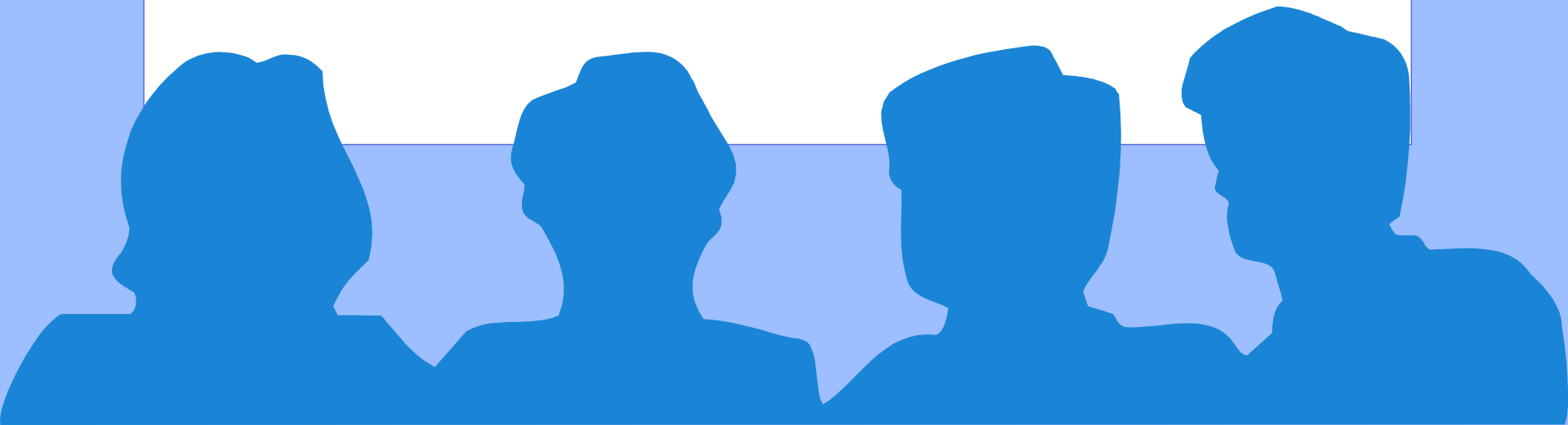# LESSON 11

Operating System Basics

This lesson includes the following sections:

- **The User Interface**

- **Running Programs**

- **Managing Files**

- **Managing Hardware**

- **Utility Software**

The User Interface

- **Graphical User Interfaces (GUIs)**

- **GUI Tools**

- **Applications and the Interface**

- **Menus**

- **Dialog Boxes**

- **Command-Line Interfaces**

The User Interface
- Graphical User Interfaces (GUIs)

- **Most modern operating systems, like Windows and the Macintosh OS, provide a graphical user interface (GUI).**

- **A GUI lets you control the system by using a mouse to click graphical objects on screen.**

- **A GUI is based on the desktop metaphor. Graphical objects appear on a background (the desktop), representing resources you can use.**
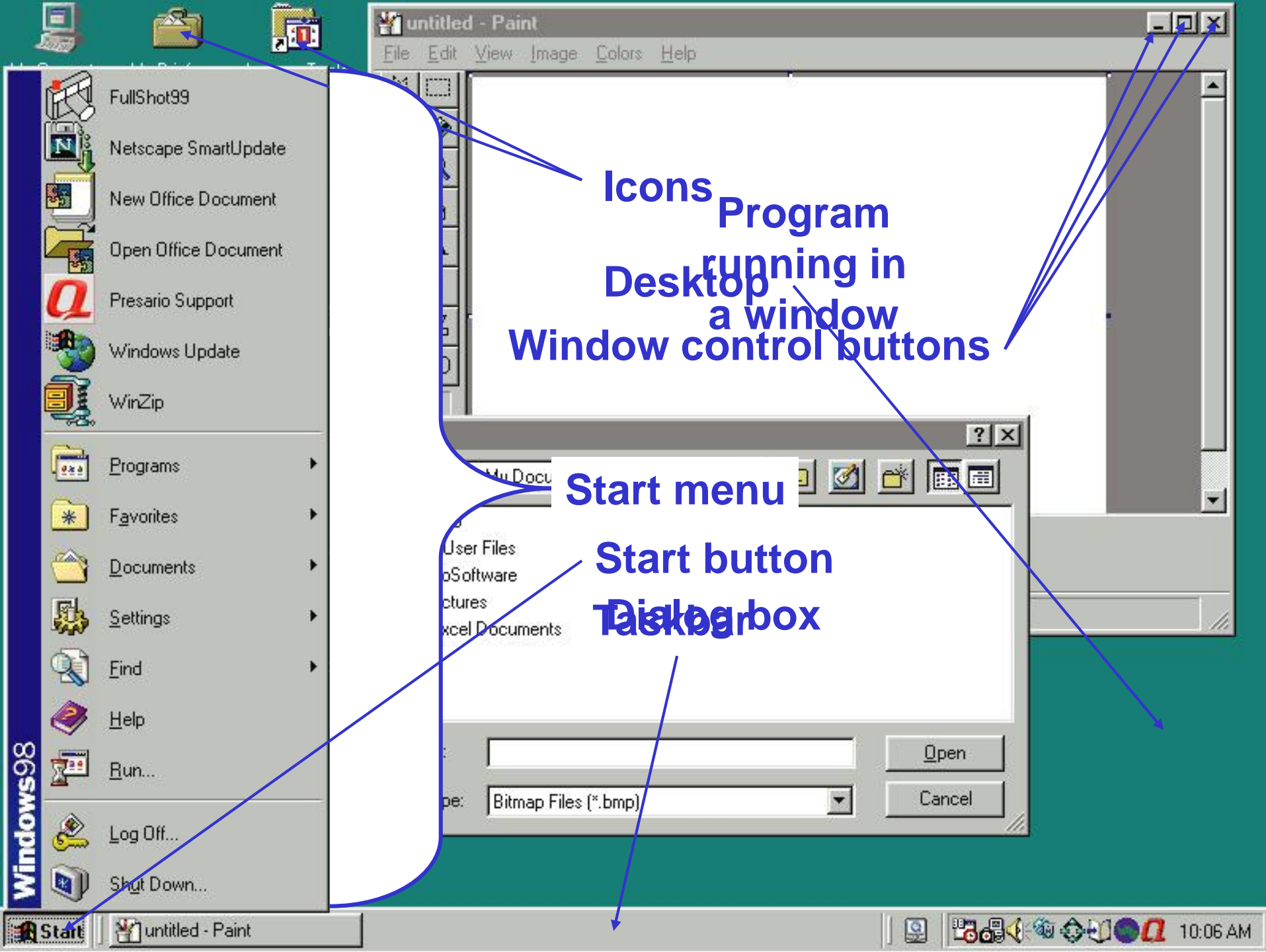
The User Interface - <u>GUI Tools</u>

