Lecture 2 Introduction to Linux Notes

Important concepts:

- **Operating System:** An operating system that provides all the fundamental software of a computer. This enables you to use the hardware proving basic tools to make computer useful.

- **Kernel:** Responsible for managing low level feautures of the computer such as memory allocation and CPU time.

- **Components of an operating system:** Command line shells, Graphical User Interfaces, Utility and Productivity Programs, Libraries identifies an OS.

- **Linux :** Linux is a UNiz like Operating system popular in academics and business environments. It consists of kernel,libraries and utilities. Available in different distributions such as Arch, Red Hat, Slackware and Ubuntu.

- **Linux Characteristics:** Open Source software, free of charge, Includes Unix tools, highly scalable, server applications majority run of some version of Linux.

- **GNU Toolchain:** collection od compilers,libraries,debuggers,and core utilities modeled on Unix.

- **Linux Distribution:** A complete linux system package. These elements make up a linux distribution A Linux kernel, Core Unix Tools, Supplemental Software, Startup Scripts, An Installer.

- **What is Ubuntu:** A linux distribution with both community and professional support.

- **Ubuntu Release cycles:** Regular or Non-LTS are shipped every six months and supported for nine months. LTS(Long Term u) are shipped every two years and is supported for 5 years.

- **What is Debian:** An all volunteer organization dedicated to free software and promoting the ideals of the free software community.

- **Different software licensing models (open source vs closed source):** Open source may be distributed for a fee or for free. The source code is distributed with the software. Closed source is not distributed with source code. The user is restricted from modifying the code.

- **The 4 Freedoms of Free Software:** freedom 0 uses software for any purpose. Freedom 1 examines the source code and modify it as you see fit. Freedom 2 redistributes the software and Freedom 3 redistributes your modified software.

- **Virtualization:** Create virtual versions of something. Often used on multiple OSs run on one physical machine.

- **Hypervisor and types:** Software or hardware in charge of creating, managing, running virtual machines.

- **VirtualBox:** Powerful x86 and AMD64/Intel64 virtualization product for enterprise as well as home use. Open source software.

List of the main Linux distributions

- Debian
- Arch Linux
- Ubuntu
- Red Hat
- Enterprise Linux

List of some of the Debian Based Linux distributions

- Linux Mint
- Kali Linux
- Parrot OS
- Linux Deepin
- MX Linux
- StreamOS

List of some of the Red Hat-based Linux distributions

- EuroLiux
- Fedora
- Lubuntu
- Gnome

List of some of the Ubuntu Based Linux Distributions

- Linux Lite
- Linux Mint
- Elementary OS
- Pop Os
- Zorin OS
- Peppermint