\
&(N \geq 243)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4297) &= B_{\bar{N}}(2N + 4297 - B_{\bar{N}}(2N + 4296)) + B_{\bar{N}}(2N + 4297 - B_{\bar{N}}(2N + 4295)) + B_{\bar{N}}(2N + 4297 - B_{\bar{N}}(2N + 4294)) \\
&= B_{\bar{N}}\left(2N + 4297 - \left(\frac{16N}{7} - \frac{45}{7}\right)\right) + B_{\bar{N}}(2N + 4297 - 4472) + B_{\bar{N}}(2N + 4297 - (132N + 37204)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30124}{7}\right) + B_{\bar{N}}(2N - 175) + B_{\bar{N}}(-130N - 32907) = 0 + \left(\frac{15N}{7} - \frac{229}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{229}}{\mathbf{7}} \\
&(N \geq 15062)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4298) &= B_{\bar{N}}(2N + 4298 - B_{\bar{N}}(2N + 4297)) + B_{\bar{N}}(2N + 4298 - B_{\bar{N}}(2N + 4296)) + B_{\bar{N}}(2N + 4298 - B_{\bar{N}}(2N + 4295)) \\
&= B_{\bar{N}}\left(2N + 4298 - \left(\frac{15N}{7} - \frac{229}{7}\right)\right) + B_{\bar{N}}\left(2N + 4298 - \left(\frac{16N}{7} - \frac{45}{7}\right)\right) + B_{\bar{N}}(2N + 4298 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30315}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30131}{7}\right) + B_{\bar{N}}(2N - 174) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 30315)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4299) &= B_{\bar{N}}(2N + 4299 - B_{\bar{N}}(2N + 4298)) + B_{\bar{N}}(2N + 4299 - B_{\bar{N}}(2N + 4297)) + B_{\bar{N}}(2N + 4299 - B_{\bar{N}}(2N + 4296)) \\
&= B_{\bar{N}}(2N + 4299 - (N - 2)) + B_{\bar{N}}\left(2N + 4299 - \left(\frac{15N}{7} - \frac{229}{7}\right)\right) + B_{\bar{N}}\left(2N + 4299 - \left(\frac{16N}{7} - \frac{45}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4301) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30322}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30138}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 30322)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4300) &= B_{\bar{N}}(2N + 4300 - B_{\bar{N}}(2N + 4299)) + B_{\bar{N}}(2N + 4300 - B_{\bar{N}}(2N + 4298)) + B_{\bar{N}}(2N + 4300 - B_{\bar{N}}(2N + 4297)) \\
&= B_{\bar{N}}(2N + 4300 - 7) + B_{\bar{N}}(2N + 4300 - (N - 2)) + B_{\bar{N}}\left(2N + 4300 - \left(\frac{15N}{7} - \frac{229}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4293) + B_{\bar{N}}(N + 4302) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30329}{7}\right) = (132N + 81769) + (2N + 1273) + 0 = \mathbf{134N} + \mathbf{83042} \\
&(\mathbf{N} \geq 30329)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4301) &= B_{\bar{N}}(2N + 4301 - B_{\bar{N}}(2N + 4300)) + B_{\bar{N}}(2N + 4301 - B_{\bar{N}}(2N + 4299)) + B_{\bar{N}}(2N + 4301 - B_{\bar{N}}(2N + 4298)) \\
&= B_{\bar{N}}(2N + 4301 - (134N + 83042)) + B_{\bar{N}}(2N + 4301 - 7) + B_{\bar{N}}(2N + 4301 - (N - 2)) \\
&= B_{\bar{N}}(-132N - 78741) + B_{\bar{N}}(2N + 4294) + B_{\bar{N}}(N + 4303) = 0 + (132N + 37204) + (2N + 607) = \mathbf{134N} + \mathbf{37811} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4302}) &= B_{\bar{N}}(2N + 4302 - B_{\bar{N}}(2N + 4301)) + B_{\bar{N}}(2N + 4302 - B_{\bar{N}}(2N + 4300)) + B_{\bar{N}}(2N + 4302 - B_{\bar{N}}(2N + 4299)) \\
&= B_{\bar{N}}(2N + 4302 - (134N + 37811)) + B_{\bar{N}}(2N + 4302 - (134N + 83042)) + B_{\bar{N}}(2N + 4302 - 7) \\
&= B_{\bar{N}}(-132N - 33509) + B_{\bar{N}}(-132N - 78740) + B_{\bar{N}}(2N + 4295) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4303}) &= B_{\bar{N}}(2N + 4303 - B_{\bar{N}}(2N + 4302)) + B_{\bar{N}}(2N + 4303 - B_{\bar{N}}(2N + 4301)) + B_{\bar{N}}(2N + 4303 - B_{\bar{N}}(2N + 4300)) \\
&= B_{\bar{N}}(2N + 4303 - 4472) + B_{\bar{N}}(2N + 4303 - (134N + 37811)) + B_{\bar{N}}(2N + 4303 - (134N + 83042)) \\
&= B_{\bar{N}}(2N - 169) + B_{\bar{N}}(-132N - 33508) + B_{\bar{N}}(-132N - 78739) = \left(\frac{16N}{7} - \frac{31}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{31}}{\mathbf{7}} \\
&(N \geq 236)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4304}) &= B_{\bar{N}}(2N + 4304 - B_{\bar{N}}(2N + 4303)) + B_{\bar{N}}(2N + 4304 - B_{\bar{N}}(2N + 4302)) + B_{\bar{N}}(2N + 4304 - B_{\bar{N}}(2N + 4301)) \\
&= B_{\bar{N}}\left(2N + 4304 - \left(\frac{16N}{7} - \frac{31}{7}\right)\right) + B_{\bar{N}}(2N + 4304 - 4472) + B_{\bar{N}}(2N + 4304 - (134N + 37811)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30159}{7}\right) + B_{\bar{N}}(2N - 168) + B_{\bar{N}}(-132N - 33507) = 0 + \left(\frac{15N}{7} - \frac{222}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{222}}{\mathbf{7}} \\
&(N \geq 15080)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4305}) &= B_{\bar{N}}(2N + 4305 - B_{\bar{N}}(2N + 4304)) + B_{\bar{N}}(2N + 4305 - B_{\bar{N}}(2N + 4303)) + B_{\bar{N}}(2N + 4305 - B_{\bar{N}}(2N + 4302)) \\
&= B_{\bar{N}}\left(2N + 4305 - \left(\frac{15N}{7} - \frac{222}{7}\right)\right) + B_{\bar{N}}\left(2N + 4305 - \left(\frac{16N}{7} - \frac{31}{7}\right)\right) + B_{\bar{N}}(2N + 4305 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30357}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30166}{7}\right) + B_{\bar{N}}(2N - 167) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30357})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4306) &= B_{\bar{N}}(2N + 4306 - B_{\bar{N}}(2N + 4305)) + B_{\bar{N}}(2N + 4306 - B_{\bar{N}}(2N + 4304)) + B_{\bar{N}}(2N + 4306 - B_{\bar{N}}(2N + 4303)) \\
&= B_{\bar{N}}(2N + 4306 - (N - 2)) + B_{\bar{N}}\left(2N + 4306 - \left(\frac{15N}{7} - \frac{222}{7}\right)\right) + B_{\bar{N}}\left(2N + 4306 - \left(\frac{16N}{7} - \frac{31}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4308) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30364}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30173}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30364})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4307) &= B_{\bar{N}}(2N + 4307 - B_{\bar{N}}(2N + 4306)) + B_{\bar{N}}(2N + 4307 - B_{\bar{N}}(2N + 4305)) + B_{\bar{N}}(2N + 4307 - B_{\bar{N}}(2N + 4304)) \\
&= B_{\bar{N}}(2N + 4307 - 7) + B_{\bar{N}}(2N + 4307 - (N - 2)) + B_{\bar{N}}\left(2N + 4307 - \left(\frac{15N}{7} - \frac{222}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4300) + B_{\bar{N}}(N + 4309) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30371}{7}\right) = (134N + 83042) + (2N + 1275) + 0 = \mathbf{136N} + \mathbf{84317} \\
&(\mathbf{N} \geq \mathbf{30371})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4308) &= B_{\bar{N}}(2N + 4308 - B_{\bar{N}}(2N + 4307)) + B_{\bar{N}}(2N + 4308 - B_{\bar{N}}(2N + 4306)) + B_{\bar{N}}(2N + 4308 - B_{\bar{N}}(2N + 4305)) \\
&= B_{\bar{N}}(2N + 4308 - (136N + 84317)) + B_{\bar{N}}(2N + 4308 - 7) + B_{\bar{N}}(2N + 4308 - (N - 2)) \\
&= B_{\bar{N}}(-134N - 80009) + B_{\bar{N}}(2N + 4301) + B_{\bar{N}}(N + 4310) = 0 + (134N + 37811) + (2N + 608) = \mathbf{136N} + \mathbf{38419} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4309) &= B_{\bar{N}}(2N + 4309 - B_{\bar{N}}(2N + 4308)) + B_{\bar{N}}(2N + 4309 - B_{\bar{N}}(2N + 4307)) + B_{\bar{N}}(2N + 4309 - B_{\bar{N}}(2N + 4306)) \\
&= B_{\bar{N}}(2N + 4309 - (136N + 38419)) + B_{\bar{N}}(2N + 4309 - (136N + 84317)) + B_{\bar{N}}(2N + 4309 - 7) \\
&= B_{\bar{N}}(-134N - 34110) + B_{\bar{N}}(-134N - 80008) + B_{\bar{N}}(2N + 4302) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4310}) &= B_{\bar{N}}(2N + 4310 - B_{\bar{N}}(2N + 4309)) + B_{\bar{N}}(2N + 4310 - B_{\bar{N}}(2N + 4308)) + B_{\bar{N}}(2N + 4310 - B_{\bar{N}}(2N + 4307)) \\
&= B_{\bar{N}}(2N + 4310 - 4472) + B_{\bar{N}}(2N + 4310 - (136N + 38419)) + B_{\bar{N}}(2N + 4310 - (136N + 84317)) \\
&= B_{\bar{N}}(2N - 162) + B_{\bar{N}}(-134N - 34109) + B_{\bar{N}}(-134N - 80007) = \left(\frac{16N}{7} - \frac{17}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{17}}{\mathbf{7}} \\
&(N \geq 229)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4311}) &= B_{\bar{N}}(2N + 4311 - B_{\bar{N}}(2N + 4310)) + B_{\bar{N}}(2N + 4311 - B_{\bar{N}}(2N + 4309)) + B_{\bar{N}}(2N + 4311 - B_{\bar{N}}(2N + 4308)) \\
&= B_{\bar{N}}\left(2N + 4311 - \left(\frac{16N}{7} - \frac{17}{7}\right)\right) + B_{\bar{N}}(2N + 4311 - 4472) + B_{\bar{N}}(2N + 4311 - (136N + 38419)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30194}{7}\right) + B_{\bar{N}}(2N - 161) + B_{\bar{N}}(-134N - 34108) = 0 + \left(\frac{15N}{7} - \frac{215}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{215}}{\mathbf{7}} \\
&(N \geq 15097)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4312}) &= B_{\bar{N}}(2N + 4312 - B_{\bar{N}}(2N + 4311)) + B_{\bar{N}}(2N + 4312 - B_{\bar{N}}(2N + 4310)) + B_{\bar{N}}(2N + 4312 - B_{\bar{N}}(2N + 4309)) \\
&= B_{\bar{N}}\left(2N + 4312 - \left(\frac{15N}{7} - \frac{215}{7}\right)\right) + B_{\bar{N}}\left(2N + 4312 - \left(\frac{16N}{7} - \frac{17}{7}\right)\right) + B_{\bar{N}}(2N + 4312 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30399}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30201}{7}\right) + B_{\bar{N}}(2N - 160) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30399})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4313}) &= B_{\bar{N}}(2N + 4313 - B_{\bar{N}}(2N + 4312)) + B_{\bar{N}}(2N + 4313 - B_{\bar{N}}(2N + 4311)) + B_{\bar{N}}(2N + 4313 - B_{\bar{N}}(2N + 4310)) \\
&= B_{\bar{N}}(2N + 4313 - (N - 2)) + B_{\bar{N}}\left(2N + 4313 - \left(\frac{15N}{7} - \frac{215}{7}\right)\right) + B_{\bar{N}}\left(2N + 4313 - \left(\frac{16N}{7} - \frac{17}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4315) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30406}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30208}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30406})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4314}) &= B_{\bar{N}}(2N + 4314 - B_{\bar{N}}(2N + 4313)) + B_{\bar{N}}(2N + 4314 - B_{\bar{N}}(2N + 4312)) + B_{\bar{N}}(2N + 4314 - B_{\bar{N}}(2N + 4311)) \\
&= B_{\bar{N}}(2N + 4314 - 7) + B_{\bar{N}}(2N + 4314 - (N - 2)) + B_{\bar{N}}\left(2N + 4314 - \left(\frac{15N}{7} - \frac{215}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4307) + B_{\bar{N}}(N + 4316) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30413}{7}\right) = (136N + 84317) + (2N + 1277) + 0 = \mathbf{138N} + \mathbf{85594} \\
&(\mathbf{N} \geq \mathbf{30413})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4315}) &= B_{\bar{N}}(2N + 4315 - B_{\bar{N}}(2N + 4314)) + B_{\bar{N}}(2N + 4315 - B_{\bar{N}}(2N + 4313)) + B_{\bar{N}}(2N + 4315 - B_{\bar{N}}(2N + 4312)) \\
&= B_{\bar{N}}(2N + 4315 - (138N + 85594)) + B_{\bar{N}}(2N + 4315 - 7) + B_{\bar{N}}(2N + 4315 - (N - 2)) \\
&= B_{\bar{N}}(-136N - 81279) + B_{\bar{N}}(2N + 4308) + B_{\bar{N}}(N + 4317) = 0 + (136N + 38419) + (2N + 609) = \mathbf{138N} + \mathbf{39028} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4316}) &= B_{\bar{N}}(2N + 4316 - B_{\bar{N}}(2N + 4315)) + B_{\bar{N}}(2N + 4316 - B_{\bar{N}}(2N + 4314)) + B_{\bar{N}}(2N + 4316 - B_{\bar{N}}(2N + 4313)) \\
&= B_{\bar{N}}(2N + 4316 - (138N + 39028)) + B_{\bar{N}}(2N + 4316 - (138N + 85594)) + B_{\bar{N}}(2N + 4316 - 7) \\
&= B_{\bar{N}}(-136N - 34712) + B_{\bar{N}}(-136N - 81278) + B_{\bar{N}}(2N + 4309) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4317}) &= B_{\bar{N}}(2N + 4317 - B_{\bar{N}}(2N + 4316)) + B_{\bar{N}}(2N + 4317 - B_{\bar{N}}(2N + 4315)) + B_{\bar{N}}(2N + 4317 - B_{\bar{N}}(2N + 4314)) \\
&= B_{\bar{N}}(2N + 4317 - 4472) + B_{\bar{N}}(2N + 4317 - (138N + 39028)) + B_{\bar{N}}(2N + 4317 - (138N + 85594)) \\
&= B_{\bar{N}}(2N - 155) + B_{\bar{N}}(-136N - 34711) + B_{\bar{N}}(-136N - 81277) = \left(\frac{16N}{7} - \frac{3}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} - \frac{\mathbf{3}}{\mathbf{7}} \\
&(N \geq 222)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4318}) &= B_{\bar{N}}(2N + 4318 - B_{\bar{N}}(2N + 4317)) + B_{\bar{N}}(2N + 4318 - B_{\bar{N}}(2N + 4316)) + B_{\bar{N}}(2N + 4318 - B_{\bar{N}}(2N + 4315)) \\
&= B_{\bar{N}}\left(2N + 4318 - \left(\frac{16N}{7} - \frac{3}{7}\right)\right) + B_{\bar{N}}(2N + 4318 - 4472) + B_{\bar{N}}(2N + 4318 - (138N + 39028)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30229}{7}\right) + B_{\bar{N}}(2N - 154) + B_{\bar{N}}(-136N - 34710) = 0 + \left(\frac{15N}{7} - \frac{208}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{208}}{\mathbf{7}} \\
&(N \geq 15115)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4319}) &= B_{\bar{N}}(2N + 4319 - B_{\bar{N}}(2N + 4318)) + B_{\bar{N}}(2N + 4319 - B_{\bar{N}}(2N + 4317)) + B_{\bar{N}}(2N + 4319 - B_{\bar{N}}(2N + 4316)) \\
&= B_{\bar{N}}\left(2N + 4319 - \left(\frac{15N}{7} - \frac{208}{7}\right)\right) + B_{\bar{N}}\left(2N + 4319 - \left(\frac{16N}{7} - \frac{3}{7}\right)\right) + B_{\bar{N}}(2N + 4319 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30441}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30236}{7}\right) + B_{\bar{N}}(2N - 153) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30441})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4320}) &= B_{\bar{N}}(2N + 4320 - B_{\bar{N}}(2N + 4319)) + B_{\bar{N}}(2N + 4320 - B_{\bar{N}}(2N + 4318)) + B_{\bar{N}}(2N + 4320 - B_{\bar{N}}(2N + 4317)) \\
&= B_{\bar{N}}(2N + 4320 - (N - 2)) + B_{\bar{N}}\left(2N + 4320 - \left(\frac{15N}{7} - \frac{208}{7}\right)\right) + B_{\bar{N}}\left(2N + 4320 - \left(\frac{16N}{7} - \frac{3}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4322) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30448}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30243}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30448})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4321}) &= B_{\bar{N}}(2N + 4321 - B_{\bar{N}}(2N + 4320)) + B_{\bar{N}}(2N + 4321 - B_{\bar{N}}(2N + 4319)) + B_{\bar{N}}(2N + 4321 - B_{\bar{N}}(2N + 4318)) \\
&= B_{\bar{N}}(2N + 4321 - 7) + B_{\bar{N}}(2N + 4321 - (N - 2)) + B_{\bar{N}}\left(2N + 4321 - \left(\frac{15N}{7} - \frac{208}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4314) + B_{\bar{N}}(N + 4323) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30455}{7}\right) = (138N + 85594) + (2N + 1279) + 0 = \mathbf{140N} + \mathbf{86873} \\
&(\mathbf{N} \geq \mathbf{30455})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4322}) &= B_{\bar{N}}(2N + 4322 - B_{\bar{N}}(2N + 4321)) + B_{\bar{N}}(2N + 4322 - B_{\bar{N}}(2N + 4320)) + B_{\bar{N}}(2N + 4322 - B_{\bar{N}}(2N + 4319)) \\
&= B_{\bar{N}}(2N + 4322 - (140N + 86873)) + B_{\bar{N}}(2N + 4322 - 7) + B_{\bar{N}}(2N + 4322 - (N - 2)) \\
&= B_{\bar{N}}(-138N - 82551) + B_{\bar{N}}(2N + 4315) + B_{\bar{N}}(N + 4324) = 0 + (138N + 39028) + (2N + 610) = \mathbf{140N} + \mathbf{39638} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4323}) &= B_{\bar{N}}(2N + 4323 - B_{\bar{N}}(2N + 4322)) + B_{\bar{N}}(2N + 4323 - B_{\bar{N}}(2N + 4321)) + B_{\bar{N}}(2N + 4323 - B_{\bar{N}}(2N + 4320)) \\
&= B_{\bar{N}}(2N + 4323 - (140N + 39638)) + B_{\bar{N}}(2N + 4323 - (140N + 86873)) + B_{\bar{N}}(2N + 4323 - 7) \\
&= B_{\bar{N}}(-138N - 35315) + B_{\bar{N}}(-138N - 82550) + B_{\bar{N}}(2N + 4316) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4324}) &= B_{\bar{N}}(2N + 4324 - B_{\bar{N}}(2N + 4323)) + B_{\bar{N}}(2N + 4324 - B_{\bar{N}}(2N + 4322)) + B_{\bar{N}}(2N + 4324 - B_{\bar{N}}(2N + 4321)) \\
&= B_{\bar{N}}(2N + 4324 - 4472) + B_{\bar{N}}(2N + 4324 - (140N + 39638)) + B_{\bar{N}}(2N + 4324 - (140N + 86873)) \\
&= B_{\bar{N}}(2N - 148) + B_{\bar{N}}(-138N - 35314) + B_{\bar{N}}(-138N - 82549) = \left(\frac{16N}{7} + \frac{11}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{11}}{\mathbf{7}} \\
&(N \geq 215)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4325}) &= B_{\bar{N}}(2N + 4325 - B_{\bar{N}}(2N + 4324)) + B_{\bar{N}}(2N + 4325 - B_{\bar{N}}(2N + 4323)) + B_{\bar{N}}(2N + 4325 - B_{\bar{N}}(2N + 4322)) \\
&= B_{\bar{N}}\left(2N + 4325 - \left(\frac{16N}{7} + \frac{11}{7}\right)\right) + B_{\bar{N}}(2N + 4325 - 4472) + B_{\bar{N}}(2N + 4325 - (140N + 39638)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30264}{7}\right) + B_{\bar{N}}(2N - 147) + B_{\bar{N}}(-138N - 35313) = 0 + \left(\frac{15N}{7} - \frac{201}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{201}}{\mathbf{7}} \\
&(N \geq 15132)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{4326}) &= B_{\bar{N}}(2N + 4326 - B_{\bar{N}}(2N + 4325)) + B_{\bar{N}}(2N + 4326 - B_{\bar{N}}(2N + 4324)) + B_{\bar{N}}(2N + 4326 - B_{\bar{N}}(2N + 4323)) \\
&= B_{\bar{N}}\left(2N + 4326 - \left(\frac{15N}{7} - \frac{201}{7}\right)\right) + B_{\bar{N}}\left(2N + 4326 - \left(\frac{16N}{7} + \frac{11}{7}\right)\right) + B_{\bar{N}}(2N + 4326 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30483}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30271}{7}\right) + B_{\bar{N}}(2N - 146) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30483})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{4327}) &= B_{\bar{N}}(2N + 4327 - B_{\bar{N}}(2N + 4326)) + B_{\bar{N}}(2N + 4327 - B_{\bar{N}}(2N + 4325)) + B_{\bar{N}}(2N + 4327 - B_{\bar{N}}(2N + 4324)) \\
