

class Test - 02

1) Java Program to inter-thread communications :

```
Public class inter-thread
{
```

```
Public static void main (String[] args) {
```

```
    messageQueue messageQueue = new messageQueue();
```

```
    Thread ProducerThread = new Thread (new ProducerThread (messageQueue));
```

```
    Thread ConsumerThread = new Thread (new ConsumerThread (messageQueue));
```

```
    ProducerThread.start();
```

```
    ConsumerThread.start();
```

```
}
```

```
}
```

```
class messageQueue {
```

```
    Private String message;
```

```
    Private boolean messageAvailable;
```

```
    Public synchronized void PutMessage (String message) {
```

```
        while (messageAvailable) {
```

```
            try {
```

```
this.message = message;
```

```
messageAvailable = true;
```

```
System.out.println("Produced : " + message);
```

```
notify();
```

```
}
```

```
public synchronized String getMessage() {
```

```
    while (!messageAvailable) {
```

```
        try {
```

```
            wait();
```

```
        }
```

```
        catch (InterruptedException e) {
```

```
            Thread.currentThread().interrupt();
```

```
        }
```

```
    }
```

```
public void run() {
```

```
    for (int i = 1; i <= 5; i++) {
```

```
        messageQue.getMessage();
```

```
    }
```

```
        Thread.sleep(1000);
```

```
    }
```

```
    catch
```

```
}
```

```
}
```

2A) Java Program to demonstrate all threads:-

```
Public class thread demo {
```

```
    Public static void main (String args [])
```

```
{
```

```
    Thread newThread = new Thread (new stateThread());
```

```
    Thread runnable = new Thread (new runnableThread());
```

```
    Thread blockedThread = new Thread (new blockedThread());
```

```
    Thread waitingThread = new Thread (new waitingState());
```

```
    newThread.start();
```

```
    runnableThread.start();
```

```
    Thread.sleep(100);
```

```
    blockedThread.start();
```

```
    Thread.sleep(100);
```

```
    waitingThread.start();
```

```
    timedWaitingThread.start();
```

```
    Thread.sleep(1000);
```

```
}
```

```
}
```

class waiting state thread implements runnable {

public void run() {

synchronized (ThreadStateDemo.class) {

try {

ThreadStateDemo.class.wait();

} catch

thread { Thread t = Thread.currentThread();

t

};

class timeWaiting state thread implements runnable {

public void run() {

try {

Thread.sleep(1000);

} catch

thread { Thread.currentThread().interrupt();

};

};

};