- **Icons are pictures that represent computer resources, such as printers, documents, and programs.**

- **You double-click an icon to choose (activate) it, for instance, to launch a program.**

- **The Windows operating system offers two unique tools, called the taskbar and Start button. These help you run and manage programs.**
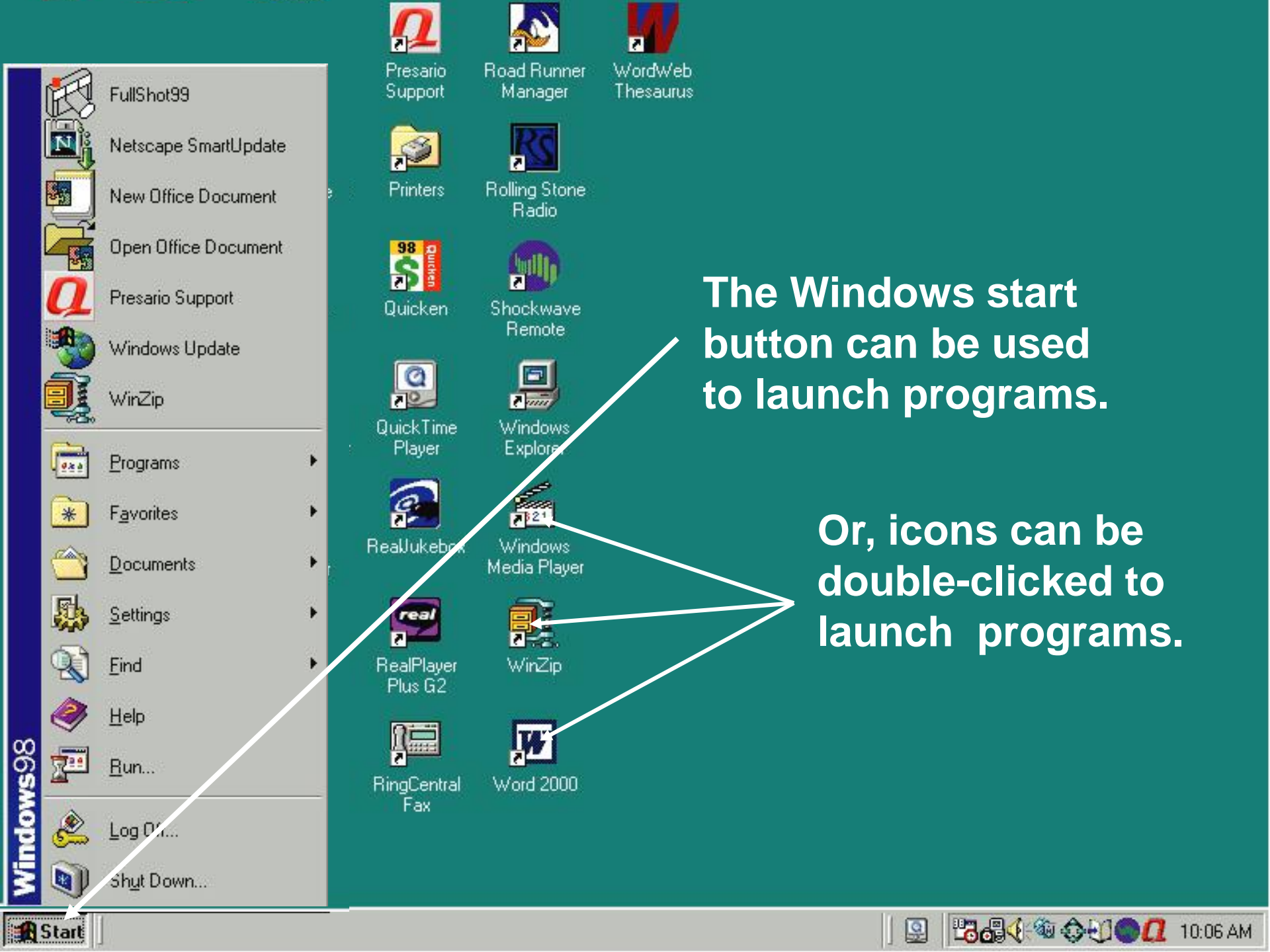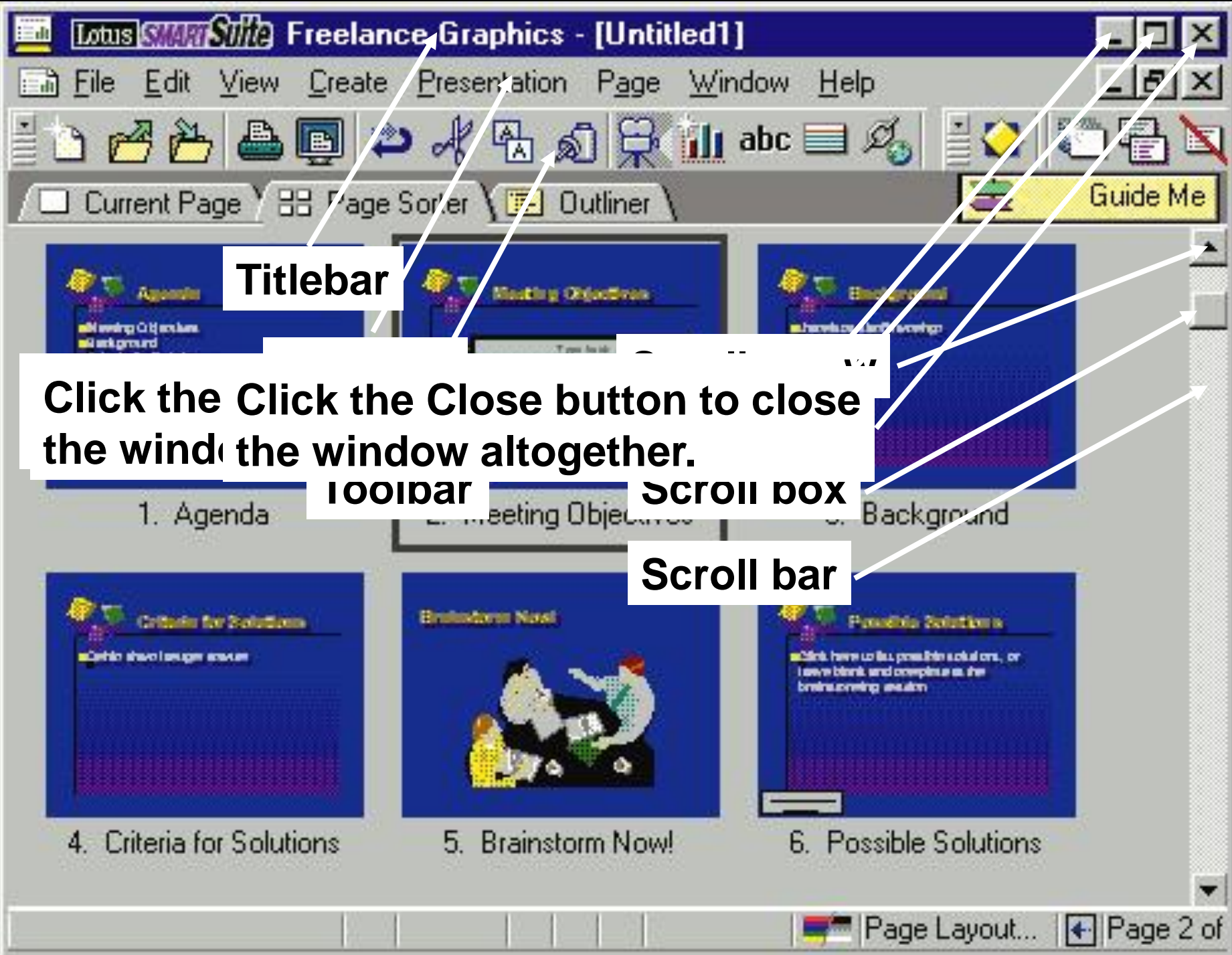
The Windows start button can be used to launch programs.

