Week Report 5

Commands, definition, usage and example

Mkdir:

- Definition: It is used to creating a single directory or multiple directories.
- Usage: mkdir + the name of the directory
- Examples:
    - Create a folder in the present working directory
        - mkdir wallpapers/
    - Create multiple directories
        - mkdir wallpapers/cars wallpapers/cities wallpapers/forest
    - create a directory with a parent directory at the same time

Touch:

- Definition: It is a command for creating files.
- Usage: Touch +file
- Examples:
    - To create a file called list:
        - Touch list
    - To create several files:
        - Touch names.csv script.py
    - To create a file using absolute path:
        - Touch ~/Downloads/games.txt

Rm:

- Definition: It is a command that allows the user to remove files.
- Usage: rm +file
- Example:
    - To remove a file
        - rm list
    - Remove a file and prompt confirmation before removal
        - rm -i list
    - Remove an empty directory
        - rmdir Downloads/games

Rmdir:

- Definition: This command allows to remove an empty directory.
- Usage: rmdir + directory
- Example:
    - rmdir Downloads/games

Mv:

- Definition: This command moves and renames directories.
- Usage: mv + source + destination
- Example:
  - For renaming files/directories:
    - mv + file/directory
  - To move a file from a directory to another using relative path
    - mv Downloads/homework.pdf Documents/
  - To move a directory from one directory to another using absolute path
    - sudo mv ~Downloads/theme /usr/share/themes

Cp:

- Definition: Cp command that copies files/directories from a source to a destination.
  - Usage: cp + files to copy + destination
- To copy directories you must use the -r option
  - Usage: cp -r + directory to copy + destination
- To copy a file
  - cp Downloads/wallpapers.zip pictures/
- To copy multiples files in a single command
  - sudo cp -r script.sh program.py home.html assets/ /var/www/html/

Ln:

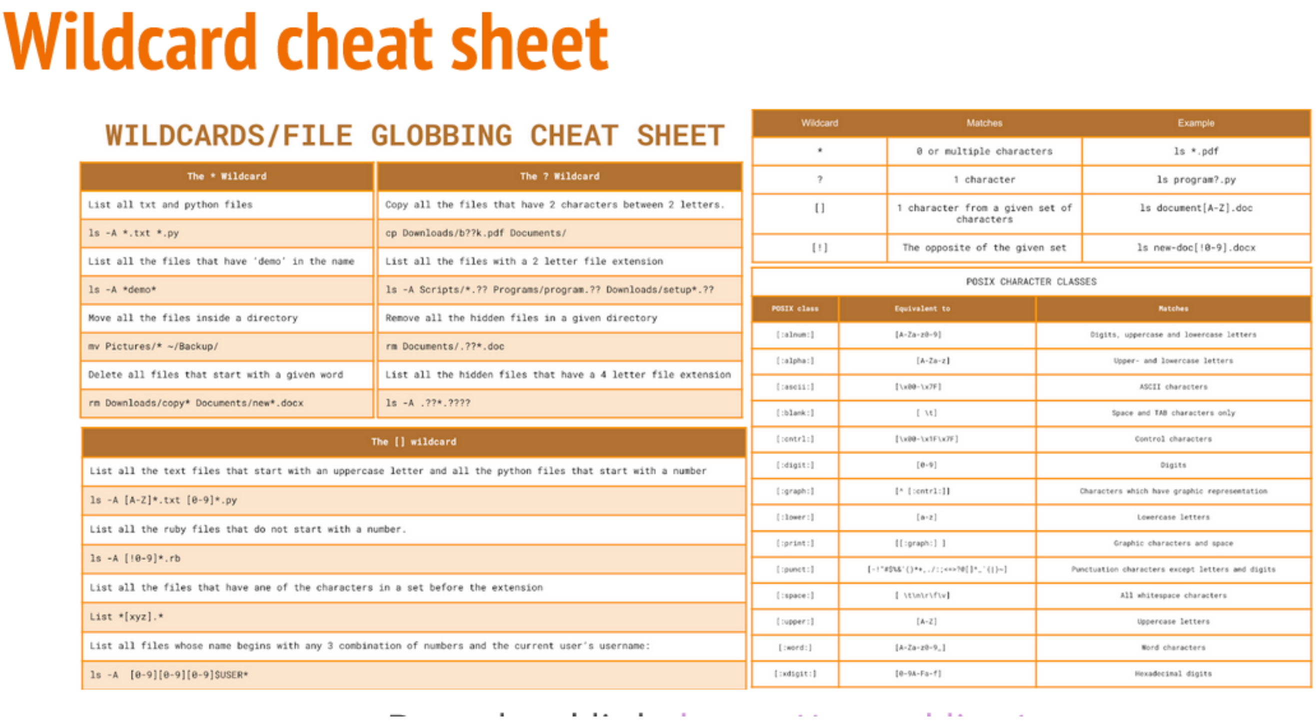
- Definition: It is a command to create a hard link. A hard link is a file that point to data on the hard drive.
  - To create a hard link: ln file ~/Downloads/fileHL
  - To create a symbolic link: ln -s file fileSL

