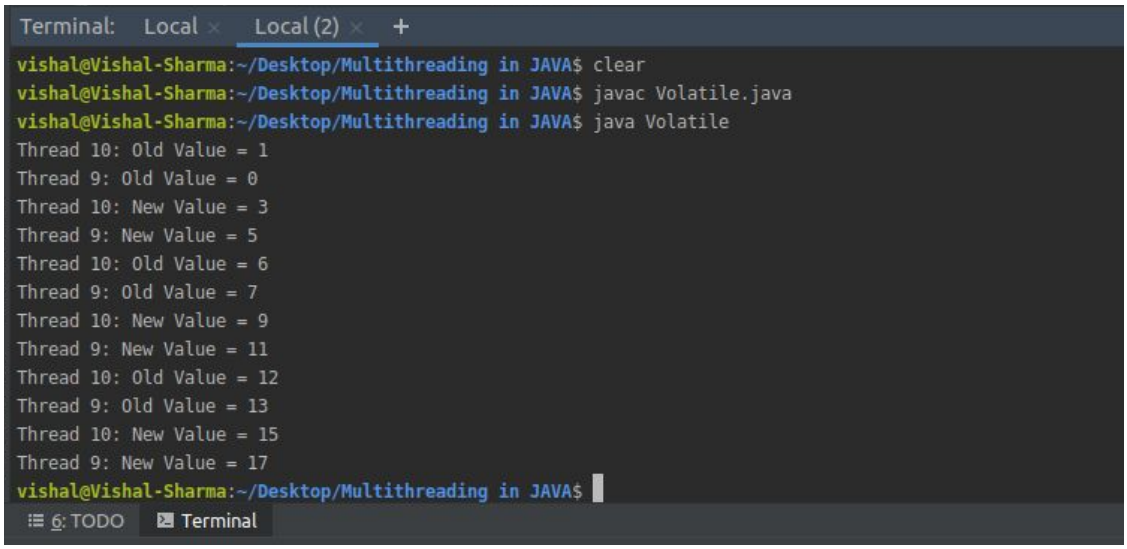
Newer : Vishal Sharma
Newer ID : 4171
Email : vishal.sharma@tothenew.com

Exercise : Multithreading in JAVA

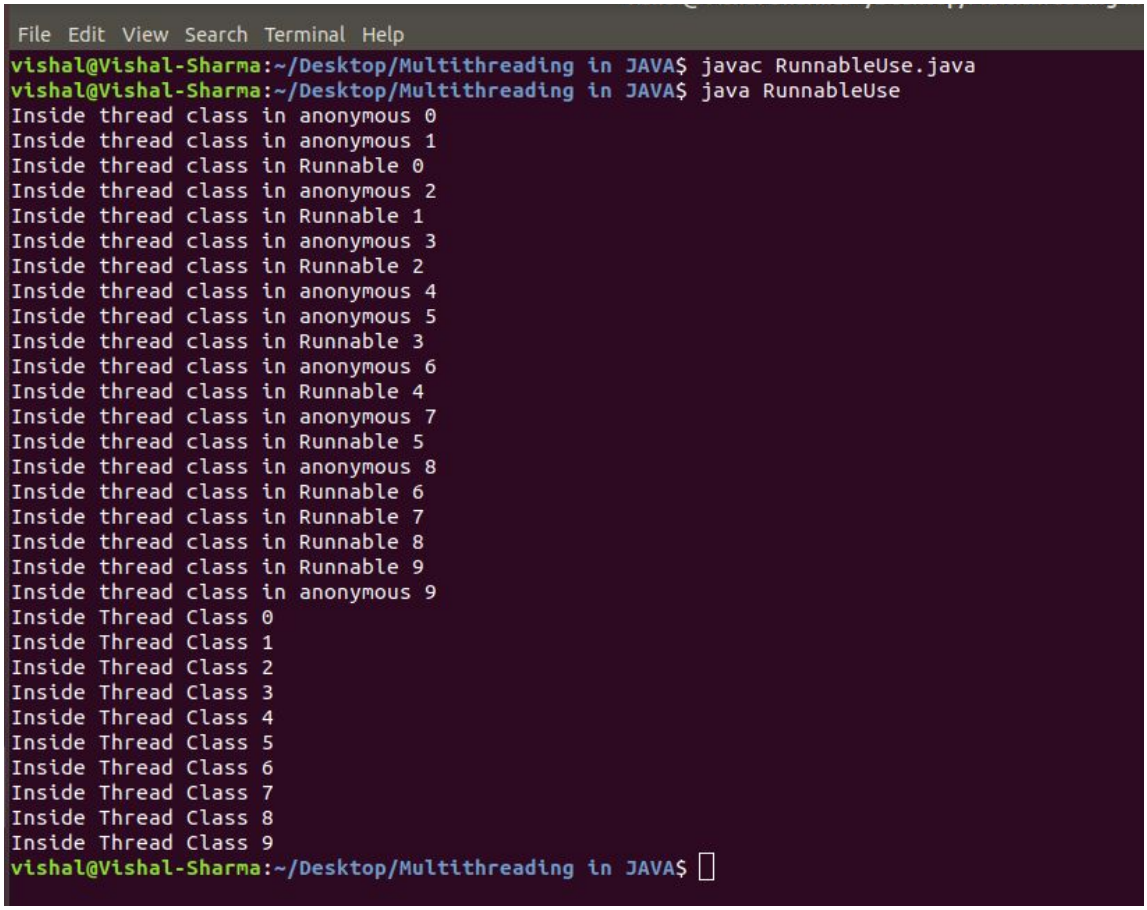
1. Write a program to demonstrate the use of volatile keyword.

