Assignment #1 - Makefiles

Opened: Sunday, 24 September 2023, 12:00 AM
Due: Monday, 2 October 2023, 11:00 AM
The purpose of this assignment is to create two C programs that are compiled with a single Makefile.

Deliverables:

- one Makefile
- two C programs
- one "script" capture file

C program #1:
Write a C program that takes in two numbers from the command line and prints the output of those two numbers. This C program should be called "add.c"

C program #2:

Write a C program that takes in a number and a word from the command line, and prints that "word" out "number" times (in a loop). This program should be called "loop.c"

Makefile:

The makefiles should have four targets that you can specify.

1. The first target should be "all", and that is the target that should be automatically run when I run "make". This should compile both add.c and loop.c
2. The second target should be "add" where it will compile add.c into the executable "add".
3. The third target should be "loop". "loop" should have a dependency on loop.o, so not only should it generate an executable called "loop", but it should go through the intermediate step of generating "loop.o".
4. The fourth target should be "clean", which deletes both the executable files and also deletes loop.o

Script file:

The UNIX command line allows you to "record" everything that you do into a file. The command to start the recording is "script <filename>", and the command to end the recording the "exit". Everything that you type and everything that would normally be displayed on the screen will be put into the file that you specified when starting the script. I would like you to start the script and run the following commands:

- make clean
- ls -l (to show what is in your directory)
- make add
- add 5 7
- make loop
- loop 4 <your given name here>
- ls -l
- make clean
- make all
- ls -l

Submission:

Make sure that all of your files are in the same directory. Do a "make clean" because your executables and .o files won't be useful on the TA's machine. Create a .zip file of the entire folder. The folder (and the .zip file) should be labeled "2103-A#-ID#.zip" where A# is the assignment number (i.e., A1) and ID# is your student ID number (i.e. 012345). I know that some students now have two student ID numbers - please use the one that is part of your email address. Since are are doing unix-based stuff here, I will accept .tar.gz, .tgz files, or .gz files. The main requirement is that your code must uncompress into it's own folder.

Please make sure to follow all of the assignment upload and assignment style guidelines when submitting your code. They will be posted to the general announcements section of the course webpage.