Institute of Geographical Information Systems

CS-212 - Object Oriented Programming LAB

Semester: Fall 2025	**Class: SCEE-IGIS - 2024**
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Submitted to: Ma'am Alvina Anjum	**Due Date: Sep 24, 2025**

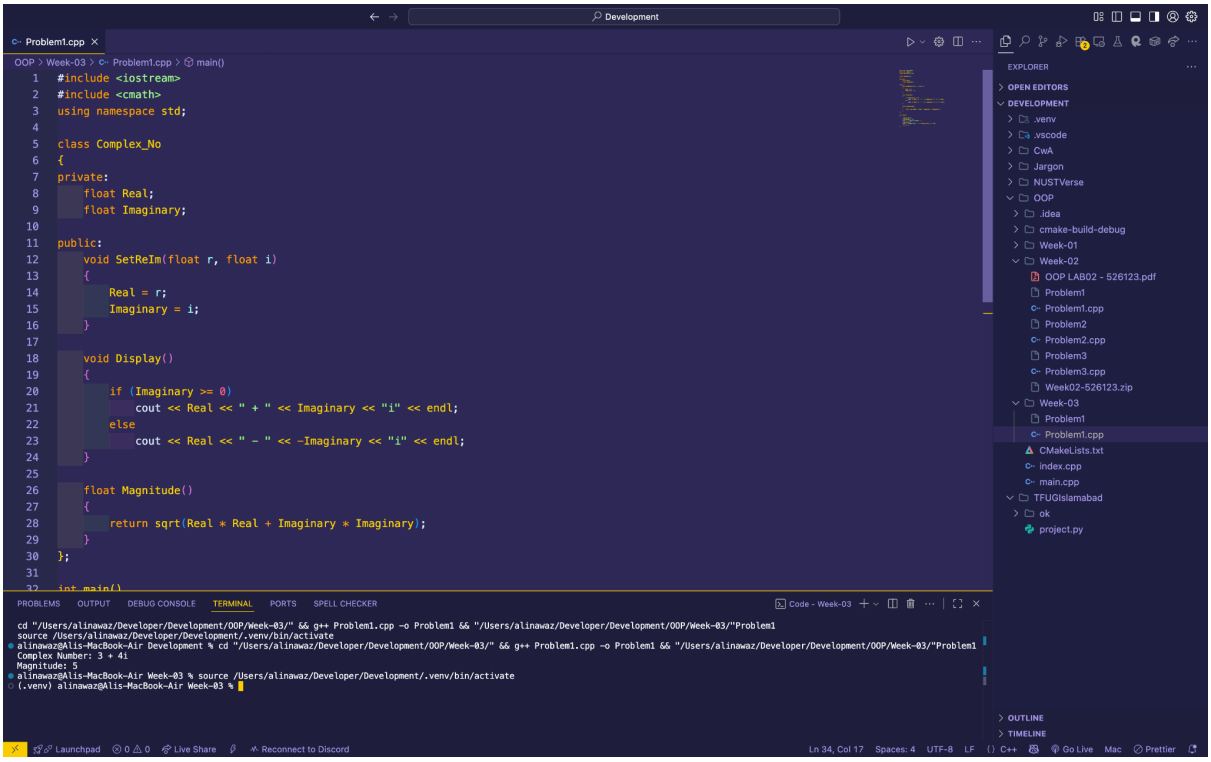
LAB 03: Introduction to Classes

Question No 1:

Define a class Complex_No that has two member variables; Real and Imaginary. Also include following in the class.