&= B_{\bar{N}}(2N + 4327 - (N - 2)) + B_{\bar{N}}\left(2N + 4327 - \left(\frac{15N}{7} - \frac{201}{7}\right)\right) + B_{\bar{N}}\left(2N + 4327 - \left(\frac{16N}{7} + \frac{11}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4329) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30490}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30278}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30490})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{4328}) &= B_{\bar{N}}(2N + 4328 - B_{\bar{N}}(2N + 4327)) + B_{\bar{N}}(2N + 4328 - B_{\bar{N}}(2N + 4326)) + B_{\bar{N}}(2N + 4328 - B_{\bar{N}}(2N + 4325)) \\
&= B_{\bar{N}}(2N + 4328 - 7) + B_{\bar{N}}(2N + 4328 - (N - 2)) + B_{\bar{N}}\left(2N + 4328 - \left(\frac{15N}{7} - \frac{201}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4321) + B_{\bar{N}}(N + 4330) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30497}{7}\right) = (140N + 86873) + (2N + 1281) + 0 = \mathbf{142N} + \mathbf{88154} \\
&(\mathbf{N} \geq \mathbf{30497})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{4329}) &= B_{\bar{N}}(2N + 4329 - B_{\bar{N}}(2N + 4328)) + B_{\bar{N}}(2N + 4329 - B_{\bar{N}}(2N + 4327)) + B_{\bar{N}}(2N + 4329 - B_{\bar{N}}(2N + 4326)) \\
&= B_{\bar{N}}(2N + 4329 - (142N + 88154)) + B_{\bar{N}}(2N + 4329 - 7) + B_{\bar{N}}(2N + 4329 - (N - 2)) \\
&= B_{\bar{N}}(-140N - 83825) + B_{\bar{N}}(2N + 4322) + B_{\bar{N}}(N + 4331) = 0 + (140N + 39638) + (2N + 611) = \mathbf{142N} + \mathbf{40249} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4330}) &= B_{\bar{N}}(2N + 4330 - B_{\bar{N}}(2N + 4329)) + B_{\bar{N}}(2N + 4330 - B_{\bar{N}}(2N + 4328)) + B_{\bar{N}}(2N + 4330 - B_{\bar{N}}(2N + 4327)) \\
&= B_{\bar{N}}(2N + 4330 - (142N + 40249)) + B_{\bar{N}}(2N + 4330 - (142N + 88154)) + B_{\bar{N}}(2N + 4330 - 7) \\
&= B_{\bar{N}}(-140N - 35919) + B_{\bar{N}}(-140N - 83824) + B_{\bar{N}}(2N + 4323) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4331}) &= B_{\bar{N}}(2N + 4331 - B_{\bar{N}}(2N + 4330)) + B_{\bar{N}}(2N + 4331 - B_{\bar{N}}(2N + 4329)) + B_{\bar{N}}(2N + 4331 - B_{\bar{N}}(2N + 4328)) \\
&= B_{\bar{N}}(2N + 4331 - 4472) + B_{\bar{N}}(2N + 4331 - (142N + 40249)) + B_{\bar{N}}(2N + 4331 - (142N + 88154)) \\
&= B_{\bar{N}}(2N - 141) + B_{\bar{N}}(-140N - 35918) + B_{\bar{N}}(-140N - 83823) = \left(\frac{16N}{7} + \frac{25}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{25}}{\mathbf{7}} \\
&(N \geq 208)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4332}) &= B_{\bar{N}}(2N + 4332 - B_{\bar{N}}(2N + 4331)) + B_{\bar{N}}(2N + 4332 - B_{\bar{N}}(2N + 4330)) + B_{\bar{N}}(2N + 4332 - B_{\bar{N}}(2N + 4329)) \\
&= B_{\bar{N}}\left(2N + 4332 - \left(\frac{16N}{7} + \frac{25}{7}\right)\right) + B_{\bar{N}}(2N + 4332 - 4472) + B_{\bar{N}}(2N + 4332 - (142N + 40249)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30299}{7}\right) + B_{\bar{N}}(2N - 140) + B_{\bar{N}}(-140N - 35917) = 0 + \left(\frac{15N}{7} - \frac{194}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{194}}{\mathbf{7}} \\
&(N \geq 15150)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4333}) &= B_{\bar{N}}(2N + 4333 - B_{\bar{N}}(2N + 4332)) + B_{\bar{N}}(2N + 4333 - B_{\bar{N}}(2N + 4331)) + B_{\bar{N}}(2N + 4333 - B_{\bar{N}}(2N + 4330)) \\
&= B_{\bar{N}}\left(2N + 4333 - \left(\frac{15N}{7} - \frac{194}{7}\right)\right) + B_{\bar{N}}\left(2N + 4333 - \left(\frac{16N}{7} + \frac{25}{7}\right)\right) + B_{\bar{N}}(2N + 4333 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30525}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30306}{7}\right) + B_{\bar{N}}(2N - 139) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30525})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4334) &= B_{\bar{N}}(2N + 4334 - B_{\bar{N}}(2N + 4333)) + B_{\bar{N}}(2N + 4334 - B_{\bar{N}}(2N + 4332)) + B_{\bar{N}}(2N + 4334 - B_{\bar{N}}(2N + 4331)) \\
&= B_{\bar{N}}(2N + 4334 - (N - 2)) + B_{\bar{N}}\left(2N + 4334 - \left(\frac{15N}{7} - \frac{194}{7}\right)\right) + B_{\bar{N}}\left(2N + 4334 - \left(\frac{16N}{7} + \frac{25}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4336) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30532}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30313}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30532})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4335) &= B_{\bar{N}}(2N + 4335 - B_{\bar{N}}(2N + 4334)) + B_{\bar{N}}(2N + 4335 - B_{\bar{N}}(2N + 4333)) + B_{\bar{N}}(2N + 4335 - B_{\bar{N}}(2N + 4332)) \\
&= B_{\bar{N}}(2N + 4335 - 7) + B_{\bar{N}}(2N + 4335 - (N - 2)) + B_{\bar{N}}\left(2N + 4335 - \left(\frac{15N}{7} - \frac{194}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4328) + B_{\bar{N}}(N + 4337) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30539}{7}\right) = (142N + 88154) + (2N + 1283) + 0 = \mathbf{144N} + \mathbf{89437} \\
&(\mathbf{N} \geq \mathbf{30539})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4336) &= B_{\bar{N}}(2N + 4336 - B_{\bar{N}}(2N + 4335)) + B_{\bar{N}}(2N + 4336 - B_{\bar{N}}(2N + 4334)) + B_{\bar{N}}(2N + 4336 - B_{\bar{N}}(2N + 4333)) \\
&= B_{\bar{N}}(2N + 4336 - (144N + 89437)) + B_{\bar{N}}(2N + 4336 - 7) + B_{\bar{N}}(2N + 4336 - (N - 2)) \\
&= B_{\bar{N}}(-142N - 85101) + B_{\bar{N}}(2N + 4329) + B_{\bar{N}}(N + 4338) = 0 + (142N + 40249) + (2N + 612) = \mathbf{144N} + \mathbf{40861} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4337) &= B_{\bar{N}}(2N + 4337 - B_{\bar{N}}(2N + 4336)) + B_{\bar{N}}(2N + 4337 - B_{\bar{N}}(2N + 4335)) + B_{\bar{N}}(2N + 4337 - B_{\bar{N}}(2N + 4334)) \\
&= B_{\bar{N}}(2N + 4337 - (144N + 40861)) + B_{\bar{N}}(2N + 4337 - (144N + 89437)) + B_{\bar{N}}(2N + 4337 - 7) \\
&= B_{\bar{N}}(-142N - 36524) + B_{\bar{N}}(-142N - 85100) + B_{\bar{N}}(2N + 4330) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4338}) &= B_{\bar{N}}(2N + 4338 - B_{\bar{N}}(2N + 4337)) + B_{\bar{N}}(2N + 4338 - B_{\bar{N}}(2N + 4336)) + B_{\bar{N}}(2N + 4338 - B_{\bar{N}}(2N + 4335)) \\
&= B_{\bar{N}}(2N + 4338 - 4472) + B_{\bar{N}}(2N + 4338 - (144N + 40861)) + B_{\bar{N}}(2N + 4338 - (144N + 89437)) \\
&= B_{\bar{N}}(2N - 134) + B_{\bar{N}}(-142N - 36523) + B_{\bar{N}}(-142N - 85099) = \left(\frac{16N}{7} + \frac{39}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{39}}{\mathbf{7}} \\
&(N \geq 201)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4339}) &= B_{\bar{N}}(2N + 4339 - B_{\bar{N}}(2N + 4338)) + B_{\bar{N}}(2N + 4339 - B_{\bar{N}}(2N + 4337)) + B_{\bar{N}}(2N + 4339 - B_{\bar{N}}(2N + 4336)) \\
&= B_{\bar{N}}\left(2N + 4339 - \left(\frac{16N}{7} + \frac{39}{7}\right)\right) + B_{\bar{N}}(2N + 4339 - 4472) + B_{\bar{N}}(2N + 4339 - (144N + 40861)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30334}{7}\right) + B_{\bar{N}}(2N - 133) + B_{\bar{N}}(-142N - 36522) = 0 + \left(\frac{15N}{7} - \frac{187}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{187}}{\mathbf{7}} \\
&(N \geq 15167)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4340}) &= B_{\bar{N}}(2N + 4340 - B_{\bar{N}}(2N + 4339)) + B_{\bar{N}}(2N + 4340 - B_{\bar{N}}(2N + 4338)) + B_{\bar{N}}(2N + 4340 - B_{\bar{N}}(2N + 4337)) \\
&= B_{\bar{N}}\left(2N + 4340 - \left(\frac{15N}{7} - \frac{187}{7}\right)\right) + B_{\bar{N}}\left(2N + 4340 - \left(\frac{16N}{7} + \frac{39}{7}\right)\right) + B_{\bar{N}}(2N + 4340 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30567}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30341}{7}\right) + B_{\bar{N}}(2N - 132) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30567})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4341}) &= B_{\bar{N}}(2N + 4341 - B_{\bar{N}}(2N + 4340)) + B_{\bar{N}}(2N + 4341 - B_{\bar{N}}(2N + 4339)) + B_{\bar{N}}(2N + 4341 - B_{\bar{N}}(2N + 4338)) \\
&= B_{\bar{N}}(2N + 4341 - (N - 2)) + B_{\bar{N}}\left(2N + 4341 - \left(\frac{15N}{7} - \frac{187}{7}\right)\right) + B_{\bar{N}}\left(2N + 4341 - \left(\frac{16N}{7} + \frac{39}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4343) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30574}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30348}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30574})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4342) &= B_{\bar{N}}(2N + 4342 - B_{\bar{N}}(2N + 4341)) + B_{\bar{N}}(2N + 4342 - B_{\bar{N}}(2N + 4340)) + B_{\bar{N}}(2N + 4342 - B_{\bar{N}}(2N + 4339)) \\
&= B_{\bar{N}}(2N + 4342 - 7) + B_{\bar{N}}(2N + 4342 - (N - 2)) + B_{\bar{N}}\left(2N + 4342 - \left(\frac{15N}{7} - \frac{187}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4335) + B_{\bar{N}}(N + 4344) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30581}{7}\right) = (144N + 89437) + (2N + 1285) + 0 = \mathbf{146N} + \mathbf{90722} \\
&(\mathbf{N} \geq \mathbf{30581})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4343) &= B_{\bar{N}}(2N + 4343 - B_{\bar{N}}(2N + 4342)) + B_{\bar{N}}(2N + 4343 - B_{\bar{N}}(2N + 4341)) + B_{\bar{N}}(2N + 4343 - B_{\bar{N}}(2N + 4340)) \\
&= B_{\bar{N}}(2N + 4343 - (146N + 90722)) + B_{\bar{N}}(2N + 4343 - 7) + B_{\bar{N}}(2N + 4343 - (N - 2)) \\
&= B_{\bar{N}}(-144N - 86379) + B_{\bar{N}}(2N + 4336) + B_{\bar{N}}(N + 4345) = 0 + (144N + 40861) + (2N + 613) = \mathbf{146N} + \mathbf{41474} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4344) &= B_{\bar{N}}(2N + 4344 - B_{\bar{N}}(2N + 4343)) + B_{\bar{N}}(2N + 4344 - B_{\bar{N}}(2N + 4342)) + B_{\bar{N}}(2N + 4344 - B_{\bar{N}}(2N + 4341)) \\
&= B_{\bar{N}}(2N + 4344 - (146N + 41474)) + B_{\bar{N}}(2N + 4344 - (146N + 90722)) + B_{\bar{N}}(2N + 4344 - 7) \\
&= B_{\bar{N}}(-144N - 37130) + B_{\bar{N}}(-144N - 86378) + B_{\bar{N}}(2N + 4337) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4345) &= B_{\bar{N}}(2N + 4345 - B_{\bar{N}}(2N + 4344)) + B_{\bar{N}}(2N + 4345 - B_{\bar{N}}(2N + 4343)) + B_{\bar{N}}(2N + 4345 - B_{\bar{N}}(2N + 4342)) \\
&= B_{\bar{N}}(2N + 4345 - 4472) + B_{\bar{N}}(2N + 4345 - (146N + 41474)) + B_{\bar{N}}(2N + 4345 - (146N + 90722)) \\
&= B_{\bar{N}}(2N - 127) + B_{\bar{N}}(-144N - 37129) + B_{\bar{N}}(-144N - 86377) = \left(\frac{16N}{7} + \frac{53}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{53}}{\mathbf{7}} \\
&(N \geq 194)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4346}) &= B_{\bar{N}}(2N + 4346 - B_{\bar{N}}(2N + 4345)) + B_{\bar{N}}(2N + 4346 - B_{\bar{N}}(2N + 4344)) + B_{\bar{N}}(2N + 4346 - B_{\bar{N}}(2N + 4343)) \\
&= B_{\bar{N}}\left(2N + 4346 - \left(\frac{16N}{7} + \frac{53}{7}\right)\right) + B_{\bar{N}}(2N + 4346 - 4472) + B_{\bar{N}}(2N + 4346 - (146N + 41474)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30369}{7}\right) + B_{\bar{N}}(2N - 126) + B_{\bar{N}}(-144N - 37128) = 0 + \left(\frac{15N}{7} - \frac{180}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{180}}{\mathbf{7}} \\
&(N \geq 15185)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4347}) &= B_{\bar{N}}(2N + 4347 - B_{\bar{N}}(2N + 4346)) + B_{\bar{N}}(2N + 4347 - B_{\bar{N}}(2N + 4345)) + B_{\bar{N}}(2N + 4347 - B_{\bar{N}}(2N + 4344)) \\
&= B_{\bar{N}}\left(2N + 4347 - \left(\frac{15N}{7} - \frac{180}{7}\right)\right) + B_{\bar{N}}\left(2N + 4347 - \left(\frac{16N}{7} + \frac{53}{7}\right)\right) + B_{\bar{N}}(2N + 4347 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30609}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30376}{7}\right) + B_{\bar{N}}(2N - 125) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30609})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4348}) &= B_{\bar{N}}(2N + 4348 - B_{\bar{N}}(2N + 4347)) + B_{\bar{N}}(2N + 4348 - B_{\bar{N}}(2N + 4346)) + B_{\bar{N}}(2N + 4348 - B_{\bar{N}}(2N + 4345)) \\
&= B_{\bar{N}}(2N + 4348 - (N - 2)) + B_{\bar{N}}\left(2N + 4348 - \left(\frac{15N}{7} - \frac{180}{7}\right)\right) + B_{\bar{N}}\left(2N + 4348 - \left(\frac{16N}{7} + \frac{53}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4350) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30616}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30383}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30616})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4349}) &= B_{\bar{N}}(2N + 4349 - B_{\bar{N}}(2N + 4348)) + B_{\bar{N}}(2N + 4349 - B_{\bar{N}}(2N + 4347)) + B_{\bar{N}}(2N + 4349 - B_{\bar{N}}(2N + 4346)) \\
&= B_{\bar{N}}(2N + 4349 - 7) + B_{\bar{N}}(2N + 4349 - (N - 2)) + B_{\bar{N}}\left(2N + 4349 - \left(\frac{15N}{7} - \frac{180}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4342) + B_{\bar{N}}(N + 4351) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30623}{7}\right) = (146N + 90722) + (2N + 1287) + 0 = \mathbf{148N} + \mathbf{92009} \\
&(\mathbf{N} \geq \mathbf{30623})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4350) &= B_{\bar{N}}(2N + 4350 - B_{\bar{N}}(2N + 4349)) + B_{\bar{N}}(2N + 4350 - B_{\bar{N}}(2N + 4348)) + B_{\bar{N}}(2N + 4350 - B_{\bar{N}}(2N + 4347)) \\
&= B_{\bar{N}}(2N + 4350 - (148N + 92009)) + B_{\bar{N}}(2N + 4350 - 7) + B_{\bar{N}}(2N + 4350 - (N - 2)) \\
&= B_{\bar{N}}(-146N - 87659) + B_{\bar{N}}(2N + 4343) + B_{\bar{N}}(N + 4352) = 0 + (146N + 41474) + (2N + 614) = \mathbf{148N} + \mathbf{42088} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4351) &= B_{\bar{N}}(2N + 4351 - B_{\bar{N}}(2N + 4350)) + B_{\bar{N}}(2N + 4351 - B_{\bar{N}}(2N + 4349)) + B_{\bar{N}}(2N + 4351 - B_{\bar{N}}(2N + 4348)) \\
&= B_{\bar{N}}(2N + 4351 - (148N + 42088)) + B_{\bar{N}}(2N + 4351 - (148N + 92009)) + B_{\bar{N}}(2N + 4351 - 7) \\
&= B_{\bar{N}}(-146N - 37737) + B_{\bar{N}}(-146N - 87658) + B_{\bar{N}}(2N + 4344) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4352) &= B_{\bar{N}}(2N + 4352 - B_{\bar{N}}(2N + 4351)) + B_{\bar{N}}(2N + 4352 - B_{\bar{N}}(2N + 4350)) + B_{\bar{N}}(2N + 4352 - B_{\bar{N}}(2N + 4349)) \\
&= B_{\bar{N}}(2N + 4352 - 4472) + B_{\bar{N}}(2N + 4352 - (148N + 42088)) + B_{\bar{N}}(2N + 4352 - (148N + 92009)) \\
&= B_{\bar{N}}(2N - 120) + B_{\bar{N}}(-146N - 37736) + B_{\bar{N}}(-146N - 87657) = \left(\frac{16N}{7} + \frac{67}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{67}}{\mathbf{7}} \\
&(N \geq 187)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4353) &= B_{\bar{N}}(2N + 4353 - B_{\bar{N}}(2N + 4352)) + B_{\bar{N}}(2N + 4353 - B_{\bar{N}}(2N + 4351)) + B_{\bar{N}}(2N + 4353 - B_{\bar{N}}(2N + 4350)) \\
&= B_{\bar{N}}\left(2N + 4353 - \left(\frac{16N}{7} + \frac{67}{7}\right)\right) + B_{\bar{N}}(2N + 4353 - 4472) + B_{\bar{N}}(2N + 4353 - (148N + 42088)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30404}{7}\right) + B_{\bar{N}}(2N - 119) + B_{\bar{N}}(-146N - 37735) = 0 + \left(\frac{15N}{7} - \frac{173}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{173}}{\mathbf{7}} \\
&(N \geq 15202)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{4354}) &= B_{\bar{N}}(2N + 4354 - B_{\bar{N}}(2N + 4353)) + B_{\bar{N}}(2N + 4354 - B_{\bar{N}}(2N + 4352)) + B_{\bar{N}}(2N + 4354 - B_{\bar{N}}(2N + 4351)) \\
&= B_{\bar{N}}\left(2N + 4354 - \left(\frac{15N}{7} - \frac{173}{7}\right)\right) + B_{\bar{N}}\left(2N + 4354 - \left(\frac{16N}{7} + \frac{67}{7}\right)\right) + B_{\bar{N}}(2N + 4354 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30651}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30411}{7}\right) + B_{\bar{N}}(2N - 118) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30651})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{4355}) &= B_{\bar{N}}(2N + 4355 - B_{\bar{N}}(2N + 4354)) + B_{\bar{N}}(2N + 4355 - B_{\bar{N}}(2N + 4353)) + B_{\bar{N}}(2N + 4355 - B_{\bar{N}}(2N + 4352)) \\
&= B_{\bar{N}}(2N + 4355 - (N - 2)) + B_{\bar{N}}\left(2N + 4355 - \left(\frac{15N}{7} - \frac{173}{7}\right)\right) + B_{\bar{N}}\left(2N + 4355 - \left(\frac{16N}{7} + \frac{67}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4357) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30658}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30418}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30658})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{4356}) &= B_{\bar{N}}(2N + 4356 - B_{\bar{N}}(2N + 4355)) + B_{\bar{N}}(2N + 4356 - B_{\bar{N}}(2N + 4354)) + B_{\bar{N}}(2N + 4356 - B_{\bar{N}}(2N + 4353)) \\
&= B_{\bar{N}}(2N + 4356 - 7) + B_{\bar{N}}(2N + 4356 - (N - 2)) + B_{\bar{N}}\left(2N + 4356 - \left(\frac{15N}{7} - \frac{173}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4349) + B_{\bar{N}}(N + 4358) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30665}{7}\right) = (148N + 92009) + (2N + 1289) + 0 = \mathbf{150N} + \mathbf{93298} \\
