LINUX

Software:

It is a set of instructions or programs that allows a user to perform   some specific task.

Ex: MS-word, MS-Excel, Web browsers

Types of software:

1.System software

2.Application software

System Software:

System software is used to manage the computer hardware and software.
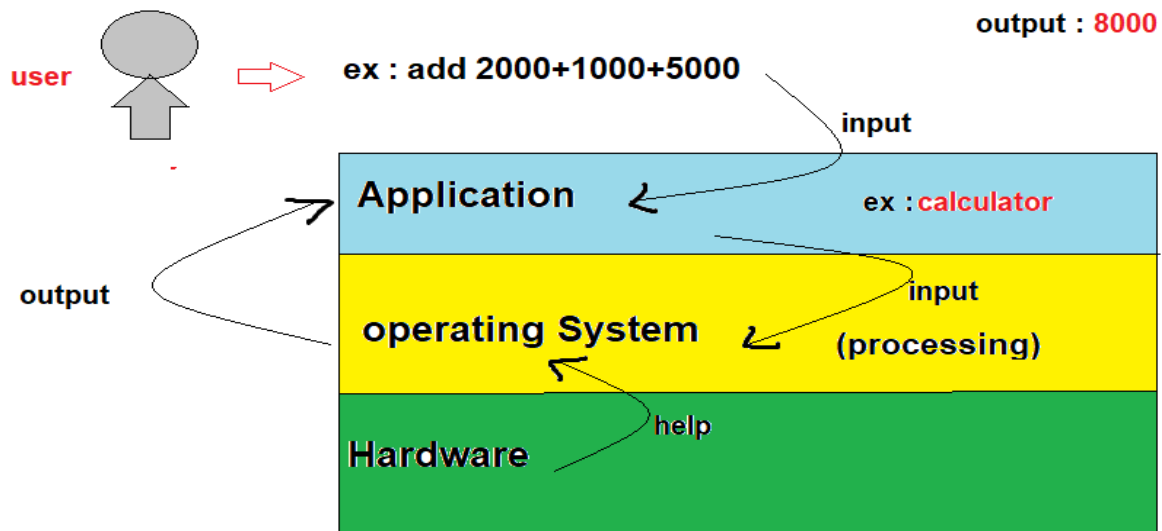
Application Software:

Application software is a kind of software that perform specific functions for end user by interacting directly with it.

Operating System:

An Operating system is an interface between computer user and computer hardware.

It is a software which performs basic functions like file management, memory management and process management.

Architecture of Operating System

What is linux?

Linux is an open source operating system which will manage the system hardware and software.

History of Linux

- It was created by Linus Torvalds in 1991.
- The name Linux is a combination of his first name, Linux and Unix, the operating system inspired his project.
- He originally released Linux as free software under the GNU General Public License.This meant that anyone could use, modify and redistribute his code.

Flavours of Linux

These flavours are referred to as Linux distribution that provide different combinations of software packages, desktop environments and system configurations.

1.Ubuntu
2.Fedora
3.Linux Mint
4.OpenSUSE
5.Debian

Features of Linux

1. **OpenSource:**

    Linux code is free available to all and is a coomunity based development project.

2. **Multiuser capability:**

    Multiple user can access the same system resources like memory, hard disk, etc.But they have to use different terminals to operate.

3. **Multitasking:**

    More than one function can be performed simultaneously by dividing the CPU time.

4. **Security:**

    It provides security in three ways namely authenticating(by assigning password and login ID), authorization(by assigning permission to read, write, execute) and encryption(convert file into an unreadable format).

5. **File System**:

    Provides hierarchical file system in which files and directories are arranged.

6. **Stability**:

    Linux is very stable operating system that it wont requires reboot after updating the system.

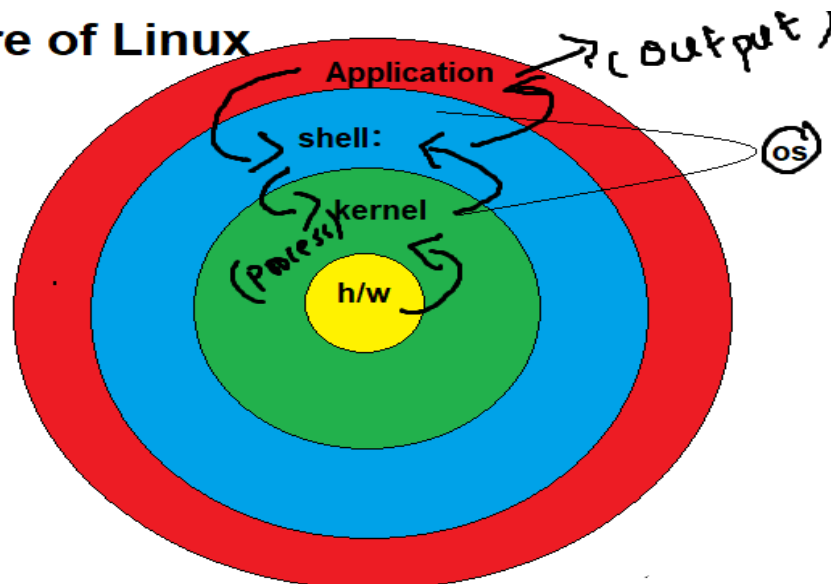# Companies using Linux Operating System

1.NASA

2.Facebook

3.Google

4. E-commerce Industries like Amazon

5. Entertainment Industries.

6. Health care

7. McDonalds

8. Oracle and IBM

Architecture / Structure of Linux Operating System

Shell: 1. Shell acts as an interface between users and kernel operating system.

2. CLI is a shell.

Kernel: 1. It is a program that is stored inside your operating system.

2. It acts as an interface between hardware and software.

Shell and Kernel software are built together in a package and that is called Operating system.

Hardware: It refers to the internal and external devices and equipment that enable to perform functions such as processing, storage and more.

EX: CPU, RAM, Processor.

Why we need Linux?

- Linux is used in servers such as web servers, database servers and more.
- Most of the DevOps tools are developed and used in Linux environment first   before they are made available on windows.

- We do not need to restart the server everytime.
- Linux system have both CLI and GUI interface. When you work with Linux in IT industry you work with the CLI, because most servers that you work within in your work environment won't really have a GUI, so we will focus in the CLI.

Where does Linux OS is used in the Companies?

It is mostly used in:

1. Web Hosting

2. Database Management

3. Game servers

4. File sharing

Difference between Linux and Windows Operating system

Linux	Windows
1. Free and Open source.	1. Not an Open source and not free Charges around $150
2. Not user-friendly.	2. user-friendly
3. It is stable and no need to reboot.	3. Requires reboot whenever we are updating
4. More secure.	4.It is also secure but can be hackable.
5. Most Enterprise level Operating system.	5.Normal users can access software like MS-office, gaming etc.
6. Best for multi-users and multi-tasking.	6.Supports multi-users and multi-tasking but not much as Linux.
7. Provides both CLI and GUI.	7. Provides both GUI and CLI.
8. No need of Anti-virus.	8. Windows need Anti-virus.

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