

JAVA REVIEW PROGRAM

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Write a Java program to implement the producer consumer problem using java multithreading concept

Program

```
class Q {
    int n;
    boolean valueSet = false;
    synchronized int get() {
        while(!valueSet)
            try {
                wait();
            }
            catch(InterruptedException e) {
                System.out.println("InterruptedException caught");
            }
        System.out.println("Got: " + n);
        valueSet = false;
        notify();
        return n;
    }
    synchronized void put(int n) {
        while(valueSet)
            try {
                wait();
            }
            catch(InterruptedException e) {
                System.out.println("InterruptedException caught");
            }
        this.n = n;
        valueSet = true;
        System.out.println("Put: " + n);
        notify();
    }
}

class Producer implements Runnable {
    Q q;
    Producer(Q q) {
        this.q = q;
        new Thread(this, "Producer").start();
    }
    public void run() {
        int i = 0;
        while(true) {
            q.put(i++);
        }
    }
}

class Consumer implements Runnable {
    Q q;
    Consumer(Q q) {
        this.q = q;
        new Thread(this, "Consumer").start();
    }
}
```

```

    }
    public void run() {
        while(true) {
            q.get();
        }
    }
}

public class Demo {
    public static void main(String args[]) {
        Q q = new Q();
        new Producer(q);
        new Consumer(q);
        System.out.println("Press Control-C to stop.");
    }
}

```

Output


```

C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.18362.1139]
(c) 2019 Microsoft Corporation. All rights reserved.

D:\Semester 5\Java Programming\Java 11-06>javac Demo.java

D:\Semester 5\Java Programming\Java 11-06>java Demo
Put: 0
Press Control-C to stop.
Got: 0
Put: 1
Got: 1
Put: 2
Got: 2
Put: 3
Got: 3
Put: 4
Got: 4
Put: 5
Got: 5
Put: 6
Got: 6
Put: 7
Got: 7
Put: 8
Got: 8
Put: 9
Got: 9
Put: 10
Got: 10
Put: 11

```

 Select C:\Windows\System32\cmd.exe

Put: 346

Got: 346

Put: 347

Got: 347

Put: 348

Got: 348

Put: 349

Got: 349

Put: 350

Got: 350

Put: 351

Got: 351

Put: 352

Got: 352

Put: 353

Got: 353

Put: 354

Got: 354

Put: 355

Got: 355

Put: 356

Got: 356

Put: 357

Got: 357

Put: 358

Got: 358

Put: 359

Got: 359

Put: 360

Got: 360

D:\Semester 5\Java Programming\Java 11-06>■