Discovering Computers 2009

Chapter 1
Introduction to Computers

Chapter 1 Objectives

- Recognize the importance of computer literacy
- Define the term, computer
- Identify the components of a computer
- Discuss the advantages and disadvantages of using computers
- Recognize the purpose of a network
- Discuss the uses of the Internet and World Wide Web
- Distinguish between system software and application software
- Describe the categories of computers
- Identify the elements of an information system
- Describe the various types of computer users
- Discuss various computer applications in society

A World of Computers

What is computer literacy (digital literacy)?
- ➢ **Current knowledge and understanding of computers and their uses**
- ➢ **Computers are everywhere**

Next ▶

What Is a Computer?

How is a computer defined?
- ➢ **Electronic device operating under the control of instructions stored in its own memory**

Accepts **data**
Collection of unprocessed items

Processes data into **information**
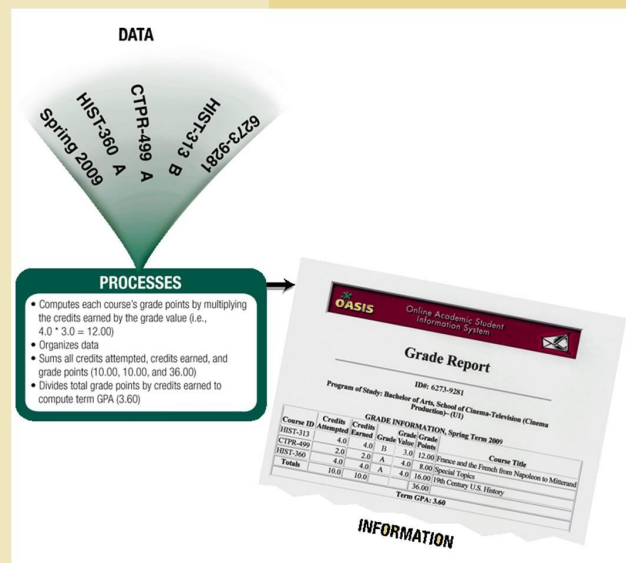Conveys meaning and is useful to people

Produces and stores results

Next ▶

What Is a Computer?

What is the information processing cycle?

➢ **Input**
➢ **Process**
➢ **Output**
➢ **Storage**
➢ **Communication**

Next ▶

The Components of a Computer

What is an input device?

➢ **Hardware** used to enter data and instructions

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The Components of a Computer

What is an output device?

➢ **Hardware that conveys information to one or more people**

p. 7 - 8 Fig. 1-3

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The Components of a Computer

What is the system unit?

➢ **Case that contains the electronic components of the computer that are used to process data**

p. 7 - 8 Fig. 1-3

Next ▶

The Components of a Computer

What are two main components on the motherboard?

Processor

Also called a **Central Processing Unit (CPU)**

The electronic component that interprets and carries out the basic instructions that operate the computer

Memory

Consists of electronic components that store instructions waiting to be executed and data needed by those instructions

Next

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 storage media

Next

The Components of a Computer

What is a USB flash drive?

> ➢Portable storage device
> ➢Small and lightweight enough to be transported on a keychain or in a pocket
> ➢The average USB flash drive can hold about 2 billion characters

Next ▶

The Components of a Computer

What is a hard disk?

➢ **Provides greater storage capacity than a USB flash drive**
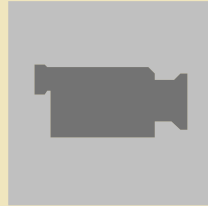

➢ **Most are housed inside the system unit**

Next ▶

The Components of a Computer

Video: Speed Up Your Hard Drive

CLICK TO START

The Components of a Computer

What is a compact disc?

➢ **Flat, round, portable metal disc**

- CD
- DVD

The Components of a Computer

What is a communications device?

Hardware component that enables a computer to send and receive data, instructions, and information

Occurs over cables, telephone lines, cellular radio networks, satellites, and other transmission media

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Next

Advantages and Disadvantages of Using Computers

What are the advantages of using computers?

communications

Speed

Storage

Reliability

Consistency

p. 10

Next

Advantages and Disadvantages of Using Computers

What are the disadvantages of using computers?

