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Object Oriented Java Programming-19CS3PCOOJ

WEEK 11

EXTRA 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.

CODE:

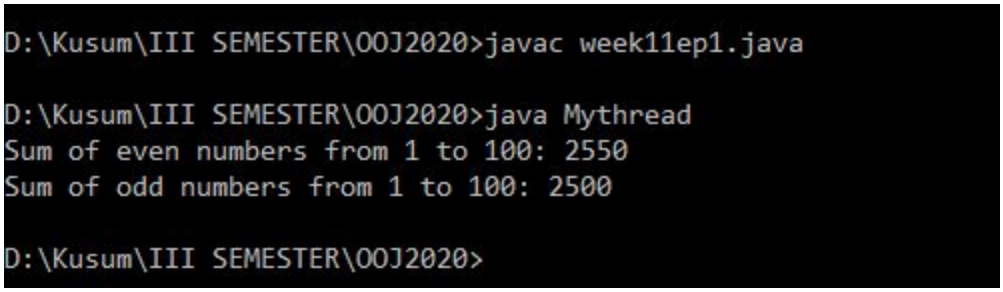
```
class Runnable1 implements Runnable{
   public void run(){
                    try
           {
                      int sum=0;
                      for(int i=1;i<=100;i+=2)
         sum=sum+i;
                    System.out.println("Sum of odd numbers from 1 to 100: "+sum);
           }
           catch(Exception ie)
           {
                      System.out.println("Child Thread Interrupted");
           }
   }
}


class Mythread {

   public static void main(String[] args) {
      Runnable r = new Runnable1();
      Thread t = new Thread(r);
      t.start();
      try
                  {
                              int s=0;
                              for(int i=2;i<=100;i+=2)
          s=s+i;
                    System.out.println("Sum of even numbers from 1 to 100: "+s);
                    }
                    catch(Exception ie)
                    {
                              System.out.println("Main Thread Interrupted");
                    }
```

```
    }
}
```

OUTPUT:



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.

CODE:

```
import java.util.Random;
class Square extends Thread
{
 int x;
 Square(int n)
 {
 x = n;
 }
 public void run()
 {
 int sqr = x * x;
 System.out.println("Square of " + x + " = " + sqr );
 }
}
class Cube extends Thread
{
 int x;
 Cube(int n)
 {
 x = n;
 }
 public void run()
 {
 int cub = x * x * x;
```

```
 System.out.println("Cube of " + x + " = " + cub );
 }
}
class Number 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)
 {
 Square s = new Square(randomInteger);
 s.start();
 }
 else
 {
 Cube c = new Cube(randomInteger);
 c.start();
 }
 try {
 Thread.sleep(1000);

 } catch (InterruptedException ex) {
 System.out.println(ex);
}
 }
 }
}
class thread {
 public static void main(String args[])
 {
 Number n = new Number();
 n.start();
 }
}
```

OUTPUT:

```
D:\Kusum\III SEMESTER\OOJ2020>javac week11ep2.java

D:\Kusum\III SEMESTER\OOJ2020>java thread
Random Integer generated : 9
Cube of 9 = 729
Random Integer generated : 96
Square of 96 = 9216
Random Integer generated : 36
Square of 36 = 1296
Random Integer generated : 98
Square of 98 = 9604
Random Integer generated : 45
Cube of 45 = 91125
Random Integer generated : 67
Cube of 67 = 300763
Random Integer generated : 83
Cube of 83 = 571787
Random Integer generated : 27
Cube of 27 = 19683
Random Integer generated : 32
Square of 32 = 1024
Random Integer generated : 20
Square of 20 = 400
```