

WEEK 1

Computer Concepts

Chapter 1 Objectives

Recognize the importance of computer literacy

Define the term computer and identify its components

Explain why a computer is a powerful tool

Recognize the purpose of a network

Discuss the uses of the Internet and the World Wide Web

Recognize the difference between installing and running a program

Identify the various types of software

Describe the categories of computers

Determine how the elements of an information system interact

Identify the various types of computer users

Discuss computer applications in society

A World of Computers

What is **computer literacy**?

- **Knowledge and understanding of computers and their uses**
- **Computers are everywhere**

What Is a Computer?

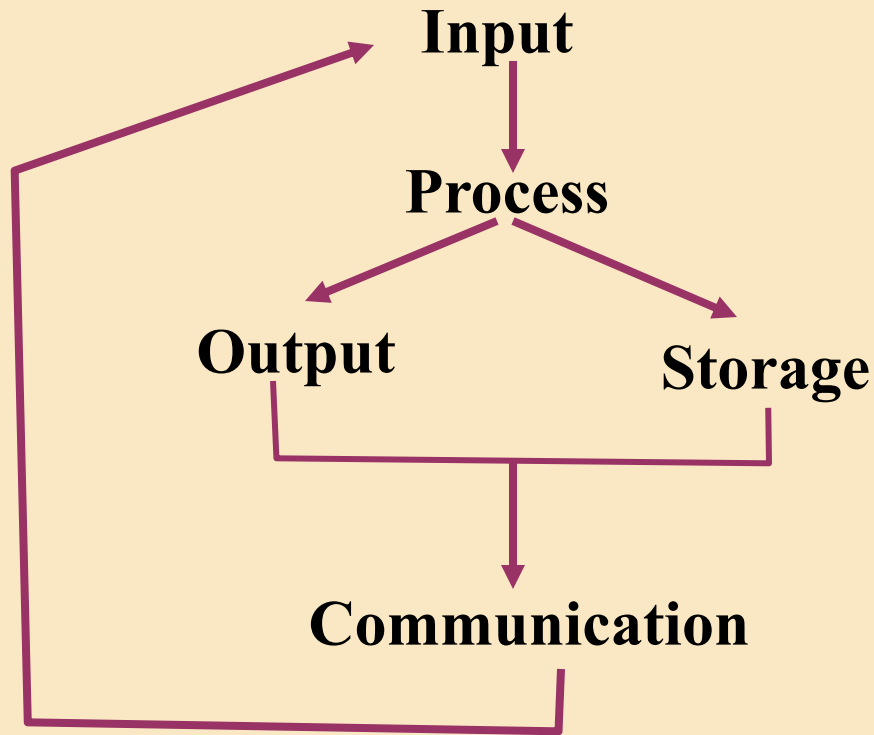
How is a **computer** defined?

- Electronic device operating under the control of instructions stored in its own memory

The computer

first, Accepts **data** such as raw facts, figures, and symbol
then, Processes data into **information** (Data that is organized, meaningful, and useful)
finally, Produces and stores results

What is the **information processing cycle**?



The Components of a Computer

What is an **input device**?

- Hardware used to enter data and instructions



The Components of a Computer

What is an output device?

