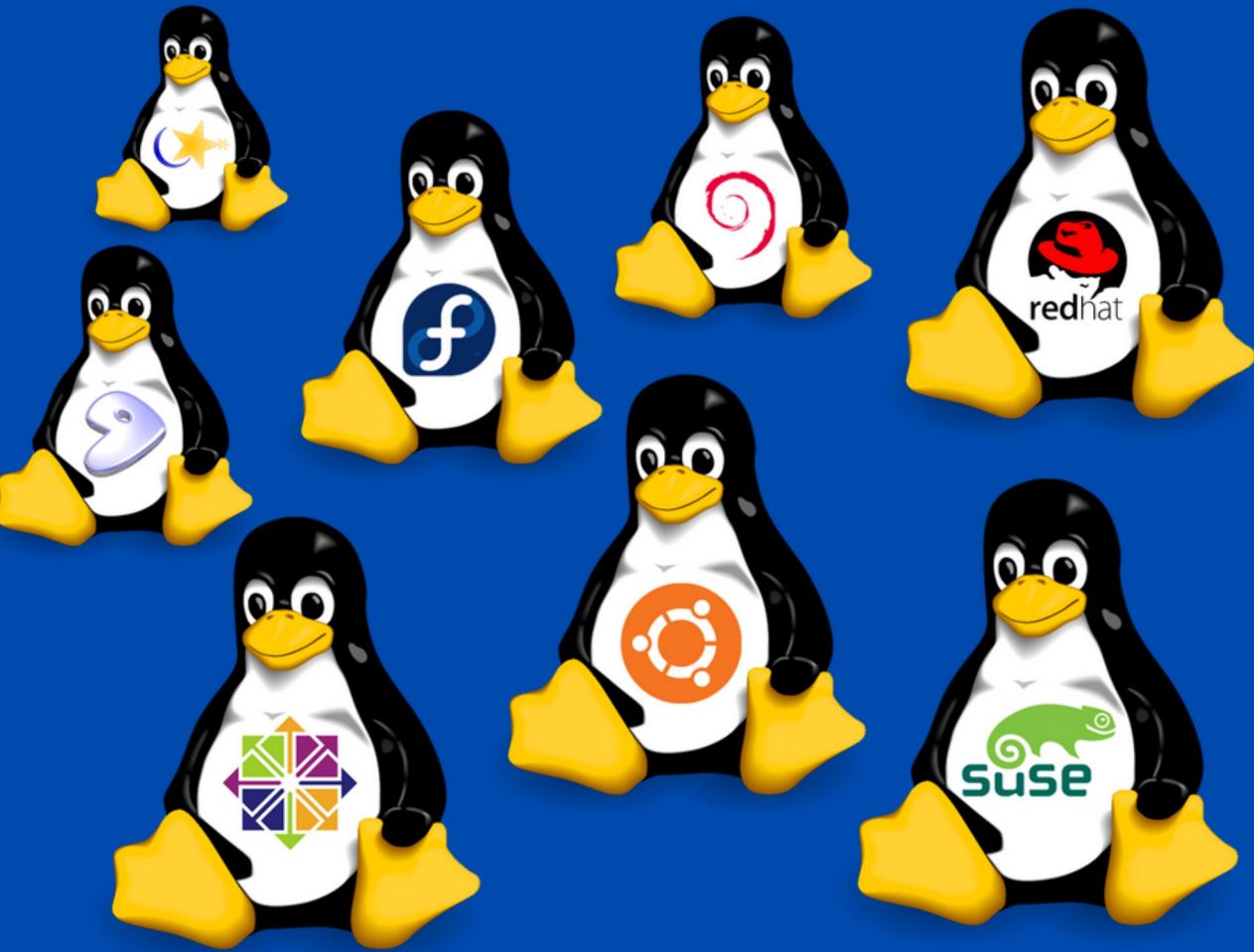


OS & Linux

Basics



What is Linux?

OS → operating systems!

