CIS 330: Project #1C
Assigned: April 7th, 2016
Due April 12th, 2016
(which means submitted by 6am on April 13th, 2016)
Worth 2% of your grade

Assignment: Download the file "Proj1C.tar". This file contains a C-based project. You will build a Makefile for the project, and also extend the project.

Note: ".tar" files are "tape archive" files. The idea is that you can take a set of files and put them into one single file ("the tar file"). This is similar to ".zip" files. To retrieve the files from a .tar file, issue the command "tar xvf Proj1C.tar". When you are ready to submit, use tar to put all of your files back together into a single file "tar cvf Proj1C_handin.tar Proj1C" (issue this command from the directory that contains the Proj1C directory). We will discuss tar files on Wednesday's lecture.

What's in the tar file?
When you untar the file ("tarball"), you will see:
- math330.h: the header file for the "math330 library"
- .c files in the trig and exp directories: the source files for the "math330 library"
- cli.c: a program that uses the "math330 library"

What is your assignment?
(1) Build a Makefile for math330
(2) Extend the math330 library

Details for both below.

== Build a Makefile for math330 ==

Your Makefile should:
(1) create an include directory
(2) copy the Header file to the include directory
(3) create a lib directory
(4) compile the .c files in trig and exp as object files (.o's)
(5) make a library
(6) install the library to the lib directory
(7) compile the "cli" program against the include and library directory

When your Makefile does all of these things, then you have completed the first step.

== Extend the math330 library ==

You should:

(1) add 3 new functions: arccos, arcsin, and arctan (each in their own file)
(2) Extend the "cli" program to support these functions
(3) Extend your Makefile to support the new functions

What to turn in:

When you are done, create a new tarball:
% ls # demonstrate that the current working directory contains Proj1C
Proj1C
% tar cvf Proj1C.tar Proj1C # command for tarring up Proj1C.tar

Then submit Proj1C.tar