

Aim:

Create multiple threads to access the contents of a stack. Synchronize thread to prevent simultaneous access to push and pop operations.

Note: Please don't change the package name.

Source Code:

q29795/StackThreads.java

```
package q29795;
import java.util.*;
class NewThread implements Runnable {
    Thread t;
    int n;
    Stack<Integer> STACK=new Stack<Integer>();
    NewThread(int size) {
        n=size;
        t=new Thread(this);
    }
    t. start();
    synchronized public void run() {
        STACK.push(n);
        System.out.println(STACK.pop());
    }
}
class StackThreads {
    public static void main(String[] args) {
        System.out.println("Enter the size of the stack");
        Scanner sc=new Scanner(System.in);
        int k=sc.nextInt();
        for(int i=1;i<=k;i++) {
            NewThread ob= new NewThread(i);
        }
    }
}
```

Execution Results - All test cases have succeeded!

Test Case - 1	
User Output	
Enter the size of the stack 4	
1	
2	
3	
4	

Test Case - 2	
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User Output
Enter the size of the stack 9
1
2
3
4
5
6
7
8
9