Redirection

File descriptors:

- **0 = stdin**
- **1 = stdout**
- **2 = stderr**

less < file same as **less file** or **less 0< file**

foo > file ; redirect **stdout** (same as **foo 1> file**)

foo 2> file ; redirect **stderr**

foo >> file ; append **stdout** to **file**

foo >& file or **foo > file 2>&1**;

sends **stdout** and **stderr** to a file, but **foo >>& file** does not work ; you have to do **foo >> file 2>&1**

Note that **foo > file 2>&1** is not the same as **foo 2>&1 > file**; the order of arguments is important.

A nice non-portable trick you can use in Linux is to take advantage of the device nodes:

```
1    /dev/stdin
2    /dev/stdout
3    /dev/stderr
```

```
1    $ foo > /dev/stderr
```