

Assignment

$$\begin{matrix} 1 \\ 2 \\ 3 \end{matrix} \begin{bmatrix} 0 & 4 & 5 \\ 2 & 0 & 8 \\ \infty & -3 & 0 \end{bmatrix}$$

Step 1:- Through vertex 'a' or '1'

$$\min(2,2) = (0,6) = 0 \quad \min(3,2) = (3,\infty) = -3$$

$$\min(2,3) = (2,7) = 7 \quad \min(3,3) = (0,\infty) = 0$$

Resultant matrix

$$\begin{matrix} 1 \\ 2 \\ 3 \end{matrix} \begin{bmatrix} 0 & 4 & 5 \\ 2 & 0 & 7 \\ 2 & -3 & 0 \end{bmatrix}$$

Step 2:- Through vertex 'b' or '2'

$$\min(1,1) = (0,6) = 0 \quad \min(3,1) = (\infty,-1) = -1$$

$$\min(1,3) = (5,11) = 5 \quad \min(3,3) = (0,4) = 0$$

Resultant Matrix

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

Step 3: Through vertex '3'

$$\min(1,1) = (0,4) = 0 \quad \min(2,1) = (2,6) = 2$$

$$\min(1,2) = (4,2) = 2 \quad \min(2,2) = (0,4) = 0$$

Resultant Matrix

$$\begin{bmatrix} 0 & 2 & 5 \\ 2 & 0 & 7 \\ -1 & -3 & 0 \end{bmatrix}$$