Lecture 2 Introduction to Linux Notes

1. What is an operating system?

An operating system provides all fundamental software features of a computer. An OS enables you to use computer's hardware providing you the basic tools that make the computer useful. All tof 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 that's 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 This was the de facto way of using computers before the Graphical Interface was invented. CMDs work by typing commands in a shell. In Linux, the entire system can be control via the CLI.
- Graphical User Interface GUIs rely on icons, menus and a mouse pointer for the user interaction. Linux relies on a GUI known as the X Window System in combination with desktop environment program suites.
- Utility and Productivity Programs Tools like web browsers, document processors and text editors.
- Libraries Libraries are collections of programming functions that can be used by a variety of programs.

4. What is linux and linux distribution? Linux is a Unix-like Operating System popular in academic and business environments. Open source software, free of charge. Its distribution includes Arch, CentOS, Debian, Fedora, openSURE, Red Hat, Slackware, Ubuntu and many more.

5. List at least 4 linux characteristics:

- Linux is a open source software.
- Linux is highly scalable and customizable
- The vast majority of server applications on the internet run on some version of Linux.
- Linux includes many of the Unix tools including many important internet server programs and programing.

6. What is Debian?

Debian is an all-volunteer organization dedicated to developing free software and promoting ideals of the Free Software community. Debian Project began in 1993, when Ian Murdock compiled a group of developers to create a coherent linux distribution. Ubuntu was created to be a user friendly version of Debian and with it has become a Major distribution of its own with other Distribution using it as its base.

7. List and define the different types of licensing agreements

- Software Licensing: It is a type of intellectual property that is governed by copyright laws and, in some countries patent laws.

- Open Source: the software may be distributed for a 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.
- Shareware: the software is free on a trial basis.
- Free software: the software is distributed with the source code. The software can be free of charge or obtained by a fee.

8. What is Free Software? Define the 4 freedoms.

Free software is the software distributed with the source code. The software can be free of charger or obtained by a fee.

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

9. What is virtualization? Virtualization is defined as creating virtual version of something. It is often used to let multiple OSs run on one physical machine at the same machine, allows administrators to divide the hardware and create multiple computers inside a ingle physical computer.