   Answer: Filename- **Volatile.java**



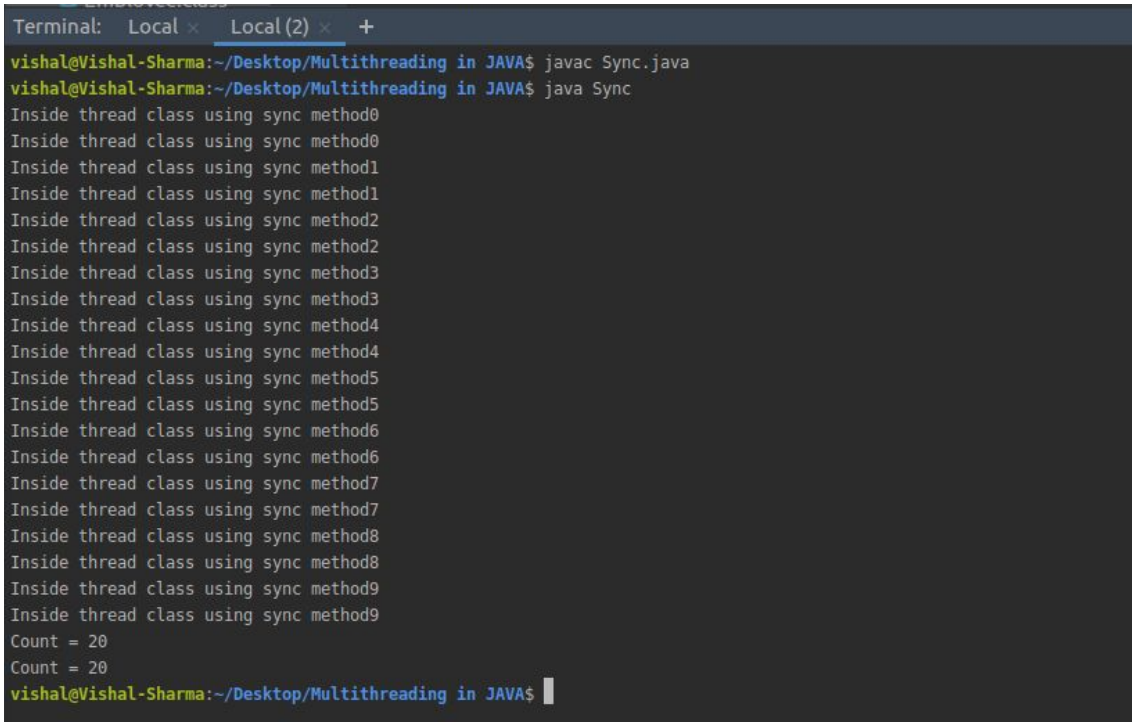
2. Write a program to create a thread using Thread class and Runnable interface each.

