**Objectives**

Questions

* How can I find files?
* How can I find things in files?

Objectives

* Use grep to select lines from text files that match simple patterns.
* Use find to find files and directories whose names match simple patterns.
* Use the output of one command as the command-line argument(s) to another command.
* Explain what is meant by ‘text’ and ‘binary’ files, and why many common tools don’t handle the latter well.

Video notes

1. Change working directory

pwd

cd Desktop/data-shell/writing

ls

2. print text to the screen

cat haiku.txt

3. To select lines from text files that match simple patterns, type:

(1) print out lines from **haiku.txt** that contain the letters “not”

grep not haiku.txt

(2) print out lines from **haiku.txt** that contain the letters “The”

grep The haiku.txt

(it prints:

The Tao that is seen

"My Thesis" not found.)

(3) print out lines from **haiku.txt** that contain the word “The”

grep -w The haiku.txt

(it prints “The Tao that is seen.”)

(4) print out lines from **haiku.txt** that contain the words “is not”

grep -w “is not” haiku.txt

(it prints “Today it is not working.”)

(5) print out lines that contain the letters “it” and number the lines

grep -n “it” haiku.txt

(6) print out lines that contain the word “the” and number the lines:

grep -n -w “the” haiku.txt

(7) print out lines that contain the word “the” (not-case-sensitive) and number the lines:

grep -n -w -i “the” haiku.txt

(8) print out lines that exclude the word “the” and number the lines:

grep -n -w -v “the” haiku.txt

4. find lines that contain “o” in the second position

grep -E “^.o” haiku.txt

(it prints:

You bring fresh toner.

Today it is not working

Software is like that.)

5. Find names of all files in the current directory

pwd

find .

6. Use find command

(1) find all folders in the current directory

find . -type d

(2) find all files in the current directory

find . -type f

(3) find all .txt files in the current directory

find . -name “\*.txt”

(find . -name \*.txt gives **./haiku.txt** only)

(4) find all .txt files in the current directory and do word count

wc -l $(find . -name “\*.txt”)

(5) combine find and grep commands

grep “FE” $(find .. -name “\*pdb”)

(this gives the file **heme.pdb** that contains the word “FE” in 25th line)

Quizzes

**Question 1**

Graphical user interface, text, application, email

Description automatically generated

grep -w $1 -r $2 | cut -d : -f 2 | cut -d , -f 1,3 > $1.txt

bash count-species.sh rabbit

**Question 2**

What would the following shell script accomplish?

wc -l $(find . -name "\*.dat") | sort -n

Answer:

(All of them)

Find all files with a .dat extension recursively from the current directory

Sort the output from step 2. numerically

Count the number of lines each of these files contains