&(\mathbf{N} \geq \mathbf{30665})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + \mathbf{4357}) &= B_{\bar{N}}(2N + 4357 - B_{\bar{N}}(2N + 4356)) + B_{\bar{N}}(2N + 4357 - B_{\bar{N}}(2N + 4355)) + B_{\bar{N}}(2N + 4357 - B_{\bar{N}}(2N + 4354)) \\
&= B_{\bar{N}}(2N + 4357 - (150N + 93298)) + B_{\bar{N}}(2N + 4357 - 7) + B_{\bar{N}}(2N + 4357 - (N - 2)) \\
&= B_{\bar{N}}(-148N - 88941) + B_{\bar{N}}(2N + 4350) + B_{\bar{N}}(N + 4359) = 0 + (148N + 42088) + (2N + 615) = \mathbf{150N} + \mathbf{42703} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4358}) &= B_{\bar{N}}(2N + 4358 - B_{\bar{N}}(2N + 4357)) + B_{\bar{N}}(2N + 4358 - B_{\bar{N}}(2N + 4356)) + B_{\bar{N}}(2N + 4358 - B_{\bar{N}}(2N + 4355)) \\
&= B_{\bar{N}}(2N + 4358 - (150N + 42703)) + B_{\bar{N}}(2N + 4358 - (150N + 93298)) + B_{\bar{N}}(2N + 4358 - 7) \\
&= B_{\bar{N}}(-148N - 38345) + B_{\bar{N}}(-148N - 88940) + B_{\bar{N}}(2N + 4351) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4359}) &= B_{\bar{N}}(2N + 4359 - B_{\bar{N}}(2N + 4358)) + B_{\bar{N}}(2N + 4359 - B_{\bar{N}}(2N + 4357)) + B_{\bar{N}}(2N + 4359 - B_{\bar{N}}(2N + 4356)) \\
&= B_{\bar{N}}(2N + 4359 - 4472) + B_{\bar{N}}(2N + 4359 - (150N + 42703)) + B_{\bar{N}}(2N + 4359 - (150N + 93298)) \\
&= B_{\bar{N}}(2N - 113) + B_{\bar{N}}(-148N - 38344) + B_{\bar{N}}(-148N - 88939) = \left(\frac{16N}{7} + \frac{81}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{81}}{\mathbf{7}} \\
&(N \geq 180)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4360}) &= B_{\bar{N}}(2N + 4360 - B_{\bar{N}}(2N + 4359)) + B_{\bar{N}}(2N + 4360 - B_{\bar{N}}(2N + 4358)) + B_{\bar{N}}(2N + 4360 - B_{\bar{N}}(2N + 4357)) \\
&= B_{\bar{N}}\left(2N + 4360 - \left(\frac{16N}{7} + \frac{81}{7}\right)\right) + B_{\bar{N}}(2N + 4360 - 4472) + B_{\bar{N}}(2N + 4360 - (150N + 42703)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30439}{7}\right) + B_{\bar{N}}(2N - 112) + B_{\bar{N}}(-148N - 38343) = 0 + \left(\frac{15N}{7} - \frac{166}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{166}}{\mathbf{7}} \\
&(N \geq 15220)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4361}) &= B_{\bar{N}}(2N + 4361 - B_{\bar{N}}(2N + 4360)) + B_{\bar{N}}(2N + 4361 - B_{\bar{N}}(2N + 4359)) + B_{\bar{N}}(2N + 4361 - B_{\bar{N}}(2N + 4358)) \\
&= B_{\bar{N}}\left(2N + 4361 - \left(\frac{15N}{7} - \frac{166}{7}\right)\right) + B_{\bar{N}}\left(2N + 4361 - \left(\frac{16N}{7} + \frac{81}{7}\right)\right) + B_{\bar{N}}(2N + 4361 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30693}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30446}{7}\right) + B_{\bar{N}}(2N - 111) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30693})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4362) &= B_{\bar{N}}(2N + 4362 - B_{\bar{N}}(2N + 4361)) + B_{\bar{N}}(2N + 4362 - B_{\bar{N}}(2N + 4360)) + B_{\bar{N}}(2N + 4362 - B_{\bar{N}}(2N + 4359)) \\
&= B_{\bar{N}}(2N + 4362 - (N - 2)) + B_{\bar{N}}\left(2N + 4362 - \left(\frac{15N}{7} - \frac{166}{7}\right)\right) + B_{\bar{N}}\left(2N + 4362 - \left(\frac{16N}{7} + \frac{81}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4364) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30700}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30453}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30700})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4363) &= B_{\bar{N}}(2N + 4363 - B_{\bar{N}}(2N + 4362)) + B_{\bar{N}}(2N + 4363 - B_{\bar{N}}(2N + 4361)) + B_{\bar{N}}(2N + 4363 - B_{\bar{N}}(2N + 4360)) \\
&= B_{\bar{N}}(2N + 4363 - 7) + B_{\bar{N}}(2N + 4363 - (N - 2)) + B_{\bar{N}}\left(2N + 4363 - \left(\frac{15N}{7} - \frac{166}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4356) + B_{\bar{N}}(N + 4365) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30707}{7}\right) = (150N + 93298) + (2N + 1291) + 0 = \mathbf{152N} + \mathbf{94589} \\
&(\mathbf{N} \geq \mathbf{30707})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4364) &= B_{\bar{N}}(2N + 4364 - B_{\bar{N}}(2N + 4363)) + B_{\bar{N}}(2N + 4364 - B_{\bar{N}}(2N + 4362)) + B_{\bar{N}}(2N + 4364 - B_{\bar{N}}(2N + 4361)) \\
&= B_{\bar{N}}(2N + 4364 - (152N + 94589)) + B_{\bar{N}}(2N + 4364 - 7) + B_{\bar{N}}(2N + 4364 - (N - 2)) \\
&= B_{\bar{N}}(-150N - 90225) + B_{\bar{N}}(2N + 4357) + B_{\bar{N}}(N + 4366) = 0 + (150N + 42703) + (2N + 616) = \mathbf{152N} + \mathbf{43319} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4365) &= B_{\bar{N}}(2N + 4365 - B_{\bar{N}}(2N + 4364)) + B_{\bar{N}}(2N + 4365 - B_{\bar{N}}(2N + 4363)) + B_{\bar{N}}(2N + 4365 - B_{\bar{N}}(2N + 4362)) \\
&= B_{\bar{N}}(2N + 4365 - (152N + 43319)) + B_{\bar{N}}(2N + 4365 - (152N + 94589)) + B_{\bar{N}}(2N + 4365 - 7) \\
&= B_{\bar{N}}(-150N - 38954) + B_{\bar{N}}(-150N - 90224) + B_{\bar{N}}(2N + 4358) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4366) &= B_{\bar{N}}(2N + 4366 - B_{\bar{N}}(2N + 4365)) + B_{\bar{N}}(2N + 4366 - B_{\bar{N}}(2N + 4364)) + B_{\bar{N}}(2N + 4366 - B_{\bar{N}}(2N + 4363)) \\
&= B_{\bar{N}}(2N + 4366 - 4472) + B_{\bar{N}}(2N + 4366 - (152N + 43319)) + B_{\bar{N}}(2N + 4366 - (152N + 94589)) \\
&= B_{\bar{N}}(2N - 106) + B_{\bar{N}}(-150N - 38953) + B_{\bar{N}}(-150N - 90223) = \left(\frac{16N}{7} + \frac{95}{7}\right) + 0 + 0 = \frac{16\mathbf{N}}{7} + \frac{95}{7} \\
&(N \geq 173)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4367) &= B_{\bar{N}}(2N + 4367 - B_{\bar{N}}(2N + 4366)) + B_{\bar{N}}(2N + 4367 - B_{\bar{N}}(2N + 4365)) + B_{\bar{N}}(2N + 4367 - B_{\bar{N}}(2N + 4364)) \\
&= B_{\bar{N}}\left(2N + 4367 - \left(\frac{16N}{7} + \frac{95}{7}\right)\right) + B_{\bar{N}}(2N + 4367 - 4472) + B_{\bar{N}}(2N + 4367 - (152N + 43319)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30474}{7}\right) + B_{\bar{N}}(2N - 105) + B_{\bar{N}}(-150N - 38952) = 0 + \left(\frac{15N}{7} - \frac{159}{7}\right) + 0 = \frac{15\mathbf{N}}{7} - \frac{159}{7} \\
&(N \geq 15237)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4368) &= B_{\bar{N}}(2N + 4368 - B_{\bar{N}}(2N + 4367)) + B_{\bar{N}}(2N + 4368 - B_{\bar{N}}(2N + 4366)) + B_{\bar{N}}(2N + 4368 - B_{\bar{N}}(2N + 4365)) \\
&= B_{\bar{N}}\left(2N + 4368 - \left(\frac{15N}{7} - \frac{159}{7}\right)\right) + B_{\bar{N}}\left(2N + 4368 - \left(\frac{16N}{7} + \frac{95}{7}\right)\right) + B_{\bar{N}}(2N + 4368 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30735}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30481}{7}\right) + B_{\bar{N}}(2N - 104) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq 30735)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4369) &= B_{\bar{N}}(2N + 4369 - B_{\bar{N}}(2N + 4368)) + B_{\bar{N}}(2N + 4369 - B_{\bar{N}}(2N + 4367)) + B_{\bar{N}}(2N + 4369 - B_{\bar{N}}(2N + 4366)) \\
&= B_{\bar{N}}(2N + 4369 - (N - 2)) + B_{\bar{N}}\left(2N + 4369 - \left(\frac{15N}{7} - \frac{159}{7}\right)\right) + B_{\bar{N}}\left(2N + 4369 - \left(\frac{16N}{7} + \frac{95}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4371) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30742}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30488}{7}\right) = 7 + 0 + 0 = 7 \\
&(\mathbf{N} \geq 30742)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4370) &= B_{\bar{N}}(2N + 4370 - B_{\bar{N}}(2N + 4369)) + B_{\bar{N}}(2N + 4370 - B_{\bar{N}}(2N + 4368)) + B_{\bar{N}}(2N + 4370 - B_{\bar{N}}(2N + 4367)) \\
&= B_{\bar{N}}(2N + 4370 - 7) + B_{\bar{N}}(2N + 4370 - (N - 2)) + B_{\bar{N}}\left(2N + 4370 - \left(\frac{15N}{7} - \frac{159}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4363) + B_{\bar{N}}(N + 4372) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30749}{7}\right) = (152N + 94589) + (2N + 1293) + 0 = \mathbf{154N} + \mathbf{95882} \\
&(\mathbf{N} \geq \mathbf{30749})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4371) &= B_{\bar{N}}(2N + 4371 - B_{\bar{N}}(2N + 4370)) + B_{\bar{N}}(2N + 4371 - B_{\bar{N}}(2N + 4369)) + B_{\bar{N}}(2N + 4371 - B_{\bar{N}}(2N + 4368)) \\
&= B_{\bar{N}}(2N + 4371 - (154N + 95882)) + B_{\bar{N}}(2N + 4371 - 7) + B_{\bar{N}}(2N + 4371 - (N - 2)) \\
&= B_{\bar{N}}(-152N - 91511) + B_{\bar{N}}(2N + 4364) + B_{\bar{N}}(N + 4373) = 0 + (152N + 43319) + (2N + 617) = \mathbf{154N} + \mathbf{43936} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4372) &= B_{\bar{N}}(2N + 4372 - B_{\bar{N}}(2N + 4371)) + B_{\bar{N}}(2N + 4372 - B_{\bar{N}}(2N + 4370)) + B_{\bar{N}}(2N + 4372 - B_{\bar{N}}(2N + 4369)) \\
&= B_{\bar{N}}(2N + 4372 - (154N + 43936)) + B_{\bar{N}}(2N + 4372 - (154N + 95882)) + B_{\bar{N}}(2N + 4372 - 7) \\
&= B_{\bar{N}}(-152N - 39564) + B_{\bar{N}}(-152N - 91510) + B_{\bar{N}}(2N + 4365) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4373) &= B_{\bar{N}}(2N + 4373 - B_{\bar{N}}(2N + 4372)) + B_{\bar{N}}(2N + 4373 - B_{\bar{N}}(2N + 4371)) + B_{\bar{N}}(2N + 4373 - B_{\bar{N}}(2N + 4370)) \\
&= B_{\bar{N}}(2N + 4373 - 4472) + B_{\bar{N}}(2N + 4373 - (154N + 43936)) + B_{\bar{N}}(2N + 4373 - (154N + 95882)) \\
&= B_{\bar{N}}(2N - 99) + B_{\bar{N}}(-152N - 39563) + B_{\bar{N}}(-152N - 91509) = \left(\frac{16N}{7} + \frac{109}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{109}}{\mathbf{7}} \\
&(N \geq 166)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4374}) &= B_{\bar{N}}(2N + 4374 - B_{\bar{N}}(2N + 4373)) + B_{\bar{N}}(2N + 4374 - B_{\bar{N}}(2N + 4372)) + B_{\bar{N}}(2N + 4374 - B_{\bar{N}}(2N + 4371)) \\
&= B_{\bar{N}}\left(2N + 4374 - \left(\frac{16N}{7} + \frac{109}{7}\right)\right) + B_{\bar{N}}(2N + 4374 - 4472) + B_{\bar{N}}(2N + 4374 - (154N + 43936)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30509}{7}\right) + B_{\bar{N}}(2N - 98) + B_{\bar{N}}(-152N - 39562) = 0 + \left(\frac{15N}{7} - \frac{152}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{152}}{\mathbf{7}} \\
&(N \geq 15255)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4375}) &= B_{\bar{N}}(2N + 4375 - B_{\bar{N}}(2N + 4374)) + B_{\bar{N}}(2N + 4375 - B_{\bar{N}}(2N + 4373)) + B_{\bar{N}}(2N + 4375 - B_{\bar{N}}(2N + 4372)) \\
&= B_{\bar{N}}\left(2N + 4375 - \left(\frac{15N}{7} - \frac{152}{7}\right)\right) + B_{\bar{N}}\left(2N + 4375 - \left(\frac{16N}{7} + \frac{109}{7}\right)\right) + B_{\bar{N}}(2N + 4375 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30777}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30516}{7}\right) + B_{\bar{N}}(2N - 97) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30777})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4376}) &= B_{\bar{N}}(2N + 4376 - B_{\bar{N}}(2N + 4375)) + B_{\bar{N}}(2N + 4376 - B_{\bar{N}}(2N + 4374)) + B_{\bar{N}}(2N + 4376 - B_{\bar{N}}(2N + 4373)) \\
&= B_{\bar{N}}(2N + 4376 - (N - 2)) + B_{\bar{N}}\left(2N + 4376 - \left(\frac{15N}{7} - \frac{152}{7}\right)\right) + B_{\bar{N}}\left(2N + 4376 - \left(\frac{16N}{7} + \frac{109}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4378) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30784}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30523}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30784})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4377}) &= B_{\bar{N}}(2N + 4377 - B_{\bar{N}}(2N + 4376)) + B_{\bar{N}}(2N + 4377 - B_{\bar{N}}(2N + 4375)) + B_{\bar{N}}(2N + 4377 - B_{\bar{N}}(2N + 4374)) \\
&= B_{\bar{N}}(2N + 4377 - 7) + B_{\bar{N}}(2N + 4377 - (N - 2)) + B_{\bar{N}}\left(2N + 4377 - \left(\frac{15N}{7} - \frac{152}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4370) + B_{\bar{N}}(N + 4379) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30791}{7}\right) = (154N + 95882) + (2N + 1295) + 0 = \mathbf{156N} + \mathbf{97177} \\
&(\mathbf{N} \geq \mathbf{30791})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4378) &= B_{\bar{N}}(2N + 4378 - B_{\bar{N}}(2N + 4377)) + B_{\bar{N}}(2N + 4378 - B_{\bar{N}}(2N + 4376)) + B_{\bar{N}}(2N + 4378 - B_{\bar{N}}(2N + 4375)) \\
&= B_{\bar{N}}(2N + 4378 - (156N + 97177)) + B_{\bar{N}}(2N + 4378 - 7) + B_{\bar{N}}(2N + 4378 - (N - 2)) \\
&= B_{\bar{N}}(-154N - 92799) + B_{\bar{N}}(2N + 4371) + B_{\bar{N}}(N + 4380) = 0 + (154N + 43936) + (2N + 618) = \mathbf{156N} + \mathbf{44554} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4379) &= B_{\bar{N}}(2N + 4379 - B_{\bar{N}}(2N + 4378)) + B_{\bar{N}}(2N + 4379 - B_{\bar{N}}(2N + 4377)) + B_{\bar{N}}(2N + 4379 - B_{\bar{N}}(2N + 4376)) \\
&= B_{\bar{N}}(2N + 4379 - (156N + 44554)) + B_{\bar{N}}(2N + 4379 - (156N + 97177)) + B_{\bar{N}}(2N + 4379 - 7) \\
&= B_{\bar{N}}(-154N - 40175) + B_{\bar{N}}(-154N - 92798) + B_{\bar{N}}(2N + 4372) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4380) &= B_{\bar{N}}(2N + 4380 - B_{\bar{N}}(2N + 4379)) + B_{\bar{N}}(2N + 4380 - B_{\bar{N}}(2N + 4378)) + B_{\bar{N}}(2N + 4380 - B_{\bar{N}}(2N + 4377)) \\
&= B_{\bar{N}}(2N + 4380 - 4472) + B_{\bar{N}}(2N + 4380 - (156N + 44554)) + B_{\bar{N}}(2N + 4380 - (156N + 97177)) \\
&= B_{\bar{N}}(2N - 92) + B_{\bar{N}}(-154N - 40174) + B_{\bar{N}}(-154N - 92797) = \left(\frac{16N}{7} + \frac{123}{7} \right) + 0 + 0 = \frac{16\mathbf{N}}{7} + \frac{123}{7} \\
&(N \geq 159)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4381) &= B_{\bar{N}}(2N + 4381 - B_{\bar{N}}(2N + 4380)) + B_{\bar{N}}(2N + 4381 - B_{\bar{N}}(2N + 4379)) + B_{\bar{N}}(2N + 4381 - B_{\bar{N}}(2N + 4378)) \\
&= B_{\bar{N}}\left(2N + 4381 - \left(\frac{16N}{7} + \frac{123}{7}\right)\right) + B_{\bar{N}}(2N + 4381 - 4472) + B_{\bar{N}}(2N + 4381 - (156N + 44554)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30544}{7}\right) + B_{\bar{N}}(2N - 91) + B_{\bar{N}}(-154N - 40173) = 0 + \left(\frac{15N}{7} - \frac{145}{7}\right) + 0 = \frac{15\mathbf{N}}{7} - \frac{145}{7} \\
&(N \geq 15272)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4382}) &= B_{\bar{N}}(2N + 4382 - B_{\bar{N}}(2N + 4381)) + B_{\bar{N}}(2N + 4382 - B_{\bar{N}}(2N + 4380)) + B_{\bar{N}}(2N + 4382 - B_{\bar{N}}(2N + 4379)) \\
&= B_{\bar{N}}\left(2N + 4382 - \left(\frac{15N}{7} - \frac{145}{7}\right)\right) + B_{\bar{N}}\left(2N + 4382 - \left(\frac{16N}{7} + \frac{123}{7}\right)\right) + B_{\bar{N}}(2N + 4382 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30819}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30551}{7}\right) + B_{\bar{N}}(2N - 90) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30819})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4383}) &= B_{\bar{N}}(2N + 4383 - B_{\bar{N}}(2N + 4382)) + B_{\bar{N}}(2N + 4383 - B_{\bar{N}}(2N + 4381)) + B_{\bar{N}}(2N + 4383 - B_{\bar{N}}(2N + 4380)) \\
&= B_{\bar{N}}(2N + 4383 - (N - 2)) + B_{\bar{N}}\left(2N + 4383 - \left(\frac{15N}{7} - \frac{145}{7}\right)\right) + B_{\bar{N}}\left(2N + 4383 - \left(\frac{16N}{7} + \frac{123}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4385) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30826}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30558}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30826})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4384}) &= B_{\bar{N}}(2N + 4384 - B_{\bar{N}}(2N + 4383)) + B_{\bar{N}}(2N + 4384 - B_{\bar{N}}(2N + 4382)) + B_{\bar{N}}(2N + 4384 - B_{\bar{N}}(2N + 4381)) \\
&= B_{\bar{N}}(2N + 4384 - 7) + B_{\bar{N}}(2N + 4384 - (N - 2)) + B_{\bar{N}}\left(2N + 4384 - \left(\frac{15N}{7} - \frac{145}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4377) + B_{\bar{N}}(N + 4386) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30833}{7}\right) = (156N + 97177) + (2N + 1297) + 0 = \mathbf{158N} + \mathbf{98474} \\
&(\mathbf{N} \geq \mathbf{30833})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4385}) &= B_{\bar{N}}(2N + 4385 - B_{\bar{N}}(2N + 4384)) + B_{\bar{N}}(2N + 4385 - B_{\bar{N}}(2N + 4383)) + B_{\bar{N}}(2N + 4385 - B_{\bar{N}}(2N + 4382)) \\
&= B_{\bar{N}}(2N + 4385 - (158N + 98474)) + B_{\bar{N}}(2N + 4385 - 7) + B_{\bar{N}}(2N + 4385 - (N - 2)) \\
&= B_{\bar{N}}(-156N - 94089) + B_{\bar{N}}(2N + 4378) + B_{\bar{N}}(N + 4387) = 0 + (156N + 44554) + (2N + 619) = \mathbf{158N} + \mathbf{45173} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4386) &= B_{\bar{N}}(2N + 4386 - B_{\bar{N}}(2N + 4385)) + B_{\bar{N}}(2N + 4386 - B_{\bar{N}}(2N + 4384)) + B_{\bar{N}}(2N + 4386 - B_{\bar{N}}(2N + 4383)) \\
&= B_{\bar{N}}(2N + 4386 - (158N + 45173)) + B_{\bar{N}}(2N + 4386 - (158N + 98474)) + B_{\bar{N}}(2N + 4386 - 7) \\
&= B_{\bar{N}}(-156N - 40787) + B_{\bar{N}}(-156N - 94088) + B_{\bar{N}}(2N + 4379) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4387) &= B_{\bar{N}}(2N + 4387 - B_{\bar{N}}(2N + 4386)) + B_{\bar{N}}(2N + 4387 - B_{\bar{N}}(2N + 4385)) + B_{\bar{N}}(2N + 4387 - B_{\bar{N}}(2N + 4384)) \\
&= B_{\bar{N}}(2N + 4387 - 4472) + B_{\bar{N}}(2N + 4387 - (158N + 45173)) + B_{\bar{N}}(2N + 4387 - (158N + 98474)) \\
&= B_{\bar{N}}(2N - 85) + B_{\bar{N}}(-156N - 40786) + B_{\bar{N}}(-156N - 94087) = \left(\frac{16N}{7} + \frac{137}{7}\right) + 0 + 0 = \frac{16\mathbf{N}}{7} + \frac{137}{7} \\
