

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

6
7
8
9