Date __/__/__ Week 11 Extra Programs

Q) 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 ThreadMain
{
  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");
    }
  }
}
```

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Q) 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 Square implements Runnable
{
    Thread t2;
    int num;
    Square(int number)
    {
        num = number;
        t2 = new Thread(this, "child thread");
        t2.start();
    }
    public void run()
    {
        System.out.println("Square of "+num+" = "+
                           (num * num));
    }
}
class Cube implements Runnable
{
    Thread t3;
    int num;
    Cube(int number)
    {
        num = number;
```

```
t3 = new Thread (this, "Child thread");
t3.start();
}
public void run()
{
System.out.println("Cube of "+num+"="+
(num*num*num));
}
}
class RandomThread implements Runnable
{
Thread t1;
RandomThread()
{
t1 = newThread (this, "child thread");
t1.start();
}
public void run()
{
Random randnum = new Random();
for(int i=0; i<10; i++)
{
int n = randnum.nextInt(100);
System.out.println("Random Integer : "+n);
if((n%2)==0)
{
Square s = new Square(n);
}
else {
Cube c = new Cube(n);
}
```

```
try
{
  Thread.sleep(10000);
}
catch (InterruptedException ie)
{
  System.out.println("Interrupted");
}
}
}
}

class MultipleThread
{
  public static void main(String args[])
  {
    RandThread r = new RandomThread();
  }
}
```