Lab 1: Introduction, Ethics & Java Primer

Objective(s)

This lab aims to:

- Introduce the students to the lab instructions and requirements.
- Introduce the students to the lab grading.
- This lab aims to revise the basic Java knowledge to start the course.

Tool(s)/Software

Java programming language with NetBeans IDE.

Description

No food or drink is allowed in the lab.

You will be asked to leave and may lose lab use privileges for the rest of the semester if:

- You are found viewing, creating or transmitting any offensive, obscene or indecent images, data or other material, or any data capable of being resolved into obscene or indecent images or material.
- You attempt to download programs for the purpose of installing them on the workstations hard drive.
- You are found viewing, creating or transmitting defamatory or copyright-protected material.
- You are using the Internet for financial gain, commercial or illegal activities.

Lab 2: Arrays

Objective(s)

- Apply programming skills to implement array data structures.
- Develop an appropriate algorithm to perform different operations on array data structures.

Tool(s)/Software

Java programming language with NetBeans IDE.

Description

To implement 1D array in Java:	To implement 2D array in Java:
Syntax: **datatype** [] **arrayname;** **arrayname** = new **datatype** [N]	Syntax: **datatype [] [] arrayname;** **arrayname=new datatype[N][M];**

Tasks/Assignments(s)

1- Create 2D array called arr1 of the size 3 * 4.
2- Fill the array with these elements.

5	8	12	7
1	3	12	9
1	23	43	58

3- Do the following:
   - Find the MAX Value.
   - Find the MIN Value.
   - Find the Summation for all array elements.
   - Find the Average Value.
   - Display the Number of Even values.
   - Display the Number of Odd values.

4- Create array arr2 with these elements {1,5,1,2},{1,8,5,2},{4,1,2,7} Then, find the **ADDITION** of arr1, arr2 and store the result in a new array arr3.

5- Find the **MULTIPLICATION** of arr1, arr4 {1,5,1,2},{1,8,5,2},{4,1,2,7},{2,1,7,2} and store the result in a new array arr5.

Deliverables(s)

You are required to implement and deliver a Java program as described in the previous section.