Assignment – 9

Roll Number: 22BCE8692

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Slot &Date: L25+L26

Aim:

1. Write a Java Program to implement multi-threading.

2. Write a Java Program to implement Synchronization.

Code:

1:

```java
import java.util.*;
class multithreadingDemo extends Thread{
    public void run(){
        try{
            //Dispalying the Thread that is runnning
            System.out.println("Thread " + Thread.currentThread().getId()+ " is running");
        }
        catch(Exception e){
            System.out.println("exception is caught. ");
        }
    }
}
public class Test15b {
    Run | Debug
    public static void main(String[] args) {
    int n;
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter the Thread Size");
    n=sc.nextInt();
    for (int i=0; i<n;i++){
        multithreadingDemo obj = new multithreadingDemo();
        obj.start();
    }
    }
```

```
import java.util.*;
class multithreadingDemo extends Thread{
    public void run(){
        try{
            //Dispalying the Thread that is runnning
            System.out.println("Thread " +
Thread.currentThread().getId()+ " is running");
        }
        catch(Exception e){
            System.out.println("exception is caught. ");
        }
    }
}
```

```
public class Test15b {
    public static void main(String[] args) {
    int n;
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter the Thread Size");
    n=sc.nextInt();
    for (int i=0; i<n;i++){
        multithreadingDemo obj = new multithreadingDemo();
        obj.start();
    }
    }
}
```

2:

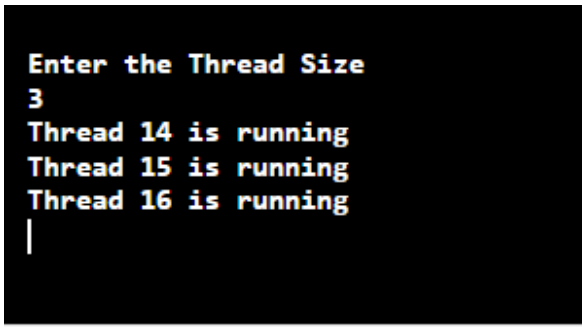
```
import java.util.*;
class Table{
    synchronized void printTable(int n){
        for(int i=0;i<=10;i++)
        System.out.println(n + "*" + i +"=" + i*n);
    }
}
class  MyThread_1 extends Thread{
    Table table =new Table();
    int number;
    MyThread_1(Table table,int number){
        this.table=table;
        this.number=number;
    }
    public void run()
        {
            table.printTable(number);
        }

}
class MyThread_2 extends Thread{


    Table table = new Table();
```

```
    int number;
    MyThread_2(Table table,int number){
        this.table=table;
        this.number=number;
    }
    public void run(){
        table.printTable(number);
    }
}
public class Test16 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n1,n2;
        System.out.println("enter any two number:");
        n1=sc.nextInt();
        n2=sc.nextInt();
        Table table = new Table();
        MyThread_1 t1 = new MyThread_1(table, n1);
        MyThread_2 t2 = new MyThread_2(table,n2);
        t1.start();
        t2.start();
    }
}
```

