**12.Implement Java program to demonstrate thread synchronization with thread synchronized method.**

public class ThreadSynchronizationDemo {

public static void main(String[] args) {

SharedResource sharedResource = new SharedResource();

Thread thread1 = new Thread(() -> {

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

sharedResource.printNumber(i);

}

});

Thread thread2 = new Thread(() -> {

for (int i = 6; i <= 10; i++) {

sharedResource.printNumber(i);

}

});

thread1.start();

thread2.start();

}

}

class SharedResource {

public synchronized void printNumber(int number) {

System.out.println(Thread.currentThread().getName() + ": " + number);

try {

Thread.sleep(1000); // Sleep for 1 second to simulate some work

} catch (InterruptedException e) {

e.printStackTrace();

}

}

}