Assignment 1 – Individual Assignment

Due date: Monday, 27 September 2021

Expected Learning Outcomes of the Assignment

- describe the essential concepts of object-oriented technology and carry out the object-oriented approach for programming
- use an object-oriented programming language to solve computer problems and build computer systems

1. Statement of Work

Part 1: Write a Java program that fulfils the following requirements (80%)

The program should able to accept three integers representing the three sides of a triangle. Based on the input values, the program should able to determine whether the triangle is:

- *Equilateral triangle* - all sides with the same length; or
- *Isosceles triangle* - two sides with the same length; or
- *Scalene triangle* - all sides are with different lengths; or
- *Right angled triangle* – one of the angles is 90 degrees.

For examples,

- If the input values are 10, 10, and 10, the program should indicate that the input values will form an "Equilateral triangle".
- If the input values are 4, 3, and 5, the program should indicate that the input values will form a "Right angled triangle".

Part 2: Testing of the program (20%)

Prepare a list of test cases and the corresponding testing results.

2. Submission Requirements

- **Source Code** of program with the file name:
  `TriangleChecker_yourStudentID.java`

- **Well Documented Report** that contains:

Cover Page
☑ State the Subject Code, Subject Title, Assignment Title, Class, Student ID, and Student Name
Part 1:
☑ Listing of your program source code ☑ Explanations of the key program statements
Part 2:
☑ Testing results (That can be screenshots of the executions with sufficient testing cases)

  Save the report with the file name:
  `Report_yourStudentID.pdf`

- The source code and the soft copy of the report should be submitted through the **Moodle** e-learning system.

- Deadline for submission: **27 September 2021, 11:59pm**.

3. Grading Aspects

Your assignment will be graded according to the following criteria:

Part 1	
• Compilation: no errors and being able to run	20%
• Correctness: fulfill the requirements, correct logic and output, checking of invalid inputs	40%
• Documentation: conformance to Java code conventions, program readability, clear explanations	20%
Part 2	
• Test cases design: use of appropriate set of test cases for demonstrating the correctness of the program	20%

4. Important Points

- **Plagiarism will be penalized severely**. Marks will be deducted for assignments that are plagiarized in whole or in part.
- **Late submission** is liable to a penalty of 10% of the final mark for each day delayed.