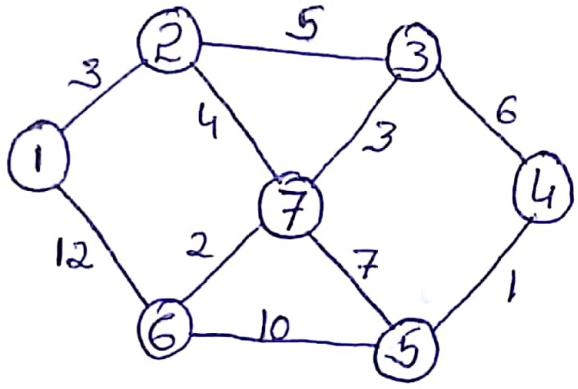
Activity -2

- Apply the Floyd-Warshall's algorithm to the following graph and draw the step by step process?



No. of vertices = 7

So, we need to do (V+1), 8 relaxations. and we also get 8 matrices.

step 1 :- A^0

	1	2	3	4	5	6	7
1	0	3	∞	∞	∞	12	∞
2	3	0	5	∞	∞	∞	4
3	∞	5	0	6	∞	∞	3
4	∞	∞	6	0	1	∞	∞
5	∞	∞	∞	1	0	10	7
6	12	∞	∞	∞	10	0	2
7	∞	4	3	∞	7	2	0

step 2 :- A^1

	1	2	3	4	5	6	7
1	0	3	∞	∞	∞	12	∞
2	3	0	5	11	11	6	4
3	∞	5	0	6	7	5	3
4	∞	11	6	0	1	10	8
5	∞	11	7	1	0	9	7
6	12	6	5	10	9	0	2
7	∞	4	3	8	7	2	0

step 3 :- A^2

	1	2	3	4	5	6	7
1	0	3	8	14	14	9	7
2	3	0	5	11	11	6	4
3	8	5	0	6	7	5	3
4	14	11	6	0	1	10	8
5	14	11	7	1	0	9	7
6	9	6	5	10	9	0	2
7	7	4	3	8	7	2	0

step 4 :- A^3

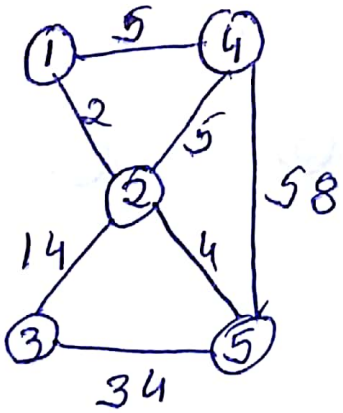
	1	2	3	4	5	6	7
1	0	3	8	14	14	9	7
2	3	0	5	11	11	6	4
3	8	5	0	6	7	5	3
4	14	11	6	0	1	10	8
5	14	11	7	1	0	9	7
6	9	6	5	10	9	0	2
7	7	4	3	8	7	2	0

In step 3 & step 4 we get same matrices. So, we need not to continue it until $V+1$ matrices.

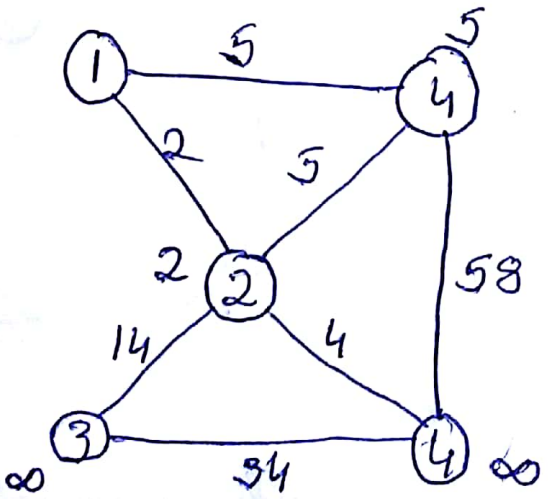
Activity-3

- Apply the Kruskal's and Diskstra's Algorithm to the following graph and write what are your observations?

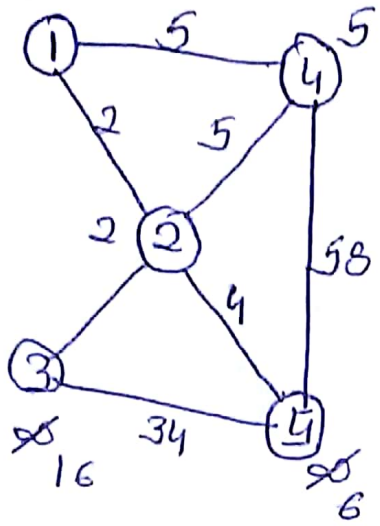
A) Diskstra's Algorithm :-



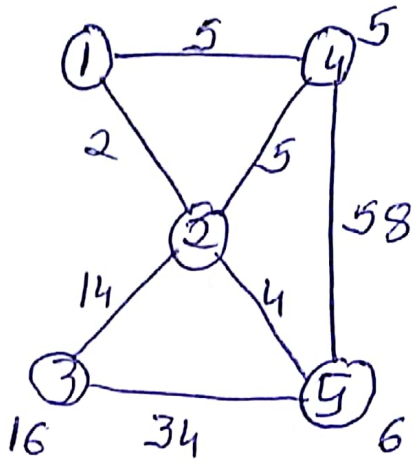
step 1 :-



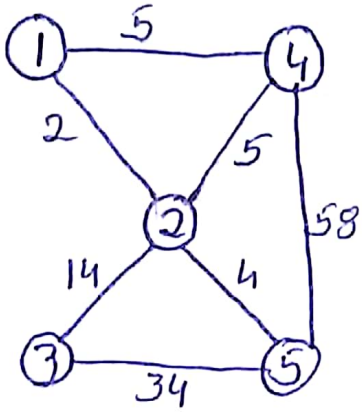
step 2:-



step 3:-



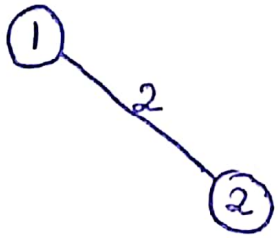
B) Kruskal's Algorithm:-



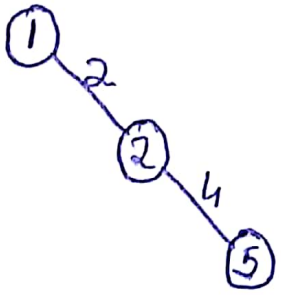
sorted weights:-

2, 4, 5, 5, 14, 34, 58.

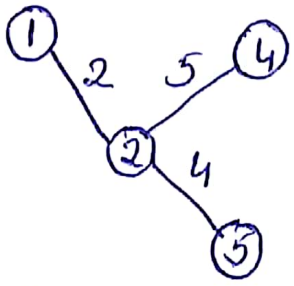
step 1:-



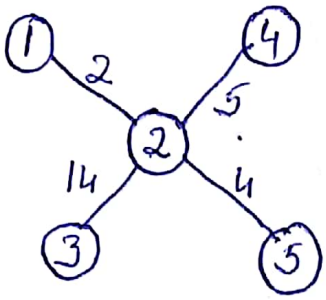
step 2:-



step 3:-



step 4:-



Final output