



PowerPoint Presentation to Accompany ***GO! All In One***

Chapter 1

Computer History, Fundamentals, and Operating
Systems

Objectives

- **Identify Computer Fundamentals**
- **Recognize Operating Systems and Their Functions**
- **Utilize Standalone Operating Systems**
- **Use System Utilities**

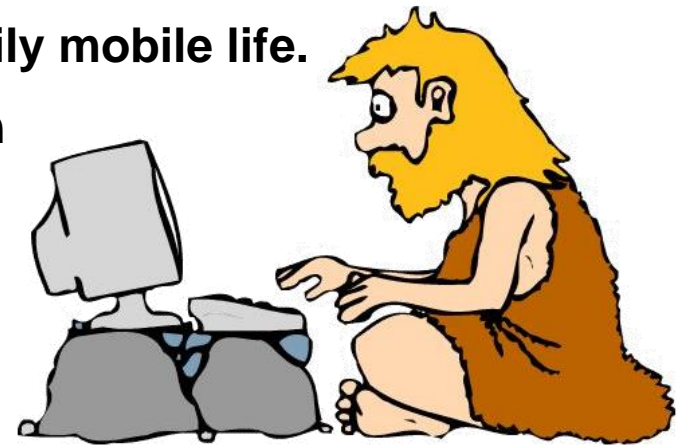
Identify Computer Fundamentals

- A computer is a electronic device that performs the four basic operations that comprise the information processing cycle (IPOS): Input, Processing, Output, and Storage



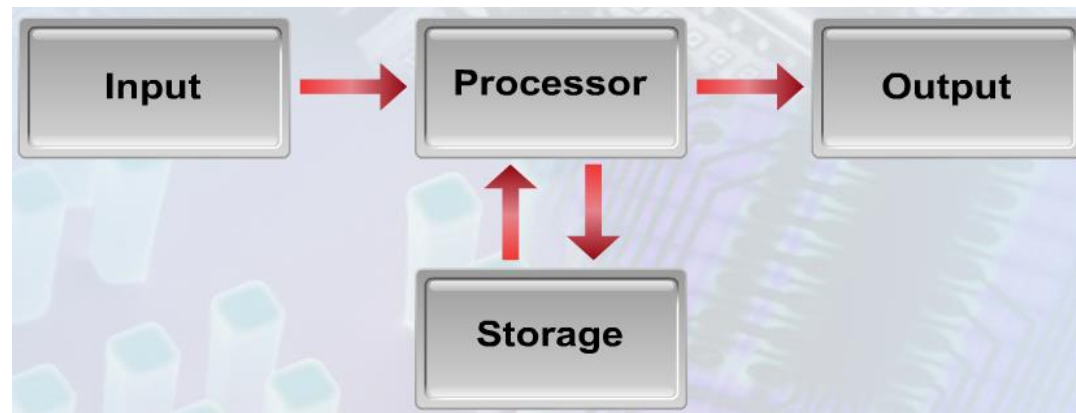
A little History

- ***Past – In the 1980s:***
 - Only the U.S. government and large universities were able to access the Internet—including e-mail.
 - Cell phones were just coming into use.
 - The World Wide Web would not become viable until 1993.
- ***Today:***
 - Millions of people around the world use the Internet
 - Cell phones are a vital component of daily mobile life.
 - e-commerce had sales up to \$203 billion

