

# Operating System

By

Asist.lect.Alyaa Abdual kadhum

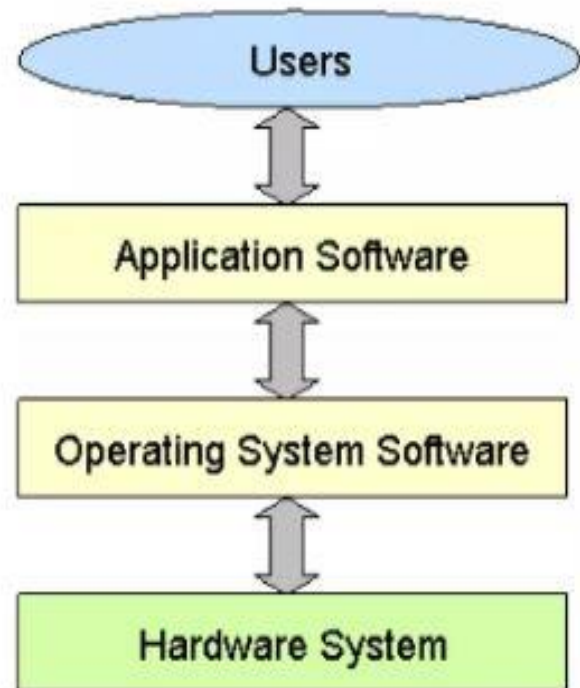
# What is operating system?

Definition:

- An **operating system (OS)** is a collection of software that manages computer hardware resources .

Without a computer operating system, a computer would be useless

**“The operating system acts as a Interface Between the user and computer hardware”**



# Operations Of OS

**Start and shut down a computer**

**Provide a user Interface**

**Manage Programs**

**Coordinate Tasks**

**Configure Devices**

**Manage Memory**

**Establish An Internet Connection**

**Control a network**

**Provide Utilities**

# Structure Of operating system

## User Interface

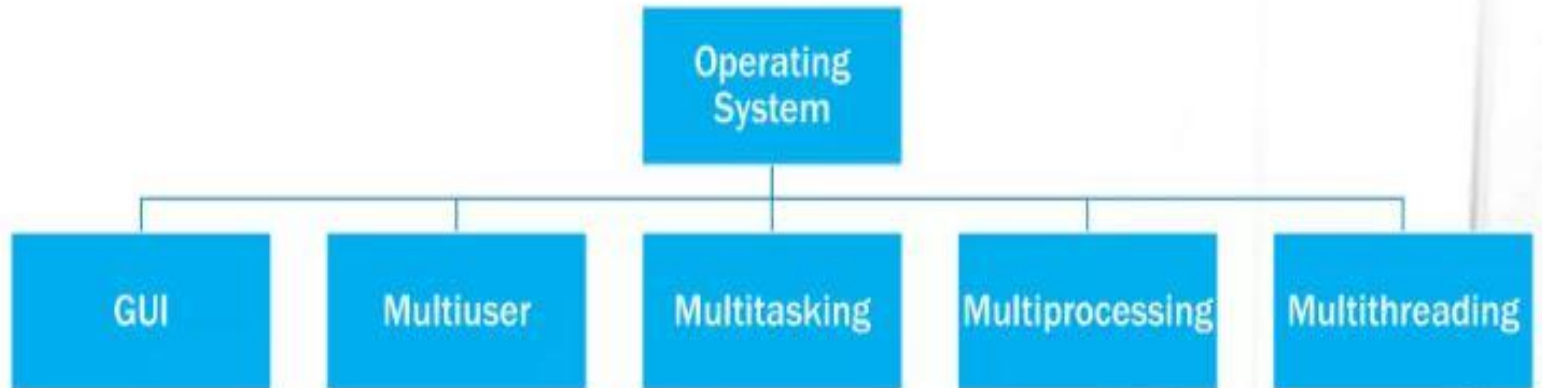
- User interact with operating system



## Kernel

- Core of operating system, responsible for loading operating system

# Features Of Operating System



# Features Of Operating System

- **GUI**

- **GUI - Short for Graphical User Interface**, a GUI Operating System contains graphics and icons and is commonly navigated by using a computer mouse.



Multiprocessing

- **Multi-user**

- **Multi-user** - A multi-user operating system allows for multiple users to use the same computer at the same time and/or different times example (LINUX)



## • Multi Tasking

- An operating system that is capable of allowing multiple software processes to run at the same time.

