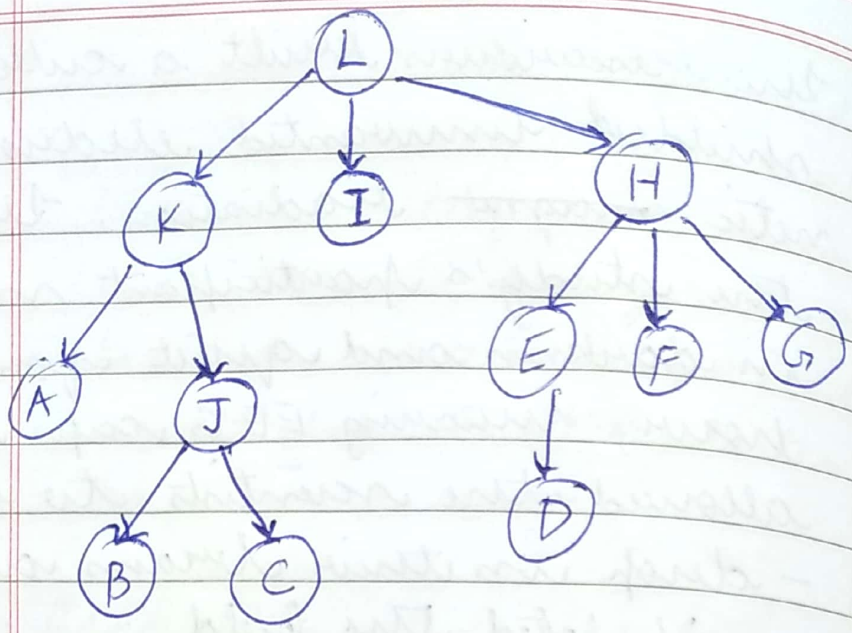
TREES - QUIZ

1)



- INORDER (left, root, right)

A K B J C L I D E H F G

- PREORDER (root, left, right)

L K A J B C I H E D F G

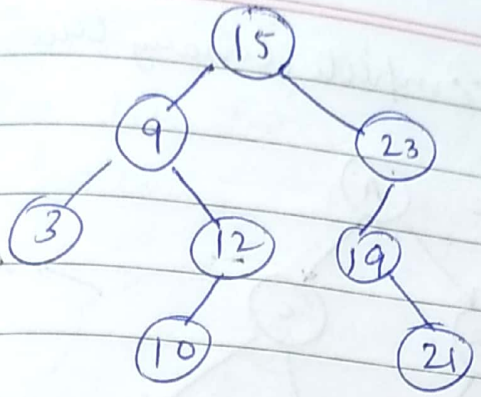
- POSTORDER (left, right, root)