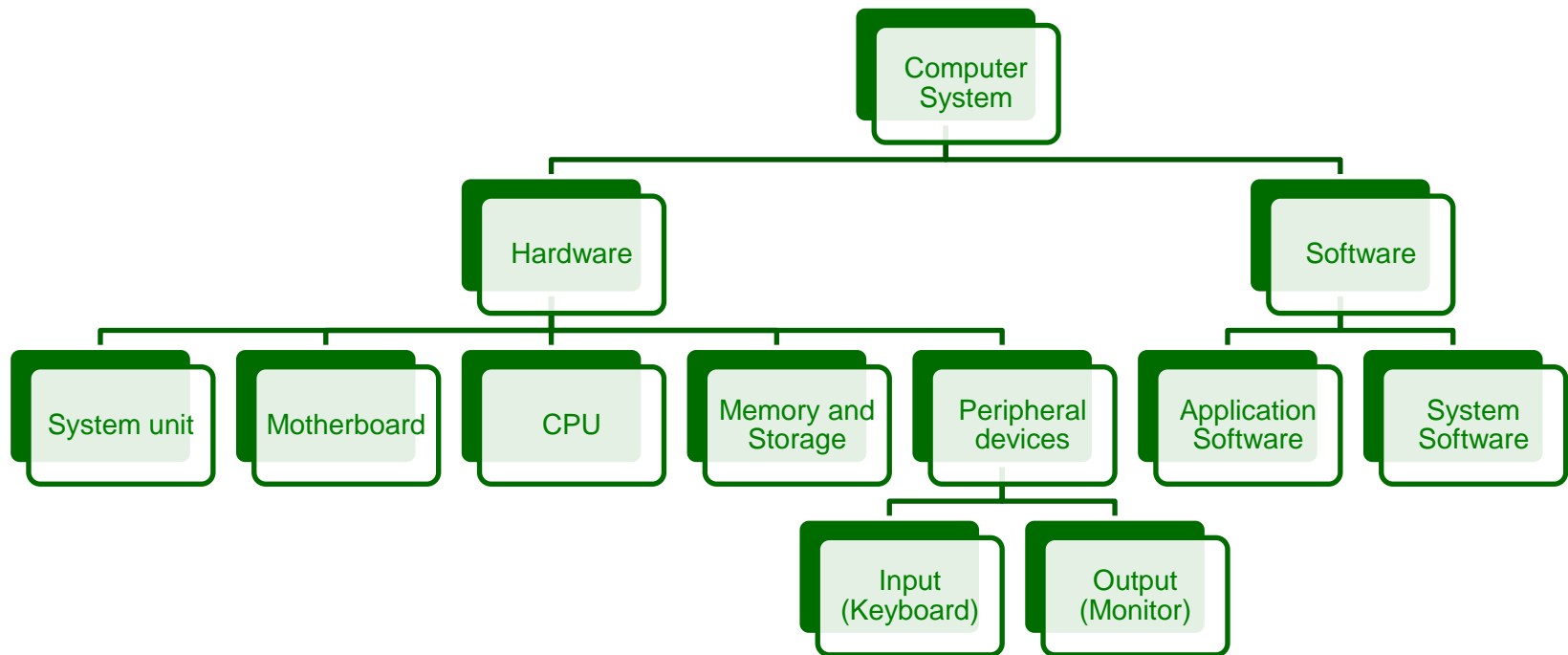


Identify Computer Fundamentals

- ***Input:*** The action of entering data
- ***Processing:*** The manipulation of the input data
- ***Output:*** The display of the information
- ***Storage:*** The action of saving information for later use

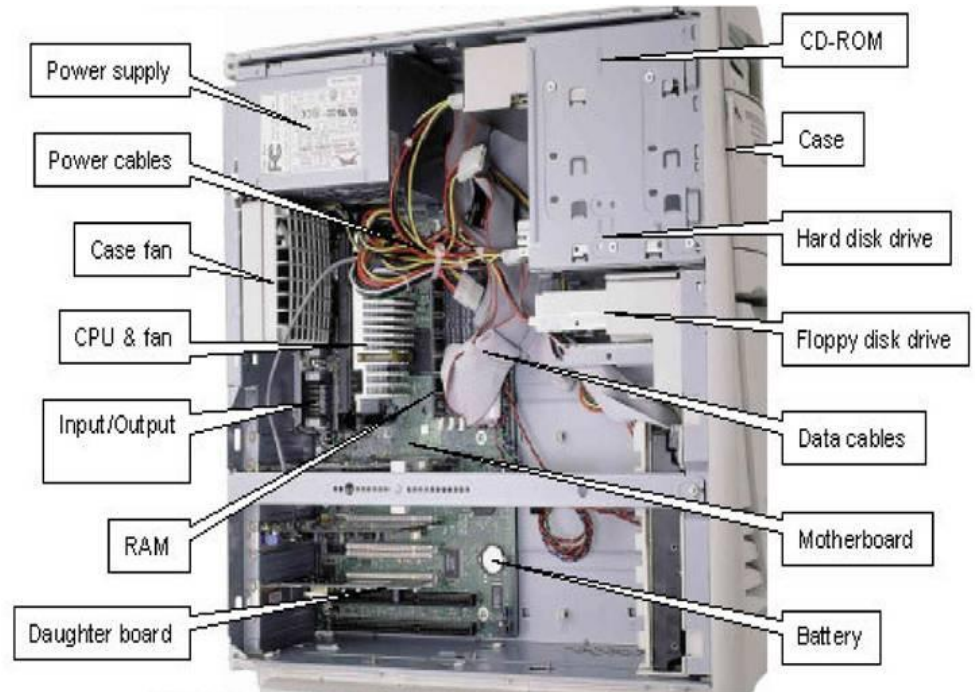


Identify Computer Fundamentals



Computer Hardware System Unit

- The base unit of the computer



Computer Hardware

Motherboard

- A circuit board connecting the central processing unit (CPU) with other system components



Computer Hardware

CPU

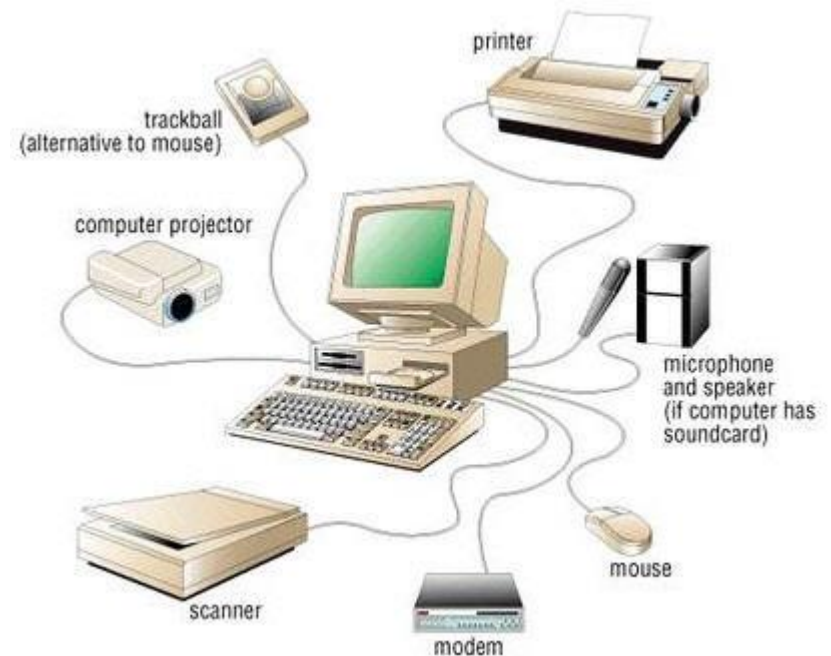
- Central Processing Unit
- Acts as the brain of the computer



