

## 1. What is an Operating System?

An Operating System is the essential software that makes the computer useable. It manages resources that include the CPU, memory, and storage. It provides services, creates platforms that help run programs to interact with each other. It also uses interfaces that help interact with other computers using menus and icons.

## 2. What is Kernel?

A kernel is a software in the Operating System that manages the hardware and provides services like running programs and file systems.

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

Other parts of the OS aside from the kernel can be the user interface, system utilities, and file system.

## 4. What is linux and linux distribution?

Linux is the kernel, and operating system it uses the same system but have different features. Linux distribution combines other software to make an OS, includes libraries, interface, and applications. Like Ubuntu.

## 5. List at least 4 linux characteristics: -Open Source -Free -Stable -Secure

## 6. What is Ubuntu?

Ubuntu is a user-friendly Linux distribution, it's good for beginners, free and is an open source. It is great for people who want to try Linux and backed by a strong community.

## 7. What is Debian? Debian is the original Linux. It is a free software, it is also free and reliable like Linux. Debian is the foundation of Ubuntu as well, and is easy to find a lot of software.

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

-General Public License: grants users the freedom to use, modify, and even sell the software as long as source code is provided and adhere to the GPL's terms. -GNU Lesser General Public License: allows linking with proprietary software under certain conditions, used for libraries. -Modified BSD License: permissive license that allows almost any use of the software, with few restrictions. -Apache License: used for Perl software, granting broad freedom with some specific conditions.

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

Free software gives users the freedom to run software for any purpose, redistribute copies of the software, and distribute copies of a modified version. the 4 freedoms are: Freedom 0- freedom to run the program as you wish. Freedom 1- freedom to study the source code and make changes to the program to suit your needs. Freedom 2- freedom to redistribute copies of the original programs so you can help others. Freedom 3- freedom to distribute copies of your modified versions of the program to others. Gives the whole community a chance to benefit from your changes.

## 10. What is virtualization?

Virtualization helps create a simulated environment, such as a virtual computer within an actual physical computer, it powers many aspects of modern computing including cloud computing and data centers.