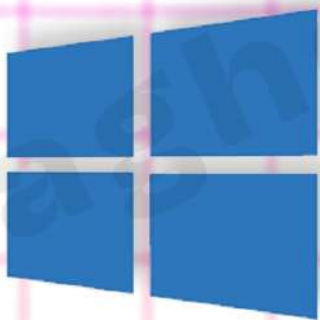




**Baghel  
Institute**

# INTRODUCTION TO OPERATING SYSTEM



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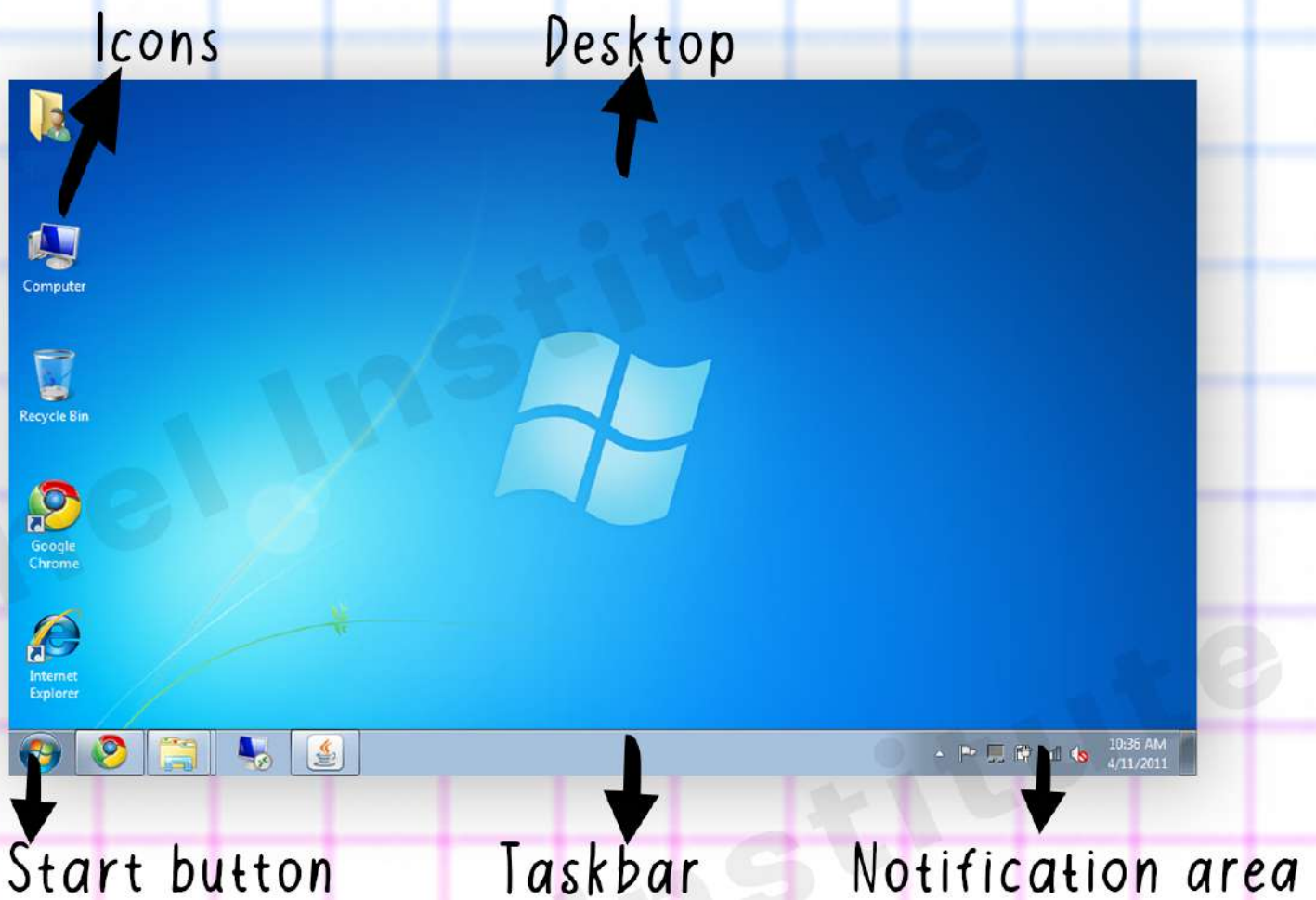
## ICON

Icon is a small graphical representation of a program or file. When we double-click an icon, the associated file or program will be opened. For example, if we were to double-click on the My it would open Windows Explorer.

## DESKTOP

A desktop can be contained in a window that is part of the total display area or can be full screen, taking up the total display area. Users can have multiple desktops for different projects or work environments they have and can switch between them.





## Pointer

In an operating system with a graphical user interface (GUI), the cursor is also a visible and moving pointer that the user controls with a mouse, touch pad, or similar input device.

## Start Button

The Start button is a small button that displays the Windows logo and is always displayed at the left end of the Taskbar in Windows.

## Taskbar

The taskbar is the access point for programs displayed on the desktop. With the new Windows 7 taskbar features, users can give commands, access resources, and view program status directly from the taskbar. The taskbar is the access point for programs displayed on the desktop, even if the program is minimized.

## Notification Area

The notification area is a part of the taskbar that provides a temporary source for notification and status. It can also be used to display icons for system and program features that are not on the desktop. The notification area was known historically as the system tray or status area.

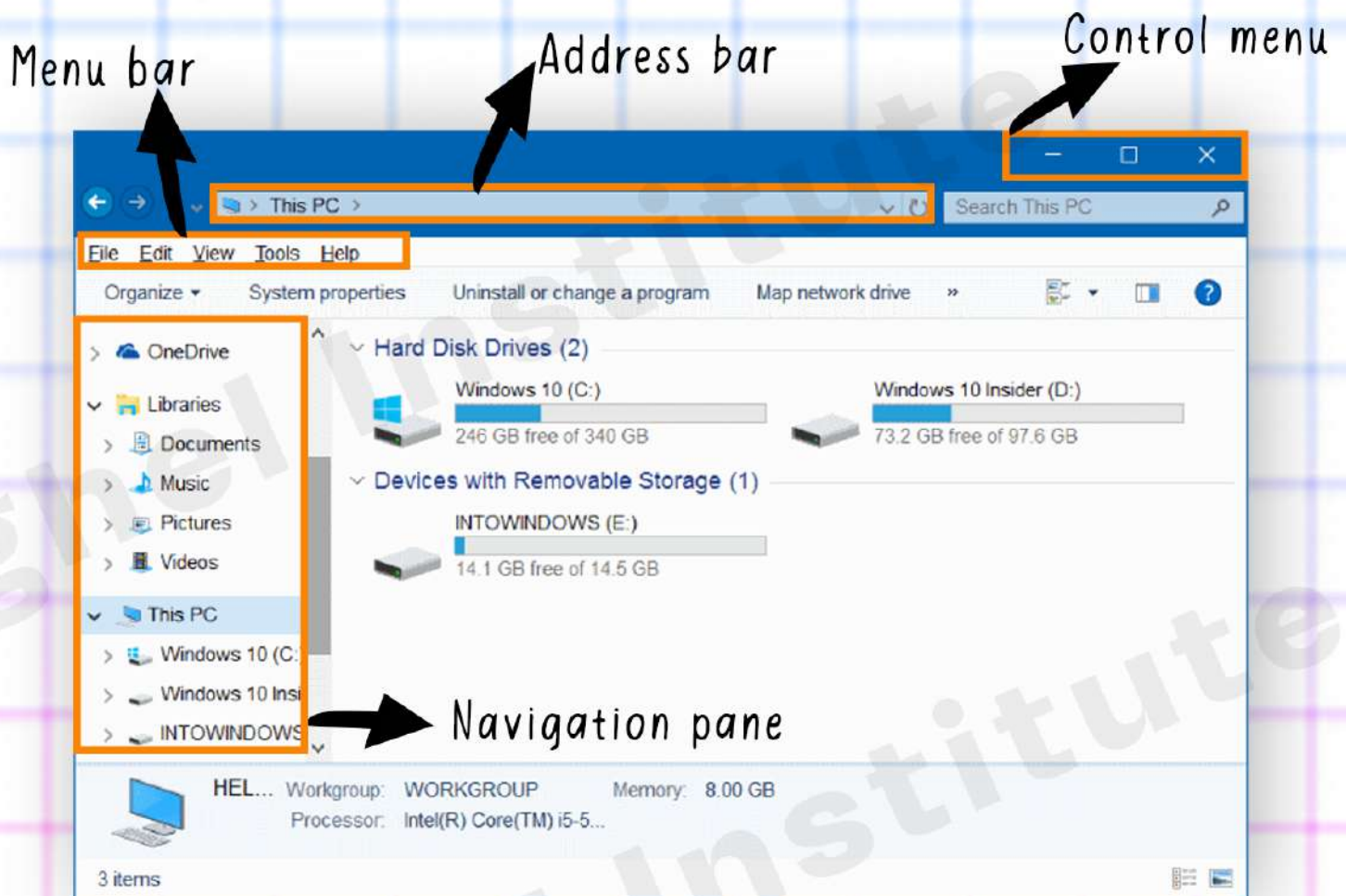


## Address Bar

Address Bar is where you find the name of the active window.

