Day 6- File Types

In Linux, **everything is treated as a file**, including hardware devices and system interfaces. These files are categorized into different types based on their behavior and purpose.

Three Broad Categories of Files

- **Regular Files (`-`)**
  These are the most common files, which contain data like text, images, scripts, executables, and configuration.
- **Directories (`d`)**
  These are special files that store other files and directories (i.e., folders).
- **Special Files**
  Found mostly under the `/dev` directory, these represent devices and inter-process communication mechanisms. They are further classified as:
  - **Character Devices (`c`)**
    Allow character-by-character I/O (e.g., keyboard, mouse).
  - **Block Devices (`b`)**
    Handle data in blocks, typically used for storage (e.g., hard disks).
  - **Symbolic Links (`l`)**
    Point to another file or directory, like shortcuts.
  - **Sockets (`s`)**
    Enable communication between processes over the network or locally.
  - **Named Pipes (`p`)**
    Allow one process to send data to another through a FIFO mechanism.

How to Identify File Types

- **Using `file` command**
  - `file /bin/ls`
- Using `ls -l` and file type indicators (first column):

	Symbol	File Type
1	`-`	Regular file
2	`d`	Directory
3	`c`	Character device
4	`b`	Block device
5	`l`	Symbolic link
6	`s`	Socket
7	`p`	Named pipe (FIFO)