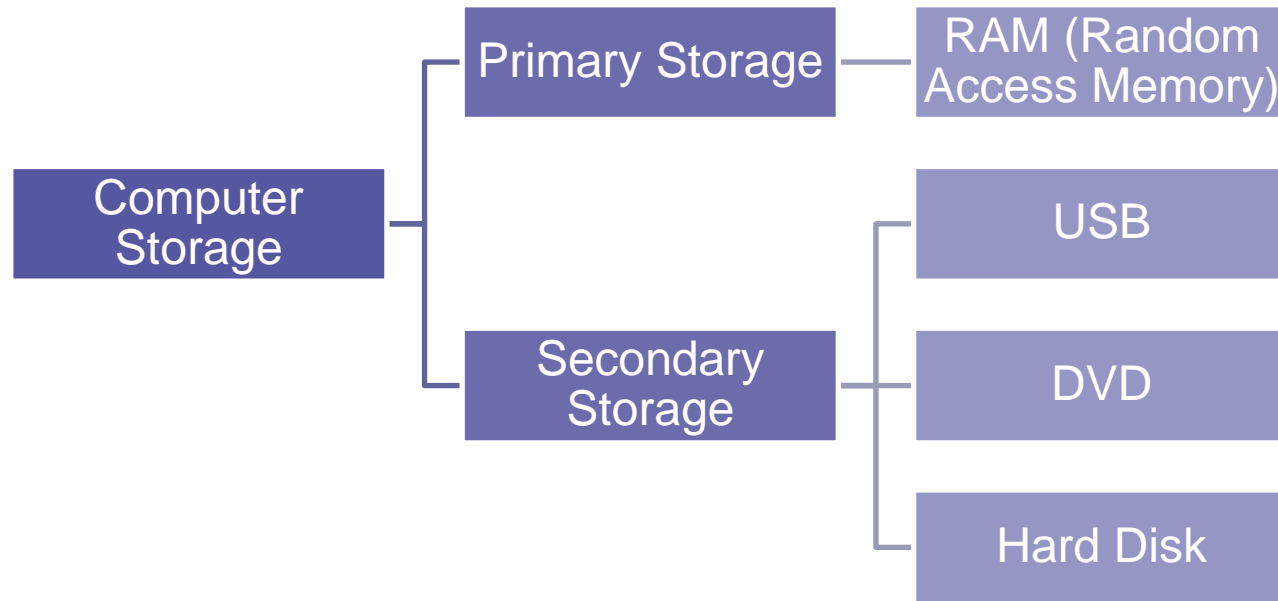
Computer Hardware

Peripheral Devices

- Components outside the system unit that are connected physically or wirelessly to the system (examples: keyboard, mice, monitors)



Computer Hardware Memory & Storage



- **RAM:** Temporarily stores the programs and data
- **Secondary Storage:** retains data even when machine is turned off

Computer Hardware Communication Devices

- Allows exchange of information within and between computers and other devices
- Communications device: Connects computer to a network (Internet)
- Examples:
 - Modem
 - Network interface card (NIC)