Or, icons can be double-clicked to launch programs.

The User Interface – Applications and the Interface

- **Applications designed to run under one operating system use similar interface elements.**

- **Under an OS such as Windows, you see a familiar interface no matter what programs you use.**

- **In a GUI, each program opens and runs in a separate window—a frame that presents the program and its documents.**

- **In a GUI, you can run multiple programs at once, each in a separate window. The application in use is said to be the active window.**

Lotus SMART Suite Freelance Graphics - [Untitled1]

File Edit View Create Presentation Page Window Help

Current Page   Page Sorter   Outliner   Guide Me

Titlebar

Click the Click the Close button to close the wind the window altogether.

Toolbar   **Scroll box**

Scroll bar

1. Agenda   2. Meeting Objectives   3. Background

4. Criteria for Solutions   5. Brainstorm Now!   6. Possible Solutions

Page Layout...   Page 2 of
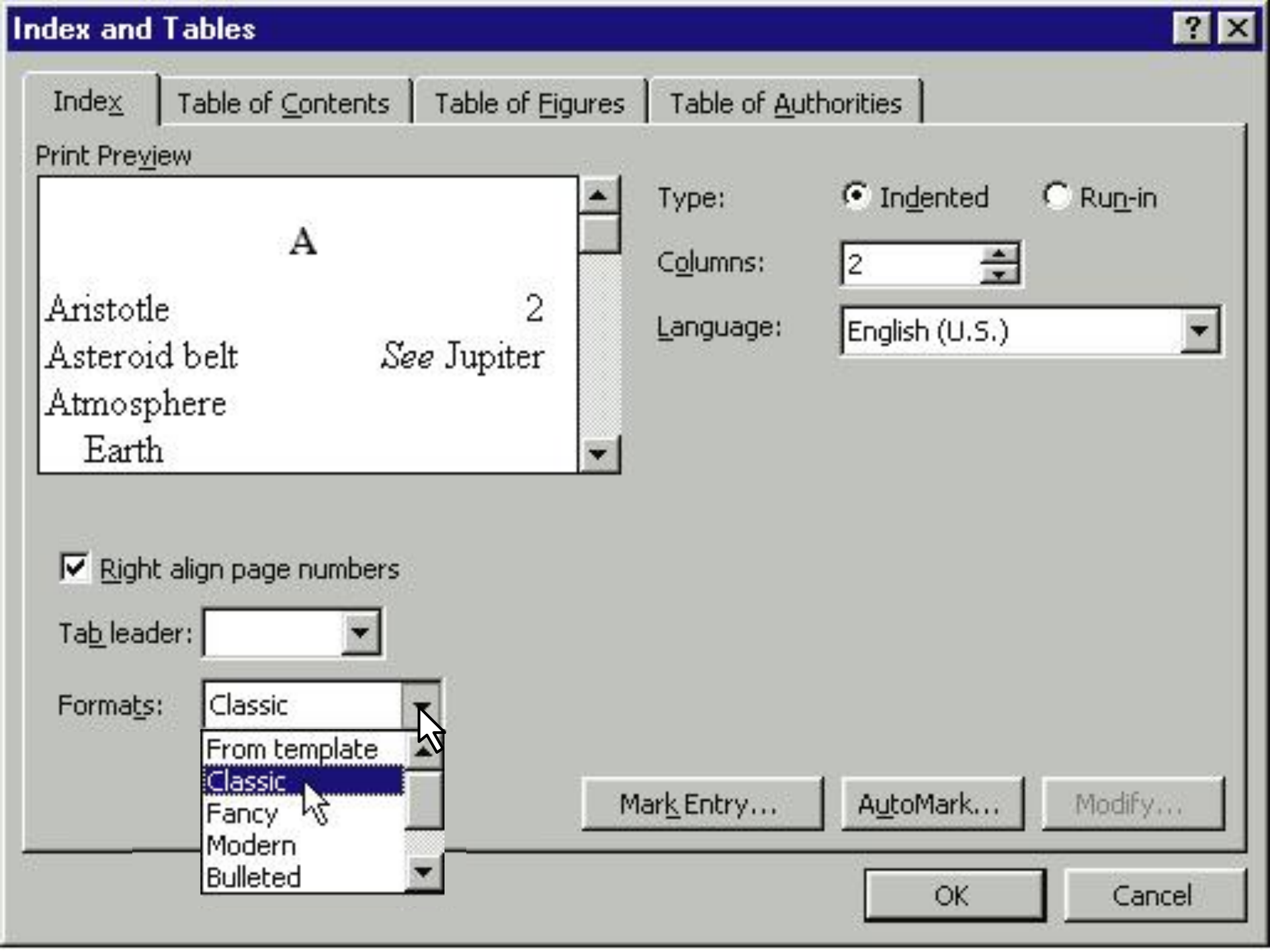
The User Interface - <u>Menus</u>

- **GUI-based programs let you issue commands by choosing them from menus.**

- **A menu groups related commands. For example, the File menu's commands let you open, save, and print document files.**

- **Menus let you avoid memorizing and typing command names.**

- **In programs designed for the same GUI, menus and commands are similar from one program to another.**

WordPerfect 9 - Document2

File | Edit | View | Insert | Format | Tools | Window | Help

New	Ctrl+N
New from Project...	Ctrl+Shift+N
Open...	Ctrl+O
Close	Ctrl+F4
Save	Ctrl+S
Save As...	F3
Properties...	
Version Control	▶
Document	▶
Page Setup...	
Print...	Ctrl+P
Print Preview	
Printing Info Online	
Internet Publisher...	
Publish to Trellix...	
Publish to PDF...	
New XML Document...	
Send To	▶
Exit	Alt+F4
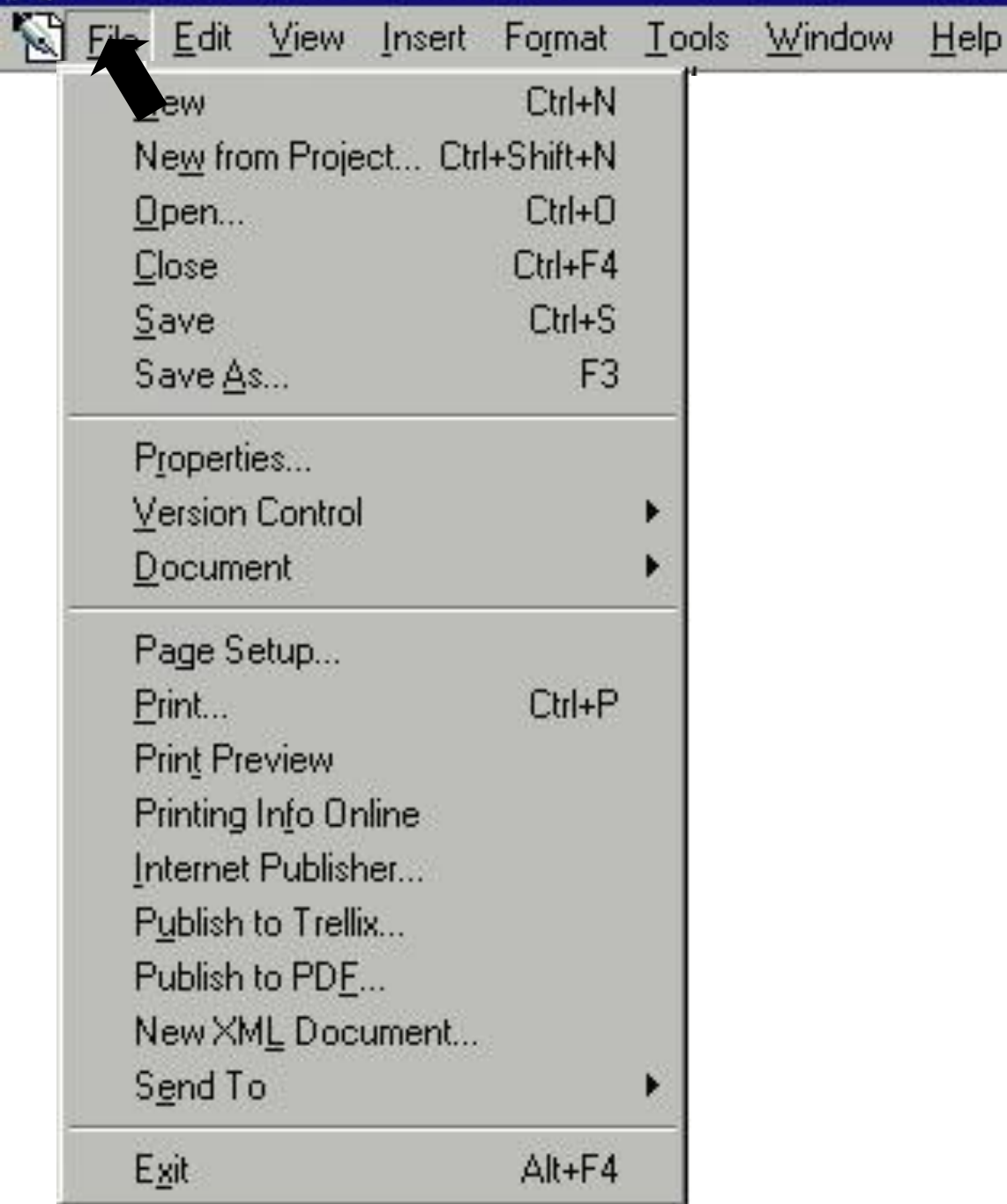
The User Interface - <u>Dialog Boxes</u>

