//============================================================================

// Name : ASSI7.cpp

// Author : Rushikesh Karad

// Version :

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// Description : Hello World in C++, Ansi-style

//============================================================================

#include <bits/stdc++.h>

using namespace std;

class node

{

public:

int key;

int value;

node \*next;

char var[20];

node()

{

next=NULL;

}

friend class symbol;

};

class symbol

{

public:

node \*head[20];

node \*ptr[20];

//node \*tail[20];

symbol()

{

for(int i=0;i<20;i++)

{

head[i]=NULL;

ptr[i]=NULL;

//tail[i]=NULL;

}

}

void insert();

void retrive();

void data(int a)

{

switch(a)

{

case 1: cout<<"int";

break;

case 2: cout<<"char";

break;

case 3: cout<<"float";

break;

case 4: cout<<"double";

break;

case 5: cout<<"string";

break;

case 6: cout<<"boolean";

break;

default: cout<<"invalid data type";

break;

}

}

void search();

void deletel();

void modify();

};

void symbol::modify()

{

bool f=0;

int c,a,s;

char v[20];

cout<<"\nEnter the Variable Name\n";

cin>>v;

int l = strlen(v);

int index = l%10;

node \*temp = head[index];

node \*s1;

if(temp!=NULL)

{

while(temp!=NULL)

{

s1=temp;

if(strcmp(v,temp->var)==0)

{

f=1;

break;

}

temp=temp->next;

}

}

else

{

f=0;

}

if(f==1)

{

cout<<"\nWhat attribute You Want To Modify\n1.Type\n2.Value\n";

cin>>c;

switch(c)

{

case 1:

cin>>a;

temp->key=a;

break;

case 2:

cin>>s;

temp->value=s;

break;

}

}

else

{

cout<<"\nVariable Not Found\n";

}

}

void symbol::deletel()

{

char v[10];

cout<<"Enter variable to delete:"<<endl;

cin>>v;

int l=strlen(v);

l=l%10;

node \*t=head[l];

if(t==NULL){

cout<<"Variable Not Found"<<endl;

}

else{

if(strcmp(t->var,v)==0){

head[l]=head[l]->next;

t->next = NULL;

}

else{

node \*t2;

while(t){

if(strcmp(t->var,v)==0){

t2->next=t->next;

delete(t);

break;

}

t2=t;

t=t->next;

}

}

}

}

void symbol::search()

{

bool f=0;

char v[20];

cout<<"\nEnter the Variable Name\n";

cin>>v;

int l = strlen(v);

int index = l%10;

node \*temp = head[index];

if(temp!=NULL)

{

while(temp!=NULL)

{

if(strcmp(v,temp->var)==0)

{

f=1;

break;

}

temp=temp->next;

}

}

else

{

f=0;

}

if(f==1)

{

cout<<"\nVariable Found!!\n";

}

else

{

cout<<"\nVariable Not Found\n";

}

}

void symbol :: retrive()

{

bool f=0;

char v[20];

cout<<"\nEnter the Variable Name\n";

cin>>v;

int l = strlen(v);

int index = l%10;

node \*temp = head[index];

if(temp!=NULL)

{

while(temp!=NULL)

{

if(strcmp(v,temp->var)==0)

{

f=1;

break;

}

temp=temp->next;

}

}

else

{

f=0;

}

if(f==1)

{

cout<<"\nVariable Found!!\n";

cout<<"helo";

cout<<"\nVariable Name : "<<temp->var;

cout<<"\nData Type : ";

data(temp->key);

cout<<"\nValue : "<<temp->value;

}

else

{

cout<<"\nVariable Not Found\n";

}

}

void symbol::insert()

{

int type;

int val;

char variable[20];

cout<<"\nEnter the Key\n";

cin>>type;

cout<<"\nEnter the variable\n";

cin>>variable;

cout<<"\nEnter the value\n";

cin>>val;

int l = strlen(variable);

int index = l%10;

ptr[index] = new node();

ptr[index]->key = type;

ptr[index]->value = val;

strcpy(ptr[index]->var,variable);

if(head[index]==NULL)

{

head[index]=ptr[index];

head[index]->next = NULL;

}

else

{

ptr[index]->next = head[index];

head[index] = ptr[index];

}

}

int main() {

symbol s;

int c;

while(1)

{

cout<<"\n1.Insert\n\n2.Search\n\n3.Delete\n\n4.Retrive\n\n5.Modify\n\n6.Exit";

cout<<"\nEnter Your Choice\n";

cin>>c;

switch(c)

{

case 1:s.insert();

break;

case 2:

s.search();

break;

case 3:

s.deletel();

break;

case 4:

s.retrive();

break;

case 5:

s.modify();

break;

}

}

return 0;

}