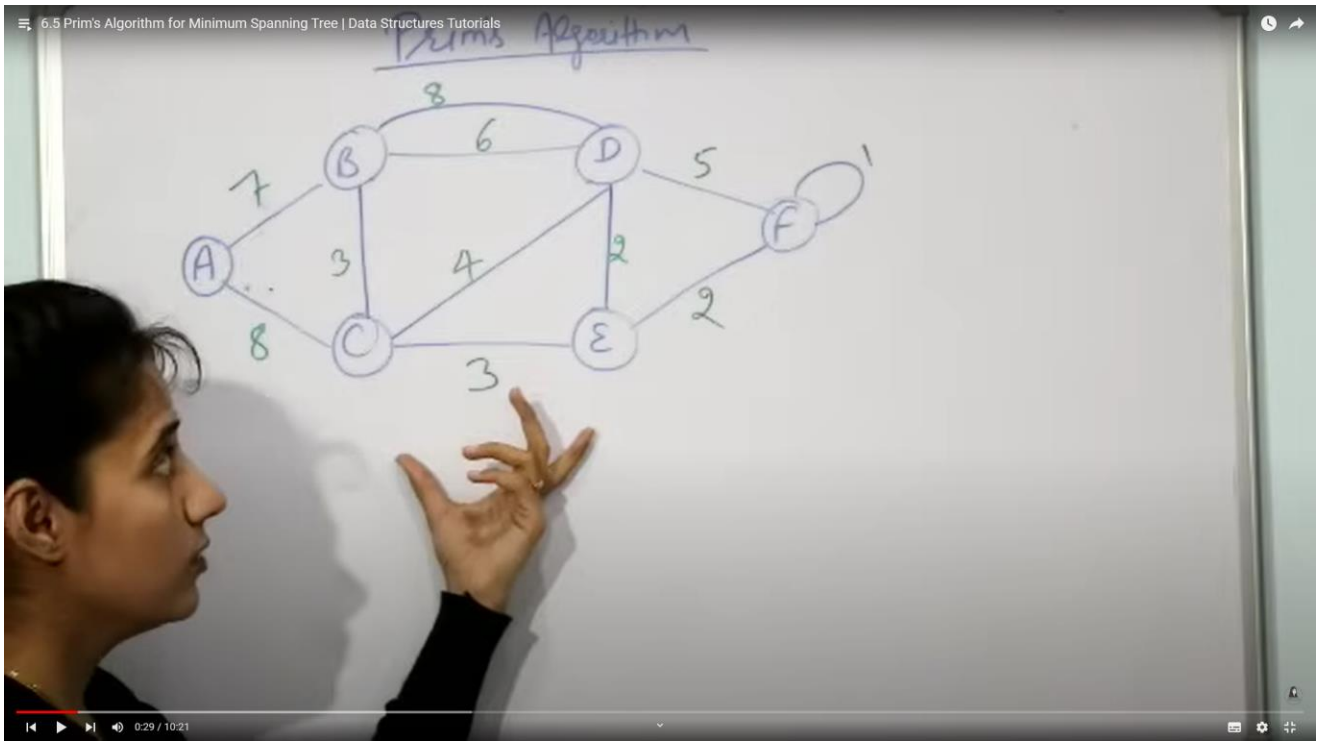
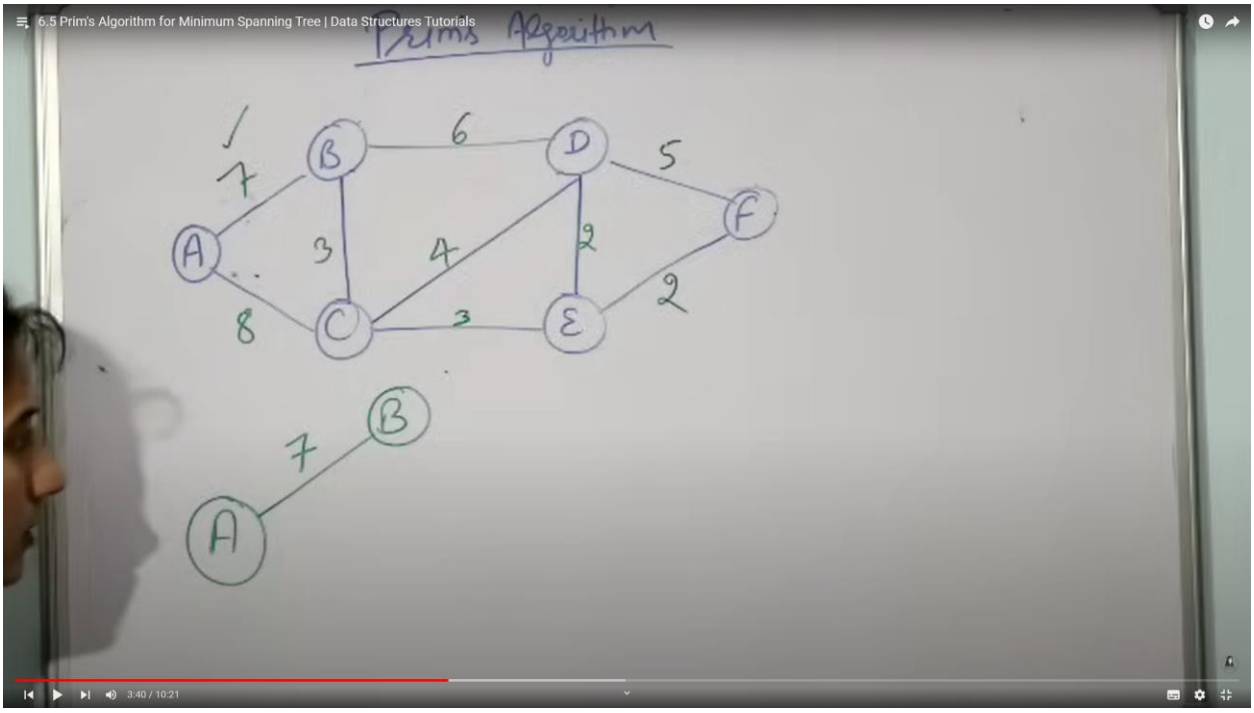
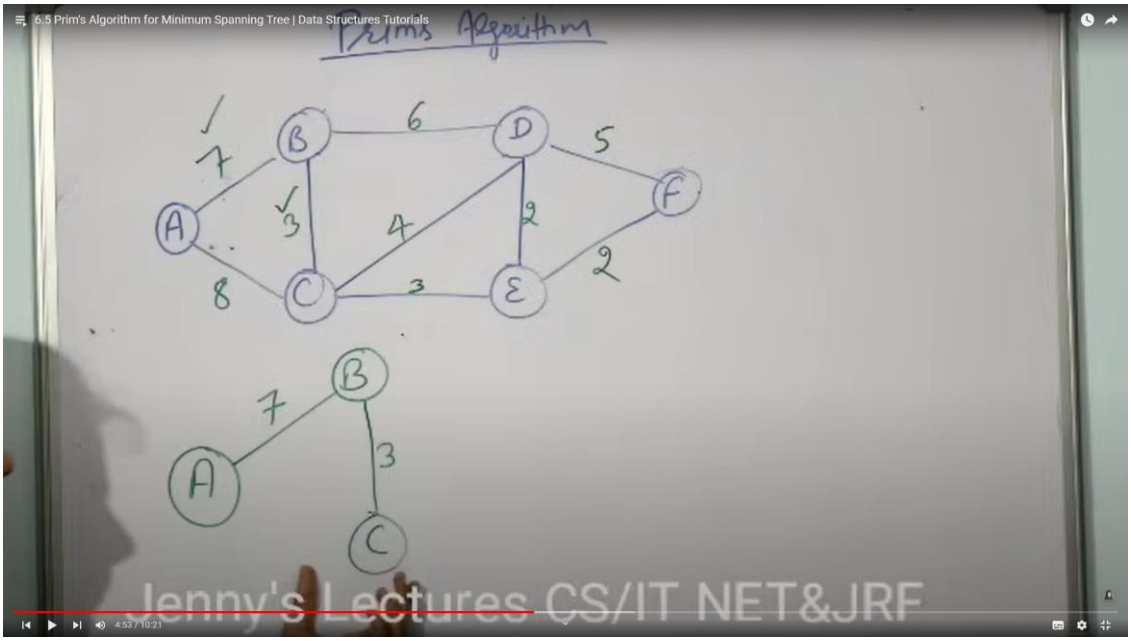
Prim's Algorithm for Minimum Spanning Tree



