CSCI 221, Spring 2020 (McCauley) Due: Saturday, January 18, 10pm
HW 1 – requires concepts from Chs 1 & 2 only

Objectives:

- Develop a java program (a class containing a single main method; the class name and filename are HW1 and HW1.java, respectively)
- Use simple arithmetic and variables and if statements
- Upload a solution to OAKS

Collaboration policy for this assignment:
This assignment is an individual effort. You may discuss the problem to be solved with anyone, but you cannot share code, tell someone how to code the solution, or let someone tell you how to code it. You cannot look at anyone else's code; you cannot let anyone else see your code. You should not search the internet for solutions. You **can** search the internet or your text for how to use if statements or arithmetic statements, or output statements.

Task:

Using the grading scheme for CSCI 221, posted on the course syllabus, write a program to compute a final semester grade.

1. Set up variables

    - Create **int** variables and initialize them to values that represent a student's (you can use a Scanner and read them in, or assign them directly):
        - zyBooks score (total score for the semester in range 0-100)
        - Lab/inclass activities score (total score for the semester in range 0-100)
        - Programming assignments score (total score for semester in range 0-100)
        - Quiz score (total score for the semester in range 0-100)
        - Test 1 score (in range 0-100)
        - Test 2 score (in range 0-100)
        - Test 3 score (in range 0-100)
        - Final exam score (int in range 0-100)
    - Create **double** variables to store a student's (declare the variables, but don't compute the values here):
        - Assignments contribution to final grade (0.0 – 25.0)
        - Tests and quizzes contribution to final grade (0.0-50.0)
        - Final exam contribution to final grade (0.0-25.0)
        - Final semester score (0.0-100.0)
    - Create any other variables for intermediate values you wish to compute as you complete the following parts – names should identify each variable's purpose

2. Use if statements and assignment to replace the lowest test score with the final exam.

- Identify the lowest test score.
- If the lowest test score is less than the final exam grade, store the final exam score in the variable that stores the lowest test score.

3. Use arithmetic operations to compute the following values and then assign to appropriate variables:
   - Assignments contribution to final grade (0.0 – 25.0)
   - Tests and quizzes contribution to final grade (0.0-50.0)
   - Final exam contribution to final grade (0.0-25.0)
   - Final semester score (0.0-100.0)

4. Use output statement(s) and if statement(s) to print the final semester score along with the letter grade earned, with a proper label. (Some examples follow). (Don't worry about the number of decimal places printed.)

   Sample output (anything meaningful is OK, ask long as it is grammatically correct and not too long.)

   ```
   Semester score: 87, grade B
   You scored: 45, and earned grade of F.
   ```

5. Test your program with several different data sets and verify that you always get the correct results.

6. Add document to the top of your file that includes:
   a. Your complete name
   b. CSCI 221, HW 1
   c. A statement such as one of the following – if any are correct:
      - I certify that this is my individual work.
      - I certify that this is my individual work, but I did discuss it with the following _____ // See note below.

      OR Write any other statement that correctly discusses your collaboration if any on this assignment.

   d. Add any other documentation that makes your code easier to follow.

      Note: you do not have to acknowledge discussing with Dr. McCauley or Anuja.

How to submit:

Upload your HW1.java file to OAKS under the HW1 dropbox.