Objectives

Questions

* How can I move around on my computer?
* How can I see what files and directories I have?
* How can I specify the location of a file or directory on my computer?

Objectives

* Explain the similarities and differences between a file and a directory.
* Translate an absolute path into a relative path and vice versa.
* Construct absolute and relative paths that identify specific files and directories.
* Use options and arguments to change the behavior of a shell command
* Demonstrate the use of tab completion, and explain its advantages.

Demo

**1. Background**

Nell has learned about files and directories in this section and she is ready to organize the files that the protein assay machine will create. First, she will create a directory called north-pacific-gyre (to remind herself where the data came from). Inside that, she creates a directory called 2012-07-03, which is the date she started processing the samples. She used to use names like conference-paper and revised-results, but she found them hard to understand after a couple of years. (The final straw was when she found herself creating a directory called revised-revised-results-3)

Nelle names her directories ‘year-month-day’, with leading zeroes for months and days, because the shell displays file and directory names in alphabetical order. If she used month names, December would come before July; if she didn’t use leading zeroes, November (‘11’) would come before July (‘7’). Similarly, putting the year first means that June 2012 will come before June 2013.

Each of her physical samples is labelled according to her lab’s convention with a unique ten-character ID, such as ‘NENE01729A’. This is what she used in her collection log to record the location, time, depth, and other characteristics of the sample, so she decides to use it as part of each data file’s name. Since the assay machine’s output is plain text, she will call her files NENE01729A.txt, NENE01812A.txt, and so on. All 1520 files will go into the same directory.

**2. Video notes**

(1) Use $ as prompt, type: PS1="$"

(2) To find out current working directory, type: pwd

(3) To display executables, type: ls -F /

* (ls is the command, -F is an option which modifies the command's output, / is an argument which calls the resource on which the command will operate)

(4) To display size of files in directory, type: ls -s

(5) To sort files in directory, type: ls -S

(6) To get help for a specific command, type: man ls or type man sort or type mkdir

To quit the help page, type: Q

(\* Note: The code ls --help doesn’t work on Macbook)

(7) Show all files on my desktop, type: ls -F Desktop

(\* Note: ls -F: Display a slash (`/') immediately after each pathname that is a directory, an asterisk (`\*') after each that is executable, an at sign (`@') after each symbolic link, an equals sign (`=') after each socket, a percent sign (`%') after each whiteout, and a vertical bar (`|') after each that is a FIFO.)

(8) Set up directory from **Desktop** to **data-shell**, type:

cd Desktop

cd data-shell

pwd

(9) See what’s in the directory **data-shell**, type: ls

(10) Need to go to **data** folder, change directory to **data**, type: cd data

(11) Check what’s in **data** folder, type: ls -F

(12) Move to upper directory, type:

cd ..

pwd

(\* Note: don’t type cd data-shell, it doesn’t work)

(13) To show all files including ./ (current directory) and ../ (upper directory), type: ls -F -a

(14) To go back to home directory (if get lost), type:

cd

pwd

(15) Reset directory to **data** folder, type:

cd Desktop/data-shell/data

pwd

(16) To show if it’s a directory, type: ~/data

(17) Move to previous directory, Type:

cd -

pwd

(18) change directory to **data-shell** folder, type:

cd Desktop/data-shell

pwd

ls

(19) change directory to **north-pacific-gyre** folder, type:

cd north press tab (complet the name auto)

ls

(20) To access files in the folder **north-pacific-gyre**, type:

cd ..

ls north press tab, you get ls north-pacific-gyre/

type 2012 press tab, you get ls north-pacific-gyre/2012-07/03/

Quizzes

**Question 1**

ls -l: This is to list in long format. If the output is to a terminal, a total sum for all the file sizes is output on a line before the long listing.

ls -F: Display a slash (`/') immediately after each pathname that is a directory, an asterisk (`\*') after each that is executable, an at sign (`@') after each symbolic link, an equals sign (`=') after each socket, a percent sign (`%') after each whiteout, and a vertical bar (`|') after each that is a FIFO.

**Question 2**

Diagram

Description automatically generatedanswer A is for Users/things/backup