Practical Work No. 2

Exercise 1:

1) Write a class named Complex which should contain:

   Private Data Members:
   - `Re`: representing the real part of a complex number.
   - `Im`: representing the imaginary part of a complex number.

   Two public member functions:
   - `initialize(double re, double im)`: This function takes two arguments corresponding to the components of the complex number and initializes the private data members.
   - `calculateModule()`: This function returns the modulus of the complex number,
   - `display()`: This function displays the complex number in the form

     `Re + Im i`. For example, if `Re = 2` And `Im = 3`, she displays `2 + 3i`.

2) Write a function `hand()` which allows: To initialize two instances of the Complex class; To display these two complex numbers; To calculate and display their modules.

Exercise 2:

We propose to define the Student class. This class is characterized by: Registration number, last name, first name, first semester average, second semester average, and general average. You are asked to:

1) Define the Student class.
2) Develop the following functions:
   - Student_entry
   - Show_student
   - Calculate_average_gen_student
3) Use this class in a main function by:
   - Creating a table of 10 students representing the students in a group
   - Calculating the overall group average.

Exercise 3:

We propose to define the class Integer which represents all integers. This class is composed of a single private attribute of type int.

1) Declare this class by providing it with the following methods:
   - Entry_integer
   - Show_integer
   - Add one integer to another
   - Subtract one integer from another
   - Return_value
2) Develop the methods of this class.
3) Add to the class declaration all possible constructors as well as the destructor.
4) Use this class in a main function.