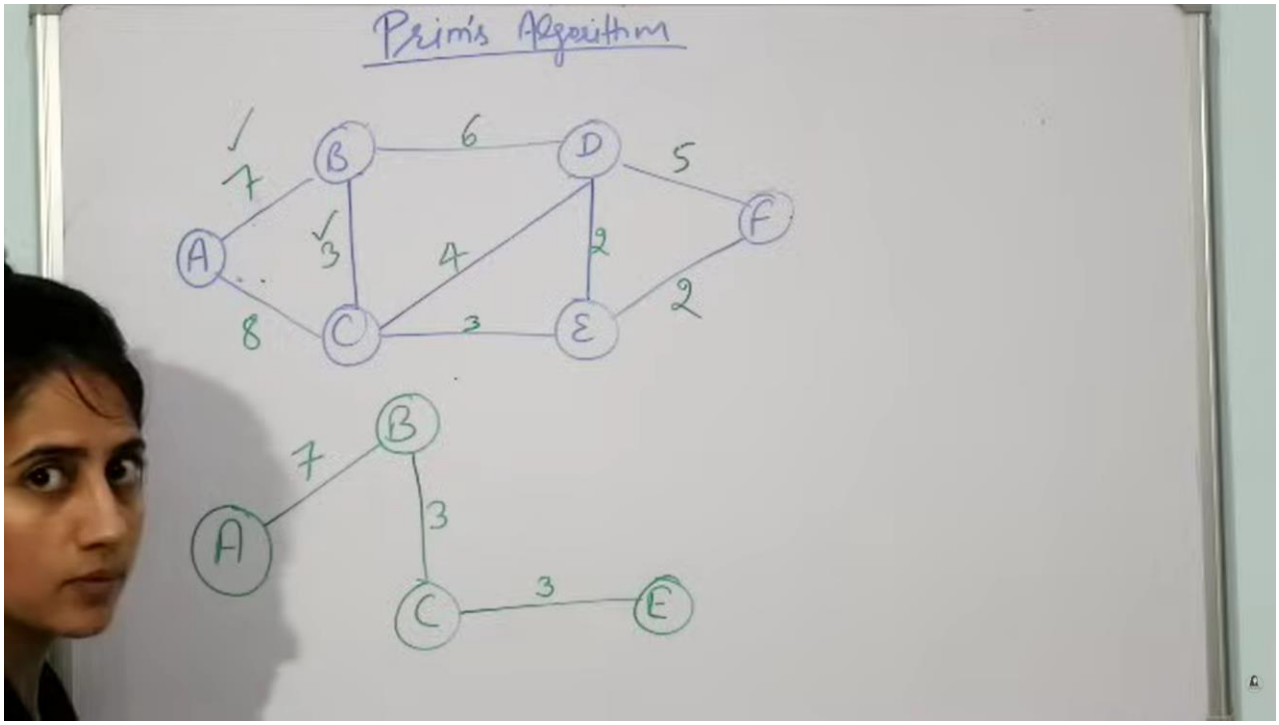
- First we need to remove all the loops
- Next remove parallel edges-in this graph there are 8 and 6 weighted edges.we remove the higher weighted edge.then 8 removed.
- Then we need to choose root node
- Suppose we have take A for root node.now choose one edge that have minimum weight.

