

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

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

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

...

$$(4, -8) \rightarrow (0, 0000)$$