

Weekly Report 6

Wildcards

The * Wildcard

The * Wildcard matches from zero to any number of characters

Examples

- List all the files that end in .txt in a directory
 - `ls *.txt`
- List all the files that end in .txt and .pdf
 - `ls *.txt *.pdf`
- List all the files that start with the string "file", no matter its extension
 - `ls file.*`
- List all the files that have any letter before the string "file." and after as well
 - `ls *file.*`

The ? Wildcard

The ? wildcard metacharacter matches **precisely one character**. Useful when working with hidden files (aka dot files)

Examples

- List all the hidden files in the current directory
 - `ls .??*`
- List all the files that have a two character between letter b and k
 - `ls b??k*`
- List all the files that have a single character between letter f and l
 - `ls f?l*`
- List all the files that have a 3 letter file extension
 - `ls *.???`

The [] Wildcard

The [] wildcard will match a single character in a range. However, if it's combined with an !, it will do the opposite.

Examples

- Match all the files that have a vowel after letter f
 - `ls f[aeiou]*`
- Match all the files that have a range of letters after f
 - `ls f[a-z]*`
- Match all the files whose name has at least one number

- `ls *[0-9]*`
- Match all the files whose name **does not** have a number
 - `ls *![0-9]*`
- Match all the files whose name begins with a letter from a-p or starts with letters s or c
 - `ls [a-psc]*`
- Match all files whose name begins with any of these two sets of characters
 - `ls [a-fp-z]*`
- Match all the files whose name begins with any 3 combination of numbers and the current user's username
 - `ls [0-9][0-9][0-9]$USER`

Brace Expansion

This is **NOT** a wildcard but another feature of bash that allows you to generate arbitrary strings to use with commands

Examples

- To create a whole directory structure in a single command
 - `mkdir -p music/{jazz,rock}/{mp3files,videos,oggfiles}/new{1..3}`
- To 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`
- Remove multiple files in a single directory
 - `rm -r {dir1,dir2,dir3,file.txt,file.py}`

Practices

Practice 5

```

sgilmore@cis106:~$ cd ~/wildcardpractice/
sgilmore@cis106:~/wildcardpractice$ ls *random*
_random.csv  random_text.md  randomtext.txt
sgilmore@cis106:~/wildcardpractice$ ls -1 *.csv *.txt
78food.txt
_random.csv
randomtext.txt
Sample1234.csv
sample123.csv
sgilmore@cis106:~/wildcardpractice$ ls -1 random*.md
random_text.md
sgilmore@cis106:~/wildcardpractice$ ls -1 *sample* *.md
random_text.md
sample123.csv
sample1.doc
sample1.xls
sample99.docx
samplejsonfile.json
sample.pdf
samplesite.html

```

Practice 6

```

sgilmore@cis106:~/wildcardpractice$ ls *.*??
2020-08-27-capture.raw  baik.exe  beatk.xml  book.pdf  _random.csv  sample1.xls
2022-02-02-camera.jpg  baik.pdf  bk.exe    book.xml  randomtext.txt  sample.pdf
78food.txt             baik.xml  bk.pdf    fail.log  Sample1234.csv  Sample.pdf
allfiles.lst           beatk.exe bk.xml    file.log  sample123.csv   sample1.doc
Allfiles.lst           beatk.pdf book.exe  logo100x100.png
sgilmore@cis106:~/wildcardpractice$ ls .*?*
.bash_history .hidden1.doc .hidden1.py .hidden2.doc .hidden2.py .hiddenFile.txt
sgilmore@cis106:~/wildcardpractice$ ls b??.*??
ls: cannot access 'b??.*??': No such file or directory
sgilmore@cis106:~/wildcardpractice$ ls b??*.??*
baik.exe baik.pdf baik.xml beatk.exe beatk.pdf beatk.xml book.exe book.pdf book.xml
sgilmore@cis106:~/wildcardpractice$ ls -1 sample*?
sample123.csv
sample1.doc
sample1.xls
sample99.docx
samplejsonfile.json
sample.pdf
samplesite.html
sgilmore@cis106:~/wildcardpractice$ ls -1 sample?.*
sample1.doc
sample1.xls
sgilmore@cis106:~/wildcardpractice$ ls .*?*.*?
.hidden1.py .hidden2.py

```

Practice 7

```
sgilmore@cis106:~/wildcardpractice$ ls [:lower:]*.???
logo100x100.png  randomtext.txt
sgilmore@cis106:~/wildcardpractice$ ls [a-z]*.???
allfiles.lst  baik.xml  beatk.xml  bk.xml  book.xml  logo100x100.png  sample1.doc
baik.exe      beatk.exe  bk.exe     book.exe  fail.log  randomtext.txt  sample1.xls
baik.pdf      beatk.pdf  bk.pdf     book.pdf  file.log  sample123.csv   sample.pdf
sgilmore@cis106:~/wildcardpractice$ ls [[:upper:]]*[[:digit:]]*
Sample1234.csv
sgilmore@cis106:~/wildcardpractice$ ls [A-Z]*[0-9]*
Sample1234.csv
sgilmore@cis106:~/wildcardpractice$ ls [0-9][0-9][0-9][0-9]*
2020-08-27-capture.raw  2021-04-10-screenshot.jpeg  2022-02-02-camera.jpg
```

```
sgilmore@cis106:~/wildcardpractice$ ls [!AEIOUaeiou]*
2020-08-27-capture.raw  beatk.exe  book.pdf  randomtext.txt  sample.pdf
2021-04-10-screenshot.jpeg  beatk.pdf  book.xml  Sample1234.csv  Sample.pdf
2022-02-02-camera.jpg      beatk.xml  fail.log  sample123.csv   samplesite.html
78food.txt                bk.exe    file.log  sample1.doc
baik.exe                   bk.pdf    logo100x100.png  sample1.xls
baik.pdf                   bk.xml    _random.csv  sample99.docx
baik.xml                   book.exe  random_text.md  samplejsonfile.json
sgilmore@cis106:~/wildcardpractice$ ls [.]*
ls: cannot access '[:]': No such file or directory
sgilmore@cis106:~/wildcardpractice$ ls [[:punct:]]*
_random.csv
sgilmore@cis106:~/wildcardpractice$
```