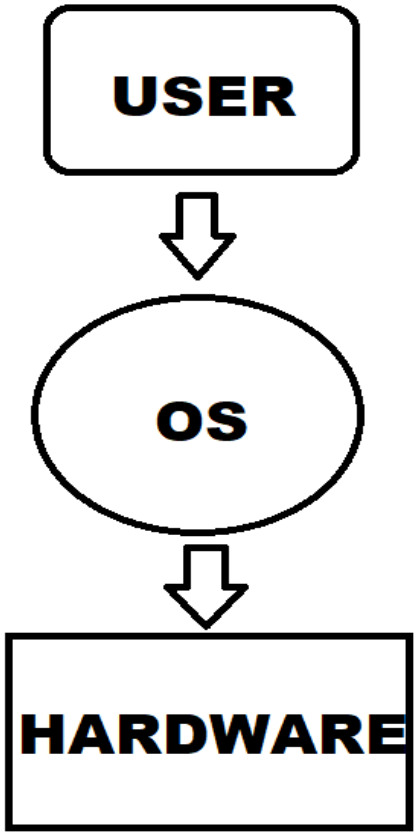
INTRODUCTION

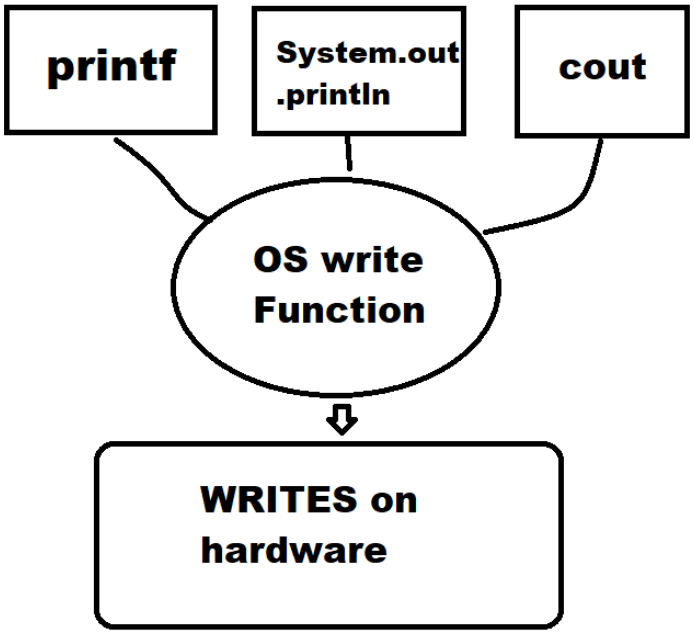
What is an OS?

It provides an interface between user and hardware

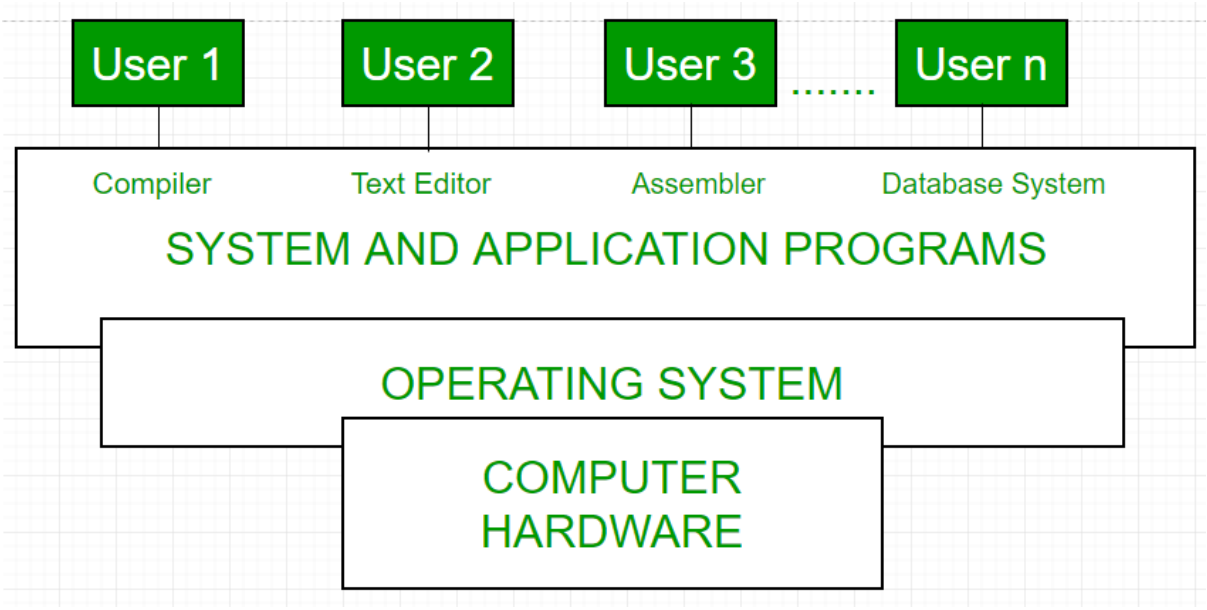
It provides an environment in which a user can execute programs **conveniently** and **efficiently**.



