

CS 100 Lab Zero – Spring 2019

Create a directory called **lab0** on your machine using **mkdir lab0** and move into that directory with **cd lab0**

Warning: for each programming assignment (a lab, a project or an exam), you need to create a separate directory, and use the exact names as requested. For example, for this lab, the directory name should be exactly **lab0** and the program names under **lab0** should be exactly **avg.c** and **count.c** (all the letters in a directory or file name shall be in lowercase and a name shall contain no spaces).

Complete the following programs. For each program, prompt the user for the inputs needed by the program.

1. Name this program **avg.c** – Write a program that reads in four integers and prints the average (a real number) of these four integers. You can prompt the user four times (e.g. “Enter an interger”) or prompt the user once (e.g. “Enter four intergers”) to get four intergers. The output should clearly state what the output actually is, as in “The average is 123.4”.

Make sure your program works for input sets such as **1 2 3 4** (average is **2.500000**) and **-99 111 10 22** (average is **11.000000**).

2. Name this program **count.c** – On New Year’s Eve, most of us want to count down to New Year. You are asked to write a program to do just that. The program reads in the current time (three integers representing hour, minute and second). The program will compute and print out how many hours, minutes and seconds until New Year. The 24-hour military time will be used for input. You can assume that all input to this program will be valid. The following are three sample executions of the program.

Enter the current time: **11 50 30**

It is 12 hours 9 minutes 30 seconds until New Year.

Enter the current time: **17 0 0**

It is 7 hours 0 minutes 0 seconds until New Year.

Enter the current time: **23 59 50**

It is 0 hours 0 minutes 10 seconds until New Year.

Submit your lab

First, on your local machine, compress your **lab0** directory into a single (compressed) file, i.e. **lab0.zip**.

To do this:

- PC: Using *Windows Explorer*, right click on the **lab0** directory and select “Send To” and then select “Compressed (zipped) folder.”
- Mac: Using *Finder*, use a secondary click on the **lab0** directory and then select “Compress **lab0**.”

Please make sure **lab0.zip** contains the **lab0** directory as well as **avg.c** and **count.c** under it.

Second, once you have a compressed file named **lab0.zip**, submit that file to Blackboard.