1. Difference between LILO and GRUB:
LILO (LInux LOader) is an older boot loader that loads the Linux kernel during the boot process. It doesn't support booting from a network and requires reinstallation to change the configuration. It is less flexible and lacks features like a graphical interface.
GRUB (Grand Unified Bootloader) is a more modern boot loader that supports multiple operating systems, can be configured without reinstalling, and provides a menu interface to choose the OS. GRUB also supports advanced features like booting from network, USB, and graphical boot menus.

2. How to Recover Linux Password?
If you have access to the root user, you can recover the password using:

Boot into single-user mode by editing the boot options in GRUB.
Once booted, type passwd <username> to change the password for the user.
Reboot and log in with the new password.
Alternatively, boot from a live CD/USB, mount the root partition, and change the password using chroot and the passwd command.

3. Which Command is Used for Formatting a Partition in Linux OS?
The command used for formatting partitions in Linux is mkfs. For example, to format a partition as ext4:

--> code
```
mkfs.ext4 /dev/sdX1
```

4. How to Enable “Quota” in Linux?
Install quota if not already installed:

--> code
```
sudo apt-get install quota
```
Enable quotas by editing /etc/fstab and adding usrquota and/or grpquota options to the desired partition.
Run quotacheck to create the quota database:

--> code
```
sudo quotacheck -cug /mount-point
```
Enable quota with:

--> code
```
sudo quotaon /mount-point
```

5. How to Mount Partition in Linux?
Identify the partition using lsblk or fdisk -l.
Create a mount point (directory):
--> code
```
sudo mkdir /mnt/my_partition
```
Mount the partition:
--> code
```
sudo mount /dev/sdX1 /mnt/my_partition
```

To make it persistent, add an entry to /etc/fstab.

6. What is the Use of “mdadm” Command?
mdadm is used to manage Linux software RAID (Redundant Array of Independent Disks). It helps in creating, managing, and monitoring RAID arrays. Example:

--> code
```
sudo mdadm --create /dev/md0 --raid-level=1 --raid-disks=2 /dev/sd[ab]1
```

7. How to Configure Secure Apache Web Server in Linux?
Install Apache:
--> code

```
sudo apt-get install apache2
```

Ensure the firewall allows HTTP/HTTPS traffic:
--> code
```
sudo ufw allow 'Apache Full'
```

Disable unnecessary modules and configure SSL for secure connections.
Edit /etc/apache2/apache2.conf and set ServerTokens Prod and ServerSignature Off to prevent version exposure.
Install an SSL certificate and configure it by editing the virtual host file to support HTTPS.
Restart Apache:

--> code
```
sudo systemctl restart apache2
```

8. How to Run Windows Software on Linux Operating System?\

You can use Wine to run many Windows applications on Linux:
Install Wine:

--> code
```
sudo apt install wine
```
Run Windows software using:

--> code
```
wine setup.exe
```

9. What is the Difference Between Windows and Linux?
Windows is a proprietary operating system with a graphical user interface (GUI) primarily designed for ease of use. It has a closed-source code, and most software is designed for it.
Linux is an open-source, Unix-like operating system known for its flexibility, customization, and strong support for servers and development environments. Linux offers both command-line and graphical interfaces.

10. What is the Advantage of Open Source?

Open-source software is free to use, modify, and distribute. It fosters innovation, transparency, security (due to community involvement), and flexibility. Users can contribute to its development, ensuring better performance and long-term support.

11. Install and Configure Web Servers like Apache
To install Apache on Linux:

--> code
```
sudo apt-get install apache2
```
After installation, start the Apache server:

--> code
```
sudo systemctl start apache2
```
Configure by editing /etc/apache2/apache2.conf or specific virtual host files.

12. Host a Simple Website and Configure Virtual Hosts
Create a directory for your website files:

--> code
```
sudo mkdir /var/www/html/mywebsite
```
Create a virtual host configuration:

--> code
```
sudo nano /etc/apache2/sites-available/mywebsite.conf
```
Example:
apache
--> code
```
<VirtualHost *:80>
    DocumentRoot /var/www/html/mywebsite
    ServerName www.mywebsite.com
</VirtualHost>
```
Enable the site and restart Apache:
--> code
```
sudo a2ensite mywebsite.conf
sudo systemctl restart apache2
```

13. Install and Manage Databases Like MySQL/MariaDB
Install MariaDB:
--> code
```
sudo apt-get install mariadb-server
```
Secure the installation:

--> code
```
sudo mysql_secure_installation
```
To start and manage the database:
--> code
```
sudo systemctl start mariadb
sudo systemctl enable mariadb
sudo mysql -u root -p
```