- windows!
- Ubuntu - ↗
- ⋮
- Fedora ↗
- Mint ↗

Linux is **not an Operating
System (OS), It's a **Kernel.****

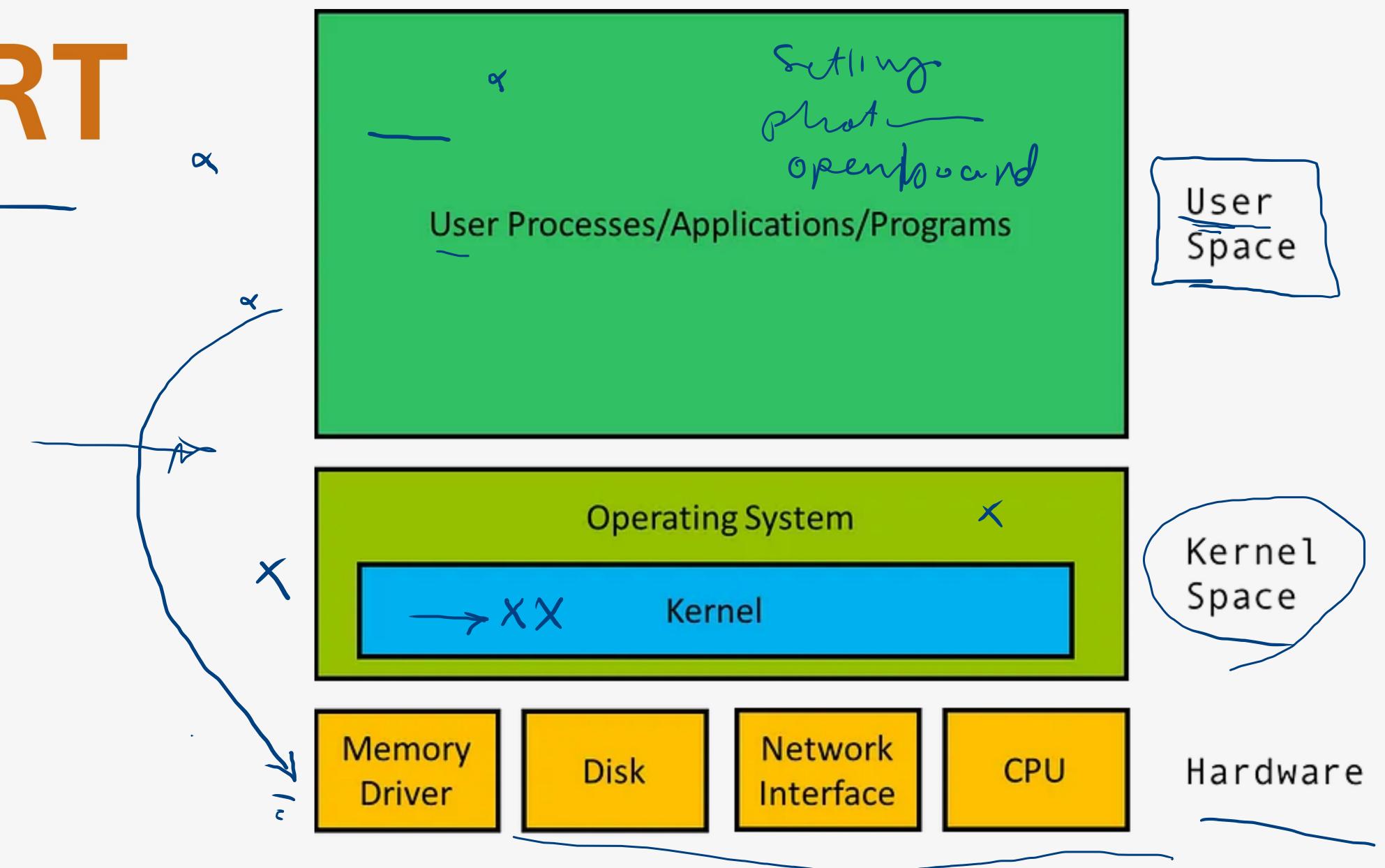


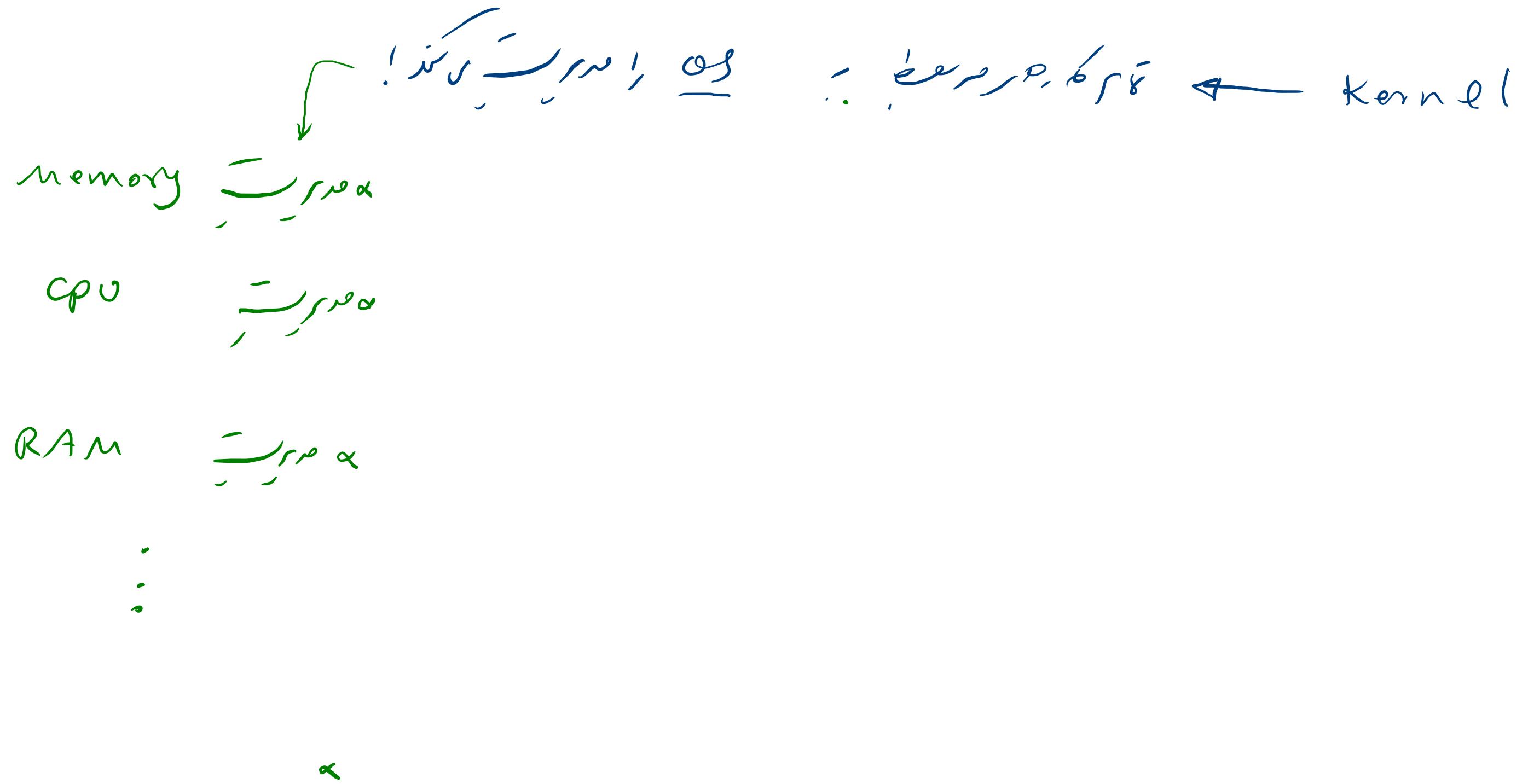
What is a Kernel?

