

## LAB # 6 Deadlock in concurrency:

### OBJECTIVE:

Implementing multiple thread blocked resources with help of lock and deadlock conditions.

### Lab Task:

Create three threads by implementing thread synchronization block through 3 locks. (Hint: Apply unsequenced lock to analyze deadlock and solve it through provided solution

The screenshot shows an IDE interface with two tabs: 'MyThread.java' and 'Lab6Solution.java'. The 'MyThread.java' tab contains the following code:

```
1 class MyThread extends Thread {  
2     public MyThread(String name) {  
3         super(name);  
4     }  
5     @Override  
6     public void run() {  
7         synchronized (Lab6Solution.LockA) {  
8             System.out.println(getName() + " acquired Lock A");  
9             synchronized (Lab6Solution.LockB) {  
10                System.out.println(getName() + " acquired Lock B");  
11                synchronized (Lab6Solution.LockC) {  
12                    System.out.println(getName() + " acquired Lock C");  
13                }  
14            }  
15        }  
16        System.out.println(getName() + " released all Locks\n");  
17    }  
18}
```

The 'Lab6Solution.java' tab contains the following code:

```
1 public class Lab6Solution {  
2     public static final Object LockA = new Object();  
3     public static final Object LockB = new Object();  
4     public static final Object LockC = new Object();  
5     public static void main(String[] args) {  
6         MyThread t1 = new MyThread("Sania");  
7         MyThread t2 = new MyThread("004");  
8         MyThread t3 = new MyThread("Thread-3");  
9         t1.start();  
10        t2.start();  
11        t3.start();  
12    }  
13}
```

The 'Output' tab shows the execution results:

```
run:  
Sania acquired Lock A  
Sania acquired Lock B  
Sania acquired Lock C  
004 acquired Lock A  
Sania released all Locks  
  
004 acquired Lock B  
004 acquired Lock C  
004 released all Locks  
  
Thread-3 acquired Lock A  
Thread-3 acquired Lock B  
Thread-3 acquired Lock C  
Thread-3 released all Locks
```

sania1409 Add files via upload	
 README.md	Initial commit
 lab 01_scd.docx	Add files via upload
 lab 02_scd.pdf	Add files via upload
 lab 03_scd.docx	Add files via upload
 lab 04_scd.docx	Add files via upload
 lab 05_scd.docx	Add files via upload
 lab 06_scd.docx	Add files via upload