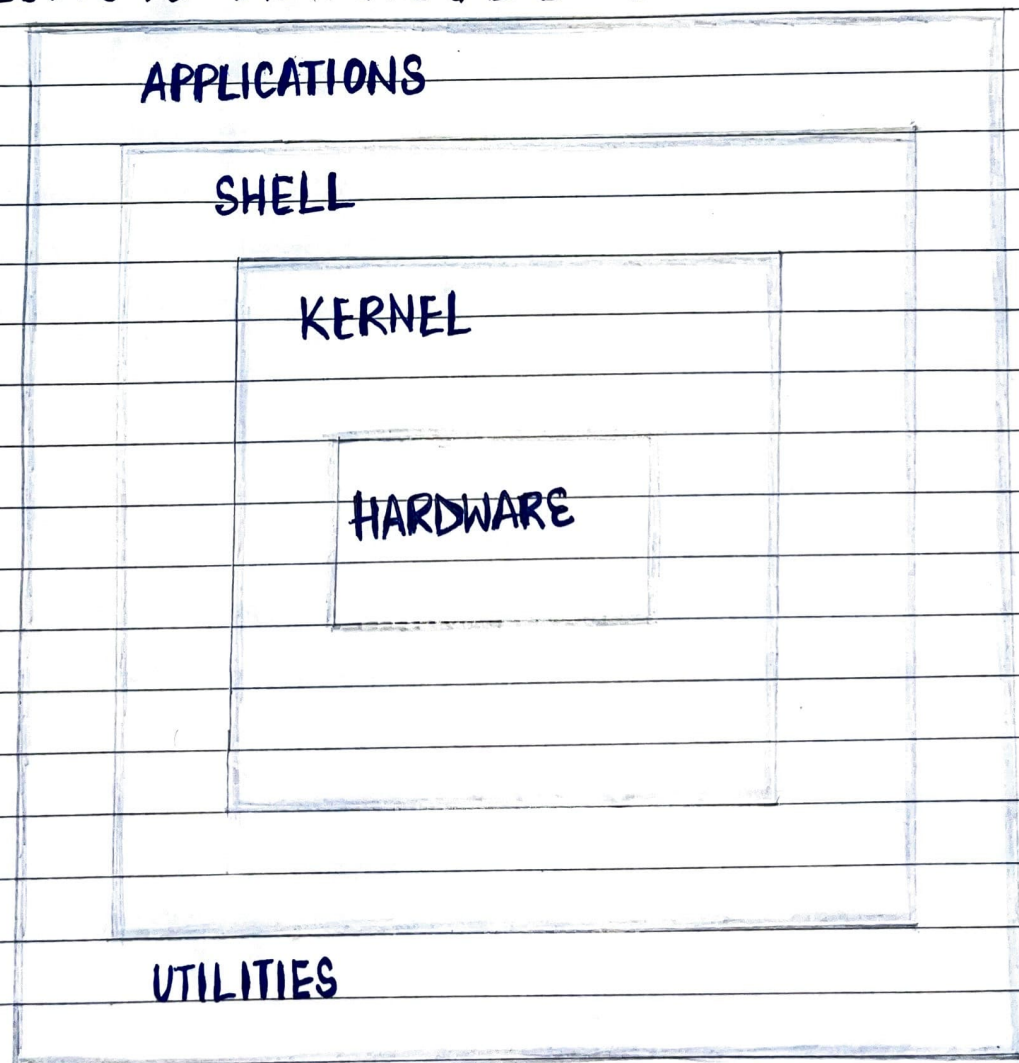


# Linux

↳ Linux is a free and open source operating system based on UNIX.

It was created by Linus Torvalds in 1991. Linux is known for its stability, security and flexibility. It is widely used in servers, supercomputers, mobile devices (like Android) and personal computers. Linux distributions include Ubuntu, Fedora, Red Hat, Debian etc.

## LINUX ARCHITECTURE



## I: Hardware

- Consists of the physical devices: CPU, memory, disk, drives, network cards, etc.
- Provides the resources that the operating system manages.

## II: Kernel { core of Linux }

The kernel layer is the heart of linux, directly interacting with hardware.

It manages system resources and acts as a bridge between hardware and software.

Main functions of the Kernel:

- Process management
- Memory management
- Device management
- File System management
- Networking

## III: Shell

Shell is a command-line interpreter in linux.

It acts as an interface between the user and the kernel.

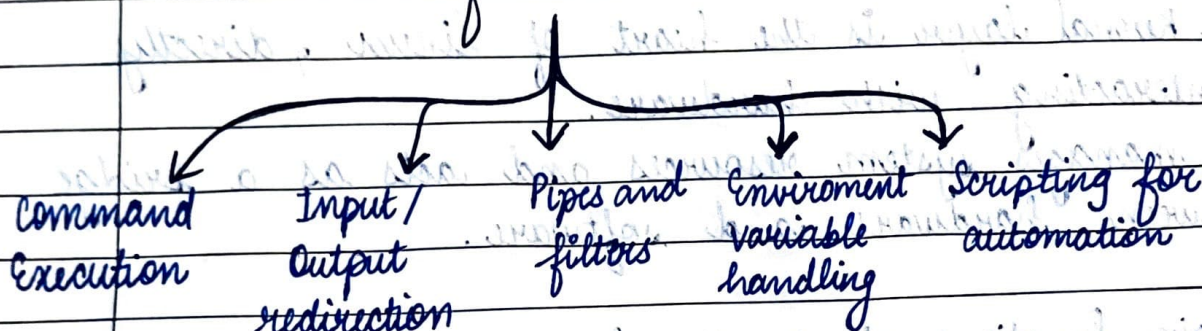
- Users enter commands → the shell interprets them → passes to the operating system → returns output to the user.



## TYPES OF SHELL

- Bourne Shell
- Bash (Bourne Again Shell)
- C shell
- Korn Shell
- Z shell

## functions



## IV: System Utility

System utilities are essential tools that make Linux usable by providing commands and programs for system control, file handling and performance monitoring.

### TYPES OF SYSTEM UTILITY

