Linux assignment

1. What is the minimum number of partitions you need to install Linux?

The minimum number of partitions needed to install Linux is one, but typically two partitions are used: one for the root (/) directory and one for swap space.

2. Explain About Chmod Command.

The `chmod` command in Linux is used to change the file permissions, allowing you to set who can read, write, or execute a file.

3. How to check Linux memory utilization?

To check Linux memory utilization, use the `free` command or check the `/proc/meminfo` file.

4. Describe the root account.

The root account is the administrative user account in Linux with unrestricted access to all commands and files in the system.

5. What is shell?

A shell in Linux is a command-line interface that allows users to interact with the operating system by executing commands.

6. What is Linux?

Linux is an open-source, Unix-like operating system kernel that forms the basis for various distributions, offering a stable and secure environment for computing.

7. What is ?

(Bourne Again Shell) is a popular command processor that typically runs in a text window, allowing users to type commands to perform actions.

8. How can you find out how much memory Linux is using?

To find out how much memory Linux is using, use the `free` command, `top` command, or look at `/proc/meminfo`.

9. What is a typical size for a swap partition under a Linux system?

A typical size for a swap partition in a Linux system is generally equal to or double the amount of RAM, but this can vary depending on the system's needs and available disk space.

10. How do you switch from one desktop environment to another, such as switching from KDE to GNOME?

To switch from one desktop environment to another, such as KDE to GNOME, log out of your current session, select the desired desktop environment from the session menu at the login screen, and log in again.

11. What are the kinds of permissions under Linux?

The kinds of permissions in Linux are read (r), write (w), and execute (x).

12. What are the different modes when using vi editor?

The different modes in vi editor are Normal mode, Insert mode, and Command mode.

13. How to run Windows Software on Linux operating system?

You can run Windows software on Linux using compatibility layers like Wine or virtualization software like VirtualBox.

14. What is the difference between Windows and Linux?

Windows is a closed-source, proprietary operating system developed by Microsoft, whereas Linux is an open-source, Unix-like operating system kernel that is used in various distributions.

15. What is the advantage of Open Source?

The advantages of open source include transparency, flexibility, security, and community support, allowing users to modify, distribute, and improve the software.

16. Explain File Permission groups in Linux.

File permission groups in Linux are user (u), group (g), and others (o), determining who can read, write, or execute the file.

17. Explain different file system types in Linux.

Different file system types in Linux include ext4, ext3, ext2, XFS, Btrfs, and others, each with varying features like journaling, scalability, and performance.

18. Why is LVM required?

LVM (Logical Volume Manager) is required for flexible disk management, allowing for easy resizing of disk partitions, creating snapshots, and spanning multiple physical disks.

19. How to exit from vi editor?

To exit vi editor, press `Esc` to go to Normal mode, then type `:q` to quit, `:q!` to quit without saving, or `:wq` to save and quit.

20. How to delete information from a file in vi?

To delete information from a file in vi, press `Esc` to go to Normal mode, navigate to the text you want to delete, and use commands like `dd` to delete a line or `d` followed by a movement command (e.g., `dw` to delete a word).

21. You have a new, empty hard drive that you will use for Linux. What is the first step you use?

The first step is to partition the hard drive using a tool like `fdisk` or `parted`.

22. Write the Linux command to show the current working directory.

pwd

23. Write the Linux command to get help with various options.

man [command]

24. Write the Linux command to display what all users are currently doing.

w

25. Write the Linux command to get information about the operating system.

uname -a

26. Write the Linux command to create a hard link of a file.

ln [source\_file] [link\_name]

27. Write the Linux command to create a soft link of a file as well as a directory.

ln -s [source\_file] [link\_name]

ln -s [source\_directory] [link\_name]

28. Write the Linux command to search for a specific pattern in a file.

grep [pattern] [file\_name]

29. Write the Linux command to show the use of basic regular expressions using grep command.

grep 'regex\_pattern' [file\_name]

30. What is the maximum file size on the ext4 file system?

The maximum file size on the ext4 file system is 16 TiB (Tebibytes).

31. What is the maximum file size on the XFS file system?

The maximum file size on the XFS file system is 8 EiB (Exbibytes).

32. What is the difference between LILO and GRUB?

LILO (Linux Loader) is an older boot loader that lacks a graphical interface and support for as many filesystems as GRUB (GRand Unified Bootloader), which is more versatile, user-friendly, and supports multiple operating systems.

33. How to recover Linux password?

To recover a Linux password, boot into single-user mode or use a live CD to access the system, then mount the root filesystem and use the `passwd` command to reset the password.

34. Which command is used to format a partition in Linux OS?

mkfs [filesystem\_type] /dev/[partition\_name]

35. How to enable "quota" in Linux?

Enable quota by editing `/etc/fstab` to include `usrquota` and/or `grpquota` options for the filesystem, then run `mount -o remount /`, followed by `quotacheck -cug /` and `quotaon /`.

36. How to mount a partition in Linux?

mount /dev/[partition\_name] /mnt/[mount\_point]

37. What is the use of the "mdadm" command?

The `mdadm` command is used to manage and monitor RAID arrays in Linux.

38. How to configure a secure Apache web server in Linux?

Install Apache, enable SSL module, obtain an SSL certificate, configure the Apache configuration files to use SSL (typically in `/etc/httpd/conf.d/ssl.conf` or `/etc/apache2/sites-available/default-ssl.conf`), and restart Apache.

39. How to set a static IP in Linux?

Edit the network configuration file (e.g., `/etc/network/interfaces` for Debian-based systems or `/etc/sysconfig/network-scripts/ifcfg-[interface]` for Red Hat-based systems) to define the static IP settings and restart the network service.

40. What is SELinux security?

SELinux (Security-Enhanced Linux) is a security architecture integrated into the Linux kernel that provides mandatory access control, enforcing security policies that limit programs and system resources access based on predefined rules.