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Administrivia

- Homework 1 on Web; due next Wednesday at 5pm.
- Notice that in addition to a lot of machines running Fedora Linux, we have a few machines running Mac OS X. Most-available are `pandora0n` (`n` in range 2–6, 8), but you will need to set up passwordless `ssh` to connect to them. For instructions refer to “MPI on the CS machines” linked from my home page [here](#).

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Reading The Fine Manuals

- One of the most useful things you can learn is how to learn more. Documentation on UNIX systems is not always perfect, and it's not particularly novice-friendly, but usually it's thorough.
- Places to look:
 - `man` pages.
 - `info` pages.
 - Elsewhere on the system. `locate` on Linux may help.
 - The Web, via your favorite search engine.

RTFM — man pages

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- Reference documentation (as opposed to tutorials).
- Organized into “sections” (user commands, sysadmin commands, library functions, etc.).
- Of particular interest is the section `SEE ALSO`.
- `man -k` (or `apropos`) to search for command names.
- Try `man man ...`
- Now you might want to know about more, or less.

RTFM — info pages

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- Also reference documentation, sometimes more current / complete than man pages. (Why are there are two systems? Probably historical reasons!)
- Organized in a way somewhat similar to hypertext.
- Try `info info...`

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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.

Minute Essay

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- Something of a trick question: `man printf` doesn't give you the man page for the C library function `printf`. What are two ways you *can* get that man page?

Minute Essay Answer

- `man -a printf` or `man 3 printf`. (You could also use `man fprintf`.)

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