

# Lecture 2 Introduction to Linux Notes

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## 1. What is an operating system?

An Operating system provides all fundamental software features of a computer. An OS enables you to use the computers hardware providing you the basic tools that make the computer useful. All of those features relay on the OS's kernel. Other OS features are owed to additional programs that run atop the kernel.

## 2. What is a Kernel?

An OS kernel is a software component thats responsible for managing low-level features of the computer, including the following managing system hardware, memory allocation, CPU time, and program to program interaction.

## 3. Which other parts aside from the kernel identify an OS?

- Command-Line Shells
- Graphical User Interfaces
- Utility and Productivity Programs
- Libraries

## 4. What is linux and linux distribution?

Linux is a Unix-like Operating System popular in academic and business enviroments. Linux distribution is a complete Linux system package that includes:

- A Linux Kernal
- Core Unix Tools
- Supplemental Software
- Startup Scripts
- An Installer

## 5. List at least 4 Linux characteristics:

- Open Source
- Free of charge
- Highly Scalable
- Can run on almost any system.

## 6. What is Ubuntu?

Ubuntu is a Linux distribution, freely available with both community and professional support.

## 7. What is Debian?

Debian is an all-volunteer organization dedicated to develop free software and promoting the ideals of the *Free Software* Community, which started in 1993 when Ian Murdock compiled a group of developers to create a coherent linux distribution.

## 8. List and define the different types of licensing agreements

- Open Source: The software may be distributed for fee or free. The source code is distributed with the software.
- Closed Source: The software is not distributed with the source code. The user is restricted from modifying the code
- Freeware: The software is free but the source code is not available.
- Free software: The software is distributed with the source code. The software can be free of charge or obtained by a fee.

## 9. What is Free Software? Define the 4 freedoms

Free Software is a foundation dedicated to enforce the open source world.

1. Freedom 0: use the software for any purpose
2. Freedom 1: Examine the source code and modify it as you see fit
3. Freedom 2: Redistribute the software
4. Freedom 3: Redistribute your modified software

## 10. What is virtualization?

Virtualization is defined as creating virtual version of something, often used to let multiple OSs run on one physical machine at the same time, allowing administrators to divide the hardware and create multiple computers inside a single physical computer.