- Hardware that conveys information to a user



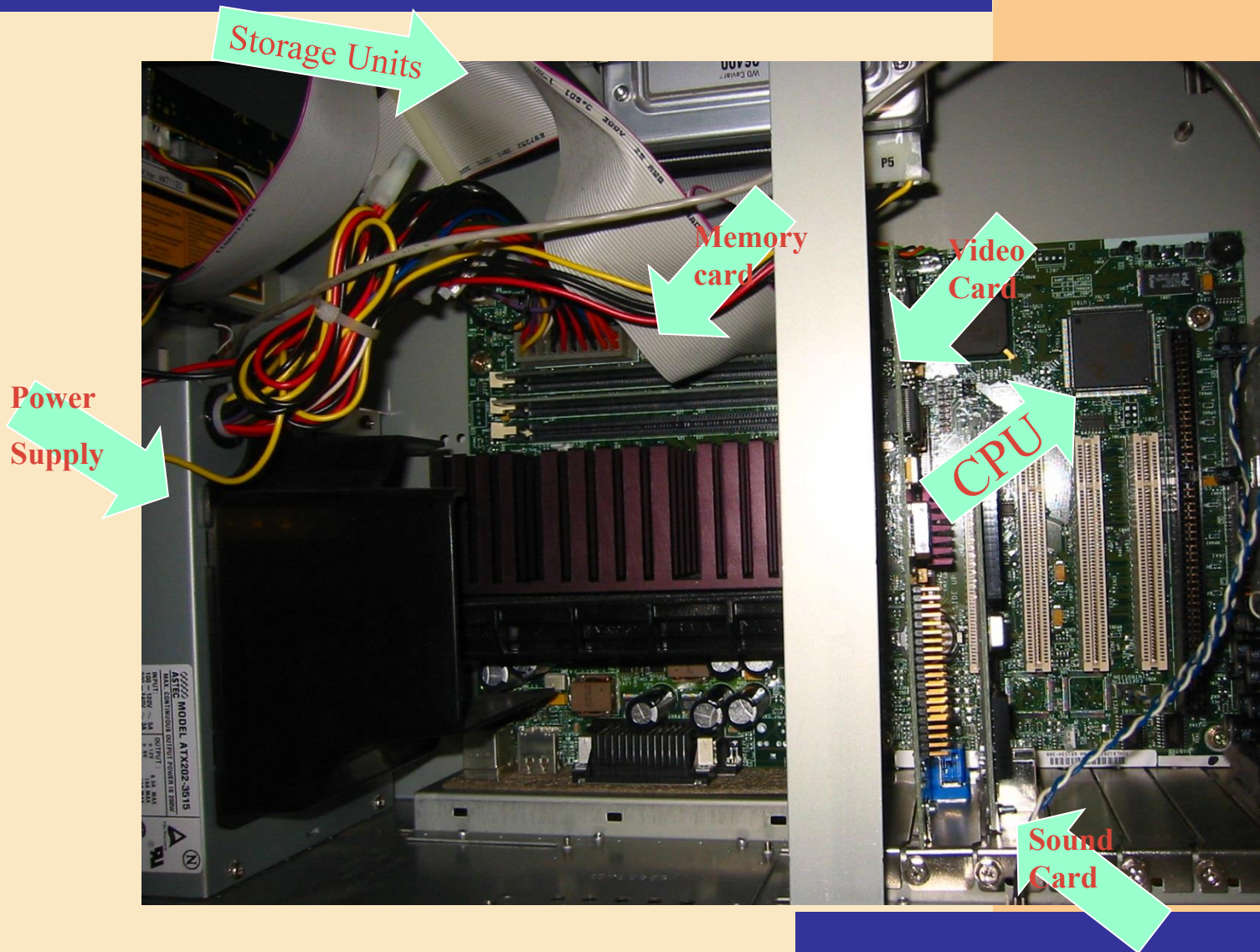
The Components of a Computer

What is the **system unit**?

- **Box-like case containing electronic components used to process data**



What is the magical inside the black box?



The Components of a Computer

What are two main components on the motherboard?

➤ **Central Processing Unit (CPU)**

- Also called a **processor**
- Carries out instructions that tell computer what to do

➤ **Memory**

- Temporary holding place for data and instructions



The Components of a Computer

What is **storage**?

- Holds data, instructions, and information for future use

Storage media

Physical material on which data, instructions, and information are stored

Storage device

Records and retrieves items to and from a storage medium

Storage device

What is a **floppy disk**?

- Thin, circular, flexible disk enclosed in rigid plastic shell
- A Zip[®] disk looks similar but has much greater storage capability (=170 floppy disk)



The Components of a Computer

What is a **hard disk**?

- Provides much greater storage capacity than a floppy disk or Zip[®] disk
- Housed inside the system unit



The Components of a Computer

What is a **compact disc**?

➤ Flat, round, portable metal disc

- CD-ROM

- CD-RW

Capacity: 673~768 MB

- DVD-ROM

- DVD+RW

Capacity: 4.7 ~ 17.1 GB



The Components of a Computer

What is **miniature storage media**?



Portable, thin
memory cards
used in:

Digital
cameras

Handheld
computers

Why Is a Computer So Powerful?

What makes a computer powerful?

- **Speed**
- **Reliability**
- **Accuracy**
- **Storage**
- **Communications**

Networks and the Internet

What is a **network**?

- Collection of computers and devices connected together

Communications Device

Enables a connection between computers

One type is a modem

Communications Media

Cables

Telephone lines

Cellular radio

Satellites

Networks and the Internet

Why do we need network?

To share

Resources

Hardware
devices

Software
programs

Data

Information

**To save
time
and
money**

Networks and the Internet

What is a **server**?