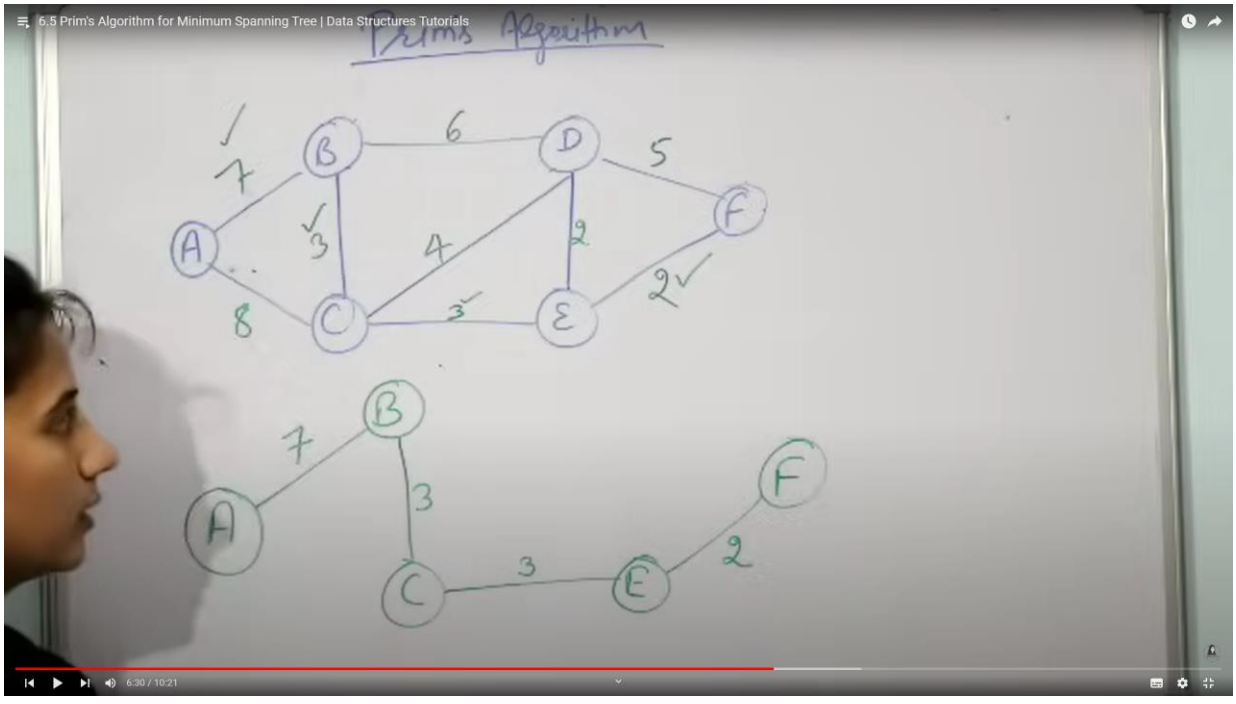


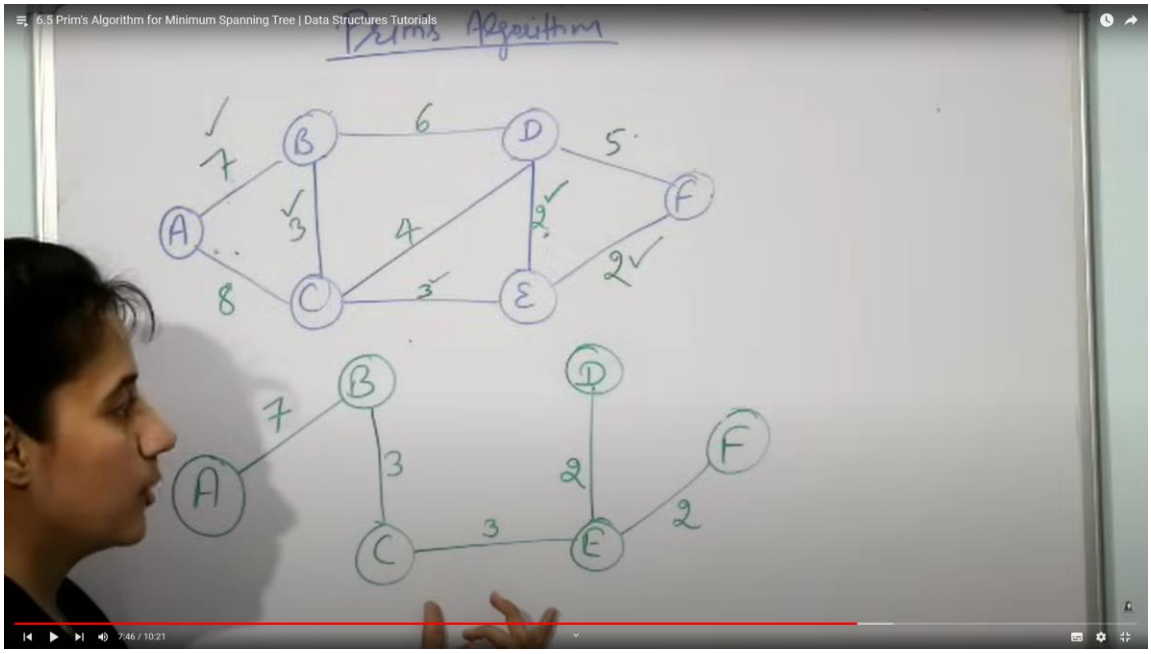
- Now B have 6,3 and A’s 8.in these three we choose 3