Violation of Privacy

Public Safety

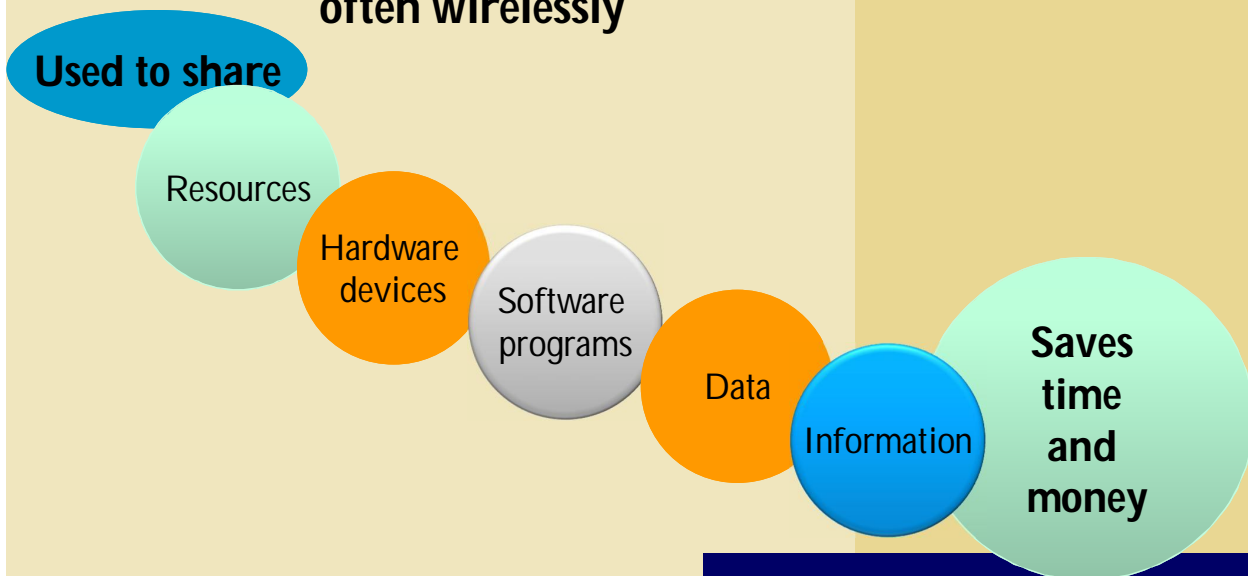**Impact on Labor Force**

Health Risks

Impact on Environment

Next ▶

Networks and the Internet

What is a network?

➢ **Collection of computers and devices connected together, often wirelessly**

Used to share

Resources

Hardware devices

Software programs

Data

Information

Saves time and money

Next ▶

Networks and the Internet

What is a server?

➢ **A server controls access to resources on a network**

➢ **Clients, or workstations, request resources from the server**

Next

Networks and the Internet

What is the Internet?

➢ **Worldwide collection of networks that connects millions of businesses, government agencies, educational institutions, and individuals**

Click to view Web Link, click Chapter 1, Click Web Link from left navigation, then click Internet below Chapter 1

Next

Networks and the Internet

Why do users access the Internet?

1. **Communications**
2. **Research and Information**
3. **Shopping**
4. **Banking and Investing**
5. **Classes**
6. **Entertainment**
7. **Download Music**
8. **Share Information**

Next ▶

Networks and the Internet

What is the Web?

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

A Web site is a collection of related Web pages

You can share information on a **social networking Web site** or a **photo sharing community**

A **podcast** is recorded audio stored on a Web site that can be downloaded

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

A **blog** consists of time-stamped articles in a journal format

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Computer Software

What is software?

