Discovering Computers 2005

A Gateway to Information



Chapter 1
Introduction to Computers

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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
- Distinguish between installing and running a program
- Identify the types of software
- Describe the categories of computers
- Determine how the elements of an information system interact
- Identify the types of computer users
- Discuss various computer applications in society

Next

A World of Computers

What is computer literacy?

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



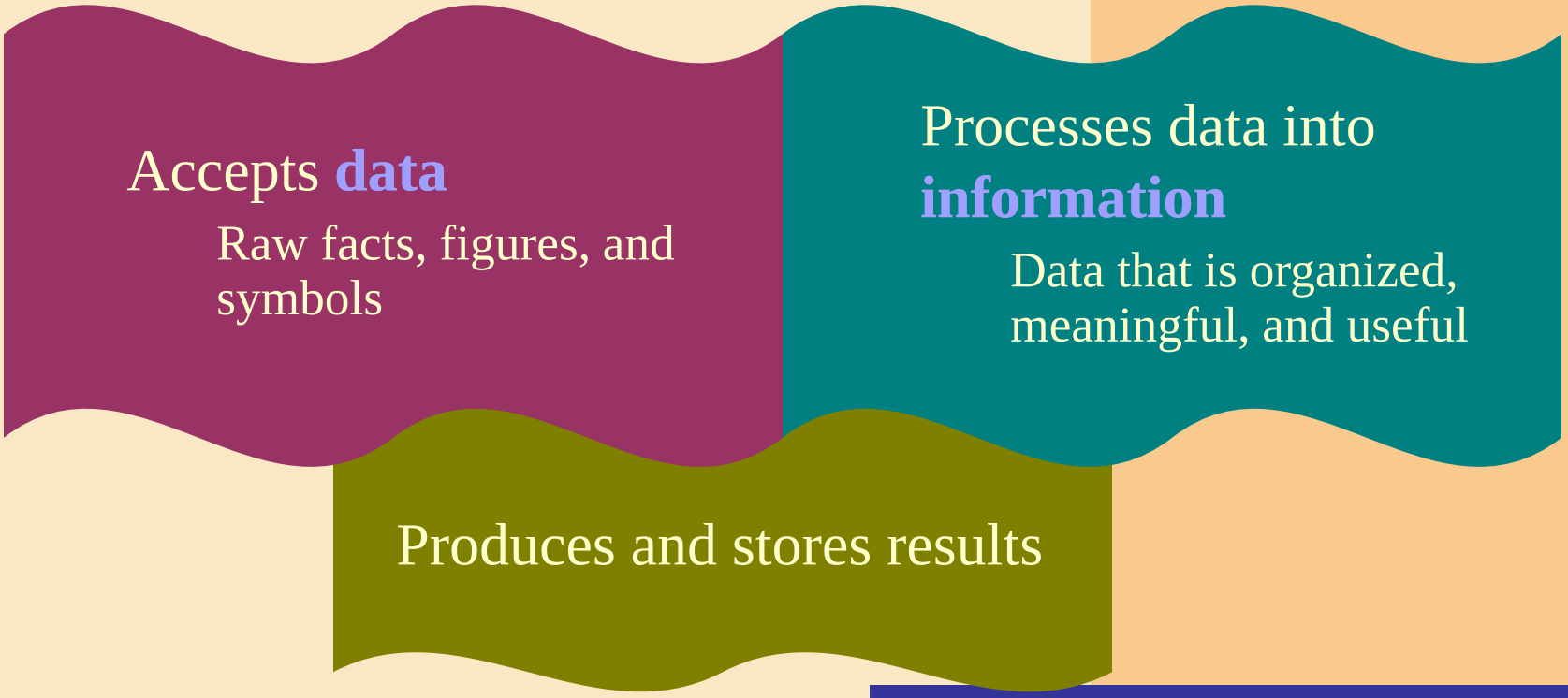
p. 5 Fig. 1-1

Next

What Is a Computer?

How is a computer defined?

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



Next

What Is a Computer?

What is the information processing cycle?

- Input
- Process
- Output
- Storage
- Communication



p. 6 Fig. 1-2

Next

The Components of a Computer

What is an input device?

- Hardware used to enter data and instructions



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

p. 7 Fig. 1-3

Next

The Components of a Computer

What is an output device?

- Hardware that conveys information to a user



Click to view Web Link,
click Chapter 1, Click Web Link
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below Chapter 1
p. 8 Fig. 1-3

Next

The Components of a Computer

What is the system unit?

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



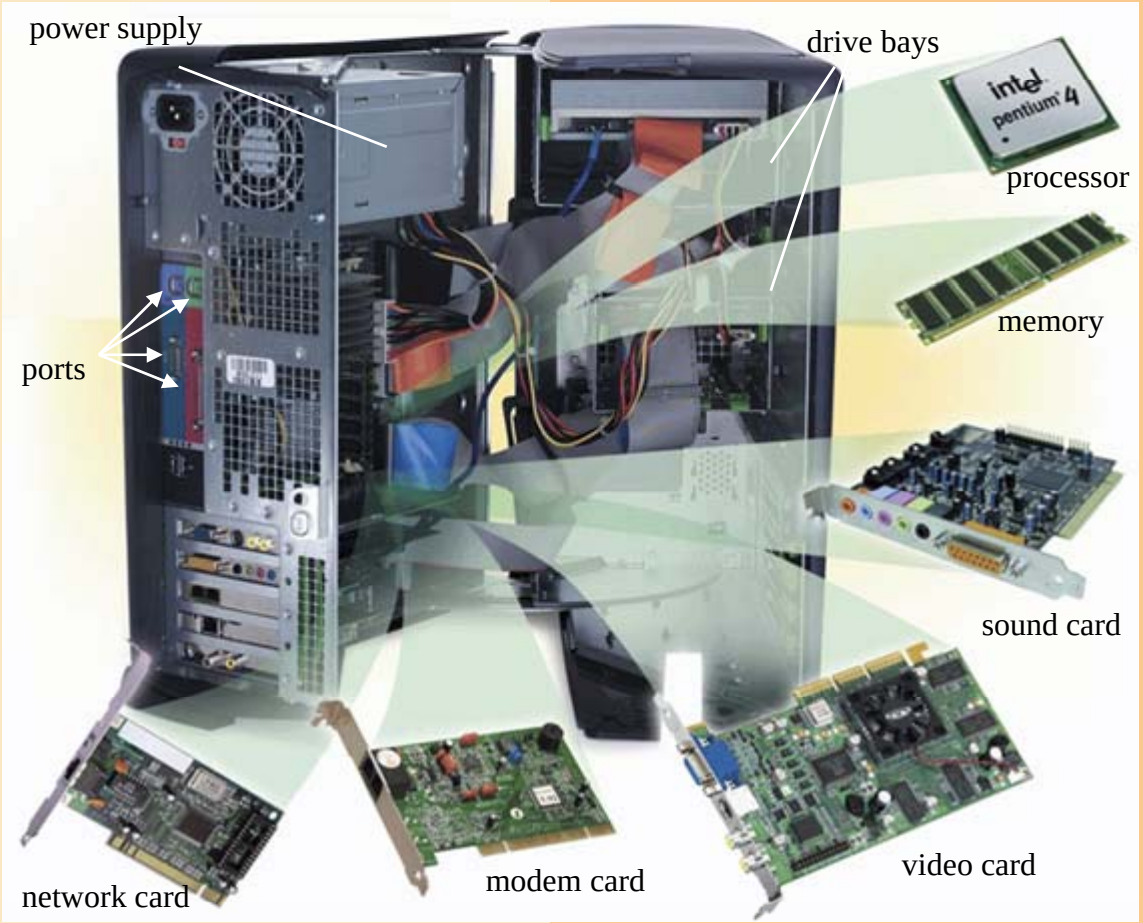
p. 8 Fig. 1-3

Next

The System Unit

What are common components inside the system unit?

- Processor
- Memory
- Adapter cards
  - Sound card
  - Modem card
  - Video card
  - Network card
- Ports
- Drive bays
- Power supply



