C:\Users\Nikita\Desktop\programs\Binary-search-tree.cpp - Dev-C++ 5.11

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TDM-GCC 4.9.2 64-bit Release

(globals)

Project Classes

Binary-search-tree.cpp | Doubly-linked-list.cpp | Singly-linked-list.cpp

```
#include<stdio.h>
#include<stdlib.h>
struct node
 {
  int info;
  struct node *rlink;
  struct node *llink;
 };
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;
}
void freenode(NODE x)
{
free(x);
}
NODE insert(NODE root,int item)
{
NODE temp,cur,prev;
temp=getnode();
temp->rlink=NULL;
temp->llink=NULL;
temp->info=item;
if(root==NULL)
 return temp;
prev=NULL;
cur=root;
while(cur!=NULL)
{
prev=cur;
```

Line: 93 Col: 1 Sel: 0 Lines: 117 Length: 1811 Insert Done parsing in 0.015 seconds

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(globals)

Project Classes

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```
34  prev=NULL;
35  cur=root;
36  while(cur!=NULL)
37  {
38  prev=cur;
39  cur=(item<cur->info)?cur->llink:cur->rlink;
40  }
41  if(item<prev->info)
42   prev->llink=temp;
43  else
44   prev->rlink=temp;
45  return root;
46  }
47  void display(NODE root,int i)
48  {
49  int j;
50  if(root!=NULL)
51   {
52    display(root->rlink,i+1);
53    for(j=0;j<i;j++)
54        printf("   ");
55     printf("%d\n",root->info);
56      display(root->llink,i+1);
57   }
58  }
59
60  void preorder(NODE root)
61  {
62  if(root!=NULL)
63   {
64    printf("%d\n",root->info);
65    preorder(root->llink);
66    preorder(root->rlink);
67     }
68   }
69  void postorder(NODE root)
70  {
71  if(root!=NULL)
```

Line: 93 Col: 1 Sel: 0 Lines: 117 Length: 1811 Insert Done parsing in 0.015 seconds

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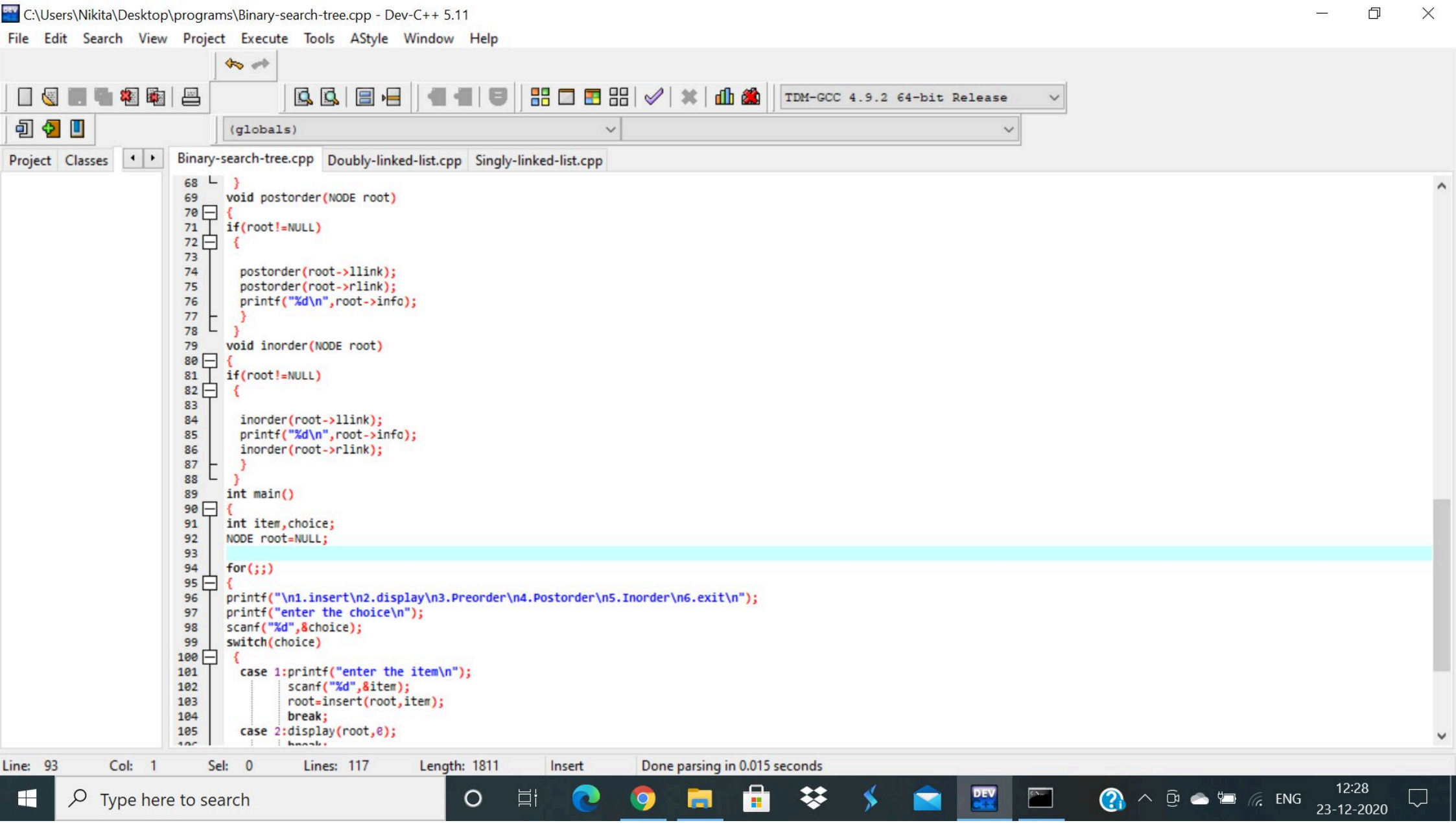
C:\Users\Nikita\Desktop\programs\Binary-search-tree.cpp - Dev-C++ 5.11
