Assignment – 10

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Slot &Date: L25+L26

Aim:

1. Write a Java Program to implement inter thread communication.

Code:

1:

```
class ItemQueue
{
   int item;
   boolean valueSet = false;

   synchronized int getItem()

   {
      while (!valueSet)
         try
          {
```

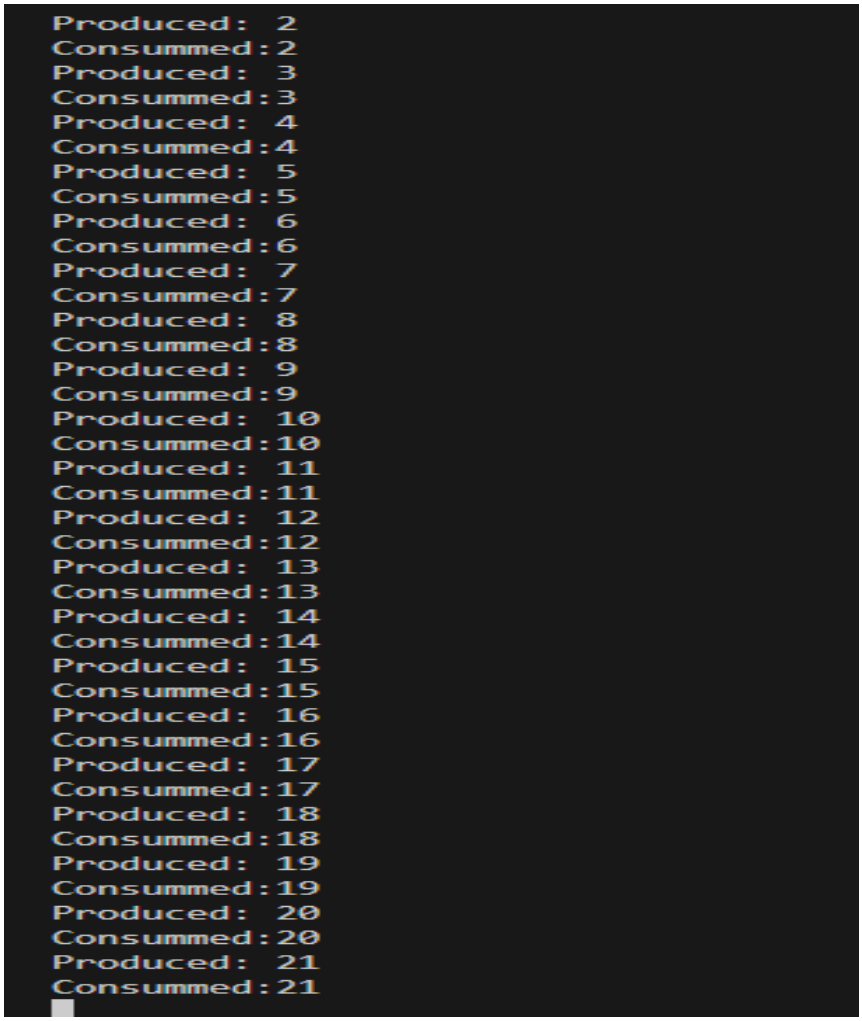
```
            wait();
        }
        catch (InterruptedException e)
        {
        System.out.println("InterruptedException caught");
        }
    System.out.println("Consummed:" + item);
    valueSet = false;
    try
    {
        Thread.sleep(1000);
    }
    catch (InterruptedException e)
    {
        System.out.println("InterruptedException caught");
    }
    notify();
    return item;
}

synchronized void putItem(int item)
{
    while (valueSet)
        try
        {
            wait();
        } catch (InterruptedException e)
        {
        System.out.println("InterruptedException caught");
        }
    this.item = item;
    valueSet = true;
    System.out.println("Produced: " + item);
    try
    {
        Thread.sleep(1000);
    }
    catch (InterruptedException e)
    {
        System.out.println("InterruptedException caught");
    }
    notify();
}
}
```

```
class Producer implements Runnable
{
    ItemQueue itemQueue;
    Producer(ItemQueue itemQueue)
    {
        this.itemQueue = itemQueue;
        new Thread(this, "Producer").start();
    }
    public void run()
    {
        int i = 0;
        while(true)
        {
            itemQueue.putItem(i++);
        }
    }
}
class Consumer implements Runnable
{

    ItemQueue itemQueue;
    Consumer(ItemQueue itemQueue)
    {
        this.itemQueue = itemQueue;
        new Thread(this, "Consumer").start();
    }
    public void run()
     {
        while(true)
     {
            itemQueue.getItem();
        }
    }
}


class Test17
{
    public static void main(String args[])
    {
        ItemQueue itemQueue = new ItemQueue();
        new Producer(itemQueue);
        new Consumer(itemQueue);
```

```
    }
}
```

Output:

1


Produced: 2
Consummed:2
Produced: 3
Consummed:3
Produced: 4
Consummed:4
Produced: 5
Consummed:5
Produced: 6
Consummed:6
Produced: 7
Consummed:7
Produced: 8
Consummed:8
Produced: 9
Consummed:9
Produced: 10
Consummed:10
Produced: 11
Consummed:11
Produced: 12
Consummed:12
Produced: 13
Consummed:13
Produced: 14
Consummed:14
Produced: 15
Consummed:15
Produced: 16
Consummed:16
Produced: 17
Consummed:17
Produced: 18
Consummed:18
Produced: 19
Consummed:19
Produced: 20
Consummed:20
Produced: 21
Consummed:21

END