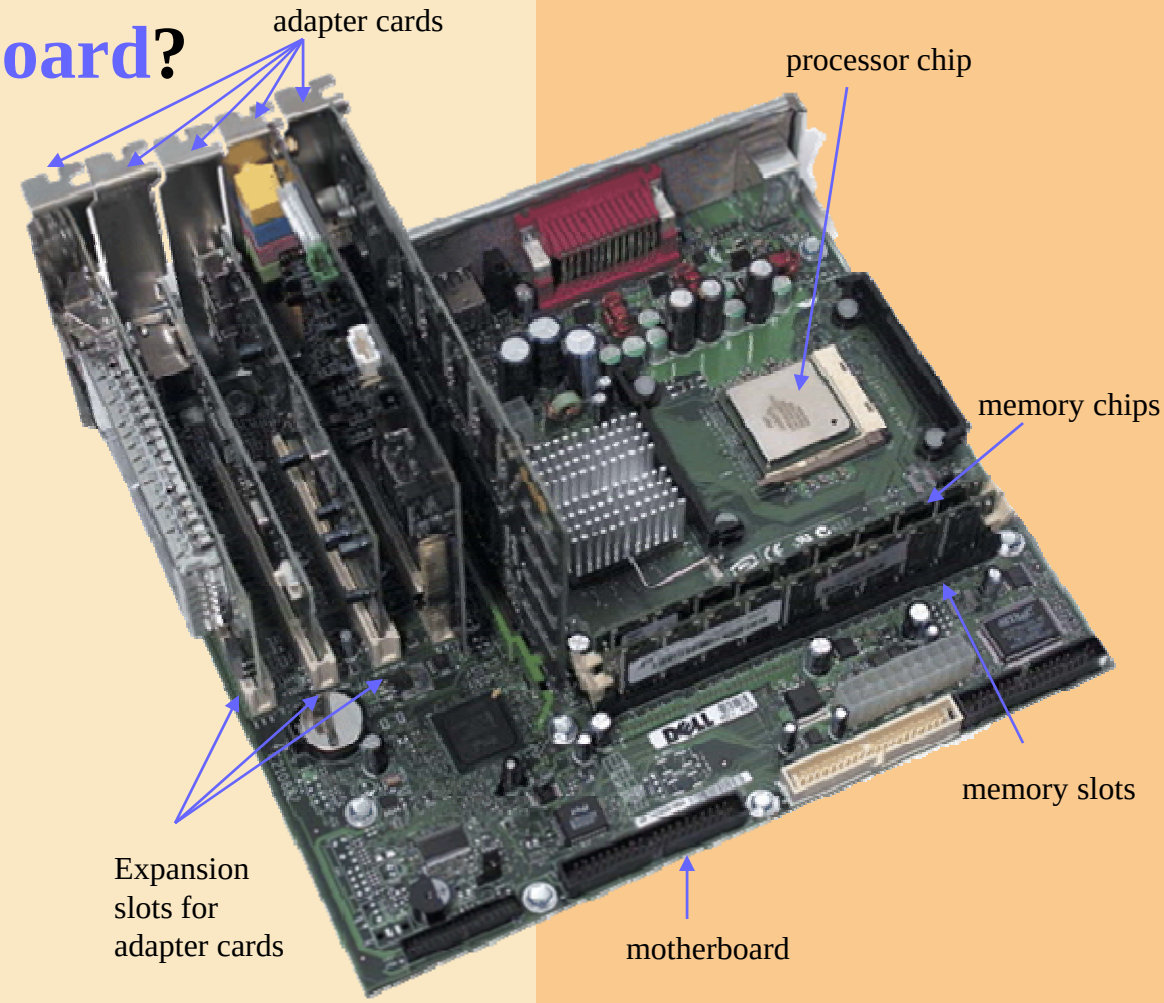
p. 181 Fig. 4-2

Next

The System Unit

What is the motherboard?

- Main circuit board in system unit
- Contains adapter cards, processor chips, and memory chips
- Also called system board



Click to view Web Link, click Chapter 4, Click Web Link from left navigation, then click Clock Motherboards below Chapter 4

p. 182 Fig. 4-3

Next

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

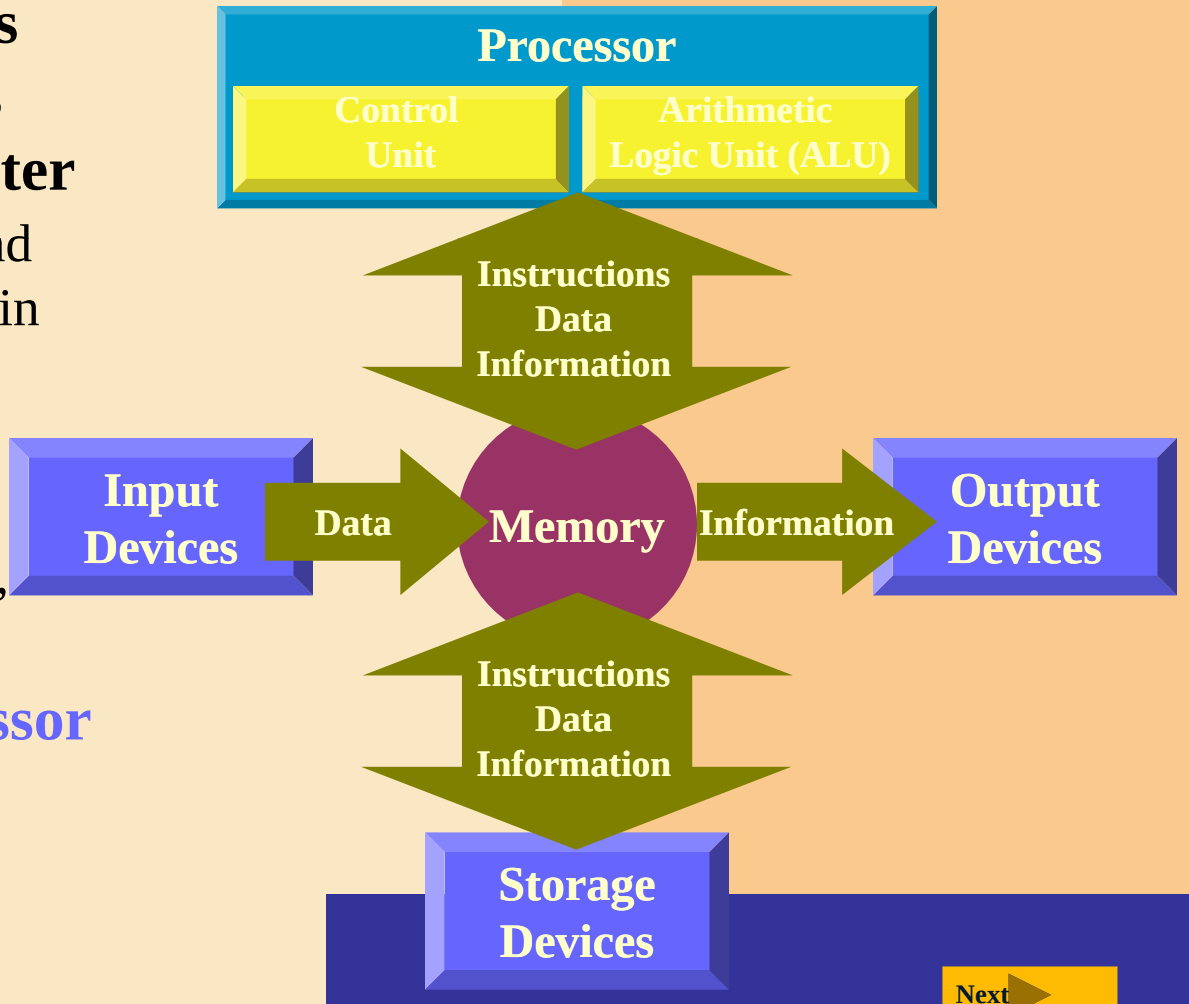
Temporary holding place for data and instructions

Next

Processor

What is the central processing unit (CPU)?

- **Interprets and carries out basic instructions that operate a computer**
  - **Control unit** directs and coordinates operations in computer
  - **Arithmetic logic unit (ALU)** performs arithmetic, comparison, and logical operations
- **Also called the processor**



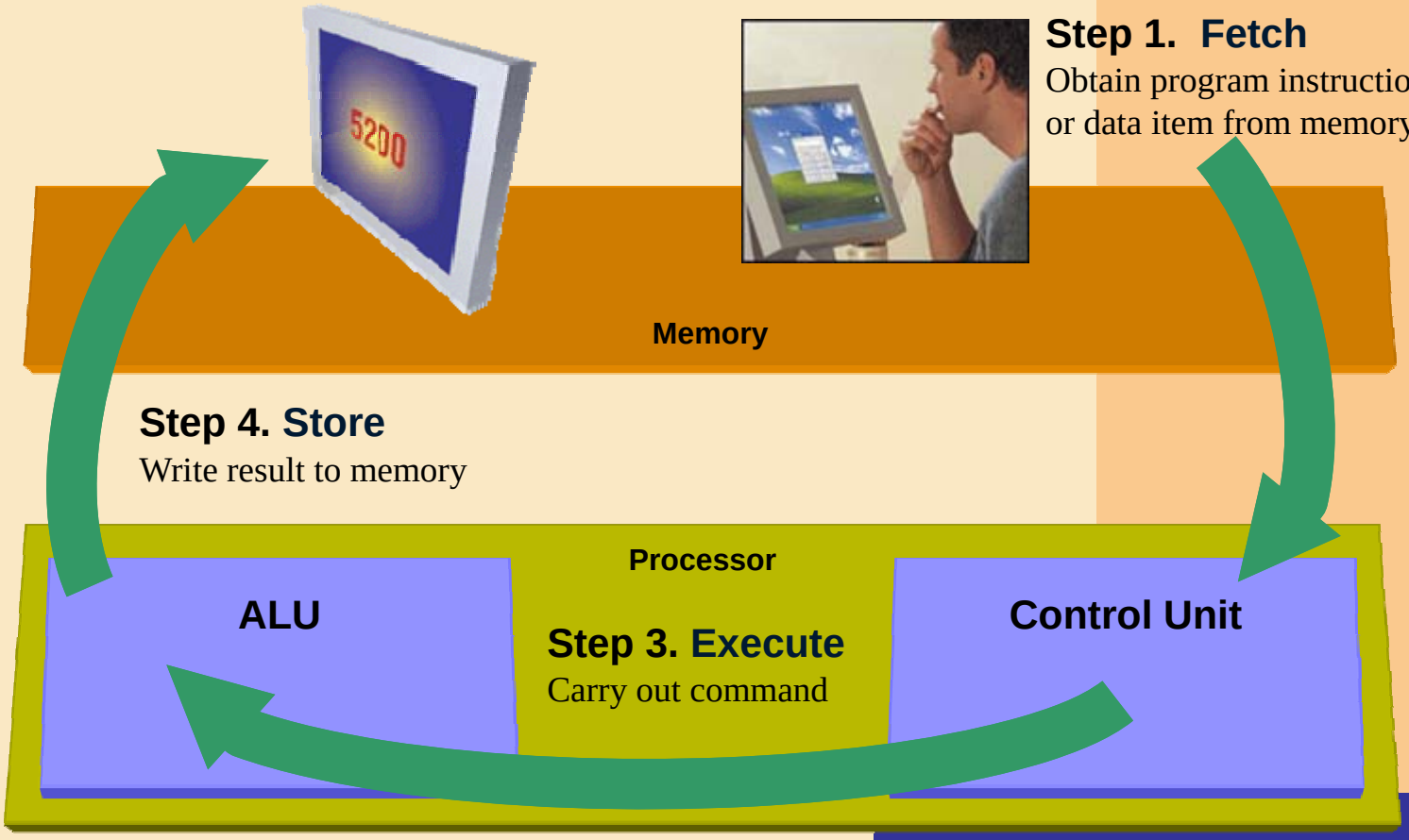
p. 183 Fig. 4-5

Next

Processor

What is a machine cycle?

