Week Report 6

Wildcards(3): ?, *, []

Wildcard *

- The main wildcard is a star or asterisk (*). Star alone matches anything & nothing & matches any number of character.

- Use (*) when:

- list all files w/ particular file extension

- Don't remember complete name of file but portion of name

- Want to copy, move or remove all file that match particular name

  - The * wildcard matches from 0 to any number of characters.

    - EX: ls *.txt match all files that end in .txt regardless of size of file name

    - EX: *.txt* .pdf list all files that end in .txt & .pdf

    - EX: ls file.* list all files that start with string "file" regardless file extension. No file in directory matched.

    - EX: *file.* list all files that have any letter before string "file" & after as well.

Wildcard ?

- The ? wildcard metacharacter matches precisely one character. Proves useful with hidden files(dot files)

  - EX: List all hidden files

    - ls ./.??*

  - EX: List all hidden files in parent directory

    - ls ../.??*

  - EX: List all files that have two character b/n letter b & k

    - ls b??k*

Wildcard []

- The [] wildcard match a single character range.Uses exclamation mark to reverse match.For example match everything except vowels [!aeiou] or any character except number [!0-9]

  - EX: Match all file whose name doesn't have a number in file name
    - ls *[0-9]*.

- EX: Match all files whose name begins w/ any these two sets of character letter from a-f or p-z

  - ls [a-fp][0-9][$USER]

- EX: Match all files whose name begins w/ any 3 combo of numbers & current username

  - ls [0-9][0-9][0-9]$USER

- Practice 5

```
vgarcia@cis106:~$ curl -s https://cis106.com/assets/wildcardpractice.sh | bash

--2023-11-18 16:36:33--  https://cis106.com/assets/logo100x100.png
Resolving cis106.com (cis106.com)... 185.199.108.153
Connecting to cis106.com (cis106.com)|185.199.108.153|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3520 (3.4K) [image/png]
Saving to: 'logo100x100.png'

logo100x100.png     100%[===================>]   3.44K  --.-KB/s    in 0s

2023-11-18 16:36:34 (13.6 MB/s) - 'logo100x100.png' saved [3520/3520]

vgarcia@cis106:~$
vgarcia@cis106:~$ ls wildcardpractice/*random*
wildcardpractice/_random.csv     wildcardpractice/randomtext.txt
wildcardpractice/random_text.md
vgarcia@cis106:~$ ls wildcardpractice/*.csv wildcardpractice/*.txt
wildcardpractice/78food.txt       wildcardpractice/Sample1234.csv
wildcardpractice/_random.csv      wildcardpractice/sample123.csv
wildcardpractice/randomtext.txt
vgarcia@cis106:~$ cd wildcardpractice/
vgarcia@cis106:~/wildcardpractice$ ls random*.md
random_text.md
vgarcia@cis106:~/wildcardpractice$ ls *sample* *.md
random_text.md   sample1.doc  sample99.docx       sample.pdf
sample123.csv    sample1.xls  samplejsonfile.json  samplesite.html
vgarcia@cis106:~/wildcardpractice$
```

- Practice 6

```
vgarcia@cis106:~/wildcardpractice$ ls *.???
2020-08-27-capture.raw  baik.pdf   bk.pdf    file.log        sample1.doc
2022-02-02-camera.jpg   baik.xml   bk.xml    logo100x100.png sample1.xls
78food.txt              beatk.exe  book.exe  _random.csv     sample.pdf
allfiles.lst            beatk.pdf  book.pdf  randomtext.txt  Sample.pdf
Allfiles.lst            beatk.xml  book.xml  Sample1234.csv  sample123.csv
baik.exe                bk.exe     fail.log  sample123.csv
vgarcia@cis106:~/wildcardpractice$ ls .??*
.bash_history   .hidden1.py   .hidden2.py
.hidden1.doc    .hidden2.doc  .hiddenFile.txt
vgarcia@cis106:~/wildcardpractice$ ls b??*.???
baik.exe  baik.xml   beatk.pdf  book.exe  book.xml
baik.pdf  beatk.exe  beatk.xml  book.pdf
vgarcia@cis106:~/wildcardpractice$ ls sample?.*
sample1.doc   sample1.xls
vgarcia@cis106:~/wildcardpractice$ ls .??*.??
.hidden1.py   .hidden2.py
vgarcia@cis106:~/wildcardpractice$ 
```

- Practice 7

```
vgarcia@cis106:~/wildcardpractice$ ls [a-z]*.???
allfiles.lst   beatk.exe  bk.pdf     book.xml         randomtext.txt   sample.pdf
baik.exe       beatk.pdf  bk.xml     fail.log         sample123.csv
baik.pdf       beatk.xml  book.exe   file.log         sample1.doc
baik.xml       bk.exe     book.pdf   logo100x100.png  sample1.xls
vgarcia@cis106:~/wildcardpractice$ ls [A-Z]*[0-9]*
Sample1234.csv
vgarcia@cis106:~/wildcardpractice$ ls [0-9][0-9][0-9]*
2020-08-27-capture.raw  2021-04-10-screenshot.jpeg  2022-02-02-camera.jpg
vgarcia@cis106:~/wildcardpractice$ ls [!AEIOUaeiou]*
2020-08-27-capture.raw      beatk.pdf  fail.log         sample1.doc
2021-04-10-screenshot.jpeg  beatk.xml  file.log         sample1.xls
2022-02-02-camera.jpg       bk.exe     logo100x100.png  sample99.docx
78food.txt                  bk.pdf     _random.csv      samplejsonfile.json
baik.exe                    bk.xml     random_text.md   sample.pdf
baik.pdf                    book.exe   randomtext.txt   Sample.pdf
baik.xml                    book.pdf   Sample1234.csv   samplesite.html
beatk.exe                   book.xml   sample123.csv
vgarcia@cis106:~/wildcardpractice$ ls [[:punct:]]*
_random.csv
vgarcia@cis106:~/wildcardpractice$ 
```

Brace Expansion {}

How to use it (3) examples?

- Brace expansion is not a wildcard but another feature of bash that allows to generate arbitrary string to use w/ commands.

- EX: Create whole directory structure in single command:

    - mkdir -p music/{jazz,rock}/{mp3files,videos,oggfiles}/new{1..3}
    -

- EX: Create N number of files use:

    - touch website{1..5}.html
    - touch file{A..Z}.txt
    - touch file{001..10}.py
    - touch file{{a..z},{0..10}}.js

- EX: Remove multiple files in a single directory

    - rm -r {dir1,dir2,dir3,file.txt,file.py}