network interface card



wireless network interface card



network access point transceiver



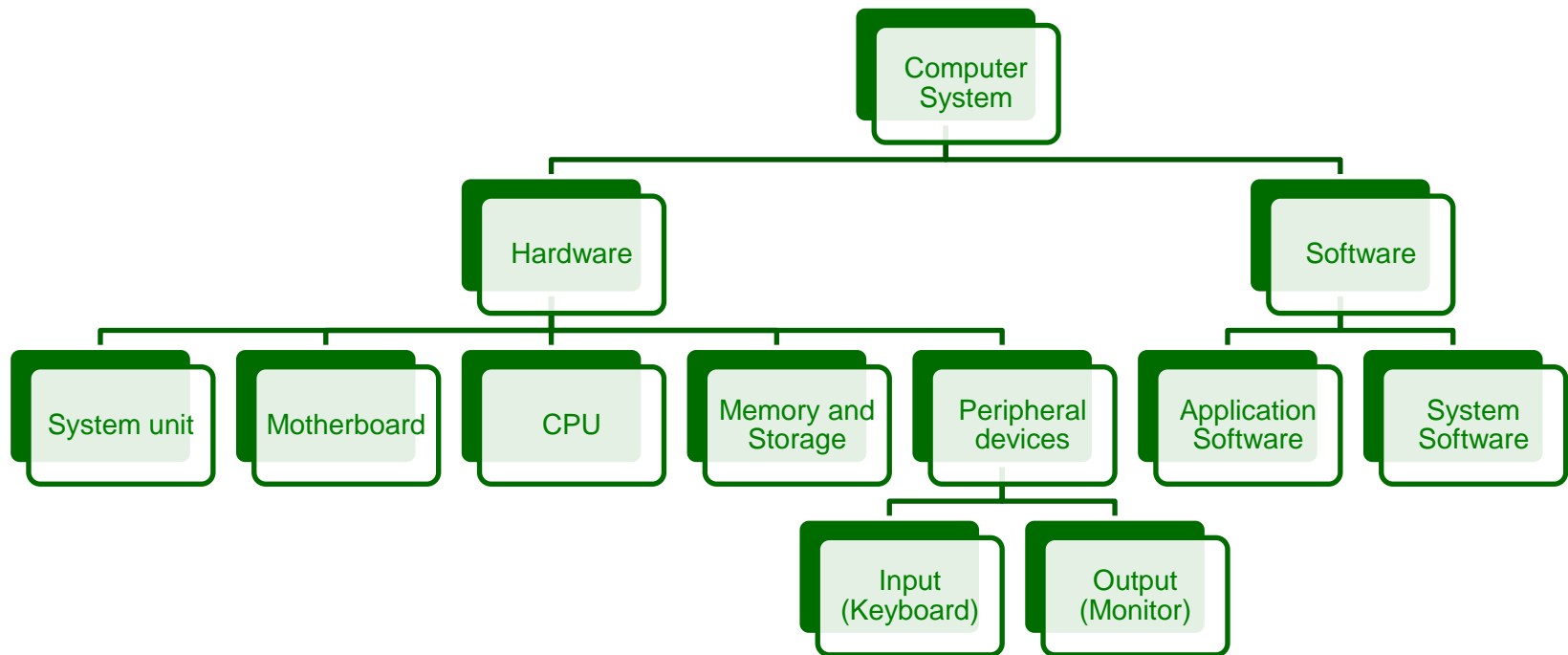
modem

Data vs. Information

- **Data:** is raw, unorganized facts that need to be processed.
- **Information:** When data is processed, organized, structured or presented in a given context so as to make it useful, it is called information.
- **Example:**
 - Data: List of dates
 - Information: Holidays in 2015



Identify Computer Fundamentals



Computer Software

Application Software

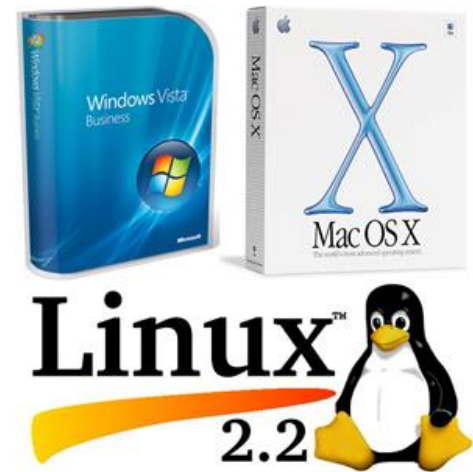
- Programs that direct the computer to carry out a task (examples: document processing or playing a game)



Computer Software

System Software

- Programs that enable the computer's hardware to work with and run the application software (Operating System)

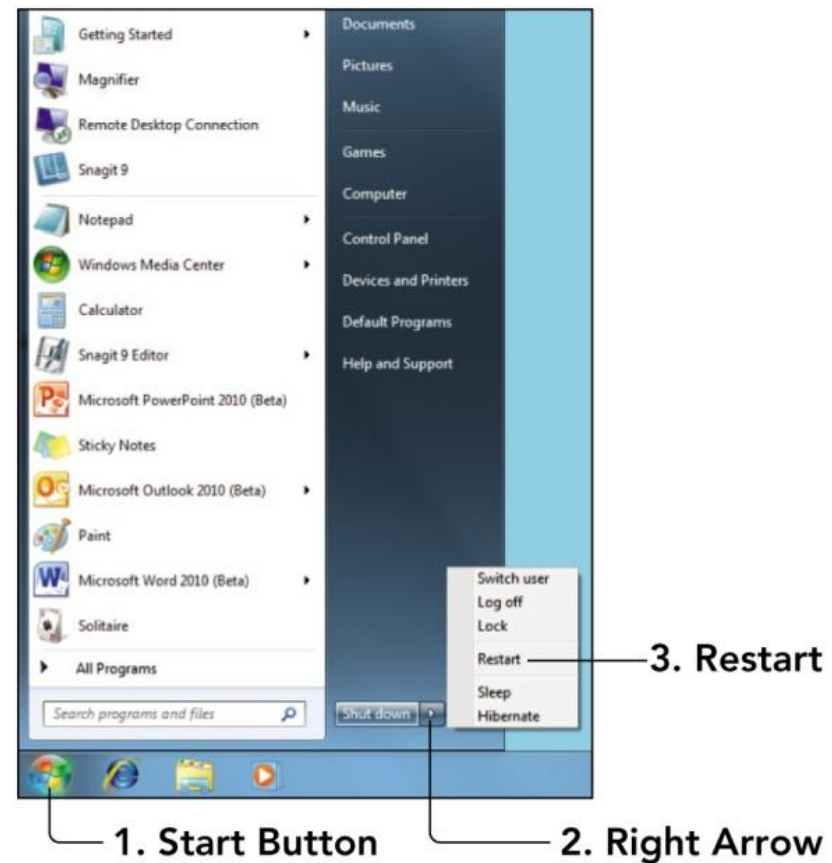


Recognize Operating Systems and Their Functions

- **Booting:** The process of loading the operating system into memory
 - **Cold boot:** Starting a computer that has not yet been turned on
 - **Warm boot:** Restarting a computer that is already on

