

Spring 2022 courses

DONE Quiz 2: OS mgmt tasks, Linux, getting started with Emacs

Update notice

Quiz 2 (10 questions) is now available to you. Try to complete it before class tomorrow (09.30 AM). Takes no more than 5-10 minutes. Cheers!

Settings text

This is the second quiz of the term. It addresses last week's issues - OS mgmt tasks, getting Linux under Windows, and getting started with GNU Emacs. Feedback is provided where useful and applicable.

This quiz is not graded. You can play it once before the next class. You can play it unlimited times thereafter. The most difficult questions may reappear in the final exam.

Emacs commands generally involve the CONTROL or the META key

TRUE

Feedback: On most keyboards, C-x stands for CTRL + x, and M-x ("Meta-x") stands for ALT + x (on MacOS: OPTION + x). There are other commands, like C-g to abort or C-u to enter arguments.

Which information is given in the GNU Emacs modeline?

TRUE:

- Buffer number
- Buffer saved or not saved
- File name
- Percentage of file displayed
- Line number of the cursor
- File mode (e.g. Org, or C)

What does the symbol ~/ in the Emacs minibuffer/echo area stand for?

TRUE:

- Your HOME directory (on Windows c:/Users/YourName/)
- The Emacs default-directory

FALSE:

- On Windows: the C: drive
- On MacOS: /usr/local/bin

Feedback: Check the value of default-directory in Emacs with the key sequence C-h v default-directory RET. As a default /usr/local/bin contains local executables only (borrowed from Unix).

In Emacs, I can switch line number display in a buffer on or off

TRUE

Feedback: Try `M-x global-display-line-numbers-mode RET` (toggles, which means that applying the function again returns you to the default).

How can I get additional functions in Linux?

TRUE:

- By adding them with a package manager (like `apt` for Debian-type systems)

FALSE:

- By downloading them from the Google Play store
- By downloading them from the Microsoft App Store
- By downloading them from the Apple store

Feedback: GNU Emacs uses the same approach. In Emacs, you can see the available packages with the command `M-x package-list-packages RET`.

In Linux (and MacOS), the `sudo` command gives you administrative super-user privileges

TRUE

Feedback: this is equivalent to "kernel mode", or mode-bit 0, as opposed to the normal user mode, or mode-bit 1. Super-user privileges enable you to execute system-wide commands and alter the OS, even delete it altogether.

How can you get Linux functions (like `ps`, `ls`) on your Windows PC

TRUE:

- Install the `cygwin` bundle
- Install Ubuntu App from the Microsoft Store
- Install Linux in a VirtualBox
- Dual boot with Linux and Windows
- `ssh` to a Linux box

Feedback: you've seen the tunneling to the Raspberry Pi Linux box with `ssh` online and in a demo video.

What is "booting"?

Bring the steps in the right order

1. The OS kernel program is loaded into memory
2. The BIOS is executed to establish basic I/O
3. The system daemon (`systemd` on Linux) starts other daemons and services

What are the OS management tasks?

TRUE:

- Process management
- Memory management
- File-system management
- Network management
- Mass-storage management

FALSE:

- Database management

- Firmware updates
- Monitor settings

Feedback: Databases, firmware and monitor are not part of the OS. Database management systems are applications, firmware is middleware, and a monitor is a peripheral, outside of the computer.

How does the OS prevent infinite loops or process resource hogging?

TRUE:

- With a timer set to interrupt the computer

FALSE:

- By checking in with each process to see if it is finished ("pooling")
- By batch processing (multiprogramming)
- By multitasking (time sharing)

Feedback: the OS does not pool, it handles processes with interrupts instead. Batch processing refers to the system used to work on many jobs sequentially. Multitasking is the illusion provided by the fact that the CPU switches its jobs very fast.

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