Linux

- Linux is an free and open source operating system with high security. It is a multi user operating system(means more than one user can use this system at a time).

Operating System

- Operating system is a software acts an interface between hardware components and the user.(Generally computer understands only binary language so, this os helps us to communicate with the computer)
- Every Computer system must have an operating system to run other programs. Applications like Browsers, Ms.office and Notepad need some environment to run and perform it tasks.
- The OS helps us to communicate with the computer without knowing how to speak computer's language.

Types of OS

1. **Linux**
2. **Windows**
3. **Macos**

Technical terms

- **Kernel** : Linux is also called as kernel because it contains the hardware components like cpu ,memory and peripheral (external) devices(ex:key board).It manages the hardware components. It is the lowest level of OS.

- **Daemons**: The Background services (sound,printing, Scheduling)are called Daemons. It manages the Background services that start up either boot or after you log into the desktop.

- **Shell:** It is an environment in which we can run our programs, commands and shell Scripts. It takes the input from the user and execute programs based on input and displays the output after finishing the execution.

Linux OS Distributions

Many of the users has taken Linux OS and modified according to their requirements and released into the market with different names called Linux Distributions.

- Redhat
- ubuntu
- Debian
- Centos
- Fedora

- Opensuse
- Kali Linux
- Amazon Linux
- Rocky Linux

In these Linux OS , 90 percent of the linux commands will be same.

All these Linux Distributions have basic Linux operating system. Kali Linux are mostly used by Cyber Security persons and Ethical Hacking people.

Architecture of Linux

Applications---->Shell--->Kernel--->Hardware Components

Every application wants code to run . Shell is used to write the code and run the code.

Kernel is inside the shell that manages hardware components.

A shell is a Program that serves as an interface between user and the operating system. It provides a way for the users to interact with the computer by accepting commands and executing them

Shell can be GUI or CLI.