

Week 01W: Review & Shell Scripting

Thuy Vu

- Office Hours
 - Thuy Vu — 09–10a Tuesdays & Thursdays, BH2432
- Assignment 1
 - web.cs.ucla.edu/classes/winter17/cs35L/assign/assign1.html
 - Time due 23:55 this Saturday, January 14 (not Friday)
- Assignment 2
 - Shell Scripting
 - web.cs.ucla.edu/classes/winter17/cs35L/assign/assign2.html
 - Time due 23:55 next Saturday, January 21

- Absolute Path v.s. Relative Path

- Unix Commands

① `rm -r`

② `ls -d; -a; -l; -s`

File Type # of Hard Links File size Last Modify Time File name

Permissions Owners

`-rwxr-x---` 1 walbert support 0 Oct 31 11:06 test

User Other User Group

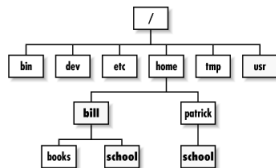
Group

③ `chmod +x; -x; +r; -r; +w; -w; ...`

- users – u (owner), g (group), o (out-of-group), a (all) → ugo
- rights – 4 (read), 2 (write), 1 (execute) → get the sum
- `me$chmod 777 file`
- `me$chmod u+x myscript.sh`
- read the man's page

④ In source target – to make links between files

- hard-link – points to the same inode;
- soft/symbolic-link (-s) – ONLY contains path to linked file
- “when to use what?”



- Unix Commands

- ① touch a_file

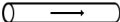
- -t 201101311759.30 – change timestamp 2011/01/31 17:59:30

- ② find -perm ... -name ... -type ... -user ... -maxdepth ... -ls

- ③ diff -u

- ④ whereis – locates binary, source, and manual for a command

- cannot locate user files

cat  sort

“A UNIX pipe provides one-way communication between two processes.”

- `program_1 | program_2 | program_3 | ...`
 - `program_1's stdout` \equiv `program_2's stdin`
 - `program_2's stdout` \equiv `program_3's stdin`
- example
 - `ls | wc -l`
 - `cat assign1.html | grep HTML`

- ❶ `echo -e "v 1000\nv10 01\nv 1002" | LC_ALL=en_US.UTF-8 sort`
- ❷ `echo -e "v 1000\nv10 01\nv 1002" | LC_ALL=C sort`

“Locales customize programs to your language and country.”

- `locale -a` → available locales
- `locale` → current settings, a set of `LC_*` environment variables
 - environment variables ~ shared across processes, e.g. `me$echo $HOME`
 - `me$export LC_ALL='C'`, “least surprise” environment `#good-old-days`
 - `me$unset LANGUAGE LC_ALL`

- ❶ `sort` → sorts lines of `stdin`
 - sorting depends on `locale` setting
- ❷ `comm` → compare two sorted files line-by-line
 - comparison depends on `locale` setting
- ❸ `tr` → translating and deleting characters
 - `me$tr abcdefghijklmnopqrstuvwxyz ABCDEFGHIJKLMNOPQRSTUVWXYZ`
 - `hello, world!`
 - `HELLO, WORLD!`
 - `me$echo "my password is a1b2c3" | tr -d [:digit:]`
 - `my password is abc`

- Shell is the traditional user interface of UNIX
- It is a command-line *interpreter*
 - interpreter v.s. compiler
- locale → current settings, a set of `LC_*` environment variables
 - environment variables ~ shared across processes, e.g. `me$echo $HOME`
 - `me$export LC_ALL='C'`, “least surprise” environment `#good-old-days`
 - `me$unset LANGUAGE LC_ALL`

