

Data Structure

Quiz:

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Pb1)

Inorder Transversal

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

Pre order Transversal

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

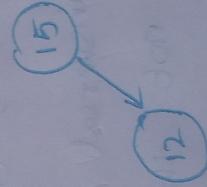
Post order Transversal

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

Breadth first order Transversal

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

b2) After deletion and addition the final tree is



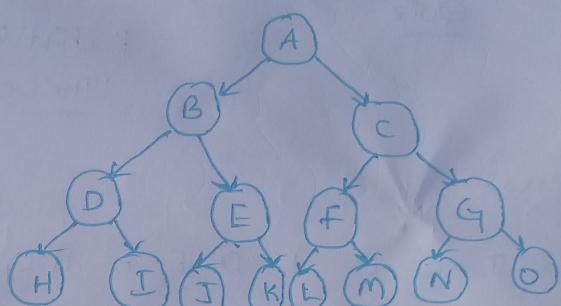
Pb3) Height of the tree is 3.

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

$$= 2^4 - 1 = 15$$

→ The smallest no. of nodes = $2^n = 2^3 = 8$

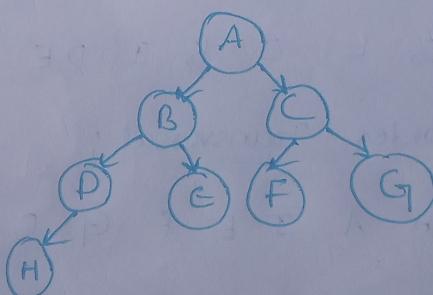
→ The tree with largest no. of nodes 15



Internal Nodes = A, B, C, D, E, F, G

leaf Nodes = H, I, J, K, L, M, N, O

→ The tree with smallest no. of nodes 8

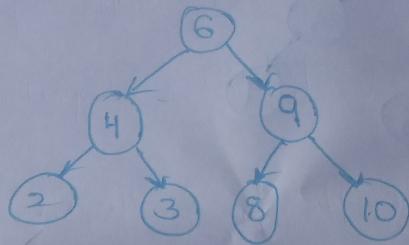


Here, Internal nodes → A, B, C, D

leaf nodes → E, F, G, H

Pb4) False, In Pre order traversal of tree the first pointed node is not the smallest. According to rule in Pre-order we first put root node, next left child and right child. In the tree left child is the smallest and it is not placed at first.

Eg:-



the pre order is 6 4 2 3 9 8 10

∴ 4 is the smallest in first cycle but it is not placed at first place.

Pb5) The breadth first traversal of given no is

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

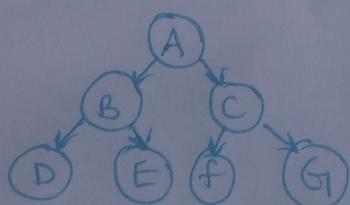
2	3	5	10	8	7	22	11	13	20	24	16	NULL	NULL
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The deletion and insertion is not possible in this tree because it not Binary search tree.
This will only exist for Binary search tree.

Pb6) The post order traversal sequence for binary search tree is given as

10, 30, 20, 150, 300, 200, 100

Let binary search tree as

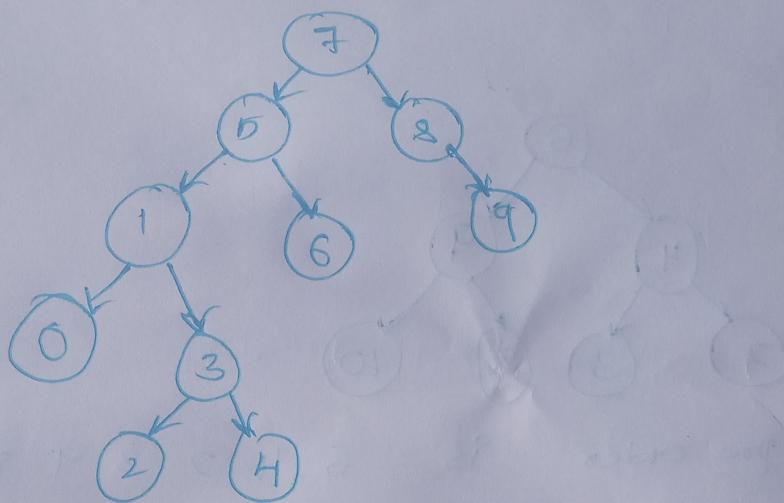


The post traversal is DE B F G C A.

Pb7)

option 3.

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



\therefore The inorder traversal of the tree is

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