

$$\begin{array}{cccc}
 1 & 1 & 2 & 3 \\
 1 & 5 & -2 & 4 \\
 0 & -2 & 4 & -3 \\
 0 & -4 & 1 & -4
 \end{array} \quad (6, 5, 0)$$

$$\begin{array}{cccc}
 1 & 0 & -2 & 1 \\
 2 & 0 & 3 & -1 \\
 0 & -1 & -4 & 3 \\
 0 & 4 & -1 & 1
 \end{array} \quad (0, -2, 5)$$

$$\begin{array}{l}
 (-5, 5) \rightarrow (0, 0000) \\
 (-2, 3) \rightarrow (1, 0001) \\
 (-4, 8) \rightarrow (1, 0002) \\
 (-2, 7) \rightarrow (5, 0010) \\
 \mathbf{(1, 5)} \rightarrow (6, 0011)
 \end{array}$$

...

$$\begin{array}{l}
 (4, -8) \rightarrow (0, 0000) \\
 (2, -6) \rightarrow (0, 0001) \\
 (4, -7) \rightarrow (0, 0002) \\
 (7, -11) \rightarrow (0, 0010) \\
 (5, -9) \rightarrow (0, 0011) \\
 (7, -10) \rightarrow (0, 0012) \\
 (4, -9) \rightarrow (0, 0020) \\
 (2, -7) \rightarrow (0, 0021)
 \end{array}$$

...

A solution exists with value **5**