&(N \geq 152)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4388) &= B_{\bar{N}}(2N + 4388 - B_{\bar{N}}(2N + 4387)) + B_{\bar{N}}(2N + 4388 - B_{\bar{N}}(2N + 4386)) + B_{\bar{N}}(2N + 4388 - B_{\bar{N}}(2N + 4385)) \\
&= B_{\bar{N}}\left(2N + 4388 - \left(\frac{16N}{7} + \frac{137}{7}\right)\right) + B_{\bar{N}}(2N + 4388 - 4472) + B_{\bar{N}}(2N + 4388 - (158N + 45173)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30579}{7}\right) + B_{\bar{N}}(2N - 84) + B_{\bar{N}}(-156N - 40785) = 0 + \left(\frac{15N}{7} - \frac{138}{7}\right) + 0 = \frac{15\mathbf{N}}{7} - \frac{138}{7} \\
&(N \geq 15290)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4389) &= B_{\bar{N}}(2N + 4389 - B_{\bar{N}}(2N + 4388)) + B_{\bar{N}}(2N + 4389 - B_{\bar{N}}(2N + 4387)) + B_{\bar{N}}(2N + 4389 - B_{\bar{N}}(2N + 4386)) \\
&= B_{\bar{N}}\left(2N + 4389 - \left(\frac{15N}{7} - \frac{138}{7}\right)\right) + B_{\bar{N}}\left(2N + 4389 - \left(\frac{16N}{7} + \frac{137}{7}\right)\right) + B_{\bar{N}}(2N + 4389 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30861}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30586}{7}\right) + B_{\bar{N}}(2N - 83) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq \mathbf{30861})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4390) &= B_{\bar{N}}(2N + 4390 - B_{\bar{N}}(2N + 4389)) + B_{\bar{N}}(2N + 4390 - B_{\bar{N}}(2N + 4388)) + B_{\bar{N}}(2N + 4390 - B_{\bar{N}}(2N + 4387)) \\
&= B_{\bar{N}}(2N + 4390 - (N - 2)) + B_{\bar{N}}\left(2N + 4390 - \left(\frac{15N}{7} - \frac{138}{7}\right)\right) + B_{\bar{N}}\left(2N + 4390 - \left(\frac{16N}{7} + \frac{137}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4392) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30868}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30593}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30868})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4391) &= B_{\bar{N}}(2N + 4391 - B_{\bar{N}}(2N + 4390)) + B_{\bar{N}}(2N + 4391 - B_{\bar{N}}(2N + 4389)) + B_{\bar{N}}(2N + 4391 - B_{\bar{N}}(2N + 4388)) \\
&= B_{\bar{N}}(2N + 4391 - 7) + B_{\bar{N}}(2N + 4391 - (N - 2)) + B_{\bar{N}}\left(2N + 4391 - \left(\frac{15N}{7} - \frac{138}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4384) + B_{\bar{N}}(N + 4393) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30875}{7}\right) = (158N + 98474) + (2N + 1299) + 0 = \mathbf{160N} + \mathbf{99773} \\
&(\mathbf{N} \geq \mathbf{30875})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4392) &= B_{\bar{N}}(2N + 4392 - B_{\bar{N}}(2N + 4391)) + B_{\bar{N}}(2N + 4392 - B_{\bar{N}}(2N + 4390)) + B_{\bar{N}}(2N + 4392 - B_{\bar{N}}(2N + 4389)) \\
&= B_{\bar{N}}(2N + 4392 - (160N + 99773)) + B_{\bar{N}}(2N + 4392 - 7) + B_{\bar{N}}(2N + 4392 - (N - 2)) \\
&= B_{\bar{N}}(-158N - 95381) + B_{\bar{N}}(2N + 4385) + B_{\bar{N}}(N + 4394) = 0 + (158N + 45173) + (2N + 620) = \mathbf{160N} + \mathbf{45793} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4393) &= B_{\bar{N}}(2N + 4393 - B_{\bar{N}}(2N + 4392)) + B_{\bar{N}}(2N + 4393 - B_{\bar{N}}(2N + 4391)) + B_{\bar{N}}(2N + 4393 - B_{\bar{N}}(2N + 4390)) \\
&= B_{\bar{N}}(2N + 4393 - (160N + 45793)) + B_{\bar{N}}(2N + 4393 - (160N + 99773)) + B_{\bar{N}}(2N + 4393 - 7) \\
&= B_{\bar{N}}(-158N - 41400) + B_{\bar{N}}(-158N - 95380) + B_{\bar{N}}(2N + 4386) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4394}) &= B_{\bar{N}}(2N + 4394 - B_{\bar{N}}(2N + 4393)) + B_{\bar{N}}(2N + 4394 - B_{\bar{N}}(2N + 4392)) + B_{\bar{N}}(2N + 4394 - B_{\bar{N}}(2N + 4391)) \\
&= B_{\bar{N}}(2N + 4394 - 4472) + B_{\bar{N}}(2N + 4394 - (160N + 45793)) + B_{\bar{N}}(2N + 4394 - (160N + 99773)) \\
&= B_{\bar{N}}(2N - 78) + B_{\bar{N}}(-158N - 41399) + B_{\bar{N}}(-158N - 95379) = \left(\frac{16N}{7} + \frac{151}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{151}}{\mathbf{7}} \\
&(N \geq 145)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4395}) &= B_{\bar{N}}(2N + 4395 - B_{\bar{N}}(2N + 4394)) + B_{\bar{N}}(2N + 4395 - B_{\bar{N}}(2N + 4393)) + B_{\bar{N}}(2N + 4395 - B_{\bar{N}}(2N + 4392)) \\
&= B_{\bar{N}}\left(2N + 4395 - \left(\frac{16N}{7} + \frac{151}{7}\right)\right) + B_{\bar{N}}(2N + 4395 - 4472) + B_{\bar{N}}(2N + 4395 - (160N + 45793)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30614}{7}\right) + B_{\bar{N}}(2N - 77) + B_{\bar{N}}(-158N - 41398) = 0 + \left(\frac{15N}{7} - \frac{131}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{131}}{\mathbf{7}} \\
&(N \geq 15307)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4396}) &= B_{\bar{N}}(2N + 4396 - B_{\bar{N}}(2N + 4395)) + B_{\bar{N}}(2N + 4396 - B_{\bar{N}}(2N + 4394)) + B_{\bar{N}}(2N + 4396 - B_{\bar{N}}(2N + 4393)) \\
&= B_{\bar{N}}\left(2N + 4396 - \left(\frac{15N}{7} - \frac{131}{7}\right)\right) + B_{\bar{N}}\left(2N + 4396 - \left(\frac{16N}{7} + \frac{151}{7}\right)\right) + B_{\bar{N}}(2N + 4396 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30903}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30621}{7}\right) + B_{\bar{N}}(2N - 76) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30903})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4397}) &= B_{\bar{N}}(2N + 4397 - B_{\bar{N}}(2N + 4396)) + B_{\bar{N}}(2N + 4397 - B_{\bar{N}}(2N + 4395)) + B_{\bar{N}}(2N + 4397 - B_{\bar{N}}(2N + 4394)) \\
&= B_{\bar{N}}(2N + 4397 - (N - 2)) + B_{\bar{N}}\left(2N + 4397 - \left(\frac{15N}{7} - \frac{131}{7}\right)\right) + B_{\bar{N}}\left(2N + 4397 - \left(\frac{16N}{7} + \frac{151}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4399) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30910}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30628}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30910})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4398) &= B_{\bar{N}}(2N + 4398 - B_{\bar{N}}(2N + 4397)) + B_{\bar{N}}(2N + 4398 - B_{\bar{N}}(2N + 4396)) + B_{\bar{N}}(2N + 4398 - B_{\bar{N}}(2N + 4395)) \\
&= B_{\bar{N}}(2N + 4398 - 7) + B_{\bar{N}}(2N + 4398 - (N - 2)) + B_{\bar{N}}\left(2N + 4398 - \left(\frac{15N}{7} - \frac{131}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4391) + B_{\bar{N}}(N + 4400) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30917}{7}\right) = (160N + 99773) + (2N + 1301) + 0 = \mathbf{162N} + \mathbf{101074} \\
&(\mathbf{N} \geq \mathbf{30917})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4399) &= B_{\bar{N}}(2N + 4399 - B_{\bar{N}}(2N + 4398)) + B_{\bar{N}}(2N + 4399 - B_{\bar{N}}(2N + 4397)) + B_{\bar{N}}(2N + 4399 - B_{\bar{N}}(2N + 4396)) \\
&= B_{\bar{N}}(2N + 4399 - (162N + 101074)) + B_{\bar{N}}(2N + 4399 - 7) + B_{\bar{N}}(2N + 4399 - (N - 2)) \\
&= B_{\bar{N}}(-160N - 96675) + B_{\bar{N}}(2N + 4392) + B_{\bar{N}}(N + 4401) = 0 + (160N + 45793) + (2N + 621) = \mathbf{162N} + \mathbf{46414} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4400) &= B_{\bar{N}}(2N + 4400 - B_{\bar{N}}(2N + 4399)) + B_{\bar{N}}(2N + 4400 - B_{\bar{N}}(2N + 4398)) + B_{\bar{N}}(2N + 4400 - B_{\bar{N}}(2N + 4397)) \\
&= B_{\bar{N}}(2N + 4400 - (162N + 46414)) + B_{\bar{N}}(2N + 4400 - (162N + 101074)) + B_{\bar{N}}(2N + 4400 - 7) \\
&= B_{\bar{N}}(-160N - 42014) + B_{\bar{N}}(-160N - 96674) + B_{\bar{N}}(2N + 4393) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4401) &= B_{\bar{N}}(2N + 4401 - B_{\bar{N}}(2N + 4400)) + B_{\bar{N}}(2N + 4401 - B_{\bar{N}}(2N + 4399)) + B_{\bar{N}}(2N + 4401 - B_{\bar{N}}(2N + 4398)) \\
&= B_{\bar{N}}(2N + 4401 - 4472) + B_{\bar{N}}(2N + 4401 - (162N + 46414)) + B_{\bar{N}}(2N + 4401 - (162N + 101074)) \\
&= B_{\bar{N}}(2N - 71) + B_{\bar{N}}(-160N - 42013) + B_{\bar{N}}(-160N - 96673) = \left(\frac{16N}{7} + \frac{165}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{165}}{\mathbf{7}} \\
&(N \geq 138)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4402}) &= B_{\bar{N}}(2N + 4402 - B_{\bar{N}}(2N + 4401)) + B_{\bar{N}}(2N + 4402 - B_{\bar{N}}(2N + 4400)) + B_{\bar{N}}(2N + 4402 - B_{\bar{N}}(2N + 4399)) \\
&= B_{\bar{N}}\left(2N + 4402 - \left(\frac{16N}{7} + \frac{165}{7}\right)\right) + B_{\bar{N}}(2N + 4402 - 4472) + B_{\bar{N}}(2N + 4402 - (162N + 46414)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30649}{7}\right) + B_{\bar{N}}(2N - 70) + B_{\bar{N}}(-160N - 42012) = 0 + \left(\frac{15N}{7} - \frac{124}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{124}}{\mathbf{7}} \\
&(N \geq 15325)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4403}) &= B_{\bar{N}}(2N + 4403 - B_{\bar{N}}(2N + 4402)) + B_{\bar{N}}(2N + 4403 - B_{\bar{N}}(2N + 4401)) + B_{\bar{N}}(2N + 4403 - B_{\bar{N}}(2N + 4400)) \\
&= B_{\bar{N}}\left(2N + 4403 - \left(\frac{15N}{7} - \frac{124}{7}\right)\right) + B_{\bar{N}}\left(2N + 4403 - \left(\frac{16N}{7} + \frac{165}{7}\right)\right) + B_{\bar{N}}(2N + 4403 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30945}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30656}{7}\right) + B_{\bar{N}}(2N - 69) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30945})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4404}) &= B_{\bar{N}}(2N + 4404 - B_{\bar{N}}(2N + 4403)) + B_{\bar{N}}(2N + 4404 - B_{\bar{N}}(2N + 4402)) + B_{\bar{N}}(2N + 4404 - B_{\bar{N}}(2N + 4401)) \\
&= B_{\bar{N}}(2N + 4404 - (N - 2)) + B_{\bar{N}}\left(2N + 4404 - \left(\frac{15N}{7} - \frac{124}{7}\right)\right) + B_{\bar{N}}\left(2N + 4404 - \left(\frac{16N}{7} + \frac{165}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4406) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30952}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30663}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30952})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4405}) &= B_{\bar{N}}(2N + 4405 - B_{\bar{N}}(2N + 4404)) + B_{\bar{N}}(2N + 4405 - B_{\bar{N}}(2N + 4403)) + B_{\bar{N}}(2N + 4405 - B_{\bar{N}}(2N + 4402)) \\
&= B_{\bar{N}}(2N + 4405 - 7) + B_{\bar{N}}(2N + 4405 - (N - 2)) + B_{\bar{N}}\left(2N + 4405 - \left(\frac{15N}{7} - \frac{124}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4398) + B_{\bar{N}}(N + 4407) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30959}{7}\right) = (162N + 101074) + (2N + 1303) + 0 = \mathbf{164N} + \mathbf{102377} \\
&(\mathbf{N} \geq \mathbf{30959})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4406) &= B_{\bar{N}}(2N + 4406 - B_{\bar{N}}(2N + 4405)) + B_{\bar{N}}(2N + 4406 - B_{\bar{N}}(2N + 4404)) + B_{\bar{N}}(2N + 4406 - B_{\bar{N}}(2N + 4403)) \\
&= B_{\bar{N}}(2N + 4406 - (164N + 102377)) + B_{\bar{N}}(2N + 4406 - 7) + B_{\bar{N}}(2N + 4406 - (N - 2)) \\
&= B_{\bar{N}}(-162N - 97971) + B_{\bar{N}}(2N + 4399) + B_{\bar{N}}(N + 4408) = 0 + (162N + 46414) + (2N + 622) = \mathbf{164N} + \mathbf{47036} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4407) &= B_{\bar{N}}(2N + 4407 - B_{\bar{N}}(2N + 4406)) + B_{\bar{N}}(2N + 4407 - B_{\bar{N}}(2N + 4405)) + B_{\bar{N}}(2N + 4407 - B_{\bar{N}}(2N + 4404)) \\
&= B_{\bar{N}}(2N + 4407 - (164N + 47036)) + B_{\bar{N}}(2N + 4407 - (164N + 102377)) + B_{\bar{N}}(2N + 4407 - 7) \\
&= B_{\bar{N}}(-162N - 42629) + B_{\bar{N}}(-162N - 97970) + B_{\bar{N}}(2N + 4400) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4408) &= B_{\bar{N}}(2N + 4408 - B_{\bar{N}}(2N + 4407)) + B_{\bar{N}}(2N + 4408 - B_{\bar{N}}(2N + 4406)) + B_{\bar{N}}(2N + 4408 - B_{\bar{N}}(2N + 4405)) \\
&= B_{\bar{N}}(2N + 4408 - 4472) + B_{\bar{N}}(2N + 4408 - (164N + 47036)) + B_{\bar{N}}(2N + 4408 - (164N + 102377)) \\
&= B_{\bar{N}}(2N - 64) + B_{\bar{N}}(-162N - 42628) + B_{\bar{N}}(-162N - 97969) = \left(\frac{16N}{7} + \frac{179}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{179}}{\mathbf{7}} \\
&(N \geq 131)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4409) &= B_{\bar{N}}(2N + 4409 - B_{\bar{N}}(2N + 4408)) + B_{\bar{N}}(2N + 4409 - B_{\bar{N}}(2N + 4407)) + B_{\bar{N}}(2N + 4409 - B_{\bar{N}}(2N + 4406)) \\
&= B_{\bar{N}}\left(2N + 4409 - \left(\frac{16N}{7} + \frac{179}{7}\right)\right) + B_{\bar{N}}(2N + 4409 - 4472) + B_{\bar{N}}(2N + 4409 - (164N + 47036)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30684}{7}\right) + B_{\bar{N}}(2N - 63) + B_{\bar{N}}(-162N - 42627) = 0 + \left(\frac{15N}{7} - \frac{117}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{117}}{\mathbf{7}} \\
&(N \geq 15342)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4410}) &= B_{\bar{N}}(2N + 4410 - B_{\bar{N}}(2N + 4409)) + B_{\bar{N}}(2N + 4410 - B_{\bar{N}}(2N + 4408)) + B_{\bar{N}}(2N + 4410 - B_{\bar{N}}(2N + 4407)) \\
&= B_{\bar{N}}\left(2N + 4410 - \left(\frac{15N}{7} - \frac{117}{7}\right)\right) + B_{\bar{N}}\left(2N + 4410 - \left(\frac{16N}{7} + \frac{179}{7}\right)\right) + B_{\bar{N}}(2N + 4410 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{30987}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30691}{7}\right) + B_{\bar{N}}(2N - 62) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{30987})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4411}) &= B_{\bar{N}}(2N + 4411 - B_{\bar{N}}(2N + 4410)) + B_{\bar{N}}(2N + 4411 - B_{\bar{N}}(2N + 4409)) + B_{\bar{N}}(2N + 4411 - B_{\bar{N}}(2N + 4408)) \\
&= B_{\bar{N}}(2N + 4411 - (N - 2)) + B_{\bar{N}}\left(2N + 4411 - \left(\frac{15N}{7} - \frac{117}{7}\right)\right) + B_{\bar{N}}\left(2N + 4411 - \left(\frac{16N}{7} + \frac{179}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4413) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{30994}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30698}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{30994})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4412}) &= B_{\bar{N}}(2N + 4412 - B_{\bar{N}}(2N + 4411)) + B_{\bar{N}}(2N + 4412 - B_{\bar{N}}(2N + 4410)) + B_{\bar{N}}(2N + 4412 - B_{\bar{N}}(2N + 4409)) \\
&= B_{\bar{N}}(2N + 4412 - 7) + B_{\bar{N}}(2N + 4412 - (N - 2)) + B_{\bar{N}}\left(2N + 4412 - \left(\frac{15N}{7} - \frac{117}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4405) + B_{\bar{N}}(N + 4414) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31001}{7}\right) = (164N + 102377) + (2N + 1305) + 0 = \mathbf{166N} + \mathbf{103682} \\
&(\mathbf{N} \geq \mathbf{31001})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4413}) &= B_{\bar{N}}(2N + 4413 - B_{\bar{N}}(2N + 4412)) + B_{\bar{N}}(2N + 4413 - B_{\bar{N}}(2N + 4411)) + B_{\bar{N}}(2N + 4413 - B_{\bar{N}}(2N + 4410)) \\
&= B_{\bar{N}}(2N + 4413 - (166N + 103682)) + B_{\bar{N}}(2N + 4413 - 7) + B_{\bar{N}}(2N + 4413 - (N - 2)) \\
&= B_{\bar{N}}(-164N - 99269) + B_{\bar{N}}(2N + 4406) + B_{\bar{N}}(N + 4415) = 0 + (164N + 47036) + (2N + 623) = \mathbf{166N} + \mathbf{47659} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4414}) &= B_{\bar{N}}(2N + 4414 - B_{\bar{N}}(2N + 4413)) + B_{\bar{N}}(2N + 4414 - B_{\bar{N}}(2N + 4412)) + B_{\bar{N}}(2N + 4414 - B_{\bar{N}}(2N + 4411)) \\
&= B_{\bar{N}}(2N + 4414 - (166N + 47659)) + B_{\bar{N}}(2N + 4414 - (166N + 103682)) + B_{\bar{N}}(2N + 4414 - 7) \\
&= B_{\bar{N}}(-164N - 43245) + B_{\bar{N}}(-164N - 99268) + B_{\bar{N}}(2N + 4407) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4415}) &= B_{\bar{N}}(2N + 4415 - B_{\bar{N}}(2N + 4414)) + B_{\bar{N}}(2N + 4415 - B_{\bar{N}}(2N + 4413)) + B_{\bar{N}}(2N + 4415 - B_{\bar{N}}(2N + 4412)) \\
&= B_{\bar{N}}(2N + 4415 - 4472) + B_{\bar{N}}(2N + 4415 - (166N + 47659)) + B_{\bar{N}}(2N + 4415 - (166N + 103682)) \\
&= B_{\bar{N}}(2N - 57) + B_{\bar{N}}(-164N - 43244) + B_{\bar{N}}(-164N - 99267) = \left(\frac{16N}{7} + \frac{193}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{193}}{\mathbf{7}} \\
&(N \geq 124)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4416}) &= B_{\bar{N}}(2N + 4416 - B_{\bar{N}}(2N + 4415)) + B_{\bar{N}}(2N + 4416 - B_{\bar{N}}(2N + 4414)) + B_{\bar{N}}(2N + 4416 - B_{\bar{N}}(2N + 4413)) \\
&= B_{\bar{N}}\left(2N + 4416 - \left(\frac{16N}{7} + \frac{193}{7}\right)\right) + B_{\bar{N}}(2N + 4416 - 4472) + B_{\bar{N}}(2N + 4416 - (166N + 47659)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30719}{7}\right) + B_{\bar{N}}(2N - 56) + B_{\bar{N}}(-164N - 43243) = 0 + \left(\frac{15N}{7} - \frac{110}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{110}}{\mathbf{7}} \\
&(N \geq 15360)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4417}) &= B_{\bar{N}}(2N + 4417 - B_{\bar{N}}(2N + 4416)) + B_{\bar{N}}(2N + 4417 - B_{\bar{N}}(2N + 4415)) + B_{\bar{N}}(2N + 4417 - B_{\bar{N}}(2N + 4414)) \\
&= B_{\bar{N}}\left(2N + 4417 - \left(\frac{15N}{7} - \frac{110}{7}\right)\right) + B_{\bar{N}}\left(2N + 4417 - \left(\frac{16N}{7} + \frac{193}{7}\right)\right) + B_{\bar{N}}(2N + 4417 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{31029}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30726}{7}\right) + B_{\bar{N}}(2N - 55) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{31029})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4418) &= B_{\bar{N}}(2N + 4418 - B_{\bar{N}}(2N + 4417)) + B_{\bar{N}}(2N + 4418 - B_{\bar{N}}(2N + 4416)) + B_{\bar{N}}(2N + 4418 - B_{\bar{N}}(2N + 4415)) \\