- A dialog box is a special window that appears when a program or the OS needs more information before completing a task.

- Dialog boxes are so named because they conduct a "dialog" with the user, asking the user to provide more information or make choices.

Index and Tables

Index | Table of Contents | Table of Figures | Table of Authorities

Print Preview

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Aristotle	2
Asteroid belt	*See* Jupiter
Atmosphere	
Earth	

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☑ Right align page numbers

Tab leader:

Formats: Classic

- From template
- **Classic**
- Fancy
- Modern
- Bulleted

Mark Entry...   AutoMark...   Modify...

OK   Cancel

The User Interface - <u>Command-Line Interfaces</u>

- Some older operating systems, such as DOS (Disk Operating System) and UNIX, use command-line interfaces.

- In a command-line interface, you type commands at a prompt.

- Under command-line interfaces, individual applications do not need to look or function the same way, so different programs can look very different

The DOS Prompt is not seen much these days!
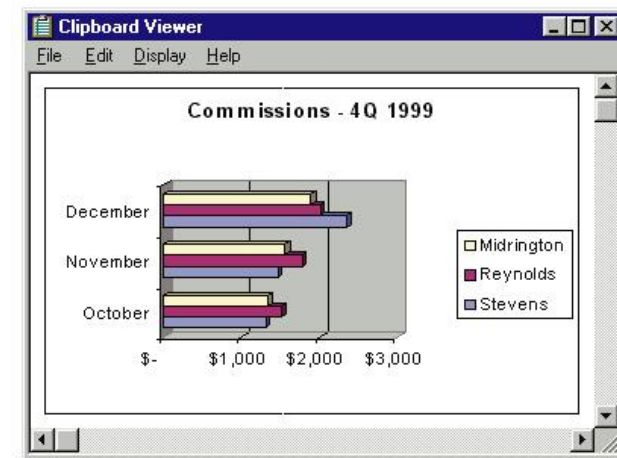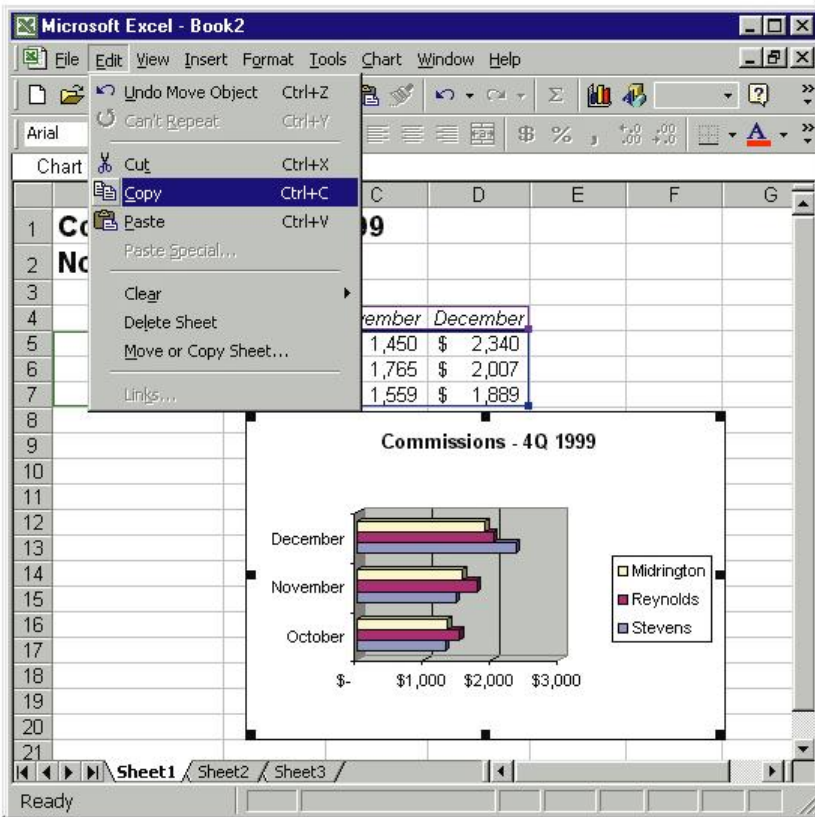
Running Programs

- **Basic Services**

- **Sharing Information**

- **Multitasking**

Running Programs - Basic Services

- The operating system manages all the other programs that run on the PC.

