**LEBANESE AMERICAN UNIVERSITY**

**School of Arts and Sciences**

**Department of Computer Science and Mathematics**

Spring 2012

**Assignment II – Part I (Inheritance)**

Due on Friday 23, 2012 (at 12 noon)

Create a class called Client that has the ID (int), First Name, Last Name (Strings), and amount(double) variables, and the AddMoney(), SubMoney() methods that are responsible respectively to add or subtract money to/from the amount.

Create a class called GoldenClient that inherits from the Client class, but have one more attribute which is *char GoldenLevel* that can be either ‘H’, ‘M’ or ‘L’. The GoldenLevel is set in method setGoldenLevel() method according to: ‘H’ if amount > 10000, ‘M’ if 5000 < amount < 10000, and ‘L’ if amount < 1000.

Create a class called PlatinumClient that inherits from the Client class, but have two more attributes: *int numberOfTrips* and *double TravelOffersRate.* It also has a method called *addTrips(int n)* that adds *n* trips to *numberOfTrips*. *TravelOffersRate* is calculated according to the formula: *numberOfTrips\*0.01*. Make sure to update the value of *TravelOffersRate* when *addTrips(int n)* method adds trips to *numberOfTrips*.

Make sure to declare all Client’s variables as *protected* to allow inheritance.

Make sure to include the set, get and toString() methods in all classes. A toString() method will print the variable names and their corresponding values.

At the end, create the main class that contains the main method, create a new user and do some transactions.

Solution: <http://www.javaproblems.com/2013/12/creating-inheritance-program-in-java.html>

**Deliverables:**

You must submit an electronic copy of this assignment (zip files containing only the .java files) to your lab instructors. You have also to do a demo during the first lab on or after the due date.

#### Policy on Cheating and Plagiarism

Plagiarism on assignments and project work is a serious offense. If plagiarism is detected, a student will be subject to penalty, which ranges from receiving a zero on the assignment concerned to an “F” in the course.