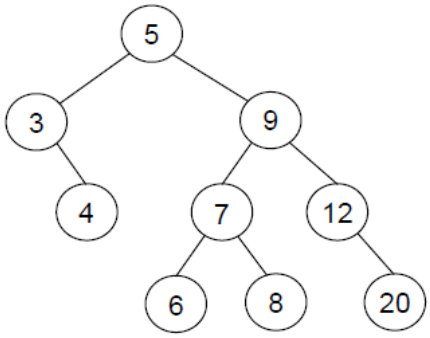
Computer Engineering Department, S V N I T, Surat.
B Tech-II (CO) 3rd semester
Course: Data Structure and Algorithm (CO-203)
Tutorial – 6
Tree and its application

1. The binary search tree shown below was constructed by inserting a sequence of items into an empty tree.



Which of the following input sequences will not produce this binary search tree?

a) 5 3 4 9 12 7 8 6 20

b) 5 9 3 7 6 8 4 12 20

c) 5 9 7 8 6 12 20 3 4

d) 5 9 7 3 8 12 6 4 20

e) 5 9 3 6 7 8 4 12 20

2. Suppose the keys on the middle row of a standard keyboard (ASDFGHJKL) are inserted in succession into an initially empty binary search tree. Draw the tree after this sequence of insertions has been made.

3. 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 in-order 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

4. The pre-order traversal sequence of a binary search tree is 30, 20, 10, 15, 25, 23, 39, 35, 42. Which one of the following is the post-order 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

5. The pre-order and in-order traversal of binary tree is ABDGCEHIF and DGBAHEICF respectively then the post-order traversal will be:

    a) GBDHCIFEA

    b) GDBHIEFCA

    c) IHGDEFCBA

    d) Cannot be decided