ASSIGNMENT - 1

$$\begin{array}{c} \\ 1 \\ 2 \\ 3 \end{array}\begin{array}{c} \begin{array}{ccc} 1 & 2 & 3 \end{array} \\ \begin{bmatrix} 0 & 4 & 5 \\ 2 & 0 & \infty \\ \infty & -3 & 0 \end{bmatrix} \end{array}$$

STEP 1 : Through vertex 'a' or '1'

$\min(2,2) = (0,6) = 0$

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

$\min(3,2) = (-3,\infty) = -3$

$\min(3,3) = (0,\infty) = 0$

Rest matrix

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

STEP 2 : Through vertex 'b' or '2'

$\min(1,1) = (0,6) = 0$

$\min(1,3) = (5,11) = 5$

$\min(3,1) = (\infty,-1) = -1$

$\min(3,3) = (0,4) = 0$

Rest matrix

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

STEP 3 : Through vertex '3'

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

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

$\min(2,1) = (2,6) = 2$

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

Rest matrix

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