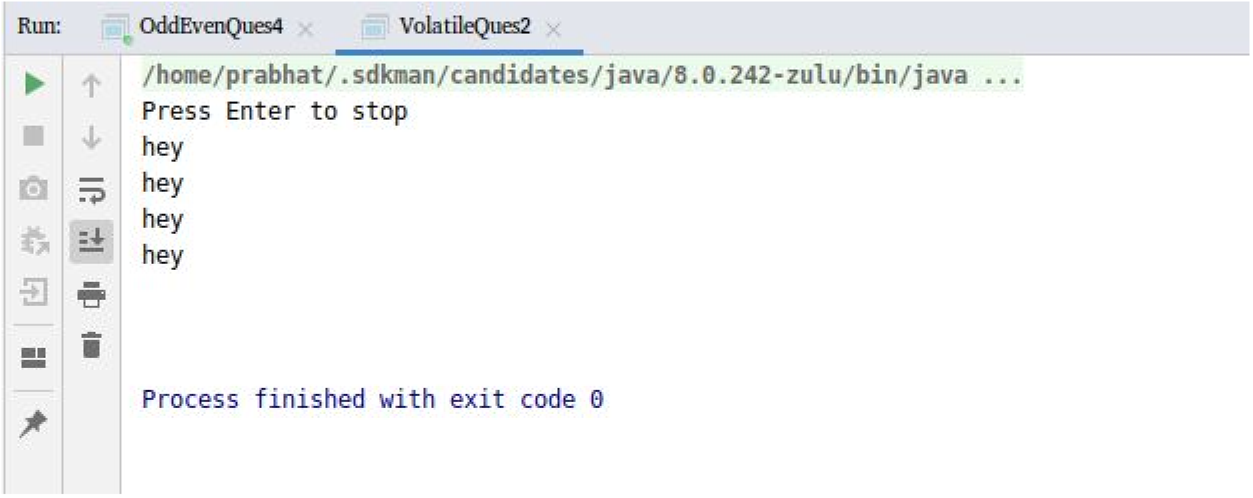
1. **# Write a program do to demonstrate the use of volatile keyword.**

   OUTPUT (VolatileQues2 . java)



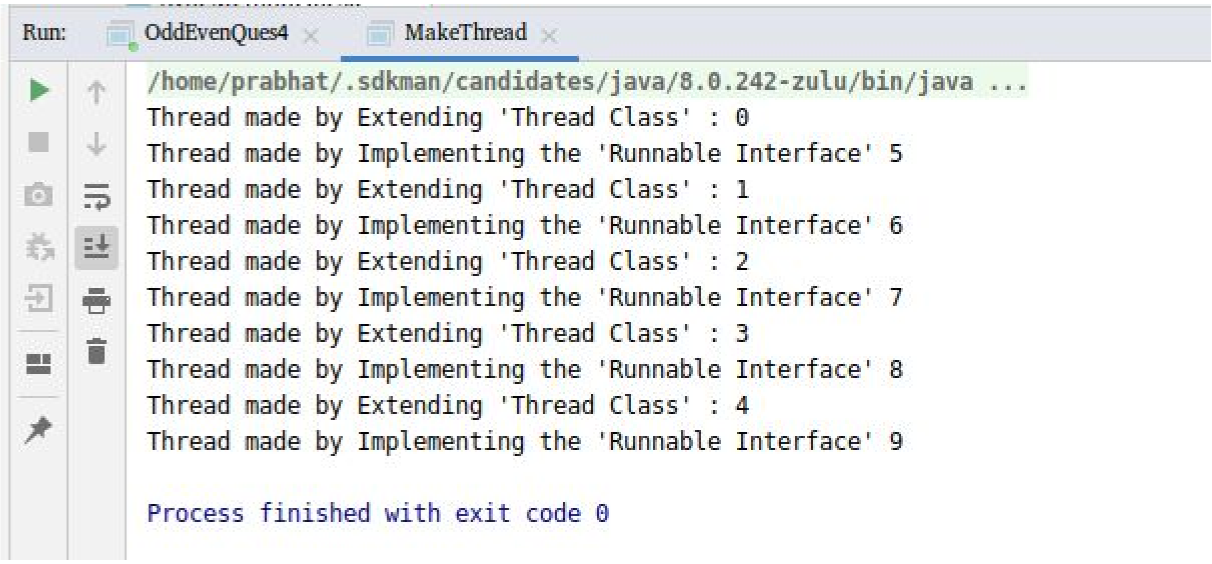
```
/home/prabhat/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Press Enter to stop
hey
hey
hey
hey



Process finished with exit code 0
```

