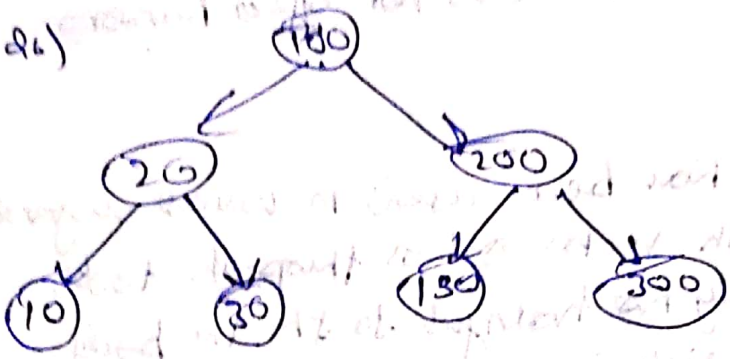
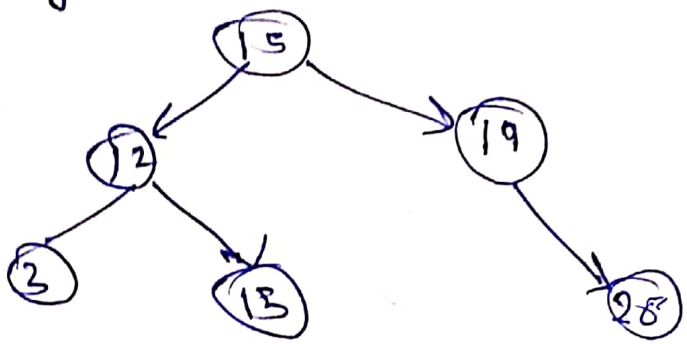
S. Shivagonesh
19BEC043
Sec-B

Q1) INORDER AKBJCLIDEFHG
Preorder LKAJBCIHEDFG
Postorder ABCJKILDEFHGL

Q1)



Q2) The final tree would be



This tree is not an AVL Tree

Q3) Ht of the tree is 3

The largest number of nodes — $2^{n+1}-1 = 2^4-1 = 15$

The smallest no of nodes — $2^{n-1} = 2^{3-1} = 4$

Tree with largest number of nodes 15

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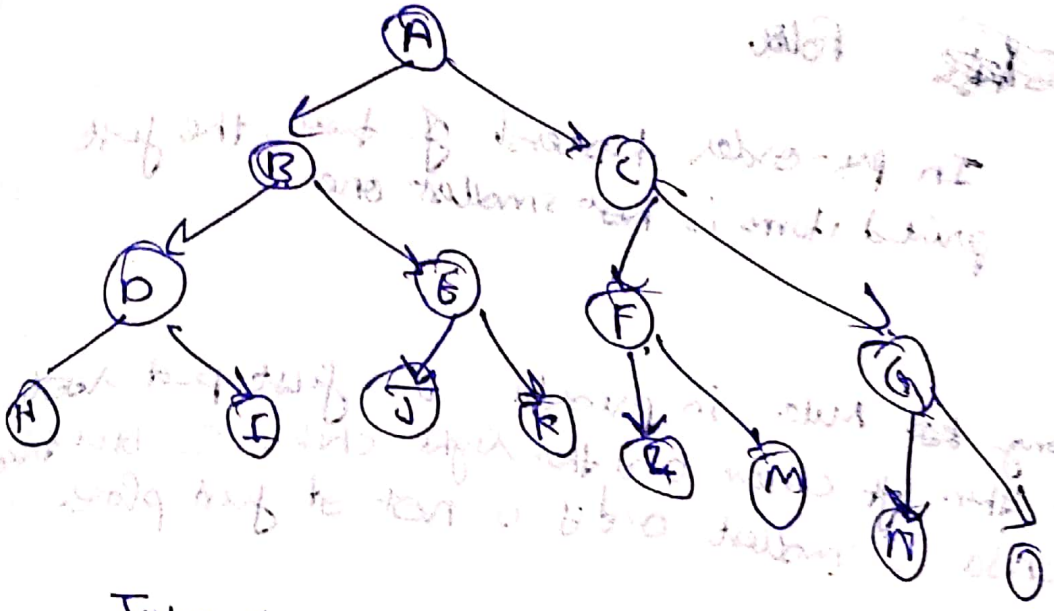
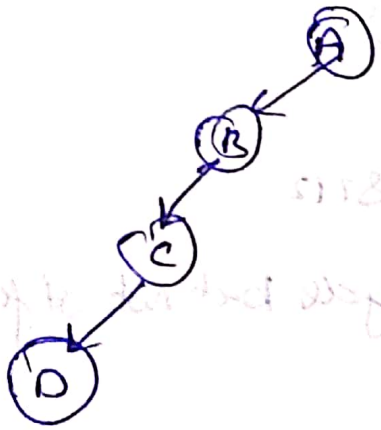


