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.

```
public class week11_extraprogram1 {
    public static void main(String args[]) {
        B ob2 = new B();
int sum=0;


        try {

            ob2.t.join();
            for(int i=2;i<=100;i +=2) {
                sum +=i;
            }

        } catch (InterruptedException e) {

        System.out.println("Main thread Interrupted");

        }

        System.out.println("Main thread exiting. Even Sum = " +sum); }
}

class B implements Runnable {

Thread t;

B() {


t = new Thread(this, "Demo Thread");
System.out.println("Start odd sumation .");
t.start();

}


public void run() {
int sum=0;
try {

for(int i = 1; i <=100; i+=2) {
sum +=i;
Thread.sleep(10);
```

```
}

} catch (InterruptedException e) {

System.out.println("B interrupted.");

}

System.out.println("Exiting Odd thread. Sum ="+sum);

}

}
```

OUTPUT:

```
Start odd sumation .
Exiting Odd thread. Sum =2500
Main thread exiting. Even Sum = 2550
PS C:\java\lab>
```

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 week11_extraprogram2 {
public static void main(String args[]) {
RandomNumberThread rnThread = new RandomNumberThread();
rnThread.start();
}
}
```

OUTPUT:

```
Random Integer generated : 70
Square of 70 = 4900
Random Integer generated : 43
Cube of 43 = 79507
Random Integer generated : 75
Cube of 75 = 421875
Random Integer generated : 32
Square of 32 = 1024
Random Integer generated : 89
Cube of 89 = 704969
Random Integer generated : 82
Square of 82 = 6724
Random Integer generated : 30
Square of 30 = 900
Random Integer generated : 53
Cube of 53 = 148877
Random Integer generated : 61
Cube of 61 = 226981
Random Integer generated : 60
Square of 60 = 3600
PS C:\java\lab>
```