Chapter 1 Objectives

- Explain the importance of computer literacy
- Define the term computer
- Identify the components of a computer
- Explain why a computer is a powerful tool
- Differentiate among the various types of software
- Understand how a user can be a Web publisher
- Discuss the uses of the Internet and the World Wide Web
- Describe the categories of computers and their uses
- Identify the various types of computer users

The Digital Revolution

Where can you find computers?

- Computers are everywhere

What is computer literacy?

- Knowledge and understanding of computers and their uses

What Is a Computer?

How is a computer defined?

- Electronic machine operating under the control of instructions stored in its own memory
  - Accepts data
  - Manipulates data
  - Produces results
  - Stores results

Data

Raw facts, figures, and symbols

Information

Data that is organized, meaningful, and useful
What Is a Computer?

Who is a user?
• Person who communicates with a computer or uses the information it generates.

What are hardware and software?
- Hardware: Electronic and mechanical equipment
- Software: Instructions that tell hardware how to perform tasks.

What is the information processing cycle?
1. Input
2. Process
3. Output
4. Storage
5. Communication

The Components of a Computer

What are common computer hardware components?
- Printer
- Scanner
- Speaker
- PC camera
- Microphone
- Digital camera
- System unit
- Keyboard
- Monitor
- Mouse

What is an input device?
• Hardware used to enter data and instructions

What is an output device?
• Hardware that conveys information to a user
The Components of a Computer

What is the system unit?
- Box-like device containing electronic components connected to motherboard
- Also called a chassis

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

What is a chip?
- Device with microscopic pathways that carry electrical currents
- Attaches to motherboard

What is storage?
- Holds data, instructions, and information for future use

What are common storage devices or drives?
- CD-RW drive
- CD-ROM or DVD-ROM drive
- ZIP® drive
- floppy disk drive

What is a floppy disk?
- Thin, circular, flexible disk enclosed in rigid plastic
- A ZIP® disk is a higher capacity disk

Storage Medium
- Physical material on which data, instructions, and information are stored

Storage Device
- Records and retrieves items to and from a storage medium
The Components of a Computer

What is a hard disk?
• Provides much greater storage capacity than a floppy disk

What is a compact disc?
• Portable storage media
  - CD-ROM
  - CD-RW
  - DVD-ROM
  - DVD+RW

What is miniature storage media?
• Portable, thin, credit card size memory
• Used in digital cameras and handheld computers

What is a communications device?
• Establishes a connection between two computers using cable, telephone lines, and satellites
• One type is a modem

Why Is a Computer So Powerful?
What makes a computer powerful?
- Storage
- Reliability
- Speed
- Accuracy
- Communications

Computer Software
What is a computer program?
• A series of instructions that tells the computer what to do
What happens when you run a program from a CD-ROM?

Step 1: Insert the CD-ROM into the CD-ROM drive
Step 2: Instruct the computer to run the program
Step 3: The program executes

What is system software?
• Programs that control the operations of the computer and its devices

What is the user interface?
• Controls how you enter data and commands and how information displays

What is a graphical user interface (GUI)?
• Uses visual images such as icons
  • Icon represents program, instruction, or some other object

What is application software?
• Programs that perform specific tasks for users

What are shareware, freeware, public-domain software?

Shareware
• Copyrighted software distributed free for trial period
• Send payment to developer on honor system

Freeware
• Software provided at no cost
• Copyrighted
• Cannot resell it as your own

Public-Domain Software
• Freeware donated for public use
• No copyright restrictions
Computer Software

What is an application service provider (ASP)?

Third-party company that manages and distributes software and services on the Internet

You can run the programs from the Internet

Both free and paid ASPs

Who designs and writes software?

• Systems analyst
• Programmer

Communications Device

Modem

Communications Media

Cables
Telephone lines
Cellular radio
Satellites

What is a network?

• Collection of computers and devices connected together

What are the reasons to network?

To share resources

Hardware devices

Software programs

Information

Data

To save time and money

Networks and the Internet

What is a local area network (LAN)?

• Network that connects computers in a limited geographic area

What is a wide area network (WAN)?