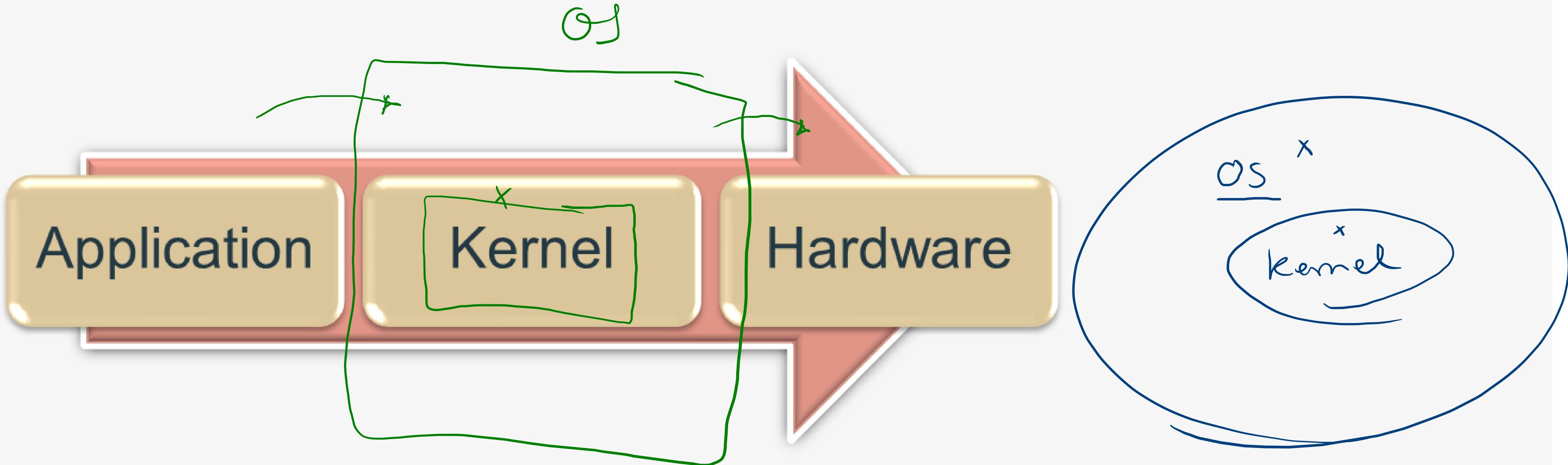
- It is the main layer between the OS and computer hardware.
- It helps with tasks such as process, memory management, and file systems.

• It's the **HEART** of the OS

Hardware
, user interface: OS
[!Ctrl]

