**Usn:1BM19CS216**
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## EXTRA LAB PROGRAMS:

**1. Write a program to create a thread and find the sum of odd numbers from 1 to 100 in this thread. Find the sum of even numbers for the same range in the main thread.**

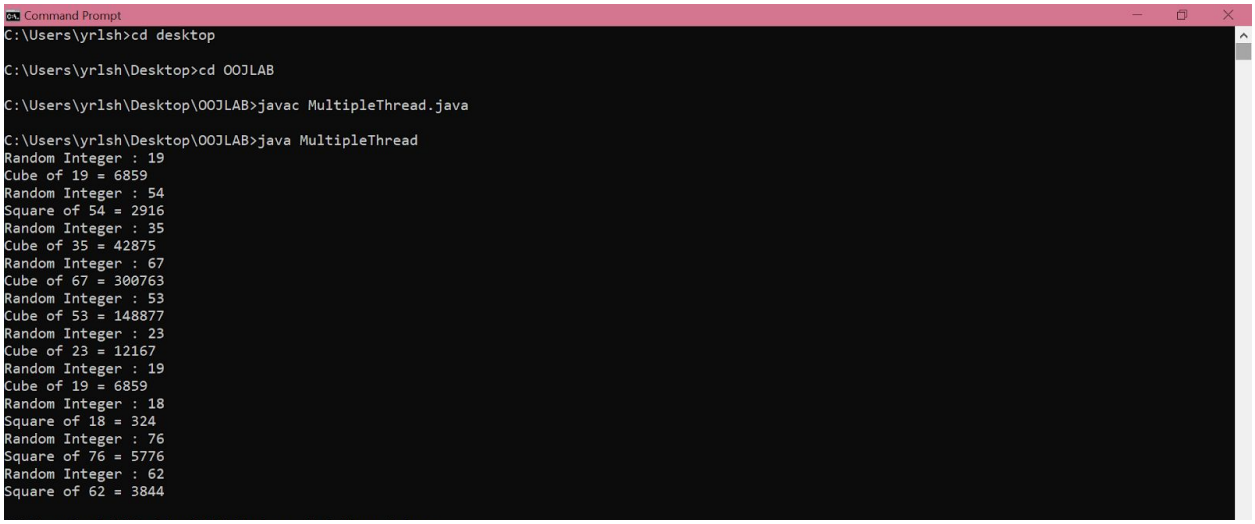
```
class NewThread implements Runnable
{
   Thread t;
   NewThread()
   {
      t=new Thread(this,"New Thread");
      System.out.println("CT:"+t);
      t.start();
   }
   public void run()
   {
      int sum=0,i;
      try
      {
         for(i=1;i<=100;i++)
         {
            if(i%2==1)
            {
               sum=sum+i;
            }
         }
         System.out.println("Sum of odd numbers "+sum);
         Thread.sleep(1000);
      }
      catch(InterruptedException ie)
      {
         System.out.println("Child Thread Interrupted");
      }
   }
}
class Main
{
   public static void main(String args[])
   {
      int sum=0,i;
      NewThread n1=new NewThread();
```

```
        try
        {
           for(i=1;i<=100;i++)
           {
              if(i%2==0)
              {
                 sum=sum+i;
              }
           }
           Thread.sleep(2000);
           System.out.println("Sum of even numbers "+sum);
        }
        catch(InterruptedException ie)
        {
           System.out.println("Child Thread Interrupted");
        }
     }
}
```


**2. Develop a multithreaded Java program to create three threads. First thread generates random integer for every second and if the value is even, second thread computes the square of number and prints. If the value is odd, the third thread will print the value of cube of number.**

```
import java.util.Random;

class RandomNumberThread extends Thread {
        public void run() {
                Random random = new Random();
                for (int i = 0; i < 10; i++) {
                        int randomInteger = random.nextInt(100);
                        System.out.println("Random Integer generated : " + randomInteger);
                        if((randomInteger%2) == 0) {
                                SquareThread sThread = new SquareThread(randomInteger);
                                sThread.start();
                        }
                        else {
                                CubeThread cThread = new CubeThread(randomInteger);
                                cThread.start();
```

```
                        }
                        try {
                                Thread.sleep(1000);
                        }
                        catch (InterruptedException ex) {
                                System.out.println(ex);
                        }
                }
        }
}

class SquareThread extends Thread {
        int number;

        SquareThread(int randomNumbern) {
                number = randomNumbern;
        }

        public void run() {
                System.out.println("Square of " + number + " = " + (number * number));
        }
}

class CubeThread extends Thread {
        int number;

        CubeThread(int randomNumber) {
                number = randomNumber;
        }

        public void run() {
                System.out.println("Cube of " + number + " = " + number * number * number);
        }
}

public class MultipleThread {
        public static void main(String args[]) {
                RandomNumberThread rnThread = new RandomNumberThread();
                rnThread.start();
        }
}
```


Command Prompt
C:\Users\yrlsh>cd desktop
C:\Users\yrlsh\Desktop>cd OOJLAB
C:\Users\yrlsh\Desktop\OOJLAB>javac MultipleThread.java
C:\Users\yrlsh\Desktop\OOJLAB>java MultipleThread
Random Integer : 19
Cube of 19 = 6859
Random Integer : 54
Square of 54 = 2916
Random Integer : 35
Cube of 35 = 42875
Random Integer : 67
Cube of 67 = 300763
Random Integer : 53
Cube of 53 = 148877
Random Integer : 23
Cube of 23 = 12167
Random Integer : 19
Cube of 19 = 6859
Random Integer : 18
Square of 18 = 324
Random Integer : 76
Square of 76 = 5776
Random Integer : 62
Square of 62 = 3844