1. **What is Linux?**

   Linux is an open source operating system (OS). An operating system is the software that directly manages a system's hardware and resources, like CPU, memory, and storage. The OS sits between applications and hardware and makes the connections between all of your software and the physical resources that do the work.

2. **What is the difference between Linux and Unix?**

   Linux

   Linux is an open source multi-tasking, multi-user operating system. It was initially developed by Linus Torvalds in 1991. Linux OS is widely used in desktops, mobiles, mainframes etc.

   Supportd File systems -- Ext2, Ext3, Ext4, Jfs, ReiserFS, Xfs, Btrfs, FAT, FAT32, NTFS.

   Usage -- Linux is used in wide varieties from desktop, servers, smartphones to mainframes.

   Example -- Ubuntu, Debian GNU, Arch Linux, etc.

   Unix

   Unix is multi-tasking, multi-user operating system but is not free to use and is not open source. It was developed in 1969 by Ken Thompson team at AT&T Bell Labs. It is widely used on servers, workstations etc.

   Supportd File systems -- fs, gpfs, hfs, hfs+, ufs, xfs, zfs.

   Usage -- Unix is mostly used on servers, workstations or PCs.

   Example -- SunOS, Solaris, SCO UNIX, AIX, HP/UX, ULTRIX etc.

3. **What is Linux Kernel? Is it legal to edit Linux Kernel?**

   The Kernel is the core part of the operating system.

   Yes it is legal to edit it, if you have sufficient technical ability.

4. **What is LILO?**

   LILO stands for Linux Loader that is used to load Linux into memory. It can boot operating systems from floppy disks, hard disks, and it does not depend on a specific file system. Lilo handles some tasks such as locate the kernel, identify other supporting programs, load memory and starts the kernel.

5. **What are the basic components of Linux?**

   The basic components of liux are: Os kernel,Bootloader,Background Services,OS Shell,Graphics server,Desktop Environment.

6. **Which are the Shells used in Linux?**

   The shells used in linux are: Bash shell, Tcsh/Csh Shell,Ksh shell,Zsh shell,Fish

7. **What is Swap Space?**

   Swap space in Linux is used when the amount of physical memory (RAM) is full. If the system needs more memory resources and the RAM is full, inactive pages in memory are moved to the swap space.

8. **What is the difference between BASH and DOS?**

   The major difference between the BASH and DOS console lies in these 3 areas:

   1. BASH commands are case sensitive while DOS commands are not.
   2. In BASH, / character is a directory separator and \ acts as an escape character while in DOS, / serves as a command argument delimiter and \ is the directory separator
   3. DOS follows a convention in naming files, which is 8 character file name followed by a dot and 3 character for the extension. BASH follows no such convention.

9. **What command would you use to check how much memory is being used by Linux?**
   Free command can be used.

10.Explain file permission in Linux.

Read (r) : The read permission allows you to open and read the content of a file. But you can't do any editing or modification in the file.

Write (w) : The write permission allows you to edit, remove or rename a file. For instance, if a file is present in a directory, and write permission is set on the file but not on the directory, then you can edit the content of the file but can't remove, or rename it.

Execute (x): In Unix type system, you can't run or execute a program unless execute permission is set.But in Windows, there is no such permission available.