Assignment 1
GRADE CALCULATOR
Due Thursday, February 4, 2014, at the beginning of class

In this assignment, you will design a GUI and code in Java to implement an application to calculate a grade for a class in which some exams and some homework assignments given. The grade calculator allows for up to 4 exams and 4 homework assignments that are given scores between 0 and 100. The grading scheme is that the average of the exams and the assignments is computed, and either the exams are weighted 60% and the assignments 40%, or vice versa, and the student is given the final score of whichever weighting gives them the largest score. Then the score is mapped to a letter grad as follows:

90 up to 100	A
80 up to 90	B
70 up to 80	C
60 up to 70	D
below 60	F

Write a program with a user interface that has
- Four text fields that allows the grader to type in exam scores and four text fields that allows the user to type in assignment scores. These text fields should be initially left blank and if the grader leaves some text fields blank, then there are fewer than 4 scores.

  For example, in a class that has 3 exams and 2 assignments, we would expect the grader to type in grades such as:

Type exam scores:	Type assignment scores:
82	78
75	99
93	

- A button to calculate the grades
- A Clear button that returns the text fields and labels to their original values
- Labels to display the results. These items should include the exam and assignment averages (with up to two decimal places), the weights that give the maximum score, the score and the letter grade. For example:

  Average exam score (for 3 exams) = 83.33
  Average assignment score (for 2 assignments) = 88.50
  Total Score (exams weighted 40% and assignments weighted 60%) = 86.43
  Letter Grade = B

When you develop the program, follow these steps:
- Design the user interface with the layout of the textfields, buttons and labels
- Write the program

o Decide on the names and types of variables and where to declare them
o Write comments on the top of the program, including **your name** and what the program is for
o Write comments before the two buttons actionPerformed function with the description of what it does
o Write other comments on statements to show the steps of the computation
o Program all the steps of the computation, including the the output quantities and the display strings
o Test your program with a number of different examples to make sure that it works correctly

Grading

All programs should have comments that contain the name of the programmer and that explain the role of each button function. Additional comments must be added as necessary to explain the actions of the program.

The following additional items will be included in the grading. The program must

- Run!
- Correctly designed conditional statements to represent the computation of the program
- Correctly compute or decide the
  o exam average
  o assignment average
  o weighting scheme
  o total score
  o letter grade
- The form must have a Clear button to allow the user to start over
- The form must present a good appearance and have clear instructions for the user.

How to Submit your Homework:

In your project directory, create a **zip file** of the sub-directory that has your homework project in it. For example, if you name your project "GradeCalculator", there will be a folder named "GradeCalculator" under your projects folder – zip the GradeCalculator folder. Go to the iLMS page and submit the zipped file for assignment 1.