

# CS 279 - Week 2 Lab Exercise

## Deadline

Due by the end of lab on 2022-09-01.

## How to submit

- Submit the files specified below on <https://canvas.humboldt.edu>

## Important notes

- Remember: On the public course web site, at the end of the **References** section, there is a handout about how to use **ssh** to connect to `nrs-projects.humboldt.edu` and how to use **sftp** to transfer files to and from `nrs-projects.humboldt.edu`.
- Work in PAIRS for this lab exercise:
  - two people at one computer,
  - one typing (driver),
  - one saying what to type (navigator),
  - both discussing along the way!

And when done, the driver should e-mail the resulting files to the navigator, so BOTH of you can EACH submit them.

## Lab Exercise setup

- use `ssh` to connect to the one of your accounts on `nrs-projects.humboldt.edu`
- make and protect a directory `279lab2` using the commands:

```
mkdir 279lab2
chmod 700 279lab2
```

- go into that directory using:

```
cd 279lab2
```

## Problem 1

Along with this lab exercise handout, you should find a file `279lab02-prob1.txt`. Copy its contents into a file with this same name in your `279lab2` directory.

It contains six short answer questions. Type your names and your answers to those questions within this file, and submit your resulting `279lab02-prob1.txt` file.

Hint: these should be set up such that you should be able to type the given commands and/or create versions of the listed files, and try out your proposed answers, to see if your answers are correct.

## Problem 2

Write a bash shell script named `dir-snapshot` or `dir-snapshot.sh` (your choice!) that meets the following requirements:

- It should start with the line that is considered good style (and is a CS 279 course requirement), that specifies that this script should be executed using the `bash` shell.
- After that, after a blank line, put in one or more **comments** that include:
  - that this is part of the CS 279 Week 2 Lab Exercise, for Problem 2
  - the name of this script
  - both of your names
  - today's date
- After a blank line, use `echo` to output an opening message of your choice, redirecting its output into a file named `latest-snapshot.txt` such that it is either created if it does not currently exist, or it overwrites any current contents if it does exist.
- FUN FACT: There is a command `date` that outputs the current date and time.  
Put this command in your script, redirecting its output into a file named `latest-snapshot.txt` so that it is **appended** to the end of `latest-snapshot.txt`.
- Use `echo` to output a message saying that what follows will be the absolute pathname of the calling directory, redirecting its output so that it is **appended** to the end of `latest-snapshot.txt`.
- Use the command that outputs the full pathname of the present working directory, redirecting its output so that it is **appended** to the end of `latest-snapshot.txt`.
- Use `echo` to output a message saying that what follows will be the current contents of the calling directory, redirecting its output so that it is **appended** to the end of `latest-snapshot.txt`.
- Use the command that outputs the names of all of the (visible) files in the present working directory, redirecting its output so that it is **appended** to the end of `latest-snapshot.txt`.
  - OPTIONALLY: you also may include invisible files if you would like.
- OPTIONALLY, you may also append the output of additional commands to the end of `latest-snapshot.txt`
- Finally, use `echo` to output a message to standard output (to the screen) saying that file `latest-snapshot.txt` has been updated with the latest status of the current directory.

You can make your resulting script executable using either:

```
chmod 700 dir-snapshot
```

or

```
chmod 700 dir-snapshot.sh
```

(depending on the name you chose to use for your script).

Note that, for now, you can execute your script in other directories by using `cd` to go to another directory, and then using its relative pathname from that directory, or its absolute pathname if you prefer, to run it there.

That is, if you created this script in your directory `279lab2`, then you could run it there by typing:

```
./dir-snapshot
```

or

```
./dir-snapshot.sh
```

If your directory `279lab2` has a subdirectory `stuff`, you could run your script there by typing:

```
cd stuff
```

```
../dir-snapshot
```

or

```
../dir-snapshot.sh
```

Execute your resulting script in at least TWO different directories, and submit at least TWO resulting versions of `latest-snapshot.txt` that result, along with your script `dir-snapshot` or `dir-snapshot.sh`.

(So you don't overwrite your resulting `latest-snapshot.txt` files, it is OK if you use `cp` or `mv` to make versions of them named `latest-snapshot-1.txt` and `latest-snapshot-2.txt` for submitting.)

When you are done with both of these problems, use `sftp` on the workstation you are working on to transfer your files from `nrs-projects.humboldt.edu` to that workstation or to your Google drive, and make sure to also e-mail those files to BOTH of you.

- BOTH of you should then submit copies of these files to Canvas for this lab exercise.

Once both of you have submitted these lab exercise files, you may leave lab if you wish. Or, you can ask questions, read Chapters 5 and 6 of the 2021-update of the course text, etc. But note that questions about today's lab exercise will get first priority.