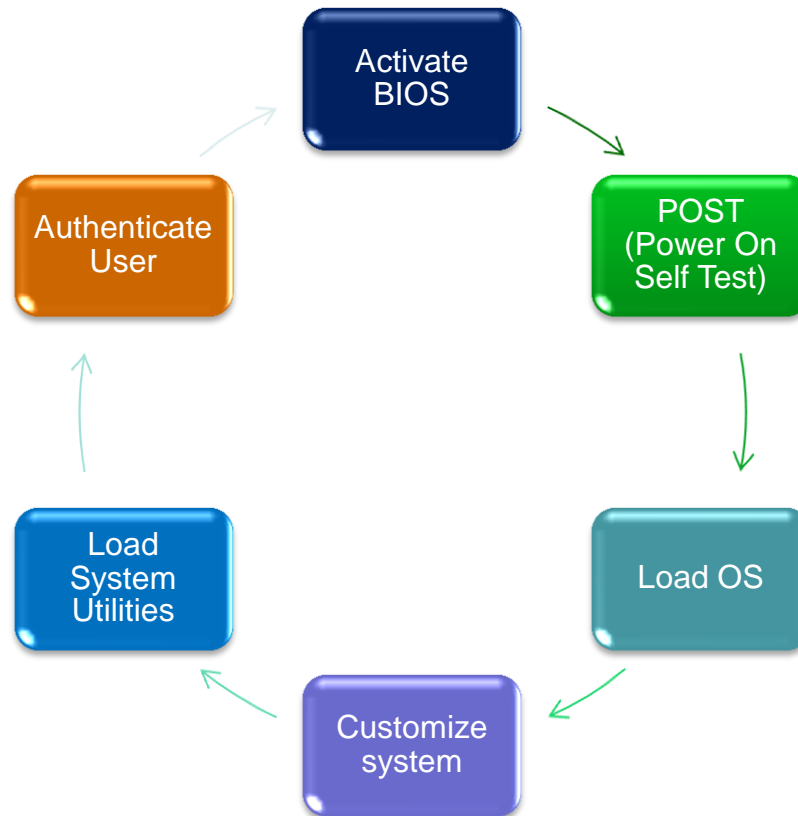
Recognize Operating Systems and Their Functions

- Restarting a computer



Starting a Computer

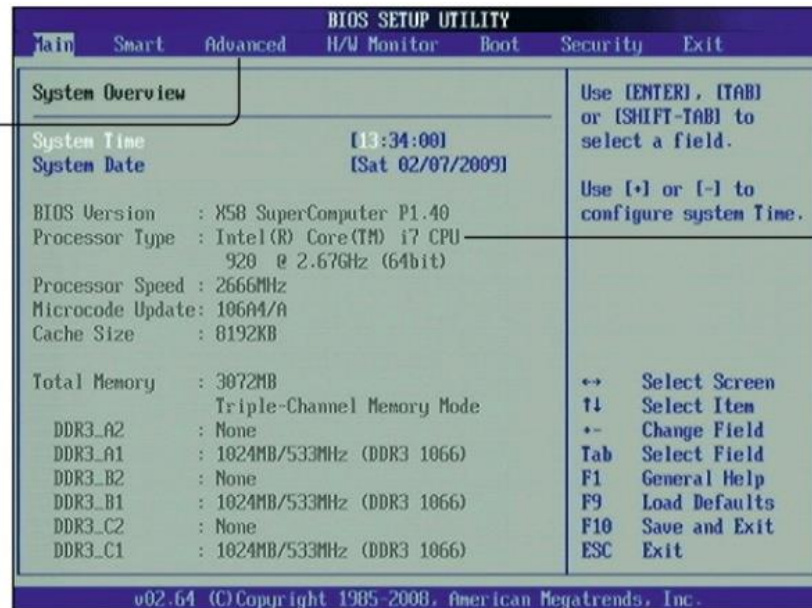
- Six steps to start a computer:



Starting a Computer

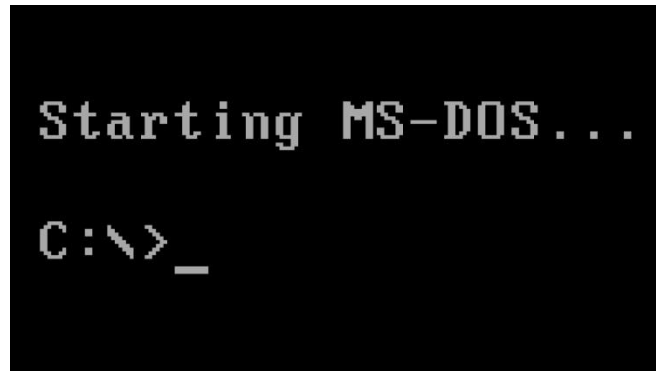
- Activate BIOS and Setup Program
- **BIOS**: Basic input/output system
- **POST**: Power on self-test

Advanced settings include the sequence of devices on which the OS might be located