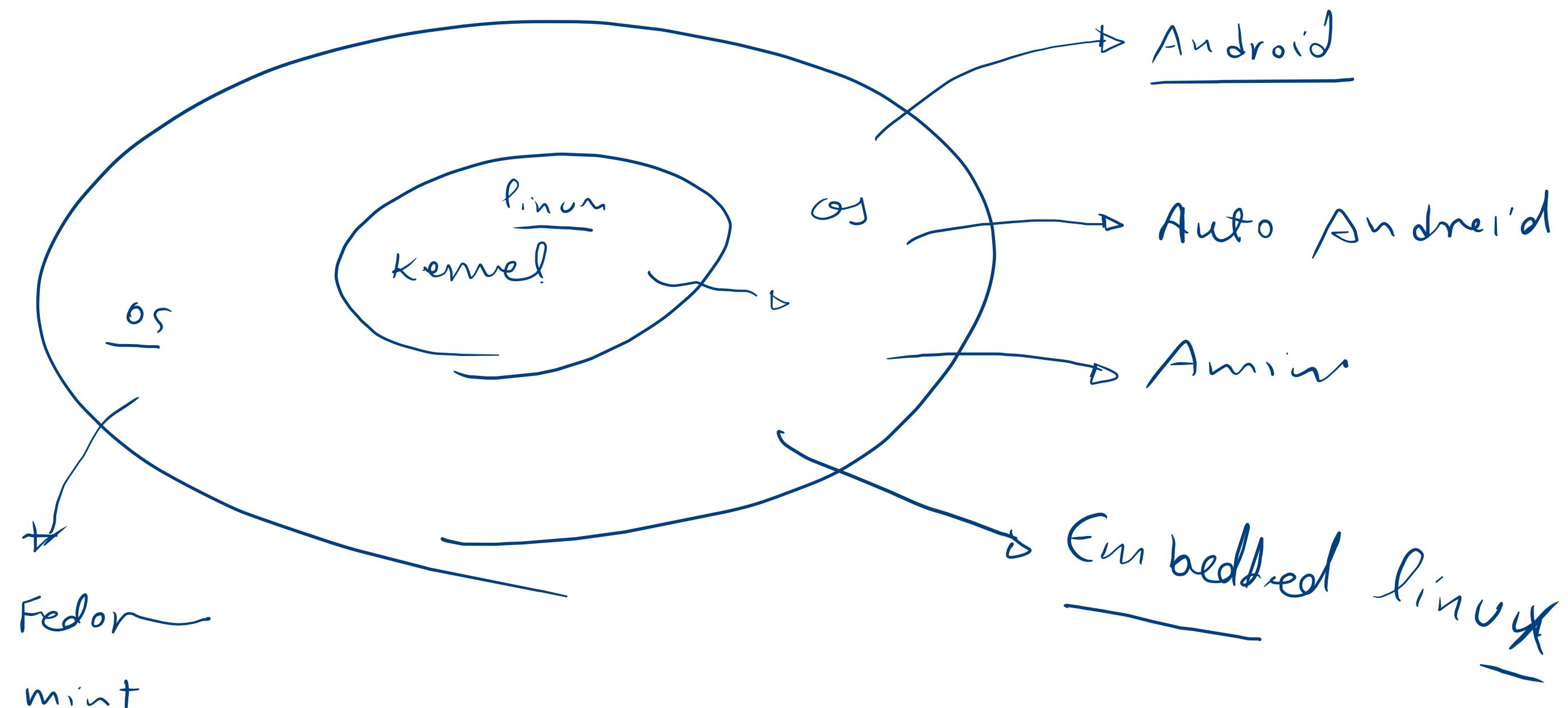




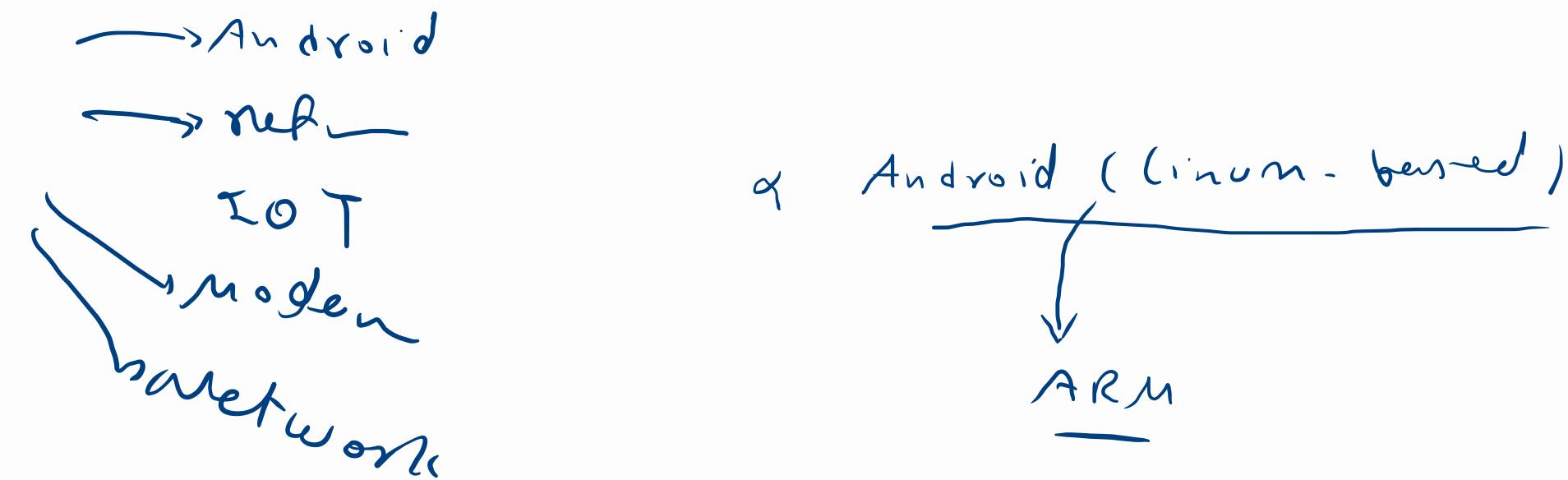


What is Linux Kernel?

- Kernel = The core of all Linux operating systems.
- The kernel is essentially the communication layer between the operating system and the hardware.
- The Linux kernel is built exactly on the code written by Linus Torvalds.



Why Linux



- Linux is free to use (Low Cost). X
- Require minimal hardware resources.
- Linux was made to keep on running. X Server! / 6 years.
up-time
- Linux is secure and stable.
- Linux is scalable. X Cloud ~ 80% + windows!
- Easy to troubleshoot and use big communities.

