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1 //Lab Program 10
2 //Binary search tree
3
4 #include <stdio.h>
5 #include <stdlib.h>
6
7 typedef struct BST{
8     int data;
9     struct BST *left,*right;
10 }node;
11
12 node *create(){
13     node *newnode;
14     int value;
15     printf("Enter value: ");
16     scanf("%d",&value);
17     newnode = (node*)malloc(sizeof(node));
18     newnode->data = value;
19     newnode->left = NULL;
20     newnode->right = NULL;
21     return newnode;
22 }
23 void insert(node *root,node *temp){
24     if(temp->data < root->data){
25         if(root->left == NULL)
26             root->left = temp;
27         else{
28             insert(root->left,temp);
29         }
30     }
31     if(temp->data > root->data){
32         if(root->right == NULL)
33             root->right = temp;
34         else{
35             insert(root->right,temp);
36         }
37     }
38 }
39 void inorder(node *root){
40     if(root != NULL){
41         inorder(root->left);
42         printf("%d\t",root->data);
43         inorder(root->right);
44     }

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41         inorder(root->left);
42         printf("%d\t",root->data);
43         inorder(root->right);
44     }
45 }
46 void preorder(node *root){
47     if(root != NULL){
48         printf("%d\t",root->data);
49         preorder(root->left);
50         preorder(root->right);
51     }
52 }
53 void postorder(node *root){
54     if(root != NULL){
55         postorder(root->left);
56         postorder(root->right);
57         printf("%d\t",root->data);
58     }
59 }
60 //node *minvaluenode() {}
61 //node *deletenode() {}
62 int main(int argc,char **argv){
63     int choice;
64     node *root=NULL,*temp;
65     while(choice != 5){
66         printf("\nEnter choice 1)insert 2)inorder 3)preorder 4)postorder 5)exit : ");
67         scanf("%d",&choice);
68         switch(choice){
69             case 1:temp = create();
70                 if(root == NULL)
71                     root = temp;
72                 else
73                     insert(root,temp);
74                 break;
75             case 2:inorder(root);break;
76             case 3:preorder(root);break;
77             case 4:postorder(root);break;
78             case 5:
79                 default:exit(0);
80         }
81     }
82     return 0;
83 }
84

```