**Homework #5**

**Due Wednesday, March 28**

Write a program that calculates the charge for babysitting. The program uses *military time*: 1100 is 11am, 1800 is 6pm, 2400 is 12midnight, 1730 is 5:30pm. Note that the low-order digits represent *minutes*, while the upper digits represent *hours* (for example, there is no such time as 1970 because there are not 70 minutes in an hour). Hours and charging rates are as follows:

* The sitter only works from 1800 to 2400.
* Total service time must be positive (end time must be greater than start time).
* The charge from 1800 to 2130 is $2/hour. The charge from 2130 to 2400 is $4/hour.
* The final charge is in whole dollars. If the calculated charge (in float form) has $0.30 or more as the fraction of a dollar, the charge should `be “rounded” up to the next whole dollar. If the fractional dollar charge is less than $0.30, just drop that part of the charge. For example, $35.20 would end up being $35, and $22.42 would end up being $23.

Input will be two integers, indicating the times that the service started and ended. Your program should make sure input is valid. Output should be the total charge.

Hint: Note that 1234/100 is 12 (the upper 2 digits), and 1234%100 is 34 (the lower two digits). This can be used to separate the input values into hours and minutes.

The executable program **Gold05.exe** demonstrates what your program should do, except that it outputs the result more than one time because I used more than one solution approach (you only need to produce one solution).

You should turn in (in a pocket folder): this assignment/grading sheet (write your name in the space below), your statement of completeness, a structure chart of your program (matching your “outline” comments), and a full printout of your program. All documents should be appropriately labeled. You should also place a “soft” (electronic) copy of your main.cpp file (in a properly named folder) into the private folder of your FTP site.

**Grading Sheet, Homework #5**

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

**Criteria Possible Achieved**

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

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

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

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

Clear Identifiers 5 \_\_\_\_\_\_\_\_

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

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

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

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

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

Notes: