

## CSCE 693 Software Evolution

### Homework 1 – Basic C/C++ Compilation, Compiling Lua and a Simple Lua Program

Assignment (50): No written report is required, but it is expected that software code should be liberally commented to clearly indicate the program logic that was implemented.

Perform the following tasks using Linux and the GCC compiler.

1. (10) Create the project presented in the Makefile video shown in class (C++ source code, Makefile, etc.) and submit - do not submit final executable program, just source code and Makefile.
2. (25) Download and compile the Lua source code for version 5.3.5 (on website) using your own handwritten Makefile to produce 3 artifacts using the following target names:  
1) “lua” - the Lua REPL interpreter (filename: lua), 2) “luac” - the Lua compiler (filename: luac), and finally, 3) “liblua” - a static lua linking library (filename: liblua.a). One additional target called “all” should compile and link all the artifacts as needed above.
  - a. make lua - should build the lua REPL interactive console driving application
  - b. make luac - should create the lua compiler application.
  - c. make liblua - should create the static linking library
  - d. make all - should produce all of the above
3. (15) Write a Lua program (filename: team.lua) that prints your team number to the terminal 10 times.

Submit homework files (in a zip archive named “team0<x>.zip”) to my personal email at: [doug@sidechannel.net](mailto:doug@sidechannel.net) Your submission should be organized so that each task above is located in its own directory (e.g., “task1”, “task2”, “task3”). I know which teams includes what members for grading purposes, but cc’ing your team mates on submission is always a nice thing in the case of some confusion. ONLY submit original source files (software code, Makefile(s), team.lua, etc.) - do NOT include miscellaneous compiler-generated files (e.g., .o, final executables, etc.).