

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 `main()` 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.