&= B_{\bar{N}}(2N + 4418 - (N - 2)) + B_{\bar{N}}\left(2N + 4418 - \left(\frac{15N}{7} - \frac{110}{7}\right)\right) + B_{\bar{N}}\left(2N + 4418 - \left(\frac{16N}{7} + \frac{193}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4420) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31036}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30733}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{31036})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4419) &= B_{\bar{N}}(2N + 4419 - B_{\bar{N}}(2N + 4418)) + B_{\bar{N}}(2N + 4419 - B_{\bar{N}}(2N + 4417)) + B_{\bar{N}}(2N + 4419 - B_{\bar{N}}(2N + 4416)) \\
&= B_{\bar{N}}(2N + 4419 - 7) + B_{\bar{N}}(2N + 4419 - (N - 2)) + B_{\bar{N}}\left(2N + 4419 - \left(\frac{15N}{7} - \frac{110}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4412) + B_{\bar{N}}(N + 4421) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31043}{7}\right) = (166N + 103682) + (2N + 1307) + 0 = \mathbf{168N} + \mathbf{104989} \\
&(\mathbf{N} \geq \mathbf{31043})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4420) &= B_{\bar{N}}(2N + 4420 - B_{\bar{N}}(2N + 4419)) + B_{\bar{N}}(2N + 4420 - B_{\bar{N}}(2N + 4418)) + B_{\bar{N}}(2N + 4420 - B_{\bar{N}}(2N + 4417)) \\
&= B_{\bar{N}}(2N + 4420 - (168N + 104989)) + B_{\bar{N}}(2N + 4420 - 7) + B_{\bar{N}}(2N + 4420 - (N - 2)) \\
&= B_{\bar{N}}(-166N - 100569) + B_{\bar{N}}(2N + 4413) + B_{\bar{N}}(N + 4422) = 0 + (166N + 47659) + (2N + 624) = \mathbf{168N} + \mathbf{48283} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4421) &= B_{\bar{N}}(2N + 4421 - B_{\bar{N}}(2N + 4420)) + B_{\bar{N}}(2N + 4421 - B_{\bar{N}}(2N + 4419)) + B_{\bar{N}}(2N + 4421 - B_{\bar{N}}(2N + 4418)) \\
&= B_{\bar{N}}(2N + 4421 - (168N + 48283)) + B_{\bar{N}}(2N + 4421 - (168N + 104989)) + B_{\bar{N}}(2N + 4421 - 7) \\
&= B_{\bar{N}}(-166N - 43862) + B_{\bar{N}}(-166N - 100568) + B_{\bar{N}}(2N + 4414) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4422}) &= B_{\bar{N}}(2N + 4422 - B_{\bar{N}}(2N + 4421)) + B_{\bar{N}}(2N + 4422 - B_{\bar{N}}(2N + 4420)) + B_{\bar{N}}(2N + 4422 - B_{\bar{N}}(2N + 4419)) \\
&= B_{\bar{N}}(2N + 4422 - 4472) + B_{\bar{N}}(2N + 4422 - (168N + 48283)) + B_{\bar{N}}(2N + 4422 - (168N + 104989)) \\
&= B_{\bar{N}}(2N - 50) + B_{\bar{N}}(-166N - 43861) + B_{\bar{N}}(-166N - 100567) = \left(\frac{16N}{7} + \frac{207}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{207}}{\mathbf{7}} \\
&(N \geq 117)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4423}) &= B_{\bar{N}}(2N + 4423 - B_{\bar{N}}(2N + 4422)) + B_{\bar{N}}(2N + 4423 - B_{\bar{N}}(2N + 4421)) + B_{\bar{N}}(2N + 4423 - B_{\bar{N}}(2N + 4420)) \\
&= B_{\bar{N}}\left(2N + 4423 - \left(\frac{16N}{7} + \frac{207}{7}\right)\right) + B_{\bar{N}}(2N + 4423 - 4472) + B_{\bar{N}}(2N + 4423 - (168N + 48283)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30754}{7}\right) + B_{\bar{N}}(2N - 49) + B_{\bar{N}}(-166N - 43860) = 0 + \left(\frac{15N}{7} - \frac{103}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{103}}{\mathbf{7}} \\
&(N \geq 15377)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4424}) &= B_{\bar{N}}(2N + 4424 - B_{\bar{N}}(2N + 4423)) + B_{\bar{N}}(2N + 4424 - B_{\bar{N}}(2N + 4422)) + B_{\bar{N}}(2N + 4424 - B_{\bar{N}}(2N + 4421)) \\
&= B_{\bar{N}}\left(2N + 4424 - \left(\frac{15N}{7} - \frac{103}{7}\right)\right) + B_{\bar{N}}\left(2N + 4424 - \left(\frac{16N}{7} + \frac{207}{7}\right)\right) + B_{\bar{N}}(2N + 4424 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{31071}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30761}{7}\right) + B_{\bar{N}}(2N - 48) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{31071})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4425}) &= B_{\bar{N}}(2N + 4425 - B_{\bar{N}}(2N + 4424)) + B_{\bar{N}}(2N + 4425 - B_{\bar{N}}(2N + 4423)) + B_{\bar{N}}(2N + 4425 - B_{\bar{N}}(2N + 4422)) \\
&= B_{\bar{N}}(2N + 4425 - (N - 2)) + B_{\bar{N}}\left(2N + 4425 - \left(\frac{15N}{7} - \frac{103}{7}\right)\right) + B_{\bar{N}}\left(2N + 4425 - \left(\frac{16N}{7} + \frac{207}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4427) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31078}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30768}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{31078})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4426) &= B_{\bar{N}}(2N + 4426 - B_{\bar{N}}(2N + 4425)) + B_{\bar{N}}(2N + 4426 - B_{\bar{N}}(2N + 4424)) + B_{\bar{N}}(2N + 4426 - B_{\bar{N}}(2N + 4423)) \\
&= B_{\bar{N}}(2N + 4426 - 7) + B_{\bar{N}}(2N + 4426 - (N - 2)) + B_{\bar{N}}\left(2N + 4426 - \left(\frac{15N}{7} - \frac{103}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4419) + B_{\bar{N}}(N + 4428) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31085}{7}\right) = (168N + 104989) + (2N + 1309) + 0 = \mathbf{170N} + \mathbf{106298} \\
&(\mathbf{N} \geq \mathbf{31085})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4427) &= B_{\bar{N}}(2N + 4427 - B_{\bar{N}}(2N + 4426)) + B_{\bar{N}}(2N + 4427 - B_{\bar{N}}(2N + 4425)) + B_{\bar{N}}(2N + 4427 - B_{\bar{N}}(2N + 4424)) \\
&= B_{\bar{N}}(2N + 4427 - (170N + 106298)) + B_{\bar{N}}(2N + 4427 - 7) + B_{\bar{N}}(2N + 4427 - (N - 2)) \\
&= B_{\bar{N}}(-168N - 101871) + B_{\bar{N}}(2N + 4420) + B_{\bar{N}}(N + 4429) = 0 + (168N + 48283) + (2N + 625) = \mathbf{170N} + \mathbf{48908} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4428) &= B_{\bar{N}}(2N + 4428 - B_{\bar{N}}(2N + 4427)) + B_{\bar{N}}(2N + 4428 - B_{\bar{N}}(2N + 4426)) + B_{\bar{N}}(2N + 4428 - B_{\bar{N}}(2N + 4425)) \\
&= B_{\bar{N}}(2N + 4428 - (170N + 48908)) + B_{\bar{N}}(2N + 4428 - (170N + 106298)) + B_{\bar{N}}(2N + 4428 - 7) \\
&= B_{\bar{N}}(-168N - 44480) + B_{\bar{N}}(-168N - 101870) + B_{\bar{N}}(2N + 4421) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4429) &= B_{\bar{N}}(2N + 4429 - B_{\bar{N}}(2N + 4428)) + B_{\bar{N}}(2N + 4429 - B_{\bar{N}}(2N + 4427)) + B_{\bar{N}}(2N + 4429 - B_{\bar{N}}(2N + 4426)) \\
&= B_{\bar{N}}(2N + 4429 - 4472) + B_{\bar{N}}(2N + 4429 - (170N + 48908)) + B_{\bar{N}}(2N + 4429 - (170N + 106298)) \\
&= B_{\bar{N}}(2N - 43) + B_{\bar{N}}(-168N - 44479) + B_{\bar{N}}(-168N - 101869) = \left(\frac{16N}{7} + \frac{221}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{221}}{\mathbf{7}} \\
&(N \geq 110)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4430}) &= B_{\bar{N}}(2N + 4430 - B_{\bar{N}}(2N + 4429)) + B_{\bar{N}}(2N + 4430 - B_{\bar{N}}(2N + 4428)) + B_{\bar{N}}(2N + 4430 - B_{\bar{N}}(2N + 4427)) \\
&= B_{\bar{N}}\left(2N + 4430 - \left(\frac{16N}{7} + \frac{221}{7}\right)\right) + B_{\bar{N}}(2N + 4430 - 4472) + B_{\bar{N}}(2N + 4430 - (170N + 48908)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30789}{7}\right) + B_{\bar{N}}(2N - 42) + B_{\bar{N}}(-168N - 44478) = 0 + \left(\frac{15N}{7} - \frac{96}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{96}}{\mathbf{7}} \\
& (N \geq 15395)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4431}) &= B_{\bar{N}}(2N + 4431 - B_{\bar{N}}(2N + 4430)) + B_{\bar{N}}(2N + 4431 - B_{\bar{N}}(2N + 4429)) + B_{\bar{N}}(2N + 4431 - B_{\bar{N}}(2N + 4428)) \\
&= B_{\bar{N}}\left(2N + 4431 - \left(\frac{15N}{7} - \frac{96}{7}\right)\right) + B_{\bar{N}}\left(2N + 4431 - \left(\frac{16N}{7} + \frac{221}{7}\right)\right) + B_{\bar{N}}(2N + 4431 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{31113}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30796}{7}\right) + B_{\bar{N}}(2N - 41) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
& (\mathbf{N} \geq \mathbf{31113})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4432}) &= B_{\bar{N}}(2N + 4432 - B_{\bar{N}}(2N + 4431)) + B_{\bar{N}}(2N + 4432 - B_{\bar{N}}(2N + 4430)) + B_{\bar{N}}(2N + 4432 - B_{\bar{N}}(2N + 4429)) \\
&= B_{\bar{N}}(2N + 4432 - (N - 2)) + B_{\bar{N}}\left(2N + 4432 - \left(\frac{15N}{7} - \frac{96}{7}\right)\right) + B_{\bar{N}}\left(2N + 4432 - \left(\frac{16N}{7} + \frac{221}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4434) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31120}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30803}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
& (\mathbf{N} \geq \mathbf{31120})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4433}) &= B_{\bar{N}}(2N + 4433 - B_{\bar{N}}(2N + 4432)) + B_{\bar{N}}(2N + 4433 - B_{\bar{N}}(2N + 4431)) + B_{\bar{N}}(2N + 4433 - B_{\bar{N}}(2N + 4430)) \\
&= B_{\bar{N}}(2N + 4433 - 7) + B_{\bar{N}}(2N + 4433 - (N - 2)) + B_{\bar{N}}\left(2N + 4433 - \left(\frac{15N}{7} - \frac{96}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4426) + B_{\bar{N}}(N + 4435) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31127}{7}\right) = (170N + 106298) + (2N + 1311) + 0 = \mathbf{172N} + \mathbf{107609} \\
& (\mathbf{N} \geq \mathbf{31127})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4434) &= B_{\bar{N}}(2N + 4434 - B_{\bar{N}}(2N + 4433)) + B_{\bar{N}}(2N + 4434 - B_{\bar{N}}(2N + 4432)) + B_{\bar{N}}(2N + 4434 - B_{\bar{N}}(2N + 4431)) \\
&= B_{\bar{N}}(2N + 4434 - (172N + 107609)) + B_{\bar{N}}(2N + 4434 - 7) + B_{\bar{N}}(2N + 4434 - (N - 2)) \\
&= B_{\bar{N}}(-170N - 103175) + B_{\bar{N}}(2N + 4427) + B_{\bar{N}}(N + 4436) = 0 + (170N + 48908) + (2N + 626) = \mathbf{172N} + \mathbf{49534} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4435) &= B_{\bar{N}}(2N + 4435 - B_{\bar{N}}(2N + 4434)) + B_{\bar{N}}(2N + 4435 - B_{\bar{N}}(2N + 4433)) + B_{\bar{N}}(2N + 4435 - B_{\bar{N}}(2N + 4432)) \\
&= B_{\bar{N}}(2N + 4435 - (172N + 49534)) + B_{\bar{N}}(2N + 4435 - (172N + 107609)) + B_{\bar{N}}(2N + 4435 - 7) \\
&= B_{\bar{N}}(-170N - 45099) + B_{\bar{N}}(-170N - 103174) + B_{\bar{N}}(2N + 4428) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4436) &= B_{\bar{N}}(2N + 4436 - B_{\bar{N}}(2N + 4435)) + B_{\bar{N}}(2N + 4436 - B_{\bar{N}}(2N + 4434)) + B_{\bar{N}}(2N + 4436 - B_{\bar{N}}(2N + 4433)) \\
&= B_{\bar{N}}(2N + 4436 - 4472) + B_{\bar{N}}(2N + 4436 - (172N + 49534)) + B_{\bar{N}}(2N + 4436 - (172N + 107609)) \\
&= B_{\bar{N}}(2N - 36) + B_{\bar{N}}(-170N - 45098) + B_{\bar{N}}(-170N - 103173) = \left(\frac{16N}{7} + \frac{235}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{235}}{\mathbf{7}} \\
&(N \geq 103)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4437) &= B_{\bar{N}}(2N + 4437 - B_{\bar{N}}(2N + 4436)) + B_{\bar{N}}(2N + 4437 - B_{\bar{N}}(2N + 4435)) + B_{\bar{N}}(2N + 4437 - B_{\bar{N}}(2N + 4434)) \\
&= B_{\bar{N}}\left(2N + 4437 - \left(\frac{16N}{7} + \frac{235}{7}\right)\right) + B_{\bar{N}}(2N + 4437 - 4472) + B_{\bar{N}}(2N + 4437 - (172N + 49534)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30824}{7}\right) + B_{\bar{N}}(2N - 35) + B_{\bar{N}}(-170N - 45097) = 0 + \left(\frac{15N}{7} - \frac{89}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{89}}{\mathbf{7}} \\
&(N \geq 15412)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4438) &= B_{\bar{N}}(2N + 4438 - B_{\bar{N}}(2N + 4437)) + B_{\bar{N}}(2N + 4438 - B_{\bar{N}}(2N + 4436)) + B_{\bar{N}}(2N + 4438 - B_{\bar{N}}(2N + 4435)) \\
&= B_{\bar{N}}\left(2N + 4438 - \left(\frac{15N}{7} - \frac{89}{7}\right)\right) + B_{\bar{N}}\left(2N + 4438 - \left(\frac{16N}{7} + \frac{235}{7}\right)\right) + B_{\bar{N}}(2N + 4438 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{31155}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30831}{7}\right) + B_{\bar{N}}(2N - 34) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{31155})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4439) &= B_{\bar{N}}(2N + 4439 - B_{\bar{N}}(2N + 4438)) + B_{\bar{N}}(2N + 4439 - B_{\bar{N}}(2N + 4437)) + B_{\bar{N}}(2N + 4439 - B_{\bar{N}}(2N + 4436)) \\
&= B_{\bar{N}}(2N + 4439 - (N - 2)) + B_{\bar{N}}\left(2N + 4439 - \left(\frac{15N}{7} - \frac{89}{7}\right)\right) + B_{\bar{N}}\left(2N + 4439 - \left(\frac{16N}{7} + \frac{235}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4441) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31162}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30838}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{31162})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4440) &= B_{\bar{N}}(2N + 4440 - B_{\bar{N}}(2N + 4439)) + B_{\bar{N}}(2N + 4440 - B_{\bar{N}}(2N + 4438)) + B_{\bar{N}}(2N + 4440 - B_{\bar{N}}(2N + 4437)) \\
&= B_{\bar{N}}(2N + 4440 - 7) + B_{\bar{N}}(2N + 4440 - (N - 2)) + B_{\bar{N}}\left(2N + 4440 - \left(\frac{15N}{7} - \frac{89}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4433) + B_{\bar{N}}(N + 4442) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31169}{7}\right) = (172N + 107609) + (2N + 1313) + 0 = \mathbf{174N} + \mathbf{108922} \\
&(\mathbf{N} \geq \mathbf{31169})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4441) &= B_{\bar{N}}(2N + 4441 - B_{\bar{N}}(2N + 4440)) + B_{\bar{N}}(2N + 4441 - B_{\bar{N}}(2N + 4439)) + B_{\bar{N}}(2N + 4441 - B_{\bar{N}}(2N + 4438)) \\
&= B_{\bar{N}}(2N + 4441 - (174N + 108922)) + B_{\bar{N}}(2N + 4441 - 7) + B_{\bar{N}}(2N + 4441 - (N - 2)) \\
&= B_{\bar{N}}(-172N - 104481) + B_{\bar{N}}(2N + 4434) + B_{\bar{N}}(N + 4443) = 0 + (172N + 49534) + (2N + 627) = \mathbf{174N} + \mathbf{50161} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4442}) &= B_{\bar{N}}(2N + 4442 - B_{\bar{N}}(2N + 4441)) + B_{\bar{N}}(2N + 4442 - B_{\bar{N}}(2N + 4440)) + B_{\bar{N}}(2N + 4442 - B_{\bar{N}}(2N + 4439)) \\
&= B_{\bar{N}}(2N + 4442 - (174N + 50161)) + B_{\bar{N}}(2N + 4442 - (174N + 108922)) + B_{\bar{N}}(2N + 4442 - 7) \\
&= B_{\bar{N}}(-172N - 45719) + B_{\bar{N}}(-172N - 104480) + B_{\bar{N}}(2N + 4435) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4443}) &= B_{\bar{N}}(2N + 4443 - B_{\bar{N}}(2N + 4442)) + B_{\bar{N}}(2N + 4443 - B_{\bar{N}}(2N + 4441)) + B_{\bar{N}}(2N + 4443 - B_{\bar{N}}(2N + 4440)) \\
&= B_{\bar{N}}(2N + 4443 - 4472) + B_{\bar{N}}(2N + 4443 - (174N + 50161)) + B_{\bar{N}}(2N + 4443 - (174N + 108922)) \\
&= B_{\bar{N}}(2N - 29) + B_{\bar{N}}(-172N - 45718) + B_{\bar{N}}(-172N - 104479) = \left(\frac{16N}{7} + \frac{249}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{249}}{\mathbf{7}} \\
&(N \geq 96)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4444}) &= B_{\bar{N}}(2N + 4444 - B_{\bar{N}}(2N + 4443)) + B_{\bar{N}}(2N + 4444 - B_{\bar{N}}(2N + 4442)) + B_{\bar{N}}(2N + 4444 - B_{\bar{N}}(2N + 4441)) \\
&= B_{\bar{N}}\left(2N + 4444 - \left(\frac{16N}{7} + \frac{249}{7}\right)\right) + B_{\bar{N}}(2N + 4444 - 4472) + B_{\bar{N}}(2N + 4444 - (174N + 50161)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30859}{7}\right) + B_{\bar{N}}(2N - 28) + B_{\bar{N}}(-172N - 45717) = 0 + \left(\frac{15N}{7} - \frac{82}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{82}}{\mathbf{7}} \\
&(N \geq 15430)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4445}) &= B_{\bar{N}}(2N + 4445 - B_{\bar{N}}(2N + 4444)) + B_{\bar{N}}(2N + 4445 - B_{\bar{N}}(2N + 4443)) + B_{\bar{N}}(2N + 4445 - B_{\bar{N}}(2N + 4442)) \\
&= B_{\bar{N}}\left(2N + 4445 - \left(\frac{15N}{7} - \frac{82}{7}\right)\right) + B_{\bar{N}}\left(2N + 4445 - \left(\frac{16N}{7} + \frac{249}{7}\right)\right) + B_{\bar{N}}(2N + 4445 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{31197}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30866}{7}\right) + B_{\bar{N}}(2N - 27) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{31197})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4446) &= B_{\bar{N}}(2N + 4446 - B_{\bar{N}}(2N + 4445)) + B_{\bar{N}}(2N + 4446 - B_{\bar{N}}(2N + 4444)) + B_{\bar{N}}(2N + 4446 - B_{\bar{N}}(2N + 4443)) \\
&= B_{\bar{N}}(2N + 4446 - (N - 2)) + B_{\bar{N}}\left(2N + 4446 - \left(\frac{15N}{7} - \frac{82}{7}\right)\right) + B_{\bar{N}}\left(2N + 4446 - \left(\frac{16N}{7} + \frac{249}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4448) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31204}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30873}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{31204})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4447) &= B_{\bar{N}}(2N + 4447 - B_{\bar{N}}(2N + 4446)) + B_{\bar{N}}(2N + 4447 - B_{\bar{N}}(2N + 4445)) + B_{\bar{N}}(2N + 4447 - B_{\bar{N}}(2N + 4444)) \\
&= B_{\bar{N}}(2N + 4447 - 7) + B_{\bar{N}}(2N + 4447 - (N - 2)) + B_{\bar{N}}\left(2N + 4447 - \left(\frac{15N}{7} - \frac{82}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4440) + B_{\bar{N}}(N + 4449) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31211}{7}\right) = (174N + 108922) + (2N + 1315) + 0 = \mathbf{176N} + \mathbf{110237} \\