- **Four operations of the CPU comprise a machine cycle**



p. 184 Fig. 4-6

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

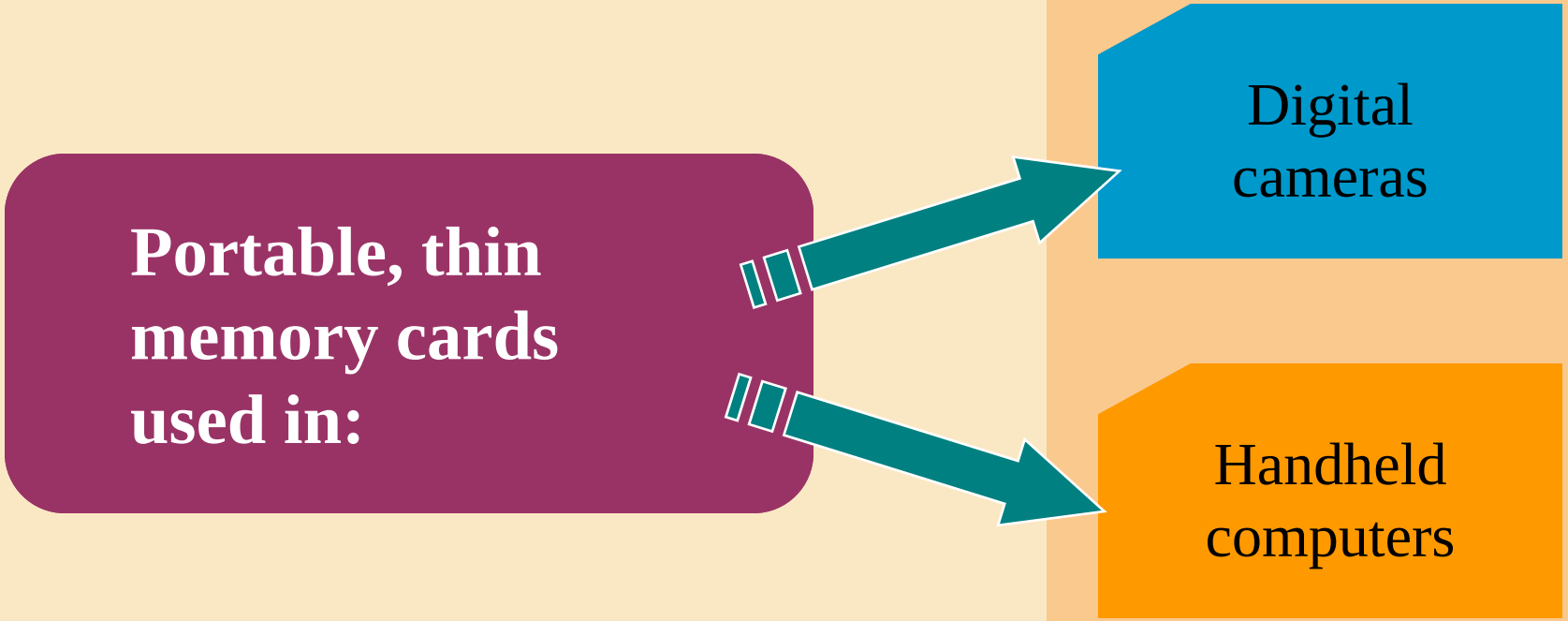
Storage device

Records and retrieves items to and from a storage medium

Next

The Components of a Computer

What is storage media?



Next

The Components of a Computer

What is a floppy disk?

- **Thin, circular, flexible disk enclosed in rigid plastic shell**
- **A USB flash drive is portable, and has much greater storage capacity**

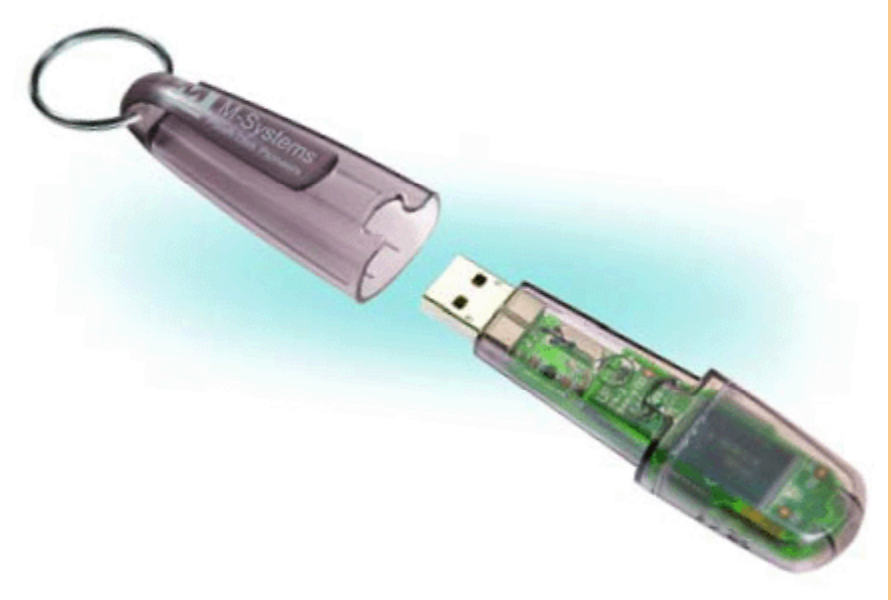


Next

The Components of a Computer

What is a flash drive?

- **Provides much greater storage capacity than a floppy disk or Zip® disk**
- **Small and lightweight enough to be transported on a keychain or in a pocket**



Next

The Components of a Computer

What is a hard disk?

- **Provides much greater storage capacity than a floppy disk or USB flash drive**
- **Housed inside the system unit**

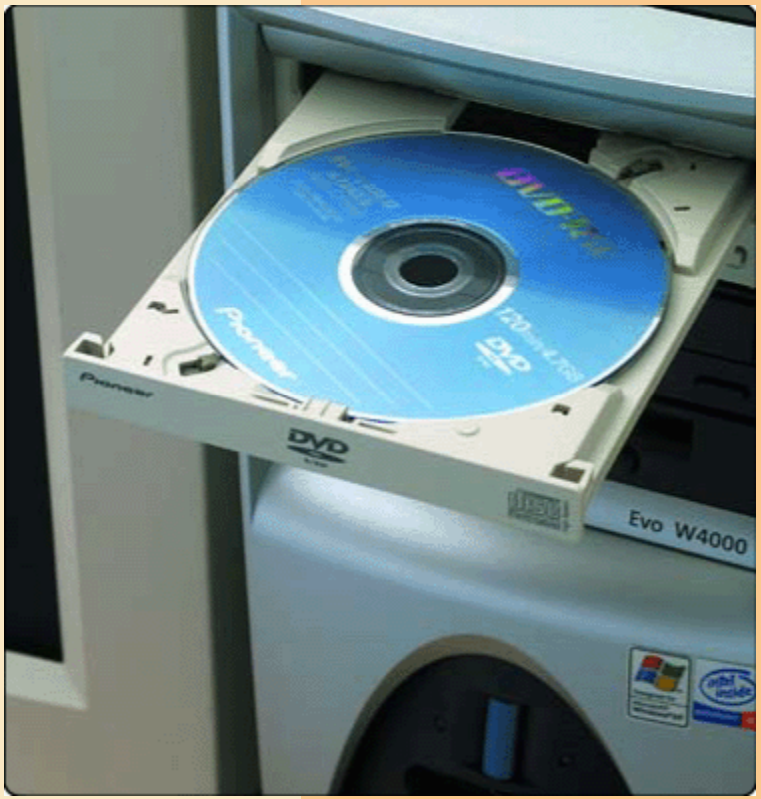


Next

The Components of a Computer

What is a compact disc?

- **Flat, round, portable metal disc**
  - CD-ROM
  - CD-RW
  - DVD-ROM
  - DVD+RW



Next

Why Is a Computer So Powerful?

What makes a computer powerful?

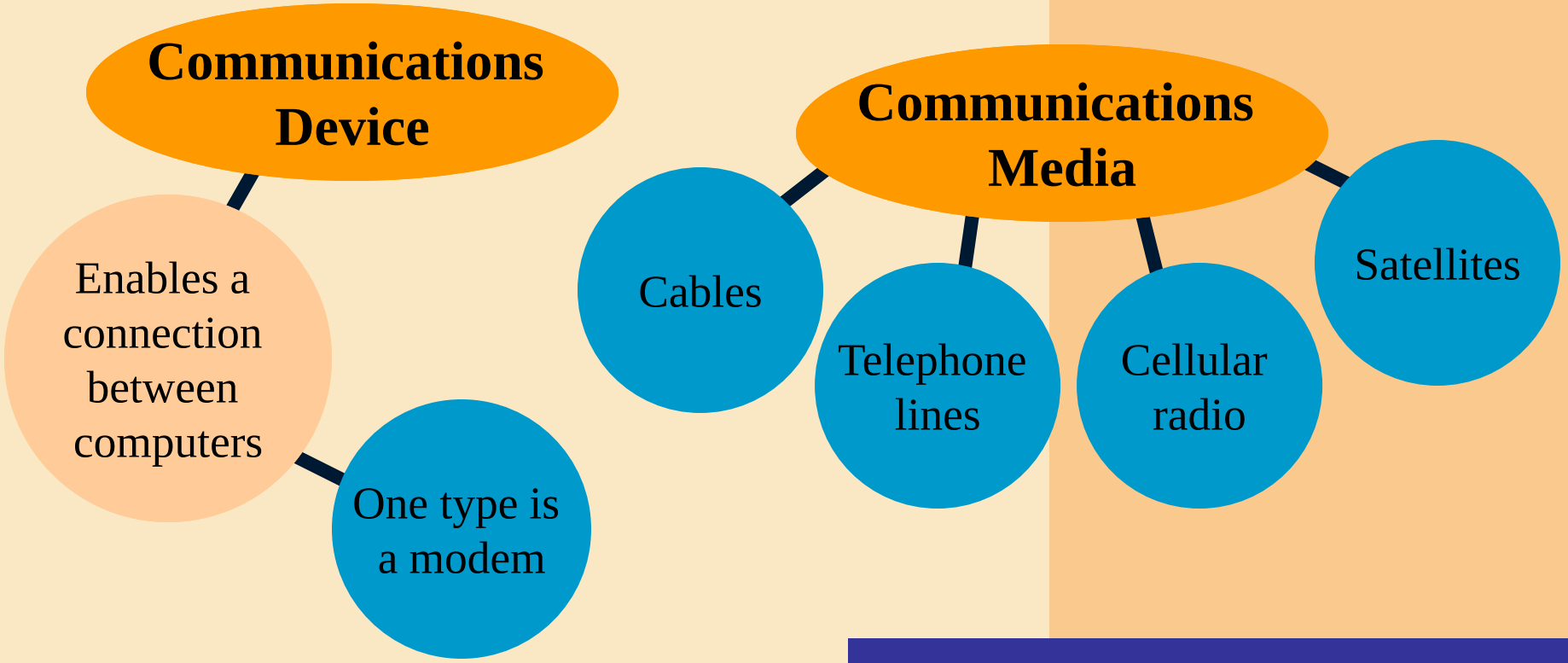


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Networks and the Internet

What is a network?

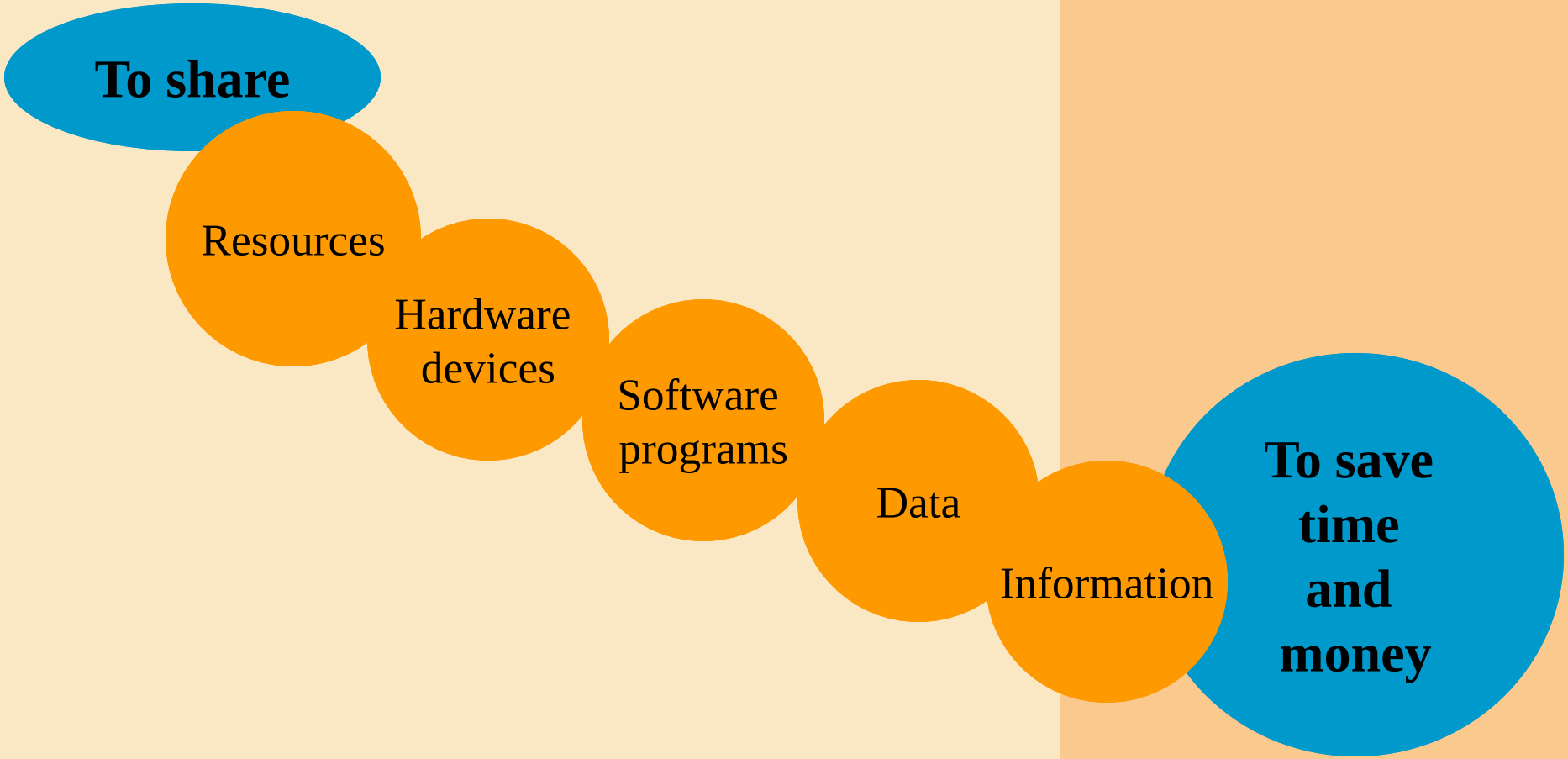
- **Collection of computers and devices connected together**



Next

Networks and the Internet

What are the reasons to network?

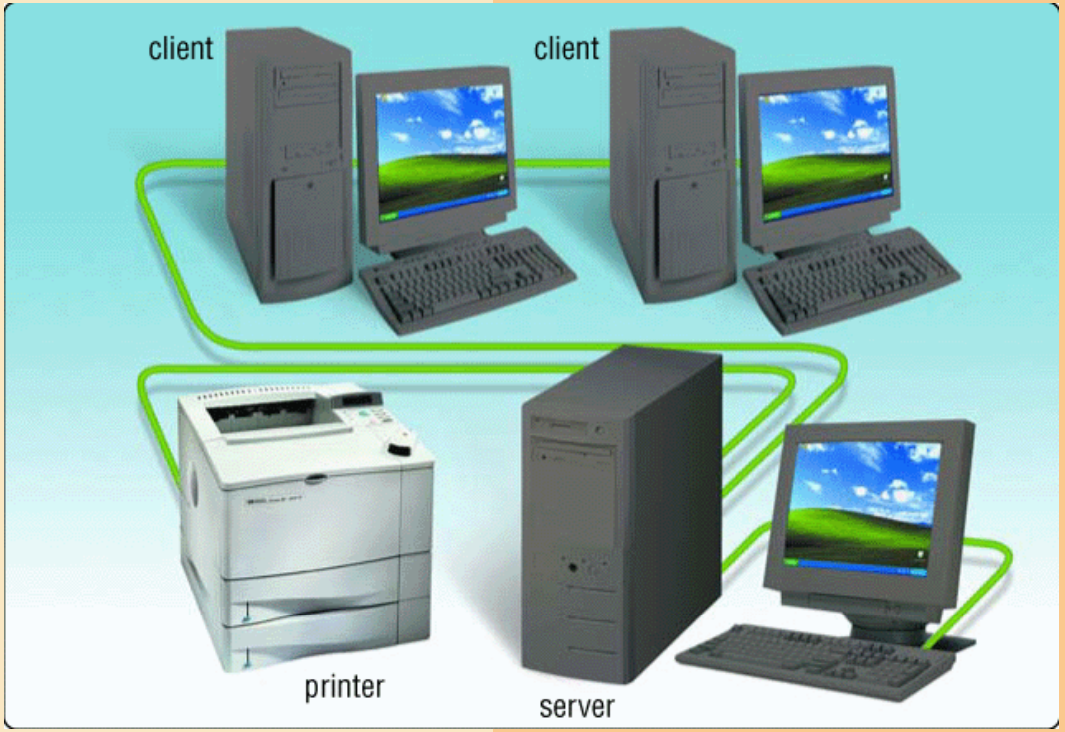


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Networks and the Internet

What is a server?