A B C J K I D E F G H L

- BREADTH FIRST

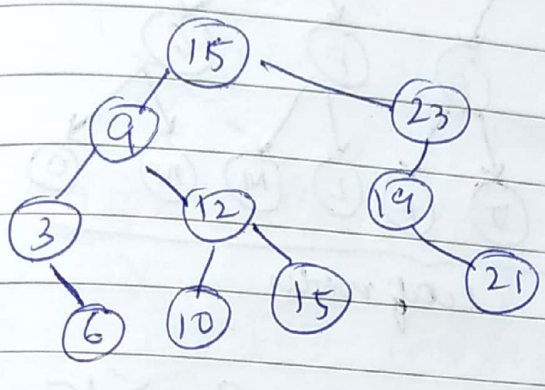
L K I H A J E F G B C D

27

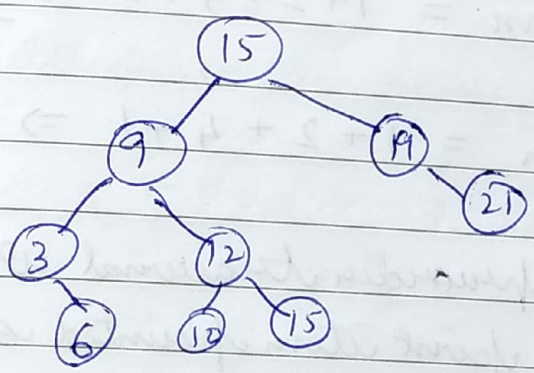


add 6 →

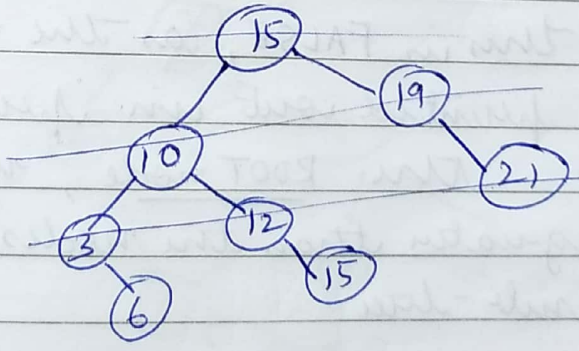
add 15 →



delete 23 →

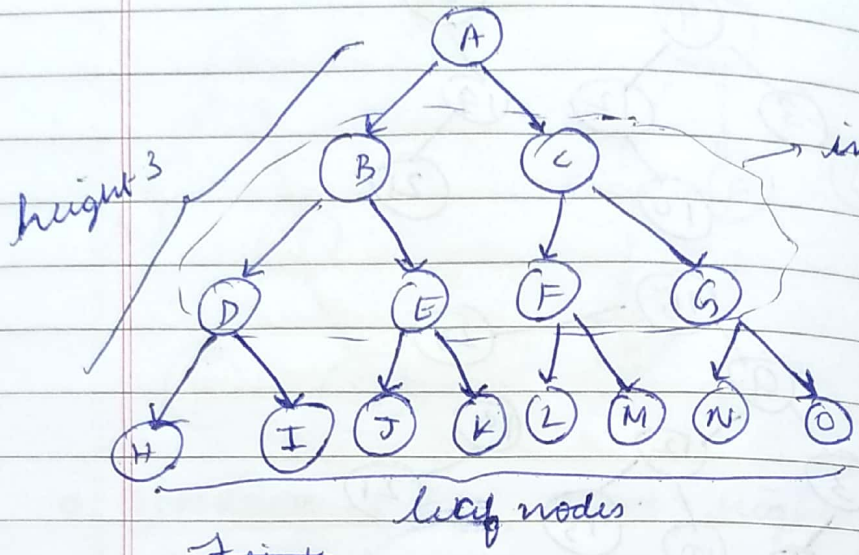


delete 9 →



no, this is not a height balanced (AVL) tree.

3) T → complete binary tree; height 3.



~~First~~

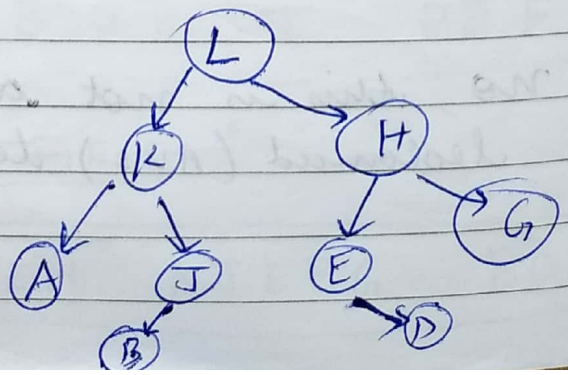
max = 1+2+4+8 ⇒ 15 nodes

min = 1+2+4+1 ⇒ 8 nodes

4) In preorder traversal of a BST, the first item printed out is always the smallest one.

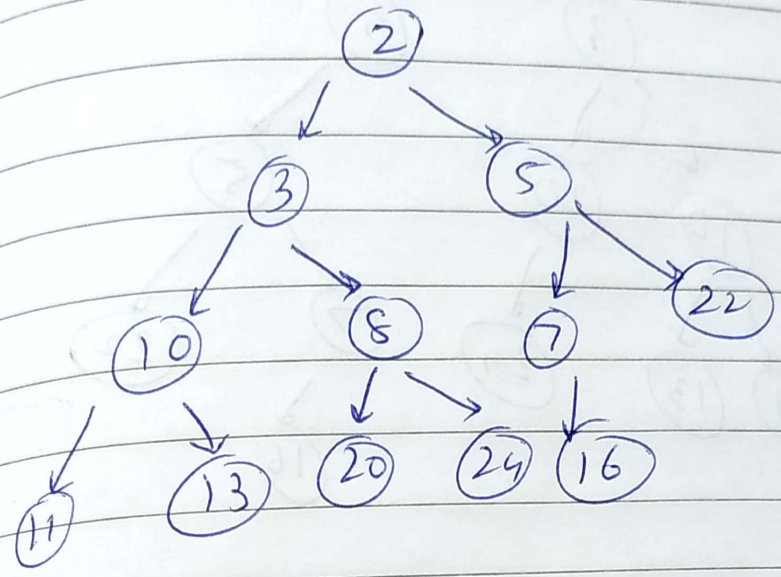
This is FALSE, as the first node printed out in preorder is the ROOT node, which is greater than the nodes in left sub-tree.

