Computers:
Tools for an Information Age

Chapter 1
Computers: Tools for an Information Age

Objectives

- Describe the three fundamental characteristics of computers

- Describe at least four areas of society in which computers are used

- Identify the basic components of a computer system: input, processing, output, and storage

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Objectives

- List some common input, output, and storage media

- Distinguish data from information

- Describe the significance of networking

- Explain the significance of the Internet

- Explain the various classifications of computers

Forging a Computer-Based Society

- Traditional Cornerstones of Economy:
  - Land
  - Labor
  - Capital
- New Economic Element:
  - Information

What Is Computer Literacy?

- [Awareness](#)

- [Knowledge](#)

- [Interaction](#)
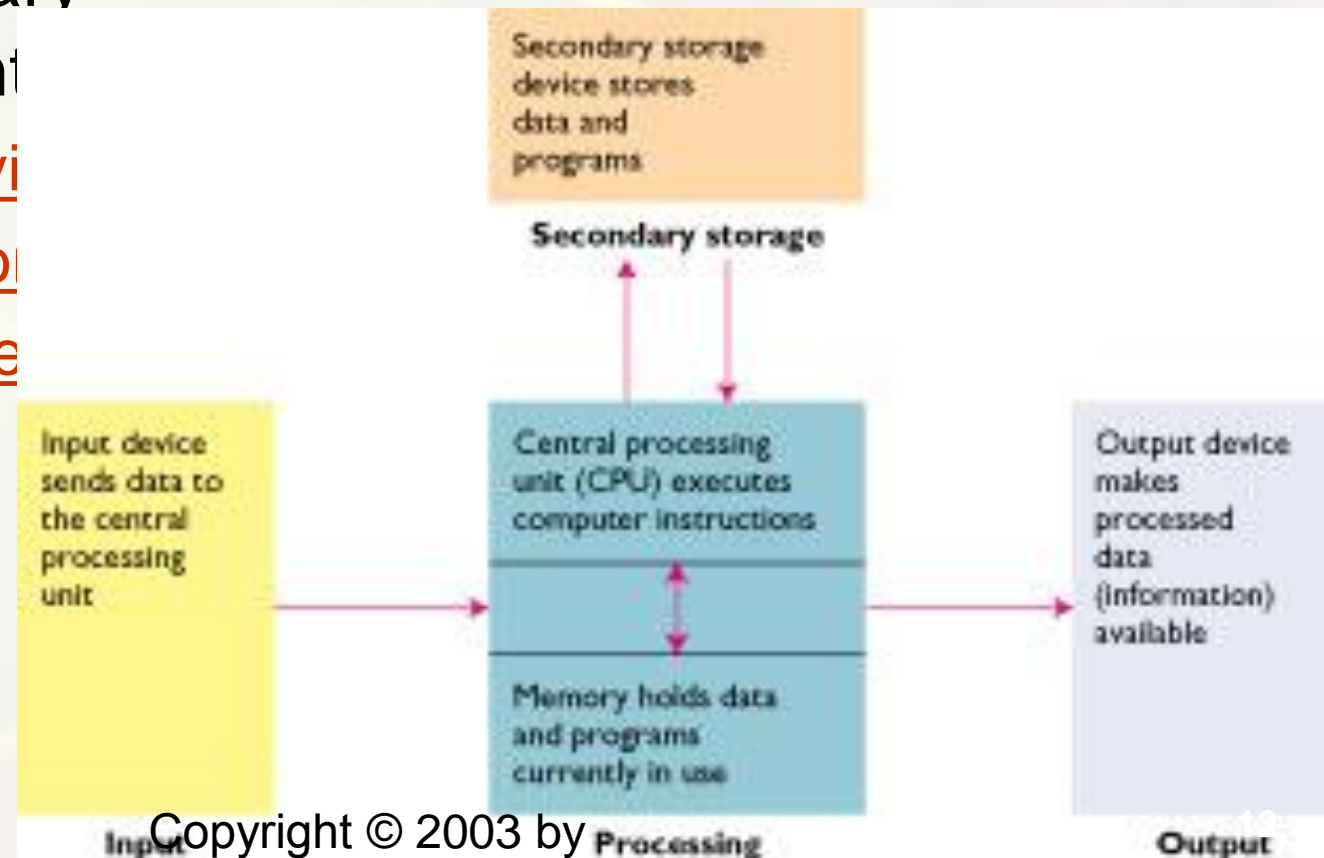
Fundamental Characteristics

- Speed
- Reliability
- Storage Capability
- By-products

Computer System Components

- Hardware
  - Equipment associated with the system
- Software
  - Instructions that tell the hardware what to do
- People
  - Computer programmer: writes software
  - User: purchases and uses software
    - Often called end-user

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Hardware: The Basic Components of a Computer

- **What is a Computer?**

- Four primary components

  - Input devices
  - Processor
  - Output devices
  - Storage

Secondary storage device stores data and programs

Secondary storage

Input device sends data to the central processing unit

Central processing unit (CPU) executes computer instructions

Memory holds data and programs currently in use

Output device makes processed data (information) available

Input   Processing   Output

Peripheral Devices

- All hardware devices attached to the computer
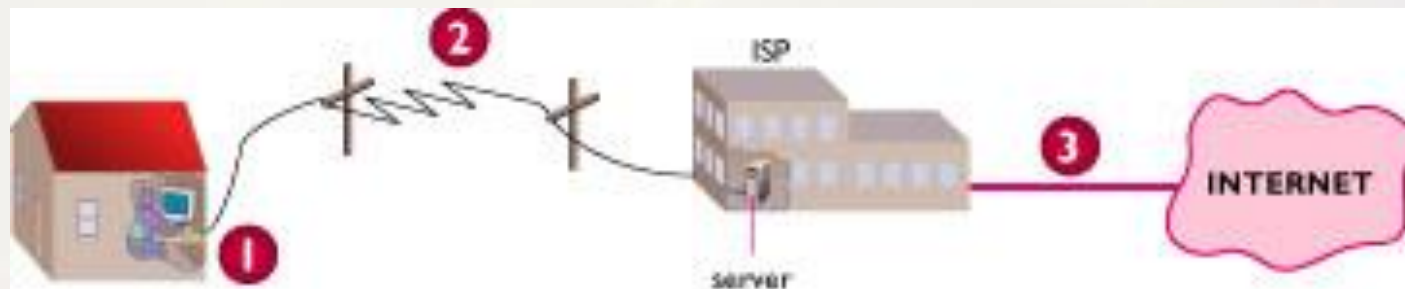 - Includes all input, output, and storage devices

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Networking

- Network: a system that uses communications equipment to connect computers and their resources

- Common network tools:
  - Local Area Network (LAN)
  - Modem
  - Electronic mail

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The Internet

- The largest and most far-flung network
  - Connects users worldwide
  - Not actually a network, but a collection of thousands of networks

Getting Connected

- To access the Internet, connect to a server computer

  – Server receives, processes, and transmits information

- Computers use a standard to communicate

- Need an Internet Service Provider (ISP)

Getting Around the Internet

- Began as a means for Department of Defense and its research institutions to share information
  - Information was text-only
  - Commands to navigate were obscure
- Now, much more visually based
  - Use browser to explore the Internet
  - World Wide Web

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Classification of Computers

- Personal Computers
- Notebook Computers
- Handheld Computers
- Midrange Computers
- Mainframes
- Supercomputers

Personal Computer System

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