

## COP2337C Project Version 2 - 100 points

For version 2 you will add the concept of Inheritance.

Features:

- A subclass called *PartTimeEmployee*, to be inherited from the *Employee* class. (5 pts) This class will inherit all of the fields and methods of an *Employee*, and will include the following additional private fields:
  - *weeklyHoursWorked*
  - *hourlyRate*

The *PartTimeEmployee* class will also include the following methods:

- (10 pts) Constructors:
  - Default constructor that initializes the two private fields to zero in addition to calling the superclass default constructor.
  - Parameter Constructor that sets the two private field values in addition to calling the superclass parameter constructor.
- (5 pts) Include mutator methods for the two new member fields.
- (5 pts) Include accessor methods for the two new member fields.
- (10 pts) Include the following public method called *CalculateWeeklyPay()*. This method should calculate and *return* the weekly pay based on the following:

If 40 hours or less are worked:

$\text{weeklyPay} = \text{weeklyHoursWorked} * \text{hourlyRate}$

If over 40 hours are worked:

Regular pay for the first 40 hours plus an additional amount of 1.5 the *hourlyRate* for all hours worked over 40.

- A subclass called *FullTimeEmployee*, to be inherited from the *Employee* class. (5 pts) This class will inherit all of the fields and methods of an *Employee*, and will include the following additional private field:
  - *annualSalary*

The *FullTimeEmployee* class will also include the following methods:

- (10 pts) Constructors:
  - Default constructor that initializes the private field to zero in addition to calling the superclass default constructor.
  - Parameter Constructor that sets the private field value in addition to calling the superclass parameter constructor.
- (5 pts) Include a mutator methods for *annualSalary*.
- (5 pts) Include accessor methods for *annualSalary*.
- (10 pts) Include the following public method called *CalculateWeeklyPay()*. The weekly pay will be based on a 52-week year.

(10 pts) Update your UML diagram to represent the Employee Hierarchy.

- (20 pts) Create a driver class called *EmployeeTester*. Be sure to fully test your class.