```
Sagar . I . Bangari
            LAB - 10
                                       18M22C5231
           process communication
class Q &
   int n;
           valuesei = fate:
   boolean
    synchronized in ger () {
        while (! value Set)
               try ?
                systemous printen ("In Consumer waiting In");
                waitt);
               earch (Interrupted Exception e) ;
                   system.out.printh ("Interrupted Exception
                                 caught");
           Systemour. print In ("Gor: "+ n);
            valueSet = false;
           System. out. printinc (n Intimage Product in);
            notify ();
            return h;
 3
 Synchronized void put (int n) ?
       while (valueset)
             try &
                 system. out. println("In Producer walting \n");
                  wait();
             catch (Interrupted Exception e) {
                  system our println 1" Interrupted Exception
                                 (aught");
```

```
this, n = ns
            valueSet = true;
            System.our. println (" PUE: "+n): consumer
            System.out. println ("In Intimake producer) n'1)
            notify U:
         3
      3
        Producer implements Runnable ?
  class
        9 91
            Producer (9 2) {
                this. 9 = 9;
                new Thread (this, "Producer"). sharty;
           public void run (18
                 Int 1=0)
                  while (1<5){
                 q. put (1++);
         3
class consumer implements Runnable &
        991
           Consumer (9 2) {
                this. 4 = 9;
                new Thread (this, "Consumer"). start ();
```

```
public void run() ?
                 int 1=01
                 while (125)5
                     Int r=q.ger();
                    System our println ("consumed"+x);
                     1++3
          3
    class PCFixed &
  public static vold main (String args []) {
             9 g = new 90;
             new Producer (4);
             new consumer (2);
             System.our. printing " Prest control-c to stop ");
          pw 10
output:
          Press control-c to stop
          Inhimate Consumer
          Producer waiting
          Got: 0
         Intimax products
          consumed: D
          Put : 81
         Inhimute consumer
         Producer waiting
          Got !1
         Intimate Producer
         consumed: a
         put : 2
```

```
Dead Lock
    class A &
        synchronized void foo (B b) {
            String name = Thread. current Thread(), gut Nomels,
            System out println ( name + "entered A foor).
            try {
               Thread steep ( 2000);
            catch (Exception e) {
                system.ous.printlnt a interrupted );
            System.ow. println ( name + "trying to call
                              B. last ()");
               bitest ();
       word last 175
            system-ow-println ("Inside A. last");
       3
3
       13 3
Class
      synchronized void bar (Au) {
         String name = Thread. current Thread ().ger Name ()
        System.ow. println (name + "entered 8. bar");
         try &
            Thread . sleep (1000);
         cotch ( Exception e) {
              System.ow.print In L' 8 interrupted");
```

```
System. our printle (mame + "trying to call A. last())
           a. last ();
     3
     world last () {
         Systemous printing Inside A. last ");
7
     Deadlock implements Rumable &
clus.
         A a = new All;
         B b = new BCJs
          Deudlockist
            Thread currenthread () survane ("Main Thread");
            Thread t = new thread (this, reading thread ");
            +. start U;
            a.foo(b);
            System.our printint Buile in main thread");
       public void run U {
           b.bar (a);
           System.ow. printin L" Back in other thread");
        3
       public static void main (String arg. (1) ?
              new Deadlock ();
```

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Main Thread intered A.foo

Racing Thread intered B.bar

Main Thread trying to cull B.last()

Inside A.last

Back in main Thread

Racing Thread trying to call A.last()

Inside A.last 18.

Back in other Thread

101 29