EASTERN INTERNATIONAL UNIVERSITY

SCHOOL OF COMPUTING

AND INFORMATION TECHNOLOGY

Practice Assignment – Quarter 2, 2023-2024

Course Name: OOP

Course Code: CSE 203

Student's Full Name:

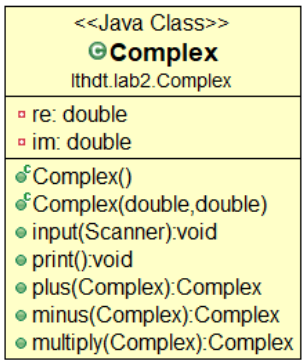
Student ID:

Lab 2

Question 1. Write a program to input 2 complex numbers. Calculate addition, subtraction, multiplication, division of 2 complex numbers and print the results to the screen.

- Build the Complex Number class with the necessary methods and data elements.
- Write a program to perform the following requirements:
  1. Input 2 complex numbers
  2. Write functions that output the results of addition, subtraction, multiplication, and division of 2 complex numbers.

Class Diagram:

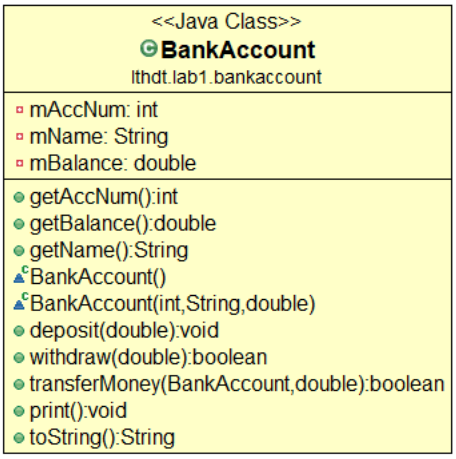


Question 2. **Write a program to manage a bank account (BankAccount), each customer can open a bank account with the following information: account number (accNum - integer type), customer's full name (name – string type), account balance (balance – real number type). Customers can create an account with an account number and initial balance, customers can perform the following services: deposit an amount of money into the account (deposit), withdraw an amount of money from the account (withdraw) or transfer money from one account to another (transferMoney).**

- Create class BankAcount including necessary properties and methods.
- Write a program to perform the following requirements:

  1. Enter integer N and enter N account information and save to the list. (ArrayList)
  2. Print the account list to the screen.
  3. Deposit money into the account number.
  4. Make a withdrawal from the account number.
  5. Make a money transfer from one account number to another.

Class Diagram:



Question 3. **Write a program to manage employee salaries that includes the following information:**

- Employee code: string type.

- Employee's full name: string type.

- Number of years of service: integer and changes according to current year of service

- Salary coefficient: real number and increases gradually according to years of work.

- Basic salary: is common for all employees and can be changed according to current documents.

*Calculate salary according to the following formula: Salary = salary coefficient * Basic Salary.*

Write a program to perform the following requirements:

- Build the Employee class with methods and properties
- Enter information of N employees.
- Perform salary calculation and print salary sheet to the screen.
- Print to the screen the employees with the highest salary.
- Arrange employees' salaries to decrease gradually.

Submitted: github link (public) and all source code (*.rar file) submitted to moodle.