

CS 279 - Week 5 Lab Exercise

Deadline

Due by the end of lab on 2022-09-22.

How to submit

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

Purpose

To play around a bit with environment and local variables, and to practice with more test possibilities for if statements.

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!

When done, the driver should e-mail the 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 `2791ab5` using the commands:

```
mkdir 2791ab5  
chmod 700 2791ab5
```

- go into that directory using:

```
cd 2791ab5
```

Problem 1

Along with this lab exercise handout, you should find a file `2791ab05-prob1.txt`. Copy its contents into a file with this same name in your `2791ab5` directory.

It contains a number of short answer questions. Type your names and your answers to those questions within this file and create the additional files described, and submit your resulting files:

(continued on next page!!)

- 279lab05-prob1.txt
- prob1-play or prob1-play.sh
- demo-prob1.txt

Problem 2

FUN FACT:

- You can find a variety of file-related test operators at:

<https://tldp.org/LDP/abs/html/fto.html>

Write a script `testy` or `testy.sh` that has the expected first line and comments including at least the name of this script, both of your names, and today's date, and also meets the following requirements:

- It should expect exactly one command-line argument --
 - if it is given more or less than that, complain to the screen and exit with an error status of 1
 - otherwise, set a variable `$file_of_interest` to the value of its command-line argument
- Test and see if `$file_of_interest` exists --
 - if not, create it (you can choose if you want to do so using `touch`, or by redirecting an `echo` command's content into it, or even by calling `nano` or `vi` or `emacs` for that file!)
- Test and see if `$file_of_interest` is not size zero --
 - if it is indeed not size zero, echo a message to the screen saying that it is not empty,
 - otherwise, echo a message to the screen saying that it is empty
- Test and see if `$file_of_interest` is a directory --
 - if so, echo a message saying its contents are about to be displayed and then call `ls` or `ls -l` (your choice!) to display them
 - otherwise, echo a message saying its contents are about to be displayed and then call `cat` or `more` (your choice!) to display them
- Test and see if `$file_of_interest` has execute permission for the user running this test --
 - if so, echo a message to the screen saying it IS executable by this user,
 - otherwise, echo a message to the screen saying it is NOT.
- Ask the user to enter the name of another file, and read it into a variable `comp_file`.
- Test and see if `$file_of_interest` is newer (in terms of last modified date and time) than `$comp_file`--
 - if so, echo a message to the screen saying `$file_of_interest` is newer than `$comp_file`
 - otherwise, echo a message saying `$file_of_interest` is NOT newer than `$comp_file`

Try out your script with a variety of command-line arguments (and lack of them), until you are confident it behaves as it should. Submit your resulting script `testy` or `testy.sh`.

When you are done with these problems, use `sftp` on the workstation you are working on to transfer the following 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:

- `279lab05-prob1.txt`
- `prob1-play` or `prob1-play.sh`
- `demo-prob1.txt`
- `testy` or `testy.sh`

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 the course text, etc. But note that questions about today's lab exercise will get first priority.