Tutorial - 6

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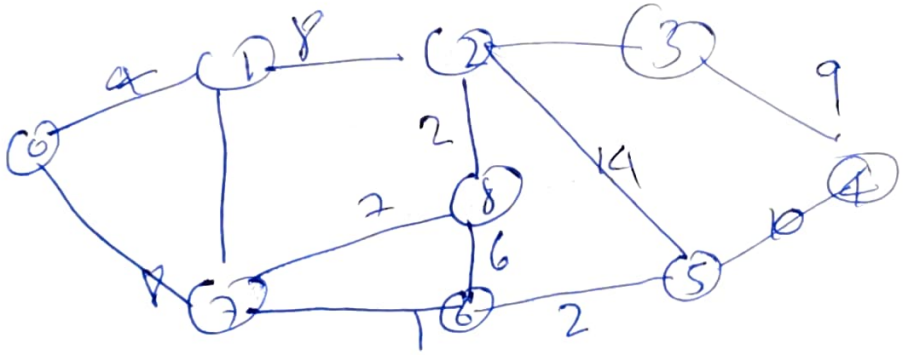
Q5 Sol'n MST: It's a subset of the edges of Connected, edge-weighted undirected graph that Connects all the vertices together, without any cycles and with the minimum possible total edge weight.

Applications

- Designing LAN.
- Ideal Solution would be to extract a subgraph termed as min. cost spanning tree.

Q6

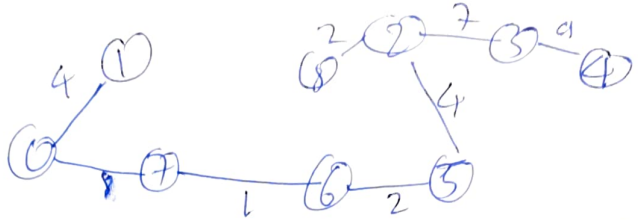


Kruskal's Algo

Src	Dst	Wt.	
6	7	1	✓
5	5	2	—
2	8	2	✓
0	1	4	—
2	5	4	✓
8	8	6	✗
2	3	7	✓
7	8	7	✗
0	7	8	
1	2	8	✗

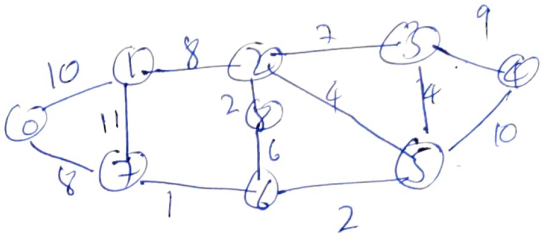
4	3	9	✓
4	5	10	✗
1	7	11	✗
3	5	14	✗

Sol



wt. = 1+2+2+4+4+7+8+9 = 37

Prims Algo.

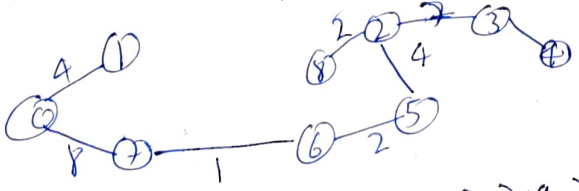


Weight :-

0	1	2	3	4	5	6	7	8
0	∞	∞	∞	∞	∞	∞	∞	∞
	4	8					8	
		8			1		7	
							2	
							6	

Parents:

0	1	2	3	4	5	6	7	8
-1	0	1	-1	-1	1	-1	6	-1



Weight = 4+8+1+2+4+2+7+9 = 37

Ans.