lab_3.c lab_10.c

```c
#include<stdio.h>
#include<stdlib.h>
#include <conio.h>
struct node{
 struct node *llink;
 struct node *rlink;
 int info;
};
typedef struct node *NODE;
NODE getnode(){
 NODE x;
x=(NODE)malloc(sizeof(struct node));
 if(x==NULL){
 printf("Memory full\n");
 exit(0);
 }
 return x;
}
NODE insert(NODE root,int item)
{
NODE temp,curr,prev;
temp=getnode();
temp->rlink=temp->llink=NULL;
temp->info=item;
if(root==NULL)
return temp;
prev=NULL;
curr=root;
while(curr!=NULL)
{
prev=curr;
curr=(item<curr->info)?curr->llink:curr->rlink;
}
if(item<prev->info)
prev->llink=temp;
else
prev->rlink=temp;
return root;
}
void preorder(NODE root){
 if(root==NULL) return;
```

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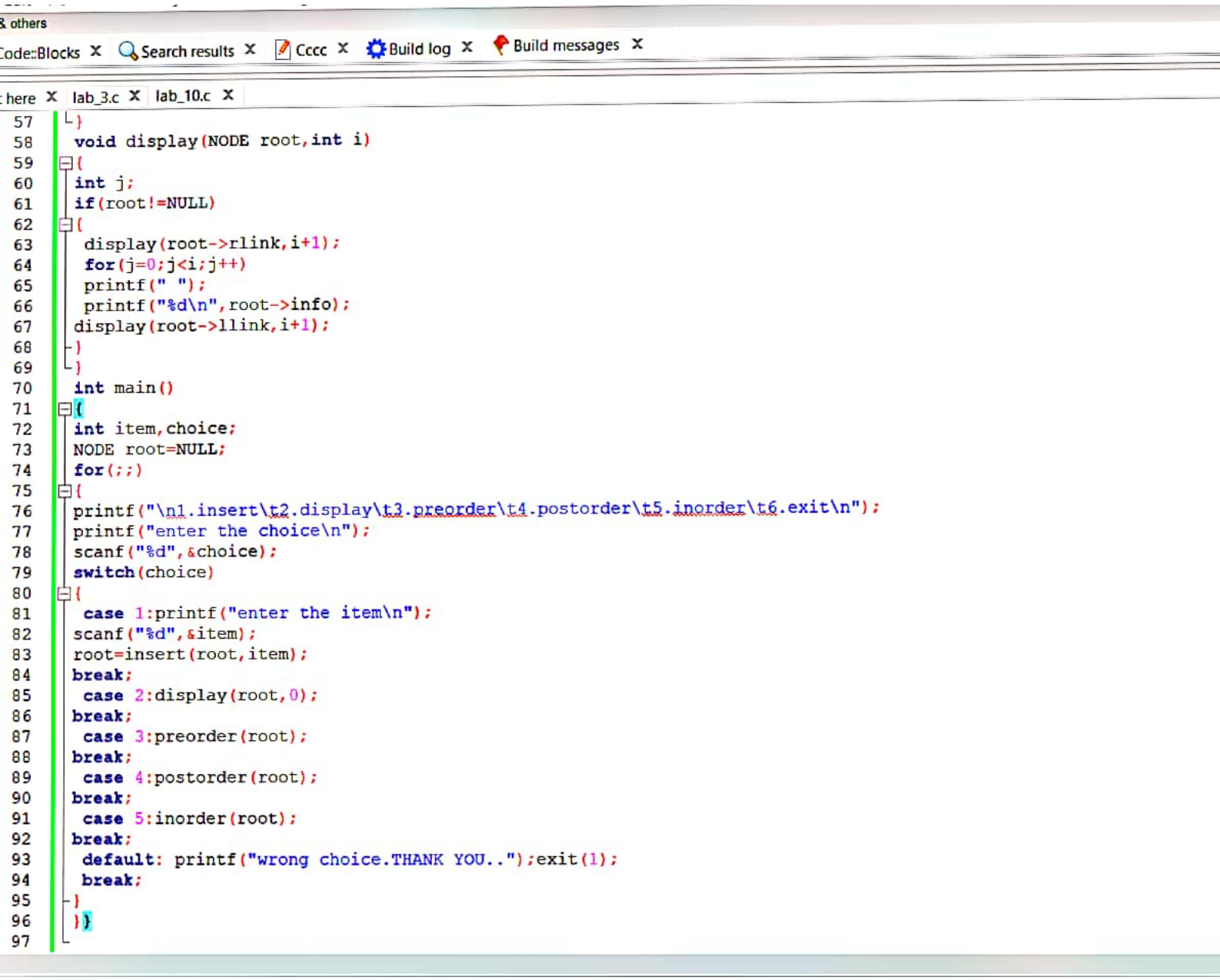
41    if(root==NULL) return;
42    printf("%d ",root->info);
43   preorder(root->llink);
44    preorder(root->rlink);
45   }
46  void postorder(NODE root){
47    if(root==NULL) return;
48    postorder(root->llink);
49    postorder(root->rlink);
50    printf("%d ",root->info);
51   }
52  void inorder(NODE root){
53    if(root==NULL) return;
54    inorder(root->llink);
55    printf("%d ",root->info);
56    inorder(root->rlink);
57   }
58   void display(NODE root,int i)
59  {
60   int j;
61   if(root!=NULL)
62  {
63    display(root->rlink,i+1);
64    for(j=0;j<i;j++)
65    printf(" ");
66    printf("%d\n",root->info);
67   display(root->llink,i+1);
68  }
69  }
70   int main()
71  {
72   int item,choice;
73   NODE root=NULL;
74   for(;;)
75  {
76   printf("\n1.insert\t2.display\t3.preorder\t4.postorder\t5.inorder\t6.exit\n");
77   printf("enter the choice\n");
78   scanf("%d",&choice);
79   switch(choice)
80  {
81    case 1:printf("enter the item\n");
```



```
1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
1
enter the item
30

1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
1
enter the item
31

1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
2
 31
30

1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
1
enter the item
33

1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
2
  33
 31
30

1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
1
enter the item
35

1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
2
   35
  33
 31
30

1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
3
30 31 33 35
```

```
1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
1
enter the item
33

1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
2
  33
 31
30

1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
1
enter the item
35

1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
2
   35
  33
 31
30

1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
3
30 31 33 35
1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
4
35 33 31 30
1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
5
30 31 33 35
1.insert        2.display       3.preorder      4.postorder     5.inorder       6.exit
enter the choice
6
wrong choice.THANK YOU..
Process returned 1 (0x1)   execution time : 310.186 s
Press any key to continue.
```