   Answer: Filename- **RunnableUse.java**



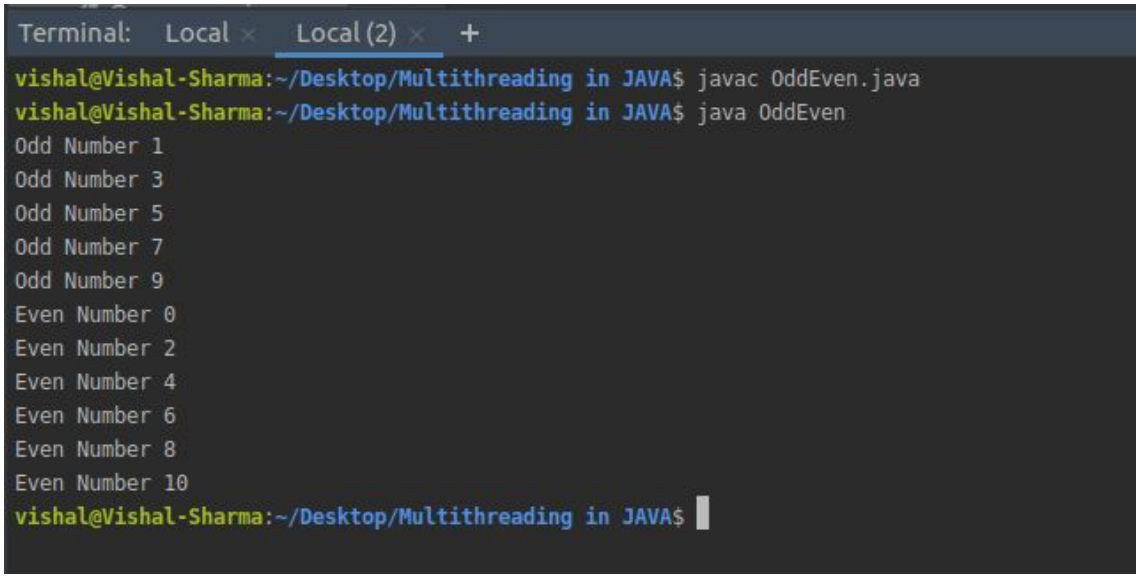
3. Write a program using synchronization block and synchronization method

   Answer: Filename- **Sync.java**



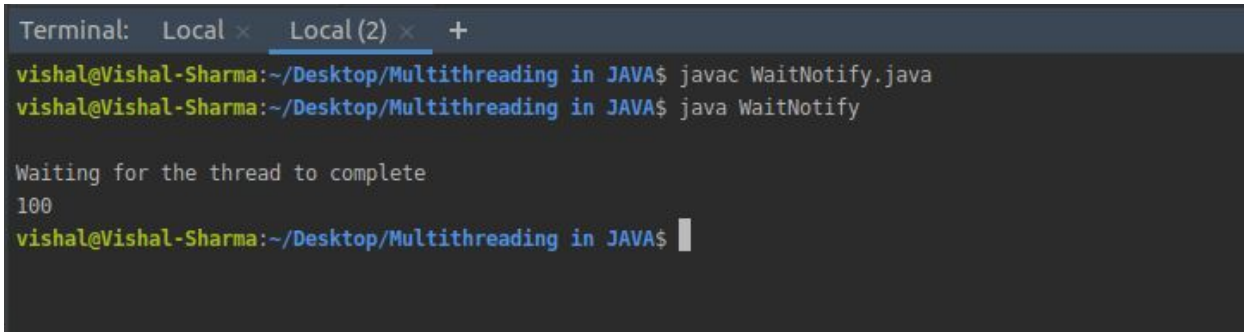
4. Write a program to create a Thread pool of 2 threads where one Thread will print even numbers and other will print odd numbers.

