1. What is Linux

Linux is an open-source operating system based on Unix, widely used for servers, desktops, and various devices, valued for its reliability.

1. Explain the basic features of the Linux OS

Multitasking: Can run many programs at the same time.

Multi-user: Multiple people can use the system simultaneously.

Security: Strong file permissions and encryption support.

Portability: Can run on many types of hardware.

1. Define the basic components of Linux.

Kernel: Core part that manages hardware and resources.

Shell: Interface to interact with the OS using commands.

File System: Organizes and stores data.

Utilities: Basic system tools to manage the OS.

1. What are the major differences between Linux and Windows?

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| FEATURE | LINUX | WINDOWS |
| Source code | Open source | Closed source |
| Customization | Highly customizable | Limited customization |
| Security | Generally, more secure | More targets for malware |
| Cost | Free to most distros | Paid liscense |

1. Elaborate all the file permission in Linux.

Read (r): Allows viewing file contents.

Write (w): Allows editing the file.

Execute (x): Allows running the file as a program.

Applies to: Owner, Group, and Others.

1. How to create a file in linux

Touch filename.txt

1. What is the chmod command in Linux, and how do you use it?

Chmod changes the permissions

e.g. chmod PQR (values of permission) file\_name

1. How do you create a user account?

Sudo adduser new\_username

1. What is the find command, and how do you use it

Find is used to search for files and directories

e.g. find /home -name file.txt

1. Explain mkdir command with example

Creates a directory

e.g. mkdir directory\_name

1. What is ls command with example

Lists files and folders

e.g. ls -> will give file and directory names

Ls –all -> will give all info about each file and folders

1. How to remove a directory

rm –r directory\_name

1. Explain cat command with example

Shows file content. e.g. cat filename.txt

1. What is the grep command used for in Linux?

Grep searches for pattren within the files

e.g. grep “text” filename.txt

1. What is systemctl command?

Systemctl manages system services (start/stop/restart)

e.g. sudo systemctl restart apache