

$$\begin{array}{rcl}
 S & = & 1 + 2 + 3 + \dots + N \\
 + S & = & N + (N-1) + (N-2) + \dots + 1 \\
 \hline
 2S & = & (N+1) + (N+1) + (N+1) + \dots + (N+1)
 \end{array}$$