COP-2210 – Lab 13

Objective

Students will be able to develop Java programs that require the definition and use of Java classes, by providing solution to exercises that involve class definition, class implementation, class method calls, instance variable definition, accessing class members from another class, private members, accessor/mutator methods, constructors, and a **toString** method.

Guidelines

- The assignment is to be completed in pairs.
- Questions are based on content discussed in the Lecture and book readings.
- NetBeans is the IDE of choice.
- Students are expected to attend each lab session and actively participate in the lab activities.
- Lab should be completed and submitted by the end of the lab time. Extra time would be considered on a case by case analysis and last day to submit would be Friday.
- To submit, upload your lab solutions to the dropbox in Canvas.
- Make sure you include the information of the developers as a comment in the first lines of each program of the lab:

Student Name: _____ Student Name: _____
Panther ID: _____ Panther ID: _____
Week: _____
Section: _____

Lab Questions

Note: In all of the exercises, all of the instance variables must be ***private***.

1) Write a program that defines and tests a class **Square**. In the class, there must be a method to find the area of the square and a method to print the information of the Square object. Choose appropriately the instance variable(s) for this real-world object and add a default constructor, a parameterized constructor, and a **toString** method.

2) Implement and test a class **`Employee`**. An employee has a first name (String), a last name (String) and a salary (double). A method raiseSalary and a method printEmployee will be implemented. The method raiseSalary will raise an employee salary by the amount passed to the method as an argument value.

Add a default constructor, a parameterized constructor, and a **toString** method to the class **Employee**.

3) Write a program that defines and tests a class **Rectangle**. In the class, there must be methods to calculate the area, to calculate the perimeter, and to print the information of the rectangle. Choose appropriately the instance variable(s) for this real-world object and add a default constructor, a parameterized constructor, and a **toString** method.

Grading Rubric

Lab grade is 20 points (out of 1000 total course points). Question weights are as follows:

Question	Points
1	6 pts
2	7 pts
3	7 pts

Answers will be graded based on correctness, completion, and organization.