

# APPLICATION SOFTWARE

## COMPETENCIES

After you have read this chapter, you should be able to:

1

Discuss common features of most software applications.

2

Describe browsers.

3

Describe word processors.

4

Describe spreadsheets.

5

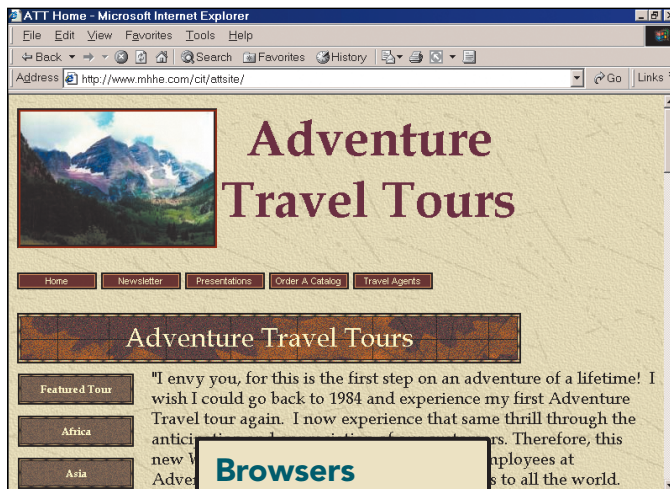
Describe database management systems.

6

Describe presentation graphics.

7

Describe software suites and integrated software.



**Browsers**  
Connect to Web sites  
and display Web pages

## Peru

### Geography and Climate

Peru, located in South America, borders the Pacific Ocean on its west and shares common borders with the countries of Ecuador, Colombia, Brazil, and Bolivia. Peru is subdivided into three regions – La Costa, La Sierra, and La Selva — based on differing climate and geographical features. Though entirely within the tropics, Peru's climate varies from region to region, ranging from tropical to arctic. Its varied climate corresponds to the sharply contrasting geographical features of seafont, mountains, and rainforests.

### La Costa

Occupying the slender area along Peru's western coastline, La Costa, provides a division between the mountains and sea. Although some of this area is fertile, mostly it is extremely dry and arid. The Andes Mountains prevent greater annual precipitation coming from the east. Some areas in the south are considered drier than the Sahara. Conversely, there are a few areas in this region where mountain rivers meet the ocean that are green with life and do not give the impression of being in a desert at all.

### La Sierra

Inland and to the east is the mountainous region called La Sierra, encompassing Peru's share of the Andes mountain range. The southern portion of this region is prone to volcanic activity, and some volcanoes are active today. La Sierra is subject to a dry season from May to September, which is winter in that part of the world. The weather is typically sunny, with moderate annual precipitation. The former Incan capital Cuzco is in this region, as well as the Sacred Valley of the Incas. This region also contains Lake Titicaca, the world's highest navigable lake.<sup>1</sup>



Figure 1-Sacred Valley

### La Selva

La Selva, a region of tropical rainforest, is the easternmost region in Peru. This region, with the eastern foot of the Andes Mountains, forms the Amazon Basin, into which numerous rivers flow. La Selva is extremely wet, with some areas exceeding an annual precipitation of 137 inches. Its wettest season occurs from November to April. The weather here is humid and extremely hot.

Region	Annual Rainfall (Inches)	Average Temperature (Fahrenheit)
La Costa	2	60
La Sierra	35	54
La Selva	137	80

<sup>1</sup> Lake Titicaca is 12,507 feet above sea level.

**Word Processing Software**  
Create text-based documents

Not long ago, trained specialists were required to perform many of the operations you can now perform with a microcomputer. Computer scientists used the Internet. Secretaries used typewriters to create professional-looking business correspondence. Market analysts used calculators to project sales. Graphic artists drew by hand. Data processing clerks created electronic files to be stored on large computers. Now you can do all these tasks—and many others—with a microcomputer and the appropriate application software.

Think of the microcomputer as an electronic tool. You may not consider yourself very good at typing, calculating, organizing, presenting, or man-

aging information. A microcomputer, however, can help you to do all these things—and much more. All it takes is the right kinds of software.

While most end users today own and run their own application software, an emerging trend is to use Web-based applications. These are programs you access from the Internet and run on your microcomputer.

Competent end users need to understand the capabilities of basic application software, which includes browsers, word processors, spreadsheets, database management systems, and presentation programs.