Linus Torvalds

Kernel

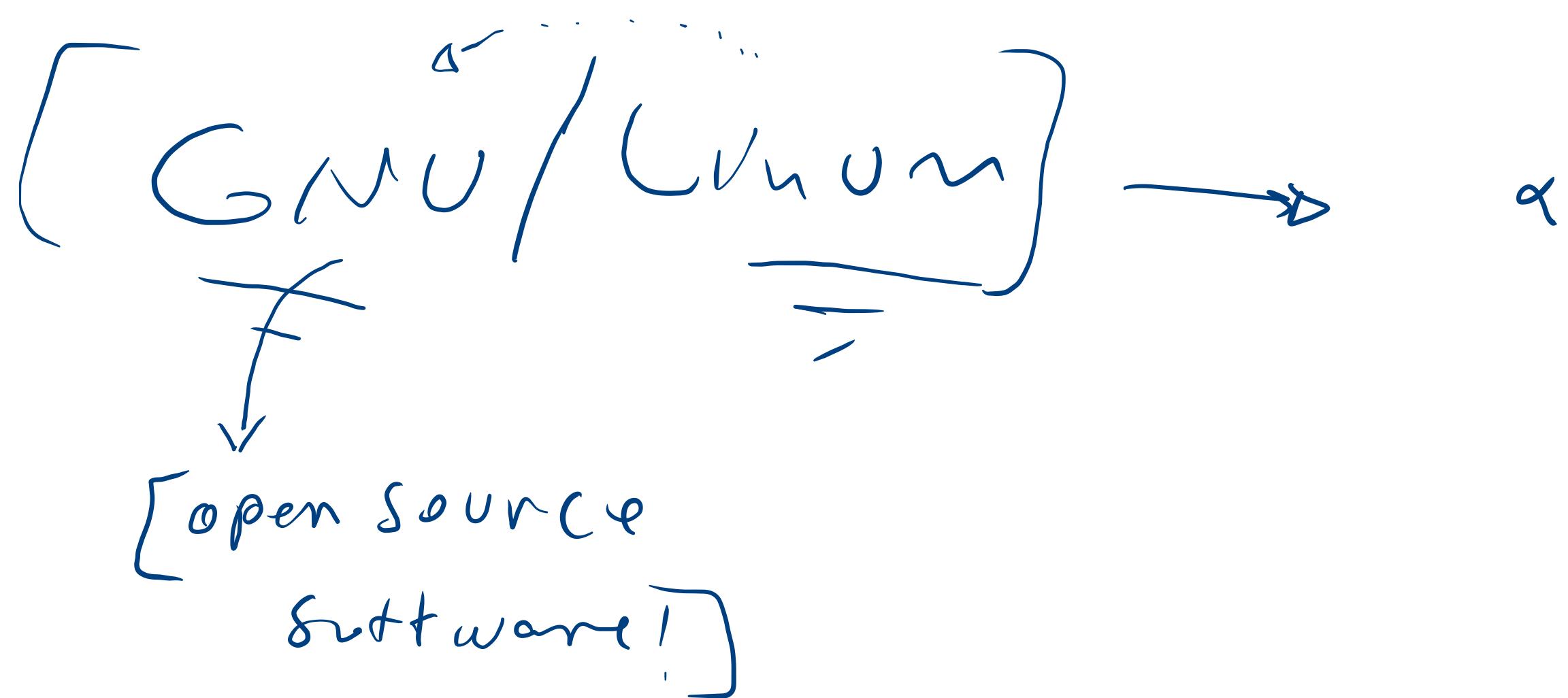
C-language \rightsquigarrow 1991

* unix \rightsquigarrow AT&T

* linus \longrightarrow unim-like
* opensource / free



<https://kernel.org/>

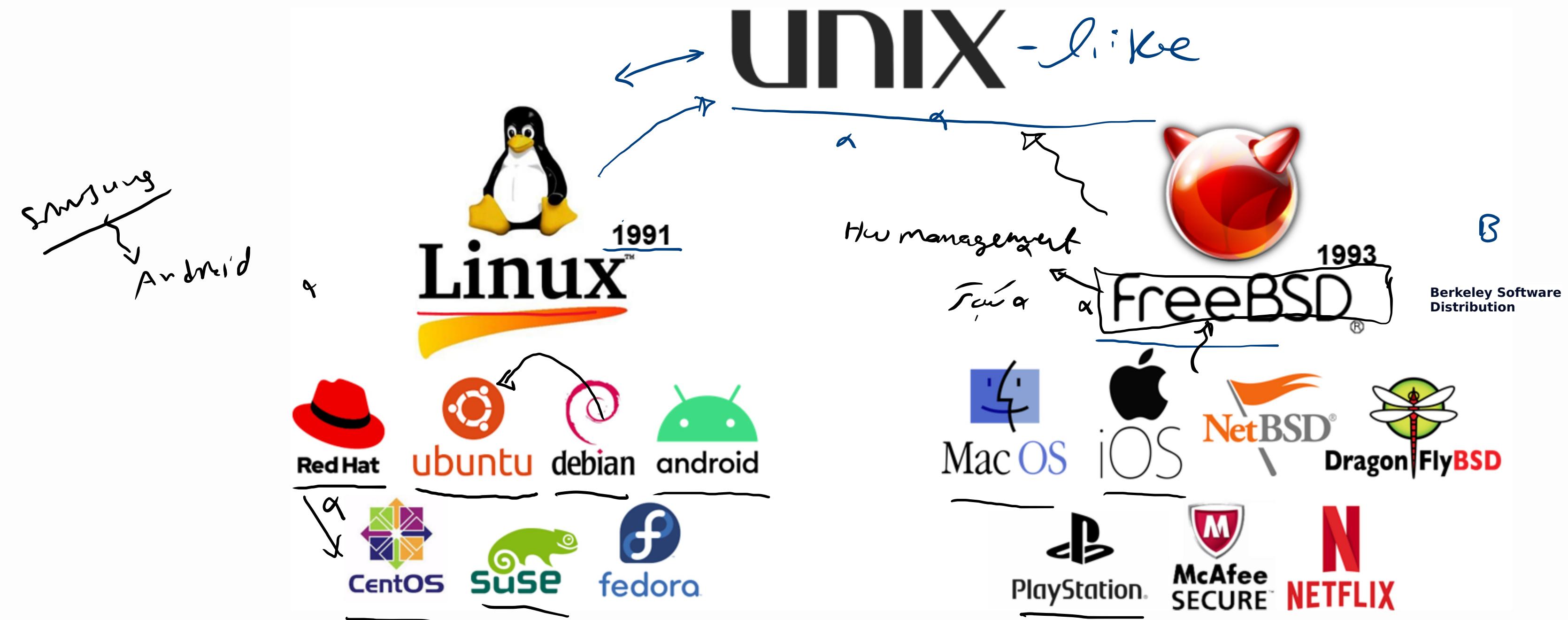


Kernel → linum

Distro

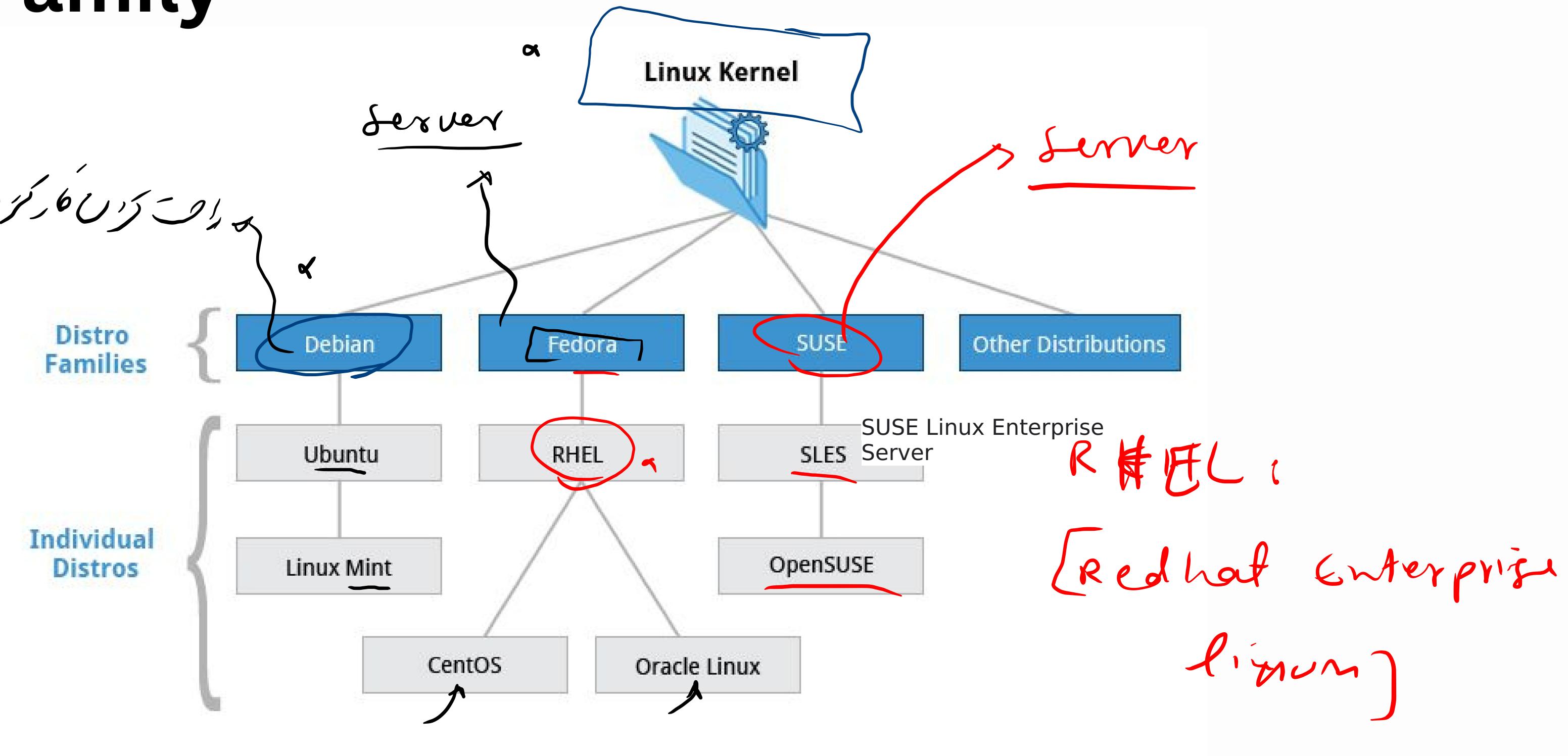
- Over +1000 Distributions.