1. A method SetReIm that sets values of Real and Imaginary
2. A method Display that shows the value of complex number in appropriate format.
3. A method Magnitude that calculates the magnitude of complex number

Screenshot:



Question No 2:

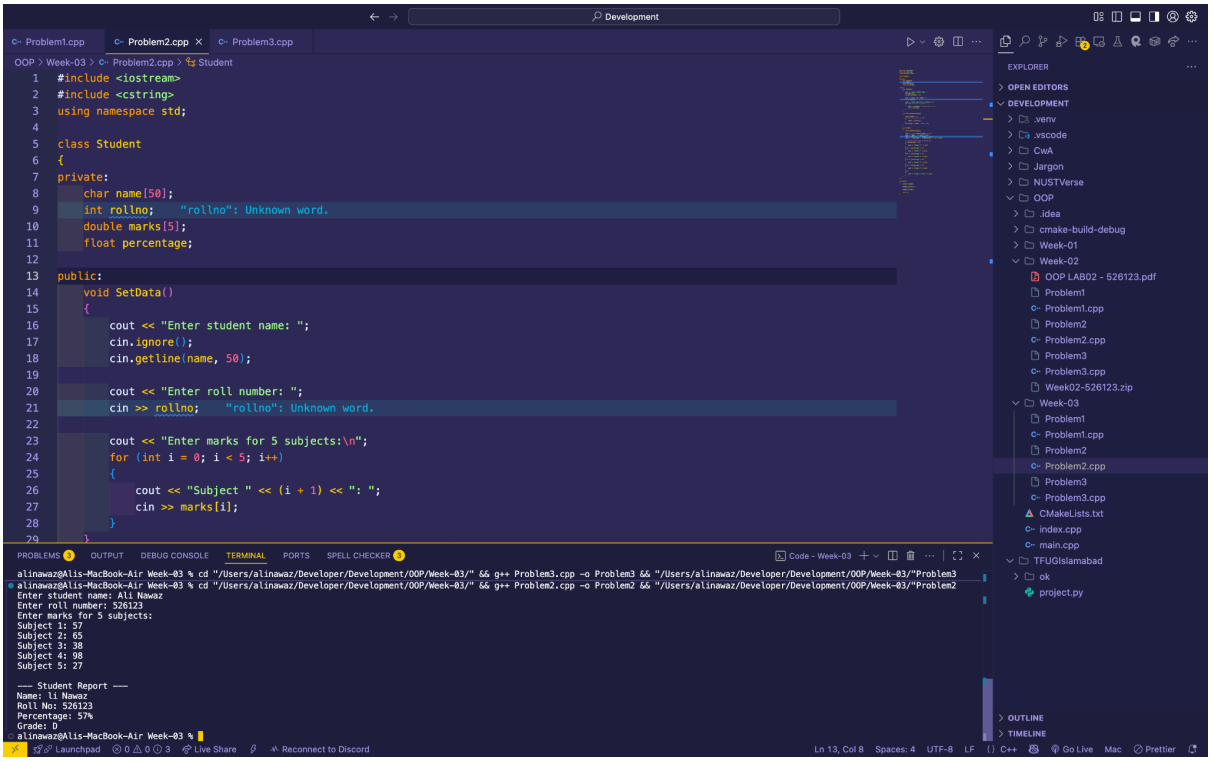
Define a class Student that has following attributes:

- Name: an array of char
- Rollno: an integer.
- Marks: a double type array of 5 elements.
- Percentage: a float

Also include following methods:

- SetData: that takes values of Name, Rollno and Marks from user as input.
- CalculatePercentage: that adds all 5 elements of array Marks and calculate percentage according to formula Percentage = (Total marks/ 500)*100 and stores result in member variable Percentage.
- Grade: that calls CalculatePercentage method and displays the grade accordingly.

Screenshot:



Question No 3:

Create a class Book with the following specifications:

Private Data Members:

- title
- author
- price

Public Member Functions:

- sets the title, author, and price of the book.
- calculates the discount amount, subtracts it from the price, and also displays how much money was saved.
- shows the book details (title, author, and current price).

Test the class in main() by:

- Creating two Book objects.
- Setting their details using SetData().
- Applying a discount of 10% on the first book and 20% on the second book.
- Displaying book details before and after applying the discount.

Screenshot: