

Intro to Linux

By Murphy & lislis

The Basics

What is Linux?

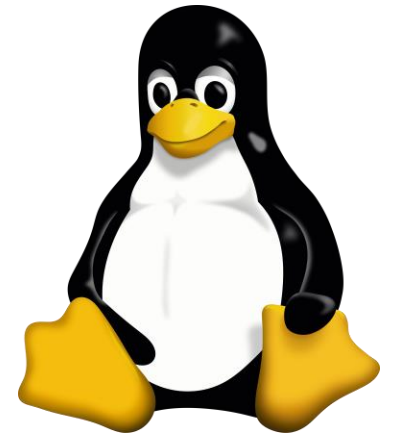
- Colloquial: A desktop operating system
(just like MacOS, Windows, FreeBSD but *cooler*)
- Technically: A kernel
(the core of an OS that manages processes, hardware devices, resources etc. and forms the basis for the other software)

Where is Linux?

- Kind of everywhere! Linux is the most used kernel on the planet
 - The cloud runs basically entirely on Linux
 - Android is build on Linux
- On the desktop Linux only has about a 3% market share though. Windows dominates that space.

Why Linux?

- Windows 10 is EoL (end of life) (no more security updates etc.) and Windows 11 sucks (AI slop, unstable, ...)
- Linux and basically every software that comes with it is FOSS (free and open-source software)
- Package managers! (App stores for the desktop!)
- No bloatware. It's fast and runs on old machines.
- You're the boss.
- Cute penguin as a mascot: Tux



Why not Linux?

- Small market share on the desktop
- Some apps just don't have a Linux version (Adobe, Microsoft, ...)
- Unpaid/Underpaid maintainers.
- Things might (will?) break and you have to fix them yourself. There is no support hotline to call. (The internet is your friend though)
- You might have to take initiative at some point

Distributions (Distros)

What's a Distro? How to pick one?

- A distribution that bundles the kernel with tools, interfaces and co into a complete operating system for different kinds of users
- In practice they mainly differ by the package manager used, the release cycle, the community and driving philosophy
- Do you want bleeding edge? Do you like tinkering? Do you value reliability over always having the newest updates? Do you want to use the terminal (text interaction) or do you want graphical user interfaces (GUIs) all the way?

Distro landscape

- There are hundreds of distros
- Many of them are based on a handful of older and well-established distros
- Some Linux-believers will try to convert you to "their" distro. It's all opinion-based, though! There is no right or wrong, pick what works for you and switch if you don't like it!

Some desktop distros

- Debian (one of the grandmother distros "slow and steady")
- Ubuntu (the most used distro and a basic option to choose)
(based on Debian)
- Fedora (middle-ground between high stability and new software)
(originally based on Red Hat)
- Pop!_OS (optimized for laptops and gamers)
- For tinkerers and with rolling release
 - Arch (bleading edge and DIY)
 - NixOS (does things very different)

What are your options with your hardware?

- Coming from a Linux or Windows System:
 - With an x86 Chip (which you likely have): Basically everything
 - With an ARM Chip: Most major distros
- With an Apple computer:
 - With an Intel Chip: Basically everything
 - With an M1 or M2 Chip: Only Asahi Linux (based on Fedora)
 - With a newer Apple Silicon Chip: Nothing yet (wait for Asahi)

