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//Program to Implement Stack                                    Aswin Asok

import java.util.Scanner;
public class Strange
{
   double ele[]; //Data Members
   int cap;
   int top;

   public Strange(int c) //Parameterized Constructor to Initalize Data Members
   {
      cap = c;
      top = -1;
      ele = new double[cap];
   }

   public void push(double item) //To Push an Item into Stack
   {

      if(top == cap-1)
         System.out.println("Strange is full. Cannot push this item");
      else
      {
         top++;
         ele[top] = item;
      }
   }

   public double pop() // To Pop an Item from the Stack
   {
      double item = 9999.99;
      if(top == -1)
         System.out.println("Strange is empty");
      else
      {
         item = ele[top];
         top--;
```

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    }
    return item;

}

public void display() // To display the items in the stack
{
    if(top==-1)
        System.out.println("Stack is Empty");
    else
    {
        for(int i=top; i>=0;i--)
            System.out.println(ele[i]);
    }
}

public static void main(String args[]) // main function to show user the available functions
{
    Scanner br=new Scanner(System.in);
    System.out.println("Enter the Maximum Capacity");
    int capacity = br.nextInt(); // Maximum capacity for the stack
    char ask = 'Y';

    Strange s1 = new Strange(capacity); // Object Creation

    do
    {
        System.out.println("\n-----------Menu----------");
        System.out.println("1).Push");
        System.out.println("2).Pop");
        System.out.println("3).Display");
        System.out.println("4).Exit");
        System.out.println("Enter Your Choice");
        int choice = br.nextInt();
        switch(choice)
        {
            case 1: System.out.println("Enter Item to Push");
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            double item = br.nextDouble();
            s1.push(item);
            break;

            case 2: System.out.println("Deleted Value: "+s1.pop());
            break;

            case 3: System.out.println("\nStack Elements");
            s1.display();
            break;

            case 4:System.exit(0);
            break;

          }
          System.out.println("Do you want to Continue(Y/N)?");
          ask = br.next().charAt(0);
       }
       while(ask == 'Y' || ask == 'y');
    }
}
```

OUTPUT

```
Enter the Maximum Capacity
3

----------Menu----------
1).Push
2).Pop
3).Display
4).Exit
Enter Your Choice
1
Enter Item to Push
11
Do you want to Continue(Y/N)?
Y
```

----------Menu----------
1).Push
2).Pop
3).Display
4).Exit
Enter Your Choice
1
Enter Item to Push
22
Do you want to Continue(Y/N)?
y

----------Menu----------
1).Push
2).Pop
3).Display
4).Exit
Enter Your Choice
1
Enter Item to Push
3
Do you want to Continue(Y/N)?
Y

----------Menu----------
1).Push
2).Pop
3).Display
4).Exit
Enter Your Choice
1
Enter Item to Push
56
Strange is full. Cannot push this item
Do you want to Continue(Y/N)?
Y

----------Menu----------
1).Push
2).Pop
3).Display
4).Exit
Enter Your Choice
3

Stack Elements
3.0
22.0
11.0
Do you want to Continue(Y/N)?
Y

----------Menu----------
1).Push
2).Pop
3).Display
4).Exit
Enter Your Choice
2
Deleted Value: 3.0
Do you want to Continue(Y/N)?
Y

----------Menu----------
1).Push
2).Pop
3).Display
4).Exit
Enter Your Choice
3

Stack Elements
22.0

11.0
Do you want to Continue(Y/N)?
Y

----------Menu----------
1).Push
2).Pop
3).Display
4).Exit
Enter Your Choice
4