

# IS 380: Object-Oriented Programming Spring 2017

## Individual Assignment 6-2

Due Date: **3:59 PM, April 26, 2017** (Submit via WebCampus).  
Weights: 2.5 % of total grades.

### NOTE:

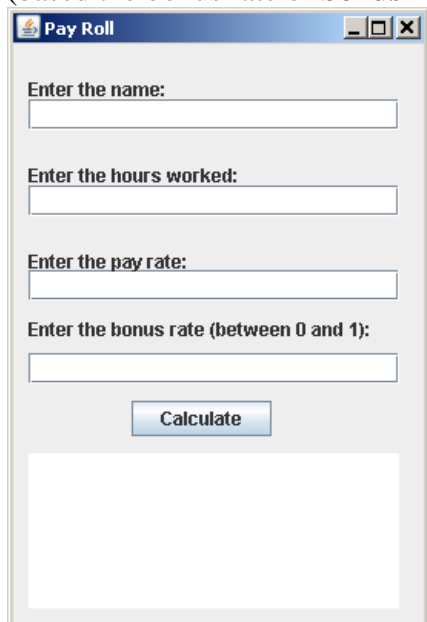
1. Please zip the **.java** files and upload the zip file to WebCampus for submission.
2. Please provide proper comments to document your code, including the following:
  - a. Author's name;
  - b. Purpose of the program;
  - c. In-line comments for the statements.

### BonusPayRoll Application

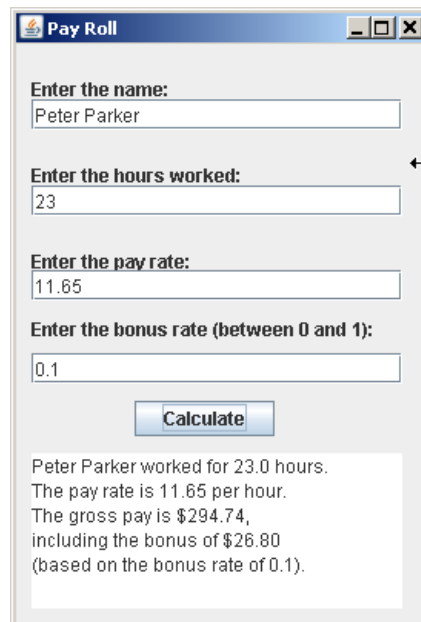
The **BonusPayRoll** class extends the **PayRoll** class (both are provided).

1. Please write an exception class **InvalidBonusRate** for the following error condition: An invalid number is given for the bonus rate. This would be a negative number or a number greater than 1.
2. Modify the **BonusPayRoll** class should throw the **InvalidBonusRate** exception when the error occurs.
3. Create a GUI application like the following screenshot. When the user press the **Calculate** button, instantiate an object of **BonusPayRoll** class using the name, hours worked, pay rate and the bonus rate entered by the user on the window. Then display the results in a text area in the following format:

**name** worked for **hoursWorked** hours.  
The pay rate is **payRate** per hour.  
The gross pay is \$**grossPay**,  
including the bonus of \$**bonus**  
(based the bonus rate of **bonusRate**).



The screenshot shows a Java Swing window titled "Pay Roll". It contains four text input fields with labels: "Enter the name:", "Enter the hours worked:", "Enter the pay rate:", and "Enter the bonus rate (between 0 and 1):". Below these fields is a "Calculate" button. At the bottom of the window is a large empty text area for displaying results.



This screenshot shows the same "Pay Roll" window after a calculation. The input fields are filled with "Peter Parker", "23", "11.65", and "0.1". The "Calculate" button is still present. The text area at the bottom now displays the following text: "Peter Parker worked for 23.0 hours. The pay rate is 11.65 per hour. The gross pay is \$294.74, including the bonus of \$26.80 (based on the bonus rate of 0.1).".

*Grading criteria:*

- (1) Correctness
  - (a) The code can be compiled without any syntax error.
  - (b) The code can generate the requested results.
  - (c) The program is properly documented using comments (`/**.....*/` and `//.` )
- (2) Technique used
  - (a) **JFrame**, **JLabel**, **TextField**, **TextArea** and **Button** are used, and named properly. The Action Listener (**Inner Class**) of the **Button** is implemented
  - (b) Exception class is implemented properly.
  - (c) The modification of **BonusPayRoll** is correct and can throw the exception of **InvalidBonusRate**.
  - (d) The **toString()** method is used to show the result.