

Operating System and Graphical User Interface (GUI)

1. Introduction to Operating Systems

- **Definition:** An Operating System (OS) is a software that manages computer hardware and software resources and provides services for computer programs. It serves as a bridge between the user and the hardware, ensuring applications run smoothly and securely.
- **Key functions of an Operating System include:**
 - a) Managing hardware resources (CPU, memory, storage, input/output devices).
 - b) Running and controlling applications.
 - c) Providing a user interface (GUI or command-line).
 - d) Handling files and directories.
 - e) Ensuring system security and stability.

2. Basics of Common Operating Systems

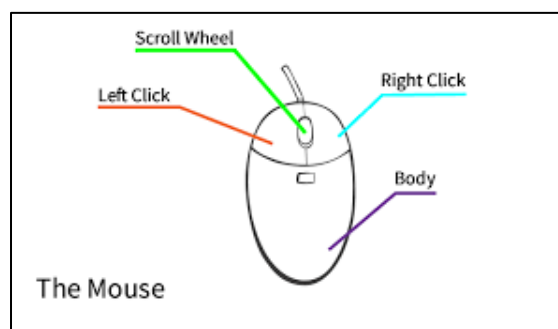
- **Examples:**
 - ★ **Windows:** Widely used for personal computers, user-friendly GUI.
 - ★ **macOS:** Developed by Apple, optimized for creativity and design tasks.
 - ★ **Linux:** Open-source, powerful for servers and advanced users.
 - ★ **Android/iOS:** Mobile operating systems.

3. The User Interface (UI)

- **A User Interface (UI)** is the point of human-machine communication, encompassing all the visual and interactive elements that allow a person to control a device or software and receive feedback.
- **Graphical User Interface (GUI):** The most common type, which uses visual elements like icons, windows, and menus to allow interaction via a mouse, keyboard, or touch screen.

4. Using Mouse Techniques

- **Single Click:** Select an item.
- **Double Click:** Open a file or folder.
- **Right Click:** Open context menu.
- **Drag and Drop:** Move or copy items.
- **Scroll:** Navigate through long documents or pages.



5. Use of Common Icons

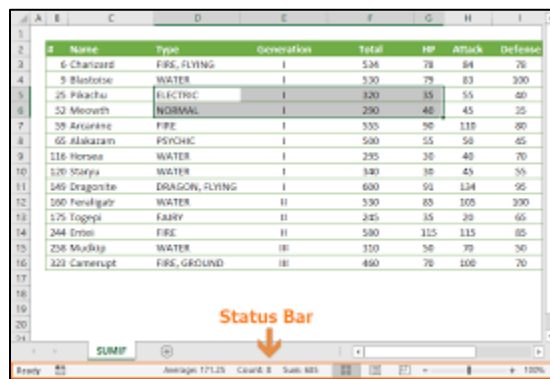
- **Desktop Icons:** Represent files, folders, and applications.
 - Example: Recycle Bin, My Computer, Network, Shortcuts.

- **System Tray Icons:** Indicate system status (e.g., Wi-Fi, volume, battery).



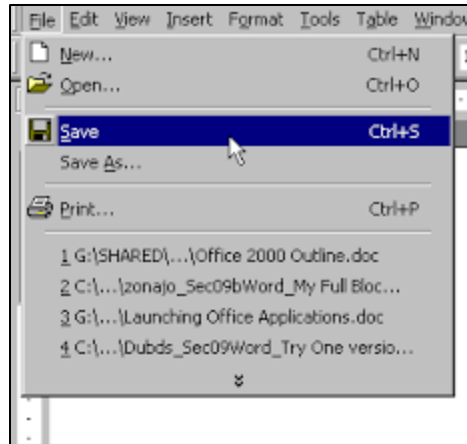
6. Status Bar

- Located at the bottom of application windows.
- Shows information such as page number, zoom level, or progress of tasks.



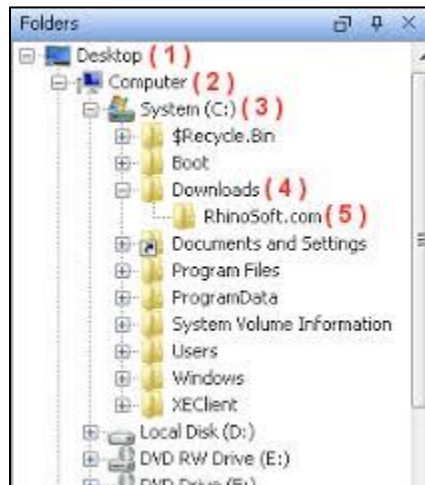
7. Using Menu and Menu-selection

- **Menu Bar:** Contains commands grouped under headings like File, Edit, and View.
- **Drop-down Menus:** Appear when clicked, offering options.
- **Context Menus:** Appear with right-click for quick actions.



8. Concept of Folders and Directories

- **Folder:** A container for files that can contain subfolders.
- **Directory:** Technical terms for a folder in file systems. Helps in organizing files systematically.



9. Opening and Closing Different Windows

- **Open Window:** Double-click the Icon or use the Start Menu.
- **Close Window:** Click the [X] button on the top right.
- **Resize / Minimize / Maximize:** Manage window size.

10. Creating Shortcuts

- Shortcuts are links to files, folders, or applications.
- **Steps:** Right-click → Create Shortcut → Place on Desktop.
- Saves time and improves productivity.

