Spring 2022 courses

DONE os Quiz 3

Settings:

This ungraded quiz includes questions on the OS of the Raspberry Pi, a review of the first DataCamp assignment, and of the OS foundations.

Once you played it for the first time, you can play it unlimited times until the graded final exam, which will draw its questions from all quizzes.

What do you need to install Raspbian Linux on the Raspberry Pi?

TRUE:

- The Raspberry Pi board
- Power supply
- Imager software (to install the OS)
- An SD card
- A display with HDMI input
- A keyboard
- A mouse
- An OS image

FALSE:

- Ethernet cable
- NOOBS

Feedback: an ethernet cable is needed only if you don't have a WiFi adapter, which the (new) Pi has got, and want to update the software. NOOBS (New Out Of the Box Software) is an OS installation image already on the SD card. It is preferred, with newer Raspberyy Pi's, to use the Raspberry Pi imager instead.

Raspbian Linux is not a real operating system

FALSE

Feedback: Raspbian Linux is a Linux distribution for the Raspberry Pi. Linux is a complete, open source operating system, no matter which distribution.

The `pwd` shell command prints the relative path of your working directory

FALSE

Feedback: `pwd` prints the absolute path of your working directory. The difference is that the absolute path tells you a location relative to the root directory `/` of the file system.

What's in the first line of a `bash` Shell script

…if the shell program, `bash.exe`, is in the folder `/usr/bin/`.

TRUE:

- `#!/usr/bin/bash.exe`

FALSE:

- `#+/usr/bin/bash.exe`
- `#!/usr/bin/`
- `#!c:/Windows/System32/bash.exe`

Feedback: Shell scripts begin with the characters `#!` followed by the absolute path to the shell program. The control characters are also called "she-bang" (she from "haSH" + bang from "!").

If a path does not begin with `/`, it is a relative path

TRUE

If I am `$HOME` in `c:/Users/me`, and I am in `c:`, how will I get `$HOME`?

Tip: On Windows, `c:/` or `C:\` is the `root` directory.

TRUE

- cd `$HOME`
- cd `Users/me`
- cd ~
- cd ~/
- cd `c:/Users/birkenkrahe`

FALSE

- cd ../../..
- cd ./

Feedback: `$HOME`, `/ and ~ are the same thing. ~cd Users/me` uses the relative path and will only work from `c:`, all the others are absolute paths. `../../..` is the same as `../..` and leads to `c:` because you cannot go above the `root` directory. `cd ./` or `cd .` goes nowhere, because `.` is the current directory.

The shell command `mv` is less flexible than drag-and-drop in a graphical file browser like Windows File Explorer

FALSE

Feedback: `mv` is a lot more flexible than drag-and-drop. Check `man mv` in the terminal at DataCamp, or in the GNU coreutils manual - it has more than a dozen options. Drag-and-drop is just more convenient because it takes options away from the user.

Sort the OS timeline from beginning (top) to now (bottom)

1. OS are libraries with batch operators
2. Mainframe OS are being protected by system handler programs
3. Minicomputers have interrupt-based memory management
4. PCs are vulnerable against DOS attacks and infinite loops
5. Slow return to sanity through free, Open Source OS like GNU/Linux

A single CPU can complete multiple jobs simultaneously

FALSE

Feedback: multi-tasking is a solution that a single CPU can maintain because of multiprogramming - prioritizing of processes and memory management.

Fill in the blanks of this OS definition

> The Operating System takes _ resources (CPU, memory, disk), and _ them. It handles _ processes, and it stores files _ to make them _ in the long term.

1. physical
2. virtualizes
3. concurrent
4. persistently
5. safe

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Created: 2022-03-17 Thu 15:25
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