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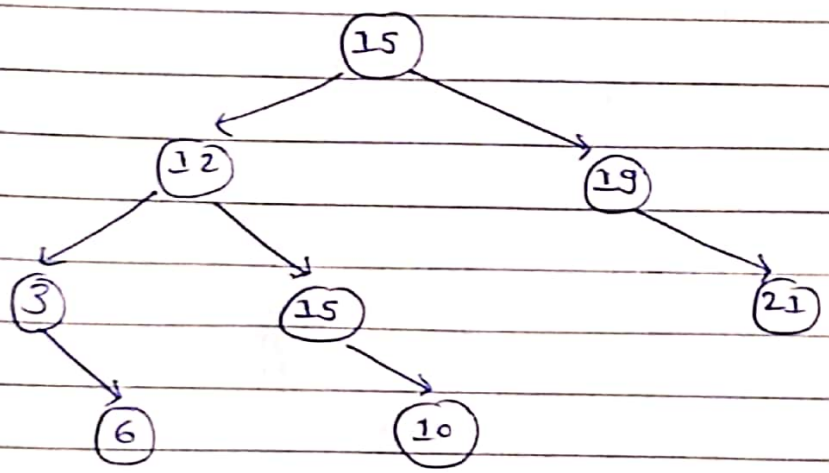
Section :- B

Q.1.)

Inorder :- A, K, B, J, C, L, D, E, H, G, F, I
Preorder :- L, K, A, J, B, C, I, H, E, D, F, G
Postorder :- A, B, C, J, K, I, D, E, F, G, H, L
Breadth first order :- L, K, I, H, A, J, E, F, G, B, C, D

Q.2.)

The final tree would be →



⇒ This tree is not an AVL Tree.

Q.3.)

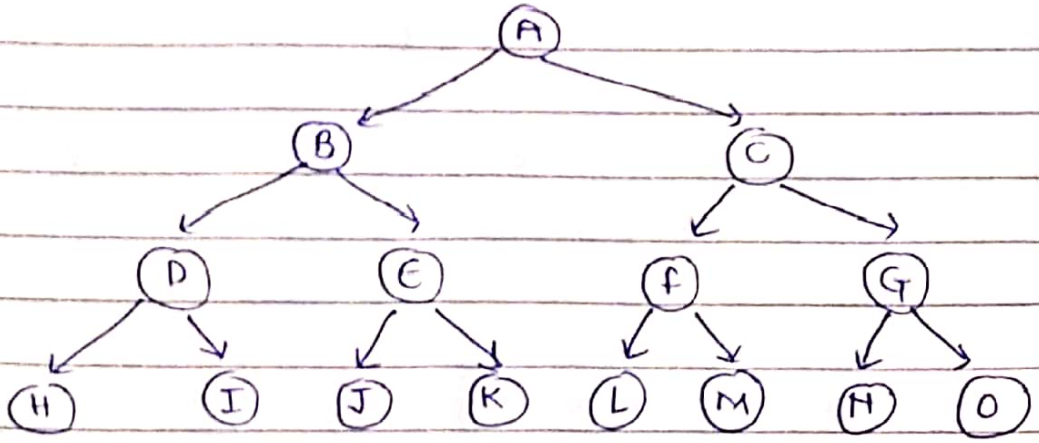
Height of the tree is 3.

~~Th~~.

The largest no. of nodes :- $2^{n+1} - 1 = 2^4 - 1 = 15$

$2^{n-1} = 2^{3-1} = 2^2 = 4$

Tree with largest no. of nodes 15.

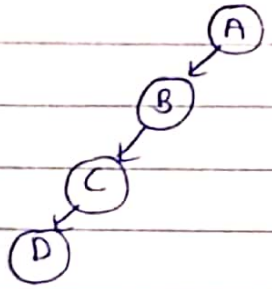


Here,

Internal Nodes → A, B, C, D, E, F, G

Leaf Nodes → H, I, J, K, L, M, N, O

⇒ Tree with smallest number nodes 4.



Here,

Internal Nodes → A, B, C

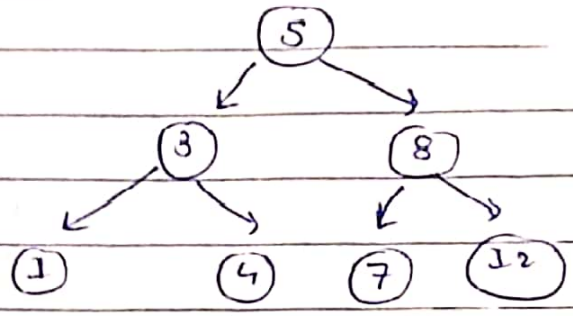
Leaf Nodes → D

Q.5) false :-

In pre-order traversal of tree, first printed item is not smallest one.