Convenient



- An operating system is a program that controls the execution of application programs and acts as an interface between the user of a computer and the computer hardware.
- The operating system is the one program running at all times on the computer (usually called the kernel), with all else being application programs.
- An operating system is concerned with the allocation of resources and services, such as memory, processors, devices, and information. The operating system correspondingly includes programs to manage these resources, such as a traffic controller, a scheduler, a memory management module, I/O programs, and a file system.



Functions Of OS

a) Process management

b) Thread Management

c) Memory Management

d) Virtual memory management

e) Device management

f) File management

g) Security

h) Error detecting aids

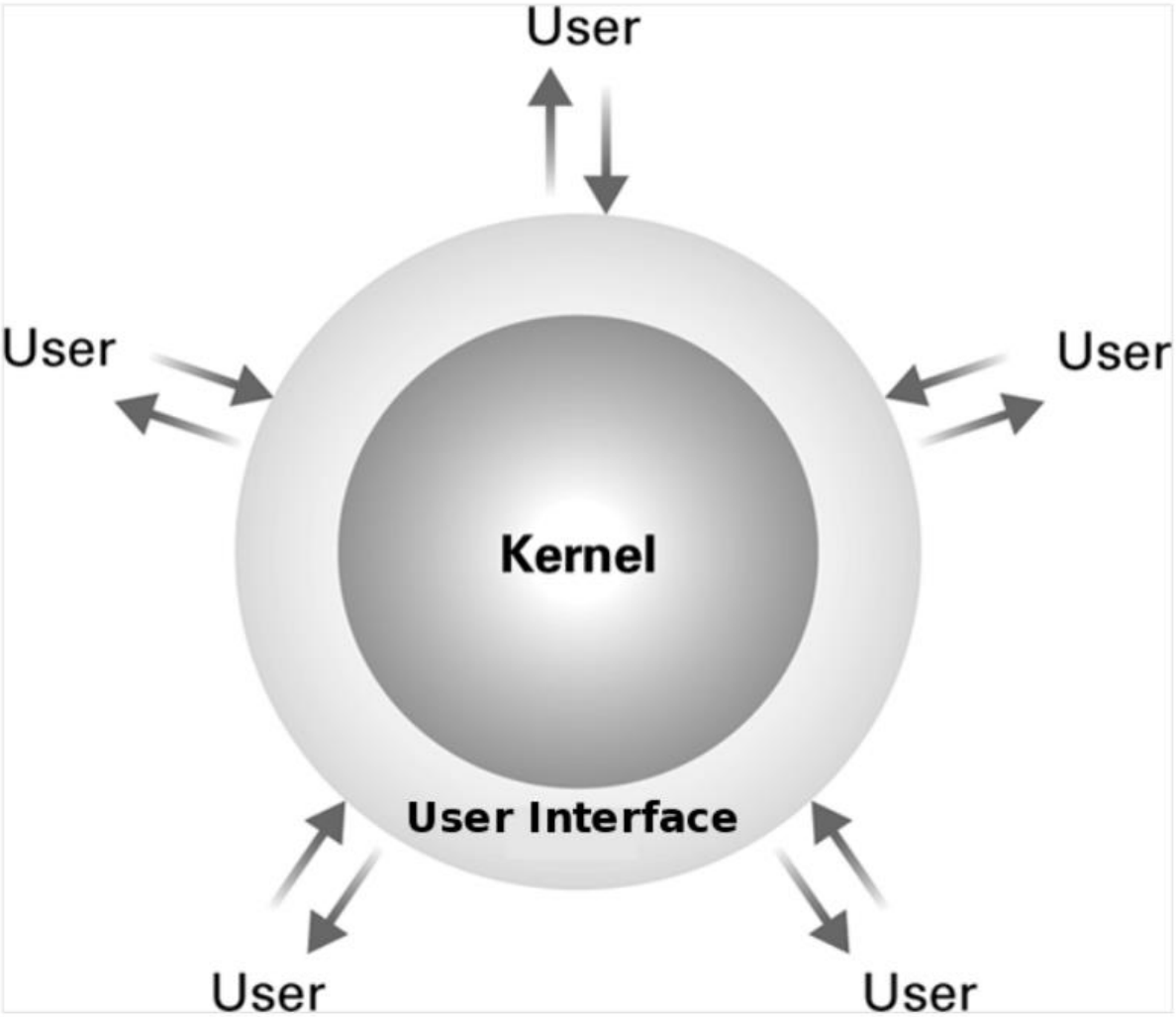
etc...

Types of Operating System

- Batch Operating System- Sequence of jobs in a program on a computer without manual interventions.
- Time-sharing operating System- allows many users to share the computer resources. (Max utilization of the resources).

- Distributed operating System- Manages a group of different computers and makes appear to be a single computer.
- Network operating system- computers running in different operating systems can participate in a common network (It is used for security purposes).
- Real-time operating system – meant applications to fix the deadlines.

Kernel



1.It's the core component of an OS.

2.Manages operations of applications and hardware by system calls.

3.All important functionalities of OS takes places here.

4.Kernel loads first into memory when an OS is loaded and remains into memory, until OS is shut down again.

Types of kernels

1) Monolithic
2) Micro
3) Hybrid
4) Exo
5) Nano