## Control Menu

It is used to control the window explorer, it consist of three buttons which each have their differences. Explaining their features from the left hand side of those buttons in the control menu. The minimize button can be used to restore the window to the task bar, and can be called up again by clicking on the windows button on the task bar. The maximize button can be used to enlarge the window explorer such that it occupies the whole screen. The close button can be used to exit the window.



## Menu Bar

It contains a list of commands each with sub-commands, which is available on every open window.

## Navigation Pane

It displays folders in different locations and those folders can be accessed (opened) with a click.



# Operating System



- Operating System is a set of system software programs in a computer..
- An operating system is the most important software that runs on a computer.
- It manages the computer hardware, software resources and processes; it provides common services for computer programs.
- Every computer must have at least one OS to run other programs. Without an operating system, a computer is useless.
- An Operating system (OS) is software which acts as an interface between user and computer hardware.
- Operating system is the soul of the computer system .

# Functions of Operating system

## Process Management

A process is a program execution. Process management involves various tasks like creation, scheduling, termination of processes, and a dead lock.

## Memory Management

In multi programming the OS decides the order in which processes are granted access to memory, and for how long.

## File Management

A file system is organized into directories for efficient or easy navigation and usage. These directories may contain other directories and other files. It keeps track of where information is stored, use access settings and status of every file.



## Security

The operating system uses password protection to protect user data and similar other techniques. It also prevents unauthorized access to programs and user data.

## Error Detecting Aids

Operating system constantly monitors the system to detect errors and avoid the malfunctioning of computer system.

## Device Management

It constantly monitors the system in which it decides for how long a device should be active.

# Classification of Operating Systems

Operating systems can be classified as follows:

## Single-User:

Just allows one user to use the programs at one time.



## Single-tasking:

Allows different parts of a single program running at any one time.



## Multi-user:

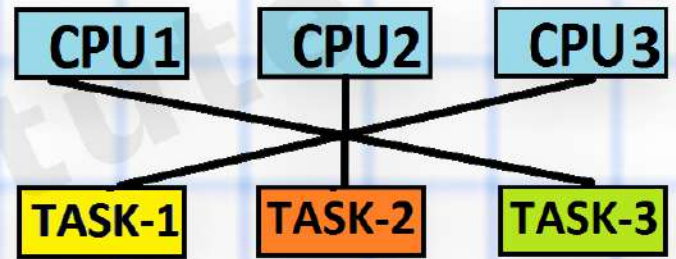
Is the one that concede two or more users to use their programs at the same time.





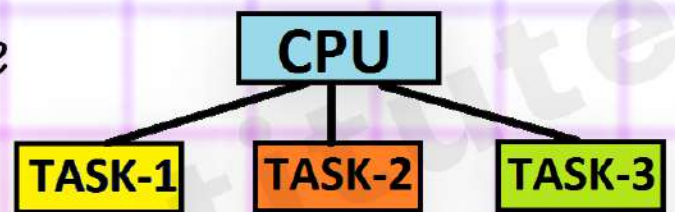
## Multiprocessor

Supports opening the same program more than just in one CPU.



## Multiprogramming

It can be run at a same time through a time sharing mechanism.



## Multitasking

Allows multiple programs running at the same time.



## Real time

Responds to input instantly. Operating systems such as DOS and UNIX, do not work in real time



## Batch processing :

Similar types of tasks are grouped under one batch and then these are executed.



## DOS (Disk Operating System)

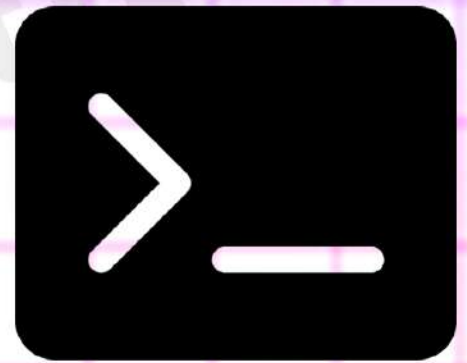
It is a hard disk-based operating system.

The term can also refer to a specific family of disk operating systems,

Most notably MS-DOS (Microsoft Disk Operating System). Disk operating system is also used to describe several very similar command line disc operating systems.