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



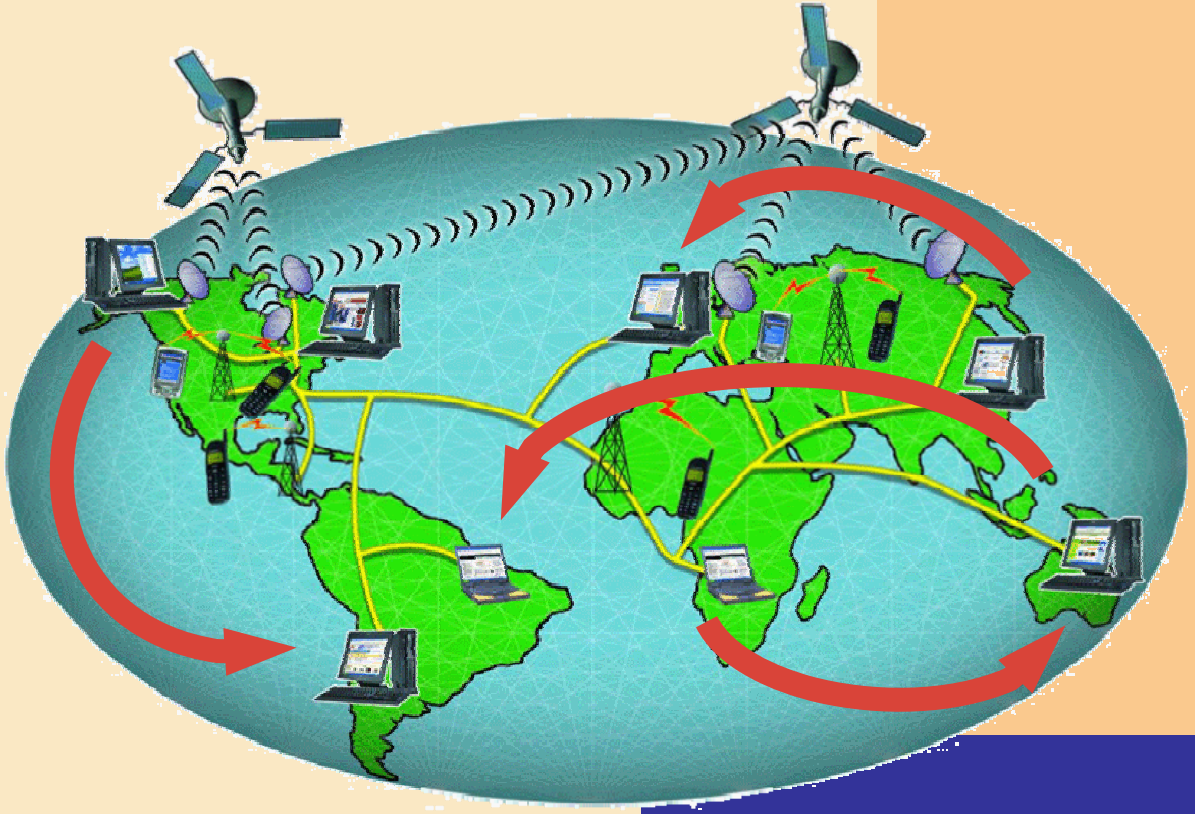
p. 10 Fig. 1-8

Next

Networks and the Internet

What is the Internet?

- Worldwide collection of networks that connects millions of computers



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below Chapter 1

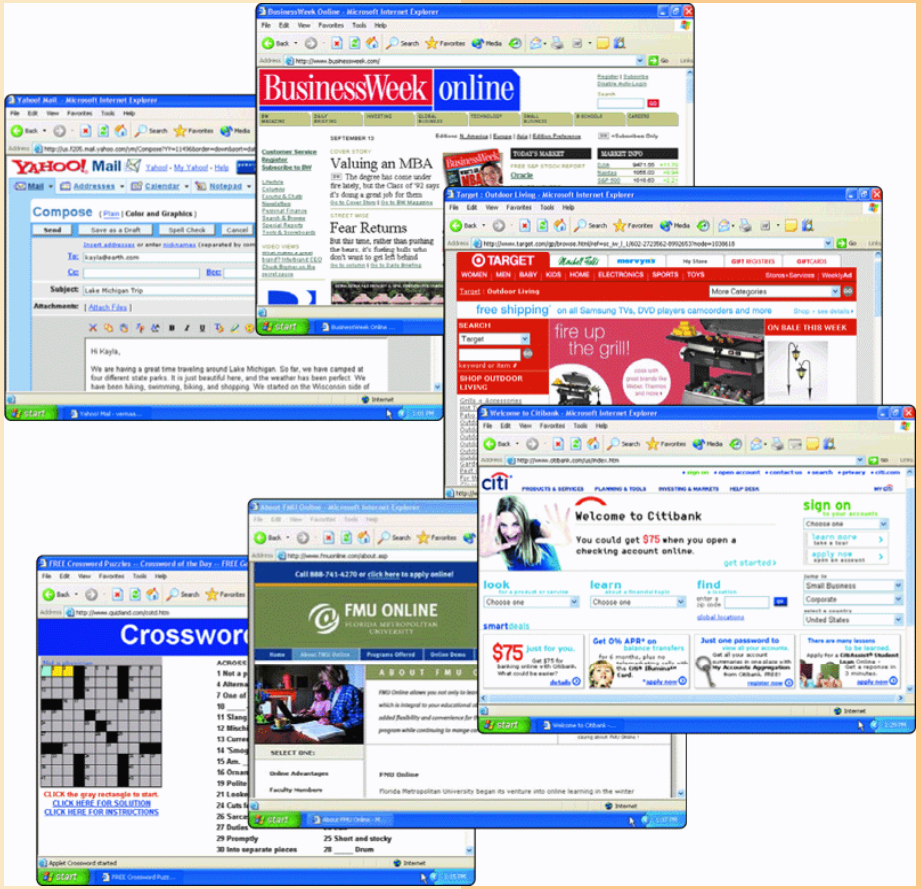
p. 11 Fig. 1-9

Next

Networks and the Internet

Why do users access the Internet?

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



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

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

Next

Application Software

What is application software?

- Programs that perform specific tasks for users

CATEGORIES OF APPLICATION SOFTWARE

1 Business	2 Graphics and Multimedia	3 Home/Personal/Educational
• Word Processing	• Computer-Aided Design (CAD)	• Software Suite (for Personal Use) (e.g., word processing, spreadsheet, database)
• Spreadsheet	• Desktop Publishing (for the Professional)	• Personal Finance
• Database	• Paint/Image Editing (for the Professional)	• Legal
• Presentation Graphics	• Video and Audio Editing	• Tax Preparation
• Note Taking	• Multimedia Authoring	• Desktop Publishing (for Personal Use)
• Personal Information Manager (PIM)	• Web Page Authoring	• Paint/Image Editing (for Personal Use)
• PDA Business Software		• Clip Art/Image Gallery
• Software Suite (e.g., word processing, spreadsheet, presentation graphics, PIM)		• Home Design/Landscaping
• Project Management		• Educational
• Accounting		• Reference

4 Communications

• E-Mail	• FTP	• Web Browser	• Newsgroup/Message Board
• Chat Room	• Instant Messaging	• Video Conferencing/ Telephone Calls	

p. 132 Fig. 3-1

Next

Application Software

How is software distributed?

- **Packaged software**
- **Custom software**
- **Shareware**, distributed free for trial period
- **Freeware**, copyrighted software provided at no cost
- **Public-domain software**, freeware with no copyright restrictions



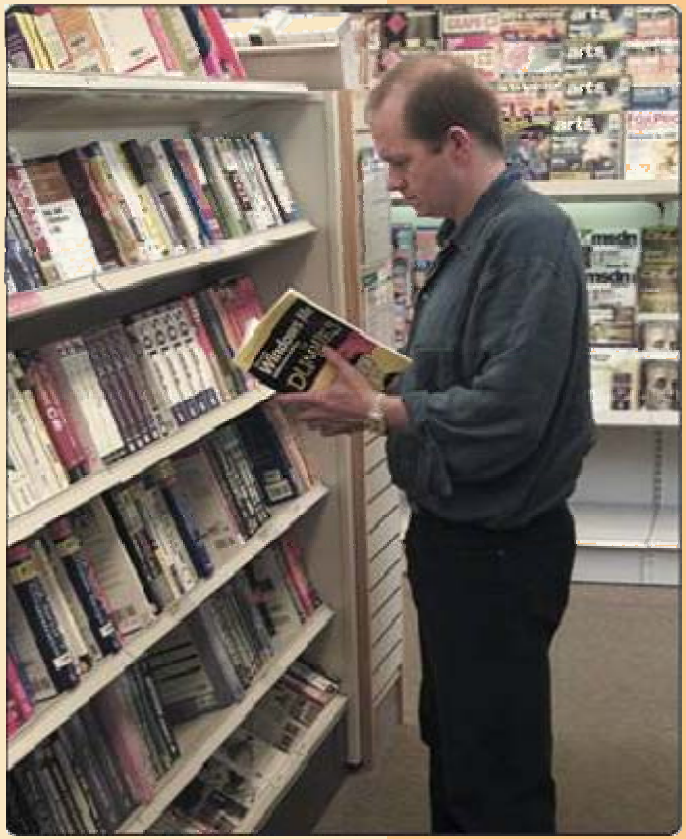
p. 132 Fig. 3-2

Next

Learning Aids and Support Tools Within an Application

How can I learn more about a software package?

