Linux Trivia Kahoot

October 8, 2022

Who uses Linux?

Lots of people!

- ▶ Every big tech company uses Linux in production and contributes to it: ~75% of Linux code is written by corporation employees!
- ▶ Linux is installed on zillions of devices: routers, embedded systems, servers, etc.
- ▶ Hundreds of thousands of people use Linux on their personal devices (extrapolated from the ~1% of Steam users using Linux).

Further reading.

Notable mention: BSD

The Berkeley Software Distribution is another Unix-like operating system family. Most Linux software has been ported to BSD.

1. FreeBSD = general purpose
2. OpenBSD = security
3. NetBSD = portability

What is Free Software?

Software that meets 4 essential freedoms:

0. The freedom to run the program for any purpose.
1. The freedom to study how the program works, and change it as you wish.
2. The freedom to redistribute copies.
3. The freedom to distribute copies of your modified versions.

(Adapted from What is free software?)

Examples of libre software that run on Linux

- ▶ VLC media player
- ▶ All major browser engines:
  - ▶ Google Chromium, the libre software base for nonfree Google Chrome
  - ▶ Mozilla Firefox
  - ▶ WebKit, the libre software base for nonfree Safari
- ▶ Almost all programming languages
  - ▶ Python, R, Rust, Go, C, C++, Java, JavaScript, Ruby, etc
- ▶ Almost all command line tools
  - ▶ Git, OpenSSH, Apache, Nginx, Node, etc

Major licenses

- proprietary: not allowed to make changes
- GPL: changes you make must be shared
- BSD: changes you make do not have to be shared
- Public domain: no copyright owner

The shell is the primary interactive program in the terminal

1. Bash: the GNU shell.
2. Zsh: very customizable.
3. Tcsh: uses C-style syntax.
4. Fish: lots of goodies out of the box, such as syntax highlighting and autosuggestions.

Commands

- Navigate terminal
- Copy and delete files
- Installing software

Distributions

Since Linux is just a kernel, it is distributed with useful software. Thus the collection of the kernel and software is called a distribution (aka distro).

- ▶ *Independent* distros started by compiling the kernel and programming language toolchains from scratch. *Derivative* distributions use independent distros as a base for further customization. For example, Debian is independent and Ubuntu is a derivative of Debian.

- ▶ *Binary-based* distros distribute pre-compiled software. *Source-based* distros expect the user to compile it from source, which takes longer but is more customizable. For example, Arch is binary-based and Gentoo is source based.

Desktop

A small subset of Linux desktops:

Desktop	UI toolkit	Install Size	Supports Wayland?
GNOME	GTK	Large	Yes
KDE	QT	Large	Yes
XFCE	GTK	Small	No
LXQT	QT	Small	No

- ▶ You can always install a new desktop and select it from the login menu.
- ▶ Larger desktops tend to come with more features preinstalled.
- ▶ Wayland and Xorg are the two major display architectures for Linux graphics. It's important to know which one you're using when troubleshooting.

Fun facts

1. Linux Torvalds is the lead developer and maintainer of Linux.
2. The Linux mascot is a penguin.

What next?

Number 1 tip as a developer: know how to get help!

1. Read the documentation
2. Search the internet
3. Ask for help on forums, by email, or by internet chat

Good luck on starting your Linux journey! If you are a UMD student you can join the Linux Club at UMD.