CSCE 121(505-508) **Homework 1**
Due 11:59 p.m., 1/27/14 [60 points]

This Homework assignment is meant to give you some experience writing relatively simple C++ programs, using various data types, and some basic input and output.

All work should be turned into CSNet by the deadline. For programs, you need to turn in only the source code (not object or executable code). Your code will be tested using g++: you are welcome to develop in Visual Studio, but please make sure your code also runs in g++.

0) Create a text file, README, in which you:
    a. State the Aggie Honor statement, or else explain why you cannot do so.
    b. List any resources used, outside the textbook and discussions with the Instructor, TA, or Peer Teacher
    c. List any known problems with the assignments you are turning in. For example, if you know your code does not run correctly, state that. This does not need to be a long explanation.
1) [20 points] There are 9 positions in baseball: Pitcher, Catcher, First Base, Second Base, Shortstop, Third Base, Right Field, Center Field, Left Field. Write a program that asks for the name (in standard FirstName LastName format) of players playing each of these positions, then outputs a list of the players by position, in the form LastName, FirstName. Format the list so that the Positions and Names line up.
    a. For example, the program might ask "Who is the Catcher?" and the user enter "Joe Smith". After all 9 players are entered, there would be a line printed out that said "Catcher: Smith, Joe"
2) [40+2 points] Write a program that helps a server in a restaurant determine the average tips he or she receives.
    a. The program should repeatedly ask for information from tables, and output a running set of data. That is, it should read about one table, then produce output, read about another table, produce output, etc.
    b. Input should ask for the number of people at the table, the total bill for the table before tip, and the amount of the tip. For example, 4 35.18 6.00 might be input, indicating a table of 4 with a total bill of $35.18, and a tip of $6.00.
    c. After reading each tip, you should output the following:
    You have waited on a total of XXXX people at XXXX tables.
    The average bill per table is $XXXX, and the average bill per person is $XXXX.
    The average tip per table is $XXXX, and the average tip per person is $XXXX.
    The average rate of tipping is XXXX%.
    The biggest tip you received was $XXXX per person at the table.
    The smallest tip you received was $XXXX per person at the table.

    So, after the line above, you would print out:
    You have waited on a total of 4 people at 1 tables.
    The average bill per table is $35.18, and the average bill per person is $6.00.
    The average tip per table is $6.00, and the average tip per person is $1.50.
    The average rate of tipping is 17.06%.
    The biggest tip you received was $1.50 per person at the table.
    The smallest tip you received was $1.50 per person at the table.
    d. [2 point bonus] You probably noticed that your output does not come out with the right number of digits. There is no penalty if you have additional digits. However, if you can figure out how to display all the $ and % numbers with exactly 2 decimal places, you can get a bonus 2 points.
    e. Hint: as you code this, work at getting just one number at a time correct. Make sure you are able to print the number of tables correctly. Once you are sure you have that, *then* add the number of people. Then try to find the average bill per table, etc.