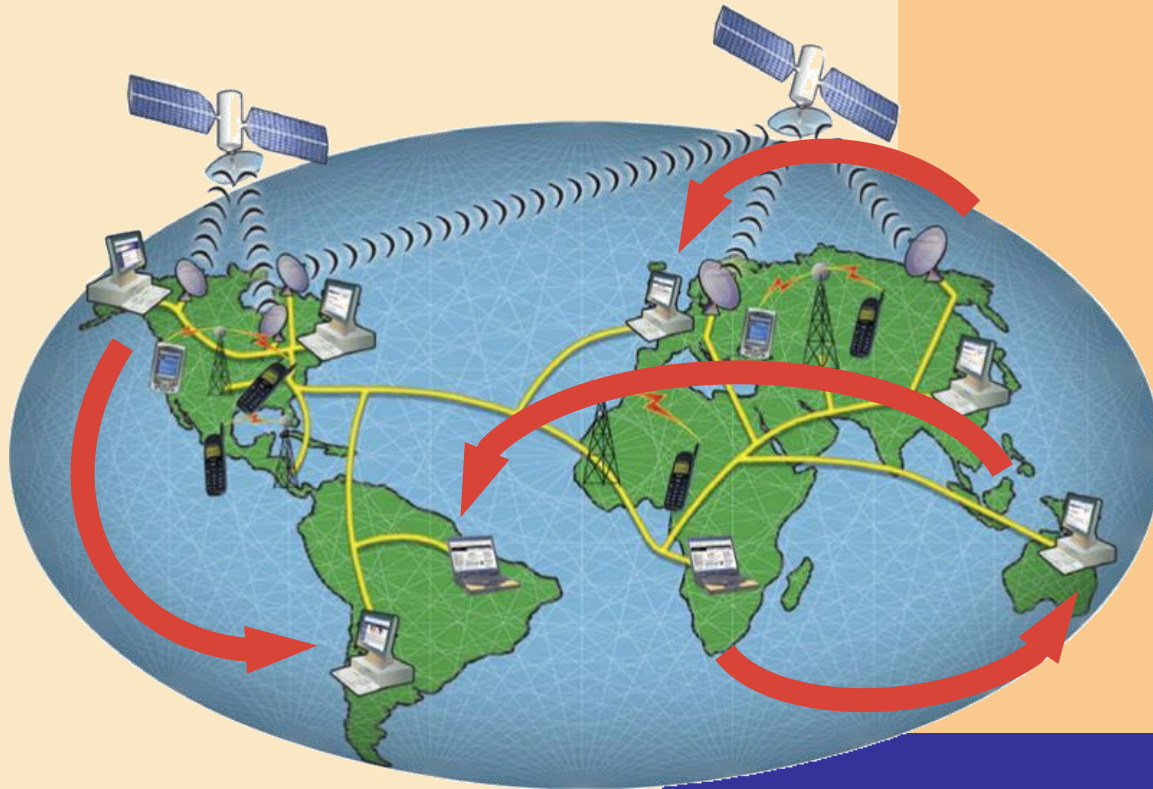
- **Manages the resources on a network**
- **A client accesses the resources on the server**



Networks and the Internet

What is the **Internet**?

- **Worldwide collection of networks that connects millions of computers**



Networks and the Internet

Why do users access the Internet?

- 1. Communications**
- 2. Information**
- 3. Shopping**
- 4. Banking and Investing**
- 5. Classes**
- 6. Entertainment**

Networks and the Internet

What is the **World Wide Web (WWW)**?

- **Billions of documents, called Web pages, available to anyone connected to the Internet**

A **Web site** is a collection of related Web pages

A **Web page** contains text, graphics, sound, video, and links to other Web pages

You can share information by creating Web pages or posting photos on a photo community

Computer Software

How do you install and run a software program?

- A program is a series of instructions that tells the computer what to do

Step 1.

Insert the program disc
into the CD-ROM
drive

Step 2. Install the
software program by
instruction in the disc,
then run the program

Step 3.

The program executes

Computer Software

What is a **graphical user interface (GUI)**?

- **Allows you to interact with the software using graphics and icons**
- **Controls how you enter data and how the screen displays information**

Computer Software

What is **system software**?

- **Programs that control the operations of the computer and its devices**

Operating System (OS)

is a set of programs that coordinates all activities among computer hardware devices and allows users to run application software

Utility Programs allow the user to perform maintenance-type tasks usually related to managing a computer, its devices or its programs

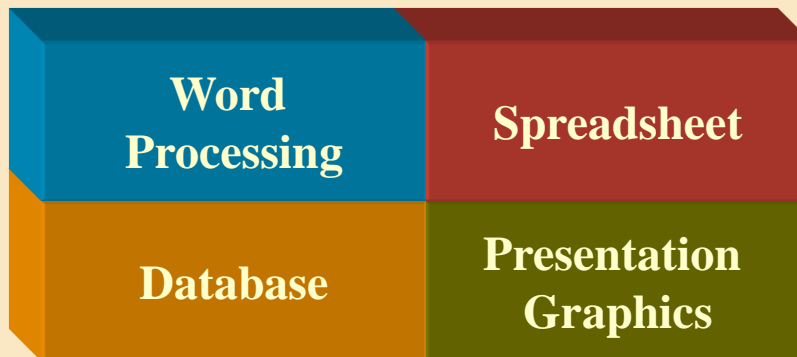
Computer Software

What is **application software**?