&(\mathbf{N} \geq \mathbf{31211})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4448) &= B_{\bar{N}}(2N + 4448 - B_{\bar{N}}(2N + 4447)) + B_{\bar{N}}(2N + 4448 - B_{\bar{N}}(2N + 4446)) + B_{\bar{N}}(2N + 4448 - B_{\bar{N}}(2N + 4445)) \\
&= B_{\bar{N}}(2N + 4448 - (176N + 110237)) + B_{\bar{N}}(2N + 4448 - 7) + B_{\bar{N}}(2N + 4448 - (N - 2)) \\
&= B_{\bar{N}}(-174N - 105789) + B_{\bar{N}}(2N + 4441) + B_{\bar{N}}(N + 4450) = 0 + (174N + 50161) + (2N + 628) = \mathbf{176N} + \mathbf{50789} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4449) &= B_{\bar{N}}(2N + 4449 - B_{\bar{N}}(2N + 4448)) + B_{\bar{N}}(2N + 4449 - B_{\bar{N}}(2N + 4447)) + B_{\bar{N}}(2N + 4449 - B_{\bar{N}}(2N + 4446)) \\
&= B_{\bar{N}}(2N + 4449 - (176N + 50789)) + B_{\bar{N}}(2N + 4449 - (176N + 110237)) + B_{\bar{N}}(2N + 4449 - 7) \\
&= B_{\bar{N}}(-174N - 46340) + B_{\bar{N}}(-174N - 105788) + B_{\bar{N}}(2N + 4442) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4450}) &= B_{\bar{N}}(2N + 4450 - B_{\bar{N}}(2N + 4449)) + B_{\bar{N}}(2N + 4450 - B_{\bar{N}}(2N + 4448)) + B_{\bar{N}}(2N + 4450 - B_{\bar{N}}(2N + 4447)) \\
&= B_{\bar{N}}(2N + 4450 - 4472) + B_{\bar{N}}(2N + 4450 - (176N + 50789)) + B_{\bar{N}}(2N + 4450 - (176N + 110237)) \\
&= B_{\bar{N}}(2N - 22) + B_{\bar{N}}(-174N - 46339) + B_{\bar{N}}(-174N - 105787) = \left(\frac{16N}{7} + \frac{263}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{263}}{\mathbf{7}} \\
&(N \geq 89)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4451}) &= B_{\bar{N}}(2N + 4451 - B_{\bar{N}}(2N + 4450)) + B_{\bar{N}}(2N + 4451 - B_{\bar{N}}(2N + 4449)) + B_{\bar{N}}(2N + 4451 - B_{\bar{N}}(2N + 4448)) \\
&= B_{\bar{N}}\left(2N + 4451 - \left(\frac{16N}{7} + \frac{263}{7}\right)\right) + B_{\bar{N}}(2N + 4451 - 4472) + B_{\bar{N}}(2N + 4451 - (176N + 50789)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30894}{7}\right) + B_{\bar{N}}(2N - 21) + B_{\bar{N}}(-174N - 46338) = 0 + \left(\frac{15N}{7} - \frac{75}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{75}}{\mathbf{7}} \\
&(N \geq 15447)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4452}) &= B_{\bar{N}}(2N + 4452 - B_{\bar{N}}(2N + 4451)) + B_{\bar{N}}(2N + 4452 - B_{\bar{N}}(2N + 4450)) + B_{\bar{N}}(2N + 4452 - B_{\bar{N}}(2N + 4449)) \\
&= B_{\bar{N}}\left(2N + 4452 - \left(\frac{15N}{7} - \frac{75}{7}\right)\right) + B_{\bar{N}}\left(2N + 4452 - \left(\frac{16N}{7} + \frac{263}{7}\right)\right) + B_{\bar{N}}(2N + 4452 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{31239}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30901}{7}\right) + B_{\bar{N}}(2N - 20) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{31239})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4453}) &= B_{\bar{N}}(2N + 4453 - B_{\bar{N}}(2N + 4452)) + B_{\bar{N}}(2N + 4453 - B_{\bar{N}}(2N + 4451)) + B_{\bar{N}}(2N + 4453 - B_{\bar{N}}(2N + 4450)) \\
&= B_{\bar{N}}(2N + 4453 - (N - 2)) + B_{\bar{N}}\left(2N + 4453 - \left(\frac{15N}{7} - \frac{75}{7}\right)\right) + B_{\bar{N}}\left(2N + 4453 - \left(\frac{16N}{7} + \frac{263}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4455) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31246}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30908}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{31246})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4454) &= B_{\bar{N}}(2N + 4454 - B_{\bar{N}}(2N + 4453)) + B_{\bar{N}}(2N + 4454 - B_{\bar{N}}(2N + 4452)) + B_{\bar{N}}(2N + 4454 - B_{\bar{N}}(2N + 4451)) \\
&= B_{\bar{N}}(2N + 4454 - 7) + B_{\bar{N}}(2N + 4454 - (N - 2)) + B_{\bar{N}}\left(2N + 4454 - \left(\frac{15N}{7} - \frac{75}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4447) + B_{\bar{N}}(N + 4456) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31253}{7}\right) = (176N + 110237) + (2N + 1317) + 0 = \mathbf{178N} + \mathbf{111554} \\
&(\mathbf{N} \geq \mathbf{31253})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4455) &= B_{\bar{N}}(2N + 4455 - B_{\bar{N}}(2N + 4454)) + B_{\bar{N}}(2N + 4455 - B_{\bar{N}}(2N + 4453)) + B_{\bar{N}}(2N + 4455 - B_{\bar{N}}(2N + 4452)) \\
&= B_{\bar{N}}(2N + 4455 - (178N + 111554)) + B_{\bar{N}}(2N + 4455 - 7) + B_{\bar{N}}(2N + 4455 - (N - 2)) \\
&= B_{\bar{N}}(-176N - 107099) + B_{\bar{N}}(2N + 4448) + B_{\bar{N}}(N + 4457) = 0 + (176N + 50789) + (2N + 629) = \mathbf{178N} + \mathbf{51418} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4456) &= B_{\bar{N}}(2N + 4456 - B_{\bar{N}}(2N + 4455)) + B_{\bar{N}}(2N + 4456 - B_{\bar{N}}(2N + 4454)) + B_{\bar{N}}(2N + 4456 - B_{\bar{N}}(2N + 4453)) \\
&= B_{\bar{N}}(2N + 4456 - (178N + 51418)) + B_{\bar{N}}(2N + 4456 - (178N + 111554)) + B_{\bar{N}}(2N + 4456 - 7) \\
&= B_{\bar{N}}(-176N - 46962) + B_{\bar{N}}(-176N - 107098) + B_{\bar{N}}(2N + 4449) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4457) &= B_{\bar{N}}(2N + 4457 - B_{\bar{N}}(2N + 4456)) + B_{\bar{N}}(2N + 4457 - B_{\bar{N}}(2N + 4455)) + B_{\bar{N}}(2N + 4457 - B_{\bar{N}}(2N + 4454)) \\
&= B_{\bar{N}}(2N + 4457 - 4472) + B_{\bar{N}}(2N + 4457 - (178N + 51418)) + B_{\bar{N}}(2N + 4457 - (178N + 111554)) \\
&= B_{\bar{N}}(2N - 15) + B_{\bar{N}}(-176N - 46961) + B_{\bar{N}}(-176N - 107097) = \left(\frac{16N}{7} + \frac{277}{7}\right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{277}}{\mathbf{7}} \\
&(N \geq 82)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4458}) &= B_{\bar{N}}(2N + 4458 - B_{\bar{N}}(2N + 4457)) + B_{\bar{N}}(2N + 4458 - B_{\bar{N}}(2N + 4456)) + B_{\bar{N}}(2N + 4458 - B_{\bar{N}}(2N + 4455)) \\
&= B_{\bar{N}}\left(2N + 4458 - \left(\frac{16N}{7} + \frac{277}{7}\right)\right) + B_{\bar{N}}(2N + 4458 - 4472) + B_{\bar{N}}(2N + 4458 - (178N + 51418)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30929}{7}\right) + B_{\bar{N}}(2N - 14) + B_{\bar{N}}(-176N - 46960) = 0 + \left(\frac{15N}{7} - \frac{68}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{68}}{\mathbf{7}} \\
&(N \geq 15465)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4459}) &= B_{\bar{N}}(2N + 4459 - B_{\bar{N}}(2N + 4458)) + B_{\bar{N}}(2N + 4459 - B_{\bar{N}}(2N + 4457)) + B_{\bar{N}}(2N + 4459 - B_{\bar{N}}(2N + 4456)) \\
&= B_{\bar{N}}\left(2N + 4459 - \left(\frac{15N}{7} - \frac{68}{7}\right)\right) + B_{\bar{N}}\left(2N + 4459 - \left(\frac{16N}{7} + \frac{277}{7}\right)\right) + B_{\bar{N}}(2N + 4459 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{31281}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30936}{7}\right) + B_{\bar{N}}(2N - 13) = 0 + 0 + (N - 2) = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{31281})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4460}) &= B_{\bar{N}}(2N + 4460 - B_{\bar{N}}(2N + 4459)) + B_{\bar{N}}(2N + 4460 - B_{\bar{N}}(2N + 4458)) + B_{\bar{N}}(2N + 4460 - B_{\bar{N}}(2N + 4457)) \\
&= B_{\bar{N}}(2N + 4460 - (N - 2)) + B_{\bar{N}}\left(2N + 4460 - \left(\frac{15N}{7} - \frac{68}{7}\right)\right) + B_{\bar{N}}\left(2N + 4460 - \left(\frac{16N}{7} + \frac{277}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4462) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31288}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30943}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{31288})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4461}) &= B_{\bar{N}}(2N + 4461 - B_{\bar{N}}(2N + 4460)) + B_{\bar{N}}(2N + 4461 - B_{\bar{N}}(2N + 4459)) + B_{\bar{N}}(2N + 4461 - B_{\bar{N}}(2N + 4458)) \\
&= B_{\bar{N}}(2N + 4461 - 7) + B_{\bar{N}}(2N + 4461 - (N - 2)) + B_{\bar{N}}\left(2N + 4461 - \left(\frac{15N}{7} - \frac{68}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4454) + B_{\bar{N}}(N + 4463) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31295}{7}\right) = (178N + 111554) + (2N + 1319) + 0 = \mathbf{180N} + \mathbf{112873} \\
&(\mathbf{N} \geq \mathbf{31295})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4462) &= B_{\bar{N}}(2N + 4462 - B_{\bar{N}}(2N + 4461)) + B_{\bar{N}}(2N + 4462 - B_{\bar{N}}(2N + 4460)) + B_{\bar{N}}(2N + 4462 - B_{\bar{N}}(2N + 4459)) \\
&= B_{\bar{N}}(2N + 4462 - (180N + 112873)) + B_{\bar{N}}(2N + 4462 - 7) + B_{\bar{N}}(2N + 4462 - (N - 2)) \\
&= B_{\bar{N}}(-178N - 108411) + B_{\bar{N}}(2N + 4455) + B_{\bar{N}}(N + 4464) = 0 + (178N + 51418) + (2N + 630) = \mathbf{180N} + \mathbf{52048} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4463) &= B_{\bar{N}}(2N + 4463 - B_{\bar{N}}(2N + 4462)) + B_{\bar{N}}(2N + 4463 - B_{\bar{N}}(2N + 4461)) + B_{\bar{N}}(2N + 4463 - B_{\bar{N}}(2N + 4460)) \\
&= B_{\bar{N}}(2N + 4463 - (180N + 52048)) + B_{\bar{N}}(2N + 4463 - (180N + 112873)) + B_{\bar{N}}(2N + 4463 - 7) \\
&= B_{\bar{N}}(-178N - 47585) + B_{\bar{N}}(-178N - 108410) + B_{\bar{N}}(2N + 4456) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4464) &= B_{\bar{N}}(2N + 4464 - B_{\bar{N}}(2N + 4463)) + B_{\bar{N}}(2N + 4464 - B_{\bar{N}}(2N + 4462)) + B_{\bar{N}}(2N + 4464 - B_{\bar{N}}(2N + 4461)) \\
&= B_{\bar{N}}(2N + 4464 - 4472) + B_{\bar{N}}(2N + 4464 - (180N + 52048)) + B_{\bar{N}}(2N + 4464 - (180N + 112873)) \\
&= B_{\bar{N}}(2N - 8) + B_{\bar{N}}(-178N - 47584) + B_{\bar{N}}(-178N - 108409) = \left(\frac{16N}{7} + \frac{291}{7} \right) + 0 + 0 = \frac{\mathbf{16N}}{\mathbf{7}} + \frac{\mathbf{291}}{\mathbf{7}} \\
&(N \geq 75)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4465) &= B_{\bar{N}}(2N + 4465 - B_{\bar{N}}(2N + 4464)) + B_{\bar{N}}(2N + 4465 - B_{\bar{N}}(2N + 4463)) + B_{\bar{N}}(2N + 4465 - B_{\bar{N}}(2N + 4462)) \\
&= B_{\bar{N}}\left(2N + 4465 - \left(\frac{16N}{7} + \frac{291}{7}\right)\right) + B_{\bar{N}}(2N + 4465 - 4472) + B_{\bar{N}}(2N + 4465 - (180N + 52048)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30964}{7}\right) + B_{\bar{N}}(2N - 7) + B_{\bar{N}}(-178N - 47583) = 0 + \left(\frac{15N}{7} - \frac{61}{7}\right) + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{61}}{\mathbf{7}} \\
&(N \geq 15482)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4466) &= B_{\bar{N}}(2N + 4466 - B_{\bar{N}}(2N + 4465)) + B_{\bar{N}}(2N + 4466 - B_{\bar{N}}(2N + 4464)) + B_{\bar{N}}(2N + 4466 - B_{\bar{N}}(2N + 4463)) \\
&= B_{\bar{N}}\left(2N + 4466 - \left(\frac{15N}{7} - \frac{61}{7}\right)\right) + B_{\bar{N}}\left(2N + 4466 - \left(\frac{16N}{7} + \frac{291}{7}\right)\right) + B_{\bar{N}}(2N + 4466 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{31323}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30971}{7}\right) + B_{\bar{N}}(2N - 6) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq \mathbf{31323})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4467) &= B_{\bar{N}}(2N + 4467 - B_{\bar{N}}(2N + 4466)) + B_{\bar{N}}(2N + 4467 - B_{\bar{N}}(2N + 4465)) + B_{\bar{N}}(2N + 4467 - B_{\bar{N}}(2N + 4464)) \\
&= B_{\bar{N}}(2N + 4467 - (N - 2)) + B_{\bar{N}}\left(2N + 4467 - \left(\frac{15N}{7} - \frac{61}{7}\right)\right) + B_{\bar{N}}\left(2N + 4467 - \left(\frac{16N}{7} + \frac{291}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4469) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31330}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30978}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{31330})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4468) &= B_{\bar{N}}(2N + 4468 - B_{\bar{N}}(2N + 4467)) + B_{\bar{N}}(2N + 4468 - B_{\bar{N}}(2N + 4466)) + B_{\bar{N}}(2N + 4468 - B_{\bar{N}}(2N + 4465)) \\
&= B_{\bar{N}}(2N + 4468 - 7) + B_{\bar{N}}(2N + 4468 - (N - 2)) + B_{\bar{N}}\left(2N + 4468 - \left(\frac{15N}{7} - \frac{61}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4461) + B_{\bar{N}}(N + 4470) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31337}{7}\right) = (180N + 112873) + (2N + 1321) + 0 = \mathbf{182N} + \mathbf{114194} \\
&(\mathbf{N} \geq \mathbf{31337})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4469) &= B_{\bar{N}}(2N + 4469 - B_{\bar{N}}(2N + 4468)) + B_{\bar{N}}(2N + 4469 - B_{\bar{N}}(2N + 4467)) + B_{\bar{N}}(2N + 4469 - B_{\bar{N}}(2N + 4466)) \\
&= B_{\bar{N}}(2N + 4469 - (182N + 114194)) + B_{\bar{N}}(2N + 4469 - 7) + B_{\bar{N}}(2N + 4469 - (N - 2)) \\
&= B_{\bar{N}}(-180N - 109725) + B_{\bar{N}}(2N + 4462) + B_{\bar{N}}(N + 4471) = 0 + (180N + 52048) + (2N + 631) = \mathbf{182N} + \mathbf{52679} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4470) &= B_{\bar{N}}(2N + 4470 - B_{\bar{N}}(2N + 4469)) + B_{\bar{N}}(2N + 4470 - B_{\bar{N}}(2N + 4468)) + B_{\bar{N}}(2N + 4470 - B_{\bar{N}}(2N + 4467)) \\
&= B_{\bar{N}}(2N + 4470 - (182N + 52679)) + B_{\bar{N}}(2N + 4470 - (182N + 114194)) + B_{\bar{N}}(2N + 4470 - 7) \\
&= B_{\bar{N}}(-180N - 48209) + B_{\bar{N}}(-180N - 109724) + B_{\bar{N}}(2N + 4463) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4471) &= B_{\bar{N}}(2N + 4471 - B_{\bar{N}}(2N + 4470)) + B_{\bar{N}}(2N + 4471 - B_{\bar{N}}(2N + 4469)) + B_{\bar{N}}(2N + 4471 - B_{\bar{N}}(2N + 4468)) \\
&= B_{\bar{N}}(2N + 4471 - 4472) + B_{\bar{N}}(2N + 4471 - (182N + 52679)) + B_{\bar{N}}(2N + 4471 - (182N + 114194)) \\
&= B_{\bar{N}}(2N - 1) + B_{\bar{N}}(-180N - 48208) + B_{\bar{N}}(-180N - 109723) = \left(\frac{16N}{7} + \frac{305}{7}\right) + 0 + 0 = \frac{16\mathbf{N}}{7} + \frac{305}{7} \\
&(N \geq 68)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4472) &= B_{\bar{N}}(2N + 4472 - B_{\bar{N}}(2N + 4471)) + B_{\bar{N}}(2N + 4472 - B_{\bar{N}}(2N + 4470)) + B_{\bar{N}}(2N + 4472 - B_{\bar{N}}(2N + 4469)) \\
&= B_{\bar{N}}\left(2N + 4472 - \left(\frac{16N}{7} + \frac{305}{7}\right)\right) + B_{\bar{N}}(2N + 4472 - 4472) + B_{\bar{N}}(2N + 4472 - (182N + 52679)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{30999}{7}\right) + B_{\bar{N}}(2N) + B_{\bar{N}}(-180N - 48207) = 0 + \left(\frac{15N}{7} - \frac{54}{7}\right) + 0 = \frac{15\mathbf{N}}{7} - \frac{54}{7} \\
&(N \geq 15500)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4473) &= B_{\bar{N}}(2N + 4473 - B_{\bar{N}}(2N + 4472)) + B_{\bar{N}}(2N + 4473 - B_{\bar{N}}(2N + 4471)) + B_{\bar{N}}(2N + 4473 - B_{\bar{N}}(2N + 4470)) \\
&= B_{\bar{N}}\left(2N + 4473 - \left(\frac{15N}{7} - \frac{54}{7}\right)\right) + B_{\bar{N}}\left(2N + 4473 - \left(\frac{16N}{7} + \frac{305}{7}\right)\right) + B_{\bar{N}}(2N + 4473 - 4472) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{31365}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{31006}{7}\right) + B_{\bar{N}}(2N + 1) = 0 + 0 + (N - 2) = \mathbf{N} - 2 \\
&(\mathbf{N} \geq \mathbf{31365})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4474) &= B_{\bar{N}}(2N + 4474 - B_{\bar{N}}(2N + 4473)) + B_{\bar{N}}(2N + 4474 - B_{\bar{N}}(2N + 4472)) + B_{\bar{N}}(2N + 4474 - B_{\bar{N}}(2N + 4471)) \\
&= B_{\bar{N}}(2N + 4474 - (N - 2)) + B_{\bar{N}}\left(2N + 4474 - \left(\frac{15N}{7} - \frac{54}{7}\right)\right) + B_{\bar{N}}\left(2N + 4474 - \left(\frac{16N}{7} + \frac{305}{7}\right)\right) \\
&= B_{\bar{N}}(N + 4476) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31372}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{31013}{7}\right) = 7 + 0 + 0 = \mathbf{7} \\
&(\mathbf{N} \geq \mathbf{31372})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4475) &= B_{\bar{N}}(2N + 4475 - B_{\bar{N}}(2N + 4474)) + B_{\bar{N}}(2N + 4475 - B_{\bar{N}}(2N + 4473)) + B_{\bar{N}}(2N + 4475 - B_{\bar{N}}(2N + 4472)) \\
&= B_{\bar{N}}(2N + 4475 - 7) + B_{\bar{N}}(2N + 4475 - (N - 2)) + B_{\bar{N}}\left(2N + 4475 - \left(\frac{15N}{7} - \frac{54}{7}\right)\right) \\
&= B_{\bar{N}}(2N + 4468) + B_{\bar{N}}(N + 4477) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{31379}{7}\right) = (182N + 114194) + (2N + 1323) + 0 = \mathbf{184N} + \mathbf{115517} \\
&(\mathbf{N} \geq \mathbf{31379})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4476) &= B_{\bar{N}}(2N + 4476 - B_{\bar{N}}(2N + 4475)) + B_{\bar{N}}(2N + 4476 - B_{\bar{N}}(2N + 4474)) + B_{\bar{N}}(2N + 4476 - B_{\bar{N}}(2N + 4473)) \\
&= B_{\bar{N}}(2N + 4476 - (184N + 115517)) + B_{\bar{N}}(2N + 4476 - 7) + B_{\bar{N}}(2N + 4476 - (N - 2)) \\
&= B_{\bar{N}}(-182N - 111041) + B_{\bar{N}}(2N + 4469) + B_{\bar{N}}(N + 4478) = 0 + (182N + 52679) + (2N + 632) = \mathbf{184N} + \mathbf{53311} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4477) &= B_{\bar{N}}(2N + 4477 - B_{\bar{N}}(2N + 4476)) + B_{\bar{N}}(2N + 4477 - B_{\bar{N}}(2N + 4475)) + B_{\bar{N}}(2N + 4477 - B_{\bar{N}}(2N + 4474)) \\
&= B_{\bar{N}}(2N + 4477 - (184N + 53311)) + B_{\bar{N}}(2N + 4477 - (184N + 115517)) + B_{\bar{N}}(2N + 4477 - 7) \\
&= B_{\bar{N}}(-182N - 48834) + B_{\bar{N}}(-182N - 111040) + B_{\bar{N}}(2N + 4470) = 0 + 0 + 4472 = \mathbf{4472} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4478) &= B_{\bar{N}}(2N + 4478 - B_{\bar{N}}(2N + 4477)) + B_{\bar{N}}(2N + 4478 - B_{\bar{N}}(2N + 4476)) + B_{\bar{N}}(2N + 4478 - B_{\bar{N}}(2N + 4475)) \\
