ComS 207: Programming I
Homework 9
Out: Wed. Nov 7, 2007
Due: Fri. Nov 16, 2007 (Online submission *ONLY*)

Student Name:

Recitation Section:

Some of these problems came from your textbook. The text is reproduced here for your convenience.

1. **Programming Projects**

   Choose ***three of the following five*** programming projects and implement them. Your grade will NOT depend on which ones you choose. Just pick the ones that you like.

   (a) [**Exercises 6.1 & 6.2 & 6.3**]

   Write a method called average that accepts two integer parameters and returns their average as a floating point value.

   Overload the average method of Exercise 6.1 such that if three integers are provided as parameters, the method returns the average of all three.

   Overload the average method of Exercise 6.1 to accept four integer parameters and return their average.

   (b) [**Exercise 6.4 & 6.5**]

   Write a method called multiConcat that takes a String and an integer as parameters. Return a String that consists of the string parameter concatenated with itself count times, where count is the integer parameter. For example, if the parameter values are hi and 4, the return value is hihihihi. Return the original string if the integer parameter is less than 2.

   Overload the multiConcat method for Exercise 6.4 such that if the integer parameter is not provided, the method returns a string concatenated with itself. For example, if the parameter is test, the return value is testtest.

(c) [Programming project 6.1]

Modify the Account class from Chapter 4 so that it also permits an account to be opened with just a name and an account number, assuming an initial balance of zero. Modify the main method of the Transactions class to demonstrate this new capability.

(d) [Programming project 6.2]

Modify the Student class presented in this chapter as follows. Each student object should also contain the scores for three tests. Provide a constructor that sets all instance values based on parameter values. Overload the constructor such that each test score is assumed to be initially zero. Provide a method called setTestScore that accepts two parameters: the test number (1 through 3) and the score. Also provide a method called getTestScore that accepts the test number and returns the appropriate score. Provide a method called average that computes and returns the average test score for this student. Modify the toString method such that the test scores and average are included in the description of the student. Modify the driver class main method to exercise the new Student methods.

(e) [Programming project 6.3]

Design and implement a class called Course that represents a course taken at a school. A course object should keep track of up to five students, at represented by the modified Student class from the previous programming project. The constructor of the course class should accept only the name of the course. Provide a method called addStudent that accepts one Student parameter (the Course object should keep track of how many valid students have been added to the course). Provide a method called average that computes and returns the average of all students test score averages. Provide a method called roll that prints all students in the course. Created a driver class with a main method that creates a course, add several students, prints a roll, and prints the overall course test average.

2. *** For Advanced (or Bored) Students Only!**

   [Programming project 6.8 (p 367)]

   [THE DESCRIPTION IS IN THE TEXTBOOK.]

3. **What to Submit**

   ONLINE ELECTRONIC SUBMISSION ONLY USING WebCT!!!

   PLEASE, DO NOT SUBMIT PRINTOUTS.

   DEADLINE: 8:00p.m. on Friday, Nov 16.

   IMPORTANT: Once again, no late homeworks will be accepted.

That's it. Good Luck!