2. **#Write a program to create a thread using Thread class and Runnable interface each.**

   OUTPUT(TThreadQues3.java)

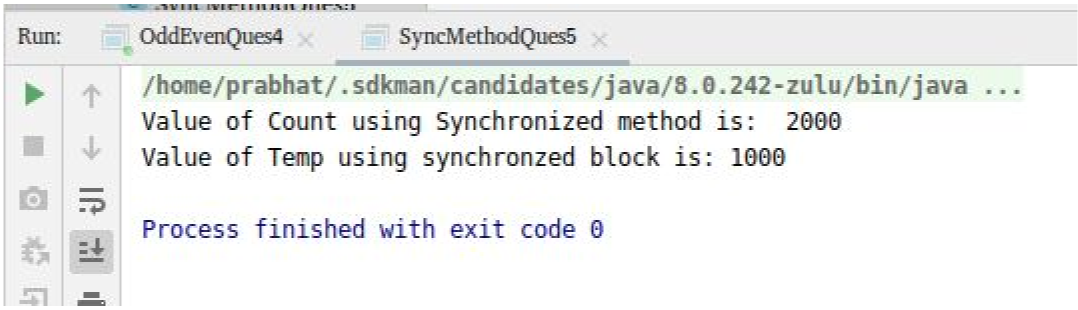


```
/home/prabhat/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Thread made by Extending 'Thread Class' : 0
Thread made by Implementing the 'Runnable Interface' 5
Thread made by Extending 'Thread Class' : 1
Thread made by Implementing the 'Runnable Interface' 6
Thread made by Extending 'Thread Class' : 2
Thread made by Implementing the 'Runnable Interface' 7
Thread made by Extending 'Thread Class' : 3
Thread made by Implementing the 'Runnable Interface' 8
Thread made by Extending 'Thread Class' : 4
Thread made by Implementing the 'Runnable Interface' 9

Process finished with exit code 0
```

3. #Write a program using synchronization block and synchronization method

OUTPUT(SyncMethodQues5.java)

