DePaul University
College of Computing and Digital Media

CSC 211 - Programming in Java I

Assignment 7

In this assignment, we're going do the following: Create a new class "StudentEmployee" which is a child-class of Employee. Employee will be the parent class of StudentEmployee.

1) Create a new project in NetBeans. Again this time, should <u>not</u> create a "Main.java" when creating a new project. You can re-use your project from Assignment #6. There is no need to create a new project for this assignment. To do this, make a copy of your project folder from Assignment 6, and give the copy a new name for Assignment 7. For example, my Assignment 6 was done in "C:\Documents and Settings\hieldc\Desktop\Assignment6". I made a copy of the Assignment 6 folder and named it "Assignment7" as follows:

"C:\Documents and Settings\hieldc\Desktop\Assignment7".

2) Now open the copied project in NetBeans. We need to rename the copied project within NetBeans. To do this, right-click on the existing "Assignment6" project and select menu option "Rename…". Change the "Project Name" from "Assignment6" to"Assignment7" and click "Rename".

3) Finally, right-click on the "Assignment6" project and select menu option "Set as Main Project".

4) In this assignment, we want to create a new class called "StudentEmployee". To create the StudentEmployee class, right-click on your top-level package in the NetBeans tree-view and select "New -> Java Class…".

5) Once the StudentEmployee class has been created, the first thing you should do is indicate that the StudentEmployee **"extends"** the Employee class.

6) Now, add 2 private data attributes:

- An "int" to hold the student employee's credit hours. This should be zero or greater.
- A "string" to hold their major. (i.e., "Biology", "Accounting", etc.). This string should not be null or empty

Add public accessors (get methods) and private modifiers (set methods) for these 2 data attributes.

7) The StudentEmployee constructor will need the *same* identical parameter list that the parent class (Employee) constructor needs, *plus* 2 additional parameters – one for the credit hours data attribute and one for the major data attribute. (Put these 2 at the end of the parameter list). The StudentEmployee constructor therefore will have a total of 7 parameters.

8) Inside the StudentEmployee constructor, you need to add the call to the parent class (Employee) constructor passing the parent constructor the required data parameters. Remember how a child class constructor calls a parent class' constructor: `super(param1, param2, param3, etc.);`

9) Additionally in the constructor, you need to "set" the 2 new StudentEmployee data attributes using the 2 additional parameters you passed into the StudentEmployee constructor.

10) Next, override the parent "getWeeklyPay()" method. The Student Employee's are paid only 50% of what a non-Student Employee makes. This method should take the Employee's weekly pay results and return 50% of that amount.

11) Finally, you must add a "public String toString()" method to your StudentEmployee class. The resulting StudentEmployee "toString" results should look just like this:

```
Name:              Paul Varjak
Id:                3805
Hourly Rate:       $10.50
Weekly Hours:      38
        Day 1: 4
        Day 2: 9
        Day 3: 8
        Day 4: 7
        Day 5: 10
Weekly Pay:        $175.44
Credit Hours:      14
Major:             Theater
```

12) Now compile your project – the "Driver.java", "Employee.java", "Timecard.java" and "StudentEmployee" files will be compiled. Fix any compiler errors as usual. Then - run the program.

13) Example Inputs & Outputs:

(Run 1)
```
Employee First Name:
Holly
Employee Last Name:
Golightly
Employee Id:
8845
Employee Hourly Rate:
14.50
Credit Hours:
14
Major:
Design
Enter Hours for day 1:
8
Enter Hours for day 2:
7
Enter Hours for day 3:
9
Enter Hours for day 4:
0
Enter Hours for day 5:
12


Employee:
-----------------------------------
Name:           Holly Golightly
Id:             8845
Hourly Rate:    $14.50
Weekly Hours:   36
        Day 1: 8
        Day 2: 7
        Day 3: 9
        Day 4: 0
        Day 5: 12
Weekly Pay:     $334.95
Credit Hours:   14
Major:          Design
```

Submission:

- This assignment is due before the start of class next week (on or before 5:45 pm on Monday, May 31st . Late assignments will be penalized 10% per week.

- Your submission should consist of your entire Assignment 7 project folder put into a single ZIP file (or a "TAR" file, or a "RAR" file). Check with me on other formats.

- All submissions are to be made via the course's Course OnLine site

- You may email me with any questions on this assignment at any time between now and the due date.