

Roll - 1705045

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①

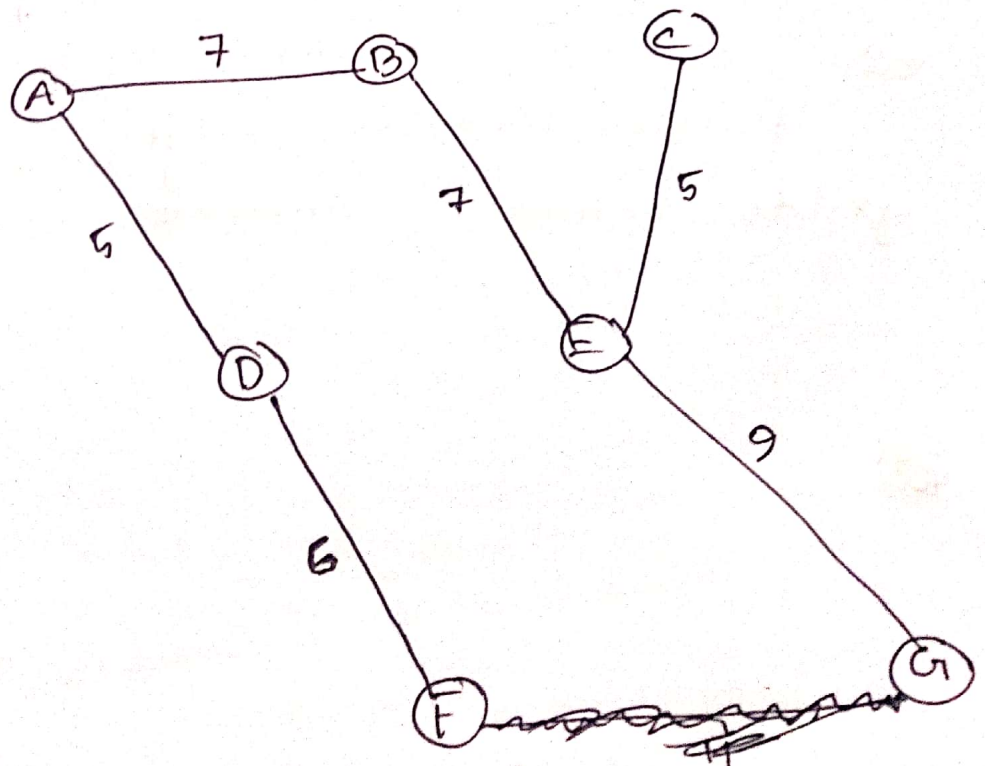
A to	Using Dijkstra		Correct	
	Path	Dist	Path	Dis
B	A-B	2	A-B	2
C	A-C	7	A-C	7
D	A-B-D	4	AB A-C-E-G-D	3
E	A-C-E	9	A-C-E	9
F	A-B-D-F	6	A-C-E-G-D-F	5
G	A-C-E-G	2	A-C-E-G	2

② If we remove edge $(E, G, -7)$, Dijkstra yields correct answer.

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#	Time	Graph type
1	$O(E \log V)$	No negative edge
2	$O(VE)$	All/Detects negative edge
3	$O(E \log V)$	All
4	$O(V^2)$ $O(V^2)$	No negative edge
5	$O(V+E)$	Weights only 1
6	$O(VE \log V)$	All

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~~run Kruskal's algorithm on this graph~~

There are not multiple MST. Because, ~~when~~ we get multiple MST when running on Kruskal if we get different ordering of edges 'sorting by weights'. But here are some edges with same weights.

Here in this graph, ~~if~~ either all ^(those connectable) edges with same weight are picked.

$(A, D, 5)$, $(C, E, 5)$ ^{both} picked; ~~$(D, F, 6)$~~ $(A, B, 7)$, $(B, E, 7)$

both picked. ~~$(B, D, 9)$ picked. Note \neq~~

$(E, G, 9)$ picked. Note that $(B, D, 9)$ are not picked.