

## Homework Assignment #5

**Course:** COP 3223C – Intro to Programming with C

**Semester:** Fall 2015

**Credit Value:** 5% of Final Grade

**Due Date:** October 28, 2015

### Writing to File

You changed your mind about how to read the temperature measurements for your home weather station. Instead of reading them directly from a sensor every hour, you have decided to have the measurement instrument build a daily file with 25 entries. Each entry contains the temperature in degrees F at the top of each hour – nothing else. The first reading corresponds to midnight, the second to 1 AM, and so on. Then, in addition to writing the input columns and the calculated output (max, min and average temperatures) to the screen (as done for HW #4), your program will also write (just the calculated values) to the same file that you just read.

So, take the program you wrote for HW #4 and modify it to do the above. A text file called `temperatures.txt` has been posted to the miscellaneous postings page in Webcourses that contains 25 temperature values to be read for each day. Your program should read those values and save them to an array. When finished calculating the max, min and avg, it should write those values to the end of that file. Therefore,

- 1) Delete the `get_values()` function in your existing code. You will no longer need it.
- 2) In its place, define a `read_temps()` function that will ask the user the name of the file to be read, reads that file and saves the read values to an array.
- 3) The `calc_values()` function you already have should be called from either `main()` or from `read_temps()`. Whichever function calls `calc_values()`, it needs to pass the array to it by reference. In addition to calculating the max, min and avg as it did for HW #4, it will write those values to the same external file. It can do so by either building a new file of the same name with all the hourly values as well as the calculated values, or it can append the existing file with the calculated values.

You should submit the source code as usual. Do not submit the external file as written by the program. The program should do that when it is executed during grading.