

Northeastern Illinois University
CS207 Programming II, Fall 2018

Homework 2

Due: Friday, September 14, 2018 at 10:00 pm

Problem 1 (50 points):

Create a class named `Account.java`. The class should have the following instance variables, constructors, and methods:

- An instance variable of type `int` named `id` (default 0)
- An instance variable of type `double` named `startBalance` (default 0)
- An instance variable of type `double` named `endBalance` (default 0)
- An instance variable of type `double` named `monthlyInterestRate` (default 3%)
- An instance variable of type `double` named `interest`
- A default no-arg constructor that creates a default account
- A constructor that takes 3 parameters and sets the instance variables `id`, `balance`, and `monthlyInterestRate` accordingly
- A method named `computeInterest()` that takes no parameters and returns no value, but calculates the amount gained in annual interest, and stores that value in variable `interest`
- A method named `printAccountInfo()` that takes no parameters and returns no value, but prints the account information in the following example format:

```
Account ID: 100
Account balance: 500.00
Interest gained: 15.00
New balance: 515.00
```

Problem 2 (50 points):

Create a class named `TestAccount.java`, and add a `main()` method to it. In your main method, instantiate *three* objects of type `Account`, with the following values passed to the constructors:

Account 1 ID is 100, starting balance of \$500.00, and a monthly interest rate of 3%

Account 2 ID is 200, starting balance of \$1250.00, and a monthly interest rate of 3%

Account 3 ID is 300, starting balance of \$700.00, and a monthly interest rate of 2%

After creating the objects, *call* each one's `computeInterest()` method. Lastly, call each object's `printAccountInfo()` method to print the output. Your output should match the sample output listed here:

```
Account ID: 100
Account balance: 500.0
Interest gained: 15.0
New balance: 515.0
```

```
Account ID: 200
Account balance: 1250.0
Interest gained: 37.5
New balance: 1287.5
```

```
Account ID: 300
Account balance: 700.0
Interest gained: 14.0
New balance: 714.0
```

Note: ensure that your `Account` class and `TestAccount` class are located in the *same* folder.

General Instructions:

No hard copies will be collected. Do not send your files through e-mail! You should submit your work on D2L by the due date. See syllabus for late homework policy.

What to turn in:

There should be one `Account.java` file and one `TestAccount.java` file. Place these two files into a zip file and name it *YourNameHW2.zip*, and submit the zip file to the **Homework 2** folder in D2L. Do **not** turn in `.class` files.

Helpful Links:

[How to zip files in Mac OS](#)

[How to zip files in Windows](#)