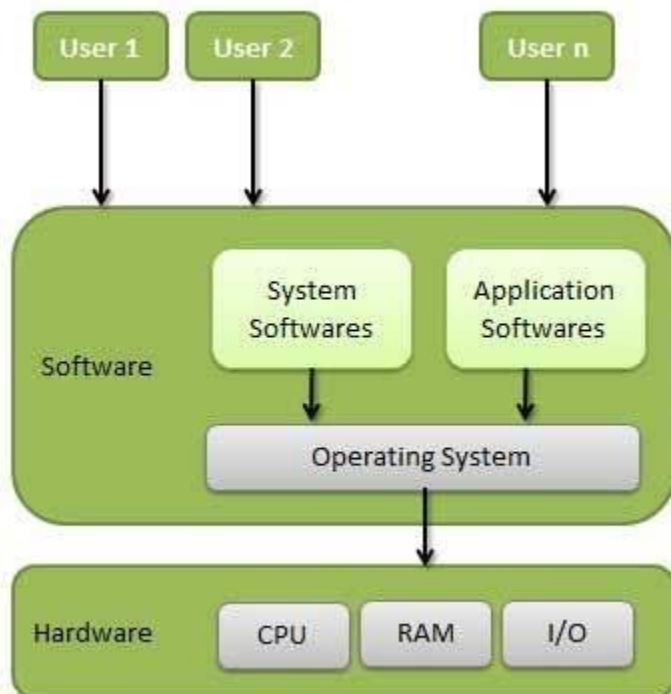## Operating System

An Operating System (OS) is an interface between a computer user and computer hardware. An operating system is a software which performs all the basic tasks like file management, memory management, process management, handling input and output, and controlling peripheral devices such as disk drives and printers.
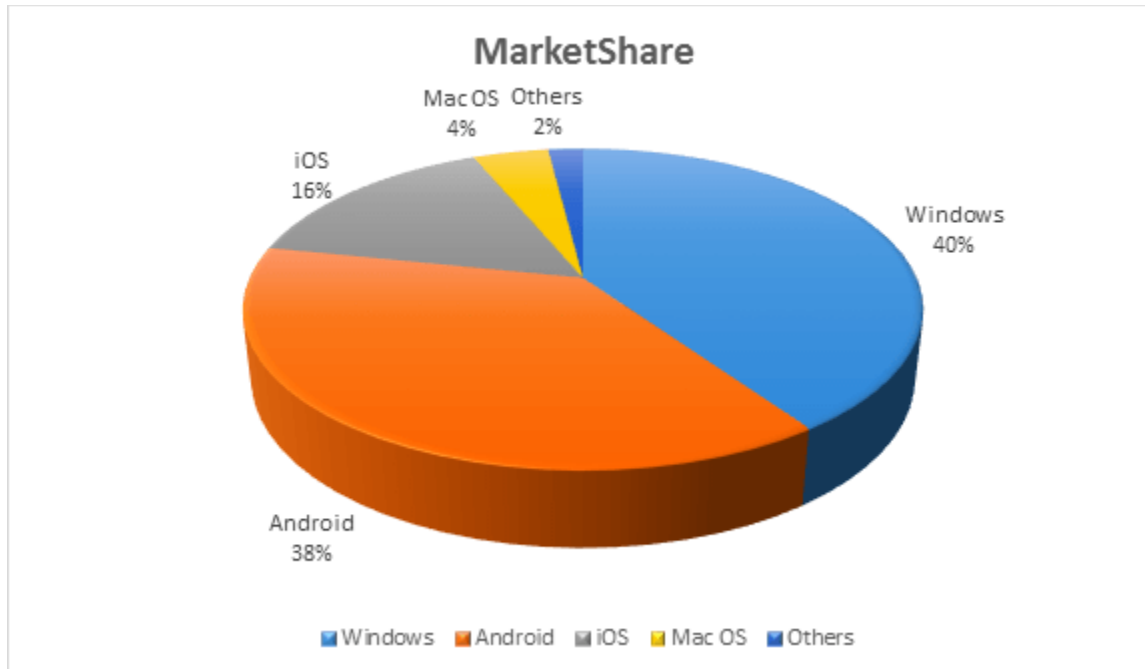
Some popular Operating Systems include Linux Operating System, Windows Operating System, VMS, OS/400, AIX, z/OS, etc.

Definition

An operating system is a program that acts as an interface between the user and the computer hardware and controls the execution of all kinds of programs.

Examples of Operating System with Market Share

Market Share of Operating Systems

Following are the examples of Operating System with the latest Market Share

OS Name	Share
Windows	40.34
Android	37.95
iOS	15.44
Mac OS	4.34
Linux	0.95

Chrome OS	0.14
Windows Phone OS	0.06

Goals of the Operating System

There are two types of goals of an Operating System i.e. Primary Goals and Secondary Goal.

- **Primary Goal:** The primary goal of an Operating System is to provide a user-friendly and **convenient environment**.

- We know that it is not compulsory to use the Operating System, but things become harder when the user has to perform all the process scheduling and converting the user code into machine code is also very difficult.

- So, we make the use of an Operating System to act as an intermediate between us and the hardware. All you need to do is give commands to the Operating System and the Operating System will do the rest for you. So, the Operating System should be convenient to use.

- **Secondary Goal:** The secondary goal of an Operating System is **efficiency.**

- The Operating System should perform all the management of resources in such a way that the resources are fully utilised and no resource should be held idle if some request to that resource is there at that instant of time.

So, in order to achieve the above primary and secondary goals, the Operating System performs a number of functions.

Need of Operating System:

- **OS as a platform for Application programs:** Operating system provides a platform, on top of which, other programs, called application programs can run. These application programs help the users to perform a specific task easily. It acts as an interface between the computer and the user. It is designed in such a manner that it operates, controls and executes various applications on the computer.
- **Managing Input-Output unit:** Operating System also allows the computer to manage its own resources such as memory, monitor, keyboard, printer etc. Management of these resources is required for an effective utilization. The operating system controls the various system input-output resources and allocates them to the users or programs as per their requirement.
- **Consistent user interface:** Operating System provides the user an easy-to-work user interface, so the user doesn't have to learn a different UI every time and can focus on the content and be productive as quickly as possible. Operating System provides templates, UI components to make the working of a computer, really easy for the user.
- **Multitasking:** Operating System manages memory and allow multiple programs to run in their own space and even communicate with each other through shared memory. Multitasking gives users a good experience as they can perform several tasks on a computer at a time.