

LIN 127

Text Processing and Corpus Linguistics

Week 2

—

More Unix, and Command-line Text Processing

Notes from Assignment 1

- Use `a1`, `a2`, etc subfolders,
and no spaces in directories or filenames
- (folder structure demo)
- Don't remove the "`>>>`" or "YOUR ANSWER HERE" stuff
- Please remember to fill out the top part of the assignments!

Notes from Assignment 1

- Is the assignment really ~270 lines?
 - Seems maybe more?
- How does `wc` count lines?
 - Returns number of `<newline>` characters, aka `\n`
 - Try `-S` and `-N` flags on `less`

Notes from Assignment 1

- Dotfiles (`.bashrc`, `.nanorc`)
 - Saves us from typing e.g. `umask 002` every time we open a terminal
 - `bash/nano/etc` run these files verbatim when they open
 - Generally have to be in your home directory (`~/`)

Notes from Assignment 1

- Remember errors are friends!
- Example from class (with apologies):
 - `rm: cannot remove 'this': Is a directory`



Notes from Assignment 1

- Tab completion! Our very good friend.

- ``cd<tab>`` vs. ``cd <tab>``
(like ``ls``)

(although differs system to system)

Notes from Assignment 1



boo



boo



VIM

Notes from Assignment 1!

- Is there an 'undo' on the terminal?

NO! (Oh no)

- Is stuff that I `rm` gone forever?

YES! (Oh no)



Notes from Assignment 1!

- Emacs backups:
 - `assignment1.txt` ← actual file
 - `assignment1.txt~` ← backup file
 - `#assignment1.txt#` ← auto-save file

<https://emacsredux.com/blog/2013/05/09/keep-backup-and-auto-save-files-out-of-the-way/>

Notes from Assignment 1!

- Nano backups:
 - `assignment1.txt` ← actual file
 - `assignment1.txt.save` ← auto-save file

<https://askubuntu.com/questions/601985/what-are-save-files>

Notes from Assignment 1!

- Vim backups:

- `assignment1.txt` ← actual file

Uh, that's it.

Notes from Assignment 1!

- Other files you may be seeing:

- `assignment1.txt.1` `<- wget extra copy`

Notes from Assignment 1!

Questions you may have on text editors!

- Are vim/nano/emacs just different ways to write code?
- Do vim/nano/emacs create different kinds of files?
- Why do people make such a big deal about text editors?
- Why do we need them when we have GUIs?
 - stable, time-saving (keyboard-only), ubiquitous, permanent, remote-able, lightweight, open-source

Notes from Assignment 1 - Ranges of Experience

- Total Programming Novices / Computer Haters
 - Yep, it's hard and frustrating and time-consuming at first!
 - You can do it. Patient, detail-oriented thinking.
- CS Majors / Strong Programmers
 - Check the syllabus, and understand you are still responsible to challenge yourself.
 - I'll post more resources and options within the week.

Notes from Assignment 1 - Feedback

- Will require a new script - working on it
- Will post probably tomorrow

Important Concepts This Week

- Unix operates line-by-line
- You're creating a data pipeline, and ordering matters
- Imagine starting with a big piece of clay (all the lines) and bit by bit carving away and transforming it
- One liners! These techniques are very powerful for getting a quick, high-level picture of what you're working with



Unix Philosophy

- One program does one thing

Write programs that do one thing and do it well.

Write programs to work together.

Write programs to handle text streams, because that is a universal interface.

-Doug McIlroy (inventor of pipes)

Abstraction

(we can trust programs and functions to do their thing)

We don't need to worry about how something is sorted, we just trust that it will be properly done!

Decomposition

(big problems can be solved by breaking them into small steps)

For each problem, think about how to decompose it into small things we can do

Notes on Assignment 2

- In a way, this is a hands-on guided tour
- We'll see many very useful programs we can chain together to do complicated and powerful things quickly
- Each program is a command, and we can trust it will do its job
abstraction!
- When we want to do something complicated, we think of how to break it down into smaller pieces we have in our toolkit
decomposition!

Notes on Assignment 2

- The assignment file itself is an executable shell script
(a type of runnable program)
- The `.sh` ending is a suggestion of this
(your browser may take the suggestion and auto-download)

Notes on Assignment 2 (cont.)

- **Write the command that produces the answer,**
not the answer itself
- The scripting section (section 7) has been tricky in the past,
read carefully and slowly there! We'll talk about it more Weds.