//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>

using namespace std;

int arr[10];

class stack

{

private:

int top;

public:

stack()

{

top=-1;

}

void push(int x)

{

int n;

if(top>=10)

{

n=isFull();

if(n==1)

{

cout<<"full"<<endl;

}

}

if(top<10)

{

arr[++top]=x;

}

}

int pop()

{

int n;

if(top<=-1)

{

n=isEmpty();

if(n==1)

{

cout<<"empty"<<endl;

}

}

if(top>-1)

{

return arr[top--];

}

}

bool isEmpty()

{

if(top<-1)

{

return 1;

}

else

{

return 2;

}

}

bool isFull()

{

if(top>=10)

{

return 1;

}

else

{

return 2;

}

}

void ststus()

{

if(top>=10)

{

cout<<"stack is full"<<endl;

}

else if(top<=-1)

{

cout<<"stack is empty"<<endl;

}

else

{

cout<<"stack is not full nor empty"<<endl;

}

}

};

void main()

{

stack s1;

s1.ststus();

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

{

s1.push(10+i);

}

cout<<"data on stack"<<endl;

s1.ststus();

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

{

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

}

s1.ststus();

system("pause");

}