**CSC 1302 Principles of Computer Science II**

**Assignment 5: Java Class Variables/Methods + Inheritance**

(Due on 11:59 pm, 04/20/2021)

**Task #1**:

1. Write a PaypalAccount class to include both *balance* and *accountID* as the instance variables. Make sure each instance of this account will have a **unique** *accountID.* In other words, different account object should have different *accountID* (hint: class variable).
2. Write a Bank class with main method. In the main method, ask the user to input how many accounts (say *numOfAccount*) to be generated in the bank (assuming less than 1000). Then create an array to hold these *numOfAccount* of Account objects. For each Account object, generate a random balance in the range of 0.0-1000.0.
   1. Assume that your GSU campus ID is *abc-de-fghi*;search the array to see if there is an account with *accountID* as *abc* (the first three digits of your campus ID). If there is not an account with *accountID* as *abc*, then set the *accountID* of the last account in the array as *abc;* transfer all the balance of the first account to the account with *accountID* of *abc*
   2. Set the *balance* of the account with *accountID* of *abc* to be *efghi/100.0* (i.e., your last 5 digits of your campus ID divided by 100.0); and print out the information of this account
   3. Find the average account balance of all the accounts in the array and print it out.
   4. Find the account with the largest balance, print out its accountID and balance.
   5. Find the account with the lowest balance, print out its accountID and balance.

Here is an example of the screenshot when running the program:

Enter the number of accounts to generate: **200**

My Pather ID is 141-88-2014; my bank account ID is 141 and balance is: $820.14

The average balance is: $499.5

The account with the largest balance: accountID = 156, balance = 999.9

The account with the lowest balance: accountID = 89, balance = 0.9

**Task #2**:

Finish Exercises 5, 6, 7, 8.

Diagram

Description automatically generated

Text

Description automatically generated

**Criteria:**

1. Upload all of the .java and the .class files to the CSc1302 dropbox on [http:// icollege.gsu.edu](http://desire2learn.gsu.edu/).
2. Your assignment will be graded based on the following criteria: (a) Are your programs runnable without errors? (b) Do your programs complete the tasks with specified outputs? (c) Do you follow the specified rules to define your methods and programs? (d) Do you provide necessary comments include the programmer information, date, title of the program and brief description of the program.
3. Make sure that both the .java and .class files are named and uploaded to icollege correctly. If any special package is used in the program, be sure to upload the package too. Should you use any other subdirectory (whatsoever) your program would not be graded, and you will receive a **0 (zero)**.
4. No copying allowed. If it is found that students copy from each other, all of these programs will get **0**.