Lab 09 : Inter process communication and deadlock :

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| #= | LAB :- 10 |
| * | permonstrate inter process communication and |
| | LAB:- 10 Demonstrate Inter process communication and deading |
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| | boolean value et = falle; |
| | Synchoonized int get () |
| | while (; valueses) |
| | try |
| | eyaters out point (n (" In consoner witing In"): |
| | wait(); |
| | s catch (Interrupted Exception e) [|
| | System . out . print to ("In terrupted Exaption raught"). |
| | When the gots bosed and |
| - | system · out · println (" Got :"+n); |
| | valued = farse; |
| | system. out- print in ("In Totimate producer In) |
| | notity() i |
| | return; |
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| | Synchronized void put (in+ 1) { |
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| | try { |
| | system out println (" In produced exitingle" |
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       dous producer implements pumable &
       producer (0,9) 1
         this . 9 = 9:
         New Thread ( this " Producer") - strant ():
         Public vold run() }
          int i= 0;
            While (1215) {
             9. pot (i++);
         dass consumer implements Rumaby ?
         99;
         con 8 umer (9 9)
         new throad (this, "consumer") start ():
        public void run () {
        int = 0;
        while (1215) 1
       int r= q-get();
system = out = print(n ("consomed:"+r);
        3+++ 7
```

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| public statte voted mater () |
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| Later Daniel Car Color |
| 10 to produce (g) / (c) to stop') ; |
| syran out println ("e to stop"); |
| And |
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| cutput: |
| put 210 |
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| pot: 1 Got: 1 Got: 1 Got: 1 |
| put: 2 put: 12 |
| 90+:2 90+:12 |
| put: 3 put: 13 |
| 60t : 3 |
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| Put 8 5 |
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| 90 + 1 h |
| Pot 3 2 |
| 90+97 |
| pot: 8/ |
| 90+18 |
| pt: 9 |
| N. I |

```
Code:
class Q {
int n;
boolean valueSet = false;
synchronized int get() {
while(!valueSet)
try {
System.out.println("\nConsumer waiting\n");
wait();
} catch(InterruptedException e) {
System.out.println("InterruptedException
caught");
System.out.println("Got: " + n);
valueSet = false;
System.out.println("\nIntimate Producer\n");
notify();
return n;
synchronized void put(int n) {
while(valueSet)
try {
System.out.println("\nProducer waiting\n");
wait();
```

```
} catch(InterruptedException e) {
System.out.println("InterruptedException caught");
}
this.n = n;
valueSet = true;
System.out.println("Put: " + n);
System.out.println("\nIntimate Consumer\n");
notify();
}
class Producer implements Runnable {
Qq;
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 {
Qq;
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);
j++;
}
}
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 :

Put: 1

Got: 1

Put: 2

Got: 2

Put: 3

Got: 3

Put: 4

Got: 4

Put: 5

Got: 5