

```
1  import java.util.Arrays;
2
3
4
5  public class TheStack {
6
7      private String[] StackArray;
8
9      private int stackSize;
10
11      private int topOfStack = -1;
12
13
14
15      TheStack(int size){
16
17
18
19          stackSize = size;
20
21          StackArray = new String[size];
22
23          Arrays.fill(StackArray, val: "-1");
24      }
25
26
27      public void displayTheStack(){
28
29          for(int i=0; i<45;i++) { System.out.print(s: "=");} System.out.print(s: "\n");
30
31
32
33          for(int i = 0; i < 10; i++){
34
35              System.out.print("| " + StackArray[i]);
36
37          }
38
39          System.out.print(s: "|\n");
40
41          for(int i=0; i<45;i++) { System.out.print(s: "=");} System.out.print(s: "\n");
42
```

```

46
47 public void push(String input){
48
49     if (topOfStack < stackSize){
50
51         topOfStack++;
52
53         StackArray[topOfStack] = input;
54
55     }
56
57     else {
58         System.out.println(x: "Sorry but the stack is full.");
59
60         displayTheStack();
61
62         System.out.println("PUSH " + input + " was added to the stack.");
63
64     }
65
66 }
67
68
69
70 public String pop() {
71
72     if(topOfStack >= 0) {
73
74         displayTheStack();
75
76         System.out.println("POP " + StackArray[topOfStack] + " was removed from the Stack.\n");
77
78         StackArray[topOfStack] = "-1";
79
80         return StackArray[topOfStack--];
81
82     } else
83     {
84
85         displayTheStack();
86
87         System.out.println(x: "Sorry but the stack is empty.");

```

```
86
87     System.out.println(x: "Sorry but the stack is empty.");
88
89     return "-1";
90
91 }
92
93 }
94
95
96
97 public String peek() {
98
99     displayTheStack();
100
101     System.out.println("PEEK " + StackArray[topOfStack] + " is at the top of the stack.\n");
102
103     return StackArray[topOfStack];
104
105 }
106
107
108
109 public void pushMany(String multipleValues) {
110
111     String[] tempString = multipleValues.split(regex: " ");
112
113     for(int i = 0; i < tempString.length; i++) {
114
115         push(tempString[i]);
116
117     }
118
119 }
120
121
122 public void popAll() {
123
124     for(int i = topOfStack; i >= 0; i--) {
125
126         | | | pop();
127
```



```
PS C:\Users\Administrator> & 'C:\Program Files\Java\jdk-18.0.2.1\bin\java.exe' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:63420' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\Administrator\AppData\Local\Temp\vscodesws_3df68\jdt_ws\jdt.ls-java-project\bin' 'TheStack'
```

```
=====
| 10| 15| -1| -1| -1| -1| -1| -1| -1|
=====
```

PEEK 15 is at the top of the stack.

```
=====
| 10| 15| -1| -1| -1| -1| -1| -1| -1|
=====
```

POP 15 was removed from the Stack.

```
=====
| 10| 12| 13| 14| 15| 18| 19| 20| 21| 22|
=====
```

PEEK 22 is at the top of the stack.

```
=====
| 10| 12| 13| 14| 15| 18| 19| 20| 21| 22|
=====
```

POP 22 was removed from the Stack.

```
=====
| 10| 12| 13| 14| 15| 18| 19| 20| 21| -1|
=====
```

POP 21 was removed from the Stack.

```
=====
| 10| 12| 13| 14| 15| 18| 19| 20| -1| -1|
=====
```

POP 20 was removed from the Stack.

```
=====
| 10| 12| 13| 14| 15| 18| 19| -1| -1| -1|
=====
```

POP 19 was removed from the Stack.

```
=====
| 10| 12| 13| 14| 15| 18| -1| -1| -1| -1|
=====
```

POP 18 was removed from the Stack.

```
=====
| 10| 12| 13| 14| 15| -1| -1| -1| -1| -1|
=====
```

POP 15 was removed from the Stack.

```
=====
| 10| 12| 13| 14| 15| -1| -1| -1| -1| -1|
=====
```

POP 15 was removed from the Stack.

```
=====
| 10| 12| 13| 14| -1| -1| -1| -1| -1| -1|
=====
```

POP 14 was removed from the Stack.

```
=====
| 10| 12| 13| -1| -1| -1| -1| -1| -1| -1|
=====
```

POP 13 was removed from the Stack.

```
=====
| 10| 12| -1| -1| -1| -1| -1| -1| -1| -1|
=====
```

POP 12 was removed from the Stack.

```
=====
| 10| -1| -1| -1| -1| -1| -1| -1| -1| -1|
=====
```

POP 10 was removed from the Stack.

```
=====
| -1| -1| -1| -1| -1| -1| -1| -1| -1| -1|
=====
```

```
=====
| -1| -1| -1| -1| -1| -1| -1| -1| -1| -1|
=====
```

Sorry but the stack is empty.

PS C:\Users\Administrator> `