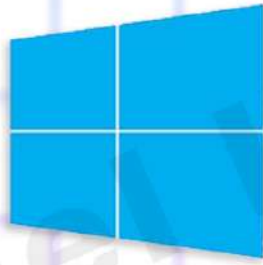
It is single user and single tasking.

It was developed for IBM by Microsoft Corporation, which also produced its own almost identical version called MS-DOS.





# Windows Operating System



# Windows®

This is the most popular operating system of a graphical user interface.

It is also a multi-tasking network-supported operating system

There are many versions of Windows that have separate operating systems for both server and stand alone.

This supports TCP/IP protocol.

It perform memory management with files, folder/directory management as well.

# Linux

Linux is a 'Linux Kernel' based operating system behaving similarly to the UNIX system.



It was developed by Linus Torvalds and released on 17th September 1991.

Some Linux Operating systems are Ubuntu, Debian, GNOME, and Android, etc. The logo of the Linux consists of a penguin 'Tux', the goodwill of the brand. Unlike other OS, Linux is completely free and comes with Open Source License. The languages used in writing the Linux OS are Assembler and C. Linux OS has an inbuilt security feature so the user doesn't need to install any antivirus. Among the Linux based desktop operating systems, Ubuntu is the most popular one. Linux is running about 97% of the world's top one million servers.

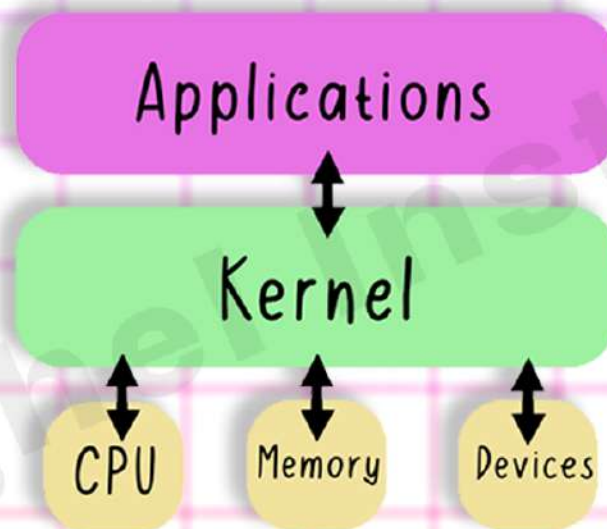


# Structure of LINUX Operating System

## Kernel

It is a core part of operating system.

It determines communication between software and hardware.



The Kernel is the primary part of the operating system. When you boot your computer, it is the first part of the OS loaded into the RAM for your system to start working.

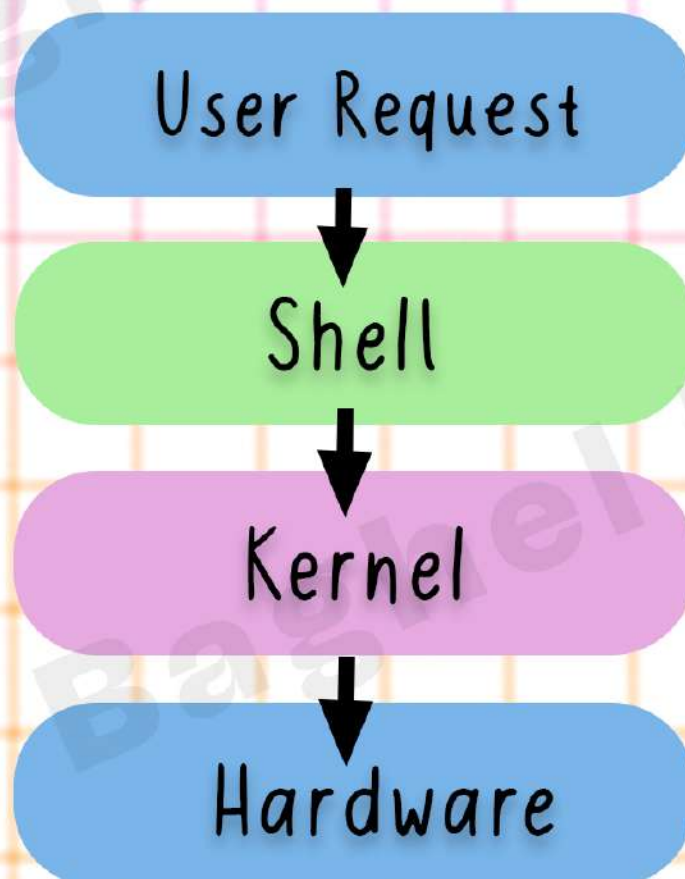
## Shell

It directly interact with the user and accept request from the user and send to kernel.