Below are some examples of multitasking operating systems.

- Unix
- Windows XP
- Windows Vista



## • Multi Processing

- An operating system capable of supporting and utilizing more than one computer processor.

More than one CPUs that can be shared

Below are some examples of multiprocessing operating systems.

For Example

- Linux
- Unix
- Windows 2000

## • **Multi Threading**

- Smaller parts of a program are loaded when needed by OS
- Operating systems that allow different parts of a software program to run concurrently

Operating systems that would fall into this category are:

For example

- Linux
- Unix
- Windows 2000

## Types of operating system

- Stand Alone operating system.
- Server operating system.
- Embedded operating system.

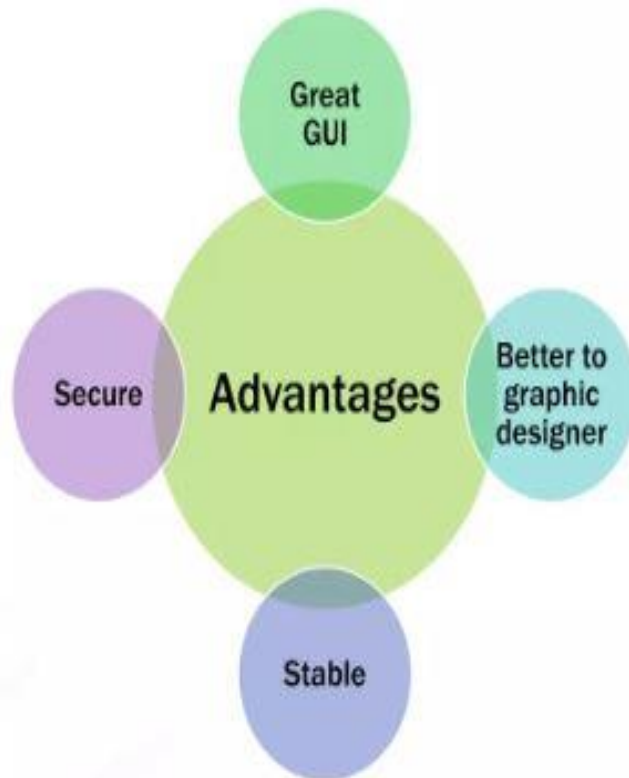
## Stand Alone operating system/Desktop operating system



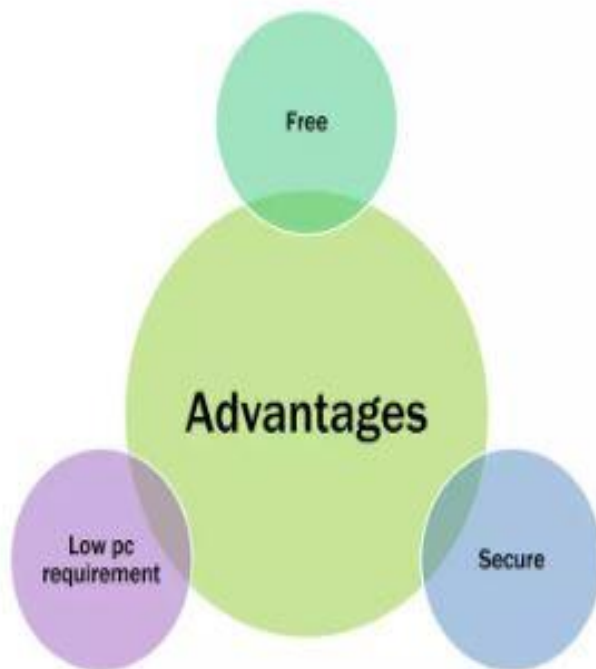
# Advantages & Disadvantages of Windows



# Advantages & Disadvantages Of MAC OS



# Advantages & Disadvantages of LINUX



# Server Operating system

Server operating systems are designed to provide platforms for multi-users , for critical, network applications.

