

Slide 1

### Administrivia

- Reminder: Projects due at time scheduled for final (May 12, 8:30am). We will use that time for short presentations.
- Reminder: Homework 8 “due” today but accepted without penalty up to date/time of final.
- Sample solutions for other homeworks online. Information about grades coming soon, I hope!
- I’m planning to be on campus most days next week, in case of questions about the project. I’ll send everyone mail with some times you’re most likely to find me in my office or one of the labs.

Slide 2

### Course Wrap-Up — What I Hope You Got From This Class (Details)

- More things in your “bag of tricks” (see later slide).
- Practice in reading man pages and otherwise learning more.
- Exposure to traditional tools you might need, or want, to use sometime. You may not remember details, but I hope you will be less intimidated.

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### Course Wrap-Up — What I Hope You Got From This Class (Big Picture)

- Exposure to a different operating system / user interface paradigm — many small programs that work together, information kept in text files, emphasis on being expert-friendly and scriptable, etc.

“A tour of UnixWorld / TextWorld.”

“More than one way to do things.”

- Encouragement to find out how to use all your tools as intelligently as possible.

I like the old tools because I know how to make them work together. But it's worth noting that many “modern” tools (GUI-based programs, graphical file managers, etc.) have their own way of working together — common set of keybindings, cut-and-paste metaphor, drag-and-drop, multiple selections, etc. Compare and contrast!

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### Course Wrap-Up — Topics

- Shell features — command history, redirecting input and output, scripting features (if/then/else and loops).
- Pipes.
- Filter programs (`awk`, `sed`, `grep`, etc.).
- Text editors.
- $\text{\LaTeX}$ .
- `make` and `makefiles`.
- Regular expressions (for text editing, `grep`, etc.).
- Miscellaneous other text-mode tools — `mail`, `screen`, `games`, etc., etc.
- A little about X, installing software, and CGI scripting.

Slide 5

### From First Lecture — Shameless Evangelism/Ranting

- “UNIX is obsolete — history goes back to 1969!”  
You can fix a lot of bugs in 35 years, and the odds are better that what you learn will still be useful years from now.
- “It’s not user-friendly!”  
Sure it is; it’s just choosy about its friends. Designed by programmers for programmers — “expert-friendly” as opposed to “novice-friendly.”
- “Everyone knows GUIs are better!”  
For some things and some people, maybe so. But which is more expressive, pointing and gesturing or speech?
- (You don’t have to agree with me; listen and decide for yourself.)

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### From First Lecture — The UNIX Philosophy

- As stated by one of its developers (Doug McIlroy):  
“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.”
- There’s more, but the emphasis is on (1) providing a set of lightweight tools that can be put together to do interesting things, and (2) providing choices to users (sometimes almost too many!)

## Minute Essay

- None — sign in.

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