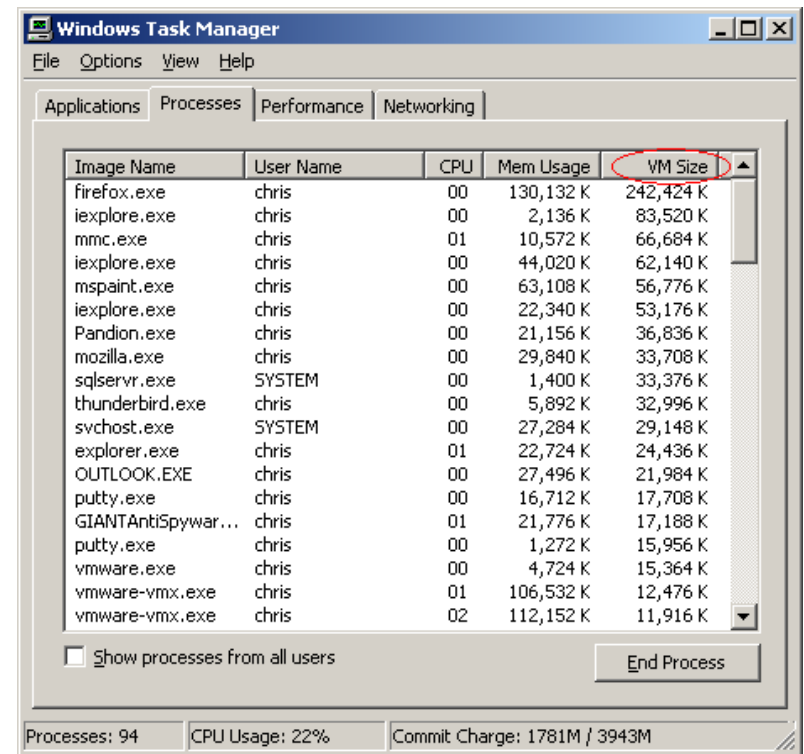
Single vs. Multi Tasking OS

- ***Multitasking operating systems:*** Permit more than one application to run at the same time and can manage multiple applications running simultaneously

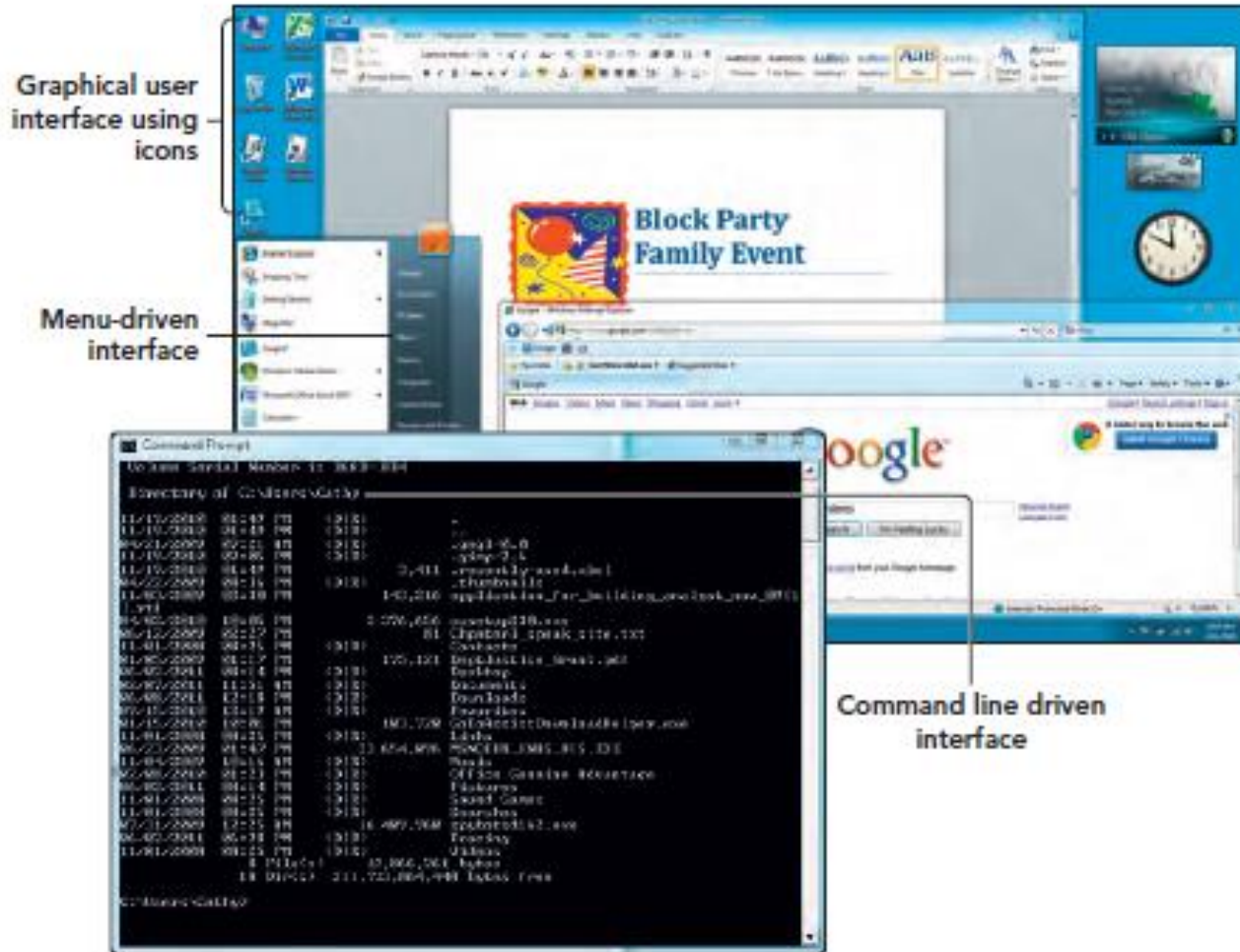


Windows Task Manager

- Access Windows Task Manager by pressing ***Ctrl + Alt + Del***, select the Start Task Manager option, and then click the Processes tab
- Or click ***Ctrl + Shift + Esc*** shortcut