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TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes
Binary-search-tree.cpp
Doubly-linked-list.cpp
Singly-linked-list.cpp
}
void postorder(NODE root)
{
if(root!=NULL)
{
postorder(root->llink);
postorder(root->rlink);
printf("%d\n",root->info);
}
}
void inorder(NODE root)
{
if(root!=NULL)
{
inorder(root->llink);
printf("%d\n",root->info);
inorder(root->rlink);
}
}
int main()
{
int item,choice;
NODE root=NULL;
for(;;)
{
printf("\n1.insert\n2.display\n3.Preorder\n4.Postorder\n5.Inorder\n6.exit\n");
printf("enter the choice\n");
scanf("%d",&choice);
switch(choice)
{
case 1:printf("enter the item\n");
scanf("%d",&item);
root=insert(root,item);
break;
case 2:display(root,0);
Line: 93 Col: 1 Sel: 0 Lines: 117 Length: 1811 Insert Done parsing in 0.015 seconds
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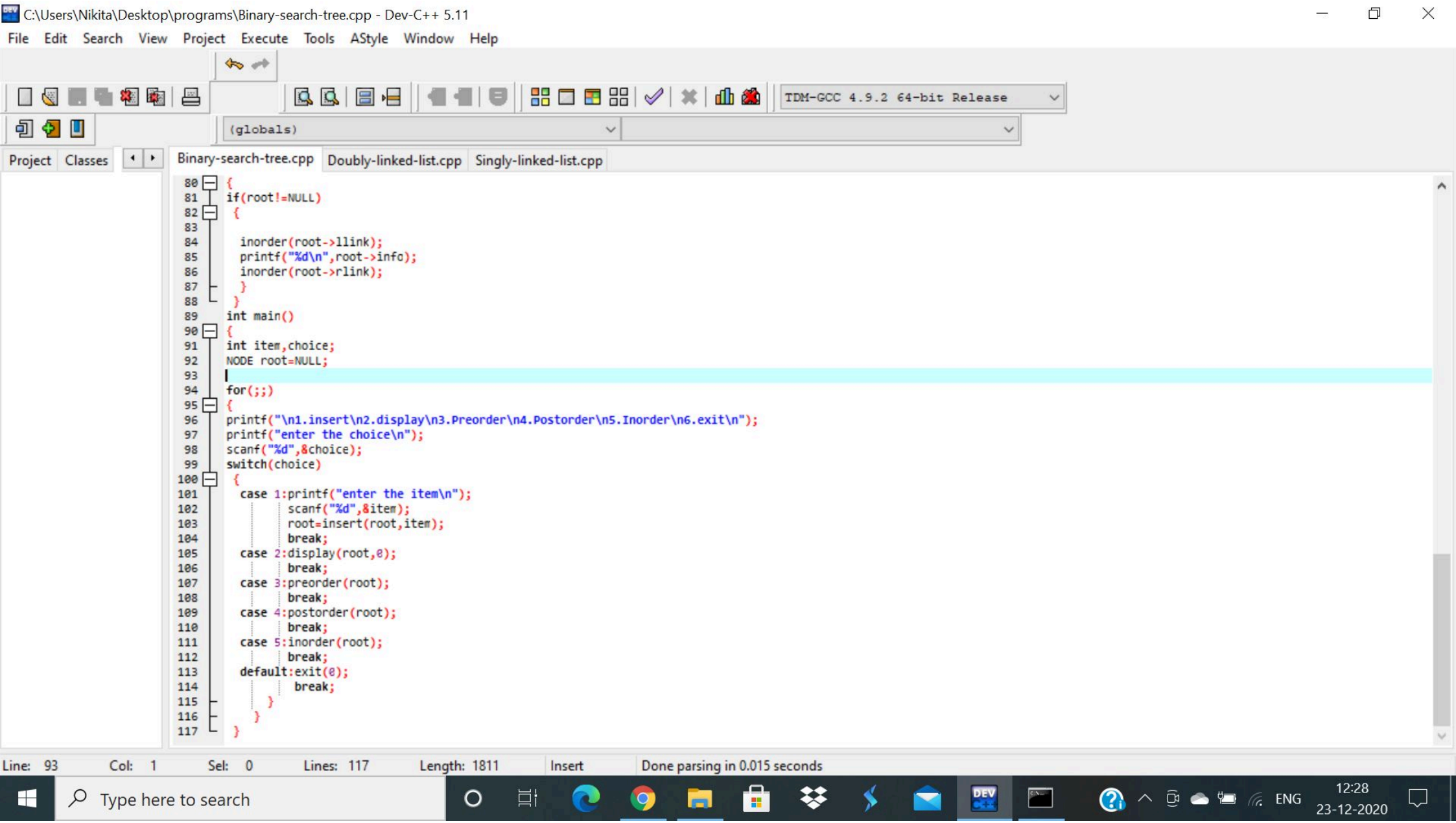
C:\Users\Nikita\Desktop\programs\Binary-search-tree.cpp - Dev-C++ 5.11
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TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes
Binary-search-tree.cpp Doubly-linked-list.cpp Singly-linked-list.cpp
{
if(root!=NULL)
{
inorder(root->llink);
printf("%d\n",root->info);
inorder(root->rlink);
}
}
int main()
{
int item,choice;
NODE root=NULL;
for(;;)
{
printf("\n1.insert\n2.display\n3.Preorder\n4.Postorder\n5.Inorder\n6.exit\n");
printf("enter the choice\n");
scanf("%d",&choice);
switch(choice)
{
case 1:printf("enter the item\n");
scanf("%d",&item);
root=insert(root,item);
break;
case 2:display(root,0);
break;
case 3:preorder(root);
break;
case 4:postorder(root);
break;
case 5:inorder(root);
break;
default:exit(0);
break;
}
}
}
Line: 93 Col: 1 Sel: 0 Lines: 117 Length: 1811 Insert Done parsing in 0.015 seconds
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C:\Users\Nikita\Desktop\programs\Binary-search-tree.exe

