

SCIENTIFIC COMPUTING

Assignment 1

Due: Friday, Sept. 15, 2017 at 17:00

Refer to week 1 lecture notes, if needed, for instructions for submitting your assignment using the webform at t2kwinnipeg.uwinnipeg.ca/jamieson/courses/scicomp/handin.html.

In your submission include

- all required source code and
- any other files asked for in the question.

Put the files in a directory called `lab-1`. Do not include object or executable files.

For full marks document your work using *meaningful* comments.

Make sure to include

- your name,
- your student number, and
- the assignment number.

in each file you submit.

Also add comments where necessary to clearly label each solution.

1. Setup a C++ compiler on your home computer, laptop, or use the computers in 2L14. Answer the following in a text file called `problem1.txt`:
 - (a) Which computer do you plan to use for the lab programming assignments?
 - (b) What editor do you plan to use?
 - (c) Where is your compiler (g++) located on the file system?
2. Write a program `MultiInputs.cpp` that reads in integers and multiplies them together until the user enters -1. Note you can use the statement `break;` inside of a loop to exit the loop. Be sure to add printouts to prompt the user for inputs.
3. Write a program, `Factorial.cpp` to prompt the user for an integer value, and then use a while loop to calculate the factorial, $n!$, of that value. Note $n! = n \times (n - 1) \times \dots \times 2 \times 1$. Your solution is only required work up to 12! (and will likely break for 13!)
4. Write a makefile to compile the above programs.
5. Create a zip file or tar.gz file that contains all of the files you made in problems 1-4.