

C: > Users > YangYiShu > Desktop > lab > lab 8 > Stack.java > Stack<E> > main(String[])

```
1 import java.lang.*;
2 import java.util.*;
3 public interface Stack<E>{
4     int size();
5     boolean isEmpty();
6     E top();
7     void push(E element);
8     E pop();
9     static boolean isMatched(String expression){
10         return false;
11     }
12     class LinkedStack<E> implements Stack<E>{
13         private LinkedList<E> list = new LinkedList<>();
14         public LinkedStack(){}
15         public int size(){return list.size();}
16         public boolean isEmpty(){return list.isEmpty();}
17         public void push(E element){list.addFirst(element);}
18         public E top(){return list.getFirst();}
19         public E pop(){return list.removeFirst();}
20         public static boolean isMatched(String expression) {
21             final String opening = "[";
22             final String closing = "]";
23             LinkedStack<Character>buffer =new LinkedStack<>();
24             for (char c:expression.toCharArray()){
25                 if(opening.indexOf(c)!=-1)
26                     buffer.push(c);
27                 else if(closing.indexOf(c)!=-1){
28                     if (buffer.isEmpty())
29                         return false;
30                     if(closing.indexOf(c)!=opening.indexOf(buffer.pop()))
31                         return false;
32                 }
33             }
34         }
35 }
```

Run | Debug

```
36     public static void main(String[] args){
37         System.out.println("input: [()");
38         System.out.println(isMatched(expression: "[()")));
39         System.out.println("input: ()");
40         System.out.println(isMatched(expression: "()"));
41     }
42 }
```

Windows PowerShell

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安装最新的 PowerShell，了解新功能和改进！<https://aka.ms/PSWindows>

```
PS C:\Users\YangYiShu> & 'C:\Program Files\Java\jdk-17.0.4.1\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\YangYiShu\AppData\Local\Temp\vscodews_6f67c\jdt_ws\jdt.ls-java-project\bin' 'Stack'
input: []
false
input: []
false
PS C:\Users\YangYiShu>
```

```
C:\> Users > YangYiShu > Desktop > lab > lab 8 > J deque.java > ...
1 import java.util.*;
2 class lab8 {
3
4     static class Node {
5
6         int data;
7         Node prev, next;
8         static Node getnode(int data) {
9
10            Node newNode = new Node();
11            newNode.data = data;
12            newNode.prev = newNode.next = null;
13            return newNode;
14        }
15    };
16    static class Deque {
17        Node front;
18        Node rear;
19        int Size;
20
21        Deque() {
22        front = rear = null;
23        Size = 0;
24    }
25    boolean isEmpty() { return (front == null); }
26    int size() { return Size; }
27    void insertFront(int data) {
28
29        Node newNode = Node.getnode(data);
30        if (newNode == null)
31            System.out.print(s: "OverFlow\n");
32        else {
33            if (front == null)
34                rear = front = newNode;
35            else {
36                newNode.next = front;
37                front.prev = newNode;
38                front = newNode;
39            }
40        }
41        Size++;
42    }
43 }
```

```
C:\> Users > YangYiShu > Desktop > lab > lab 8 > J deque.java > ...
44     void insertRear(int data)
45     {
46         Node newNode = Node.getnode(data);
47         if (newNode == null)
48             System.out.print(s: "OverFlow\n");
49         else {
50             if (rear == null)
51                 front = rear = newNode;
52             else {
53                 newNode.prev = rear;
54                 rear.next = newNode;
55                 rear = newNode;
56             }
57             Size++;
58         }
59     }
60     void deleteFront()
61     {
62         if (isEmpty())
63             System.out.print(s: "UnderFlow\n");
64         else {
65             Node temp = front;
66             front = front.next;
67             if (front == null)
68                 rear = null;
69             else
70                 front.prev = null;
71             Size--;
72         }
73     }
74     void deleteRear()
75     {
76         if (isEmpty())
77             System.out.print(s: "UnderFlow\n");
78         else {
79             Node temp = rear;
80             rear = rear.prev;
81             if (rear == null)
82                 front = null;
83             else
84                 rear.next = null;
85             Size--;
86         }
87     }

```

```
C:\> Users > YangYiShu > Desktop > lab > lab 8 > J deque.java > ...
```

```
88     int getFront()
89     {
90         if (isEmpty())
91             return -1;
92         return front.data;
93     }
94     int getRear()
95     {
96         if (isEmpty())
97             return -1;
98         return rear.data;
99     }
100    void erase()
101    {
102        rear = null;
103        while (front != null) {
104            Node temp = front;
105            front = front.next;
106        }
107        Size = 0;
108    }
109 }
```