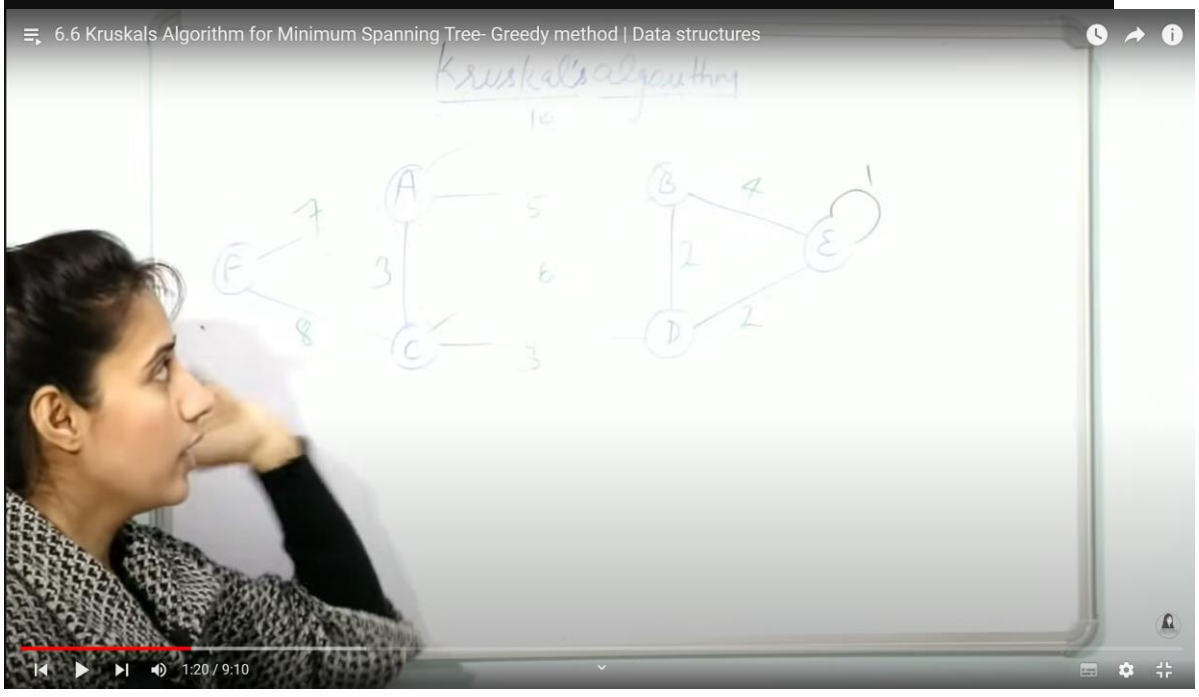
- In that way we can build MST



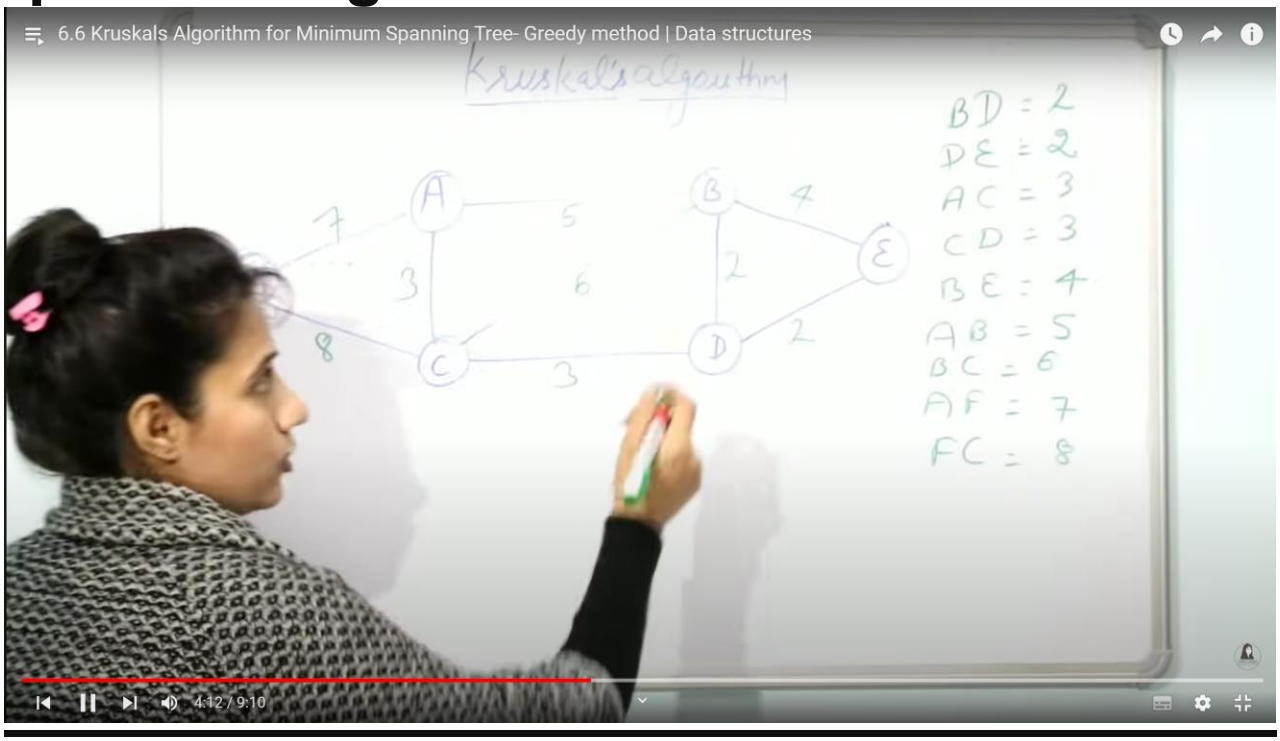




Kruskals Algorithm for Minimum Spanning Tree

