Useful Linux Commands

Searching

Find all files with a particular name

```
ls -R | grep <name>
```

Find a keyword looking recursively in all files starting from your root directory and print in a new line

```
egrep -Rw '<keyword>' | awk '{print $0,"\n"}'
```

Find the tree structure. Debian/Ubuntu-based systems

```
Install the tree library: sudo apt-get install tree -y
```

To output the tree structure for a file or folder: tree | grep <name>

```
picard@nik:~/Documents/betaflight$ tree | grep dma
                       ├── stm32f1xx hal dma ex.h
                         — stm32f3xx hal dma ex.h
                        ├─ stm32f4xx hal dma ex.h
                         — stm32f4xx hal dma ex.c
                         stm32f7xx hal dma ex.h
                         stm32f7xx hal dma ex.c
                         — stm32g4xx hal dma ex.h
                         stm32g4xx hal dma ex.c
                         stm32h7xx hal dma ex.h
                         stm32h7xx_hal_dma_ex.c
              dma regmap.c
              - dma regmap.h
              dma stm32f4xx.c
              - dma stm32f7xx.c
              - dma stm32g4xx.c
              dma stm32h7xx.c
```

For more information look here: https://www.tecmint.com/linux-tree-command-examples/

Find files using 'find'

```
find [start directory] -name <argument>
E.g. find . -name "<argument>"
```

How to use sed to find and replace text in files in Linux

```
sed 's/<what I am changing>/<what is being changed>/g' <filename>
```

Link: https://www.cyberciti.biz/faq/how-to-use-sed-to-find-and-replace-text-in-files-in-linux-unix-shell/

Git

Find changes in a file

```
git blame --minimal target.h

E.g. git blame --minimal target.h | grep <keyword>
```

git log --oneline --decorate --graph | grep <file>

More info here: https://help.github.com/en/github/managing-files-in-a-repository/tracking-changes-in-a-file

Find the commit history

```
git log --oneline --decorate | grep SITL
f042ad910 Add dummy initializeUnusedPins for SITL
b5237bba9 Fix SITL target build and runtime segfaults (#9342)
548379bab fixed SITL target debug build and runtime segfaults. Added
motorPwmDevice vTable functions and IOConfigGPIO stub
ddf7a29fb Fixed mocking of pwm output on SITL.
93f933f01 Fixed build for gcc 8 (SITL).
6b8d40306 Added 'eeprom.bin' (SITL EEPROM image) to '.gitignore'.
4b7ba85ec Fixed SITL.
9cd5bcd7a Fixed tests / SITL build.
68756ddd6 Merge pull request #4085 from cs8425/bf-SITL-fix-cli-crash
f8c9b57fd fix cli crash on get, dump, diff on SITL
c5ed9d566 Merge pull request #3633 from cs8425/bf-SITL-EEPROM-in-RAM
51ca725f0 SITL fix
5aa81c81c Merge pull request #3403 from blckmn/SITL
1ff5ff7d9 Remove SITL specific defines from fc init
c75697ef3 Merge pull request #3395 from AndersHoglund/fix SITL build
```

Find changes in a file with git log

```
git log -- ./<filename>
```

08281e8ec Fix SITL compile. 4451ae5fe Exclude SITL case 3cfcf8a4b Fix for SITL target For more information please check here: https://www.atlassian.com/git/tutorials/git-log A good one-liner in Linux can give you a lot of useful output without the need to open any files.

Check link: https://www-users.york.ac.uk/~mijp1/teaching/2nd year Comp Lab/guides/grep awk sed.pdf has great examples.