# LAB # 3

## Introduction to Concurrency

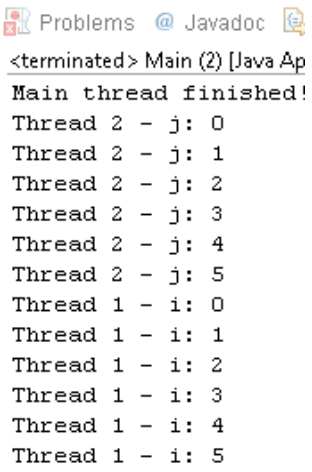
## OBJECTIVE

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

**Lab Task:**

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

- How many threads running**?** 4 (1 main+ 3 user-defined)
- How many tasks are running? 3
- If more tasks are added than what will be the impact on number of threads? More threads → higher CPU load and context switching.
- Explain the flow of program:



2. 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.

```
package test;
public class Test {
    static class TableThread {
        private int number;
        private String name;
        public TableThread(int number, String name) {
            this.number = number;
            this.name = name;
        }
        public void printTable() {
            for (int i = 1; i <= 10; i++) {
                System.out.println(name + " × " + i + " = " + (number * i));
            }
        }
    }
    public static void main(String[] args) {
        System.out.println("Table of 2023F-BSE-019:");
         System.out.println("Table of 12 NOV:\n");
        for (int i = 1; i <= 10; i++) {
            System.out.println("12 NOV x " + i + " = " + (12 * i));
            System.out.println("2023F-BSE-019 x " + i + " = " + (19 * i));
        }
    }
}
```

```
run:
Table of 2023F-BSE-019:
Table of 12 NOV:

12 NOV x 1 = 12
2023F-BSE-019 x 1 = 19
12 NOV x 2 = 24
2023F-BSE-019 x 2 = 38
12 NOV x 3 = 36
2023F-BSE-019 x 3 = 57
12 NOV x 4 = 48
2023F-BSE-019 x 4 = 76
12 NOV x 5 = 60
2023F-BSE-019 x 5 = 95
12 NOV x 6 = 72
2023F-BSE-019 x 6 = 114
12 NOV x 7 = 84
2023F-BSE-019 x 7 = 133
12 NOV x 8 = 96
2023F-BSE-019 x 8 = 152
12 NOV x 9 = 108
2023F-BSE-019 x 9 = 171
12 NOV x 10 = 120
2023F-BSE-019 x 10 = 190
BUILD SUCCESSFUL (total time: 0 seconds)
```