   Answer: Filename- **OddEven.java**



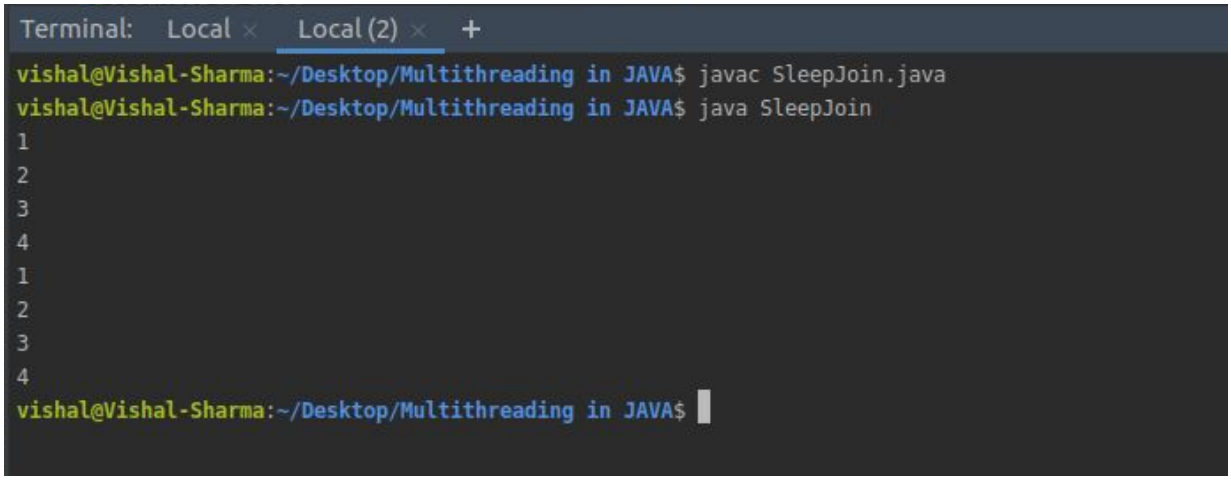
5. Write a program to demonstrate wait and notify methods.

Answer: Filename- **WaitNotify.java**



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

   Answer: Filename- **SleepJoin.java**



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

   Answer: Filename- **CallableFuture.java**

```
Terminal:  Local  Local (2)  +
vishal@Vishal-Sharma:~/Desktop/Multithreading in JAVA$ javac CallableFuture.java
vishal@Vishal-Sharma:~/Desktop/Multithreading in JAVA$ java CallableFuture
java.io.IOException:
Sleeping for too long.
vishal@Vishal-Sharma:~/Desktop/Multithreading in JAVA$
```

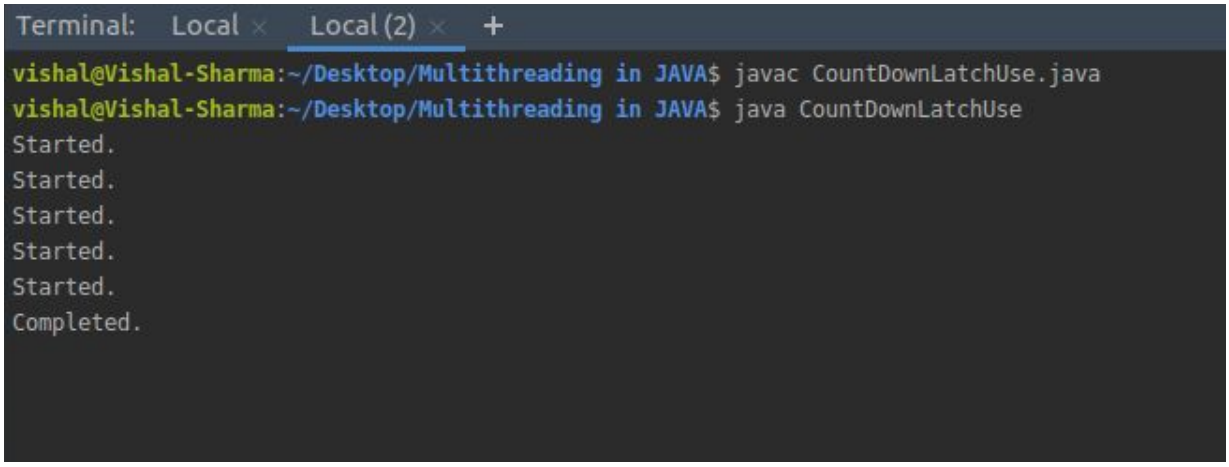
8. Write a program to demonstrate the use of semaphore.

   Answer: Filename- **SemaphoreUse.java**

```
Terminal:  Local  Local (2)  +
vishal@Vishal-Sharma:~/Desktop/Multithreading in JAVA$ javac SemaphoreUse.java
vishal@Vishal-Sharma:~/Desktop/Multithreading in JAVA$ java SemaphoreUse
Starting B
Starting A
B is waiting for a permit.
A is waiting for a permit.
B gets a permit.
B: -1
B: -2
B: -3
B: -4
B: -5
B releases the permit.
A gets a permit.
A: -4
A: -3
A: -2
A releases the permit.
count: -2
vishal@Vishal-Sharma:~/Desktop/Multithreading in JAVA$
```

9. Write a program to demonstrate the use of CountDownLatch

   Answer: Filename- **CountDownLatchUse.java**



10. Write a program which creates deadlock between 2 threads

    Answer: Filename- **Deadlock.java**