

13/2/24

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Lab- program 10 (IPC)

```
class Q {
    int n;
    boolean valueSet = false;
    synchronized int get() {
        while (valueSet)
            try {
                System.out.println("In consumer waiting[n]");
                wait();
            } catch (InterruptedException e) {
                System.out.println("Interrupted exception caught");
            }
        System.out.println("Got: " + n);
        valueSet = false;
        System.out.println("In Producer waiting[n]");
        notify();
        return n;
    }
}
```

```
Synchronized void put (int n) {
    while (valueSet)
        try {
            System.out.println("In Producer waiting[n]");
            wait();
        } catch (InterruptedException e) {
            System.out.println("Interrupted exception caught");
        }
}
```

```
this.n = n;  
valueSet = true;  
System.out.println("Put : " + n);  
System.out.println("n Intimate  
ceition  
notify();  
}  
}
```

class Producer implements Runnable {

Reduce $\left(\frac{q}{q} \right)$
this. $q = q$

y new thread (this, "producer"). start();

```
public void run() {
    int i = 0;
    while (i < 15) {
        q.put(i++);
    }
}
```

class Consumer implements Runnable {
 & q;
 Consumer (& q) {
 this.q = q;
 }

new Thread (this, "Consumer").
start();

```
public void run () {
```

```
    int i = 0;
```

```
    while (i < 15) {
```

```
        int r = q.get();
```

```
        System.out.println ("consumed: " +
```

```
i++);
```

```
r);
```

```
}
```

```
y
```

```
}
```

```
class Producer {
```

```
    public static void main (String args[]) {
```

```
        Q q = new Q();
```

```
        new Producer (q);
```

```
        new Consumer (q);
```

```
        System.out.println ("Press Control-C to stop.");
```

```
}
```

```
g
```

Output:

Put: 0

Get: 0

~~Producer waiting~~

Press Control-C to stop.

Get: 0

~~Ultimate Producer~~

Consumed: 0

Put: 1

Intimate Consumers
Consumer

Producer waiting
Got: 1

Intimate Producer

Consumed: 1

Put: 2

Intimate Consumer

Producer waiting
Got: 2

Intimate Producer

Consumed: 2

Put: 3

Intimate Consumer

Producer waiting
Got: 3

Intimate Producer

Consumed: 3

Put: 4

Intimate Consumer

Producer waiting
Got: 4

Intimate Producer

Consumed: 4

Put: 5

Intimate Consumer

Producer waiting
Got: 5

Intimate Producer

Consumed: 5

Put: 6

Intimate Consumer

Consumed: 6

Producer Waiting
Got: 6

Indirect Producer

Consumed: 6

Consumed: 14

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