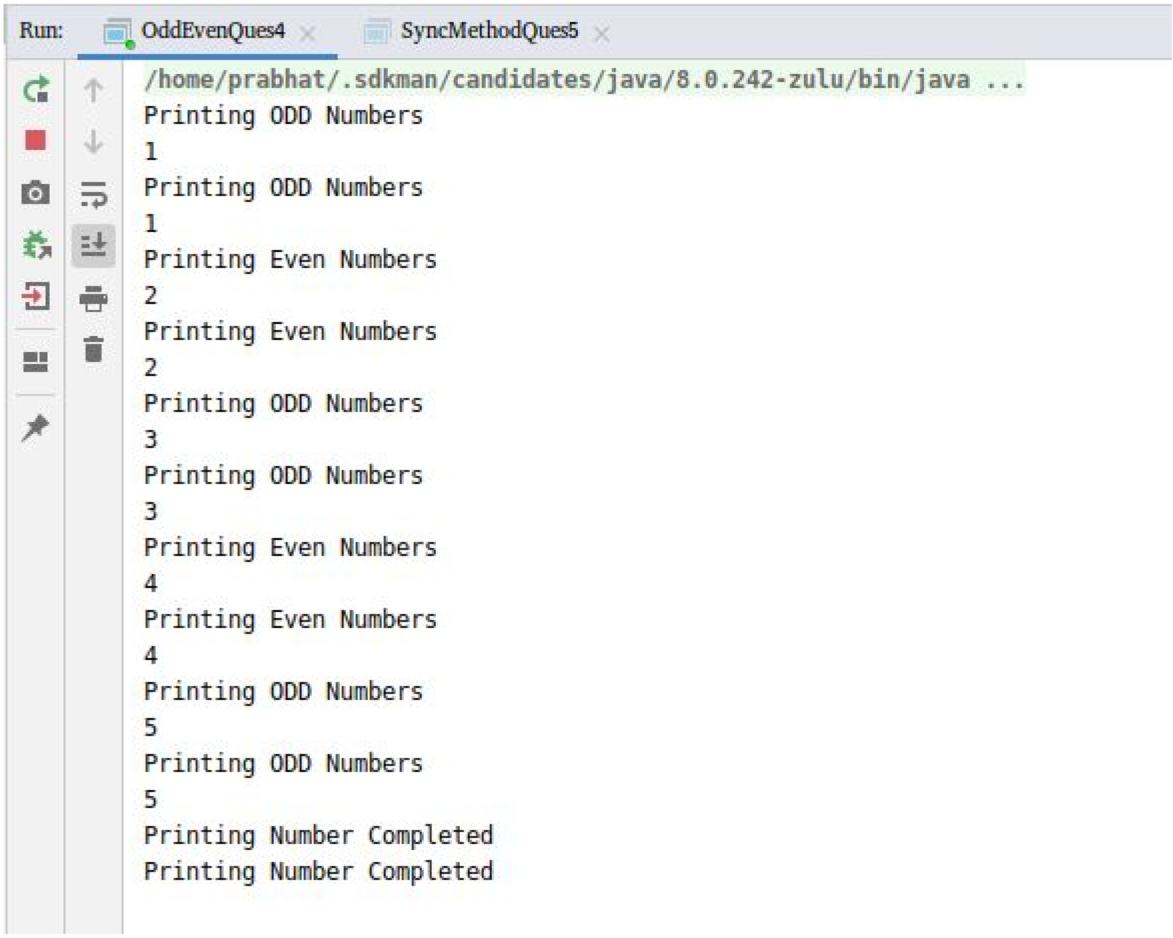


```
/home/prabhat/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Value of Count using Synchronized method is:  2000
Value of Temp using synchronzed block is: 1000

Process finished with exit code 0
```

4. Write a program to create a Thread pool of 2 threads where one Thread will print even numbers and other will print odd numbers.

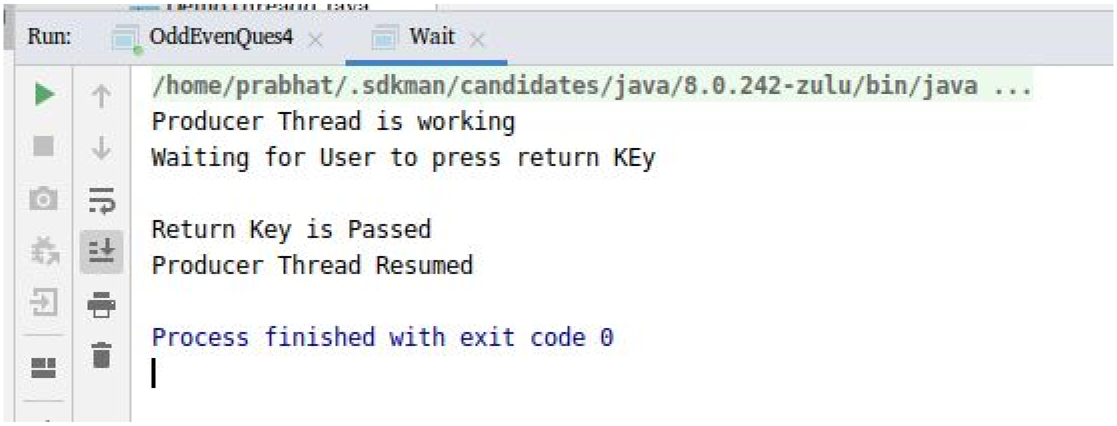
OUTPUT(OddEvenQues4.java)



```
/home/prabhat/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Printing ODD Numbers
1
Printing ODD Numbers
1
Printing Even Numbers
2
Printing Even Numbers
2
Printing ODD Numbers
3
Printing ODD Numbers
3
Printing Even Numbers
4
Printing Even Numbers
4
Printing ODD Numbers
5
Printing ODD Numbers
5
Printing Number Completed
Printing Number Completed
```