- Books
- Web
- School

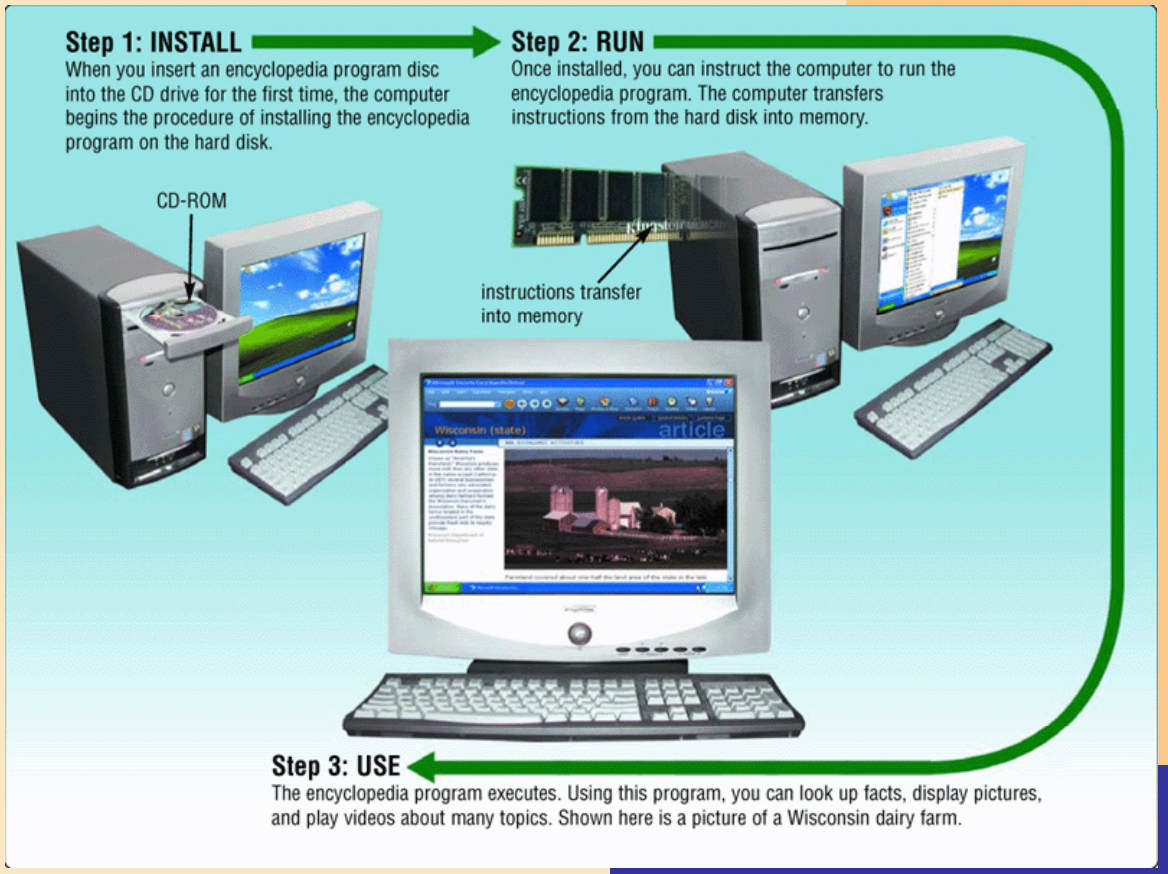


Next

Computer Software

How do you install a software program?

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



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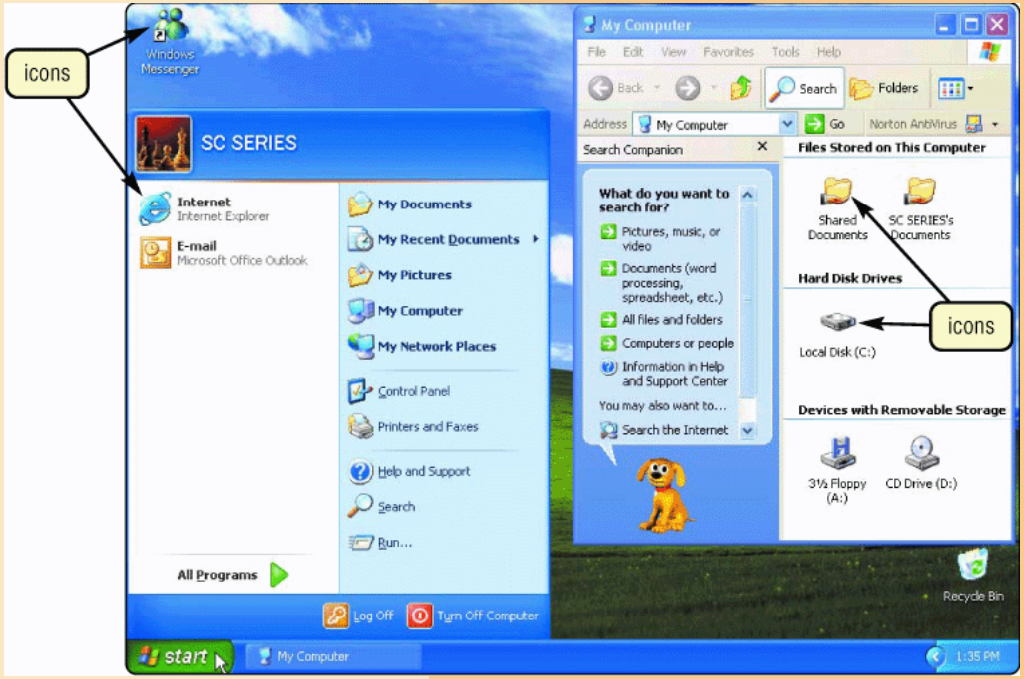
p. 14 Fig. 1-13

Next

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



Next

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

Next

Application Software

What is system software?

- Programs that control the operations of the computer
- Serves as the interface between the user, the application software, and the computer's hardware



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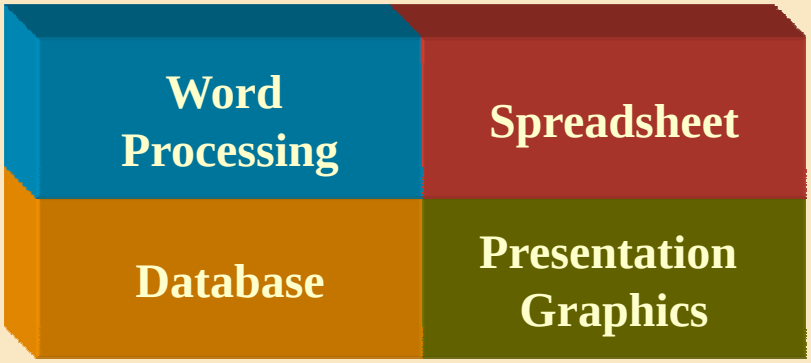
p. 133 Fig. 3-3

Next

Computer Software

What is application software?

- Programs that perform specific tasks for users





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

p. 16 Fig. 1-15

Next

Business Software

What is business software?

- Software that assists people in becoming more effective and efficient

Application Software	Popular Programs
Word Processing	• Microsoft Office Word 2003 • Sun StarOffice Writer • Corel WordPerfect
Spreadsheet	• Microsoft Office Excel 2003 • Sun StarOffice Calc • Corel Quattro Pro
Database	• Microsoft Office Access 2003 • Sun StarOffice Base • Corel Paradox • Microsoft Visual FoxPro • Oracle • MySQL
Presentation Graphics	• Microsoft Office PowerPoint 2003 • Sun StarOffice Impress • Corel Presentations
Note Taking	• Microsoft Office OneNote 2003
Personal Information Manager (PIM)	• Microsoft Office Outlook 2003 • Lotus Organizer • Microsoft Pocket Outlook • Palm Desktop
PDA Business Software	• CNetX Pocket SlideShow • Microsoft Pocket Word • Microsoft Pocket Excel • Microsoft Pocket Outlook • Ultrasoft Money Pocket Edition
Software Suite (for the Professional)	• Microsoft Office 2003 • Sun StarOffice Suite • OpenOffice.org • Corel WordPerfect Office • IBM Lotus SmartSuite
Project Management	• Microsoft Office Project 2003 • Primavera SureTrak Project Manager
Accounting	• Intuit QuickBooks • Peachtree Complete Accounting

Click to view Web Link, click Chapter 3, Click Web Link from left navigation, then click Sun StarOffice below Chapter 3

p. 136 Fig. 3-5

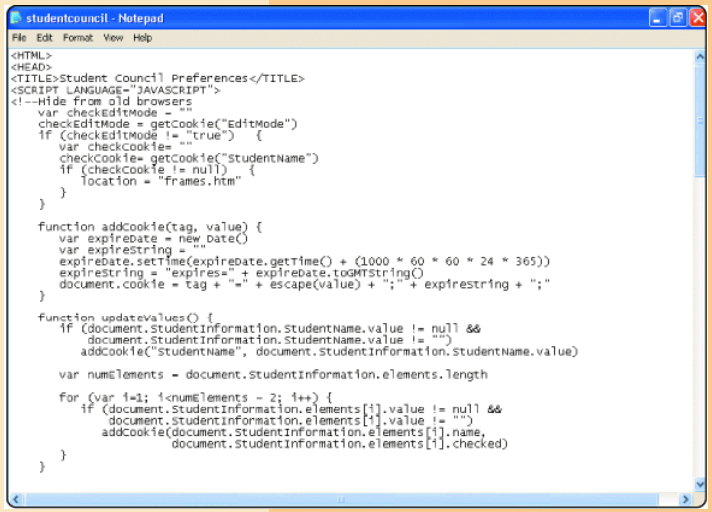
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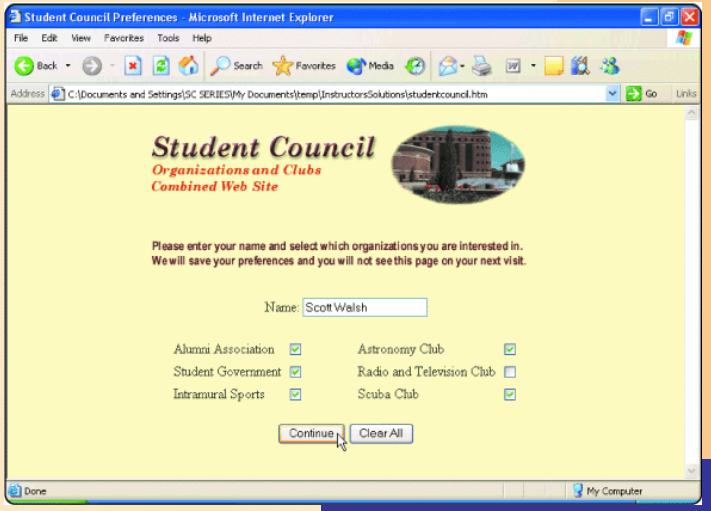
Computer Software

What is a programmer?

