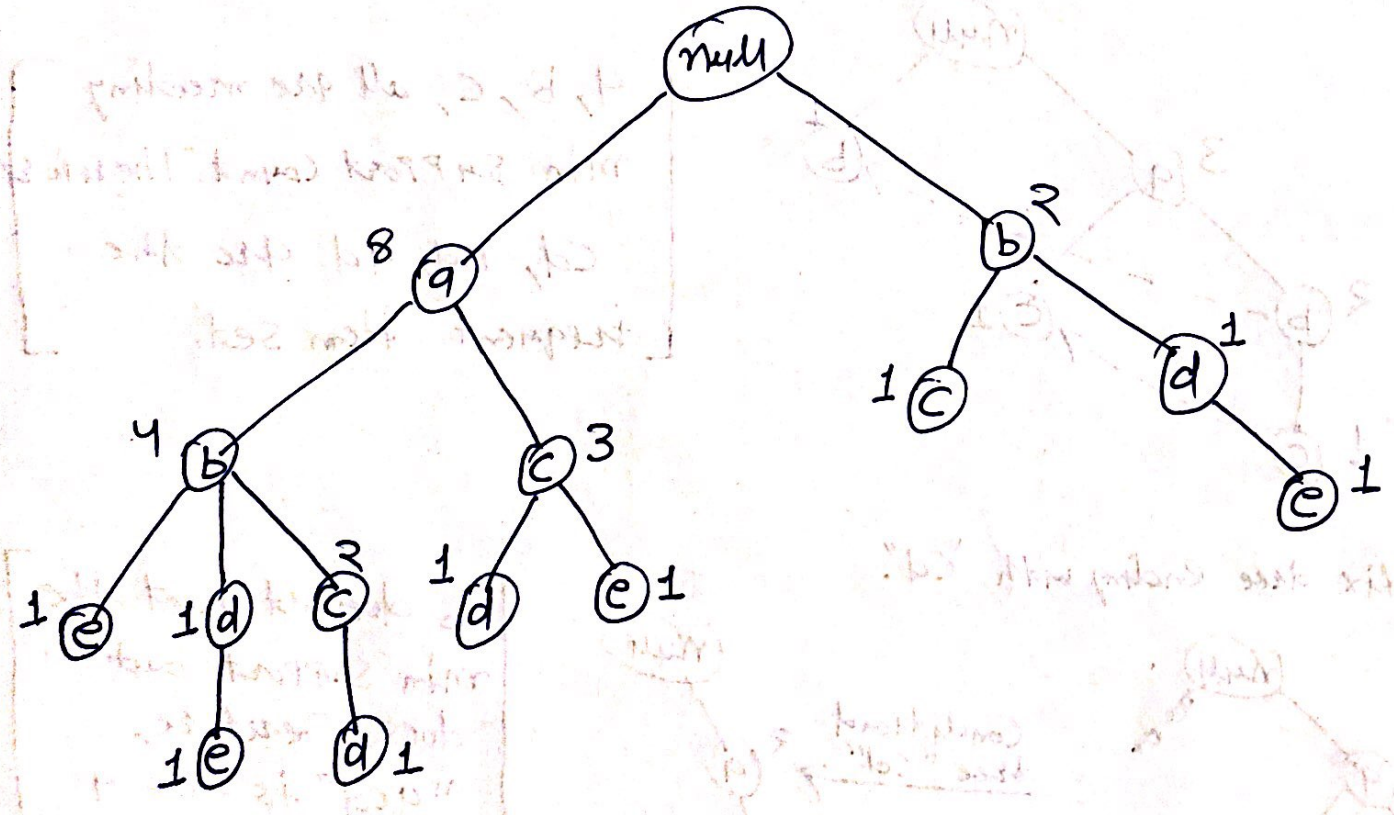
Q.2:-

TxID	Items	Freq. Items
1	{a b e}	{a b e}
2	{a b c d}	{a b c d}
3	{a c d}	{a c d}
4	{a c e}	{a c e}
5	{b c f}	{b c}
6	{a}	{a}
7	{a b c}	{a b c}
8	{b d e}	{b d e}
9	{a c}	{a c}
10	{a b d e}	{a b d e}