5. **#Write a program to demonstrate wait and notify methods.**

   OUTPUT(WNQues5.java)



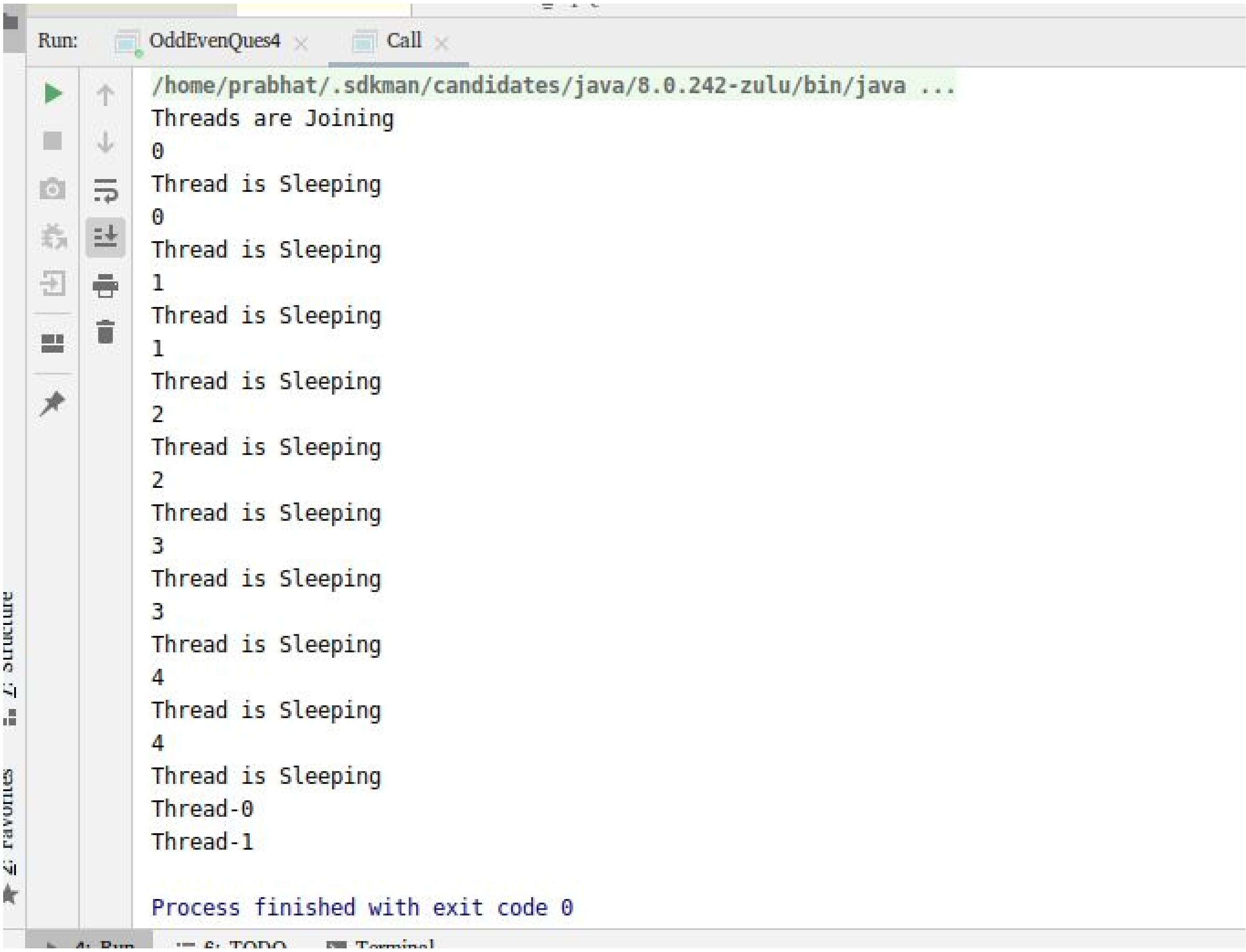
```
/home/prabhat/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Producer Thread is working
Waiting for User to press return KEy

Return Key is Passed
Producer Thread Resumed

Process finished with exit code 0
```

