

CSCI 1120 (Low-Level Computing), Spring 2011

Homework 1

Credit: 20 points.

1 Reading

Be sure you have read the assigned readings for classes through 2/14.

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 number and the assignment (e.g., “csci 1120 homework 1”). 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 that includes
 - a function that takes as an input parameter a number of seconds and prints its equivalent in years, days, hours, minutes, and seconds (for example, 100 seconds is 1 minute and 40 seconds), and
 - a main program to test the function for several inputs (similar to what we did in the finding-roots program from class).

Sample output:

```
100 seconds is 0 years, 0 days, 0 hours, 1 minutes, 40 seconds
10000 seconds is 0 years, 0 days, 2 hours, 46 minutes, 40 seconds
1000000 seconds is 0 years, 11 days, 13 hours, 46 minutes, 40 seconds
100000000 seconds is 3 years, 62 days, 9 hours, 46 minutes, 40 seconds
```

Hint: Probably the best way to do the required calculations is with integer-division (`/`) and remainder (`%`) operators.

2. (10 points) Write a C program that includes
 - a function that takes as input parameters three integers and prints them in order from smallest to largest, and
 - a main program to test the function for several inputs (similar to what we did in the finding-roots program from class).

Sample output:

```
input 1 2 3
in order 1 2 3
input 3 2 1
in order 1 2 3
```