It is a program which interrupt commands given by a user.

The command can either be typed through command line.

It takes commands from the user and executes the kernel's function.





## System libraries

- It is a special program that helps in accessing the kernel features.
- System libraries are special functions programs using which app programs or system utilities access kernel's features.

## System tools

- It has a set of utility tools which are usually simple commands.
- With the help of command we can access file, edit and manipulate data..

## Development tool

To update your system you have additional tools and libraries. These additional tool and libraries are written by the programmers and are called tools chain.

## End User Tool

This make a system unique for user.It is a requirement of user not of OS.

Ex:- browser , office suits, media player.

## Features of Linux

- Open Source
- Multi user
- Multi Tasking
- Portability
- Security

(a) Authentication Assign Id And Password

(b) Authorisation Permission To Read And Write

(c) Encryption Convert File Into Unreadable Product

- File System
- Graphical User Interface



## Advantages Of Linux

- Low Cost
- Stability
- High Performance
- Flexible
- Network Friendly
- Compatibility
- Fast And Easy To Install
- Free
- Security

## Disadvantages Of Linux

- It has more than 300 version.
- There is no big distribution of Linux
- some hardware and software are not compatible with particular version of Linux.

# Difference between windows and Linux

Point of Differences	Linux	Windows
Cost incurred	Free	Not free
Open source	Yes	No
Efficient	More	Less
Secure	More	Less
Inception year	1991	1985
Developed by	Linus Torvalds	Microsoft (Bill gates)
Customization	Yes	No
Administrative privilege	Access by only root	Access by all



# Shortcut keys

keys

Description

Ctrl + A

Select All

Ctrl + B

Bold

Ctrl + C

Copy

Ctrl + D

Duplicate

Ctrl + E

Align To Center

Ctrl + F

Find The Text

Ctrl + G

Go To Or Group

Ctrl + H

Replace

Ctrl + I

Italic

Ctrl + J

Justify

# Shortcut keys

keys	Description
Ctrl + K	Hyperlink
Ctrl + L	Align To Left
Ctrl + M	Paragraph Indent
Ctrl + N	Open New Page
Ctrl + O	Open File/Url's
Ctrl + P	Print Document
Ctrl + Q	Clear Indent
Ctrl + R	Align To Right
Ctrl + S	Save
Ctrl + T	Hanging Indent



# Shortcut keys

keys

Description

Ctrl + U

Underline

Ctrl + V

Paste

Ctrl + W

Class Document

Ctrl + X

Cut

Ctrl + Y

Redo

Ctrl + Z

Undo

## Useful Window-key Shortcut Keys

### Windows-Keys

### Description

WIN + I	Open Setting App
WIN + E	Open File Explore
WIN + A	Open Action Center
WIN + D	Display And Hide Desktop
WIN + L	Lock Device
WIN + V	Open Clipboard Bin
WIN + ESC	Open Start Menu
WIN + X	Open Quick Link Menu
WIN + M	Minimize All Windows
WIN + ALT+D	Open Date And Time In The Taskbar



# Useful Window-key Shortcut Keys

## Windows-Keys

## Description

WIN + TAB

Open Task View

WIN + CTRL+D

Create New Virtual Desktop

WIN + P

Open Project Settings

WIN + C

Launch cortana app

WIN + F

Launch feedback hub app

WIN + R

Open run command

WIN + K

Open connect settings

WIN + H

Open dictation features

WIN + PrtScn

Capture full screenshot

WIN + SHIFT + S

Open snip tool

WIN + S

Open search

WIN + U

Open utility manager

## General shortcut keys

### General-Keys

### Description

Alt + Tab

Switch between open apps

Alt + F4

Close the active item, or exit the active app

Alt + Esc

Cycle through items in the order in which they were opened

Alt + underlined letter

Perform the command for that letter

Alt + Enter

Display properties for the selected item

Esc

Stop or leave the current task

Arrow keys

Move the cursor in the direction specified



## General shortcut keys

### General-Keys

### Description

Page up

Move the cursor by one page up

Page down

Move the cursor by one page down

End

Display the bottom of the active window

Home

Display the top of the active window

F2

Rename the selected item

F3

Search for a file or folder in File Explorer

## General shortcut keys

### General-Keys

### Description

F4

Display the address bar list in File Explorer

F5

Refresh the active window

F6

Cycle through screen elements in a window or on the desktop

F10

Activate the Menu bar in the active app

F11

Maximize or minimize the active window