Introduction to the command line

Anatomy of a command

```
sort -r fruit.txt
```

Anatomy of a command
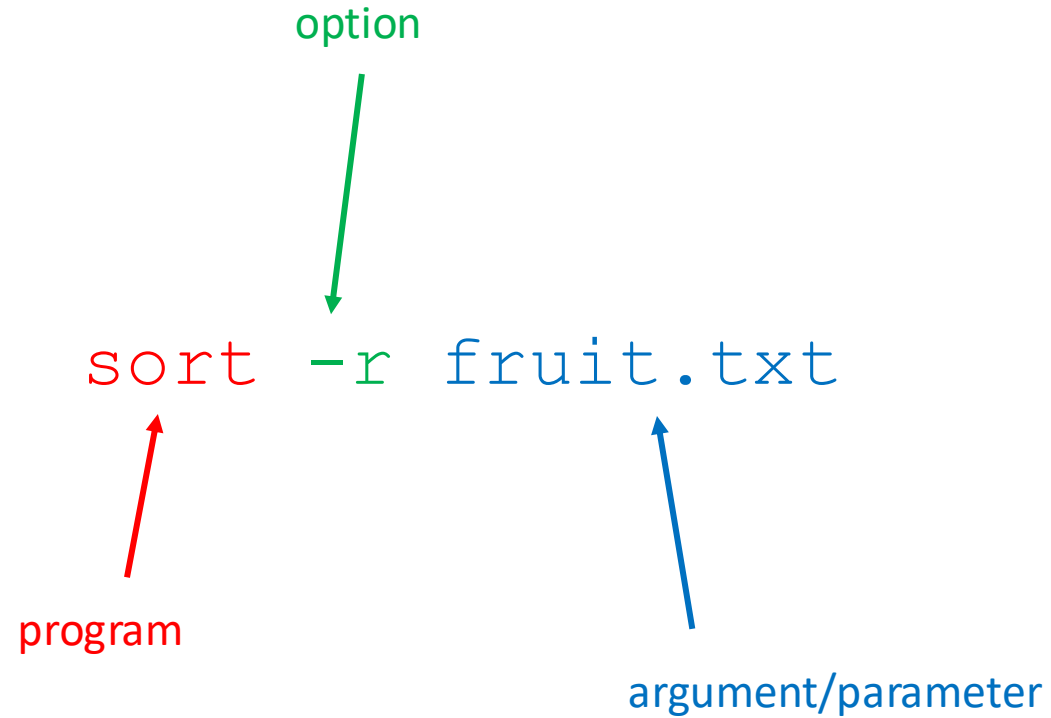
option

sort -r fruit.txt

program

argument/parameter

Anatomy of a command


```
sort -r fruit.txt > sortedfruit.txt
```

option

program

argument/parameter

Anatomy of a command

```
sort -f -r fruit.txt
sort -fr fruit.txt
sort -rf fruit.txt
sort --reverse --ignore-case fruit.txt
```

Anatomy of a command

```
fastp --in1 ERR5386380_1.fastq.gz --in2
ERR5386380_2.fastq.gz --out1
ERR5386380_1.trimmed.fastq.gz --out2
ERR5386380_2.trimmed.fastq.gz --
length_required 40 --cut_front --cut_tail --
cut_mean_quality 25
```

Anatomy of a command

fastp `--in1 ERR5386380_1.fastq.gz --in2 ERR5386380_2.fastq.gz --out1 ERR5386380_1.trimmed.fastq.gz --out2 ERR5386380_2.trimmed.fastq.gz --length_required 40 --cut_front --cut_tail --cut_mean_quality 25`

Anatomy of a command

```
fastp --in1 ERR5386380_1.fastq.gz --in2
ERR5386380_2.fastq.gz --out1
ERR5386380_1.trimmed.fastq.gz --out2
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length_required 40 --cut_front --cut_tail --
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Anatomy of a command

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fastp --in1 ERR5386380_1.fastq.gz --in2
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length_required 40 --cut_front --cut_tail --
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Anatomy of a command

