

1. A binary search tree is generated by inserting in order of the following integers-

50, 15, 62, 5, 20, 58, 91, 3, 8, 37, 60, 24

The number of nodes in the left subtree and right subtree of the root respectively is \_\_\_\_\_.

- a. (4, 7)
- b. (7, 4)
- c. (8, 3)
- d. (3, 8)

2. How many distinct binary search trees can be constructed out of 4 distinct keys?

- a. 5
- b. 14
- c. 24
- d. 35

3. The numbers 1, 2, ..., n are inserted in a binary search tree in some order. In the resulting tree, the right subtree of the root contains p nodes. The first number to be inserted in the tree must be-

- a. p
- b. p+1
- c. n-p
- d. n-p+1

4. Suppose the numbers 7, 5, 1, 8, 3, 6, 0, 9, 4, 2 are inserted in that order into an initially empty binary search tree. The binary search tree uses the usual ordering on natural numbers.

What is the inorder traversal sequence of the resultant tree?

- a. 7, 5, 1, 0, 3, 2, 4, 6, 8, 9
- b. 0, 2, 4, 3, 1, 6, 5, 9, 8, 7
- c. 0, 1, 2, 3, 4, 5, 6, 7, 8, 9
- d. 9, 8, 6, 4, 2, 3, 0, 1, 5, 7

5. The preorder traversal sequence of a binary search tree is-

30 20, 10, 15, 25, 23, 39, 35, 42

What one of the following is the postorder traversal sequence of the same tree?

- a. 10, 20, 15, 23, 25, 35, 42, 39, 30
- b. 15, 10, 25, 23, 20, 42, 35, 39, 30
- c. 15, 20, 10, 23, 25, 42, 35, 39, 30
- d. 15, 10, 23, 25, 20, 35, 42, 39, 30