&= B_{\bar{N}}(2N + 4478 - 4472) + B_{\bar{N}}(2N + 4478 - (184N + 53311)) + B_{\bar{N}}(2N + 4478 - (184N + 115517)) \\
&= B_{\bar{N}}(2N + 6) + B_{\bar{N}}(-182N - 48833) + B_{\bar{N}}(-182N - 111039) = (N + 7) + 0 + 0 = \mathbf{N} + \mathbf{7} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4479}) &= B_{\bar{N}}(2N + 4479 - B_{\bar{N}}(2N + 4478)) + B_{\bar{N}}(2N + 4479 - B_{\bar{N}}(2N + 4477)) + B_{\bar{N}}(2N + 4479 - B_{\bar{N}}(2N + 4476)) \\
&= B_{\bar{N}}(2N + 4479 - (N + 7)) + B_{\bar{N}}(2N + 4479 - 4472) + B_{\bar{N}}(2N + 4479 - (184N + 53311)) \\
&= B_{\bar{N}}(N + 4472) + B_{\bar{N}}(2N + 7) + B_{\bar{N}}(-182N - 48832) = (N - 2) + (N + 12) + 0 = \mathbf{2N} + \mathbf{10} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4480}) &= B_{\bar{N}}(2N + 4480 - B_{\bar{N}}(2N + 4479)) + B_{\bar{N}}(2N + 4480 - B_{\bar{N}}(2N + 4478)) + B_{\bar{N}}(2N + 4480 - B_{\bar{N}}(2N + 4477)) \\
&= B_{\bar{N}}(2N + 4480 - (2N + 10)) + B_{\bar{N}}(2N + 4480 - (N + 7)) + B_{\bar{N}}(2N + 4480 - 4472) \\
&= B_{\bar{N}}(4470) + B_{\bar{N}}(N + 4473) + B_{\bar{N}}(2N + 8) = 4470 + 4475 + (N + 13) = \mathbf{N} + \mathbf{8958} \\
&(N \geq 4470)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4481}) &= B_{\bar{N}}(2N + 4481 - B_{\bar{N}}(2N + 4480)) + B_{\bar{N}}(2N + 4481 - B_{\bar{N}}(2N + 4479)) + B_{\bar{N}}(2N + 4481 - B_{\bar{N}}(2N + 4478)) \\
&= B_{\bar{N}}(2N + 4481 - (N + 8958)) + B_{\bar{N}}(2N + 4481 - (2N + 10)) + B_{\bar{N}}(2N + 4481 - (N + 7)) \\
&= B_{\bar{N}}(N - 4477) + B_{\bar{N}}(4471) + B_{\bar{N}}(N + 4474) = (N - 4477) + 4471 + (N + 4475) = \mathbf{2N} + \mathbf{4469} \\
&(N \geq 4478)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4482}) &= B_{\bar{N}}(2N + 4482 - B_{\bar{N}}(2N + 4481)) + B_{\bar{N}}(2N + 4482 - B_{\bar{N}}(2N + 4480)) + B_{\bar{N}}(2N + 4482 - B_{\bar{N}}(2N + 4479)) \\
&= B_{\bar{N}}(2N + 4482 - (2N + 4469)) + B_{\bar{N}}(2N + 4482 - (N + 8958)) + B_{\bar{N}}(2N + 4482 - (2N + 10)) \\
&= B_{\bar{N}}(13) + B_{\bar{N}}(N - 4476) + B_{\bar{N}}(4472) = 13 + (N - 4476) + 4472 = \mathbf{N} + \mathbf{9} \\
&(N \geq 4477)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4483}) &= B_{\bar{N}}(2N + 4483 - B_{\bar{N}}(2N + 4482)) + B_{\bar{N}}(2N + 4483 - B_{\bar{N}}(2N + 4481)) + B_{\bar{N}}(2N + 4483 - B_{\bar{N}}(2N + 4480)) \\
&= B_{\bar{N}}(2N + 4483 - (N + 9)) + B_{\bar{N}}(2N + 4483 - (2N + 4469)) + B_{\bar{N}}(2N + 4483 - (N + 8958)) \\
&= B_{\bar{N}}(N + 4474) + B_{\bar{N}}(14) + B_{\bar{N}}(N - 4475) = (N + 4475) + 14 + (N - 4475) = \mathbf{2N} + \mathbf{14} \\
&(N \geq 4476)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4484}) &= B_{\bar{N}}(2N + 4484 - B_{\bar{N}}(2N + 4483)) + B_{\bar{N}}(2N + 4484 - B_{\bar{N}}(2N + 4482)) + B_{\bar{N}}(2N + 4484 - B_{\bar{N}}(2N + 4481)) \\
&= B_{\bar{N}}(2N + 4484 - (2N + 14)) + B_{\bar{N}}(2N + 4484 - (N + 9)) + B_{\bar{N}}(2N + 4484 - (2N + 4469)) \\
&= B_{\bar{N}}(4470) + B_{\bar{N}}(N + 4475) + B_{\bar{N}}(15) = 4470 + (N + 4477) + 15 = \mathbf{N} + \mathbf{8962} \\
&(N \geq 4470)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4485}) &= B_{\bar{N}}(2N + 4485 - B_{\bar{N}}(2N + 4484)) + B_{\bar{N}}(2N + 4485 - B_{\bar{N}}(2N + 4483)) + B_{\bar{N}}(2N + 4485 - B_{\bar{N}}(2N + 4482)) \\
&= B_{\bar{N}}(2N + 4485 - (N + 8962)) + B_{\bar{N}}(2N + 4485 - (2N + 14)) + B_{\bar{N}}(2N + 4485 - (N + 9)) \\
&= B_{\bar{N}}(N - 4477) + B_{\bar{N}}(4471) + B_{\bar{N}}(N + 4476) = (N - 4477) + 4471 + 7 = \mathbf{N} + \mathbf{1} \\
&(N \geq 4478)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4486}) &= B_{\bar{N}}(2N + 4486 - B_{\bar{N}}(2N + 4485)) + B_{\bar{N}}(2N + 4486 - B_{\bar{N}}(2N + 4484)) + B_{\bar{N}}(2N + 4486 - B_{\bar{N}}(2N + 4483)) \\
&= B_{\bar{N}}(2N + 4486 - (N + 1)) + B_{\bar{N}}(2N + 4486 - (N + 8962)) + B_{\bar{N}}(2N + 4486 - (2N + 14)) \\
&= B_{\bar{N}}(N + 4485) + B_{\bar{N}}(N - 4476) + B_{\bar{N}}(4472) = (2N + 633) + (N - 4476) + 4472 = \mathbf{3N} + \mathbf{629} \\
&(N \geq 4477)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4487}) &= B_{\bar{N}}(2N + 4487 - B_{\bar{N}}(2N + 4486)) + B_{\bar{N}}(2N + 4487 - B_{\bar{N}}(2N + 4485)) + B_{\bar{N}}(2N + 4487 - B_{\bar{N}}(2N + 4484)) \\
&= B_{\bar{N}}(2N + 4487 - (3N + 629)) + B_{\bar{N}}(2N + 4487 - (N + 1)) + B_{\bar{N}}(2N + 4487 - (N + 8962)) \\
&= B_{\bar{N}}(-N + 3858) + B_{\bar{N}}(N + 4486) + B_{\bar{N}}(N - 4475) = 0 + (N - 2) + (N - 4475) = \mathbf{2N} - \mathbf{4477} \\
&(N \geq 4476)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4488}) &= B_{\bar{N}}(2N + 4488 - B_{\bar{N}}(2N + 4487)) + B_{\bar{N}}(2N + 4488 - B_{\bar{N}}(2N + 4486)) + B_{\bar{N}}(2N + 4488 - B_{\bar{N}}(2N + 4485)) \\
&= B_{\bar{N}}(2N + 4488 - (2N - 4477)) + B_{\bar{N}}(2N + 4488 - (3N + 629)) + B_{\bar{N}}(2N + 4488 - (N + 1)) \\
&= B_{\bar{N}}(8965) + B_{\bar{N}}(-N + 3859) + B_{\bar{N}}(N + 4487) = 8965 + 0 + 4489 = \mathbf{13454} \\
&(N \geq 8965)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4489}) &= B_{\bar{N}}(2N + 4489 - B_{\bar{N}}(2N + 4488)) + B_{\bar{N}}(2N + 4489 - B_{\bar{N}}(2N + 4487)) + B_{\bar{N}}(2N + 4489 - B_{\bar{N}}(2N + 4486)) \\
&= B_{\bar{N}}(2N + 4489 - 13454) + B_{\bar{N}}(2N + 4489 - (2N - 4477)) + B_{\bar{N}}(2N + 4489 - (3N + 629)) \\
&= B_{\bar{N}}(2N - 8965) + B_{\bar{N}}(8966) + B_{\bar{N}}(-N + 3860) = (N - 8963) + 8966 + 0 = \mathbf{N} + \mathbf{3} \\
&(N \geq 9032)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4490}) &= B_{\bar{N}}(2N + 4490 - B_{\bar{N}}(2N + 4489)) + B_{\bar{N}}(2N + 4490 - B_{\bar{N}}(2N + 4488)) + B_{\bar{N}}(2N + 4490 - B_{\bar{N}}(2N + 4487)) \\
&= B_{\bar{N}}(2N + 4490 - (N + 3)) + B_{\bar{N}}(2N + 4490 - 13454) + B_{\bar{N}}(2N + 4490 - (2N - 4477)) \\
&= B_{\bar{N}}(N + 4487) + B_{\bar{N}}(2N - 8964) + B_{\bar{N}}(8967) = 4489 + (2N - 8963) + 8967 = \mathbf{2N} + \mathbf{4493} \\
&(N \geq 9031)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4491}) &= B_{\bar{N}}(2N + 4491 - B_{\bar{N}}(2N + 4490)) + B_{\bar{N}}(2N + 4491 - B_{\bar{N}}(2N + 4489)) + B_{\bar{N}}(2N + 4491 - B_{\bar{N}}(2N + 4488)) \\
&= B_{\bar{N}}(2N + 4491 - (2N + 4493)) + B_{\bar{N}}(2N + 4491 - (N + 3)) + B_{\bar{N}}(2N + 4491 - 13454) \\
&= B_{\bar{N}}(-2) + B_{\bar{N}}(N + 4488) + B_{\bar{N}}(2N - 8963) = 0 + (N + 4489) + (2N - 8961) = \mathbf{3N} - \mathbf{4472} \\
&(N \geq 9030)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4492}) &= B_{\bar{N}}(2N + 4492 - B_{\bar{N}}(2N + 4491)) + B_{\bar{N}}(2N + 4492 - B_{\bar{N}}(2N + 4490)) + B_{\bar{N}}(2N + 4492 - B_{\bar{N}}(2N + 4489)) \\
&= B_{\bar{N}}(2N + 4492 - (3N - 4472)) + B_{\bar{N}}(2N + 4492 - (2N + 4493)) + B_{\bar{N}}(2N + 4492 - (N + 3)) \\
&= B_{\bar{N}}(-N + 8964) + B_{\bar{N}}(-1) + B_{\bar{N}}(N + 4489) = 0 + 0 + (N + 4491) = \mathbf{N} + \mathbf{4491} \\
&(N \geq 8964)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4493}) &= B_{\bar{N}}(2N + 4493 - B_{\bar{N}}(2N + 4492)) + B_{\bar{N}}(2N + 4493 - B_{\bar{N}}(2N + 4491)) + B_{\bar{N}}(2N + 4493 - B_{\bar{N}}(2N + 4490)) \\
&= B_{\bar{N}}(2N + 4493 - (N + 4491)) + B_{\bar{N}}(2N + 4493 - (3N - 4472)) + B_{\bar{N}}(2N + 4493 - (2N + 4493)) \\
&= B_{\bar{N}}(N + 2) + B_{\bar{N}}(-N + 8965) + B_{\bar{N}}(0) = (N + 1) + 0 + 0 = \mathbf{N} + \mathbf{1} \\
&(N \geq 8965)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4494}) &= B_{\bar{N}}(2N + 4494 - B_{\bar{N}}(2N + 4493)) + B_{\bar{N}}(2N + 4494 - B_{\bar{N}}(2N + 4492)) + B_{\bar{N}}(2N + 4494 - B_{\bar{N}}(2N + 4491)) \\
&= B_{\bar{N}}(2N + 4494 - (N + 1)) + B_{\bar{N}}(2N + 4494 - (N + 4491)) + B_{\bar{N}}(2N + 4494 - (3N - 4472)) \\
&= B_{\bar{N}}(N + 4493) + B_{\bar{N}}(N + 3) + B_{\bar{N}}(-N + 8966) = (N - 2) + (N + 2) + 0 = \mathbf{2N} \\
&(N \geq 8966)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4495}) &= B_{\bar{N}}(2N + 4495 - B_{\bar{N}}(2N + 4494)) + B_{\bar{N}}(2N + 4495 - B_{\bar{N}}(2N + 4493)) + B_{\bar{N}}(2N + 4495 - B_{\bar{N}}(2N + 4492)) \\
&= B_{\bar{N}}(2N + 4495 - 2N) + B_{\bar{N}}(2N + 4495 - (N + 1)) + B_{\bar{N}}(2N + 4495 - (N + 4491)) \\
&= B_{\bar{N}}(4495) + B_{\bar{N}}(N + 4494) + B_{\bar{N}}(N + 4) = 4495 + 4496 + (N + 3) = \mathbf{N} + \mathbf{8994} \\
&(N \geq 4495)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4496}) &= B_{\bar{N}}(2N + 4496 - B_{\bar{N}}(2N + 4495)) + B_{\bar{N}}(2N + 4496 - B_{\bar{N}}(2N + 4494)) + B_{\bar{N}}(2N + 4496 - B_{\bar{N}}(2N + 4493)) \\
&= B_{\bar{N}}(2N + 4496 - (N + 8994)) + B_{\bar{N}}(2N + 4496 - 2N) + B_{\bar{N}}(2N + 4496 - (N + 1)) \\
&= B_{\bar{N}}(N - 4498) + B_{\bar{N}}(4496) + B_{\bar{N}}(N + 4495) = (N - 4498) + 4496 + (N + 4496) = \mathbf{2N} + \mathbf{4494} \\
&(N \geq 4499)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4497}) &= B_{\bar{N}}(2N + 4497 - B_{\bar{N}}(2N + 4496)) + B_{\bar{N}}(2N + 4497 - B_{\bar{N}}(2N + 4495)) + B_{\bar{N}}(2N + 4497 - B_{\bar{N}}(2N + 4494)) \\
&= B_{\bar{N}}(2N + 4497 - (2N + 4494)) + B_{\bar{N}}(2N + 4497 - (N + 8994)) + B_{\bar{N}}(2N + 4497 - 2N) \\
&= B_{\bar{N}}(3) + B_{\bar{N}}(N - 4497) + B_{\bar{N}}(4497) = 3 + (N - 4497) + 4497 = \mathbf{N} + \mathbf{3} \\
&(N \geq 4498)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4498}) &= B_{\bar{N}}(2N + 4498 - B_{\bar{N}}(2N + 4497)) + B_{\bar{N}}(2N + 4498 - B_{\bar{N}}(2N + 4496)) + B_{\bar{N}}(2N + 4498 - B_{\bar{N}}(2N + 4495)) \\
&= B_{\bar{N}}(2N + 4498 - (N + 3)) + B_{\bar{N}}(2N + 4498 - (2N + 4494)) + B_{\bar{N}}(2N + 4498 - (N + 8994)) \\
&= B_{\bar{N}}(N + 4495) + B_{\bar{N}}(4) + B_{\bar{N}}(N - 4496) = (N + 4496) + 4 + (N - 4496) = \mathbf{2N} + \mathbf{4} \\
&(N \geq 4497)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4499}) &= B_{\bar{N}}(2N + 4499 - B_{\bar{N}}(2N + 4498)) + B_{\bar{N}}(2N + 4499 - B_{\bar{N}}(2N + 4497)) + B_{\bar{N}}(2N + 4499 - B_{\bar{N}}(2N + 4496)) \\
&= B_{\bar{N}}(2N + 4499 - (2N + 4)) + B_{\bar{N}}(2N + 4499 - (N + 3)) + B_{\bar{N}}(2N + 4499 - (2N + 4494)) \\
&= B_{\bar{N}}(4495) + B_{\bar{N}}(N + 4496) + B_{\bar{N}}(5) = 4495 + (N + 4498) + 5 = \mathbf{N} + \mathbf{8998} \\
&(N \geq 4495)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4500}) &= B_{\bar{N}}(2N + 4500 - B_{\bar{N}}(2N + 4499)) + B_{\bar{N}}(2N + 4500 - B_{\bar{N}}(2N + 4498)) + B_{\bar{N}}(2N + 4500 - B_{\bar{N}}(2N + 4497)) \\
&= B_{\bar{N}}(2N + 4500 - (N + 8998)) + B_{\bar{N}}(2N + 4500 - (2N + 4)) + B_{\bar{N}}(2N + 4500 - (N + 3)) \\
&= B_{\bar{N}}(N - 4498) + B_{\bar{N}}(4496) + B_{\bar{N}}(N + 4497) = (N - 4498) + 4496 + 7 = \mathbf{N} + \mathbf{5} \\
&(N \geq 4499)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4501}) &= B_{\bar{N}}(2N + 4501 - B_{\bar{N}}(2N + 4500)) + B_{\bar{N}}(2N + 4501 - B_{\bar{N}}(2N + 4499)) + B_{\bar{N}}(2N + 4501 - B_{\bar{N}}(2N + 4498)) \\
&= B_{\bar{N}}(2N + 4501 - (N + 5)) + B_{\bar{N}}(2N + 4501 - (N + 8998)) + B_{\bar{N}}(2N + 4501 - (2N + 4)) \\
&= B_{\bar{N}}(N + 4496) + B_{\bar{N}}(N - 4497) + B_{\bar{N}}(4497) = (N + 4498) + (N - 4497) + 4497 = \mathbf{2N} + \mathbf{4498} \\
&(N \geq 4498)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4502}) &= B_{\bar{N}}(2N + 4502 - B_{\bar{N}}(2N + 4501)) + B_{\bar{N}}(2N + 4502 - B_{\bar{N}}(2N + 4500)) + B_{\bar{N}}(2N + 4502 - B_{\bar{N}}(2N + 4499)) \\
&= B_{\bar{N}}(2N + 4502 - (2N + 4498)) + B_{\bar{N}}(2N + 4502 - (N + 5)) + B_{\bar{N}}(2N + 4502 - (N + 8998)) \\
&= B_{\bar{N}}(4) + B_{\bar{N}}(N + 4497) + B_{\bar{N}}(N - 4496) = 4 + 7 + (N - 4496) = \mathbf{N} - \mathbf{4485} \\
&(N \geq 4497)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4503}) &= B_{\bar{N}}(2N + 4503 - B_{\bar{N}}(2N + 4502)) + B_{\bar{N}}(2N + 4503 - B_{\bar{N}}(2N + 4501)) + B_{\bar{N}}(2N + 4503 - B_{\bar{N}}(2N + 4500)) \\
&= B_{\bar{N}}(2N + 4503 - (N - 4485)) + B_{\bar{N}}(2N + 4503 - (2N + 4498)) + B_{\bar{N}}(2N + 4503 - (N + 5)) \\
&= B_{\bar{N}}(N + 8988) + B_{\bar{N}}(5) + B_{\bar{N}}(N + 4498) = 8990 + 5 + (2N + 1329) = \mathbf{2N} + \mathbf{10324} \\
&(N \geq 5)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4504}) &= B_{\bar{N}}(2N + 4504 - B_{\bar{N}}(2N + 4503)) + B_{\bar{N}}(2N + 4504 - B_{\bar{N}}(2N + 4502)) + B_{\bar{N}}(2N + 4504 - B_{\bar{N}}(2N + 4501)) \\
&= B_{\bar{N}}(2N + 4504 - (2N + 10324)) + B_{\bar{N}}(2N + 4504 - (N - 4485)) + B_{\bar{N}}(2N + 4504 - (2N + 4498)) \\
&= B_{\bar{N}}(-5820) + B_{\bar{N}}(N + 8989) + B_{\bar{N}}(6) = 0 + (N + 8990) + 6 = \mathbf{N} + \mathbf{8996} \\
&(N \geq 6)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4505}) &= B_{\bar{N}}(2N + 4505 - B_{\bar{N}}(2N + 4504)) + B_{\bar{N}}(2N + 4505 - B_{\bar{N}}(2N + 4503)) + B_{\bar{N}}(2N + 4505 - B_{\bar{N}}(2N + 4502)) \\
&= B_{\bar{N}}(2N + 4505 - (N + 8996)) + B_{\bar{N}}(2N + 4505 - (2N + 10324)) + B_{\bar{N}}(2N + 4505 - (N - 4485)) \\
&= B_{\bar{N}}(N - 4491) + B_{\bar{N}}(-5819) + B_{\bar{N}}(N + 8990) = (N - 4491) + 0 + (N + 8992) = \mathbf{2N} + \mathbf{4501} \\
&(N \geq 4492)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4506}) &= B_{\bar{N}}(2N + 4506 - B_{\bar{N}}(2N + 4505)) + B_{\bar{N}}(2N + 4506 - B_{\bar{N}}(2N + 4504)) + B_{\bar{N}}(2N + 4506 - B_{\bar{N}}(2N + 4503)) \\
&= B_{\bar{N}}(2N + 4506 - (2N + 4501)) + B_{\bar{N}}(2N + 4506 - (N + 8996)) + B_{\bar{N}}(2N + 4506 - (2N + 10324)) \\
&= B_{\bar{N}}(5) + B_{\bar{N}}(N - 4490) + B_{\bar{N}}(-5818) = 5 + (N - 4490) + 0 = \mathbf{N} - \mathbf{4485} \\
&(N \geq 4491)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4507}) &= B_{\bar{N}}(2N + 4507 - B_{\bar{N}}(2N + 4506)) + B_{\bar{N}}(2N + 4507 - B_{\bar{N}}(2N + 4505)) + B_{\bar{N}}(2N + 4507 - B_{\bar{N}}(2N + 4504)) \\
&= B_{\bar{N}}(2N + 4507 - (N - 4485)) + B_{\bar{N}}(2N + 4507 - (2N + 4501)) + B_{\bar{N}}(2N + 4507 - (N + 8996)) \\
&= B_{\bar{N}}(N + 8992) + B_{\bar{N}}(6) + B_{\bar{N}}(N - 4489) = (2N + 2613) + 6 + (N - 4489) = \mathbf{3N} - \mathbf{1870} \\
&(N \geq 4490)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4508}) &= B_{\bar{N}}(2N + 4508 - B_{\bar{N}}(2N + 4507)) + B_{\bar{N}}(2N + 4508 - B_{\bar{N}}(2N + 4506)) + B_{\bar{N}}(2N + 4508 - B_{\bar{N}}(2N + 4505)) \\
&= B_{\bar{N}}(2N + 4508 - (3N - 1870)) + B_{\bar{N}}(2N + 4508 - (N - 4485)) + B_{\bar{N}}(2N + 4508 - (2N + 4501)) \\
&= B_{\bar{N}}(-N + 6378) + B_{\bar{N}}(N + 8993) + B_{\bar{N}}(7) = 0 + (2N + 1277) + 7 = \mathbf{2N} + \mathbf{1284} \\
&(N \geq 6378)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4509}) &= B_{\bar{N}}(2N + 4509 - B_{\bar{N}}(2N + 4508)) + B_{\bar{N}}(2N + 4509 - B_{\bar{N}}(2N + 4507)) + B_{\bar{N}}(2N + 4509 - B_{\bar{N}}(2N + 4506)) \\
&= B_{\bar{N}}(2N + 4509 - (2N + 1284)) + B_{\bar{N}}(2N + 4509 - (3N - 1870)) + B_{\bar{N}}(2N + 4509 - (N - 4485)) \\
&= B_{\bar{N}}(3225) + B_{\bar{N}}(-N + 6379) + B_{\bar{N}}(N + 8994) = 3225 + 0 + (N - 2) = \mathbf{N} + \mathbf{3223} \\
&(N \geq 6379)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4510}) &= B_{\bar{N}}(2N + 4510 - B_{\bar{N}}(2N + 4509)) + B_{\bar{N}}(2N + 4510 - B_{\bar{N}}(2N + 4508)) + B_{\bar{N}}(2N + 4510 - B_{\bar{N}}(2N + 4507)) \\
&= B_{\bar{N}}(2N + 4510 - (N + 3223)) + B_{\bar{N}}(2N + 4510 - (2N + 1284)) + B_{\bar{N}}(2N + 4510 - (3N - 1870)) \\
&= B_{\bar{N}}(N + 1287) + B_{\bar{N}}(3226) + B_{\bar{N}}(-N + 6380) = (N - 2) + 3226 + 0 = \mathbf{N} + \mathbf{3224} \\
&(N \geq 6380)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4511}) &= B_{\bar{N}}(2N + 4511 - B_{\bar{N}}(2N + 4510)) + B_{\bar{N}}(2N + 4511 - B_{\bar{N}}(2N + 4509)) + B_{\bar{N}}(2N + 4511 - B_{\bar{N}}(2N + 4508)) \\
&= B_{\bar{N}}(2N + 4511 - (N + 3224)) + B_{\bar{N}}(2N + 4511 - (N + 3223)) + B_{\bar{N}}(2N + 4511 - (2N + 1284)) \\
&= B_{\bar{N}}(N + 1287) + B_{\bar{N}}(N + 1288) + B_{\bar{N}}(3227) = (N - 2) + 1290 + 3227 = \mathbf{N} + \mathbf{4515} \\
&(N \geq 3227)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4512}) &= B_{\bar{N}}(2N + 4512 - B_{\bar{N}}(2N + 4511)) + B_{\bar{N}}(2N + 4512 - B_{\bar{N}}(2N + 4510)) + B_{\bar{N}}(2N + 4512 - B_{\bar{N}}(2N + 4509)) \\
&= B_{\bar{N}}(2N + 4512 - (N + 4515)) + B_{\bar{N}}(2N + 4512 - (N + 3224)) + B_{\bar{N}}(2N + 4512 - (N + 3223)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(N + 1288) + B_{\bar{N}}(N + 1289) = (N - 3) + 1290 + (N + 1290) = \mathbf{2N} + \mathbf{2577} \\
&(N \geq 4)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4513}) &= B_{\bar{N}}(2N + 4513 - B_{\bar{N}}(2N + 4512)) + B_{\bar{N}}(2N + 4513 - B_{\bar{N}}(2N + 4511)) + B_{\bar{N}}(2N + 4513 - B_{\bar{N}}(2N + 4510)) \\
&= B_{\bar{N}}(2N + 4513 - (2N + 2577)) + B_{\bar{N}}(2N + 4513 - (N + 4515)) + B_{\bar{N}}(2N + 4513 - (N + 3224)) \\
&= B_{\bar{N}}(1936) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(N + 1289) = 1936 + (N - 2) + (N + 1290) = \mathbf{2N} + \mathbf{3224} \\
&(N \geq 1936)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4514}) &= B_{\bar{N}}(2N + 4514 - B_{\bar{N}}(2N + 4513)) + B_{\bar{N}}(2N + 4514 - B_{\bar{N}}(2N + 4512)) + B_{\bar{N}}(2N + 4514 - B_{\bar{N}}(2N + 4511)) \\