Man:

- Definition: Man is command used to look for quick references.
  - Usage: man + command
  - Example: man ls
- Open the man page of the passwd command
  - man passed
- Open a specific man page for the passwd command
  - man 5 passwd
- Show all the available pages of a command
  - man -a passwd

Brace expansion and how to use it:

- Definition: Brace expansion {} is not a wildcard but another feature of bash that allows you to generate arbitrary strings to use with commands.
- Examples:
  - to match all files that have a vowel after letter f:
    - ls f[aeiou]*
  - to match all files that have a range of letter after f:
    - ld f[a-z]*



Wildcard cheat sheet

WILDCARDS/FILE GLOBBING CHEAT SHEET

The * Wildcard
List all txt and python files
ls -A *.txt *.py
List all the files that have 'demo' in the name
ls -A *demo*
Move all the files inside a directory
mv Pictures/* ~/Backup/
Delete all files that start with a given word
rm Downloads/copy* Documents/new*.docx

The ? Wildcard
Copy all the files that have 2 characters between 2 letters.
cp Downloads/b??k.pdf Documents/
List all the files with a 2 letter file extension
ls -A Scripts/*.?? Programs/program.?? Downloads/setup*.??
Remove all the hidden files in a given directory
rm Documents/.??*.doc
List all the hidden files that have a 4 letter file extension
ls -A .??*.????

The [] wildcard
List all the text files that start with an uppercase letter and all the python files that start with a number
ls -A [A-Z]*.txt [0-9]*.py
List all the ruby files that do not start with a number.
ls -A [!0-9]*.rb
List all the files that have ane of the characters in a set before the extension
List *[xyz].*
List all files whose name begins with any 3 combination of numbers and the current user's username:
ls -A [0-9][0-9][0-9]$USER*

Wildcard	Matches	Example
*	0 or multiple characters	ls *.pdf
?	1 character	ls program?.py
[]	1 character from a given set of characters	ls document[A-Z].doc
[!]	The opposite of the given set	ls new-doc[!0-9].docx

POSIX CHARACTER CLASSES

POSIX class	Equivalent to	Matches
[:alnum:]	[A-Za-z0-9]	Digits, uppercase and lowercase letters
[:alpha:]	[A-Za-z]	Upper- and lowercase letters
[:ascii:]	[\x00-\x7F]	ASCII characters
[:blank:]	[\t]	Space and TAB characters only
[:cntrl:]	[\x00-\x1F\x7F]	Control characters
[:digit:]	[0-9]	Digits
[:graph:]	[^ [:cntrl:]]	Characters which have graphic representation
[:lower:]	[a-z]	Lowercase letters
[:print:]	[[:graph:]]	Graphic characters and space
[:punct:]	[-!"#$%&'()*+,./:;<=>?@[]^_'{|}~]	Punctuation characters except letters and digits
[:space:]	[\t\n\r\f\v]	All whitespace characters
[:upper:]	[A-Z]	Uppercase letters
[:word:]	[A-Za-z0-9_]	Word characters
[:xdigit:]	[0-9A-Fa-f]	Hexadecimal digits

!

Using Brace Expansion

- Brace expansion {} is not a wildcard but another feature of bash that allows you to generate arbitrary strings to use with commands.
- For example,
  - To create a whole directory structure in a single command:
    - `mkdir -p music/{jazz,rock}/{mp3files,vidoes,oggfiles}/new{1..3}`
  - To create a 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}`

!