- The operating system provides services to programs and the user, including file management, memory management, and printing

- To provide services to programs, the OS makes system calls—requesting other hardware and software resources to perform tasks.

Running Programs - <u>Sharing Information</u>

- **Some operating systems, such as Windows, enable programs to share information.**

- **You can create data in one program and use it again in other programs without re-creating it.**

- **Windows provides the Clipboard, a special area that stores data cut or copied from one document, so you can re-use it elsewhere.**
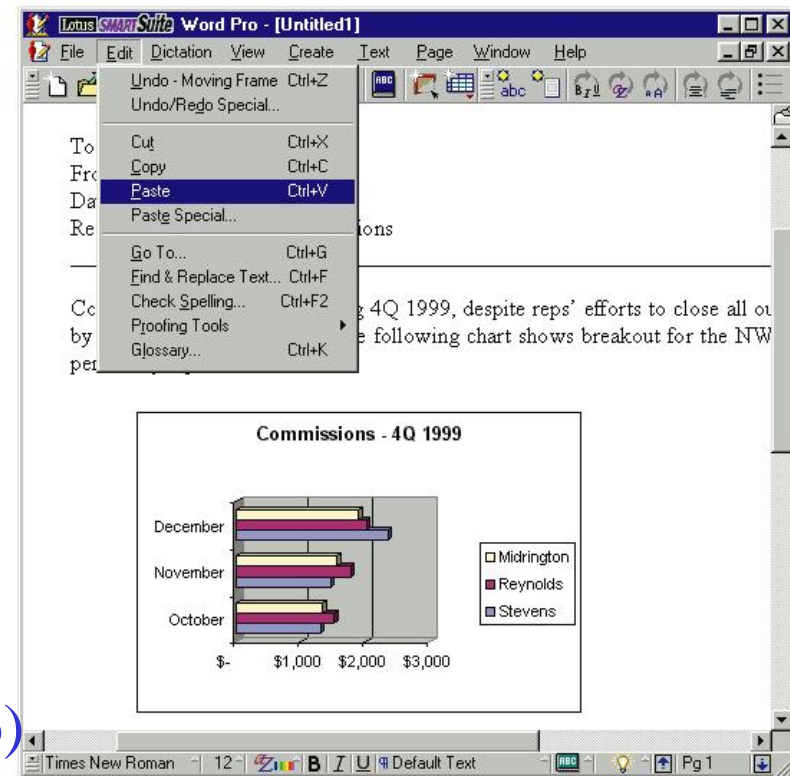
1 Information is clipped from one application (Excel)

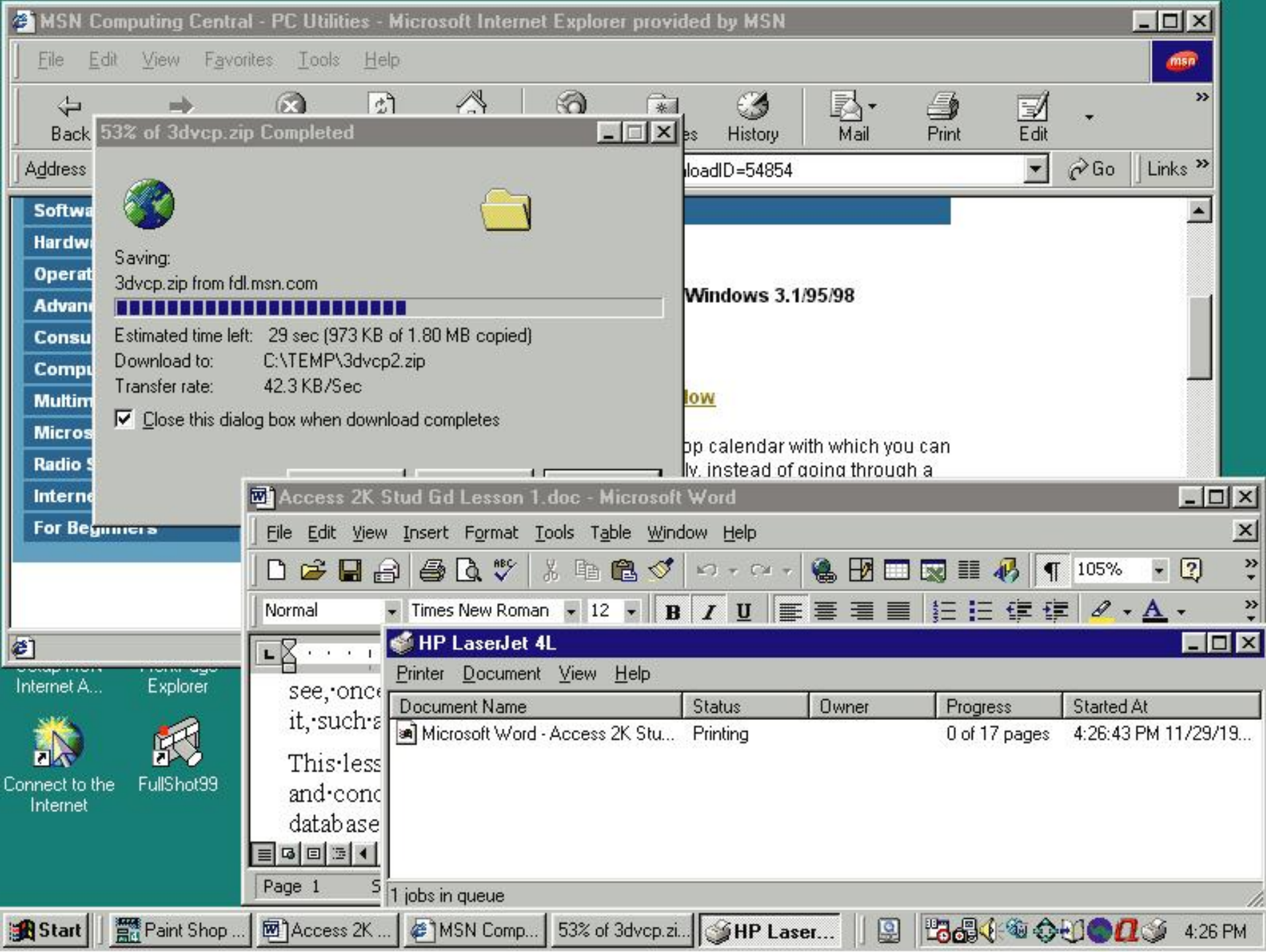2 Using the clipboard Viewer to examine the information