Types of User Interfaces

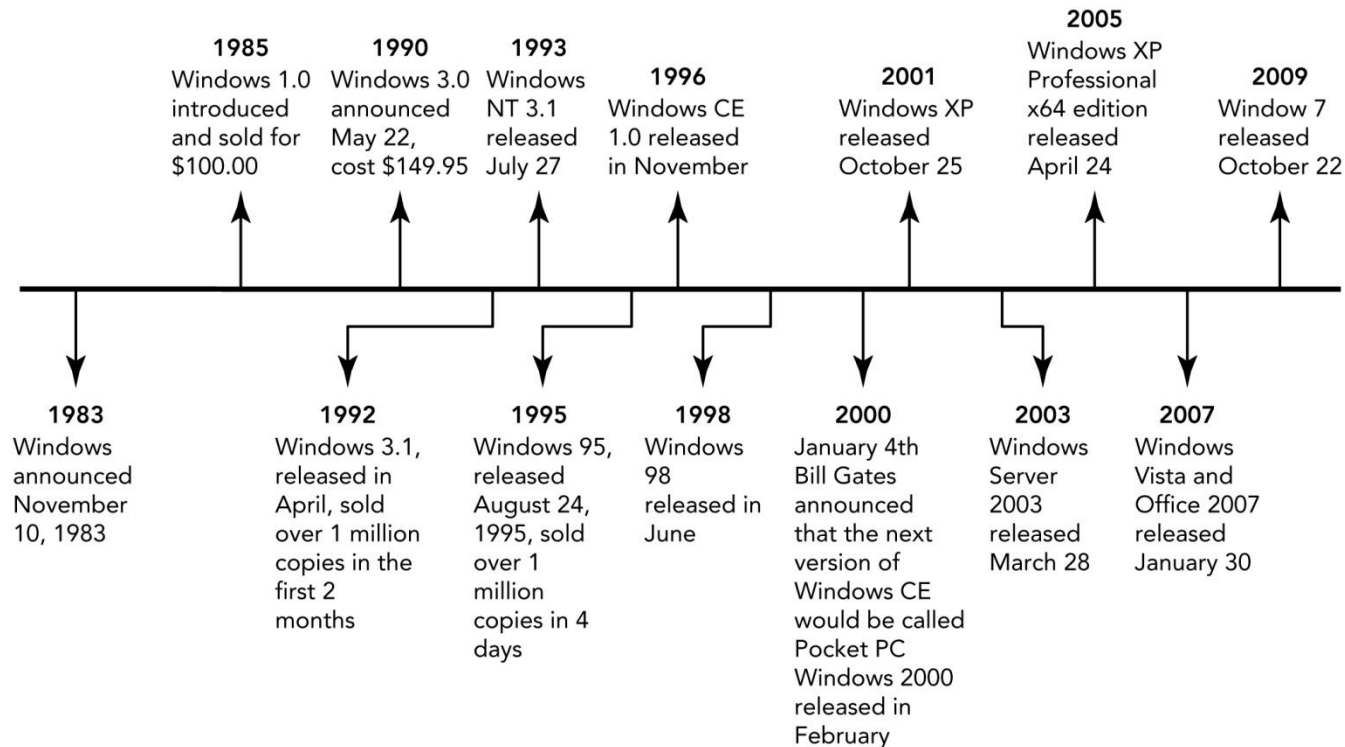


Types of Operating Systems

Operating Systems by Category	
Standalone operating systems	DOS—developed for the original IBM PC Windows 3.X, Windows 95, Windows 98, Windows 2000 Professional, Windows ME, Windows XP, Windows Vista, Windows 7 MAC OS X UNIX Linux
Server operating systems	Windows NT Server, Windows 2000 Server, Windows Server 2003, Windows Server 2008 UNIX Linux Novell Netware Solaris Red Hat Enterprise Server
Embedded operating systems	Windows Embedded Compact 7 iOS Palm OS BlackBerry OS Embedded Linux Google Android

Windows History

- Windows Operating Systems Timeline



Versions of Windows 7

- Windows 7 released in late 2009 and has 6 different versions:
 - Starter,
 - Home Basic,
 - Home Premium,
 - Professional,
 - Enterprise, and
 - Ultimate



System Utilities

- System utilities: Programs that work in tandem with the operating system and perform services that keep the computer system running smoothly



