#include "stdafx.h"

#include <iostream>

using namespace std;

struct sNode

{

int value;

sNode \* left, \*right;

};

sNode \* root = NULL;

void insert(int iVal)

{

if (root == NULL) //第一次输入， 建立二叉树

{

root = new sNode;

root->value = iVal;

root->left = NULL;

root->right = NULL;

return;

}

sNode \* tmp, \*parrent;

tmp = root;

parrent = root;

while (tmp != NULL) //寻找要插入数据的位置

{

if (tmp->value == iVal)

{

return;

}

parrent = tmp;

if (tmp->value > iVal)

{

tmp = tmp->left;

}

else

{

tmp = tmp->right;

}

}

sNode \* newNode; //新插入的数据

newNode = new sNode;

newNode->value = iVal;

newNode->left = NULL;

newNode->right = NULL;

if (parrent->value > iVal)

{

parrent->left = newNode;

}

else

{

parrent->right = newNode;

}

}

void search(int Con)

{

sNode \* tmp;

tmp = root;

while (tmp->value != Con) //遍历寻找要查询的数据的位置

{

cout << tmp->value << " ";

if (tmp->value > Con)

{

tmp = tmp->left;

}

else

{

tmp = tmp->right;

}

}

cout << Con;

}

int main()

{

int \* number = new int[10];

//int iNum[10] = {5,4,2,8,7,1,9,3,6,10 };

int iFind;

cout << "please enter 10 numbers:";

for (int i = 0; i < 10; i++)

{

cin >> number[i];

insert(number[i]);

}

cout << "Binary tree constructed successfully!" << endl;

cout << "Please enter any number of these 10 Numbers! ";

cin >> iFind;

cout << "The search is:";

search(iFind);

cin >> iFind;

return 0;

}