

Lecture 14

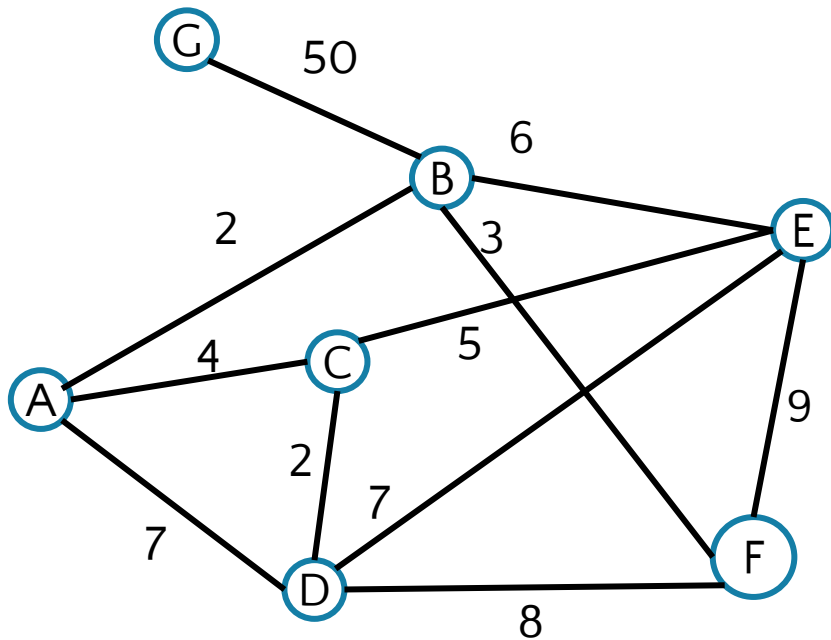
Minimum Spanning Trees

Exercises ANS

Department of Computer Science
Hofstra University

Q. Prim's Algorithm

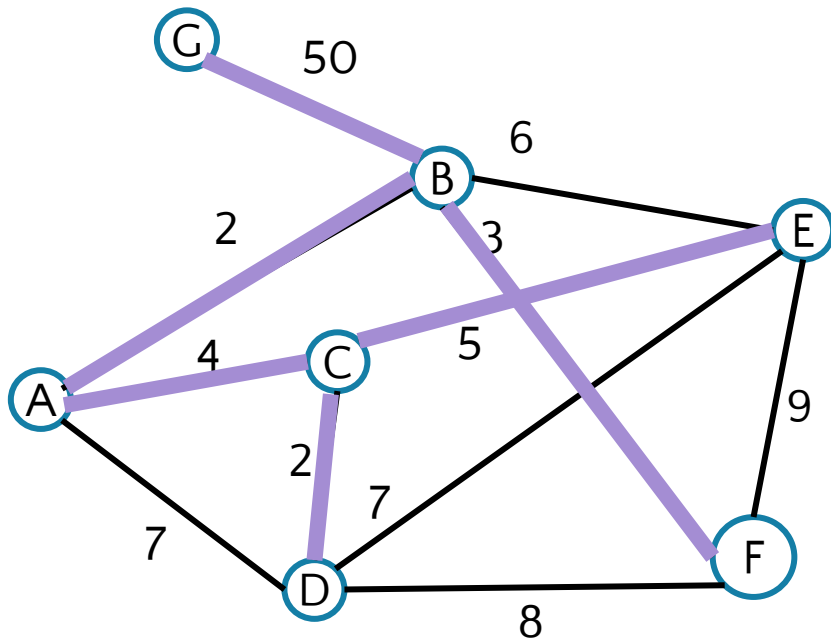
Run Prim's algorithm starting from node A. Fill in the table with the order in which each node is added, the best edge with minimum distance to the tree, and its distance to the current tree. Highlight the final MST in the graph.



