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**Class – FYMCA**

**Division – A, Batch- A1**

**Roll No- 07**

**Subject – Object Oriented Programming.**

**Assignment No – 11**

**Assignment Title -** Write a program to create multiple threads and demonstrate how two threads communicate with each other.

**Input –**

**class SharedResource {**

**private int count = 0;**

**synchronized void**

**increment() { count++;**

**System.out.println("Incremented count to: " + count);**

**notify();**

**}**

**synchronized void**

**decrement() { while**

**(count == 0) { try {**

**wait();**

**} catch (InterruptedException e) {**

**e.printStackTrace();**

**}**

**}**

**count-**

**-;**

**System.out.println("Decremented count to: " + count);**

**}**

**}**

**class IncrementThread extends**

**Thread { private SharedResource**

**resource;**

**IncrementThread(SharedResource resource) {**

**this.resource = resource;**

**}**

**public void run() {**

**for (int i = 0; i < 5;**

**i++) {**

**resource.increme**

**nt(); try {**

**Thread.sleep(1000);**

**} catch (InterruptedException e) {**

**e.printStackTrace();**

**}**

**}**

**}**

**}**

**class DecrementThread extends**

**Thread { private SharedResource**

**resource;**

**DecrementThread(SharedResource**

**resource) { this.resource =**

**resource;**

**}**

**public void run() { for**

**(int i = 0; i < 5; i++)**

**{**

**resource.decreme**

**nt(); try {**

**Thread.sleep(1000);**

**} catch (InterruptedException e) {**

**e.printStackTrace();**

**}**

**}**

**}**

**}**

**public class ass11 { public**

**static void main(String[] args)**

**{**

**SharedResource resource = new SharedResource();**

**IncrementThread incrementThread = new**

**IncrementThread(resource); DecrementThread**

**decrementThread = new DecrementThread(resource);**

**incrementThread.start(); decrementThread.start();**

**}**

**}**

**Output -** 