**Programming for problem solving II**

**Assignment 7 – Trees**

1. C program to perform insertion and deletion from a binary tree
2. C program to take an input tree and show inorder, preorder and post order traversals of it

(Take input as: int array[7] = { 27, 14, 35, 10, 19, 31, 42 };)

1. C program to search for a specific value present in an input binary tree (Search for the value 31 in the above input given)
2. C program to generate a tree from its inorder and preorder representations  
   (Input representation for inorder is: char in[] = { 'D', 'B', 'E', 'A', 'F', 'C' };

Input representation for preorder is: char pre[] = { 'A', 'B', 'D', 'E', 'C', 'F' };)

1. C program for inserting elements in a Binary Search Tree  
   [Create the following Binary Search Tree

50

/ \

30 70

/ \ / \

20 40 60 80

Perform an inorder traversal to validate the result]

1. C program for deleting elements in a Binary Search Tree

[Use the above specified tree as input. Delete nodes 20, 30 and 50 from the input tree and show the inorder traversal for each of the cases]

1. C program to search an element in a Binary Search Tree   
   [Use the above specified tree as input. Search for the node 70 in it]
2. C program to insert elements in a AVL Tree  
   [Consider the constructed AVL Tree to be:

30

/ \

20 40

/ \ \

10 25 50

Perform a pre order traversal on the constructed tree to validate the result]

1. C program for deleting elements in a AVL Tree

[The input AVL Tree is:

9

/ \

1 10

/ \ \

0 5 11

/ / \

-1 2 6

Delete 10, and perform the pre order traversal on the tree before and after deletion of 10 to show the difference

1. C program to search an element in a AVL Tree

[Use the above specified tree as input. Search for the node 11 in it]