**Write a program.   
    a. To construct Binary Search tree  
    b. Traverse the tree using inorder , postorder, preorder.  
    c. Display the elements in the tree.**

#include <stdio.h>

#include <stdlib.h>

struct node {

int data;

struct node \*left;

struct node \*right;

};

struct node \*create(int value) {

struct node \*newnode = (struct node\*)malloc(sizeof(struct node));

newnode->data = value;

newnode->left = newnode->right = NULL;

return newnode;

}

struct node \*insertnode(struct node \*root, int value) {

if (root == NULL) {

return create(value);

}

if (value < root->data) {

root->left = insertnode(root->left, value);

}

else if (value > root->data) {

root->right = insertnode(root->right, value);

}

return root;

}

void postorder(struct node \*root) {

if (root != NULL) {

postorder(root->left);

postorder(root->right);

printf("%d ", root->data);

}

}

void inorder(struct node \*root) {

if (root != NULL) {

inorder(root->left);

printf("%d ", root->data);

inorder(root->right);

}

}

void preorder(struct node \*root) {

if (root != NULL) {

printf("%d ", root->data);

preorder(root->left);

preorder(root->right);

}

}

void main() {

struct node \*root = NULL;

int choice, value;

printf("\n1. Insert\n");

printf("2. Display Preorder\n");

printf("3. Display Inorder\n");

printf("4. Display Postorder\n");

printf("5. Exit\n");

while(1){

printf("\nEnter your choice: ");

scanf("%d", &choice);

switch (choice) {

case 1:

printf("Enter value to insert: ");

scanf("%d", &value);

root = insertnode(root, value);

break;

case 2:

printf("\nPreorder traversal: ");

preorder(root);

break;

case 3:

printf("\nInorder traversal: ");

inorder(root);

break;

case 4:

printf("\nPostorder traversal: ");

postorder(root);

break;

case 5:

exit(0);

break;

default:

printf("Invalid choice.\n");

}

}

}