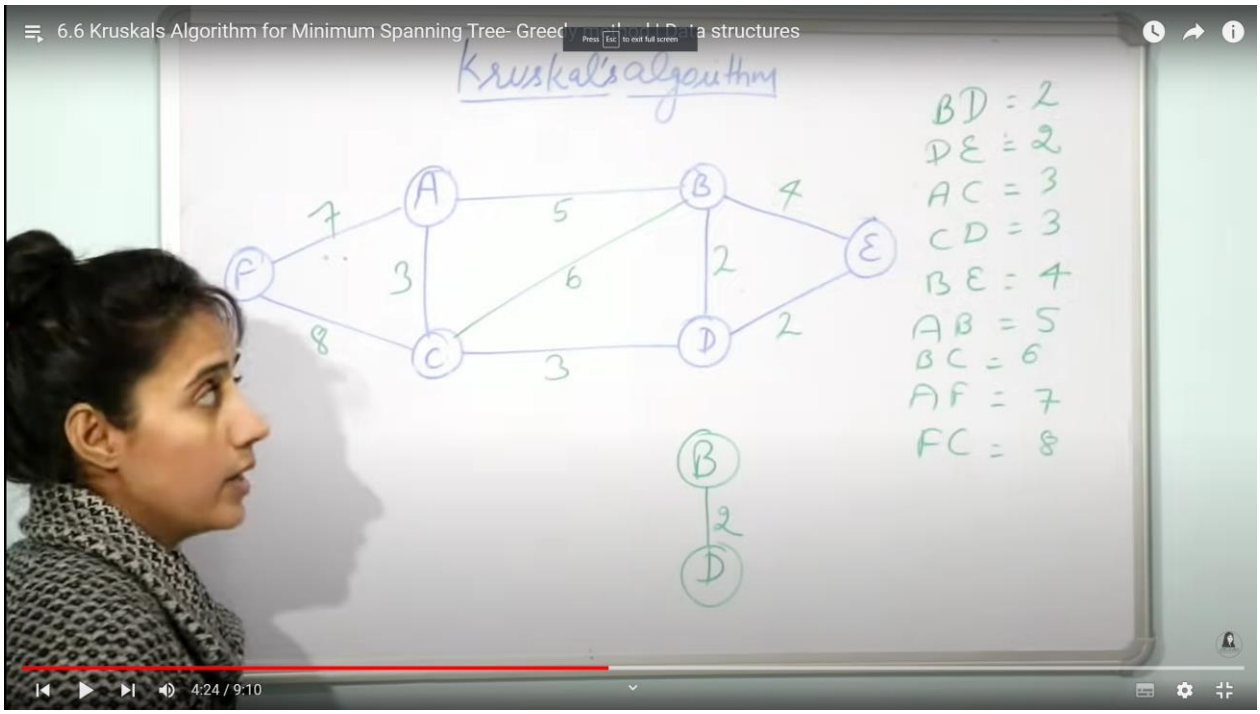


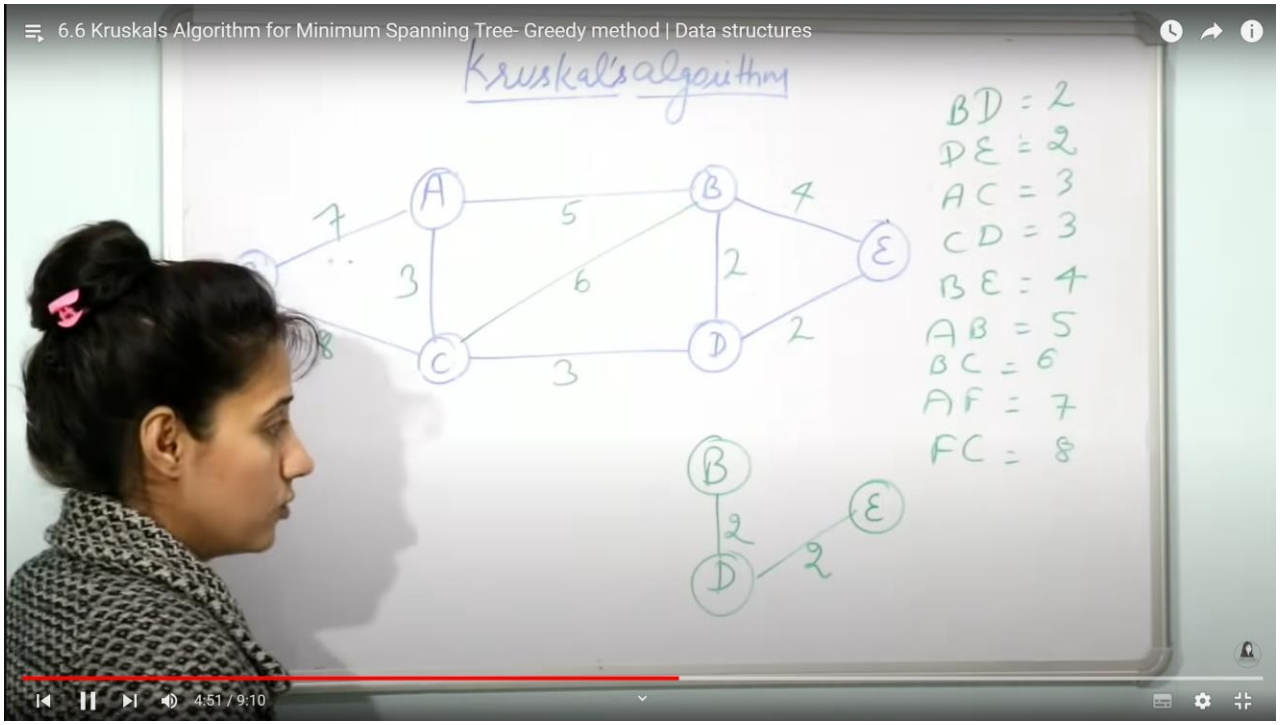
- **First we need to remove all loops and parallel edges**

