

Step-1

In order to guess the pivots, we proceed as follows:

$$\begin{aligned} |2| &= 2 \\ \begin{vmatrix} 2 & 1 \\ 4 & 5 \end{vmatrix} &= 6 \\ \begin{vmatrix} 2 & 1 & 2 \\ 4 & 5 & 0 \\ 2 & 7 & 0 \end{vmatrix} &= 36 \end{aligned}$$

Thus, the pivot entries must be 2, 3, and 6.

Step-2

Let us obtain the pivot entries by elimination:

$$\text{Consider } \begin{bmatrix} 2 & 1 & 2 \\ 4 & 5 & 0 \\ 2 & 7 & 0 \end{bmatrix}$$

Row 3 \leftarrow Row 1 and Row 2 \leftarrow 2Row 1 gives

$$\begin{bmatrix} 2 & 1 & 2 \\ 0 & 3 & -4 \\ 0 & 6 & -2 \end{bmatrix}$$

Row 3 \leftarrow 2Row 2 gives

$$\begin{bmatrix} 2 & 1 & 2 \\ 0 & 3 & -4 \\ 0 & 0 & 6 \end{bmatrix}$$

Thus, we confirm that the pivot elements are 2, 3, and 6.

Step-3

Consider the following determinant:

$$B = \begin{vmatrix} 2 & 1 & 2 \\ 4 & 5 & 3 \\ 2 & 7 & 0 \end{vmatrix}$$

Step-4

In order to guess the pivots, we proceed as follows:

$$\begin{aligned} |2| &= 2 \\ \begin{vmatrix} 2 & 1 \\ 4 & 5 \end{vmatrix} &= 6 \\ \begin{vmatrix} 2 & 1 & 2 \\ 4 & 5 & 3 \\ 2 & 7 & 0 \end{vmatrix} &= 0 \end{aligned}$$

Thus, the pivot entries must be 2, 3, and 0.

Step-5

Let us obtain the pivot entries by elimination:

$$\text{Consider } \begin{bmatrix} 2 & 1 & 2 \\ 4 & 5 & 3 \\ 2 & 7 & 0 \end{bmatrix}$$

Row 3 \leftarrow Row 1 and Row 2 \leftarrow 2Row 1 gives

$$\begin{bmatrix} 2 & 1 & 2 \\ 0 & 3 & -1 \\ 0 & 6 & -2 \end{bmatrix}$$

Row 3 \leftarrow 2Row 2 gives

$$\begin{bmatrix} 2 & 1 & 2 \\ 0 & 3 & -1 \\ 0 & 0 & 0 \end{bmatrix}$$

Thus, we confirm that the pivot elements are 2, 3, and 0.