10. Write a program

a) To construct a binary search tree.
b) To traverse the tree using all the methods i.e, in-order, preorder and post-order
c) To display the elements in the tree.

```
#include<stdio.h>
#include<stdlib.h>

typedef struct BST {
    int data;
    struct BST *left, *right;
} node;

node *create() {
    node *newnode;
    int value;
    printf("Enter value: ");
    scanf("%d", &value);
    newnode = (node *) malloc(sizeof(
                node));
    newnode->data = value;
    newnode->left = NULL;
    newnode->right = NULL;
    return newnode;
}

void insert (node *root, node *temp)
{
    if (temp->data < root->data) {
        if (root->left == NULL)
            root->left = temp;
```

```
        else {
            insert (root->left, temp);
        }
    }
    if (temp->data > root->data) {
        if (root->right == NULL)
            root->right = temp;
        else {
            insert (root->right, temp);
        }
    }
}

void inorder (node *root) {
    if (root != NULL) {
        inorder (root->left);
        printf ("%d\t", root->data);
        inorder (root->right);
    }
}

void preorder (node *root) {
    if (root != NULL) {
        printf ("%d\t", root->data);
        preorder (root->left);
        preorder (root->right);
    }
}

void postorder (node *root) {
    if (root != NULL) {
        postorder (root->left);
        postorder (root->right);
        printf ("%d\t", root->data);
    }
}
```