**CS390 - Fundamental Programming Practices**

## Programming Test

## Date : 10.24.17 Duration : 1.00 Hours

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Student ID \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Problem 1 : [ Multiple Data Structure-List, Hashtable] -** In the prob1 package of your workspace, you will find fully implemented classes such as Employee, Account, Main and one Enum type for AccountType.

The Employee class has been fully implemented. It has four fields: fname, lname, salary and hireDay. Employee provides getters and setters for each of these fields.

The Account class has been fully implemented. It has balance, aid(account number), acctType, and an Employee instance with getters and setters.

The Enum AcctType has three types of accounts such as CHECKING, SAVINGS, RETIREMENT.

**You have to do the implementation in the AccountAdmin class.**

The AccountAdmin class is intended to provide reports about Accounts. For this problem, the AccountAdmin class has just one static method, prepareReport, which accepts a Hashtable and a List of account ids as arguments. The Hashtable matches account ids with Account objects. The List contains some account ids, represented as Strings.

Your method prepareReport must produce a list of account in the input table whose account ids is in the input list ids and whose account type is CHECKING. In addition, this list of Accounts must be sorted by balance, in ascending order (from numerically smallest to numerically largest).

The main method in the Main class provides test data that you can use to test your code.

**Requirements for this problem**

(1) Your list of Account must be sorted using a sorting method in Java's Collections class using balance field.

(2) Ordering of Account must be determined by a Comparator, which you must define yourself (and include in your workspace).

(3) Your return list of Account must contain Account objects whose account id is in the input list ids. Note also that there may be additional ids is in the input list which do not belong to any of the Account objects in the table.

(4) Your list of Account must not contain any nulls.

(5) You may not modify the Employee, Account and Main class in any way.

(6) There must not be any compilation errors or runtime errors in the solution that you submit.

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