

Administrivia

Slide 1

- Notice in syllabus: No final exam, but we will probably use the scheduled time for project presentations.
- Reading assignments and Homework 1 to be on Web later today. Homework due next Monday.
- Notice that you have access to Mac OS X systems — Pandora0n machines.

Where To Look For Help

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- `man` pages. Organized into "sections" (user commands, `sysadmin` commands, library functions, etc.). `apropos` or `man -k` are useful.
- `info` pages.
- Elsewhere on the system. `locate` on Linux may help.
- The Web, via your favorite search engine.
- Usenet, including Google's archives (click "Groups" from Google's main page).

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Other Useful Info-Gathering Commands

- whereis.
- type.
- file.
- which.

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A Little About Files

- A key underlying concept — “everything’s a file” (sequence of bytes).
Directories are files. Devices are represented as “special files”. Many files are text.
- Things to note:
 - Windows/DOS “extensions” idea doesn’t really apply.
 - Also no notion of “drive letters” — all paths form a single hierarchy.
Removable media can be “mounted”.
 - Security model is simple but fairly flexible — rights (read, write, execute) for owner, group, others.
 - “Links” (hard or soft) allow non-tree directory structure.
- Be familiar with basic commands to manipulate/navigate filesystem.

A Little About Processes

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- Another key concept — process as one of a set of “concurrently executing” entities (users, applications, etc.)
- Things to note:
 - Processes can spawn “child” processes. (This happens, e.g., every time the shell runs a command.)
 - Processes can have “environment variables”, inherited by child processes. Examples — USER, PATH.

A Little (More) About Shells

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- As noted earlier — when you’re typing in a text window, you’re likely talking to a “shell”.
- “Which shell am I using?” can usually find out with `echo $SHELL`.
(Correction: This appears to actually give the default shell, not the current one.)
How to change? On many Unix systems, `chsh` command. (On some, must be done by sysadmin.)
- In general — to display an environment variable, `echo $ITSNAME`. To set — depends on shell; for `bash`, `ITSNAME=newvalue`. `export` makes available to other programs.

What Your Shell Does With What You Type

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- Shell provides in-place editing (arrow and other keys), command history, tab completion of filenames, etc. — until you press “return”. (More next time.)
- Shell then processes command line — expands wildcards and references to variables, “tokenizes” command into commandname and parameters. (More next time.)
- Shell locates command in “search path” (PATH environment variable) and forks off a new process.
- Command’s return code then available via shell variable.

Minute Essay

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- None — sign in.