package stackorg;

import java.util.Scanner;

class Stack {

int size;

int stack[];

int top;

public Stack(int size) {

this.size = size;

this.stack = new int[size];

this.top = -1;

}

public boolean isEmptyStack() {

if (top == -1)

{

return true;

}

return false;

}

public boolean isFullStack() {

if (top >= size - 1) {

return true;

}

return false;

}

public int Top() //Peek

{

return stack[top];

}

public int Size()

{

return top+1;

}

public void push(int element)

{

if(isFullStack())

{

System.***out***.println("Stack is OverFlow");

}

else

{

top++;

stack[top]=element;

}

}

public int pop()

{

int deletedElemnt;

if(isEmptyStack())

{

System.***out***.println("Under Flow");

return -1;

}

else

{

deletedElemnt=stack[top];

top--;

return deletedElemnt;

}

}

public void display()

{

if(isEmptyStack())

{

System.***out***.println("No ELment to display");

}

else

{

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

{

System.***out***.print("| " +stack[i]);

}

}

}

}

public class stackorg {

public static void main(String[] args) {

int choice=0;

int size;

int newElemnt;

int deletedElement;

Scanner scanner=new Scanner(System.***in***);

System.***out***.println("Enter the Size of Stack");

size=scanner.nextInt();

Stack stackob=new Stack(size);

while(choice!=8)

{

System.***out***.println("1.PUSH 2.POP 3.Display 4.FindTop Element 5.Find the Size 6.Stack is Empty 7.Stack is Full 8.Exit");

System.***out***.println("Enter Your Choice");

choice=scanner.nextInt();

switch(choice)

{

case 1:

System.***out***.println("New Element");

newElemnt=scanner.nextInt();

stackob.push(newElemnt);

break;

case 2:

deletedElement=stackob.pop();

if(!stackob.isEmptyStack())

{

System.***out***.println("The deleted Element is:"+deletedElement);

}

break;

case 3:

stackob.display();

break;

case 4:

System.***out***.println("Top Element:"+stackob.Top());

break;

case 5:

System.***out***.println("Size:"+stackob.Size());

break;

case 6:

System.***out***.println("IS Stack is Empty :"+stackob.isEmptyStack());

break;

case 7:

System.***out***.println("Is Stack is Full:"+stackob.isFullStack());

break;

case 8:

System.***out***.println("Exit the program");

break;

default:

System.***out***.println("Invalid Input");

break;

}

System.***out***.println("");

}

scanner.close();

}

}