# OPERATING SYSTEMS

# INTRODUCTION TO LINUX OPERATING SYSTEMS

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# ASSIGNMENT

## 1. First Question

Explain the current Linux distributions (at least 5)!

Answer:

### a. Ubuntu

Ubuntu Canonical's is a linux distro which is already very popular among linux users. Ubuntu is built on the Debian architecture, and Ubuntu has managed to balance stability and new features like there are no other distributions in it. That's why ubuntu is a linux distribution whose popularity is unmatched. If you run a computer with limited hardware capabilities, you should try Ubuntu flavors such as Ubuntu MATE, Xubuntu, or Lubuntu.

### b. Linux Mint

Linux Mint is one of the fastest growing Linux distributions. And linux mint continues to challenge Ubuntu to be the most popular. In addition, Linux Mint has established itself as the perfect replacement OS for the Windows operating system with a near-perfect desktop experience. Another reason why I call it the best Linux distribution for new users is its ability to provide an unusual user experience. This means you don't need to spend a lot of time installing distributions and packages before you can complete some real work.

### c. Debian

Many Linux distributions are suitable for programmers according to their needs. They can install all the tools needed for programming, but Debian GNU / Linux is often recommended as the best option.

### d. Kali Linux

The Kali Linux distribution comes with hundreds of useful tools for vulnerability analysis, wireless attacks, web applications, exploitation tools, voltage testing, forensic tools, etc. Based on the Debian Testing branch, most packages in the distribution are imported from the Debian Repository.

**e. Centos**

Many Linux distributions that release a special operating system for the server, but here I will provide the best Linux distro for your server that is CentOS. CentOS is also known for being very stable with good performance. Other important factors are hardware support, safety, power efficiency, and optimized performance. There are many free and paid options for such a scenario.

## 2. Second Question

Explain the same 20 commands between each distro!
Answer:

*head*
Displays the first few lines in a text file.

*nano*
Edit the contents of a text file.

*vi*
A very powerful text editor that is almost always included in every Linux installation.

*wc*
Count the number of lines, words or characters from a text file.

*man*
Displays documentation (manual pages) of a command.

*apropos*
Displays documentation (manual pages) related to keywords that have been given.

*find*
Scan and search the directory structure of files.

*tar*
Commands for working with archive files.

*gzip*
Compressing files or folders into files with a .gzip extension.

*date*
Displays the current time and date.

*cal*
Showing calendar.

*touch*
Change the modification time of a file or create an empty file (0 bytes).

*ps*
Displays the processes running on the system.

*kill*
Shutting down (or giving other signals to) a process.

*su*
Super user.

*userdel*
Removing users from the system.

*passwd*
Change user password.

*ifconfig*
Configure network interfaces.

*halt*
Shutting down the system.

*reboot*
Restart the system.

**3. Third Question**

Explain the meaning of the commands 'init 0', 'init 1', 'init 2', 'init 3', 'init 4', 'init 5', and 'init 6'!
Answer:

a. init 0 **:** Used for maintenance, diagnostic hardware, booting other than disks for example from cdroom.
b. init 1 **:** Single user mode, used to add patches, backup / restore systems. At this level we can run or access all files but other users cannot log into our system.
c. init 2 **:** multiuser mode, usually for use in networks but here no resourches are shared.
d. init 3 **:** expanding multi user mode, we can create local resources share on our network so that we can share data at this level on the network.
e. init 4 **:** for alternative multiuser mode but currently cannot be used.
f. init 5 **:** for shutdown or power off.
g. init 6 **:** stop the operating system then reboot and return to the initdefault in/etc/inittab.

4. **Fourth Question**

   Explain the purpose of the 'quota' command!
   Answer:

   Quota is a restriction on the use of hard disks for users and / or groups. This is very important because if there are no settings to use hard disk rations then in a short time the server will be full of personal data. If the user's data exceeds the set quota, then the user can no longer save the data unless he deletes the data.