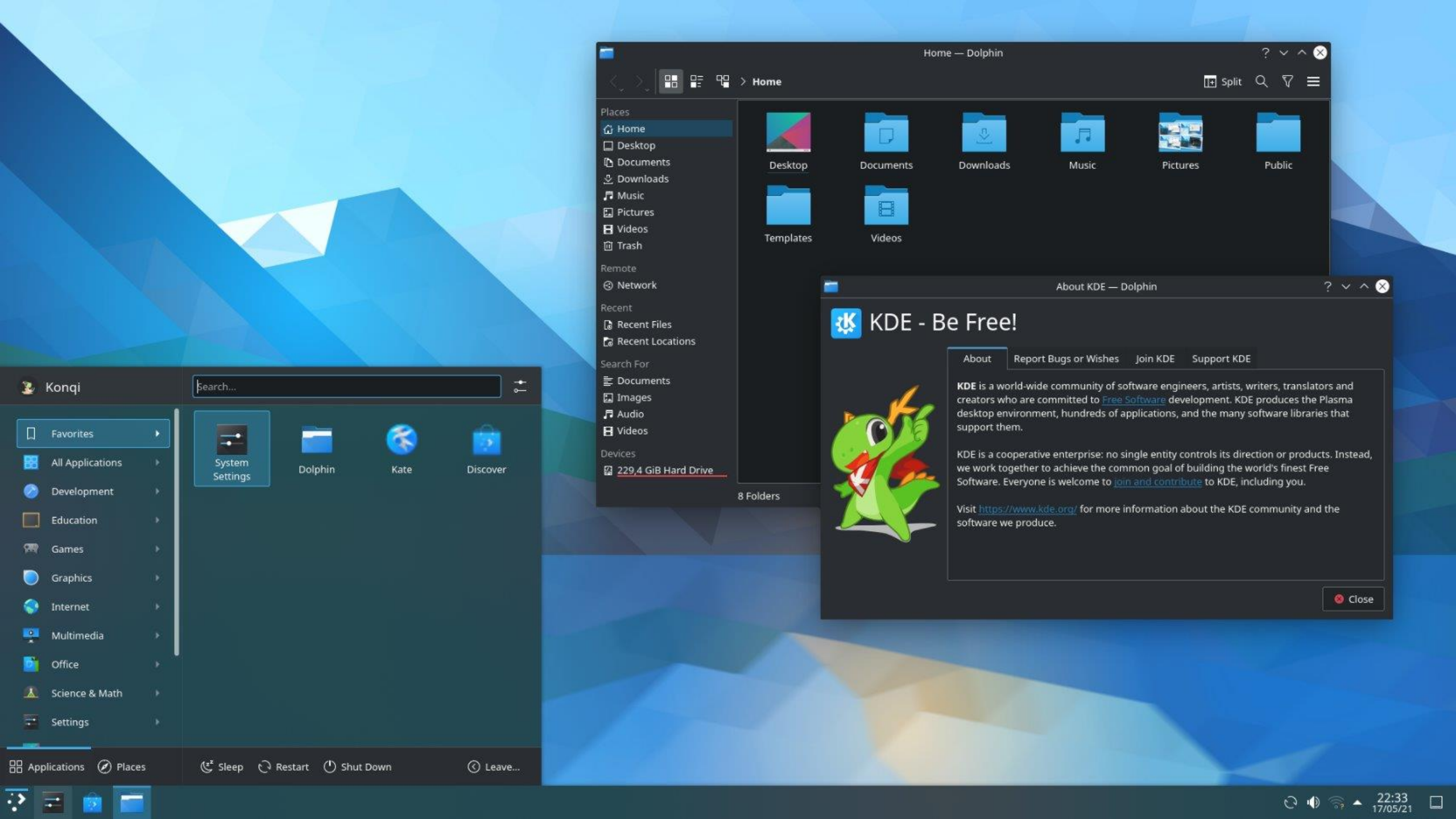
Desktop Environments (DEs)

Desktop Environments

- The graphical interface and apps bundled for a desktop experience
- Decides the look and feel!
- Most distros come in multiple flavors with different DEs tweaked to their philosophy
- Try them out! It just comes down to preference.
- Most used: Plasma & Gnome (best options for people who just want something that works)

Plasma by KDE (kde.org/plasma-desktop/)

- Easy to use
- Customizable
- Comes with all the apps you need
- Most distros have a flavor for Plasma



Home — Dolphin

< > < > < > > Home

Split 🔍 🗑️ ☰

Places

- Home
- Desktop
- Documents
- Downloads
- Music
- Pictures
- Videos
- Trash

Remote

- Network

Recent

- Recent Files
- Recent Locations

Search For

- Documents
- Images
- Audio
- Videos

Devices

- 229,4 GiB Hard Drive

8 Folders

Desktop Documents Downloads Music Pictures Public

Templates Videos

About KDE — Dolphin

KDE - Be Free!

About Report Bugs or Wishes Join KDE Support KDE

KDE is a world-wide community of software engineers, artists, writers, translators and creators who are committed to [Free Software](#) development. KDE produces the Plasma desktop environment, hundreds of applications, and the many software libraries that support them.

KDE is a cooperative enterprise: no single entity controls its direction or products. Instead, we work together to achieve the common goal of building the world's finest Free Software. Everyone is welcome to [join and contribute](#) to KDE, including you.

Visit <https://www.kde.org/> for more information about the KDE community and the software we produce.

Close

Konqi

Search...

Favorites

- System Settings
- Dolphin
- Kate
- Discover

All Applications

- Development
- Education
- Games
- Graphics
- Internet
- Multimedia
- Office
- Science & Math
- Settings

Applications Places Sleep Restart Shut Down Leave...

