

Software Carpentry / Shell Novice Lecture Notes

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Overview:

Setup

Introducing the Shell

Navigating Files and Directories

Working With Files and Directories

Pipes and Filters

Loops

Shell Scripts

Finding Things

Setup:

- Download and install the data
- How to open a shell
 - Linux
 - Mac OS
 - Windows

Introducing the Shell:

- GUI vs CLI/TUI
- Nelle's Pipeline

Navigating Files and Directories:

- whoami
- pwd
- ls
- cd
- tree

Working With Files and Directories:

- `mkdir`
- `less` and `nano`
- `touch`
- `rm`
- `mv`
- `cp`

Pipes and Filters:

- `WC`
- `echo`
- redirection
- `head`
- `tail`
- `cat`
- `less`
- `sort`
- `uniq`
- wildcards

Loops:

- for/in/do/done
- naming files (spaces are evil)
- history ("Ctrl-r", "!!", " !\$",)
- wildcards and dry runs ("*", "?", "[]")
- nested loops

Shell Scripts:

- 'bash filename' (forking and environments)
- arguments: \$1 \$2 etc. ("\$_")
- comments
- extract a script from history
- file magic and permissions ("hash bang slash bin slash bash" (shebang))

Finding Things:

- `grep`
- `find`
- `"$()"` or `"`"`
- `man` command