```
fastp --in1 ERR5386380_1.fastq.gz --in2
ERR5386380_2.fastq.gz --out1
ERR5386380_1.trimmed.fastq.gz --out2
ERR5386380_2.trimmed.fastq.gz --
length_required 40 --cut_front --cut_tail --
cut_mean_quality 25
```

- The command line is case-sensitive!
 - `-S` is not the same as `-s`
- Your filenames must be exactly correct

  `ERR10741_1.fastq.gz` is not the same file as
  `ERR10741-1.fastq.gz` or
  `ERR10741_I.fastq.gz`
- Files will be over-written without warning by the `mv` and `cp` commands
  - Did you type `mv a.txt b.txt`? If `b.txt` exists already it will be overwritten
  - Double-check your commands
  - The '`-i`' option will ask you before overwriting
  - The '`-n`' option will stop you overwriting a file

```
(base) MIC-MBpro-06:test Elizabeth$ mv -i a.txt b.txt
overwrite b.txt? (y/n [n])
not overwritten
(base) MIC-MBpro-06:test Elizabeth$ ▐
```

- Avoid spaces in your filenames
  - The command line cannot tell that `list of fruit.txt` is one file
  - Use underscores instead: `list_of_fruit.txt`
- Watch out for quotes
  - ‘ is not the same as “
  - Word will add smart quotes which are not the same as regular quotes
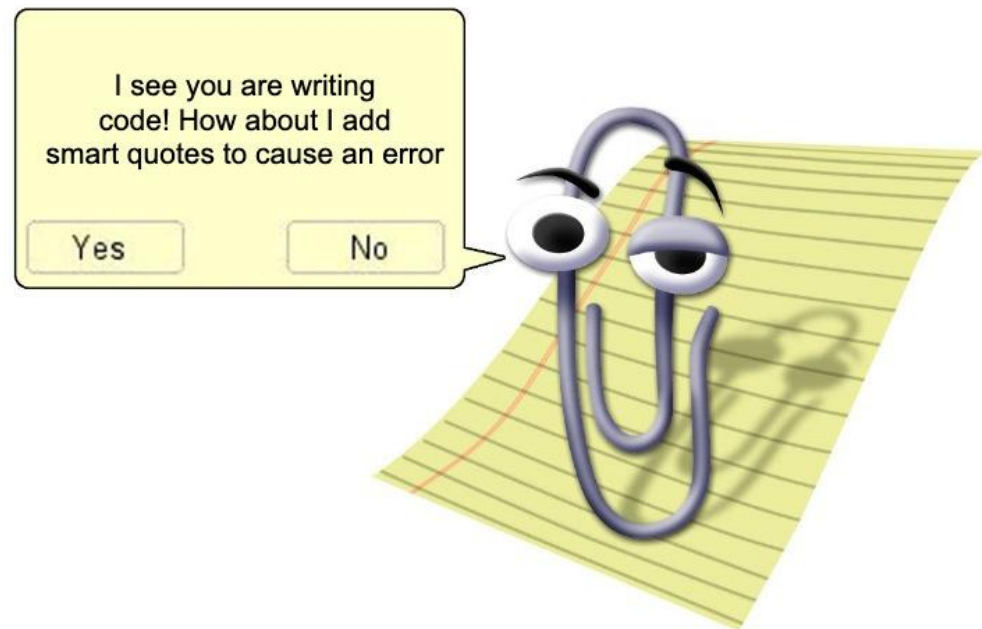
What is the error message telling me?

- Can it find the program I am trying to run?
- What directory am I running my command from? `pwd` is your friend
- Is there a file it cannot find? Doe the file exist and am I using the right path?
- Check you have permission to read and write the files and directory
- Did I forget to give a necessary option?
- Break down the command to work out what is causing the error