

# Notes 2

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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 computer's hardware providing you the basic tools that make the computer useful. All of the features rely on the OS's kernel. Other 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 Shell, Graphical User Interfaces, Utility and Productivity Programs and Libraries.

## 4. What is linux and linux distribution?

Linux is a Unix-like Operating System. A linux distribution is an operating system built on a linux kernel, system libraries, Graphical User Interfaces, Utility and Productivity Programs.

## 5. List at least 4 linux characteristics:

Open Source, security, stability and reliability, and customization and flexibility.

## 6. What is Debian?

Debian is a free and open source OS based on the Linux kernel. It's one of the oldest and most influential Linux distributions, first released in 1993, and it has served as the foundation for many other popular distributions.

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

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

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

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

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

## 9. What is virtualization?

Virtualization is the process of creating a virtual version of something, such as a virtual machine, storage device, or network resource, on a physical hardware system. It enables multiple virtual instances to run on a single physical machine, allowing for more efficient resource utilization, better isolation, and easier management of computing environments.