Linux Family

linum ! { user چیزی را در



Linux User Interfaces (UIs)

There are generally two user interfaces for Linux management:

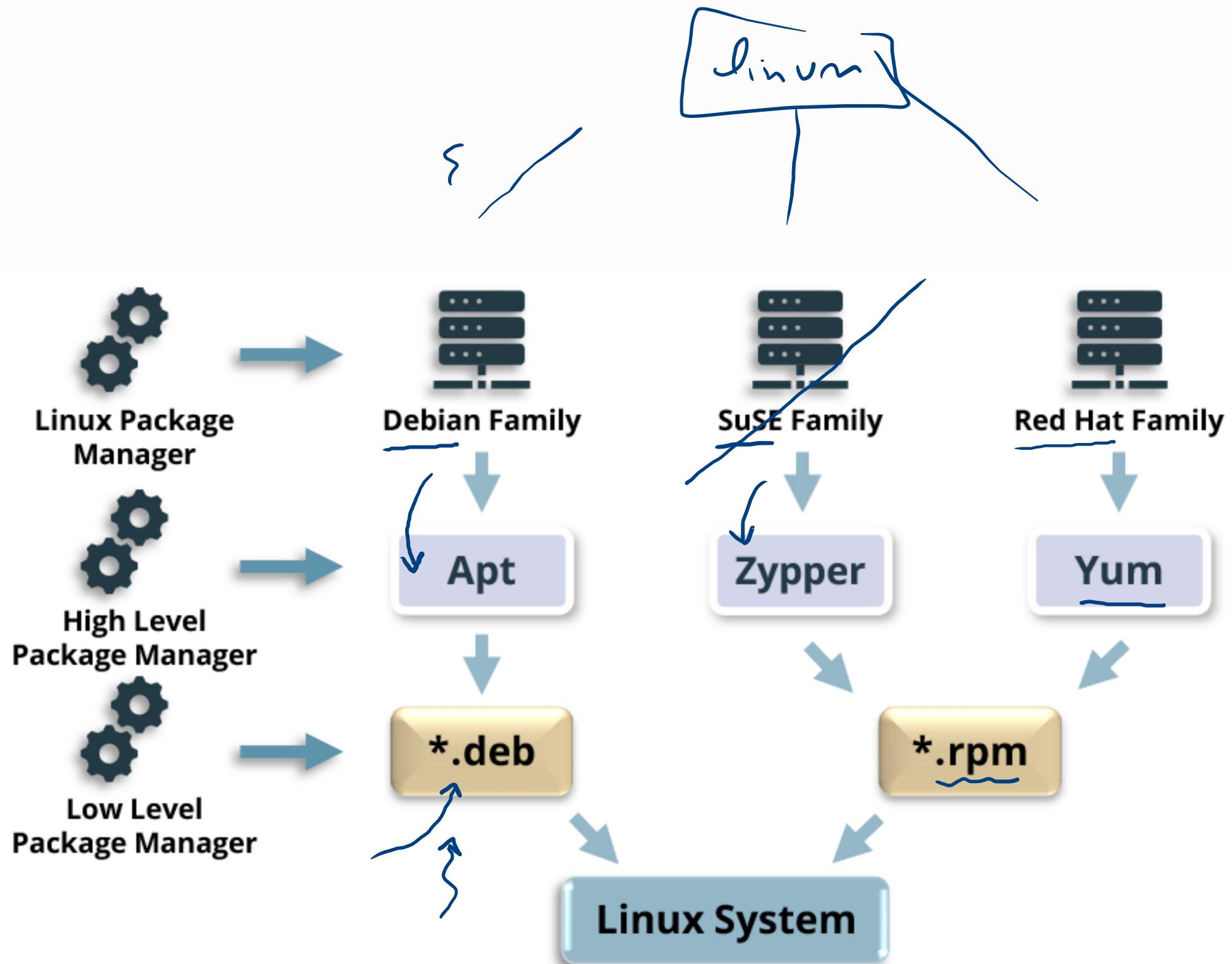
Ubuntu
→ Desktop ←
→ *server! ←



Graphical User Interface



Linux Software Packages



Repository is a collection of software and can be used by various Package Managers.

