



LAB-10

Demonstrate Inter process Communication and deadlock

```

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("InterruptedException caught");
            }
            System.out.println("Got: " + n);
            valueSet = false;
            System.out.println("\n Producer waiting\n");
            wait();
        } catch (InterruptedException e) {
            System.out.println("InterruptedException caught");
        }
        this.n = n;
        valueSet = true;
        System.out.println("Put: " + n);
        System.out.println("\n Intraite 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){
        g.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 Main {

```

```

    public static void main(String args[]) {

```

```

        Q q = new Q();

```

```

        new Producer(q);

```

```

        new Consumer(q);

```

```

        System.out.println("Press Ctrl 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~~

~~Got: 3~~

Intimate Producer

Consumed: 3

Put: 4

Producer waiting

Got: 4

Intimate Producer

consumed: 4

Put: 5

Intimate Consumer

Producer waiting

Got: 5

Intimate ~~Consumer~~ Producer

~~Producer waiting~~

consumed: 5

Put: 6

Intimate Consumer

Producer waiting

Got: 6

Intimate Consumer

consumed: 6

Put: 7

Intimate Consumer

Producer waiting

Got: 7

Intimate Producer

consumed: 7

Put: 8

Intimate Consumer

Producer waiting

Got: 8

Intimate Producer

consumed: 8

Put: 9

Intimate Consumer

Producer waiting

Got: 9

Intimate Producer

consumed: 9

Put: 10

Intimate Consumer

Producer waiting

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PS C:\Users\BMSCE\Desktop\1bm22cs195> java PCFixed

Put: 0

Press Control-C to stop.

Got: 0

Put: 1

Got: 1

Put: 2

Got: 2

Put: 3

Got: 3

Put: 4

Got: 4

Put: 5

Got: 5

Put: 6

Got: 6

Put: 7

Got: 7

Put: 8

Got: 8

Put: 9

Got: 9

Put: 10

Got: 10

Put: 11

Got: 11

Put: 12

Got: 12

Put: 13

Got: 13

Put: 14

Got: 14

PS C:\Users\BMSCE\Desktop\1bm22cs195> |