# ETE 4141L Laboratory #6

**Objective:** Introduce students to object oriented programming, to write classes and test programs to test classes.

**Laboratory:**  **Program:**

Create a class called **complex** performing arithmetic with complex numbers. Write a program to test your class.

Complex numbers have the form:

**realPart + imaginaryPart \* i**

**\_\_\_**

Where **i** is **√** -1

Use **double** variables to represent data of the class. Provide a constructor that enables an object of this class to be initialized when it is declared. The constructor should contain default values in case no initializers are provided. Also, a Method to assign data to data fields. Provide **public** member Methods for each of the following:

1. Adding two complex numbers. The real parts are added together and the imaginary parts are added together.
2. Subtracting two **complex** numbers. The real part of the right operand is subtracted from the real part of the left operand, and the imaginary part of the right operand is subtracted from the imaginary part of the left operand.
3. Multiplying two **Complex** numbers.
4. Printing **complex** numbers in the form **(a, b),** where **a** is the real part and **b** is the imaginary part.

**Result:** Display the result on Message Dialog Box as shown below:

|  |
| --- |
| **Result**  **a = (9.5 , 7.7)**  **b = (1.2 , 3.1)**  **a + b = (10.7, 10.8)**  **a – b = (8.3, 4.9)**  **a \* b = ?**  **OK** |

**Post Lab:** Create a source file for your program, compile it, execute it, and paste the result on the source file. Submit report on CANVAS.