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

Javascript program



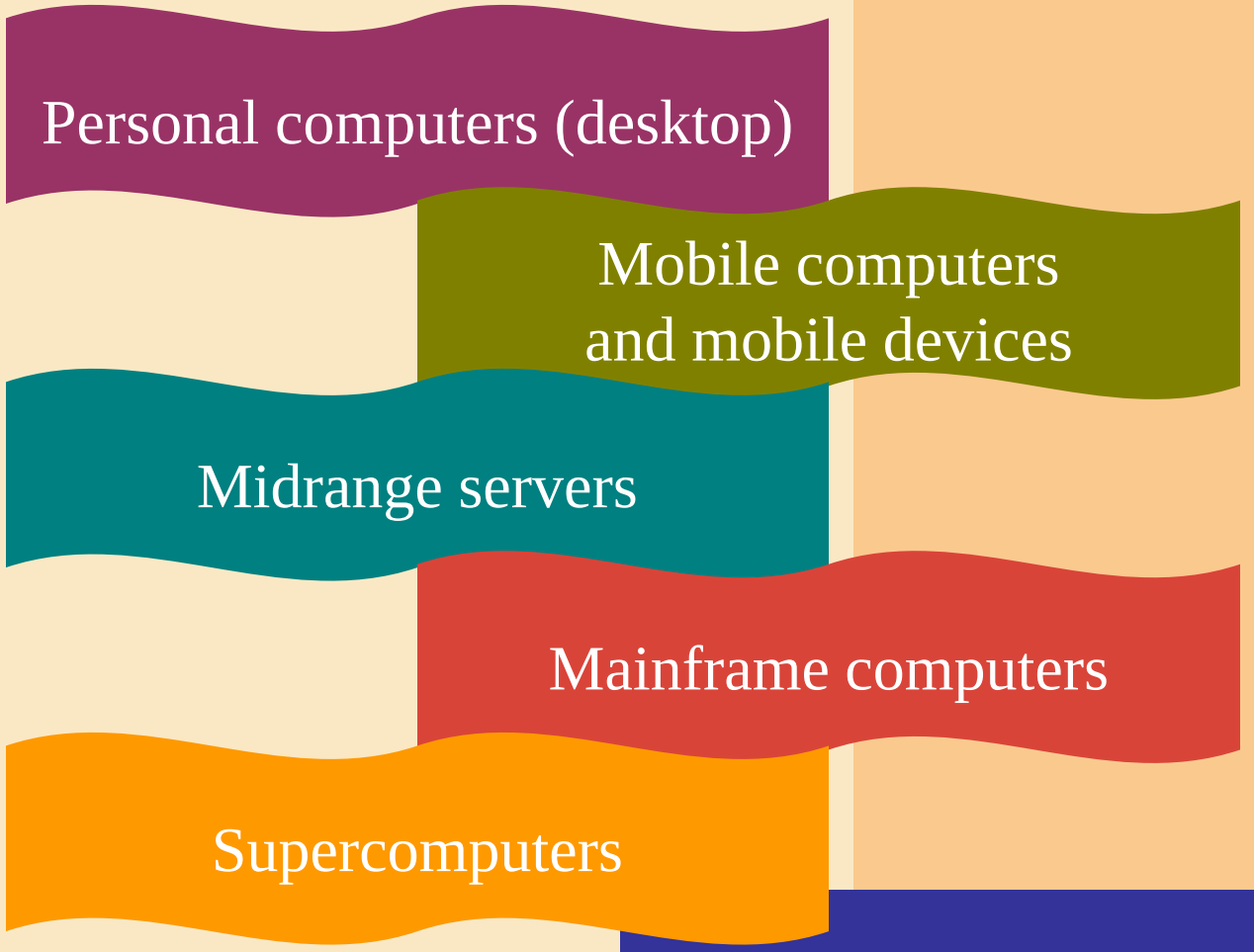


Resulting Internet application

Next

Categories of Computers

What are the categories of computers?



Next

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







Next

Elements of an Information System

What are information system elements?

- People
- Procedures
- Data
- Software
- Hardware



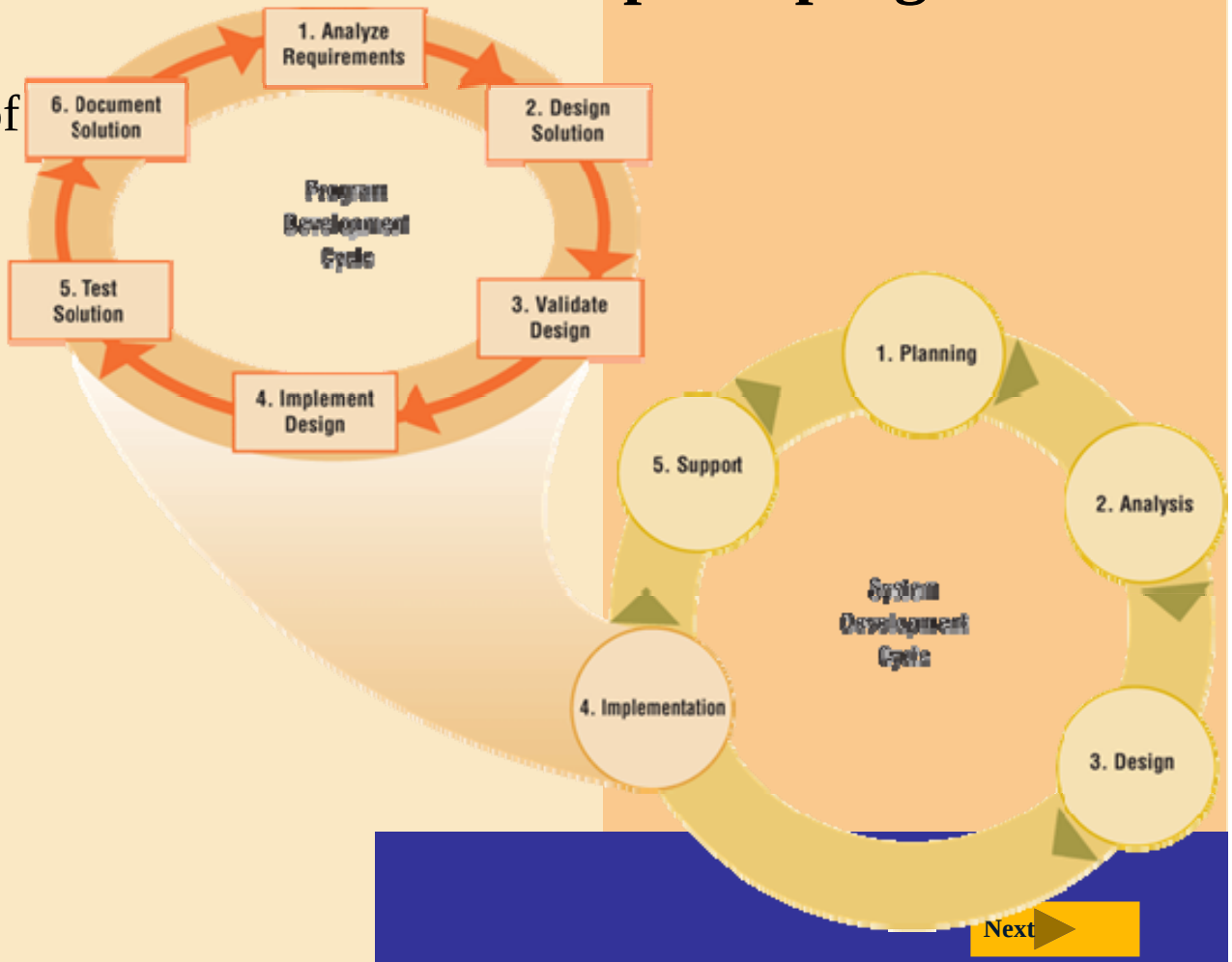
p. 24 Fig. 1-28

Next

The Program Development Cycle

What is the program development cycle?

