**Homework #3**

**Due Wednesday, September 23**

Write a program that produces a bill which includes a flat fee, a timed service, and a tip.

Input values will include:

* the total number of minutes of the service (an integer)
* the hourly charge for the service (a float)
* the amount of the flat fee (a float)
* the amount of a tip (a float)

The service is billed hourly, and is always rounded *up*. This means that 61 minutes of service is billed as 2 hours. The *total* *charges* (without tip) consists of the flat fee, the service charge, and 4% tax on the service charge (not on the flat fee). This value should be reported before the tip is inputted. The final, total, bill includes the total charges and the tip.

The final output should be a well-formatted, itemized bill. It should end with one of three parting messages, depending on the tip:

* Not too friendly if the tip is less than 15% of the total charges
* Neutral if the tip is in the range 15% to 20%
* Friendly if the tip is over 20%

Structure Hint:  
Because the tip is input *after* some processing and output (total charges), a simple input/process/output structure alone does not work. However, there is a fairly simple solution to this. Divide the top level of your program structure into *two* main sections:

* one that produces the total charges
* one that produces the final bill

Each of these sections can be structured with the standard input/process/output pattern. Note that the second section will use some values that came from the first section in addition to doing some input.

The executable program **Gold03.exe** demonstrates what your program should do.

You should turn in (in a pocket folder): this assignment/grading sheet (write your name in the space provided), your statement of completeness, a structure chart corresponding to outline comments in your code, and a full printout of your program. All documents should be appropriately labeled. You should also place a folder named “Homework 03” containing your Main.cpp file into the private folder of your FTP site.

**Grading Sheet, Homework #3**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Criteria Possible Achieved**

Statement of Completeness 5 \_\_\_\_\_\_\_\_

Structure Chart 5 \_\_\_\_\_\_\_\_

Clear Indentation and Spacing 5 \_\_\_\_\_\_\_\_

Internal Code Comments 5 \_\_\_\_\_\_\_\_

Appropriate Use of Variables 5 \_\_\_\_\_\_\_\_

Appropriate Use of Statements & Expressions 5 \_\_\_\_\_\_\_\_

Complete/No Errors 5 \_\_\_\_\_\_\_\_

Output Format and Correctness 5 \_\_\_\_\_\_\_\_

Presentation 3 \_\_\_\_\_\_\_\_

Total: 43 \_\_\_\_\_\_\_\_

Notes: