1. The Core System Folders

These are essential for the computer to even start up.

- **/bin (Binaries):** Contains the basic programs (commands) needed for the system to run, like ls, cp, and mkdir.
- **/sbin (System Binaries):** Similar to /bin, but contains "admin-only" commands used for system maintenance and booting.
- **/lib (Libraries):** Think of these as the "helper files" that the programs in /bin and /sbin need to function.
- **/boot:** Contains everything needed to boot the operating system (like the Linux Kernel and Bootloader).
- **/etc:** This is the **Control Panel** of Linux. It contains configuration files. If you want to change how a program behaves (like apt), you edit files here.
- /etc/apt - This is the most important directory for you as a user. It contains the "instructions" for where NGINX, Python, or any other software should be downloaded from.

2. User Programs & Customization

As you noticed, Linux often has "bins within bins." Here is why:

- **/usr (User System Resources):** This is where most user software is installed. It mimics the root structure:

- ○ **/usr/bin:** Programs for users (like Python or Chrome).
  - ○ **/usr/local:** This is for software you compile or install manually, so it doesn't get mixed up with the system's official software.
- **/opt (Optional):** Used for "add-on" software packages from outside vendors (like Google Earth or Discord) that don't follow the standard Linux file layout.
- **/snap:** Used by the "Snap" package manager. It keeps apps "sandboxed" (isolated) so they don't interfere with the rest of the system.

3. The People & Personal Files

- **/home:** This is where every user gets their own folder (e.g., /home/john). It's like "Users" in Windows.
- **/root:** This is the home directory for the **Root User** (the Super-Admin). It is kept separate from regular users for security.

4. Hardware & System Info

Linux treats almost everything—including hardware—as a "file."

- **/dev (Devices):** Contains files representing your hardware. For example, your hard drive might be /dev/sda.
- **/proc (Processes) & /sys (System):** These aren't "real" files stored on your disk. They are "virtual" files that show information about your CPU, RAM, and running programs.
- **/media & /mnt (Mount):** When you plug in a USB drive, it usually appears in /media. /mnt is used for manually "mounting" (attaching) hard drives or network folders.

5. Behind the Scenes (Storage & Temporary)

- **/var (Variable):** Contains files that change constantly, like **Logs** (records of what happened) and databases.
- **/tmp (Temporary):** A place for programs to store temporary data. It is usually wiped clean every time you restart.
- **/run:** Stores temporary data about the system since it last booted (like who is currently logged in).
- **/srv (Service):** Data for services provided by the system, like web server files.