3 Pasting the information into another application (WordPro)

Running Programs - <u>Multitasking</u>

- **Multitasking is the capability of running multiple processes simultaneously.**

- **A multitasking OS lets you run multiple programs at the same time.**

- **Through multitasking, you can do several chores at one time, such as printing a document while downloading a file from the Internet.**

- **There are two types of multitasking: cooperative and preemptive.**

File   Edit   View   Favorites   Tools   Help

Back

Address   [loadID=54854]   Go   Links »

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For Beginners

53% of 3dvcp.zip Completed

Saving:

3dvcp.zip from fdl.msn.com

Estimated time left: 29 sec (973 KB of 1.80 MB copied)
Download to: C:\TEMP\3dvcp2.zip
Transfer rate: 42.3 KB/Sec

☑ Close this dialog box when download completes

Windows 3.1/95/98

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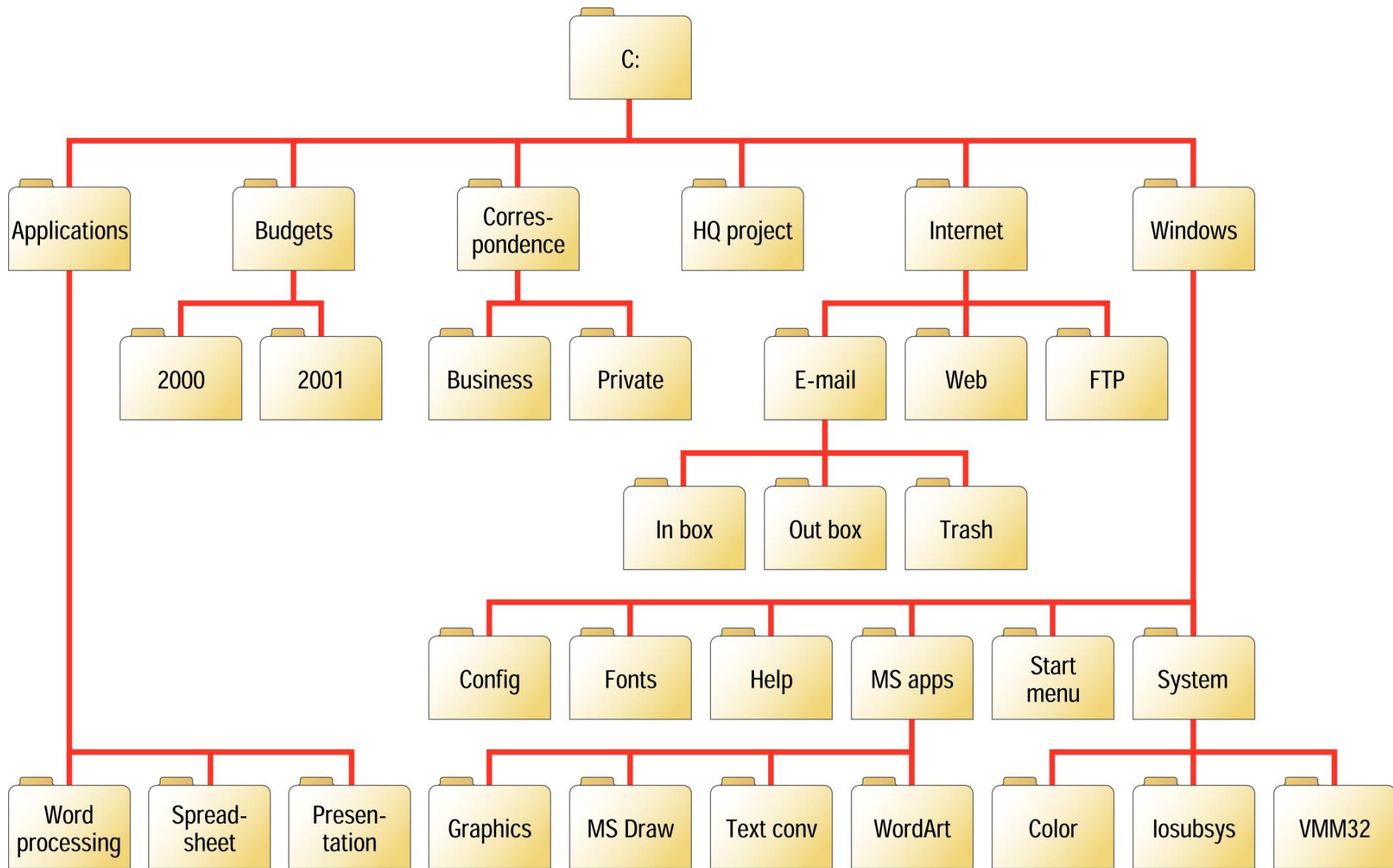1 jobs in queue