According to rule, in pre-order we first put root node then, left child and then right child. In between them left child is smallest and it is not at first place.

Ex →



Here,

Preorder becomes :- 5 3 1 4 8 7 12

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

Q.5.) The breadth first traversal of given no. is:-

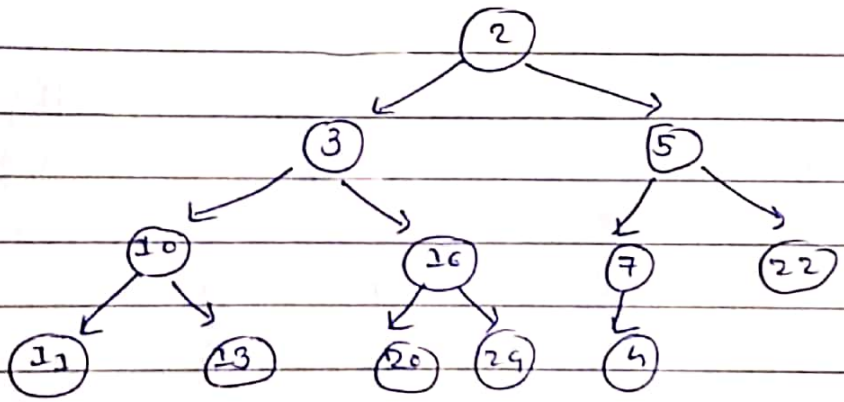
2, 3, 5, 10, 8, 7, 22, 11, 13, 20, 24, 16

→ Before performing operations :-

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

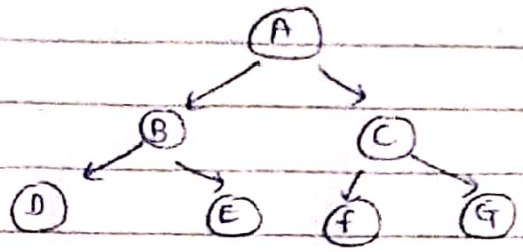
→ After performing operations :-

2	3	5	10	16	7	22	11	13	20	24	4



Q67 The post order traversal sequence for Binary Search tree is given as 10, 30, 20, 150, 300, 200, 100.

Let, us consider the Binary search tree as →



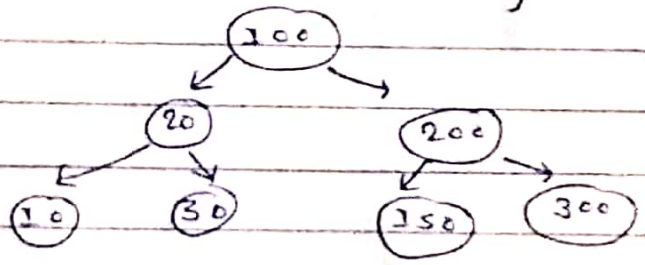
⇒ The post-traversal for this tree will be →

⇒ D E B f G C A

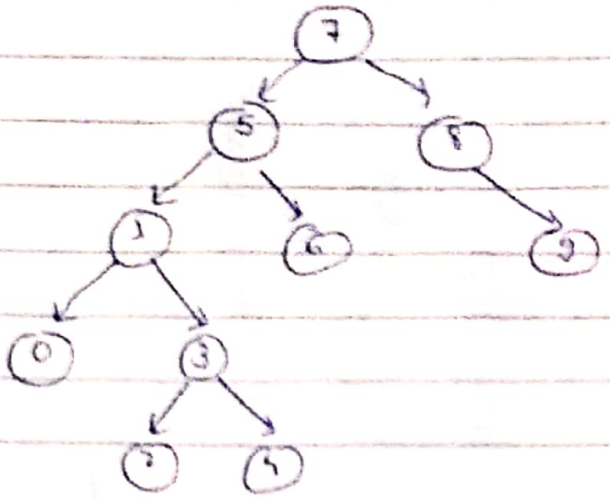
⇒ Compare the nodes to given values -

⇒ A - 100 E - 30
B - 20 f - 150
C - 200 G - 300
D - 10

⇒ ∴ ⇒ The final Binary tree will be →



q7) 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