Assignment 3: Polymorphic Banking Program Using Account Hierarchy

Cop 3331 – Object Oriented Software Design – Fall 2016 – USF
Due: 10-10-2016 @ 9:30 am.

Instructor: José J Galvis   **Points: 100**

1. MAIN OBJECTIVE

Develop a polymorphic banking program using the Account hierarchy created in Assignment 1.

2. DESCRIPTION

Make the necessary modifications to the classes form Assignment 1 to allow polymorphism.

Write an application that creates a vector of *Account* pointers to two **SavingsAccount** and two **CheckingAccount** objects. For each Account in the vector, allow the user to specify an amount of money to withdraw from the Account using member function **debit** and an amount of money to deposit into the Account using member function **credit**. As you process each Account, determine its type. If an Account is a **SavingsAccount**, calculate the amount of interest owed to the Account using member function **calculateInterest**, and then add the interest to the account balance using member function **credit**. After processing an Account, print the updated account balance obtained by invoking base-class member function **getBalance**.

3. ACADENMIC INTEGRITY

For this assignment, students must work individually. The code must be 100% original. Code from any other party is not allowed in your assignment.

4. DELIVERABLES

Design your classes using both the interface (header) file and the implementation (.cpp) file.

Place all the required files (,h and .cpp) into a folder and name the folder with your full name and the assignment number (ex: **JoeDoeAssignment03**).

Place the folder into a .zip file (ex: **JoeDoeAssignment03.zip**) and upload the .zip file to Canvas.

Print a copy of all your files and a snapshot of the results generated by the client application.   Submit the hard copies at the beginning of class on 10/10/16.