```
1.insert
2.display
3.Preorder
4.Postorder
5.Inorder
6.exit
enter the choice
1
enter the item
50

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
60

1.insert
2.display
3.Preorder
4.Postorder
5.Inorder
6.exit
enter the choice
2
  60
50
```

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C:\Users\Nikita\Desktop\programs\Binary-search-tree.exe

```
5.Inorder
6.exit
enter the choice
2
  60
50
  30

1.insert
2.display
3.Preorder
4.Postorder
5.Inorder
6.exit
enter the choice
1
enter the item
22

1.insert
2.display
3.Preorder
4.Postorder
5.Inorder
6.exit
enter the choice
1
enter the item
54

1.insert
2.display
3.Preorder
4.Postorder
5.Inorder
6.exit
enter the choice
2
  60
    54
50
  30
    22
```

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ENG
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C:\Users\Nikita\Desktop\programs\Binary-search-tree.exe

```
enter the choice
2
  60
    54
50
  30
    22

1.insert
2.display
3.Preorder
4.Postorder
5.Inorder
6.exit
enter the choice
3
50
30
22
60
54

1.insert
2.display
3.Preorder
4.Postorder
5.Inorder
6.exit
enter the choice
4
22
30
54
60
50

1.insert
2.display
3.Preorder
4.Postorder
5.Inorder
6.exit
enter the choice
```

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