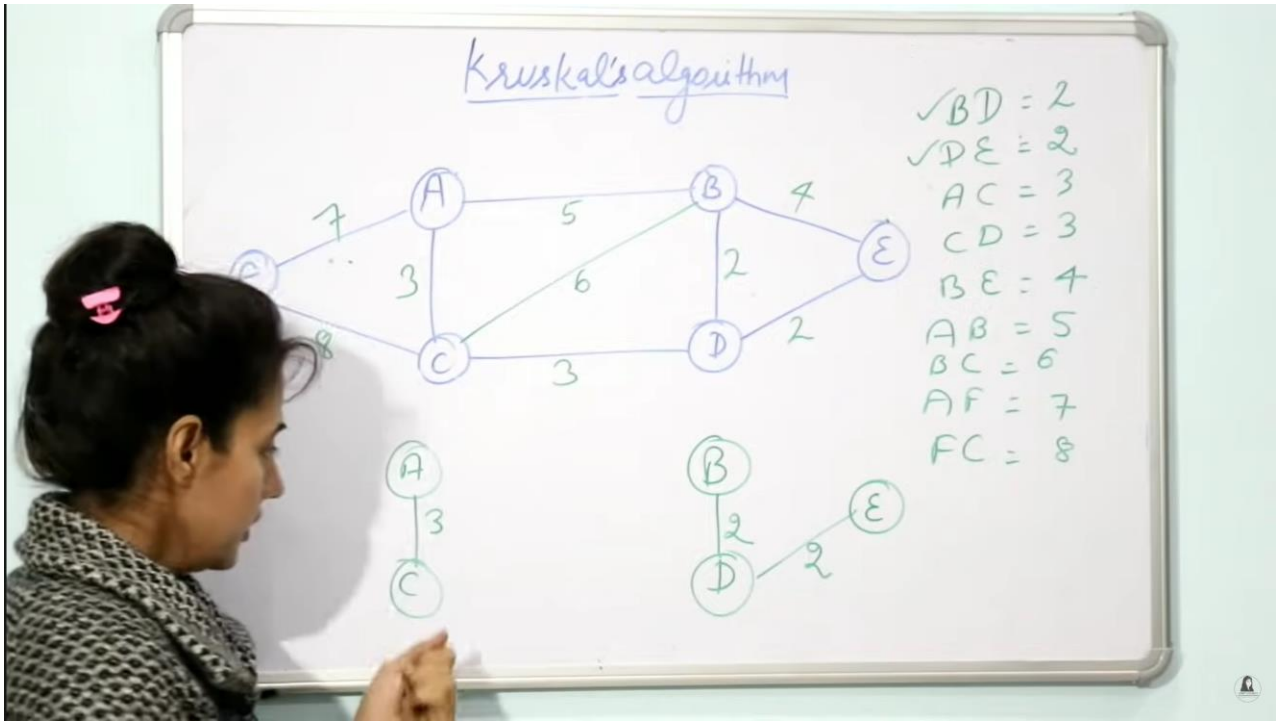


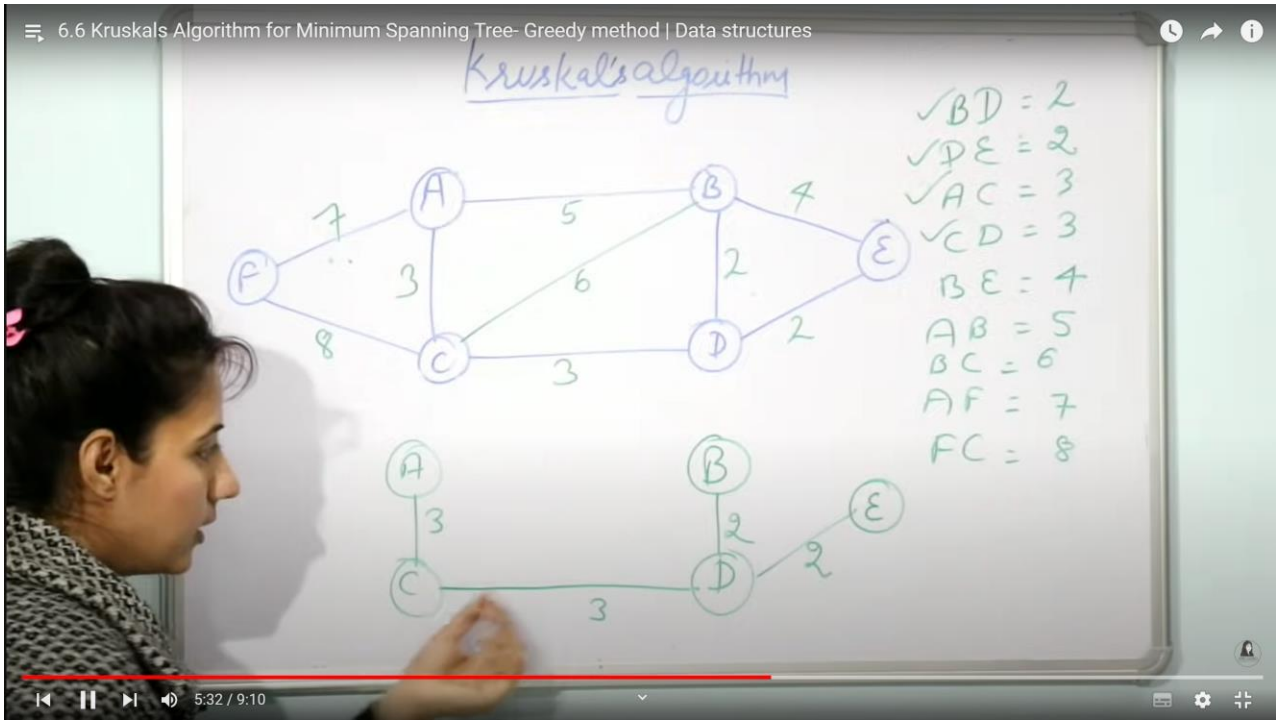
- We need to arrange edges in increasing order of it’s weight.

