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- ▶ The standard interactive shell is `bash`.
- ▶ There are others, though! `zsh` and `fish` are both popular.

Navigating the filesystem

- ▶ **ls** **List** files. You can give it a directory to list.
 - ▶ **-l** Display the output in a detailed **list**, one line per file.
 - ▶ **-h** Display file sizes in a **human-readable** format.
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- ▶ `pwd` **Print working directory**.
- ▶ `cd DIRECTORY` **Change directory**.
 - ▶ `cd` without a directory takes you `$HOME`.
 - ▶ `cd -` takes you to the previous directory you were in.

Rearranging files

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- ▶ `rm FILE` **R**emove one or more files.
 - ▶ `-f` **F**orcibly remove nonexistent files.
- ▶ `mkdir DIRECTORY` **M**akes a **directory**.
 - ▶ `-p` Makes every missing directory in the given **path**

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- ▶ `diff FILE1 FILE2` Shows **differences** between files.
 - ▶ **a/d/c** Added/Deleted/Changed.

Redirecting IO

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- ▶ `cmd1 | cmd2` Pipe STDOUT from `cmd1` into STDIN for `cmd2` .
- ▶ `cmd < input.txt` Funnel data from `input.txt` to STDIN for `cmd` .
- ▶ `cmd > output.txt` Funnel STDOUT from `cmd` into `output.txt` .

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- ▶ `cmd 2>&1` Funnel `STDERR` from `cmd` into `STDOUT`.

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- ▶ `cmd 2> err.txt` Funnel `STDERR` from `cmd` into `err.txt`.
- ▶ `cmd 2>&1` Funnel `STDERR` from `cmd` into `STDOUT`.
- ▶ `cmd &> all-output.txt` Funnel all output from `cmd` into `all-output.txt`
- ▶ Common usage: `cmd &> /dev/null` dumps all output to the bit bucket.

Environment Variables

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- ▶ You can get environment variable values in C++ with `getenv()`

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- ▶ `$EDITOR` Tells which editor you would prefer programs to launch for you.
- ▶ `$PS1` Customize your shell prompt!
- ▶ `~/.bashrc` runs every time you start `bash`, so you can `export` customizations there.








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- ▶ `!!` holds the last command executed.
- ▶ `!$` holds the last argument to the last command.
- ▶ `alias sl=ls` runs `ls` when you type `sl`.

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 - ▶ `kill PID` Kills a process. (You can do `kill %1` !)
 - ▶ `killall command` Kills every process running `command`.

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- ▶ `man man` gives you the manual for the manual!