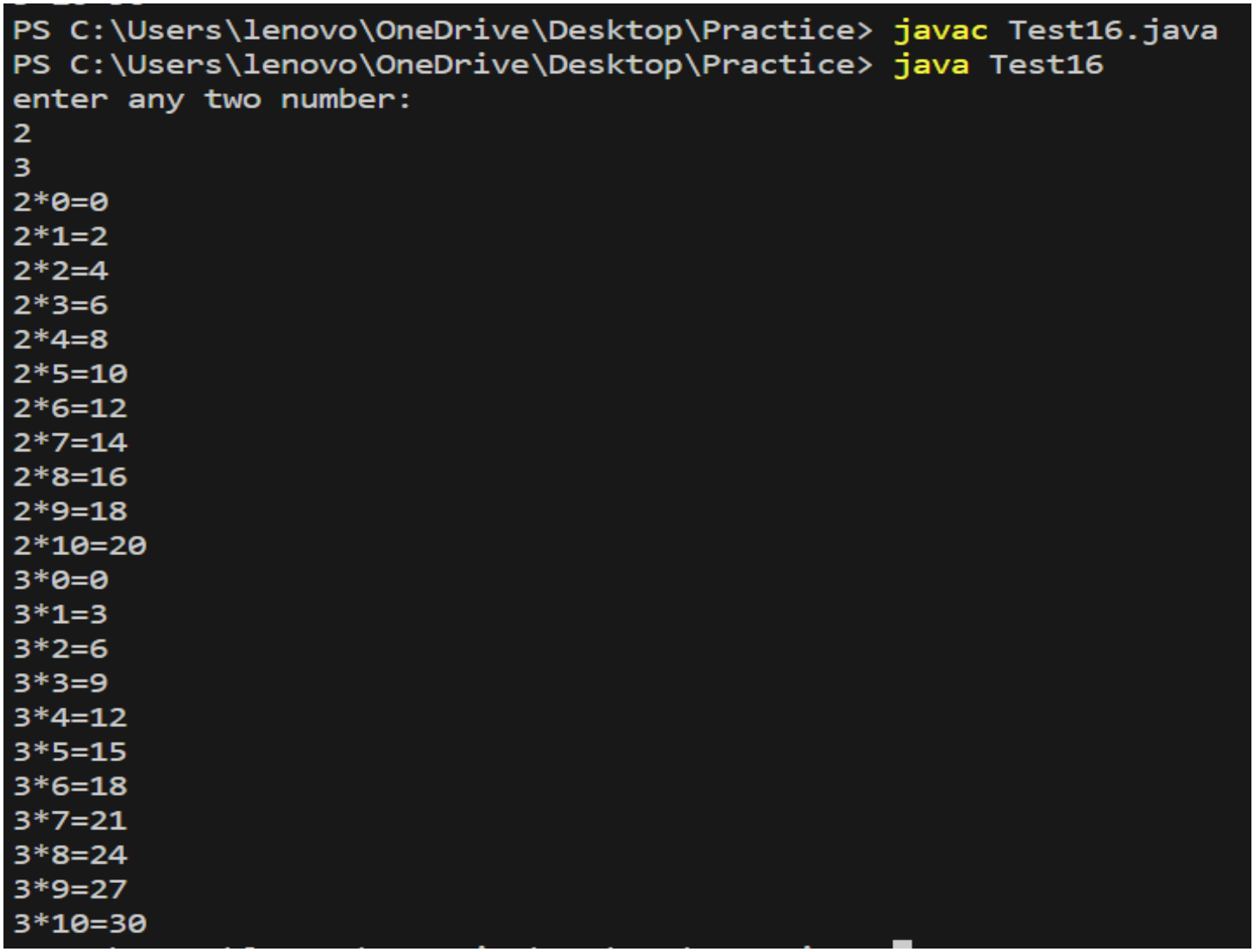
```java
import java.util.*;
class Table{
    synchronized void printTable(int n){
        for(int i=0;i<=10;i++)
        System.out.println(n + "*" + i +"=" + i*n);}
}
class  MyThread_1 extends Thread{
    Table table =new Table();
    int number;
    MyThread_1(Table table,int number){
        this.table=table;
        this.number=number;}
    public void run(){
            table.printTable(number);}
}
class MyThread_2 extends Thread{

    Table table = new Table();
    int number;
    MyThread_2(Table table,int number){
        this.table=table;
        this.number=number;}
    public void run(){
        table.printTable(number); }
}
public class Test16 {
    Run | Debug
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n1,n2;
        System.out.println("enter any two number:");
        n1=sc.nextInt();
        n2=sc.nextInt();
        Table table = new Table();
        MyThread_1 t1 = new MyThread_1(table, n1);
        MyThread_2 t2 = new MyThread_2(table,n2);
        t1.start();
        t2.start();
    }
}
```

Output:

1:


Enter the Thread Size
3
Thread 14 is running
Thread 15 is running
Thread 16 is running

2:


PS C:\Users\lenovo\OneDrive\Desktop\Practice> javac Test16.java
PS C:\Users\lenovo\OneDrive\Desktop\Practice> java Test16
enter any two number:
2
3
2*0=0
2*1=2
2*2=4
2*3=6
2*4=8
2*5=10
2*6=12
2*7=14
2*8=16
2*9=18
2*10=20
3*0=0
3*1=3
3*2=6
3*3=9
3*4=12
3*5=15
3*6=18
3*7=21
3*8=24
3*9=27
3*10=30

END