

# Notes 2

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## 1. What is an Operating System?

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An operating system provides all fundamental software features of a computer. An OS enables you to use the computer's hardware providing you the basic tools that make the computer useful.

## 2. What is a kernel?

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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?

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Other parts aside from the kernel identify an OS are command-line shells, graphical user interfaces, utility and productivity programs, and libraries.

## 4. What is linux and linux distribution?

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Linux is a Unix-like Operating System popular in academic and business environments. Linux consists of a kernel, libraries, and utilities that make up the entire operating system.

Linux distribution are any operating system that runs the Linux kernel. They are different alike linux, which are Arch, CentOS, Debian, Fedora, openSUSE, Red Hat, Slackware, Ubuntu, and many more.

## 6. List at least 4 linux characteristics:

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List of 4 linux characteristics:

- Linux is open source software
- Linux is available free of charge
- Linux includes many of the Unix tools
- Linux is highly scalable and customizable

## 7. What is Debian?

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Debian is an all-volunteer organization dedicated to developing free software and promoting the ideals of the Free Software community. The Debian Project began in 1993, when Ian Murdock compiled a group of

developers to create a coherent linux distribution. Debian is known to be the Grandfather of all linux distributions alongside Slackware and Open Suse.

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

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Types of licensing agreement:

- 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.

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

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Free software is a software that is free but the source code is not available.

- 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

## 11. What is virtualization?

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- Virtualization is defined as creating virtual sessions of something.
- Virtualization is often used to let multiple OSs run on one physical machine at the same time. Virtualization allows Administrators to divide the hardware and create multiple computers inside a single physical computer.
- Virtualization is an old concept however it has gained popularity due to the availability of faster, better, and cheaper hardware.
- Virtualization is one of the corner stop technologies of Cloud computing.