

11/31/17

## • HW Comments

- Comment
- Style (KVL, KCL, KFC)<sup>ha</sup>
- Review C
- Variables @ top

⇒ For nsec,  
we need portable code  
(in case it goes beyond  
1 sec / switch to dif.  
machine)

## \* While vs. For

↓                      ↓  
unknown iter.      known iter.

⇒ Collaborate NOT copying

\* Note: kernel error codes are negative,  
leave our returns positive

## \* Error Checking:

- 1) check return value of malloc()
- 2) check argc
- 3)

\* Double Check  
if you've  
got final  
code in  
print out

→ easy

• Bash script

What does NULL stand for:

\* it's a MACRO - go look @ it

/usr/lib/gcc  
/usr/include > grep stuff

\* void ptr has no type

"casting 0 as a void ptr"

Sheaf:

```
./tmem 1
./tmem 10
./tmem 100
:
```

← file: regress

run:  
source regress  
> data

\* in MATLAB:

&gt;&gt; load data

size ~~ss~~ sns es ens

\* space-separated

"Magic #"

→ gives us filetype

SuperBlock:

contains info about  
filesystem

[mmcbk0p5] !!

# HW3 - gear up for kernel

→ download source code - needs to be all set

## File systems:

dirent (dir. entry)

inode . . . name

7	a
8	b
9	c
10	d
8	e
11	x

\*ln b e hard link  
"cannot cross fs's"  
(reg. files only)

\*ln -s b x symbolic link  
"can cross fs"  
(pt. to anything)

[\*hard links are fast  
and save space]

## Inode Table

7 perms, time stamp, owner, group...

8

9

10

11 Link  
(flag)

inode

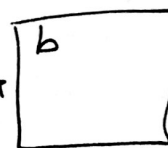
8

8

## Purpose:

run same code  
for diff. purposes  
based on argv[0]

Data ← 11



\* Why can't we hard link anything?  
→ multiple partitions  
(all inode tables start @ 0)

\* Links can be stuffed  
inside inode entry  
(60 chars in inode)

\* VideoLAN client can play URLs

"Get your browser to pretend it's Android"  
(change 'user-agent' to android)

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## 7 file-types

1) Regular

2) Dirs

3) Char Spec. - 'byte-oriented' (i.e. spi, serial, i2c) - can't go back in time

4) Block Spec. - accesses devices in "block-mode" - access in chunks

5) Fifo

6) Links

7) Sockets

[# perf / perl / python]

## Root / Sudo

root can do anything - but cannot kill zombies

when?

→ look @ other files, emails  
(root @ Google) lol

- only as needed

- tempting to poking around

- ethical

→ trying to see where disk space went

→ Boudreau has some mpt's → notify 'supervisor'

→ supervisor doesn't know... talk to authorities (legal obligation)

\* sudo gets logged (bread-crumbs trail)

(don't log in as root)

→ process stuff can be logged  
remotely

\* alias not persistent?