6. **#Write a program to demonstrate sleep and join methods.**

   OUTPUT(SleepQues1.java)

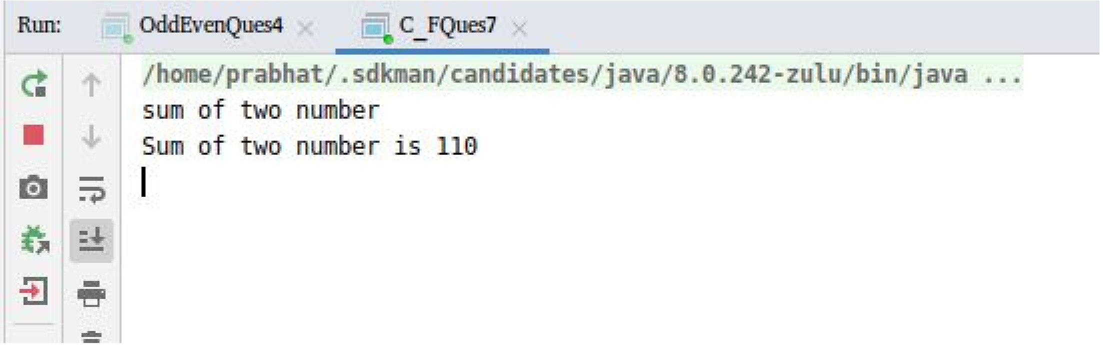


```
/home/prabhat/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Threads are Joining
0
Thread is Sleeping
0
Thread is Sleeping
1
Thread is Sleeping
1
Thread is Sleeping
2
Thread is Sleeping
2
Thread is Sleeping
3
Thread is Sleeping
3
Thread is Sleeping
4
Thread is Sleeping
4
Thread is Sleeping
Thread-0
Thread-1

Process finished with exit code 0
```

7. **#Run a task with the help of callable and store it's result in the Future.**

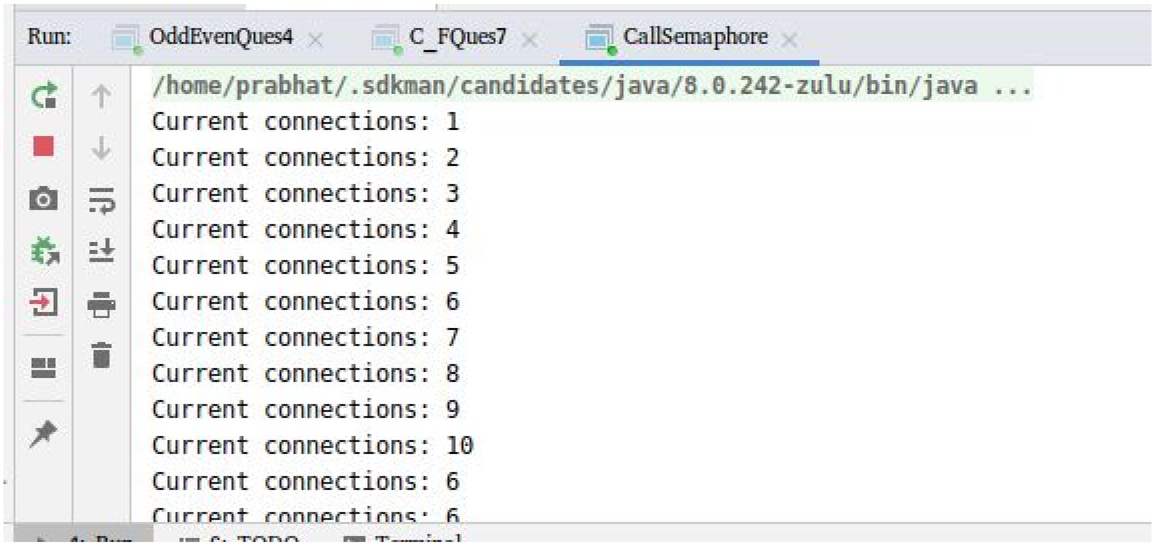
   OUTPUT(C_FQues7.java)



```
/home/prabhat/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
sum of two number
Sum of two number is 110
```

