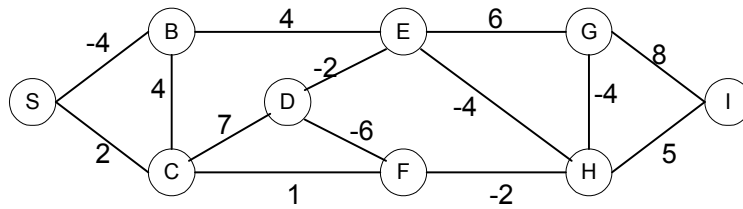
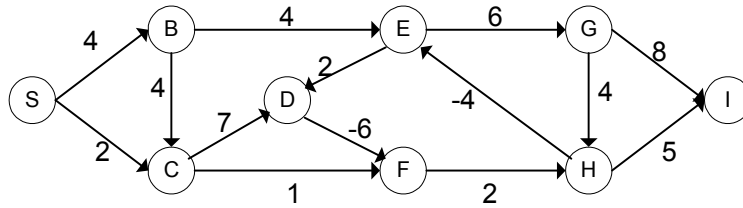


Assignment #6:
Due November 24 (Firm!)

- Solve the minimum spanning tree problem on the following graph by (i) Boruvka Algorithm; (ii) Kruskal's Method A (show the evolution of the algorithm and its UNION-FIND data structure); and (iii) Prim's Algorithm starting with node E (show the evolution of the algorithm and its priority queue (binary heap) data structure).

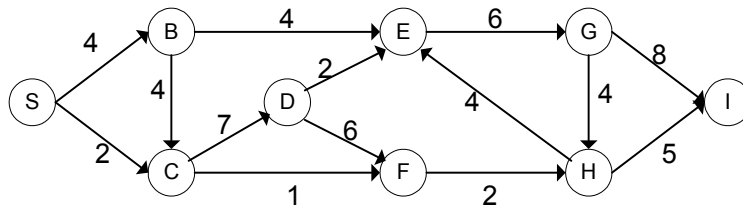


- Which of the algorithms of the shortest path can we apply to the example given below:



Show the details of each algorithm. Here S is the origin.

- Apply Dijkstra algorithm to the example below:



Here s is the origin.

4. Apply Floyd-Warshall algorithm and min-addition algorithm to the example below:

0	2	3	6	2	∞
1	0	4	∞	5	3
∞	3	0	2	10	∞
1	∞	4	0	7	∞
3	2	∞	5	0	∞
∞	2	1	6	8	0

5. Assuming that the numbers represent capacities, solve the maximum flow problem with S as the origin and I as the destination. Show the minimum cut separating S and I .