Consists of a series of instructions that tells the computer what to do and how to do it
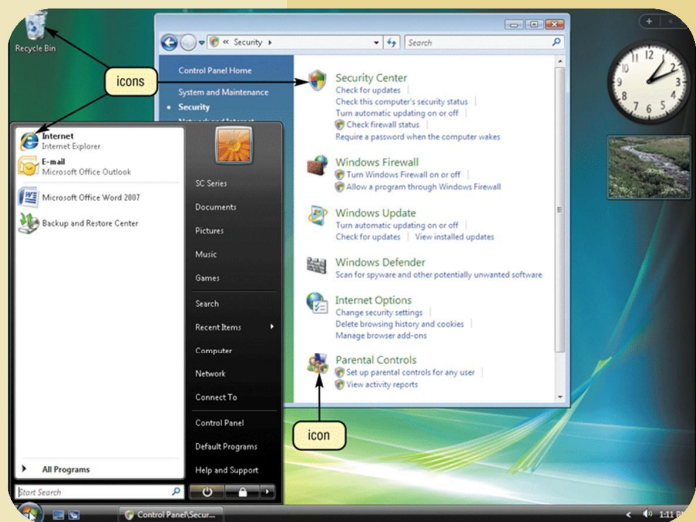
Also called a program

Next

Computer Software

What is a graphical user interface (GUI)?

➢ **Allows you to interact with the software using text, graphics, and visual images such as icons**

➢ **Controls how you enter data and instructions and how the screen displays information**

Next

Computer Software

What is system software?

➢ **Programs that control or maintain the operations of the computer and its devices**

Operating System (OS) is a set of programs that coordinates all activities among computer hardware devices

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

Next ▶

Computer Software

What is application software?

➢ **Programs designed to make users more productive**

Word Processing	Spreadsheet
Database	Presentation Graphics
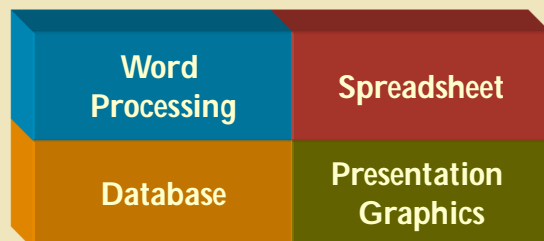
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Computer Software

How do you **install** and **run** programs?

Step 1: INSTALL
When you insert a program disc, such as Microsoft Student, in the CD or DVD drive for the first time, the computer begins the procedure of installing the program on the hard disk.

Step 2: RUN
Once installed, you can instruct the computer to run the program. The computer transfers instructions from the hard disk to memory.

CD or DVD

instructions transfer to memory

Step 3: USE
The program executes so that you can use it. This program provides assistance with math and other academic assignments.

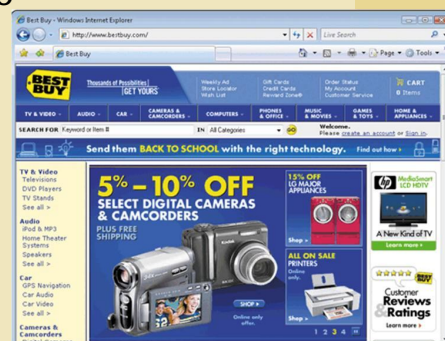Next

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Computer Software

What is a **programmer**?
➤ **Someone who develops software**
- Programmer writes the instructions to direct the computer to process data into information

JavaScript

Web application

Next

Categories of Computers

What are the categories of computers?

Personal Computers (desktop)