Node	Order added	Best Edge	Edge Weight
A	1	/	/
B			
C			
D			
E			
F			
G			

Q. Prim's Algorithm ANS

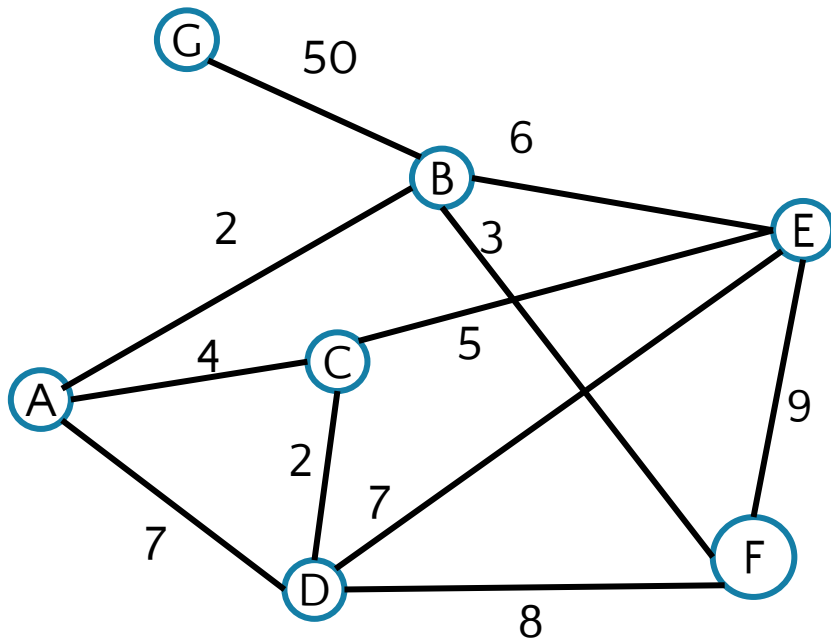
Run Prim's algorithm starting from node A. Fill in the table with the order in which each node is added, the best edge with minimum distance to the tree, and its distance to the current tree. Highlight the final MST in the graph.



Node	Order added	Best Edge	Edge Weight
A	1	/	/
B	2	(A, B)	2
C	3	(A, C)	4
D	4	(C, D)	2
E	5	(C, E)	5
F	6	(B, F)	3
G	7	(B, G)	50

Q. Kruskal's Algorithm

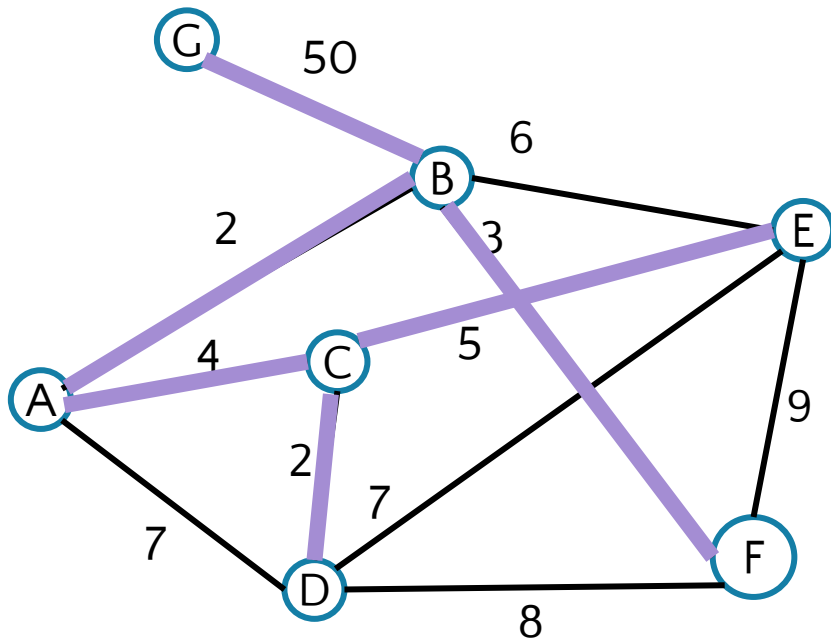
Run Kruskal's algorithm starting from node A. Fill in the table with the order in which each node is added, the best edge with minimum distance to the tree, and its distance to the current tree. Highlight the final MST in the graph.



Node	Order added	Best Edge	Edge Weight
A	1	/	/
B			
C			
D			
E			
F			
G			

Q. Kruskal's Algorithm ANS

Run Kruskal's algorithm starting from node A. Fill in the table with the order in which each node is added, the best edge with minimum distance to the tree, and its distance to the tree. Highlight the final MST in the graph.



Node	Order added	Best Edge	Edge Weight
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