Laboratory Exercise 5

Due by (or before)

Due to the Midterm, no late days may be used on this lab

The Laboratory Exercise is to be done individually.

Problems

There are no written exercises this week. Stay tuned for next week.

Laboratory Exercise

1. There's one task for this week: Write a program, `mypwd.c`, that performs the same task as `/bin/pwd` *without* using the `getcwd(3)` function described by POSIX. I want you to traverse the directories and do it yourself. The technique is described in Stevens, Section 4.22.

   If there are multiple paths to (possible names for) any partiular directory, return the one that appears earliest in each directory that is traversed.

   Your program should produce the same results as `/bin/pwd`. In case of error, call `perror()` with the string "mypwd" to report the error and exit. If the pathname is too long (see below), simply print "path too long" and exit. Similarly, if for whatever reason, you are unable to determine the present working directory (e.g. it's been unlinked), print "cannot get current directory."

   Just to make life easier, you may assume you will get no paths deeper than `PATH_MAX`, defined in `limits.h`. If `PATH_MAX` is undefined, you may define it to be 2048 characters.

Tricks and Tools

You will probably want to look into Stevens, Chapter 4, and:

`opendir(3)`	open a directory for reading
`readdir(3)`	read a directory entry
`rewinddir(3)`	rewind a directory to the beginning
`closedir(3)`	close a directory
`stat(2)`	get file status
`lstat(2)`	get file status

What To Turn In

Submit the program described above to the `lab05` directory of `ngonella` via handin.