- **Steps programmers use to build computer programs**
  - **Programming team**—Group of programmers working on program



p. 686 Fig. 13-24

Next

Examples of Computer Usage

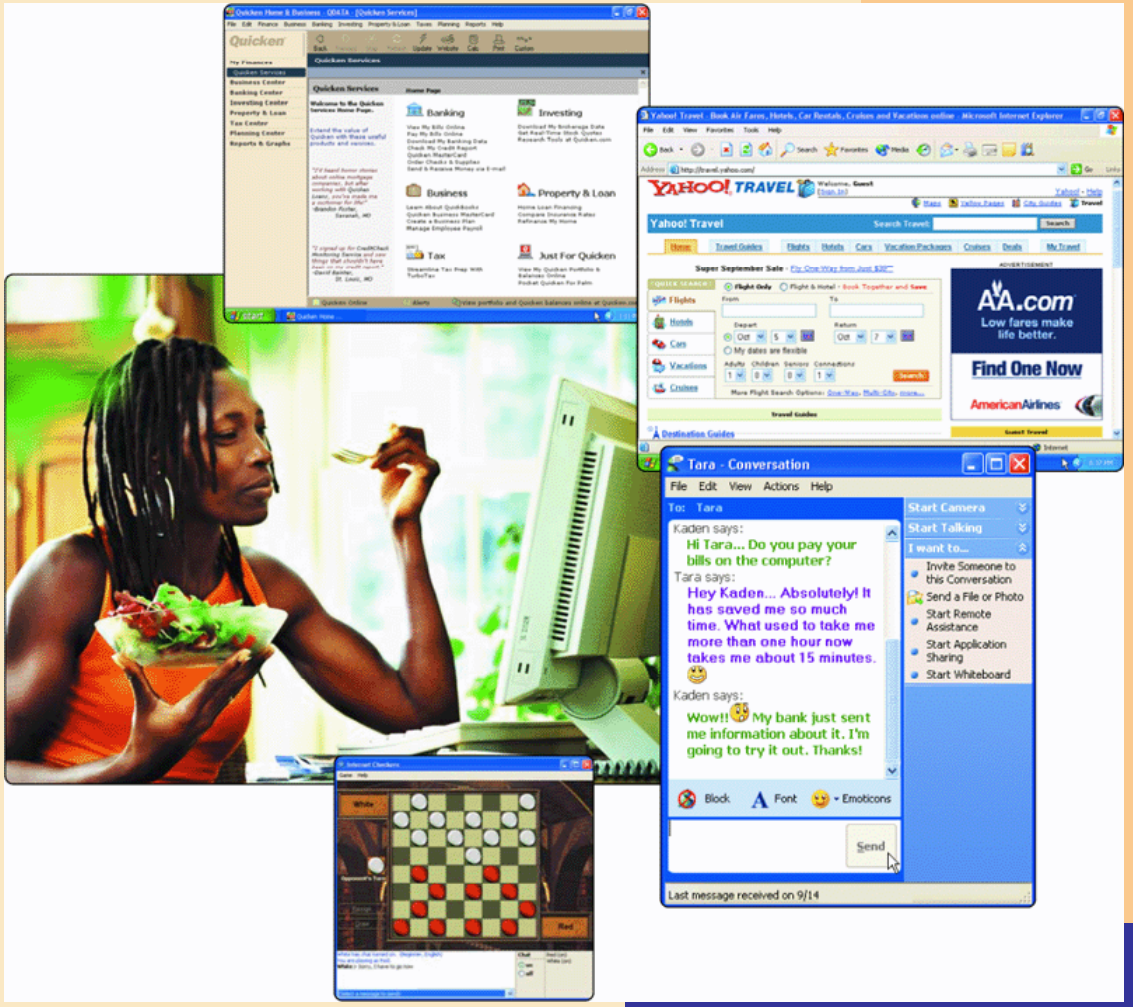
What are the four categories of users?



Next

Examples of Computer Usage

What software is available for a home user?



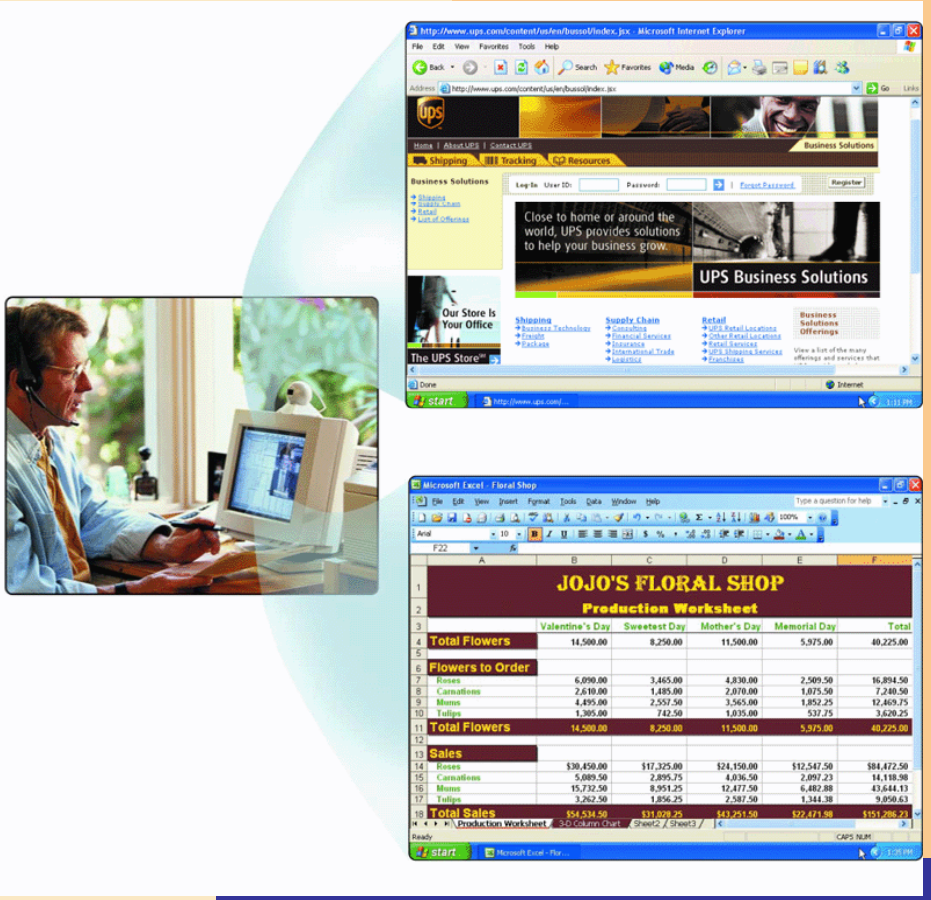
p. 26 Fig. 1-30

Next

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



Next

Examples of Computer Usage

What is available for a mobile user?

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

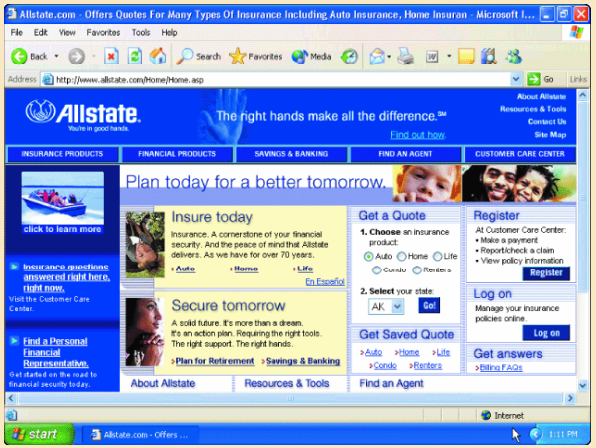


p. 29 Fig. 1-35

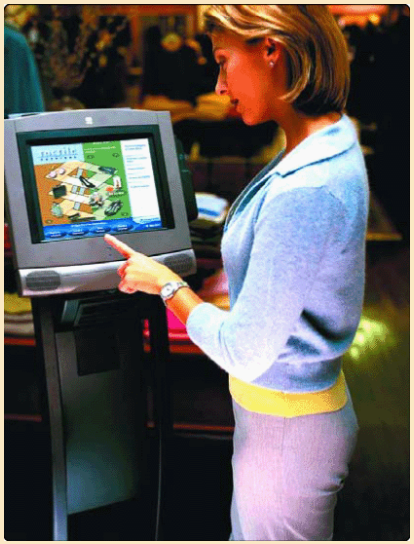
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Examples of Computer Usage

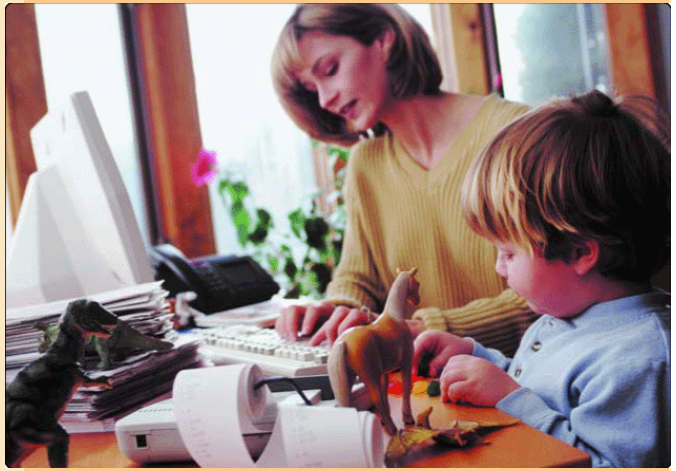
What are the needs of the large business user?



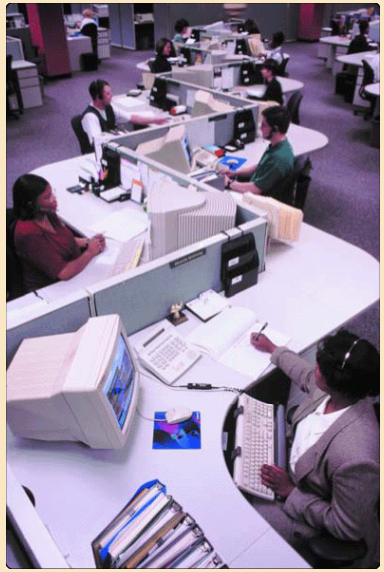
Web access



Public kiosk



Telecommuting



Network
Productivity software
Scheduling

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from left navigation,
then click Enterprise Computing
below Chapter 1
p. 30 Figs. 1-37–1-40

Next

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



Next

Computer Applications in Society

What are some examples of computer applications in society?

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



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p. 33 Figs. 1-42–1-49

Next

Summary of Introduction to Computers

- The importance of computer literacy
- The computer and its components
- Why is a computer so powerful?
- What is a network?
- The Internet and the World Wide Web
- Installing and running a program
- Types of software
- Categories of computers
- Elements of an information system
- Types of computer users
- Computer applications in society

Chapter 1 Complete