Eg →



in this tree, the first node to be printed is (2) as preorder follows (root, left, right)

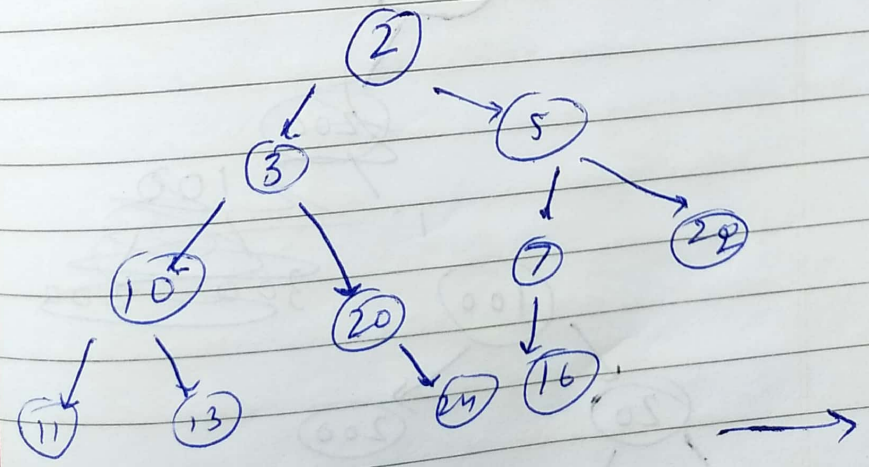
5]



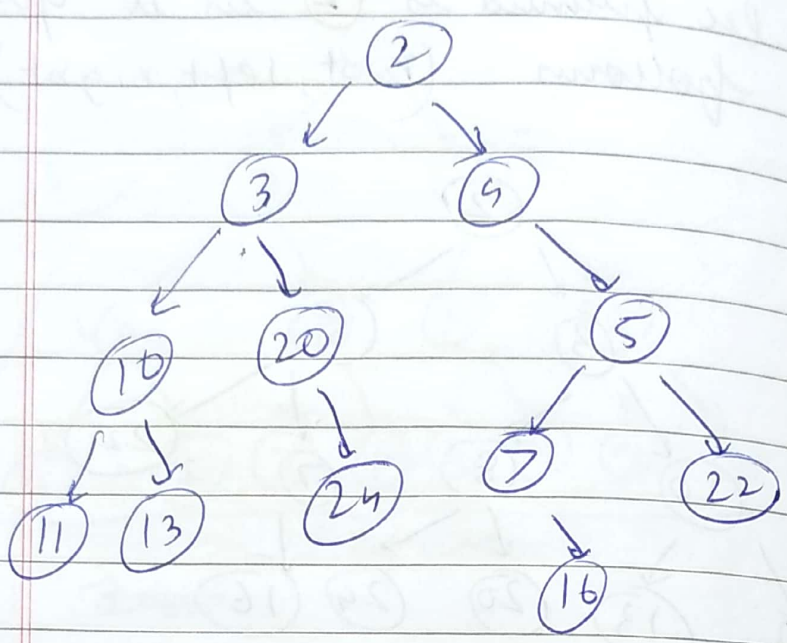
Breadth first in array

[2, 3, 5, 10, 8, 7, 22, 11, 13, 20, 24, 16]

delete 8



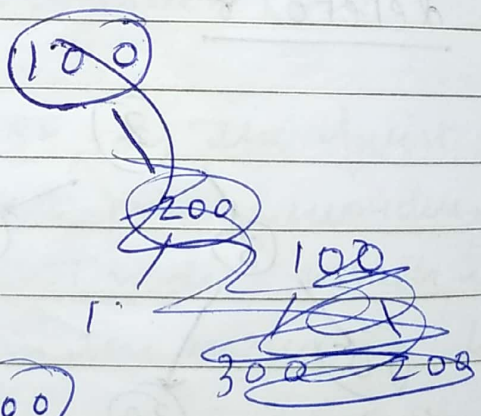
add (4)

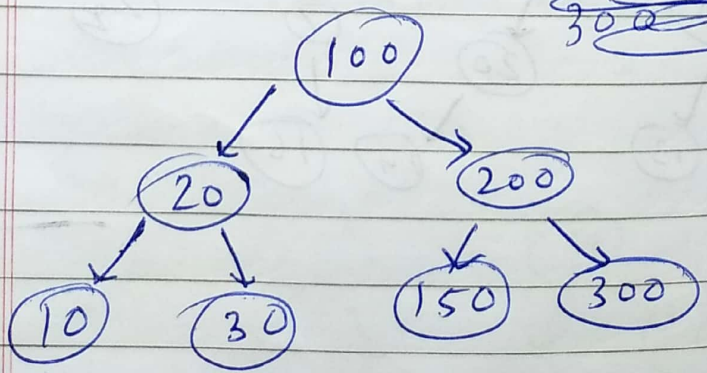


6) POSTORDER TRAVERSAL:

10 30 20 150 300 200 100

(left, right, root)





17 7, 5, 1, 8, 3, 6, 0, 9, 4, 2

→ numbers must be in ascending order.

∴ c) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9.