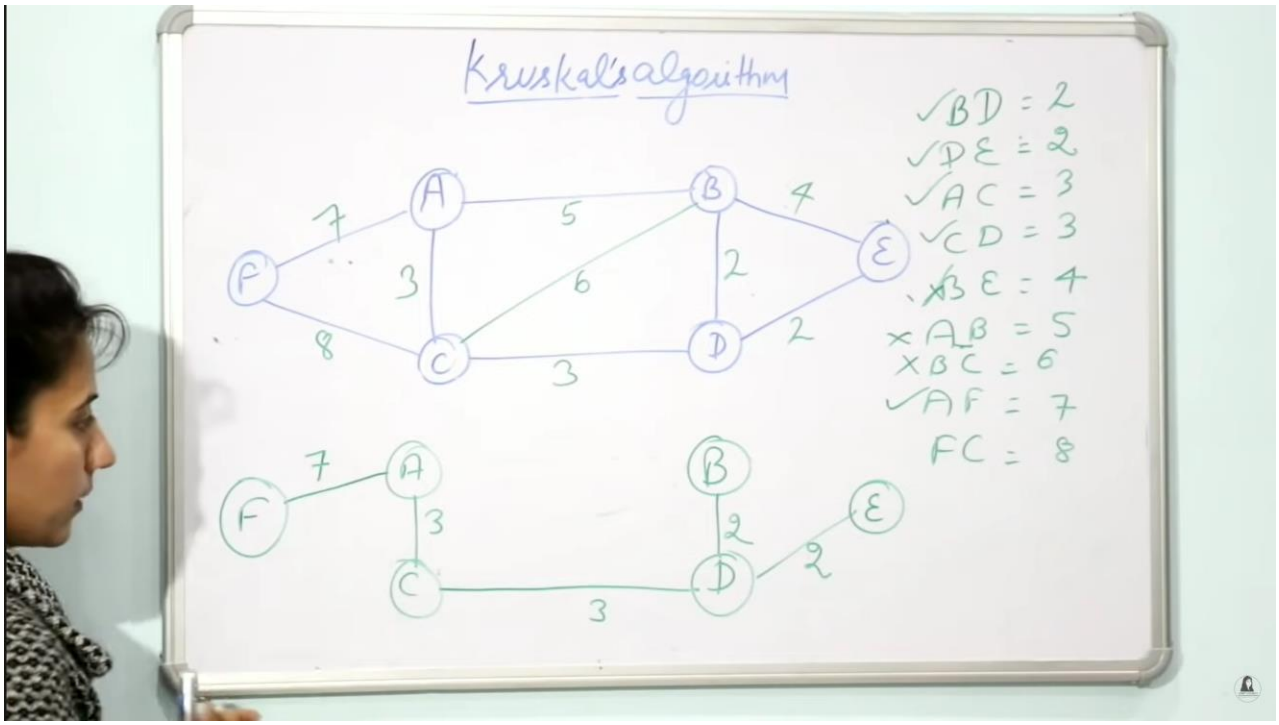
- Then we can draw MST in step by step.





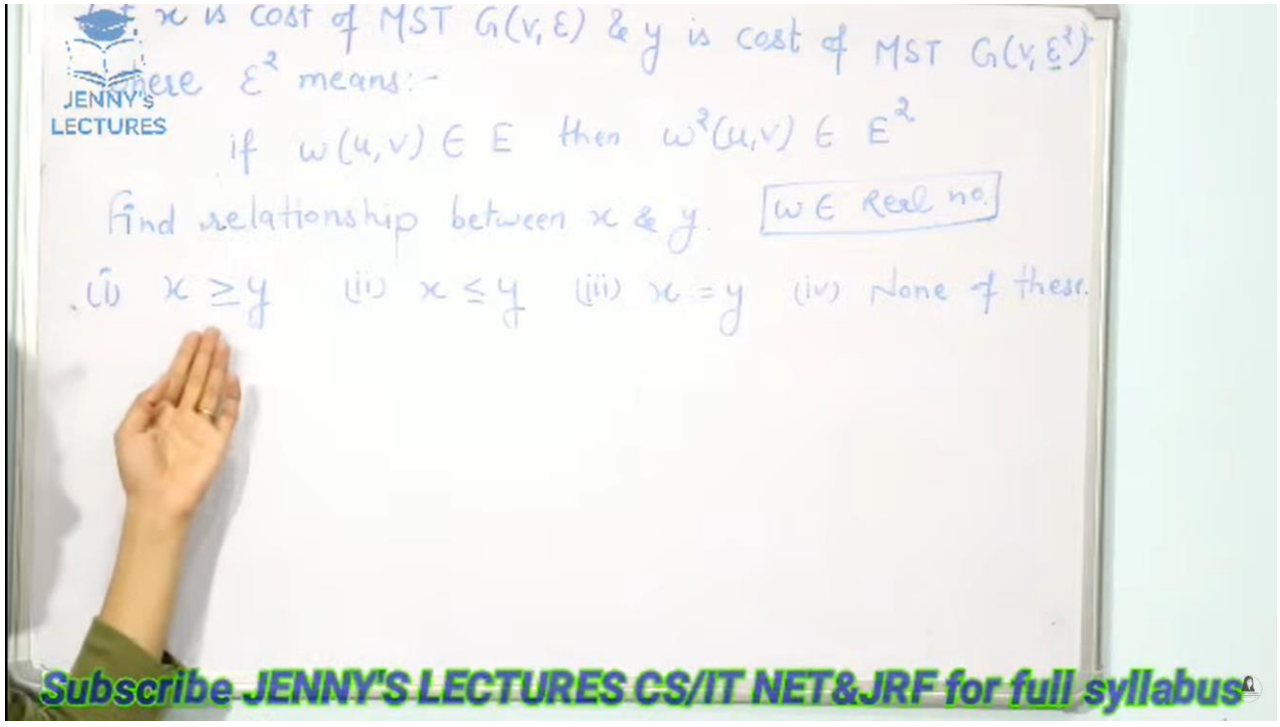

Kruskal's algorithm
BD = 2
DE = 2
AC = 3
CD = 3
BE = 4
AB = 5
BC = 6
AF = 7
FC = 8
A
B
C
D
E
F
7
5
4
3
6
2
8
3
2
2
3
2
2


6.6 Kruskals Algorithm for Minimum Spanning Tree- Greedy method | Data structures
Kruskal's algorithm
BD = 2
DE = 2
AC = 3
CD = 3
BE = 4
AB = 5
BC = 6
AF = 7
FC = 8
A
B
C
D
E
F
7
5
4
3
6
2
8
3
2
2
3
2
2
5:32 / 9:10