Gnome (gnome.org/)

- Very easy to use
- Limited customizability
- Comes with all the apps you need
- Made to be simple
- Default for Ubuntu and Fedora

Type to search

System tray area containing:

- Volume control slider
- Wired network connection button
- Power Mode: Balanced
- Night Light toggle
- Dark Style toggle

Settings application window showing:

- Settings sidebar with categories: Power, Multitasking, Appearance, Apps, Notifications, Search, Online Accounts, Sharing, Mouse & Touch, Keyboard, Color, Printers, Accessibility.
- System Details dialog box with the following information:

Hardware Information	Software Information
Model: QEMU Standard PC_Q35 + ICH9, 2009_	OS Name: Arch Linux
Memory: 4.0 GiB	OS Build: rolling
Processor: AMD EPYC-Rome x 2	OS Type: 64-bit
Graphics: Software Rendering	GNOME Version: 46
Disk Capacity: 21.5 GB	Windowing System: X11
	Virtualization: KVM
	Kernel Version: Linux 6.8.1-arch1-1

Taskbar containing icons for:

- Files
- Terminal
- Firefox
- Web Browser
- Calendar
- Notes
- Task Manager
- Settings
- App Launcher

Cosmic (system76.com/cosmic)

- The new kid on the block
- Comes with exciting new features but isn't as feature complete as Plasma or Gnome yet
- Is the default DE for Pop!_OS

The rabbit hole (reddit.com/r/unixporn/)

- Tiling window managers that require manual setup
- "Ricing" is a hobby. People create beautiful desktops that are tuned exactly to their liking.
- As an example a niri rice

Zorin OS

- A specialized distro build on top of Ubuntu and Gnome
- Designed to be as intuitive and easy as possible for previous Windows and MacOS user
- Lots of build in help and detailed online documentation
<https://help.zorin.com/>
- More rigid and smaller community compared to plain Ubuntu

- Bluetooth
- Displays
- Sound
- Power

Device Name
zorin

Files Home

Recent
Starred

- Desktop
- Documents
- Downloads
- Music
- Pictures
- Public
- Templates
- Videos

Zorin OS 18 Core

QEMU Standard PC_Q35 + ICH9, 2009_

AMD Ryzen™ 7 5700X3D × 2

4.0 GiB

26.8 GB

- Accessories
- Graphics
- Internet
- Office
- Sound & Video
- System Tools
- Utilities
- All Apps

Linuxiac

- Home
- Desktop
- Documents
- Downloads
- Music
- Pictures
- Videos
- Software
- Settings
- Zorin Appearance

Type to search

Installation

Options for installation

- On your main drive replacing what was there previously
Maybe on an old laptop?
- On a second drive in your machine or a partition of your main drive next to your current OS allowing for dualbooting
- On an external drive like a thumb drive

How to install? In short:

- Get the iso file for your chip architecture and the distro in its flavor you like from the distros download page on their website
- Use a tool that takes the .iso and writes it on a flash drive to create a bootable (launchable) version of it
- Boot into that environment
- Follow the installer or manual from there

.iso to bootable drive

- My recommendation: balenaEtcher (etcher.balena.io/)
- Make sure the flash drive has no valuable data on it!
It will be overwritten!
- For Linux users:
> `sudo dd if=file.iso of=/dev/sdX status=progress`

How do I "boot into it"?

- Below the OS level there is the BIOS (Basic Input / Output System)
- It exists on every machine and comes directly from the manufacturer. You can use the to set and view the most basic hardware options and information.
- Part of the bios is the *Boot Menu*. It lets you choose which OS on which drive/partition you want to boot (launch)
- You can access it by tapping a manufacturer specific key on your keyboard during the startup of the machine (often F12)
- Lookup "<manufacturer name> boot menu key" online

Boot Manager

Boot Manager Menu

UEFI VBOX CD-ROM VB2-01700376

KINGSTON USB 5.8V90

EFI Internal Shell

Device Path :

PciRoot (0x0) /Pci (0xD,0
x0) /Sata (0x0,0xFFFF,0x
0)

Use the <↑> and <↓> keys to choose a boot option,
the <Enter> key to select a boot option, and the
<Esc> key to exit the Boot Manager Menu.