• Network that covers large geographical area
Networks and the Internet

What is the Internet?
- Worldwide collection of networks that links millions of computers together

Why do users access the Internet?
- E-mail
- Information
- Shopping
- Meeting people
- Entertainment

How do users connect to the Internet?
- Online Service Provider (OSP) provides access to the Internet and specialized services (AOL and MSN)
- Internet Service Provider (ISP) provides access to the Internet

What is the World Wide Web (WWW)?
- Billions of documents, called Web pages, linked together on computers throughout the world

How do you connect to the Internet and display a Web page?
1: Use computer to make a local telephone call to an online service provider
2: Use browser such as Internet Explorer to display a Web page
3: Enter the address of the Web site
4: The Web browser locates the Web site and displays the Web page

Categories of Computers

What are the categories of computers?

<table>
<thead>
<tr>
<th>Category</th>
<th>Physical size</th>
<th>Number of simultaneously connected users</th>
<th>General public usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal computer</td>
<td>Fits on a desk or in your lap</td>
<td>Usually one</td>
<td>Usually one</td>
</tr>
<tr>
<td>Laptop computer</td>
<td>Fits in your laptop</td>
<td>Usually one</td>
<td>Usually one</td>
</tr>
<tr>
<td>Notebook computer</td>
<td>Fits on a notebook</td>
<td>Usually one</td>
<td>Usually one</td>
</tr>
<tr>
<td>Internet appliance</td>
<td>Fits on a computer</td>
<td>Usually one</td>
<td>Usually one</td>
</tr>
<tr>
<td>Web-browser server</td>
<td>Small central</td>
<td>Very low</td>
<td>$0.05 to $0.10 per page</td>
</tr>
<tr>
<td>Backbone</td>
<td>Large central</td>
<td>Many users to thousands</td>
<td>$500,000 to several million dollars</td>
</tr>
<tr>
<td>Supercomputer</td>
<td>Fast local devices</td>
<td>Many thousands</td>
<td>Several million dollars to up</td>
</tr>
</tbody>
</table>

Networks and the Internet

Web site
- Collection of related Web pages

Web page
- Contains text, graphics, sound, or video and links to other Web pages

Web browser
- Program used to access and view Web pages
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).

What is a notebook computer?

- Portable, small enough to fit on your lap
- Also called a laptop
- Generally more expensive than a desktop computer

What is a handheld computer?

- Small computer that fits in your hand
- Also called a palmtop or pocket computer

How do you input data with a handheld computer?

- Keyboard
- Stylus
- Speech recognition
- Handwriting recognition

What is a personal digital assistant (PDA)?

- Provides personal organizer functions
  - Calendar
  - Appointment book
  - Address book
  - Calculator
  - Notepad

What are Web-enabled handheld computers?

- Allow wireless Internet access
Internet Appliances

What is an Internet appliance?
• Computer whose main purpose is to connect to Internet from home
• Web TV is one example

Elements of an Information System

What are information system elements?
• Hardware
• Software
• Data
• People
• Procedures

Examples of Computer Usage

What are five categories of computer users?
• Home
• Mobile
• Large Business
• Small Office/Home Office
• Power

What software is available for a home user?
• personal finance management
• communications
• Web access
• entertainment

What software is available for a small office/home office (SOHO) user?
• Local area network (LAN)
• Productivity software
• Specialty software
• Web usage
• E-mail
• E-commerce

What is available for a mobile user?
• Hardware
  - Notebook computers
  - Handheld computers
  - Web-enabled cellular telephones
• Software
  - Productivity
  - Presentation
What are the needs of the large business user?
- Network
- Sales management
- Accounting
- Desktop publishing
- Information systems department
- Productivity software
- Scheduling
- Web access
- Telecommuting

What are the needs of a power user?
- Speed and large amounts of storage
- Types of power users
  - Engineers
  - Architects
  - Desktop publishers
  - Graphic artists

Why do users publish Web pages?
- Family information
- Resume online
- Electronic storefront
- Photo communities

Summary of Introduction to Computers
- The digital revolution
- What is a computer?
- The components of a computer
- Why is a computer so powerful?
- Computer software
- Networks and the Internet
- Categories of computers
- Personal computers (continued)

Chapter 1 Complete