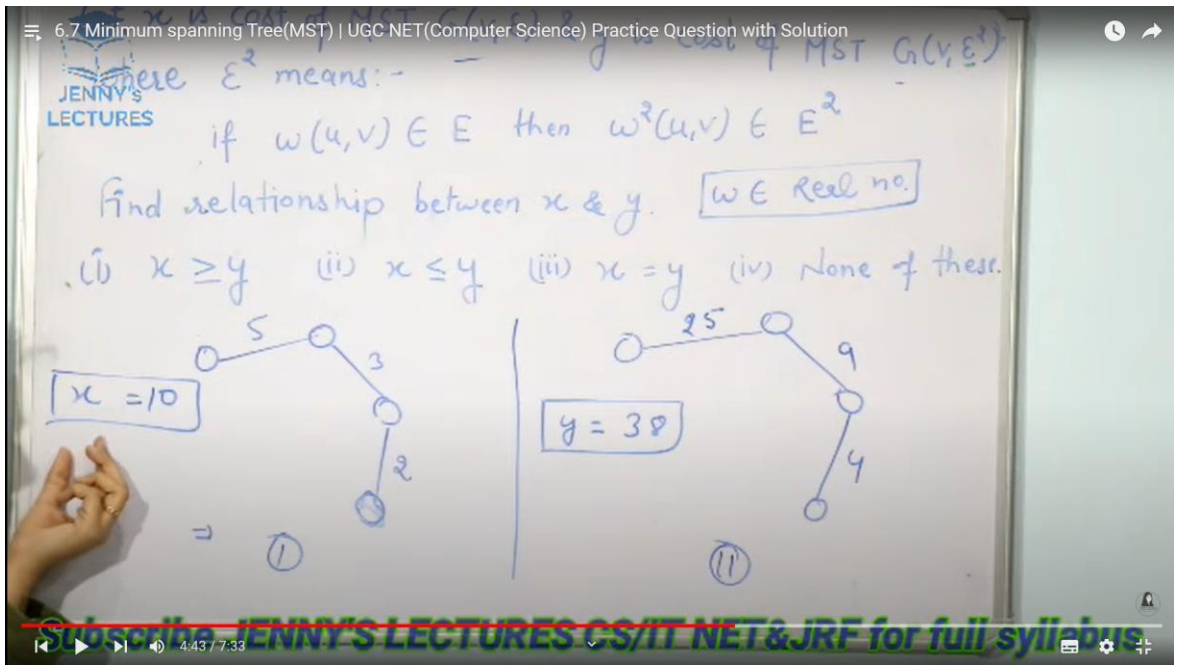


- BE,AB,BC and FC are not drawed.
- Because cycles are not allowed in MST .

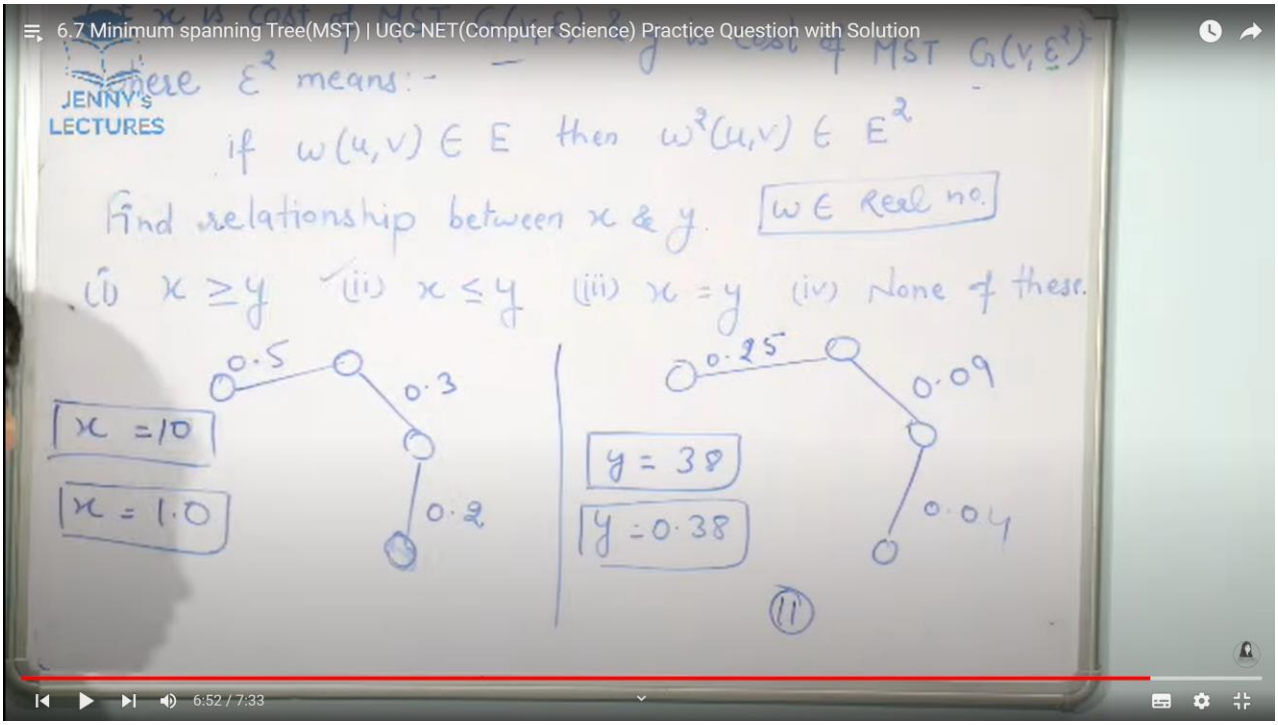
QUESTION



Lets slove this



- In above way answer is (ii) because x cost is 10 and y cost is 38. Then X<=Y .
- But edges weights have below values also



- In above way answer is different.
- Therefore question true answer is (iv).