Installing Software from Repository

- Software installation on Red Hat Family is done using YUM (Yellowdog Updater Modified).
- Software installation on Debian Family is done using APT (Advanced Packaging Tool).
- How to install and uninstall software on Linux:

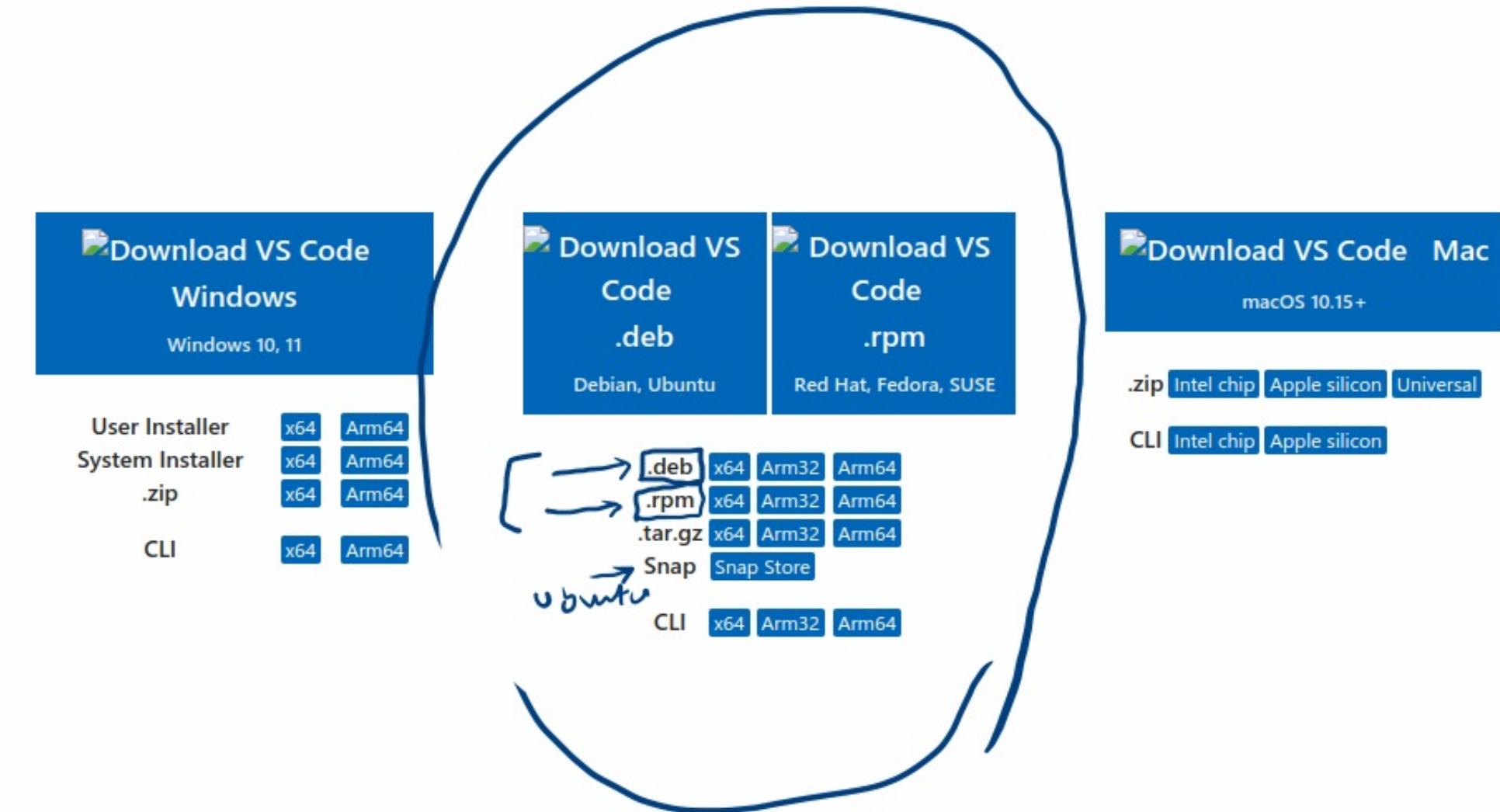
- In Red Hat Family: *rdnf*

[user@host ~]\$ ~~yum~~ install/remove cowsay

- In Debian Family:

