Notes Lecture 1 What is Linux

Why Do you need to learn linux?

- Linux runs in a lot of devices. Example: laptops, desktops, servers, smartphones, IoT devices, etc
- Linux powers the cloud
- Linux is used by a lot of companies even Microsoft

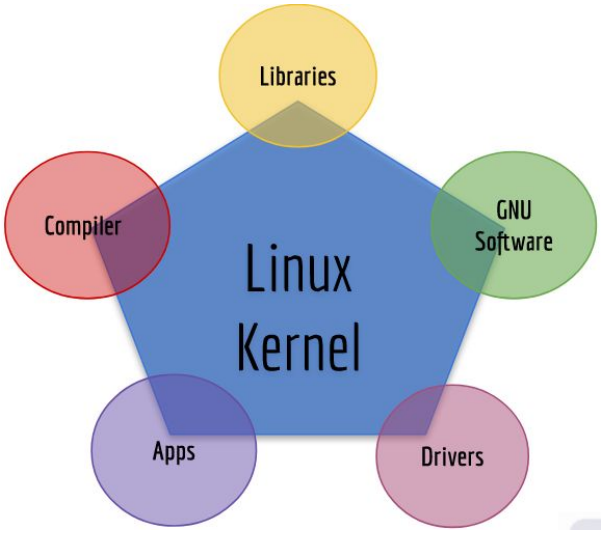
What is Linux?

- Linux is a kernel. A kernel is the core of any operating system.
- An operating system that uses the Linux kernel is called a Linux Distribution. Example: Ubuntu and Android.
- Linux is multitasking, multi-user, and multipurpose OS.
- Linux is a modular operating system.

Linux books I can use:

- Linux Administration A Beginner's Guide 8th Edition by Wale Soyinka
- CompTia Linux+ Study Guide by Christine Bresnahan
- The Linux Command Line by William Shotts

Linux distributions



- There are a large number of Linux distributions.
- There are two main Linux Distributions:
    - Debian
    - Redhat
- There are also other independent distributions:
    - Slackware
    - Arch
    - Gentoo

Linux Architecture

- Linux is modular which means that users can remove and add/remove whatever they need or don't need.
    - **Kernel** = the core of the operating system. Manages the hardware.
    - **Daemons** = background programs that run independent of the user.
    - **Shells** = the interface that accepts user input and translates it so that the kernel can use it.
    - **Graphical Desktop Environmen**t = a collection of software that makes the graphical interface.
- In Linux everything is a file.
- Type of files:
    - Device files
    - Directory files
    - Binary files
    - Regular files

Software licensing agreement

- A license agreement outlines the rights a user has to a given software
- Types of licensing agreement:

Open source	Closed source	Free software
Software can be distributed for free or a fee. **The source code must be distributed with the software.**	Software can be distributed for free or a fee. **The end user has limited access to the software and the source code is not available.**	Software can be distributed for free or a fee. The user has total control of the software and the source code. The software must comply with the 4 freedoms.

Open Source Software

Libre Office

Mozilla Firefox

VLC Media Player

Close Source Software

Microsoft Office

Internet Explorer

Windows Media Player

The 4 freedoms

- Freedom 0: the user can run the program as you wish, for any purpose .
- Freedom 1: the user can study how the program works, and change it.
- Freedom 2: the user can redistribute copies.
- Freedom 3: the user can distribute copies of your modified versions.

Learn more: https://www.gnu.org/philosophy/free-sw.en.html

Advantages/Disadvantages of Open Source software

Advantages	Disadvantages
• Software is “generally” available for free • The user can modify the code • General more reliable	• Can be risky • User friendliness • Lack of corporate support

What is Ubuntu?

Add your own notes from this point on!