Mobile Computers and Mobile Devices

Game Consoles

Servers

Mainframes

Supercomputers

Embedded Computers
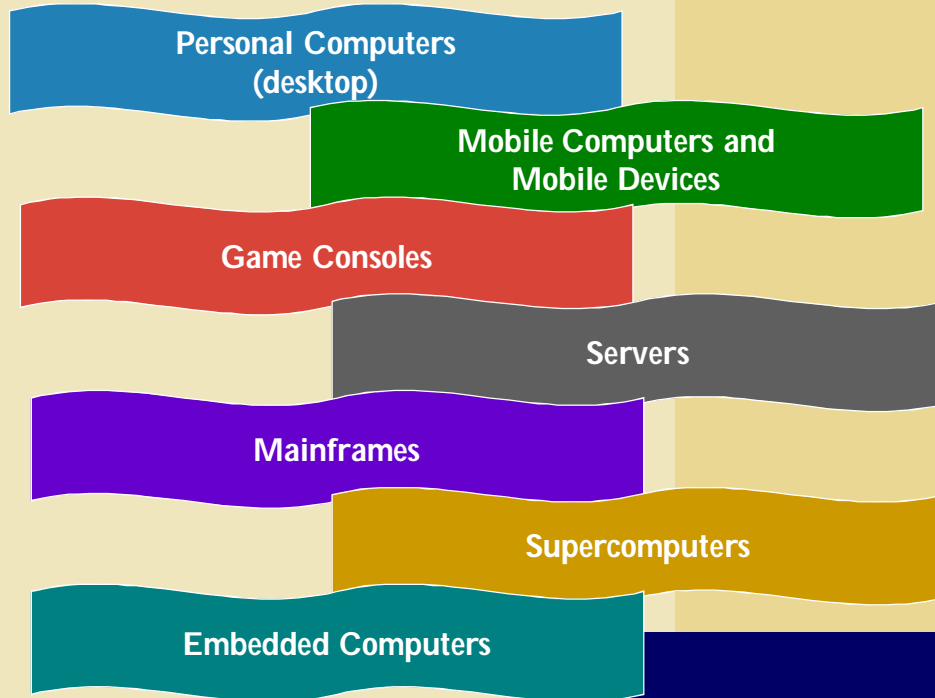
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Personal Computers

What are the two most popular styles of personal computers?

➤ PC and compatibles use the Windows operating system

➤ Apple Macintosh usually uses the Macintosh operating system (Mac OS X)

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Next

Personal Computers

What is a desktop computer?

➢ **Designed so all of the components fit entirely on or under a desk or table**

Next ▶

Mobile Computers and Mobile Devices

What is a notebook computer?

➢ **Portable, small enough to fit on your lap**

➢ **Also called a laptop computer**

➢ **Usually more expensive than a desktop computer with equal capabilities**

display

keyboard

hinge

CD or
DVD drive

Next ▶

Mobile Computers and Mobile Devices

What is a Tablet PC?

➢ **Resembles a letter-sized slate**
➢ **Allows you to write on the screen using a digital pen**
➢ **Especially useful for taking notes**

digital pen

Next

Mobile Computers and Mobile Devices

What are mobile devices?

Small enough to carry in a pocket

Internet-enabled telephone is a "smart phone"

Next

Mobile Computers and Mobile Devices

What is a handheld computer?

Small enough to fit in one hand

Used by mobile employees such as meter readers and delivery people

Next

Mobile Computers and Mobile Devices

What is a personal digital assistant (PDA)?

➢ **Provides personal organizer functions**

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

stylus

Next

Mobile Computers and Mobile Devices

What are smart phones?

Click to view Web Link, click Chapter 1, Click Web Link from left navigation, then click iPhone below Chapter 1

p. 22 Fig. 1-21

Game Consoles

What are game consoles?

Mobile computing device designed for single-player or multiplayer video games

p. 22 Fig. 1-22

Servers

What types of servers are there?

A **server** controls access to network resources and provides centralized storage

Mainframe Very powerful, expensive computer that supports thousands of connected users

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

Next

Embedded Computers

What is an embedded computer?

➢ A special-purpose computer that functions as a component in a larger product

Adaptive cruise control systems detect if cars in front of you are too close and, if necessary, adjust the vehicle's throttle, may apply brakes, and/or sound an alarm.

Advanced airbag systems have crash-severity sensors that determine the appropriate level to inflate the airbag, reducing the chance of airbag injury in low-speed accidents.

Tire pressure monitoring systems send warning signals if tire pressure is insufficient.

Drive-by-wire systems sense pressure on the gas pedal and communicate electronically to the engine how much and how fast to accelerate.

Cars equipped with wireless communications capabilities, called *telematics*, include such features as navigation systems and Internet access.

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Elements of an Information System

What are information system elements?

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

Step 1:
IT staff (people) develop processes (procedures) for recording checks (data) received from customers.

Step 2:
Employees (people) in the accounts receivable department use a program (software) to enter the checks (data) in the computer.

Step 3:
The computer (hardware) performs calculations required to process the accounts receivable and stores the results on storage media such as a hard disk (hardware).

Step 4:
Customer statements, the information, print on a corporate printer (hardware).

Next ▶

Examples of Computer Usage

What software is available for a home user?

