LAB - 10 (a)

> Demonstrate Inter process communi-cation and deadlock.

```
a) class Q{
    int n;
    boolean valueSet = false;
    Synchronized int get()
    {
      while (! valueSet)
      try{
        System.out.println("\n Consumer
                              waiting \n");
        wait();
      }
    catch (InterruptedException e)
    {
      System.out.println("Interrupted
            -Exception caught");
    }
    System.out.println("Got " + n);
    valueSet = false;
    System.out.println("\n Intimate
                          Producer\n");
    notify();
    return n;
    }
```

```
Synchronized void put(int n)
{
  while(valueSet)
  try{
     System.out.println("\n Producer
                          waiting\n");
  wait();
  }
  catch(InterruptedException e)
  {
   System.out.println(" InterruptedExcep
        -tion caught");
  }
  this.n=n;
  valueSet = true;
  System.out.println("Put:" + n);
  System.out.println("\n Intimate
                       Consumer\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(i<15)
  {
    q.put(i++);
  }
}
}

class Consumer implements Runnable
{
  Q q;
  Consumer(Q 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:"+r);
      i++;
    }
  }
}
```

```
class PCFixed
{
    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: Press Control-C to stop.

```
Put: 0
Intimate Consumer
Producer waiting
Got: 0
Intimate Producer
Put: 1
Intimate Consumer
Producer waiting
Consumed = 0
Got: 1
Intimate Producer
Consumed: 1
Put: 2
Intimate Consumer
Producer waiting
Got: 2
Intimate Producer
```

Consumed : 2
Put : 3
Intimate Consumer
Producer waiting
Get : 3
Intimate Producer
Consumed : 3
Put : 4
Intimate