

Evaluation

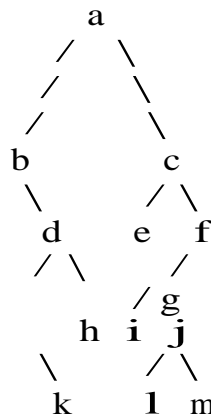
Observation – 5 marks

Execution – 15 marks

Spot – 5 marks

Observation

Exercise 1 (5 marks)



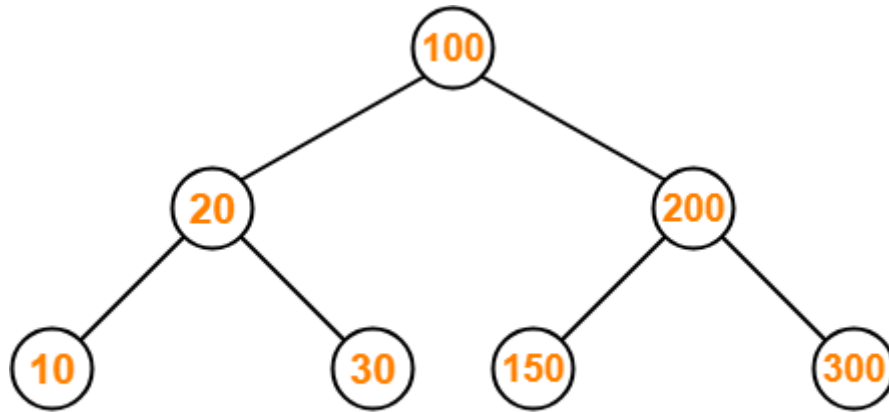
- What is the root and Which are the leaves? (1)
- Give the result of preorder, postorder, and inorder traversal.(1)
- Compute the height, depth, and size (number of nodes in the subtree). (1)

Exercise 2 (Binary search tree - insertion and deletion) (2marks)

- Show the result of inserting 6, 4, 8, 5, 1, 9, 7, 11, 2 into an initially empty binary search tree.
- Show the result of first deleting 1 (from the previously constructed tree), and then 6.

Execution – 15 marks

- (a) Construct a Binary Search Tree (BST) for the following sequence of numbers-
50, 15, 62, 5, 20, 58, 91, 3, 8, 37, 60, 24
- (b) Write the number of nodes in left sub tree and right subtree
- (c) How many distinct binary search trees can be constructed out of 4 distinct keys?
- (d) Write all the traversal sequences of the given BST



Binary Search Tree

- (e) Discuss about the time complexity of BST operations.
2. Construct a Binary Search Tree with the following alphabets
M,R,I,L,E,K,O,U,P,R,T,G
and do the basic operations insert , delete and search
- (i) Insert the alphabets Q and V
 - (ii) Delete the alphabets G,O,M
 - (iii) Search an alphabet E
3. Implement preorder , inorder and post order traversal operations in BST