↑↓=Move Highlight

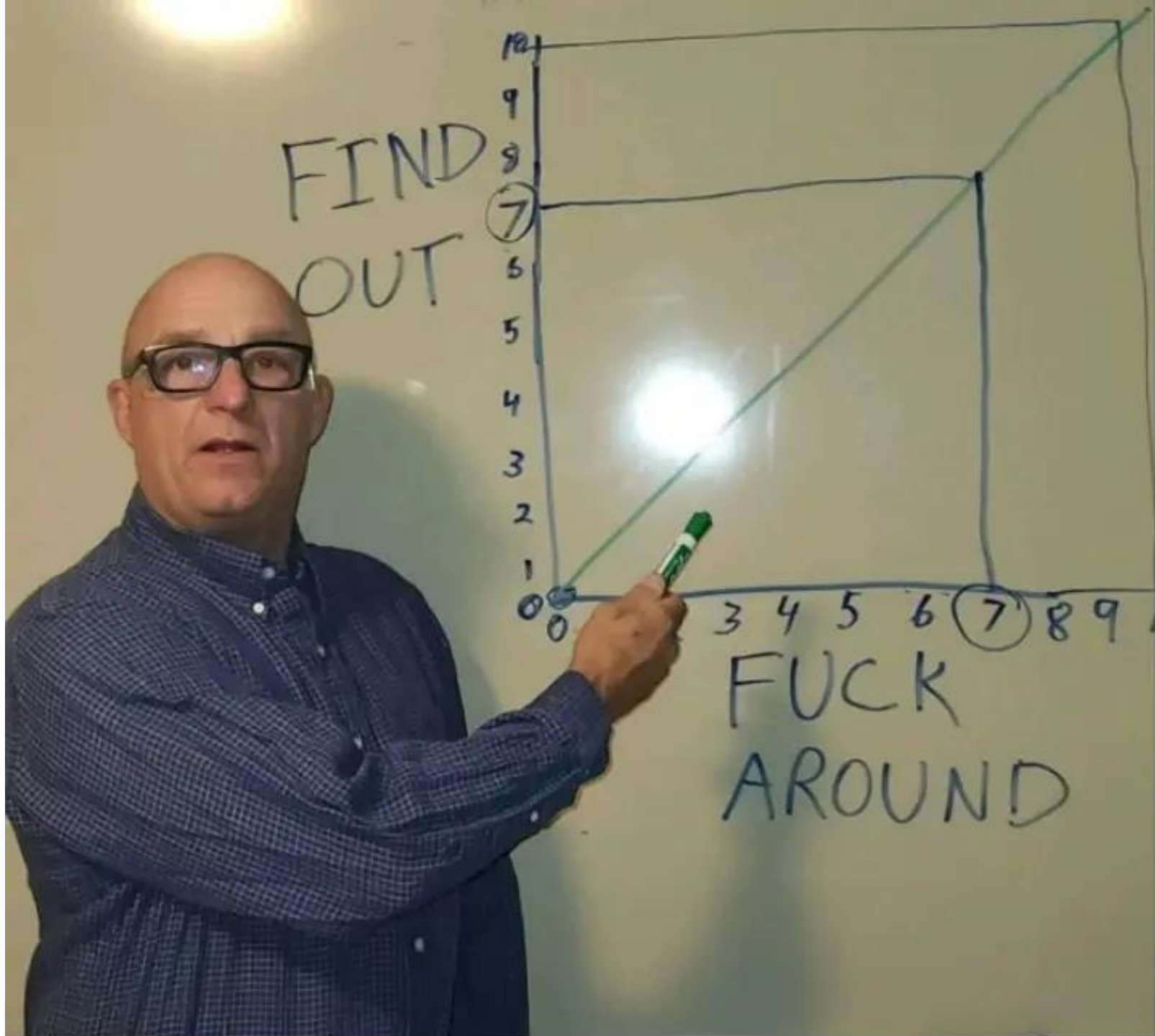
<Enter>=Select Entry

Esc=Exit

What now?

1. Decide on a distro. Look at their website and see what fits best.
2. Decide on a desktop environment.
3. Download the flavors .iso for your chips architecture from the distros download page (the Wi-Fi connection is slow here so I already downloaded many isos for you to copy from my drive)
4. Load the .iso on a thumb drive to create a bootable image
5. Boot into it from your machine
6. Install Linux wherever you want
7. Play around and explore!

Don't forget!



The more you fuck around the more you're gonna find out.

The greatest research skill you can have is
being a nosy bitch who wants to find out

So just be a
nosy bitch
and fuck
around!

SESE CANADIAN
CULTURAL CENTRE
文化會館