Their main purpose is to provide security, stability and collaboration. Most of them come with a pack of dedicated software tools such as Web servers, e-mail agents and terminal services The common applications for server OSES are:

- File and printer sharing
- Application services (including databases)
- Web site services
- E-mail, groupware and messaging
- Terminal services
- Caching



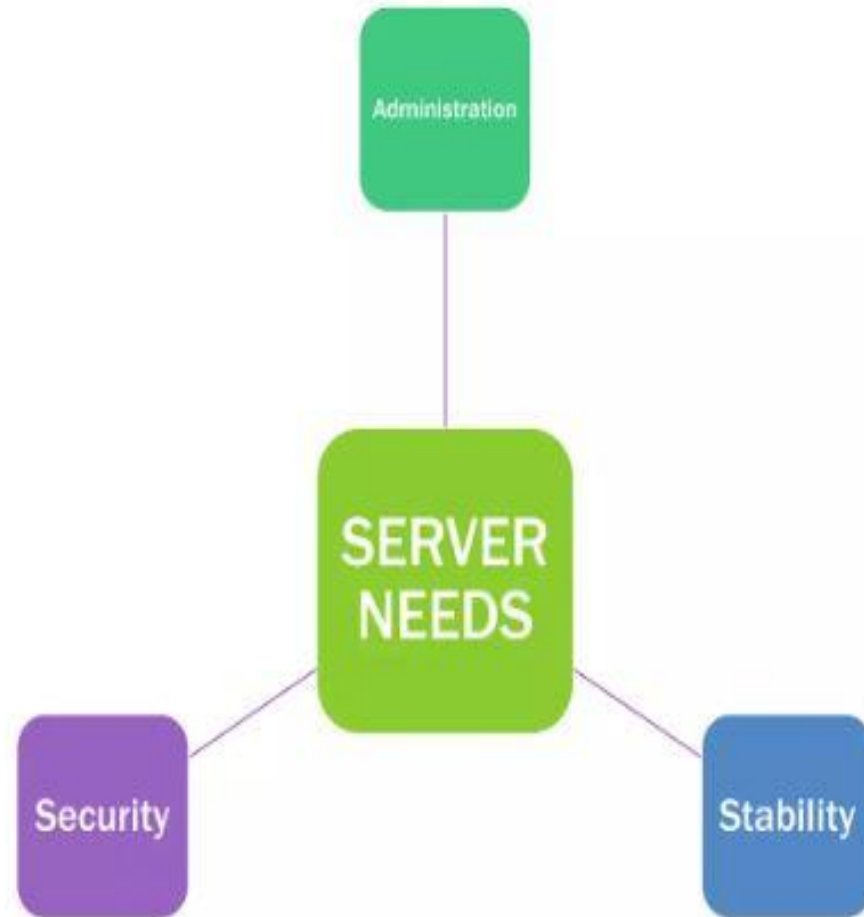
# terminal server

- A "terminal server" typically refers to a server that provides **remote access** to text-based terminals or terminal emulators. These servers allow **multiple users** to log in and interact with the system simultaneously, typically via a **network connection**. Terminal servers are commonly used in environments where centralized management and **access to command-line** interfaces are preferred.
- In various operating systems (OS), including Linux, Windows, and UNIX-like systems, terminal server functionality can be achieved through different means:

# terminal server

- **Linux/UNIX-like Systems:** On Linux and UNIX-like systems, such as macOS, terminal server functionality is often provided by software packages like **OpenSSH or Telnetd**. These packages allow remote users to connect to the server via the Secure Shell (SSH) or Telnet protocols, respectively, and access a command-line interface.
- **Windows Server:** In the Windows ecosystem, terminal server functionality is typically provided by the **Remote Desktop Services (RDS)** role in Windows Server operating systems. RDS allows multiple remote users to connect to the server and access their individual desktop environments or applications. Remote Desktop Protocol (RDP) is the primary protocol used for remote desktop access in Windows environments.

# Server Needs



# Mobile Operating system

Are there other types?





## BEST OPERATING SYSTEMS OF 2013

- UBUNTU 12.10
- WINDOWS 8
- MACINTOSH
- WINDOWS 7
- LINUX MINT

What is best OS systems of 2023?

# UBUNTU 12.10

## PROS:

- Elegant Graphics
- Virus free
- Faster Access
- Better Stability
- Free ubuntu cloud storage.

## CONS:

- It doesn't include audio,video codecs.





# MACINTOSH

## PROS:

- Fabulous Graphics.
- Better Stability.
- Great Effects.
- Awesome Interface.

## CONS:

- Virus Prone.
- Size is almost 3 GB.





# WINDOWS 7

## PROS:

- Nice Animation.
- Better Stability.
- Less Vulnerable.
- Great Aero Effects.

## CONS:

- Crashes Several Times.
- Virus Prone.
- Large size almost 3-4 GB.



# LINUX MINT

## PROS:

- Virus Free
- Faster
- Audio and Video pre included.

## CONS:

- Low Graphical User Interface