user@host:~\$ ~~apt-get~~ install/remove figlet

apt

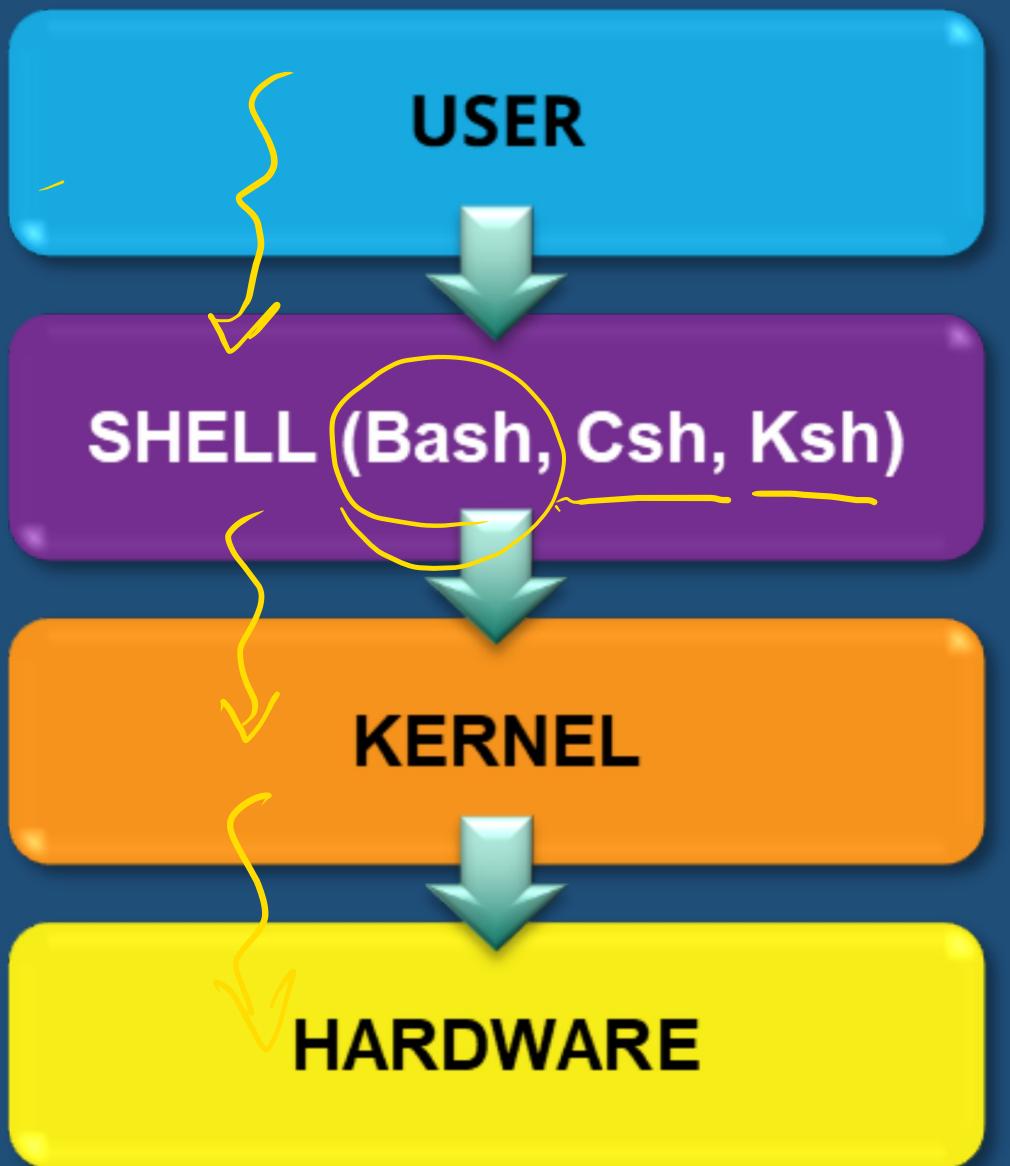
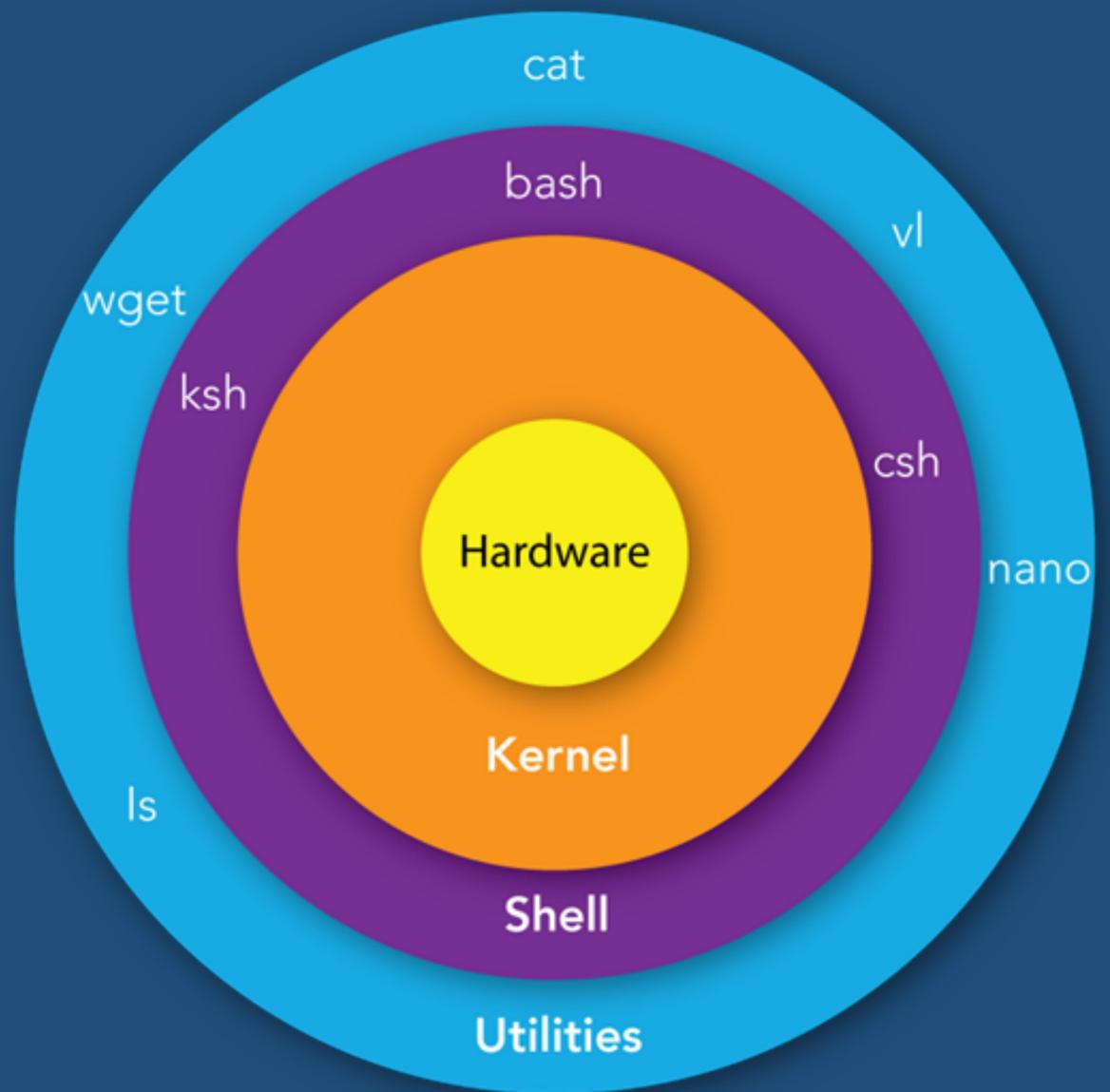


Linux Graphical Desktops

- The most popular Linux desktops: Gnome, KDE, XFCE, Cinnamon and
- Gnome has a user-friendly environment with the slogan Keep it Simple Stupid.
- KDE has a more complex, professional environment with more software.
- XFCE and Cinnamon have similar environments to the Windows Desktop.
- Ubuntu, Red Hat, SuSE and many other distributions have the default Gnome desktop.



Shell Introduction



Ubuntu Installation Process



The End