&= B_{\bar{N}}(2N + 4514 - (2N + 3224)) + B_{\bar{N}}(2N + 4514 - (2N + 2577)) + B_{\bar{N}}(2N + 4514 - (N + 4515)) \\
&= B_{\bar{N}}(1290) + B_{\bar{N}}(1937) + B_{\bar{N}}(N - 1) = 1290 + 1937 + (N - 1) = \mathbf{N} + \mathbf{3226} \\
&(N \geq 1937)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4515}) &= B_{\bar{N}}(2N + 4515 - B_{\bar{N}}(2N + 4514)) + B_{\bar{N}}(2N + 4515 - B_{\bar{N}}(2N + 4513)) + B_{\bar{N}}(2N + 4515 - B_{\bar{N}}(2N + 4512)) \\
&= B_{\bar{N}}(2N + 4515 - (N + 3226)) + B_{\bar{N}}(2N + 4515 - (2N + 3224)) + B_{\bar{N}}(2N + 4515 - (2N + 2577)) \\
&= B_{\bar{N}}(N + 1289) + B_{\bar{N}}(1291) + B_{\bar{N}}(1938) = (N + 1290) + 1291 + 1938 = \mathbf{N} + \mathbf{4519} \\
&(N \geq 1938)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4516}) &= B_{\bar{N}}(2N + 4516 - B_{\bar{N}}(2N + 4515)) + B_{\bar{N}}(2N + 4516 - B_{\bar{N}}(2N + 4514)) + B_{\bar{N}}(2N + 4516 - B_{\bar{N}}(2N + 4513)) \\
&= B_{\bar{N}}(2N + 4516 - (N + 4519)) + B_{\bar{N}}(2N + 4516 - (N + 3226)) + B_{\bar{N}}(2N + 4516 - (2N + 3224)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(N + 1290) + B_{\bar{N}}(1292) = (N - 3) + (N + 1292) + 1292 = \mathbf{2N} + \mathbf{2581} \\
&(N \geq 1292)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4517}) &= B_{\bar{N}}(2N + 4517 - B_{\bar{N}}(2N + 4516)) + B_{\bar{N}}(2N + 4517 - B_{\bar{N}}(2N + 4515)) + B_{\bar{N}}(2N + 4517 - B_{\bar{N}}(2N + 4514)) \\
&= B_{\bar{N}}(2N + 4517 - (2N + 2581)) + B_{\bar{N}}(2N + 4517 - (N + 4519)) + B_{\bar{N}}(2N + 4517 - (N + 3226)) \\
&= B_{\bar{N}}(1936) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(N + 1291) = 1936 + (N - 2) + 7 = \mathbf{N} + \mathbf{1941} \\
&(N \geq 1936)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4518}) &= B_{\bar{N}}(2N + 4518 - B_{\bar{N}}(2N + 4517)) + B_{\bar{N}}(2N + 4518 - B_{\bar{N}}(2N + 4516)) + B_{\bar{N}}(2N + 4518 - B_{\bar{N}}(2N + 4515)) \\
&= B_{\bar{N}}(2N + 4518 - (N + 1941)) + B_{\bar{N}}(2N + 4518 - (2N + 2581)) + B_{\bar{N}}(2N + 4518 - (N + 4519)) \\
&= B_{\bar{N}}(N + 2577) + B_{\bar{N}}(1937) + B_{\bar{N}}(N - 1) = (N + 2578) + 1937 + (N - 1) = \mathbf{2N} + \mathbf{4514} \\
&(N \geq 1937)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4519}) &= B_{\bar{N}}(2N + 4519 - B_{\bar{N}}(2N + 4518)) + B_{\bar{N}}(2N + 4519 - B_{\bar{N}}(2N + 4517)) + B_{\bar{N}}(2N + 4519 - B_{\bar{N}}(2N + 4516)) \\
&= B_{\bar{N}}(2N + 4519 - (2N + 4514)) + B_{\bar{N}}(2N + 4519 - (N + 1941)) + B_{\bar{N}}(2N + 4519 - (2N + 2581)) \\
&= B_{\bar{N}}(5) + B_{\bar{N}}(N + 2578) + B_{\bar{N}}(1938) = 5 + (N + 2580) + 1938 = \mathbf{N} + \mathbf{4523} \\
&(N \geq 1938)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4520}) &= B_{\bar{N}}(2N + 4520 - B_{\bar{N}}(2N + 4519)) + B_{\bar{N}}(2N + 4520 - B_{\bar{N}}(2N + 4518)) + B_{\bar{N}}(2N + 4520 - B_{\bar{N}}(2N + 4517)) \\
&= B_{\bar{N}}(2N + 4520 - (N + 4523)) + B_{\bar{N}}(2N + 4520 - (2N + 4514)) + B_{\bar{N}}(2N + 4520 - (N + 1941)) \\
&= B_{\bar{N}}(N - 3) + B_{\bar{N}}(6) + B_{\bar{N}}(N + 2579) = (N - 3) + 6 + 7 = \mathbf{N} + \mathbf{10} \\
&(N \geq 6)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4521}) &= B_{\bar{N}}(2N + 4521 - B_{\bar{N}}(2N + 4520)) + B_{\bar{N}}(2N + 4521 - B_{\bar{N}}(2N + 4519)) + B_{\bar{N}}(2N + 4521 - B_{\bar{N}}(2N + 4518)) \\
&= B_{\bar{N}}(2N + 4521 - (N + 10)) + B_{\bar{N}}(2N + 4521 - (N + 4523)) + B_{\bar{N}}(2N + 4521 - (2N + 4514)) \\
&= B_{\bar{N}}(N + 4511) + B_{\bar{N}}(N - 2) + B_{\bar{N}}(7) = 7 + (N - 2) + 7 = \mathbf{N} + \mathbf{12} \\
&(N \geq 7)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4522}) &= B_{\bar{N}}(2N + 4522 - B_{\bar{N}}(2N + 4521)) + B_{\bar{N}}(2N + 4522 - B_{\bar{N}}(2N + 4520)) + B_{\bar{N}}(2N + 4522 - B_{\bar{N}}(2N + 4519)) \\
&= B_{\bar{N}}(2N + 4522 - (N + 12)) + B_{\bar{N}}(2N + 4522 - (N + 10)) + B_{\bar{N}}(2N + 4522 - (N + 4523)) \\
&= B_{\bar{N}}(N + 4510) + B_{\bar{N}}(N + 4512) + B_{\bar{N}}(N - 1) = (N + 4512) + (2N + 1333) + (N - 1) = \mathbf{4N} + \mathbf{5844} \\
&(N \geq 2)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4523}) &= B_{\bar{N}}(2N + 4523 - B_{\bar{N}}(2N + 4522)) + B_{\bar{N}}(2N + 4523 - B_{\bar{N}}(2N + 4521)) + B_{\bar{N}}(2N + 4523 - B_{\bar{N}}(2N + 4520)) \\
&= B_{\bar{N}}(2N + 4523 - (4N + 5844)) + B_{\bar{N}}(2N + 4523 - (N + 12)) + B_{\bar{N}}(2N + 4523 - (N + 10)) \\
&= B_{\bar{N}}(-2N - 1321) + B_{\bar{N}}(N + 4511) + B_{\bar{N}}(N + 4513) = 0 + 7 + (2N + 637) = \mathbf{2N} + \mathbf{644} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4524}) &= B_{\bar{N}}(2N + 4524 - B_{\bar{N}}(2N + 4523)) + B_{\bar{N}}(2N + 4524 - B_{\bar{N}}(2N + 4522)) + B_{\bar{N}}(2N + 4524 - B_{\bar{N}}(2N + 4521)) \\
&= B_{\bar{N}}(2N + 4524 - (2N + 644)) + B_{\bar{N}}(2N + 4524 - (4N + 5844)) + B_{\bar{N}}(2N + 4524 - (N + 12)) \\
&= B_{\bar{N}}(3880) + B_{\bar{N}}(-2N - 1320) + B_{\bar{N}}(N + 4512) = 3880 + 0 + (2N + 1333) = \mathbf{2N} + \mathbf{5213} \\
&(N \geq 3880)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4525}) &= B_{\bar{N}}(2N + 4525 - B_{\bar{N}}(2N + 4524)) + B_{\bar{N}}(2N + 4525 - B_{\bar{N}}(2N + 4523)) + B_{\bar{N}}(2N + 4525 - B_{\bar{N}}(2N + 4522)) \\
&= B_{\bar{N}}(2N + 4525 - (2N + 5213)) + B_{\bar{N}}(2N + 4525 - (2N + 644)) + B_{\bar{N}}(2N + 4525 - (4N + 5844)) \\
&= B_{\bar{N}}(-688) + B_{\bar{N}}(3881) + B_{\bar{N}}(-2N - 1319) = 0 + 3881 + 0 = \mathbf{3881} \\
&(N \geq 3881)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4526}) &= B_{\bar{N}}(2N + 4526 - B_{\bar{N}}(2N + 4525)) + B_{\bar{N}}(2N + 4526 - B_{\bar{N}}(2N + 4524)) + B_{\bar{N}}(2N + 4526 - B_{\bar{N}}(2N + 4523)) \\
&= B_{\bar{N}}(2N + 4526 - 3881) + B_{\bar{N}}(2N + 4526 - (2N + 5213)) + B_{\bar{N}}(2N + 4526 - (2N + 644)) \\
&= B_{\bar{N}}(2N + 645) + B_{\bar{N}}(-687) + B_{\bar{N}}(3882) = (N + 3) + 0 + 3882 = \mathbf{N} + \mathbf{3885} \\
&(N \geq 3882)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4527}) &= B_{\bar{N}}(2N + 4527 - B_{\bar{N}}(2N + 4526)) + B_{\bar{N}}(2N + 4527 - B_{\bar{N}}(2N + 4525)) + B_{\bar{N}}(2N + 4527 - B_{\bar{N}}(2N + 4524)) \\
&= B_{\bar{N}}(2N + 4527 - (N + 3885)) + B_{\bar{N}}(2N + 4527 - 3881) + B_{\bar{N}}(2N + 4527 - (2N + 5213)) \\
&= B_{\bar{N}}(N + 642) + B_{\bar{N}}(2N + 646) + B_{\bar{N}}(-686) = (2N + 84) + (N - 2) + 0 = \mathbf{3N} + \mathbf{82} \\
&(N \geq 1)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4528}) &= B_{\bar{N}}(2N + 4528 - B_{\bar{N}}(2N + 4527)) + B_{\bar{N}}(2N + 4528 - B_{\bar{N}}(2N + 4526)) + B_{\bar{N}}(2N + 4528 - B_{\bar{N}}(2N + 4525)) \\
&= B_{\bar{N}}(2N + 4528 - (3N + 82)) + B_{\bar{N}}(2N + 4528 - (N + 3885)) + B_{\bar{N}}(2N + 4528 - 3881) \\
&= B_{\bar{N}}(-N + 4446) + B_{\bar{N}}(N + 643) + B_{\bar{N}}(2N + 647) = 0 + (N - 2) + (2N + 731) = \mathbf{3N} + \mathbf{729} \\
&(N \geq 4446)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4529}) &= B_{\bar{N}}(2N + 4529 - B_{\bar{N}}(2N + 4528)) + B_{\bar{N}}(2N + 4529 - B_{\bar{N}}(2N + 4527)) + B_{\bar{N}}(2N + 4529 - B_{\bar{N}}(2N + 4526)) \\
&= B_{\bar{N}}(2N + 4529 - (3N + 729)) + B_{\bar{N}}(2N + 4529 - (3N + 82)) + B_{\bar{N}}(2N + 4529 - (N + 3885)) \\
&= B_{\bar{N}}(-N + 3800) + B_{\bar{N}}(-N + 4447) + B_{\bar{N}}(N + 644) = 0 + 0 + 646 = \mathbf{646} \\
&(N \geq 4447)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4530}) &= B_{\bar{N}}(2N + 4530 - B_{\bar{N}}(2N + 4529)) + B_{\bar{N}}(2N + 4530 - B_{\bar{N}}(2N + 4528)) + B_{\bar{N}}(2N + 4530 - B_{\bar{N}}(2N + 4527)) \\
&= B_{\bar{N}}(2N + 4530 - 646) + B_{\bar{N}}(2N + 4530 - (3N + 729)) + B_{\bar{N}}(2N + 4530 - (3N + 82)) \\
&= B_{\bar{N}}(2N + 3884) + B_{\bar{N}}(-N + 3801) + B_{\bar{N}}(-N + 4448) = \left(\frac{15N}{7} - \frac{642}{7}\right) + 0 + 0 = \frac{\mathbf{15N}}{\mathbf{7}} - \frac{\mathbf{642}}{\mathbf{7}} \\
&(N \geq 4448)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4531}) &= B_{\bar{N}}(2N + 4531 - B_{\bar{N}}(2N + 4530)) + B_{\bar{N}}(2N + 4531 - B_{\bar{N}}(2N + 4529)) + B_{\bar{N}}(2N + 4531 - B_{\bar{N}}(2N + 4528)) \\
&= B_{\bar{N}}\left(2N + 4531 - \left(\frac{15N}{7} - \frac{642}{7}\right)\right) + B_{\bar{N}}(2N + 4531 - 646) + B_{\bar{N}}(2N + 4531 - (3N + 729)) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{32359}{7}\right) + B_{\bar{N}}(2N + 3885) + B_{\bar{N}}(-N + 3802) = 0 + (N - 2) + 0 = \mathbf{N} - \mathbf{2} \\
&(\mathbf{N} \geq \mathbf{32359})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4532}) &= B_{\bar{N}}(2N + 4532 - B_{\bar{N}}(2N + 4531)) + B_{\bar{N}}(2N + 4532 - B_{\bar{N}}(2N + 4530)) + B_{\bar{N}}(2N + 4532 - B_{\bar{N}}(2N + 4529)) \\
&= B_{\bar{N}}(2N + 4532 - (N - 2)) + B_{\bar{N}}\left(2N + 4532 - \left(\frac{15N}{7} - \frac{642}{7}\right)\right) + B_{\bar{N}}(2N + 4532 - 646) \\
&= B_{\bar{N}}(N + 4534) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{32366}{7}\right) + B_{\bar{N}}(2N + 3886) = (2N + 640) + 0 + 7 = \mathbf{2N} + \mathbf{647} \\
&(\mathbf{N} \geq \mathbf{32366})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4533}) &= B_{\bar{N}}(2N + 4533 - B_{\bar{N}}(2N + 4532)) + B_{\bar{N}}(2N + 4533 - B_{\bar{N}}(2N + 4531)) + B_{\bar{N}}(2N + 4533 - B_{\bar{N}}(2N + 4530)) \\
&= B_{\bar{N}}(2N + 4533 - (2N + 647)) + B_{\bar{N}}(2N + 4533 - (N - 2)) + B_{\bar{N}}\left(2N + 4533 - \left(\frac{15N}{7} - \frac{642}{7}\right)\right) \\
&= B_{\bar{N}}(3886) + B_{\bar{N}}(N + 4535) + B_{\bar{N}}\left(-\frac{N}{7} + \frac{32373}{7}\right) = 3886 + (N - 2) + 0 = \mathbf{N} + \mathbf{3884} \\
&(\mathbf{N} \geq \mathbf{32373})
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4534}) &= B_{\bar{N}}(2N + 4534 - B_{\bar{N}}(2N + 4533)) + B_{\bar{N}}(2N + 4534 - B_{\bar{N}}(2N + 4532)) + B_{\bar{N}}(2N + 4534 - B_{\bar{N}}(2N + 4531)) \\
&= B_{\bar{N}}(2N + 4534 - (N + 3884)) + B_{\bar{N}}(2N + 4534 - (2N + 647)) + B_{\bar{N}}(2N + 4534 - (N - 2)) \\
&= B_{\bar{N}}(N + 650) + B_{\bar{N}}(3887) + B_{\bar{N}}(N + 4536) = (N - 2) + 3887 + 4538 = \mathbf{N} + \mathbf{8423} \\
&(N \geq 3887)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4535}) &= B_{\bar{N}}(2N + 4535 - B_{\bar{N}}(2N + 4534)) + B_{\bar{N}}(2N + 4535 - B_{\bar{N}}(2N + 4533)) + B_{\bar{N}}(2N + 4535 - B_{\bar{N}}(2N + 4532)) \\
&= B_{\bar{N}}(2N + 4535 - (N + 8423)) + B_{\bar{N}}(2N + 4535 - (N + 3884)) + B_{\bar{N}}(2N + 4535 - (2N + 647)) \\
&= B_{\bar{N}}(N - 3888) + B_{\bar{N}}(N + 651) + B_{\bar{N}}(3888) = (N - 3888) + 653 + 3888 = \mathbf{N} + \mathbf{653} \\
&(N \geq 3889)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4536}) &= B_{\bar{N}}(2N + 4536 - B_{\bar{N}}(2N + 4535)) + B_{\bar{N}}(2N + 4536 - B_{\bar{N}}(2N + 4534)) + B_{\bar{N}}(2N + 4536 - B_{\bar{N}}(2N + 4533)) \\
&= B_{\bar{N}}(2N + 4536 - (N + 653)) + B_{\bar{N}}(2N + 4536 - (N + 8423)) + B_{\bar{N}}(2N + 4536 - (N + 3884)) \\
&= B_{\bar{N}}(N + 3883) + B_{\bar{N}}(N - 3887) + B_{\bar{N}}(N + 652) = (2N + 547) + (N - 3887) + (N + 653) = \mathbf{4N} - \mathbf{2687} \\
&(N \geq 3888)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4537}) &= B_{\bar{N}}(2N + 4537 - B_{\bar{N}}(2N + 4536)) + B_{\bar{N}}(2N + 4537 - B_{\bar{N}}(2N + 4535)) + B_{\bar{N}}(2N + 4537 - B_{\bar{N}}(2N + 4534)) \\
&= B_{\bar{N}}(2N + 4537 - (4N - 2687)) + B_{\bar{N}}(2N + 4537 - (N + 653)) + B_{\bar{N}}(2N + 4537 - (N + 8423)) \\
&= B_{\bar{N}}(-2N + 7224) + B_{\bar{N}}(N + 3884) + B_{\bar{N}}(N - 3886) = 0 + (N - 2) + (N - 3886) = \mathbf{2N} - \mathbf{3888} \\
&(N \geq 3887)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4538}) &= B_{\bar{N}}(2N + 4538 - B_{\bar{N}}(2N + 4537)) + B_{\bar{N}}(2N + 4538 - B_{\bar{N}}(2N + 4536)) + B_{\bar{N}}(2N + 4538 - B_{\bar{N}}(2N + 4535)) \\
&= B_{\bar{N}}(2N + 4538 - (2N - 3888)) + B_{\bar{N}}(2N + 4538 - (4N - 2687)) + B_{\bar{N}}(2N + 4538 - (N + 653)) \\
&= B_{\bar{N}}(8426) + B_{\bar{N}}(-2N + 7225) + B_{\bar{N}}(N + 3885) = 8426 + 0 + 3887 = \mathbf{12313} \\
&(N \geq 8426)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4539}) &= B_{\bar{N}}(2N + 4539 - B_{\bar{N}}(2N + 4538)) + B_{\bar{N}}(2N + 4539 - B_{\bar{N}}(2N + 4537)) + B_{\bar{N}}(2N + 4539 - B_{\bar{N}}(2N + 4536)) \\
&= B_{\bar{N}}(2N + 4539 - 12313) + B_{\bar{N}}(2N + 4539 - (2N - 3888)) + B_{\bar{N}}(2N + 4539 - (4N - 2687)) \\
&= B_{\bar{N}}(2N - 7774) + B_{\bar{N}}(8427) + B_{\bar{N}}(-2N + 7226) = (2N - 7773) + 8427 + 0 = \mathbf{2N} + \mathbf{654} \\
&(N \geq 8427)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4540}) &= B_{\bar{N}}(2N + 4540 - B_{\bar{N}}(2N + 4539)) + B_{\bar{N}}(2N + 4540 - B_{\bar{N}}(2N + 4538)) + B_{\bar{N}}(2N + 4540 - B_{\bar{N}}(2N + 4537)) \\
&= B_{\bar{N}}(2N + 4540 - (2N + 654)) + B_{\bar{N}}(2N + 4540 - 12313) + B_{\bar{N}}(2N + 4540 - (2N - 3888)) \\
&= B_{\bar{N}}(3886) + B_{\bar{N}}(2N - 7773) + B_{\bar{N}}(8428) = 3886 + (2N - 7771) + 8428 = \mathbf{2N} + \mathbf{4543} \\
&(N \geq 8428)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4541}) &= B_{\bar{N}}(2N + 4541 - B_{\bar{N}}(2N + 4540)) + B_{\bar{N}}(2N + 4541 - B_{\bar{N}}(2N + 4539)) + B_{\bar{N}}(2N + 4541 - B_{\bar{N}}(2N + 4538)) \\
&= B_{\bar{N}}(2N + 4541 - (2N + 4543)) + B_{\bar{N}}(2N + 4541 - (2N + 654)) + B_{\bar{N}}(2N + 4541 - 12313) \\
&= B_{\bar{N}}(-2) + B_{\bar{N}}(3887) + B_{\bar{N}}(2N - 7772) = 0 + 3887 + 7 = \mathbf{3894} \\
&(N \geq 7839)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(\mathbf{2N} + \mathbf{4542}) &= B_{\bar{N}}(2N + 4542 - B_{\bar{N}}(2N + 4541)) + B_{\bar{N}}(2N + 4542 - B_{\bar{N}}(2N + 4540)) + B_{\bar{N}}(2N + 4542 - B_{\bar{N}}(2N + 4539)) \\
&= B_{\bar{N}}(2N + 4542 - 3894) + B_{\bar{N}}(2N + 4542 - (2N + 4543)) + B_{\bar{N}}(2N + 4542 - (2N + 654)) \\
&= B_{\bar{N}}(2N + 648) + B_{\bar{N}}(-1) + B_{\bar{N}}(3888) = (2N + 644) + 0 + 3888 = \mathbf{2N} + \mathbf{4532} \\
&(N \geq 3888)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4543) &= B_{\bar{N}}(2N + 4543 - B_{\bar{N}}(2N + 4542)) + B_{\bar{N}}(2N + 4543 - B_{\bar{N}}(2N + 4541)) + B_{\bar{N}}(2N + 4543 - B_{\bar{N}}(2N + 4540)) \\
&= B_{\bar{N}}(2N + 4543 - (2N + 4532)) + B_{\bar{N}}(2N + 4543 - 3894) + B_{\bar{N}}(2N + 4543 - (2N + 4543)) \\
&= B_{\bar{N}}(11) + B_{\bar{N}}(2N + 649) + B_{\bar{N}}(0) = 11 + 658 + 0 = \mathbf{669} \\
&(N \geq 11)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4544) &= B_{\bar{N}}(2N + 4544 - B_{\bar{N}}(2N + 4543)) + B_{\bar{N}}(2N + 4544 - B_{\bar{N}}(2N + 4542)) + B_{\bar{N}}(2N + 4544 - B_{\bar{N}}(2N + 4541)) \\
&= B_{\bar{N}}(2N + 4544 - 669) + B_{\bar{N}}(2N + 4544 - (2N + 4532)) + B_{\bar{N}}(2N + 4544 - 3894) \\
&= B_{\bar{N}}(2N + 3875) + B_{\bar{N}}(12) + B_{\bar{N}}(2N + 650) = 4472 + 12 + \left(\frac{16N}{7} + \frac{333}{7}\right) = \frac{16\mathbf{N}}{7} + \frac{31721}{7} \\
&(N \geq 12)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4545) &= B_{\bar{N}}(2N + 4545 - B_{\bar{N}}(2N + 4544)) + B_{\bar{N}}(2N + 4545 - B_{\bar{N}}(2N + 4543)) + B_{\bar{N}}(2N + 4545 - B_{\bar{N}}(2N + 4542)) \\
&= B_{\bar{N}}\left(2N + 4545 - \left(\frac{16N}{7} + \frac{31721}{7}\right)\right) + B_{\bar{N}}(2N + 4545 - 669) + B_{\bar{N}}(2N + 4545 - (2N + 4532)) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{94}{7}\right) + B_{\bar{N}}(2N + 3876) + B_{\bar{N}}(13) = 0 + \left(\frac{16N}{7} - \frac{885}{7}\right) + 13 = \frac{16\mathbf{N}}{7} - \frac{794}{7} \\
&(N \geq 47)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{N}}(2\mathbf{N} + 4546) &= B_{\bar{N}}(2N + 4546 - B_{\bar{N}}(2N + 4545)) + B_{\bar{N}}(2N + 4546 - B_{\bar{N}}(2N + 4544)) + B_{\bar{N}}(2N + 4546 - B_{\bar{N}}(2N + 4543)) \\
&= B_{\bar{N}}\left(2N + 4546 - \left(\frac{16N}{7} - \frac{794}{7}\right)\right) + B_{\bar{N}}\left(2N + 4546 - \left(\frac{16N}{7} + \frac{31721}{7}\right)\right) + B_{\bar{N}}(2N + 4546 - 669) \\
&= B_{\bar{N}}\left(-\frac{2N}{7} + \frac{32616}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{101}{7}\right) + B_{\bar{N}}(2N + 3877) = 0 + 0 + \left(\frac{15N}{7} - \frac{649}{7}\right) = \frac{15\mathbf{N}}{7} - \frac{649}{7} \\
&(N \geq 16308)
\end{aligned}$$

$$\begin{aligned}
\mathbf{B}_{\bar{\mathbf{N}}}(\mathbf{2N} + \mathbf{4547}) &= B_{\bar{N}}(2N + 4547 - B_{\bar{N}}(2N + 4546)) + B_{\bar{N}}(2N + 4547 - B_{\bar{N}}(2N + 4545)) + B_{\bar{N}}(2N + 4547 - B_{\bar{N}}(2N + 4544)) \\
&= B_{\bar{N}}\left(2N + 4547 - \left(\frac{15N}{7} - \frac{649}{7}\right)\right) + B_{\bar{N}}\left(2N + 4547 - \left(\frac{16N}{7} - \frac{794}{7}\right)\right) + B_{\bar{N}}\left(2N + 4547 - \left(\frac{16N}{7} + \frac{31721}{7}\right)\right) \\
&= B_{\bar{N}}\left(-\frac{N}{7} + \frac{32478}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{32623}{7}\right) + B_{\bar{N}}\left(-\frac{2N}{7} + \frac{108}{7}\right) = 0 + 0 + 0 = \mathbf{0} \\
&(\mathbf{N} \geq \mathbf{32478})
\end{aligned}$$