Representation of Binary Tree in memory, Traversing a binary tree.

- Kalyani Chaudhari

Q1. Define/state various terms related with respect to binary tree e g. Height of tree, Strictly binary tree, Complete binary tree, Memory representation of binary tree
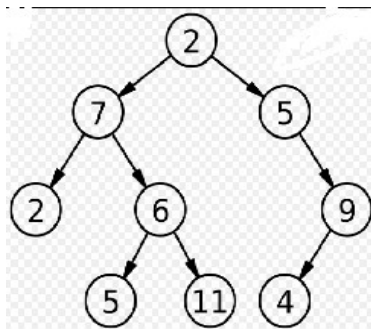
Q2. Explain binary tree traversal methods with example.

Q3. Describe various representations of binary tree in memory.

Q4. Differentiate general tree and binary tree.

Q5. Explain traversing of binary tree.

Q6. Sketch representation of given binary tree in memory.

Department: E &TC   **Academic Year:** 2020-21   **Semester:** I

- Jyoti Kulkarni

1. How do you represent the binary tree in the computer's memory? Explain.

2. The following sequence gives the preorder and inorder of binary tree :

preorder : A B D G C E H I F

Inorder : D G B A H E I C F

Draw the diagram of the trss.

3. Suppose the following list of letters is inserted in order into an empty binary search tree

S, T, P, Q, M, N, O, R, K, V, A, B

 Find the final tree and inorder traversal of tree.

4. Consider the algebraic expression E =(3a + b) (5x-y)

5. Draw all possible binary trees with 3 nodes.

6. Prove that the maximum number of edges in a complete binary tree with n terminal nodes is 2(n-1).

Question Bank
Data Structures
Unit 5. Trees

1. Define Binary search tree and show its representations.

2. Explain the traversals of binary tree using example.

3. Explain insert and delete operation in BST.

4. What is AVL tree? Explain with example.

5. Define binary tree and explain the following terminologies: siblings, path, leaf node, height, level of a binary tree.

6. Construct BST for the following:

   AUG, JAN, FEB, MAY,MAR., JUN, JULY,SEP, OCT, APR, NOV.

- Swapnali Shelke

Question Bank for Data Structures-Unit 5 - Poonam Shelke

1. Explain BST with terminologies in briefly
2. Explain following terms
   a) Binary tree
   b) Complete binary tree
   c) Threaded binary Tree
3. Define the term BST give a 'C' declaration to define a node structure for the same
4. Explain binary search tree and its applications
5. Build a binary search tree from the following set of strings
      MON, TUE, WED, THUR, FRI, SAT
6. Construct a threaded binary search tree for following set of elements

   100,50,200,350,40,250,150,70,170,110,20

   Show all the steps

1. Explain the Preorder sequential representation and Post order sequential Representation of the binary tree with example
2. Define BST, what are its types? Explain with suitable figures
3. Construct a threaded binary search tree for following set of elements
   35, 75,100,46,72,90,60,10,54,130

   Show all the steps

4. Define the term BST .write a function in'C' to insert a node in Binary search tree
5. Define the following related to TREE
   a. NODE
   b. Children
   c. Height of tree
   d. Forrest
   e. Siblings
   f. Degree
6. Build a binary search tree from the following set of strings

   ONE, TWO, THREE, FOUR, FIVE, SIX, SEVEN, EIGHT, NINE, TEN

Questions on Binary trees: Concept and terminology

- Swati Jagtap

Q1. What is height of the tree?

Q2. Write a program that finds height of the tree.

Q3. What are nodes and leaf nodes of a binary tree?

Q4. Write a program that counts the number of nodes in a binary tree and the number of leaf nodes in a binary tree.

Q5. Given a binary tree, create another binary tree that is mirror image of the given tree.

Q6.Write a program that maintains a dictionary of words as a binary tree.

Topic Name: Binary Search Trees (BST): Basic Concepts, BST operations, Concept of Threaded Binary Search Tree

- Ravindra Patil

1. Explain binary search tree using linked list with example.
2. Explain threaded binary search tree with example.
3. Explain three popular methods of binary tree traversal.
4. Write pseudo code to search a number in BST.
5. Solve this using BST 27,42,43,17,39,31,10,,9,19,54,33,48.
6. Explain advantages of threaded binary tree.

Question Bank from Unit 5: Tree

Representation of Binary Tree in memory, Traversing a binary tree.

- Rajani P.K.

1. Define the term tree.
2. Explain array implementation of the binary tree with example.
3. Name the three methods used for tree traversal. Explain with example
4. What is the major disadvantage associated with binary tree ?
5. Explain the process of deletion of a node in a binary tree.
6. Calculate the minimum number n of nodes in a binary tree of height h?
7. Compute is the minimum height h of a binary tree with n nodes?
8. Write functions for recursive traversal algorithms.

   a)Inorder b) Preorder c)Postorder