Assignment 0129

This assignment seeks to give you a little command line practice, plus some supplemental reading.

Not for Submission

Supplemental reading for what has been covered so far includes the conceptual parts of Sections 3.1–3.3, 8.1–8.2, and 9.1–9.2 in SGG. The implementation material also previews what’s coming.

For Submission

Process Survey

Login to a computer of your choice (any platform will do, as long as it lets you do what’s asked below) and answer the following questions about it:

1. How many root- or system-owned processes are running on your computer at that time? Provide a screen or text dump of these processes.
2. How many processes on your account are running on your computer at that time? Provide a screen or text dump of these processes.
3. Which root- or system-owned process is using the most real memory? The most virtual memory? Provide a screen or text dump of this process’s information.
4. Run your typical working set of applications on the computer. Which of these processes is using the most real memory? The most virtual memory? Provide a screen or text dump of this process’s information.
5. Login to keck.cs.lmu.edu. Who else, other than root and yourself, has processes running at that time? Provide a screen or or text dump of those processes.

For each question, provide a short description of how you arrived at the answer based on the data provided by the operating system. **Strong hint:** Find the optimal way to answer these questions (i.e., minimize manual labor, like, oh, counting). You know what I’m getting at, right? :)

Commit your answers as a LaTeX document (including image files if necessary) under /homework/cmsi387/process-survey.

Linux System Calls

Look up the list of Linux system calls (most kernel versions will do; the current kernel is at 2.6.x) and scan what each system call does. Then, for each of these commands or functions, make an educated guess on which system calls they might be using, and why:

1. cd
2. pwd
3. I/O redirection
4. Running an executable program from the shell
5. kill

Commit your answers as a LaTeX document under /homework/cmsi387/system-call-guesses.