System Administration for Beginners

Week 2 Homework

February 9, 2009

Please turn in your homework at the beginning of class, with the assignment title, your name, `inst` login, and the answers (if multiple choice, just the letter is fine).

NOTE: Some of these topics may not have been covered extensively in class. In addition to the assigned readings and lecture slides, make full use of outside resources to find the answers to these questions.

1. What operating system heavily influenced the development of UNIX and, later, Unix-like variants?

    (a) Multics

    (b) HP-UX

    (c) GNU/Linux

    (d) Solaris

2. In a few sentences or less, what is a "programming language"? What language is used to develop the Linux kernel? Do all programs need to use this language to run on GNU/Linux?

3. Why is GNU/Linux named as such? What do each bring to provide the complete operating system? What is the latest release of Linux?

4. Most variants of GNU/Linux and BSD are fundamentally different than other Unix-like variants. Aside from the obvious difference in the way each is programmed, how are they *licensed* and distributed? Can I examine the code, make changes, rename it, and sell it as my own? What restrictions and requirements are there (or none at all)?

5. What does **BSD** stand for? What variants exist today? What major operating system derives part of it's kernel from BSD (especially on laptops; many students today use them)? **HINT**: It's not Windows.

6. We covered various Unix-like operating systems (OS), such as Solaris and GNU/Linux. Name *three* other Unix-like OSes (variants of GNU/Linux **don't** count) and explain if they are specialized in nature (*i.e.*, if it runs on specific hardware or more suited to certain tasks than other OSes).

7. What command will allow you to tell which operating system you're using? What OS and version is `cory.eecs.berkeley.edu` using? What about `ilinux1.eecs.berkeley.edu`? `ocf.berkeley.edu`? (You'll need to log in to these machines using SSH, if you haven't done so already.)

8. Look up "The Free Software Movement" and "Open Source Software". What is the goal and philosophy of each?

9. Look up the "Unix philosophy". What is the main idea and motivation behind this philosophy?