System Utilities

Antivirus

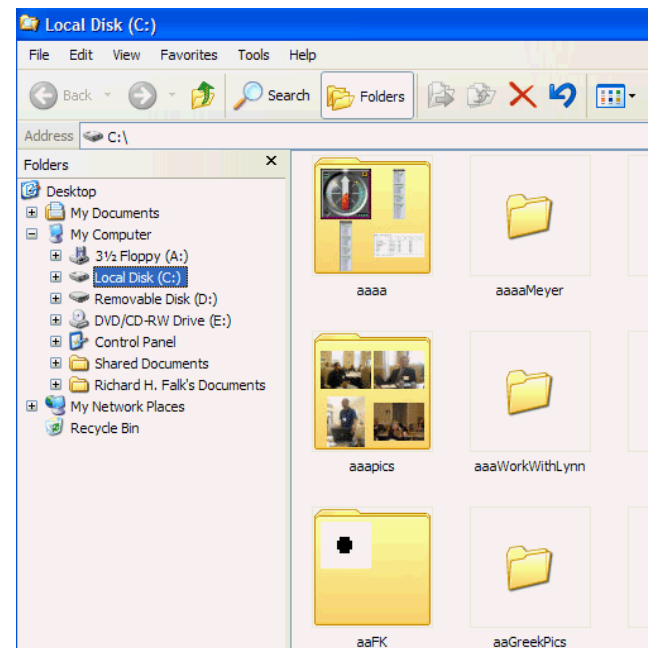
- Protects a computer from computer viruses



System Utilities

File Manager

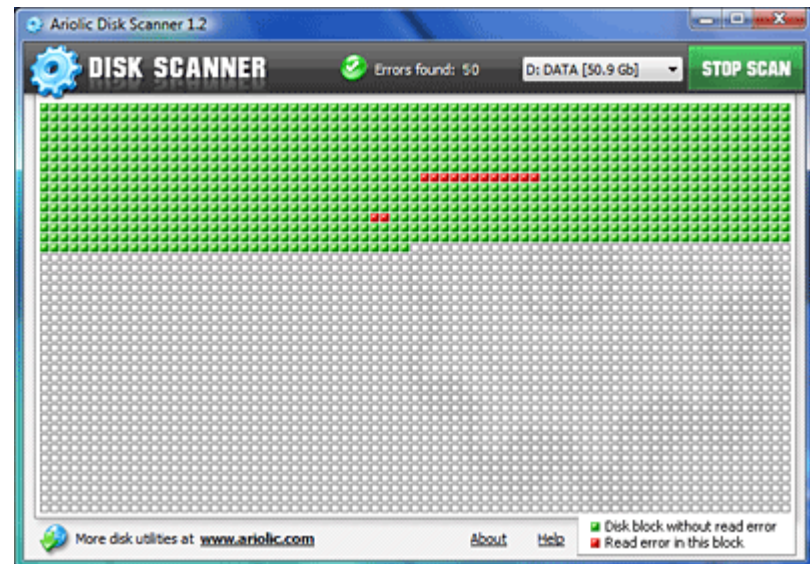
- Helps organize and manage the data stored on disk



System Utilities

Disk Scanning

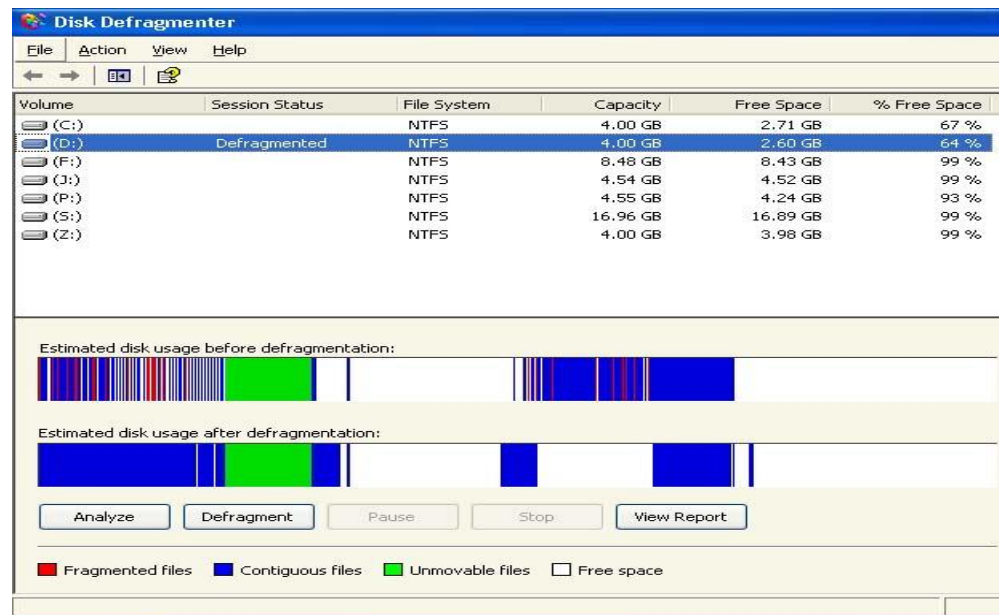
- Detects and resolves physical and logical problems that can occur when your computer stores files on a disk
- ***Bad sector:*** Portion of the disk that is unable to store data reliably



System Utilities

Disk Defragmentation

- Program that reorganizes data on the disk so that file pieces are reassembled as one chunk of disk space, which decreases search time



System Utilities

File Compression

- Enables the exchange of programs and data efficiently by reducing the size of a file



Covered Objectives

- **Understand Computers: Yesterday, Today, and Tomorrow**
- **Identify Computer Fundamentals**
- **Recognize Operating Systems and Their Functions**
- **Utilize Standalone Operating Systems**
- **Use System Utilities**



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