

# CSCI 1312 (Introduction to Programming for Engineering), Fall 2015

## Homework 2

**Credit:** 20 points.

### 1 Reading

Be sure you have read (or at least skimmed) the assigned readings from chapters 2 and 3.

### 2 Programming Problems

Do the following programming problems. You will end up with at least one code file per problem. Submit your program source (and any other needed files) by sending mail to `bmassing@cs.trinity.edu`, with each file as an attachment. Please use a subject line that mentions the course and the assignment (e.g., “csci 1312 homework 2” or “CS1 hw2”). You can develop your programs on any system that provides the needed functionality, but I will test them on one of the department’s Linux machines, so you should probably make sure they work in that environment before turning them in.

1. (10 points) Write a C program to convert a Fahrenheit temperature to Celsius. The rule for converting Fahrenheit temperature  $F$  to Celsius temperature  $C$  is

$$C = (5/9)(F - 32)$$

The program should ask the user for the Fahrenheit temperature and print the equivalent Celsius temperature. You can use integers or floating-point numbers for this problem.

*For this assignment only*, you do not need to do any kind of checking that what the user enters is actually numeric (integer or floating-point, depending on your code), since we haven’t yet talked about conditional execution. Just assume it is and do the required calculations.

2. (10 points) Write a C program that prompts the user for a number of seconds  $S$  ( $S$  should be a non-negative integer, but your program does not need to check for that) and prints  $S$  in a more normal notation — years, days, hours, minutes, and seconds. Assume there are 365 days in a year (not exactly right but makes the calculations simpler). For example, 100 seconds is 1 minute and 40 seconds. (You may be interested to run this program using successive powers of 10 as input and see how long it takes before seconds start to add up to years.)

*For this assignment only*, you do not need to do any kind of checking that what the user enters is actually an integer and non-negative, since we haven’t yet talked about conditional execution. Just assume it is and do the required calculations.