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

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Click to view Web Link, click Chapter 1, Click Web Link from left navigation, then click Minorities in Technology below Chapter 1
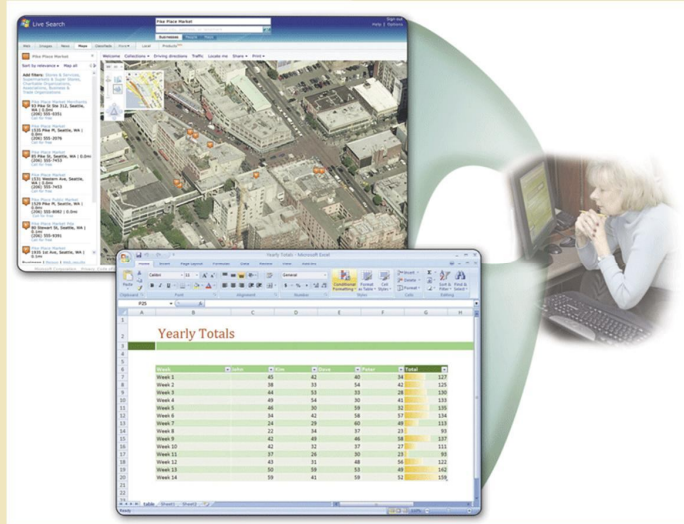
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Examples of Computer Usage

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

- ➢ **Productivity software**
- ➢ **Specialty software**
- ➢ **Web usage**
- ➢ **E-mail**

Next ▶

Examples of Computer Usage

What is available for a mobile user?

- ➢ **Hardware**
  - ▪ Notebook computers
  - ▪ Tablet PCs
  - ▪ Internet-enabled PDAs
  - ▪ Smart phones

- ➢ **Software**
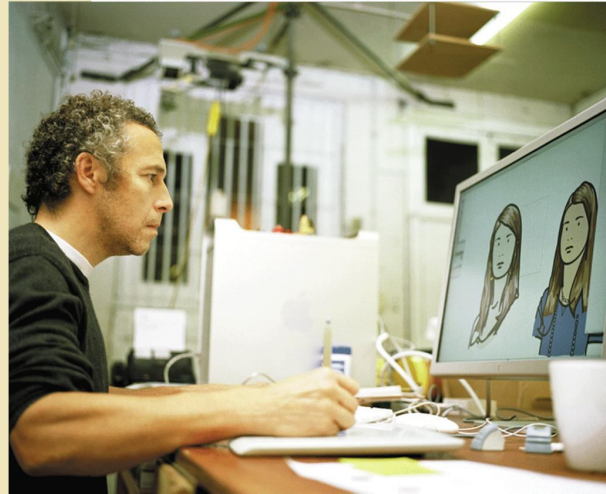 - ▪ Word processing
  - ▪ Spreadsheet
  - ▪ Presentation graphics software

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Examples of Computer Usage

What are the needs of a **power user**?

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

Next ▶

Examples of Computer Usage

What are the needs of the **large business user**?

- ➢ **Payroll**
- ➢ **Inventory**
- ➢ **E-commerce**
- ➢ **Desktop publishing**

Next ▶

Computer Applications in Society

What are some examples of computer applications in society?

- ➢ **Education**
- ➢ **Finance**
- ➢ **Government**
- ➢ **Health Care**
- ➢ **Science**
- ➢ **Publishing**
- ➢ **Travel**
- ➢ **Manufacturing**

p. 32-36 Figs. 1-36–1-43
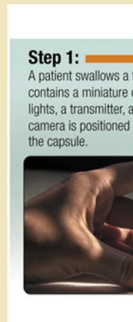
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Summary of Introduction to Computers

Basic computer concepts	The uses of the Internet
The term, computer	Computer software
The components of a computer	Categories of computers
The advantages and disadvantages of using computers	Types of computer users
The purpose of a network	Computer applications in society

Chapter 1 Complete

DATA

Kumpulan dari sesuatu yang belum diproses, dapat berupa huruf (A-Z), angka (0-9), suara dan vidio

Informasi

Data yang sudah diolah, dan berguna bagi yang memerlukan