HW 2: Other Utilities

Due: October 5

The second set of slides covers the `xargs` , `find` , `locate` , `grep` , `sed` , and `awk` commands.

1. Write a one-line command of piped Unix utilities (*only* the utilities from Lecture 2 and 3) to find all regular files on a system that have the same contents. Display the results in a list sorted from unique files to the largest group of files that are identical in content. All groups of identical files should be on the same line, comma separated. Explain how the command is able to accomplish this objective, step by step. Run this command on a small set of files with the following specification: 2 unique files, a group of 2 files with the same contents, a group of 4 files with the same contents.
2. Write a one-line command functionally equivalent to the problem above. Any commands from the list not used in problem 1 must be used here, but you may reuse commands. Explain how the command is able to accomplish this objective, step by step. Run this command on the same small set of files used above.
3. Support the functional equivalence your answers above by comparing the outputs of the two commands with diff. Pipe each of the results to separate files, and show that the `diff` utility has no output.

Assumptions:

- Any filename encountered is portable.
- The system's locate database has just been updated.
- There are no collisions between file hashes

Additional restrictions:

- Don't compare the file contents directly! You should not use `diff` until the last problem.

Submission:
Upload a single text file (.txt) containing all of your answers to Canvas by the due date.