Command Line Interface Training

* The command line is the text interface for the computer’s operating system.
* It is used to traverse and edit the computers filesystem.
* The command line is accessed through bash.
* Folders are referred to as directories
* Files and directories are organized into a filesystem
* The **ls** command looks at the directory you are in, and lists all the files and directories in it.
* The **$** is the first character, is called a shell prompt. It appears when the terminal is ready to accept a command.
* The **pwd** command means ‘print working directory’. It outputs the name of the directory you are currently in.
* The **cd** command means to ‘change directory’.
* Instead of using cd twice, it can be used once with a longer argument.
* To move up one directory, we used **cd..**
* The **mkdir** command is used to make a directory(folder)
* The **touch** command creates a new file inside the working directory.
* The **clear** command is used to clear the terminal of previous commands and outputs
* The  **tab**  command is used to autocomplete the command.
* The up and down arrows are used to cycle through previously used commands.
* Bash means Bourne Again Shell, which is a CLI. Used in linux and Mac OS.
* Windows uses command prompt
* Ls can be used as it, or with options
* The **-a** lists all contents, including hidden files and directories.
* The **-t** orders files and directories by the time they were last modified.
* The **-l** lists all contents of a directory in long format, as well as file permissions. It shows 7 columns, separated by spaces.
* Drwxr-xr-x 4 ccuser ccuser 172 Apr 14 15:23 action
  + Drwxr-xr-x is the access rights/file permissions.
  + 4 is the number of hard links (child directories and files).
  + Ccuser is the file owner’s username
  + Ccuser is the name of the group that owns the file.
  + 172 is the size of the file in bytes.
  + Apr 14 15:23 is the date and time the file was modified.
  + Action is the name of the file or directory
* Ls **-alt** lists all contents, including hidden files and directories, in long format, ordered by date and time of last modification
* The **cat** command outputs the contents of a specified file.
* The **cp** command copies files or directories.
* The **\*** is called a wildcard.
* The **mv** command moves files without making a copy
* The **rm** command deletes files and directories.
* The **-r** stands for recursive, and is used to delete a directory and all child directories.
* There is no undelete.
* Standard input is abbreviated as **stdin**, information input into the terminal through the keyboard or input device.
* Standard output is abbreviated as **stdout**, information returned after a process is run.
* Standard error is abbreviated as **stderr**, error message after a failed process.
* The **>** command redirects stdout to a file. > overwrites what used to be in the file.
* The **>>** adds to a file without changing the original contents.
* The  **<** takes info from the files on the right to the files on the left.
* The **|** takes the stdout of the command on the left, and pipes it to the stdin of the command on the right.
* The **sort** command takes the stdin and orders it alphabetically for the stdout.
* The **uniq** command filters out adjacent, duplicate lines in a file.
* The **grep** command searches files for line that match a pattern, and returns the result. It stands for Global Regular Expression Print
* Use **-I**  to make grep not case sensitive
* Use **grep -R**  to search all files in a directory to match the input.
* Use **grep -rl**  to search files in a directory and output filenames with matched results.
* The **sed** stands for stream editor, and is used to modify an expression.
* Every time the terminal is launched, it creates a new session with the command line environment.
* Type **nano** to open the nano text editor
* The ctrl key is represented by **^** in nano
* A bash profile is used to store environment settings for the terminal, accessible by **~/.bash\_profile**
* The **alias** command allows you to create keyboard shortcuts or aliases for commonly used commands.
* Environment variables can be used across commands and programs to hold information about the environment.
* The **$** is used when returning a variables value.
* The **PS1** variable defines the makeup and style of the command prompt. Can use to change the character for the command prompt.
* The **PATH** variable stores a list of directories separate by a colon.
* The **env** command stands for environment. Returns a list of the environment variables.