



ASSIGNMENT– 2

[Submit your complete work **within the due date and time** as indicated in the CLEW]

Objectiv: Working with Inheritance.

Part 1:

Define a class called **Person** with the following members:

Fields: (All fields are **private**)

- **name** of class **Name** that you have defined in Lab 2
- **spouse** of class **Person**

Constructors: (**public**)

- **Person(String fullName)**
- **Person(Person aPerson)** //copy constructor

Methods: (All methods are **public**)

- **setSpouse(Person sp)** to assign the value **sp** to the field **spouse**. The method also updates the **spouse** field of object represented by **sp** with **this** object.
- **getName()** which returns a string for the name of the person by calling **toString()** method of the **Name** object.
- **toString()** that returns the following string
 - "Name: " followed by
 - the string returned by calling **getName()**. If the person is married (i.e., the value of **spouse** is not null), then this is followed by
 - " Married to: " followed by the string returned by calling **getName()** in the object pointed at by the **spouse**.

Part 2:

Define a class called **Employee** that **extends** the class **Person** and that will have the following additional members:

Fields: (All fields are **private**)

- **employeeCount** of type **int**. It records the total number of employees created. This field should be **static**.
- **employeeNumber** of type **int**. Every employee has a unique number with the first employee having **employeeNumber = 1**, the next having **employeeNumber = 2**, etc.
- **dateJoined** of class **Date** that you wrote in Lab 2.
- **salary** of type **double**.
- **supervisor** of class **Employee**.

Constructors: (public)

- **Employee(String fullName, String joiningDate, double startingSalary)**. The constructor should first call the superclass constructor with the parameter **fullName**, and then initialize the fields **dateJoined** and **salary**.
- **Employee(String fullName, String joiningDate)**. This constructor should call the previous one with the value of **salary = 0.0**.
- **Employee(Employee emp)** //copy constructor

Methods: (All methods are public)

- **setSalary(double newSalary)**. To change the value of the field **salary** to the supplied value.
- **getSalary()**. To return the value of **salary**.
- **setSupervisor(Employee newSupervisor)**. To set the supervisor of the employee.
- **getEmployeeCount()**. To return the total number of employees we have created, (the value of **employeeCount**.) This method should be **static** (Why?)
- **getEmployeeNumber()**. To return the value of **employeeNumber**.
- **getSupervisorName()**. To return the name of the **supervisor** of the employee as a String by calling its **getName()** method. (Remember that all employee may not have a supervisor. Also, think about privacy leak).
- **toString()** which returns the information about the employee in the form of a string containing the following information :
 - The employee number,
 - The name of the employee by invoking the **toString()** method of the superclass.
 - The date the employee joined the company in the same format as returned by **toString()** of **Date**.
 - The name of the supervisor of the employee, in the format of the **toString()** method of the Name class. (Remember that all employee may not have a supervisor).
 - The **salary** of the employee.

Test both classes with the test application (**TestEmployee**) provided with the assignment. The outputs from your programs should match the sample outputs provided below.

Sample output from TestEmployee:

Employee: 1

Name: Kent, Jhon E.

Married to: Kent, Silvia

Joined on: June 12, 2013

Supervisor: CEO (has no supervisor).

Salary: 35000.0

Name: Kent, Silvia
Married to: Kent, Jhon E.

Number of employees = 4

Supervisor of Robert is Kent, Jhon E.

Employee: 2

Name: Hunter, Robert W.
Joined on: October 23, 2005
Supervisor: Kent, Jhon E.
Salary: 35000.0

Employee: 3

Name: Smith, John
Married to: Hull, Mary J.
Joined on: November 15, 2005
Supervisor: Hunter, Robert W.
Salary: 20000.0

Employee: 4

Name: Hull, Mary J.
Married to: Smith, John
Joined on: September 6, 2007
Supervisor: Hunter, Robert W.
Salary: 0.0