Fall 2022: CS 203 - Object-Oriented Programming

Lab4

Objectives:

- Practice creating classes and objects in JAVA
- Practice working with types and setter/getter methods in JAVA

Download the skeleton **BankAccount.java** and **BankAccountTester.java** files and place them in your package/folder. These skeleton files are "barebones" and need to be modified. Feel free to add and even remove code into it! You may need to add some **<u>private</u>** variables.

Make modifications to BankAccount.java file to solve the following questions:
1. Create "getter methods" and return the **full name** and **account number** of a customer
- Sometimes, you don't have to create getters and setters for EVERY variable!
- We've implemented the setters for you!

2. Create methods to help customers:
   - (a) **deposit into account balance**
   - (b) **withdraw from account balance**
   - (c) **get account balance**

   Give them a good name based on their variable names!

3. Create methods to:
   - (a) **give the customer a loan of $5000 at an interest rate of 5% p.a.**
   - (b) **return the total interest to be paid with a principal for a period of 3 years**

   Look up the formula for interest given principal amount, rate of interest, and loan time

4. Create a method to check whether the **account number** is an **Armstrong number** or not. The method returns true if it is not Armstrong number, otherwise it will return false.
   - An Armstrong number of 3 digit is a number for which the sum of cube of its digits are equal to number
   - 371 is an Armstrong number because 3*3*3 + 7*7*7 + 1*1*1 = 371.
   - Inputting 153 should output true
   - Inputting 123 should output false

Don't forget Javadocs for your methods! Usually you don't need them for your main method or your getters and setters.

Good Luck 😊