S.No: 27	Exp. Name: ***Program that correctly implements Producer Consumer problem using the concept of Inter Thread communication.***	Date:2023-09-25

Aim:

Write a **Java** program that correctly implements **Producer Consumer** problem using the concept of **Inter Thread communication**.

Sample Input and Sample Output:

```
PUT:0
GET:0
PUT:1
GET:1
PUT:2
GET:2
PUT:3
GET:3
PUT:4
GET:4
PUT:5
GET:5
```

Note: Iterate the **while-loop** in **run()** method upto **5** times in **Producer** and **Consumer** Class.

Source Code:

ProdCons.java

```
class Q
{
   int n;
   boolean statusFlag=false;
   synchronized void put(int n)
   {
      try
      {
         while(statusFlag)
         {
            wait();
   }
  }
      catch(InterruptedException e)
      {

  }
      this.n=n;
      System.out.println("PUT:"+n);
      statusFlag=true;
      notify();
 }
   synchronized int get()
   {
      try
      {
         while(!statusFlag)
         {
```

```
            wait();
    }
   }
    catch(InterruptedException e)
    {

 }
    statusFlag=false;
    System.out.println("GET:"+n);
    notify();
    return n;
 }
}
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++);
          if(i==6)
          System.exit(0);
   }
 }
}
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 ProdCons
{
    public static void main(String args[])
    {
       Q q=new Q();
       Producer p=new Producer(q);
       Consumer c=new Consumer(q);
 }
```

```
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
PUT:0
GET:0
PUT:1
GET:1
PUT:2
GET:2
PUT:3
GET:3
PUT:4
GET:4
PUT:5
GET:5