

File I/O and IOCTLs

UNIX511 Week 3 Class 1

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File Input/Output

- You've likely seen C programs read/write before
- Let's look at an example from the samples
- Using system calls (open/read/write) rather than stdio
- And note the importance of buffer size
 - Reading/writing large chunks is usually more efficient
 - stdio usually reads/writes blocks (under the covers)

- `ioctl()` is a system call to get or set information about devices
- The possible `ioctl()` calls vary by device type
- See device man pages e.g. `sd(4)`

Examples

- Let's look at some simple code examples with I/O and `ioctl()`s
- Let's have a look in `unx511_samples`
 - https://github.com/jsellens/unx511_samples
- `week03_1/1_simpleFile` – Simple file copy code
- `week03_1/2_speedTest` – Speed comparison against `stdio`
- `week03_1/3_diskDrive` – Disk `ioctl()` example

- `https://github-pages.senecapolytechnic.ca/unx511/Week3/Week3.html` has links to videos and reference docs
- man pages: `ioctl(2)` `netdevice(7)` `sd(4)`

Summary

- Not much to include in slides this class
- More doing and referring to documentation