

Question No. 1.

18L-0993
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$$TsNum(A) = 1$$

$$TsNum(B) = 1$$

$$TsNum(C) = 1$$

$$TsNum(e) = 2$$

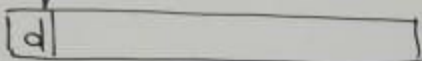
$$TsNum(h) = 1$$

$$TsNum(g) = 1$$

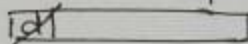
$$TsNum(f) = 1$$

$$TsNum(d) = 0$$

enqueue d



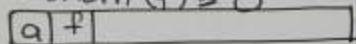
In while loop



$$num(d) = 1$$

$$Tsnum(a) = 0$$

$$Tsnum(f) = 0$$

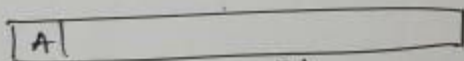


4

10

Yes this algorithm is different from the one discussed earlier because in that algorithm we had used stack while this has queues and cycles.

$$\text{Now } TsNum(A) = 0$$



then dequeue it

$$num(A) = 2$$

$$Tsnum(b) = 0$$

$$\text{for } TsNum(f) = 0$$

$$num(g) = 3$$

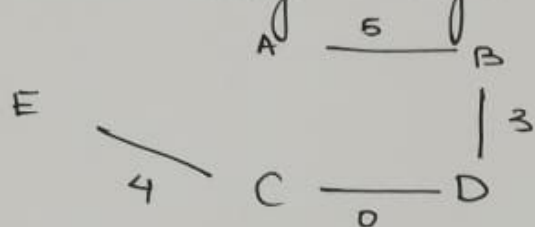
$$num(b) = 4$$

$$num(h) = 5$$

$$num(c) = 6$$

$$num(e) = 7$$

Q#2 (b) First by looking at the ~~edge~~ vertices with smallest edge weight.

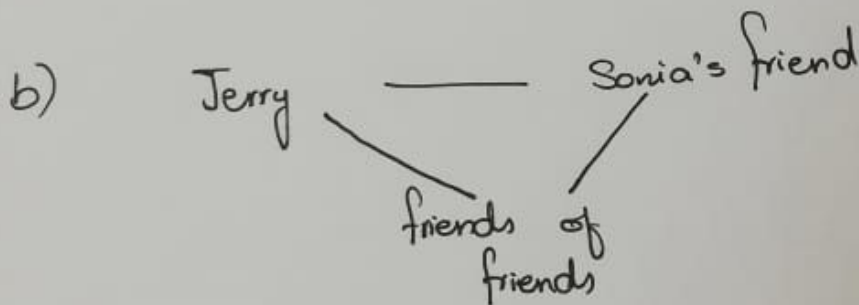


2

~~5+3+4~~
 $0 + 3 + 4 + 5 = 12$

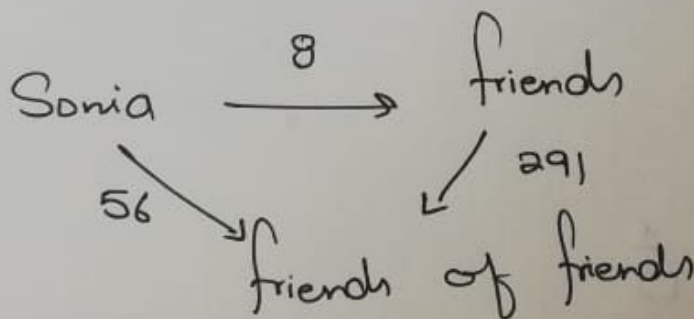
This is the minimum spanning Tree.

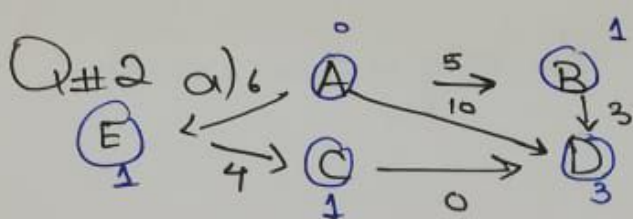
Q#3 a)



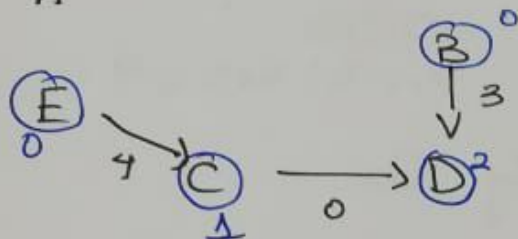
2

c)



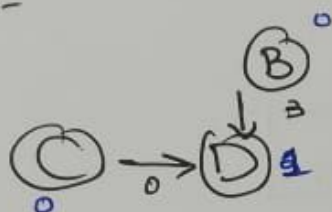


1) A



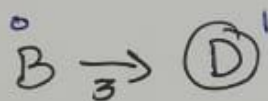
Case - 1:-

A E



Case 1(i),

AEC



AECBD.

Case 1(ii):-

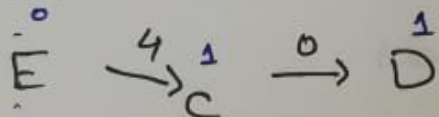
AEB



AEB CD.

Case - 2:-

AB



ABE



ABECD

So there exist 3 topological orders

- AECBD
- AEB CD
- ABECD