

$100/2 = 500$ $350/1 = 350$
 $800/1 = 800$ with 350 being the smallest

1 will be used as the pivot coefficient
 Use $R_1 \rightarrow 2R_2 = R_1$ and $R_2 \rightarrow R_3 - R_2$

$$\begin{bmatrix} 0 & -1 & 0 & 2 & 1 & -300 \\ 0 & -1 & 0 & -1 & 0 & -450 \\ 1 & 0 & 0 & 1 & 0 & 0 \\ 0 & -20 & 0 & 0 & 1 & 10,500 \end{bmatrix}$$

To make $R_1 = 0 \rightarrow R_1 \rightarrow R_3 + R_1$

$$\begin{bmatrix} 1 & 0 & 0 & 3 & 1 & -300 \\ 0 & -1 & 0 & -1 & 0 & -450 \\ 1 & 0 & 0 & 1 & 0 & 0 \\ 0 & -20 & 0 & 0 & 1 & 10,500 \end{bmatrix}$$

Use $R_2 = 0$ when $R_2 \rightarrow R_3 + R_2$

$$\begin{bmatrix} 1 & 0 & 0 & 3 & 1 & -300 \\ 0 & 0 & 0 & -1 & 0 & -450 \\ 1 & 0 & 0 & 1 & 0 & 0 \\ 0 & -20 & 0 & 0 & 1 & 10,500 \end{bmatrix}$$

Use $R_4 = 0$ when $R_4 \rightarrow 2R_3 + R_4$

$$\begin{bmatrix} 1 & 0 & 0 & 3 & 1 & -300 \\ 0 & 0 & 0 & -1 & 0 & -450 \\ 1 & 0 & 0 & 1 & 0 & 0 \\ 20 & 0 & 0 & 50 & 10 & 10,500 \end{bmatrix}$$

$Z = 10,500 \quad X_1$

$100/2 = 500$ $350/1 = 350$
 $800/1 = 800$ with 350 being the smallest

1 will be used as the pivot coefficient
 Use $R_1 \rightarrow 2R_2 = R_1$ and $R_2 \rightarrow R_3 - R_2$

$$\begin{bmatrix} 0 & -1 & 0 & 2 & 1 & -300 \\ 0 & -1 & 0 & -1 & 0 & -450 \\ 1 & 0 & 0 & 1 & 0 & 0 \\ -20 & 0 & 0 & 0 & 1 & 0 \end{bmatrix}$$

To make $R_4 = 0$ we use $R_4 \rightarrow 3R_3 + R_4$

$$\begin{bmatrix} 0 & -1 & 0 & 2 & 1 & -300 \\ 0 & -1 & 0 & -1 & 0 & -450 \\ 1 & 0 & 0 & 1 & 0 & 0 \\ 0 & -20 & 0 & 30 & 1 & 10,500 \end{bmatrix}$$

Next -20 becomes the pivot element because of its negativity

$$\begin{bmatrix} 0 & -1 & 0 & 2 & 1 & -300 \\ 0 & -1 & 0 & -1 & 0 & -450 \\ 1 & 0 & 0 & 1 & 0 & 0 \\ 0 & -20 & 0 & 0 & 0 & 350 \end{bmatrix}$$

To make $R_3 = 1 \rightarrow R_3 + 1 \rightarrow R_3$