

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.

```
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:

```

C:\Users\win10\Documents\Java lab programs>javac Mythread.java

C:\Users\win10\Documents\Java lab programs>java Mythread
Sum of even numbers from 1 to 100: 2550
Sum of odd numbers from 1 to 100: 2500

```

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 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 thread11 {
public static void main(String args[])
```

```
{  
    Number n = new Number();  
    n.start();  
}  
}
```

OUTPUT:

```
C:\Users\win10\Documents\Java lab programs>javac thread11.java  
  
C:\Users\win10\Documents\Java lab programs>java thread11  
Random Integer generated : 64  
Square of 64 = 4096  
Random Integer generated : 44  
Square of 44 = 1936  
Random Integer generated : 27  
Cube of 27 = 19683  
Random Integer generated : 10  
Square of 10 = 100  
Random Integer generated : 12  
Square of 12 = 144  
Random Integer generated : 43  
Cube of 43 = 79507  
Random Integer generated : 47  
Cube of 47 = 103823  
Random Integer generated : 34  
Square of 34 = 1156  
Random Integer generated : 59  
Cube of 59 = 205379  
Random Integer generated : 7  
Cube of 7 = 343
```