```cpp
#include<iostream>
using namespace std;
struct node{
    int data;
    node *left, *right;
};
node *insertTree(node *root, int newData){
    if(root == NULL){
        root = new node;
        root->data = newData;
        root->left = NULL;
        root->right = NULL;
    }
    else if(newData > root->data){
        root->right = insertTree(root->right, newData);
    }
    else if(newData < root->data){
        root->left = insertTree(root->left, newData);
    }
    return root;
}
void PreOrder(node *root){
    if(root!=NULL){
```

TP19 Tree data structure (explain).mp4 | KrySengHortPracticeTreeDataStructure.cpp

Year 02 > Data Structure & Programming > C++ > Course > Chapter 12 Trees Data Structure > KrySengHortPracticeTreeDataStructure.cpp > PreOrder(node *)

```
23      if(root!=NULL){
24          cout<<root->data<<" ";
25          PreOrder(root->left);
26          PreOrder(root->right);
27      }
28  }
29  int main(){
30      node *r1;
31      r1 = NULL;
32      r1 = insertTree(r1,5);
33      r1 = insertTree(r1,0);
34      r1 = insertTree(r1,9);
35      r1 = insertTree(r1,6);
36      PreOrder(r1);
37      return 0;
38  }
39
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
Warning: PowerShell detected that you might be using a screen reader and has disabled PSReadLine for compatibility purposes.
 If you want to re-enable it, run 'Import-Module PSReadLine'.

PS D:\Year 02> cd "d:\Year 02\Data Structure & Programming\C++\Course\Chapter 12 Trees Data Structure\" ; if ($?) { g++ KrySengHortPracticeTreeDataStructure.cpp -o KrySengHortPracticeTreeDataStructure } ; if ($?) { .\KrySengHortPracticeTreeDataStructure }
5 0 9 6
PS D:\Year 02\Data Structure & Programming\C++\Course\Chapter 12 Trees Data Structure>
```

```
19      }
20      return root;
21  }
22  void PreOrder(node *root){
23      if(root!=NULL){
24          cout<<root->data<<" ";
25          PreOrder(root->left);
26          PreOrder(root->right);
27      }
28  }
29  void InOrder(node *root){
30      if(root!=NULL){
31          InOrder(root->left);
32          cout<<root->data<<" ";
33          InOrder(root->right);
34      }
35  }
```

TP19 Tree data structure (explain).mp4 | KrySengHortPracticeTreeDataStructure.cpp

Year 02 > Data Structure & Programming > C++ > Course > Chapter 12 Trees Data Structure > KrySengHortPracticeTreeDataStructure.cpp > InOrder(node *)

```
32            cout<<root->data<<" ";
33            InOrder(root->right);
34        }
35    }
36    int main(){
37        node *r1;
38        r1 = NULL;
39        r1 = insertTree(r1,5);
40        r1 = insertTree(r1,0);
41        r1 = insertTree(r1,9);
42        r1 = insertTree(r1,6);
43        cout<<"data which represent as pre-order such that :"<<endl;
44        PreOrder(r1);
45        cout<<endl<<"data which represent as in-order such that :"<<endl;
46        InOrder(r1);
47        return 0;
48    }
49
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
PS D:\Year 02> cd "d:\Year 02\Data Structure & Programming\C++\Course\Chapter 12 Trees Data Structure\" ; if ($?) { g++ KrySengHortPracticeTreeDataStructure.cpp -o KrySengHortPracticeTreeDataStructure } ; if ($?) { .\KrySengHortPracticeTreeDataStructure }
data which represent as pre-order such that :
5 0 9 6
data which represent as in-order such that :
0 5 6 9
PS D:\Year 02\Data Structure & Programming\C++\Course\Chapter 12 Trees Data Structure>
```

```
36  void searchDataInTree(node *root, int searchData){
37      if(root==NULL){
38          cout<<"the number"<<searchData<<" is not found !"<<endl;
39      }
40      else{
41          if(searchData == root->data){
42              cout<<"the number"<<searchData<<" is found"<<endl;
43          }
44          else if(searchData > root->data){
45              searchDataInTree(root->right, searchData);
46          }
47          else if(searchData < root->data){
48              searchDataInTree(root->left, searchData);
49          }
50      }
51  }
```

```
56      r1 = insertTree(r1,0);
57      r1 = insertTree(r1,9);
58      r1 = insertTree(r1,6);
59
60      cout<<"data which represent as pre-order such that :"<<endl;
61      PreOrder(r1);
62
63      cout<<endl<<"data which represent as in-order such that :"<<endl;
64      InOrder(r1);
65
66      cout<<endl<<"the result for searching data in tree"<<endl;
67      searchDataInTree(r1,9);
68      searchDataInTree(r1,0);
69      searchDataInTree(r1,-1);
70      return 0;
71  }
72
73
```



```
data which represent as pre-order such that :
5 0 9 6
data which represent as in-order such that :
0 5 6 9
the result for searching data in tree
the number9 is found
the number0 is found
the number-1 is not found !
```