Introduction of Linux and types of operating systems

* Meaning of Linux:
* Linux is a free and open-source operating system.
* It was developed by Linus Torvalds in 1991.
* Linux is considered one of the most stable, secure and reliable operating system widely used in servers and supercomputers.
* Linux is a type of operating system that is similar to Unix it is build upon the Linux kernel.
* It is a multi-user based operating system.it means multiple users can access this operating system at a time.
* High security compares with other operating systems
* It is a distributed operating system and community-based operating system.
* It is a user friendly.
* It provides high stability it rarely slows down and high flexibility.
* Linux is compatible with large number of files.
* It performs all the tasks properly through it is having less space on its hard disk.
* Scalable.
* Kernel is the brain of the operating system because it is going to manages a hardware resource and provides essential services for all other parts of the operating system.
* Some distributions of Linux such as ubuntu, fedora, Debian, CentOS, Suse.
* Meaning of windows:
* Developed by Microsoft company in the year 1985.
* Having graphical user interface
* Commercially used operating system.
* Single user-based operating system only one person can access.
* Less security features compared with other operating system.
* Limited to personal usage.
* It is known for its user friendly interface and extensive compatibility with a variety of software applications.
* Windows allows users to run multiple applications simultaneously, enhancing productivity.
* Types of operating systems:
* It is an interface between user and the computer.

1. Windows-developed by Microsoft-it is user friendly operating system.
2. Android operating system-developed by google-used for mobile applications
3. Linux-developed by single person name is Linus tarvolds-used for IT industrial secure.
4. Unix-developed by AT and T’s Bell Labs, it is similar to Linux.
5. Mac OS-developed by apple-it is used for mobile applications/tabs.
6. IOS-developed by apple-it's completely used for limited mobile applications.

* Difference between windows and Linux?

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| Windows | Linux |
| Not open-source operating system it is paid. | It is free and Open-source operating system. |
| Windows is costlier | Linux is free of cost. |
| Case insensitive | Case sensitive. |
| Less efficient than Linux | More efficient than windows operating system. |
| Less secured | More secured compared with other operating system. |
| Single user-based operating system. Only single person can access at a time. | Multi user based operating system. Multiple persons can access at a time. |
| Less user-friendly operating system. | More user-friendly operating system. |

* Difference between android os, macOS, Unix, and iOS?

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| Feature | Android OS | Mac OS | Unix | iOS |
| Type | Mobile operating system | Desktop operating system | Multi user operating system | Mobile operating system |
| Developer | Google | Apple | Developed by AT and T’S labs | Apple |
| Kernel Type | Linux based | Hybrid kernel  [XNU] | Monolithic or Microkernel | Hybrid kernel  [XNU] |
| User interface | Touch based with app centric design | Graphical user interface | Command line interface | Touch based with app centric design |
| File system | ext4, F2fs. | Various UFS, ext4. | APFS(Ap file system) | APFS(Apple file system |
| App distribution | Google | Typically, manual installation | Mac app store, direct downloads | App store |
| customization | Highly customizable | Highly customizable | Limited customization | Limited customization |