➤ **Programs that perform specific tasks for users**

- **Suite**

Popular software applications
bundled together as a single unit



Computer Software

What is a **programmer**?

- **Someone who develops application or system software**
- Programmer writes instructions to direct computer to process data into information

Categories of Computers

What are the categories of computers?

- Personal computers (desktop)
- Mobile computers and mobile devices
- Midrange servers
- Mainframe computers
- Supercomputers

Personal Computers

What are the two most popular series of personal computers?

- **PC and compatibles use the Windows operating system**



- **Apple Macintosh uses the Macintosh operating system (Mac OS)**



Personal Computers

What is a **desktop computer**?

- Designed so all of the components fit on or under a desk or table



Personal Computers

What is a **notebook computer**?

- **Portable, small enough to fit on your lap(2 lbs to 9 lbs)**
- **Also called a **laptop****
- **Generally more expensive than a desktop computer**



Handheld Computers

What is a **tablet PC**?

- Resembles a letter-sized slate
- Allows you to write on the screen using a stylus
- Smaller version is the modular computer



What are **Web-enabled handheld computers**?

- Allow you to check e-mail and access the Internet
- Web-enabled telephone is a “smart phone”

Handheld Computers

What is a **personal digital assistant (PDA)**?

➤ **Provides personal organizer functions**

- Calendar
- Appointment book
- Address book
- Calculator
- Notepad



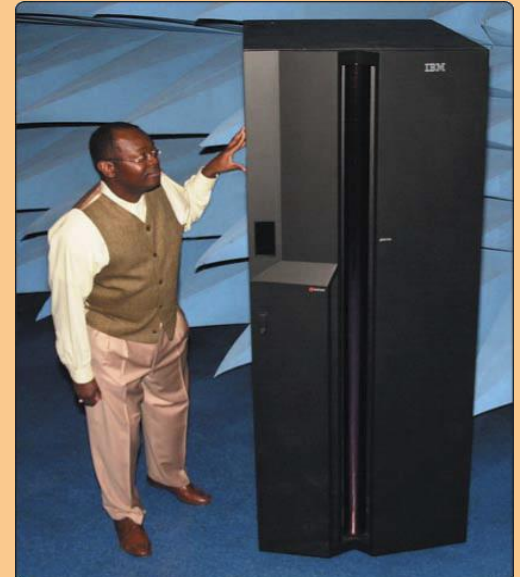
Servers

What types of servers are there?

Midrange server Powerful, large computer that *supports up to a few thousand computers*

Mainframe Very powerful, expensive computer that *supports thousands of computers*

Supercomputer The fastest, most powerful, most expensive computer. *Used for applications requiring complex mathematical calculations*



Elements of an Information System

What are **information system elements** ?

- **People**
- **Procedures**
- **Data**
- **Software**
- **Hardware**

Step 1.

People develop procedures for processing data

Step 2.

People use software to enter data into computer (hardware)

Step 3.

Software processes data and directs hardware to store and or output information

Examples of Computer Usage

What are five categories of computer users?



Home



**Small Office/
Home Office (SOHO)**



Mobile



Large Business



Power

Examples of Computer Usage

What software is available for a home user?

- **Web access**
- **Entertainment**
- **Communications**
- **Personal finance management**

Examples of Computer Usage

What software is available for a small office/home office (SOHO) user?

- **Local area network (LAN)**
- **Productivity software**
- **Specialty software**
- **Web usage**
- **E-mail**



Examples of Computer Usage

What is available for a mobile user?

- **Hardware**
- **Software**
 - Productivity
 - Presentation
 - Personal information manager

Notebook computers



Handheld computers



Web-enabled cellular phones



Examples of Computer Usage

What are the needs of the large business user?

- **Web access**
- **Public kiosk**
- **Telecommuting**
- **Network**
- **Productivity software**
- **Scheduling**

Examples of Computer Usage

What are the needs of a power user?

- **Speed and large amounts of storage**
- **Types of power users**
 - Engineers
 - Architects
 - Desktop publishers
 - Graphic artists

Computer Applications in Society

What are some examples of computer applications in society?

- **Education**
- **Finance**
- **Government**
- **Healthcare**
- **Science**
- **Publishing**
- **Travel**
- **Industry**

