

Course Code: 31975 - Advanced Mobile Application Development

**Assignment #1** – Swift Programming – Fall 2017 (group of two students - MAX)

Instructor: Marc Bueno

**READ CAREFULLY ENTIRE ASSIGNMENT DESCRIPTION**  
**(see your instructor in case of questions or clarifications)**

The class diagram below (see next page) is very similar to the that of the PayrollSystem developed in class and available on SLATE. There are some differences though:

Class Vehicle is now a superclass of classes Car and Motorcycle;

Class PartTime is now a superclass of CommissionBasedPartTime and FixedBasedPartTime

**What to do:**

Refactor the original PayrollSystem available on SLATE to reflect this new class diagram. You should take the following into account:

- 1) Methods and Properties shown in the new class diagram **MUST** remain exactly as they are;
- 2) You are free to add new methods (polymorphic or not) and/or properties to ANY class(es);
- 3) You must create a swift protocol containing one single method:  
*func printMyData() -> String;*
- 4) Every class **MUST** adopt the protocol IPrintable and return a printable version of their properties;
- 5) You must add any properties and/or methods to the Classes Car and Motorcycle (at least 2 properties per class).
- 6) You **MUST** use Swift “Set” and/or “Get” to expose **ONLY** what needs to be exposed by each class (hint: all properties **MUST** be private and accessed only via swift Get and Set methods.
- 7) You must consider that classes Employee, Vehicle and PartTime are **ABSTRACT** classes
- 8) In order to test the output, you must create at least 2 objects of each non\_abstract class

- 9) You are free to design how your system will print each object's data as long as every single data is printed out. **Sample** of valid output:

Name: John

Year of Birth: 1997

Employee has a Motorcycle

- Make
- Plate
- Additional Attribute 1
- Additional Attribute 2

Employee is PartTime / Commissioned

- Rate: 30
  - HoursWorked: 10
  - Commission: 20%
  - Earnings: 360.00 (300 + 20% of 300)
- .....

Name: Cindy

Year of Birth: 1979

Employee has a Car

- Make
- Plate
- Additional Attribute 1
- Additional Attribute 2

Employee is PartTime / Fixed Amt

- Rate: 30
  - HoursWorked: 10
  - Fixed Amt: 40.00
  - Earnings: 340.00 (300 + 40.00)
- .....

Name: Matthew

Year of Birth: 1995

Employee has no Vehicle registered

Employee is Intern

- SchoolName: Sheridan College
  - Earnings: 1,000
- .....

TOTAL PAYROLL: 1,700 Canadian Dollars

**You are free to assume anything as long as it does not violate requirements 1 to 9 above. Provide a ReadMe.txt file (explaining your assumptions) to be submitted along with a zipped version of your project**

Class Diagram (fig.1)