8. **#Write a program to demonstrate the use of semaphore**

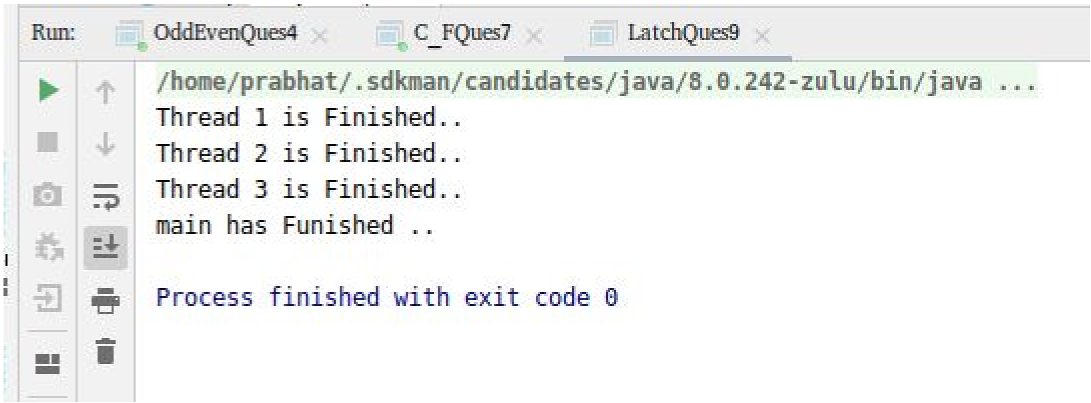
   OUTPUT(SemaphoreQues8.java)



```
/home/prabhat/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Current connections: 1
Current connections: 2
Current connections: 3
Current connections: 4
Current connections: 5
Current connections: 6
Current connections: 7
Current connections: 8
Current connections: 9
Current connections: 10
Current connections: 6
Current connections: 6
```

9. **#Write a program to demonstrate the use of CountDownLatch**

OUTPUT(LatchQues9.java)

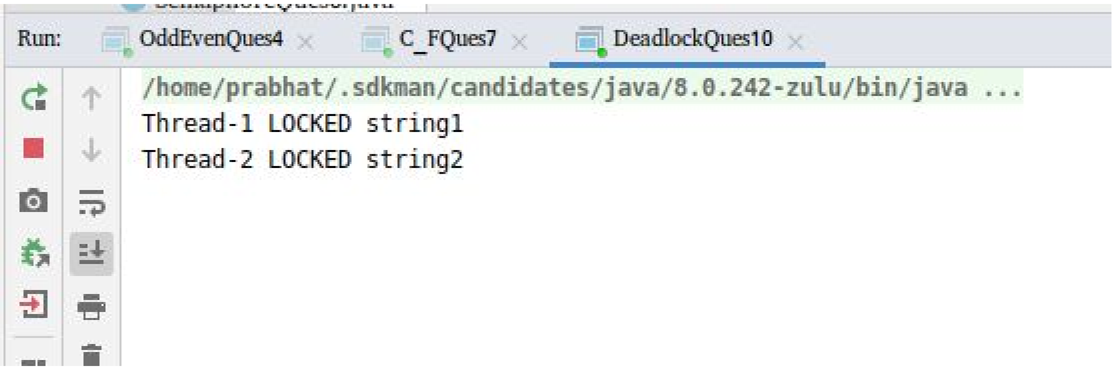


```
/home/prabhat/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Thread 1 is Finished..
Thread 2 is Finished..
Thread 3 is Finished..
main has Funished ..

Process finished with exit code 0
```

10. **#Write a program which creates deadlock between 2 threads**

OUTPUT(DeadlockQues10.java)



```
/home/prabhat/.sdkman/candidates/java/8.0.242-zulu/bin/java ...
Thread-1 LOCKED string1
Thread-2 LOCKED string2
```