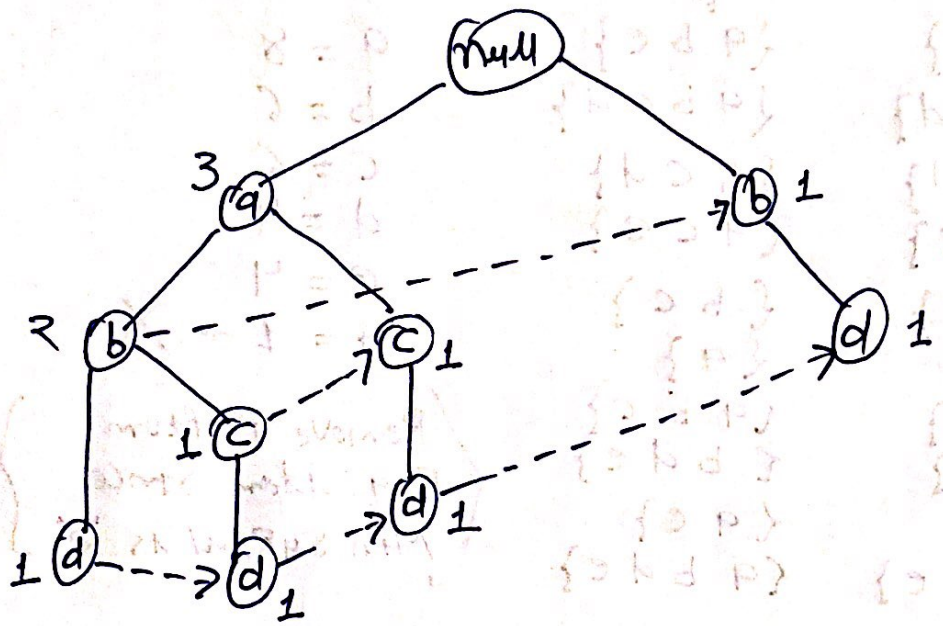
a = 8
b = 6
c = 6
d = 4
e = 4
f = 1 – X

{ Remove "f" from Freq. Item since Min Support is '2' }

Complete F.P Tree :-



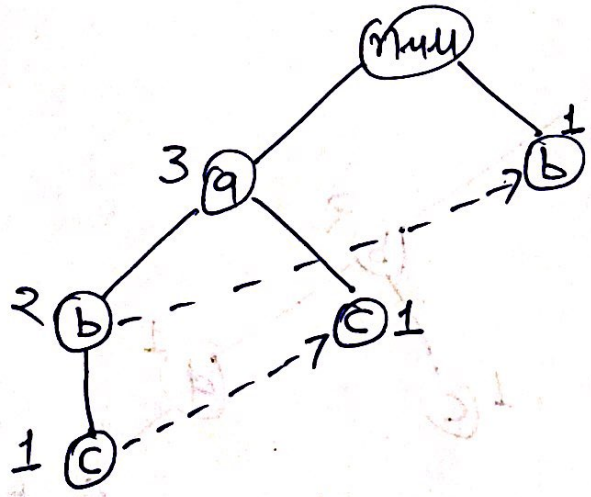
Prefix Subtree ending with "d".



D's Conditional Pattern Base :-

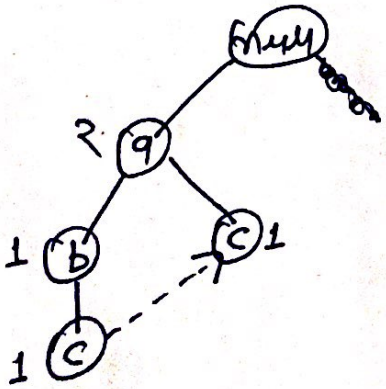
{ ab - 1
abc - 1
ac - 1
b - 1 }

D's Conditional tree :- → (Remove D from the Prefix Subtree)

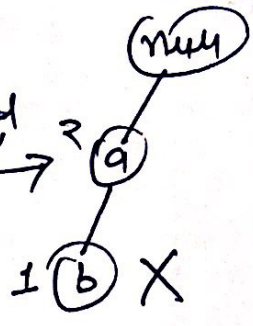


[a, b, c, all are meeting min support count. Therefore cd, bd, ad are the frequent item set.]

Prefix tree ending with "cd".

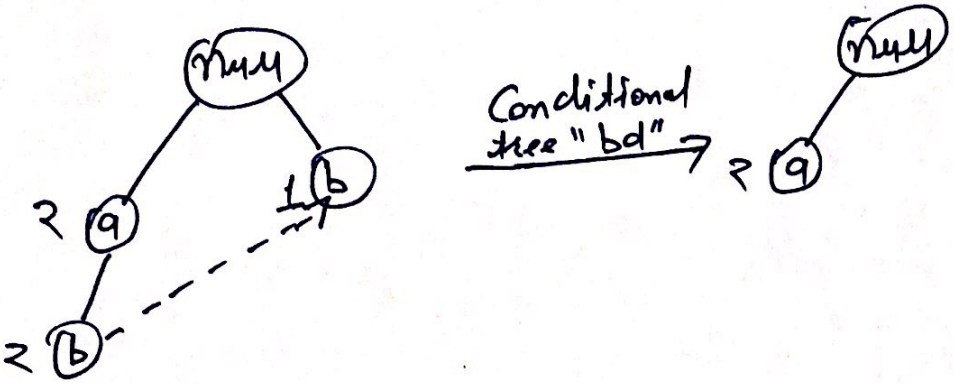


Conditional tree "cd"



[b doesn't meet the min support. but "a" does. Therefore, "acd" is also a frequent item set.]

Prefix tree ending with "bd" :-



"q" is meeting the min support, therefore "qbd" is also freq. item set

Prefix tree ending with "ad" :→

No further Combination, Since "q" is in highest order. Therefore No Condition tree further.

Final Frequent item set for d's Condition FP-tree ! →

d, cd, qcd, bd, qbd, qd