Assignment -1

	1	2	3
1	0	4	5
2	2	0	∞
3	∞	-3	0

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

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

min (2,3) = (∞, 7) = 7

min (3, 2) = (-3, ∞) = -3

min (3, 3) = (0, ∞) = 0

Resultant matrix

	1	2	3
1	0	4	5
2	2	0	7
3	∞	-3	0

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

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

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

min (3, 1) = (∞, -1) = -1

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

Resultant matrix

0	4	5
2	0	7
-1	-3	0

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

Resultant matrix

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