LAB # 3

Introduction to Concurrency

OBJECTIVE

Understanding and implementing the concept of concurrency through different mechanisms of multithreading.

Task # 01

Implement the following program on eclipse IDE and answer the following questions:

```
class practice extends Thread{
       public void run(){
         System.out.println("task one");
       }
       public static void main(String args[]){
        practice t1=new practice();
        practice t2=new practice();
        practice t3=new practice();
        t1.start();
        t2.start();
        t3.start();
       }
      }
```

- How many threads are running?

  In the above program three threads are running which print the statement “task one” three times.

- How many tasks are running?

  Only one task will be running in the above program which print “task one” .

- If more tasks are added than what will be the impact on number of threads?

  If we will add more task then task will wait in a queue until a thread becomes available to perform that task.

- Explain the flow of program.

  In this program first we create a class which is extended to threads which is built-in in eclipse package. And we create a method named as Run and in run body we create a one task and then we create a 3 obj of threads and in main class and it's up to you .And we call the start method which will start thread without start thread can’t be execute.

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Task # 02

With the help of threading print two tables concurrently, print one table number of student roll number e.g. 2019-SE-092 and second number should be date of birth e.g. 05-April.

Code:

```
class table extends Thread
{
	public void run(){
		for(int i=1;i<=10;i++){
			int n=61;
			int result=n*i;
			System.out.println(n+"*"+i+"="+result+"\n");
		}
	}
	}
class DB extends Thread
{
	public void run(){
		for(int i=1;i<=10;i++){
			int n=21;
			int result=n*i;
			System.out.println(n+"*"+i+"="+result+"\n");
		}
	}
	}
public class main {


	public static void main(String[] args) {

		table th=new table();
		th.start();
		DB th1=new DB();
		th1.start();

	}

}
```

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Output:

```
<terminated> main (1) [Java Application] C:\eclipse(with jre and jdk)\jre\bin\javaw.exe (Mar 14, 2021 1:53:31 AM)
61*1=61

61*2=122

61*3=183

61*4=244

61*5=305

61*6=366

61*7=427

61*8=488

61*9=549

61*10=610
```

```
<terminated> main (1) [Java Application] C:\eclipse(with jre and jdk)\jre\bin\javaw.exe (Mar 14, 2021 1:53:31 AM)

21*1=21

21*2=42

21*3=63

21*4=84

21*5=105

21*6=126

21*7=147

21*8=168

21*9=189

21*10=210
```

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