CS 279 - Week 3 Lab Exercise

Deadline

Due by the end of lab on 2022-09-08.

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!

  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 `279lab3` using the commands:

  ```
  mkdir 279lab3
  chmod 700 279lab3
  ```

- go into that directory using:

  ```
  cd 279lab3
  ```

Problem 1

Along with this lab exercise handout, you should find a file `279lab03-prob1.txt`. Copy its contents into a file with this same name in your `279lab3` directory.

It contains a number of short answer questions. Type your names and your answers to those questions within this file, and submit your resulting `279lab03-prob1.txt` file.

Hint: these should be set up such that you should be able to try out and/or double check your proposed answers within a bash shell, to see if your answers are correct.

Problem 2

Make a directory in the driver's home directory named `text-backups`.

Write a `bash` shell script named `bkp-txt` or `bkp-txt.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 3 Lab Exercise, for Problem 2

  - the name of this script

  - both of your names

  - today's date

- After a blank line, write commands that do the following:

  - Set a shell variable `backup_dir` to the value `~/text-backups`

  - Using that shell variable `backup_dir`, copy all files in the current working directory with the suffix `.txt` to `~/text-backups`

  - Using that shell variable `backup_dir`, use `chmod` to change the permissions of all files with the suffix `.txt` in `~/text-backups` to have the permissions `-rw-------`

  - Using that shell variable `backup_dir`, append the result of calling the `date` command to a file named `backup-dates.txt` within `~/text-backups`

  - Finally, use `echo` and that shell variable `backup_dir` to output a message to standard output (to the screen) saying that all `.txt` files in the current working directory have been backed up in `~/text-backups`

- Create at least two files with the suffix `.txt`, and run `bkp-txt`.

- Create a subdirectory, `cd` to it, create at least two different files with the suffix `.txt`, and run `bkp-txt` from there (using `../bkp-txt`).

- `cd` back to the directory containing your script `bkp-txt`, and now run the following commands, to demo that you've done what has been asked here:

  ```
  ls -l ~/text-backups > prob2-demo.txt

  echo "Contents of ~/text-backups/backup-dates.txt: " >> prob2.demo.txt

  cat ~/text-backups/backup-dates.txt >> prob2-demo.txt
  ```

When you are done with both of 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:

- `279lab03-prob1.txt`
- `bkp-txt` or `bkp-txt.sh`
- `prob2-demo.txt`

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.