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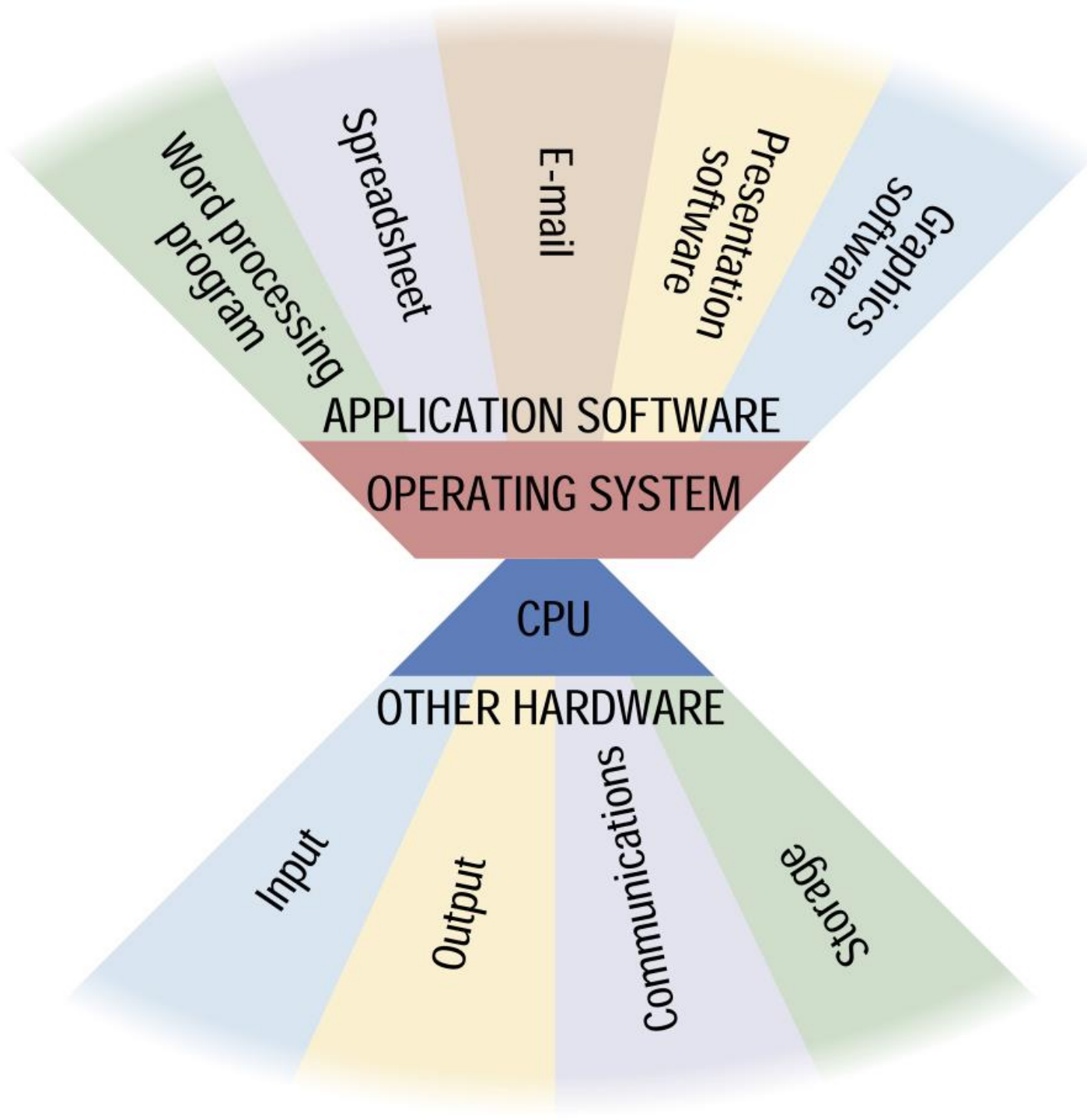
Managing Files

- **The operating system keeps track of all the files on each disk.**

- **Users can make file management easier by creating a hierarchical file system that includes folders and subfolders arranged in a logical order.**

Managing Hardware

- The OS uses interrupt requests (IRQs) to maintain organized communication with the CPU and other pieces of hardware.

- Each hardware device is controlled by a piece of software, called a driver, which allows the OS to activate and use the device.

- The operating system provides the software necessary to link computers and form a network.

Word processing program

Spreadsheet

E-mail

Presentation software

Graphics software

APPLICATION SOFTWARE

OPERATING SYSTEM

CPU

OTHER HARDWARE

Input

Output

Communications

Storage

Utility Software

A utility is a program that performs a task that is not typically handled by the operating system.

Some utilities enhance the operating system's functionality.

Some of the major categories of utilities include:
- File defragmentation
- Data compression
- Backup
- Antivirus
- Screen savers