Internal nodes - A, B, C, D, E, F, G

Leaf Node - H, I, J, K, L, M, N, O

Tree with smallest number of nodes :



Here,

Internal Nodes → A, B, C,

Leaf Nods → D

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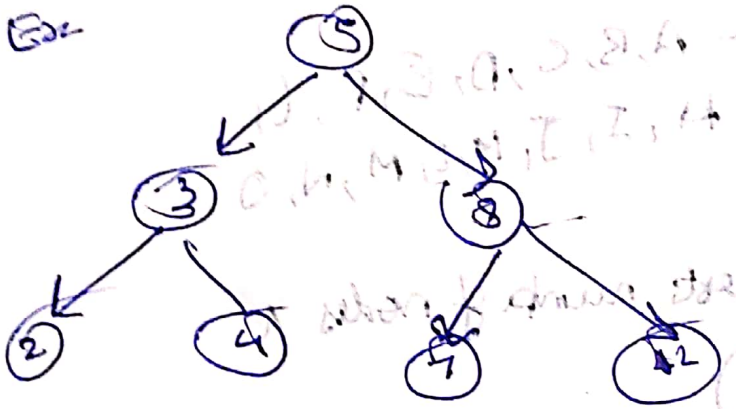
(b) False

In pre-order traversal of tree, the first printed items is not smallest one

According to rules, in preorder the first print root node then left child and then right child. In this then left child is smallest and it is not at first place

Eg:-



preorder becomes 5 3 2 4 8 7 12

Here 3 is smallest in first cycle but not at first place.

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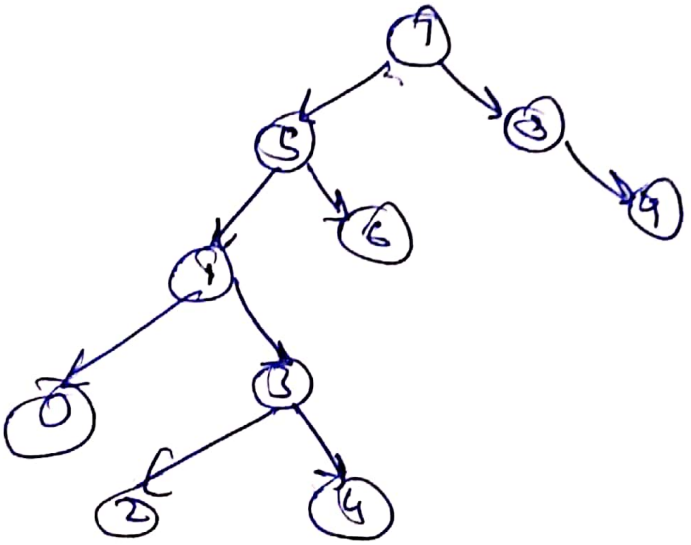
5) The breadth first traversal of given BST is

2, 3, 5, 10, 8, 7, 2, 2, 11, 13, 20, 24, 16

2	3	5	10	8	7	22	11	13	20	24	16	Null	Null	Null

Deletion and addition operation is not possible in tree because this is not binary search tree. This operations only exist for BST

7) If the numbers 7, 5, 1, 8, 3, 6, 0, 9, 4, 2 are inserted in order the binary search tree will be



The inorder traversal of the above tree will be:

0, 1, 2, 3, 4, 5, 6, 7, 8, 9

option (3)

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