//4) In this problem you have to take an array of size 10 and write the Push, Pop and Display functions for that

//and also take care of overflow and underflow conditions. All the work must be done in classes.

//i. Furthermore you must write isEmpty(), isFull() and status() function.

//ii. isEmpty() has return type of Boolean and check the underflow.

//iii. isFull() has return type of Boolean and check the overflow.

//iv. Status() tells the current available spaces in the stack.

//Also perform following function

//Create two objects of above class provide inputs and also check wether the two stacks are equal or not by writing equal() function

//In above case size of stack is fixed do all the work with size provided by user.

#include<iostream> //header files

using namespace std;

const int MAX=4; //global variable index is 0,1,2,3

class stack //class name stack

{

private: //data member

int arr[MAX];

int t;

public: //member function

stack()

{ //constracterr

//arr[0]=NULL;

t=-1;

}

////////////////////////////////////////////////

bool is\_empty() //empty function

{

if(t==-1)

return true;

else

return false;

}

/////////////////////////////////////////////////

bool is\_full() //ful function

{

if(t==MAX)

return true;

else

return false;

}

///////////////////////////////////////////////

void status() //cheack status

{

int c;

c=MAX-t; //3 values already entered in include 0,1,2(2 values) 4-(2)=2

cout<<"\ncurrent space in stack is : "<<c-1<<endl; //2-1(0 index)

}

////////////////////////////////////////////////

void push(int var) //push function

{

if(is\_full())

cout<<"\nstack is full \n";

else

arr[++t]=var;

cout<<"\npushed value is :"<<var<<endl;

}

//////////////////////////////////////////////////

int pop() //pop function

{

if(is\_empty())

cout<<"\nstack is empty\n";

else

return arr[t--];

}

//////////////////////////////////////////////////

bool operator == (stack s)

{

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

if(s.arr[i]==arr[i])

return true;

else

return false;

}

};

////////////////////////////////////////////////////////////

int main() // main function

{

stack s1,s2; //two objects of stack

cout<<"\n\t\ts1 object perform as push : \n";

cout<<"\n\t\tpush to s1 stack : \n";

if(s1.is\_full())

cout<<"\nstack is full \n";

else

{

cout<<"yes! space are available in stack\n";

s1.push(2);

s1.push(3);

s1.push(4);

cout<<"\ncheck that how many space available at that momment : ";

s1.status();

s1.push(5);

}

cout<<"\n\t\tnow pop from s1 : \n";

if(s1.is\_empty())

cout<<"stack is empty : ";

else

{

cout<<s1.pop()<<endl; //0

cout<<s1.pop()<<endl; //1

cout<<s1.pop()<<endl; //2

cout<<s1.pop()<<endl; //3

cout<<s1.pop()<<endl; //4 to ckeak working

}

s2.push(2); //only for check

s2.push(3);

cout<<"\n\t\t\tequal check : \n";

if(s1==s2)

cout<<"\ns1 equal to s2 stacks : \n";

else

cout<<"\ns1 not equal to s2 :\n";

system("pause");

return 0;

}