

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) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the size of the stack");
        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

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