## Presentation Programs

Create interesting and professional presentations

## Become An Animal Angel



Animal Rescue Foundation

Downtown Internet Café Annual Forecast											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	
<b>Sales</b>											
Beverage	\$ 13,600	\$ 14,600	\$ 15,600	\$ 15,700	\$ 15,800	\$ 15,900	\$ 16,000	\$ 16,000	\$ 16,000	\$ 15,900	
Food	\$ 7,100	\$ 7,300	\$ 7,400	\$ 7,500	\$ 7,600	\$ 7,600	\$ 7,800	\$ 7,800	\$ 7,800	\$ 7,900	
Internet	\$ 4,000	\$ 4,200	\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,700	\$ 4,800	\$ 4,900	\$ 4,900	
Merchandise	\$ 3,100	\$ 3,200	\$ 3,300	\$ 3,200	\$ 3,200	\$ 3,200	\$ 3,100	\$ 3,100	\$ 3,100	\$ 3,100	
<b>Total Sales</b>	<b>\$ 27,800</b>	<b>\$ 29,300</b>	<b>\$ 30,800</b>	<b>\$ 30,900</b>	<b>\$ 31,100</b>	<b>\$ 31,200</b>	<b>\$ 31,600</b>	<b>\$ 31,700</b>	<b>\$ 31,800</b>	<b>\$ 31,800</b>	
<b>Expenses</b>											
Cost of Goods	\$ 6,950	\$ 7,300	\$ 7,600	\$ 7,675	\$ 7,750	\$ 7,775	\$ 7,900	\$ 7,900	\$ 7,900	\$ 7,925	
Payroll	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,280	\$ 7,395	\$ 7,465	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500	
Computers	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	
Lease	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	
Advertising	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	
Miscellaneous	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	
<b>Total Exp</b>	<b>\$ 28,850</b>	<b>\$ 29,200</b>	<b>\$ 29,500</b>	<b>\$ 29,355</b>	<b>\$ 29,545</b>	<b>\$ 29,640</b>	<b>\$ 29,900</b>	<b>\$ 29,800</b>	<b>\$ 29,900</b>	<b>\$ 29,925</b>	
<b>Income</b>											
Net	\$ 1,050	\$ 1,000	\$ 1,100	\$ 1,125	\$ 1,155	\$ 1,160	\$ 1,155	\$ 1,155	\$ 1,155	\$ 1,155	
Profit Margin	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	

## Spreadsheets

Use functions and formulas to analyze numeric data

## Database Management Systems

Organize data for efficient retrieval

ID	Last Name	First Name	Street Address	City	State	Zip Code	Phone Number	Photo
0728	Roman	Anita	2348 S. Bala Dr.	Fort Myers	FL	33301-1555	(941) 555-9870	Bitmap Image
0745	Matsumoto	Tyrus	34 S. Onza Ave.	Cypress Lake	FL	33205-6911	(941) 555-8372	Bitmap Image
0754	Pario	Ian	983 E. Carrage Ln.	Fort Myers	FL	33301-1555	(941) 555-2321	Bitmap Image
0755	Ernster	Barbara	1153 S. Wilson	San Carlos	FL	33891-1605	(941) 555-3211	Bitmap Image
0765	Lamm	Chris	382 E. Ladonna Dr.	Iona	FL	33101-7468	(941) 555-8332	Bitmap Image
0839	Ruiz	Enrique	35 Palm St.	Cypress Lake	FL	33205-6911	(941) 555-0091	Bitmap Image
0843	Smith	Brent	4321 Toledo St.	San Carlos	FL	33891-1605	(941) 555-6464	Bitmap Image
0943	Robson	David	8584 Bryan Dr.	San Carlos	FL	33891-1605	(941) 555-6666	Bitmap Image
1151	Sutton	Lisa	4389 S. Hayden Rd.	Iona	FL	33101-0093	(941) 555-1950	Bitmap Image
1200	Lettow	Ryan	358 Maple Dr.	Fort Myers	FL	33301-1555	(941) 555-2805	Bitmap Image
1219	Polonsky	Mitch	8701 E. Sheridan	Fort Myers	FL	33301-1555	(941) 555-1018	Bitmap Image
1223	Reddie	Suzanne	932 E. Parkway Dr.	Iona	FL	33101-7468	(941) 555-1191	Bitmap Image
1224	Rath	Kathy	87 E. Aurora Ave.	Cypress Lake	FL	33205-0093	(941) 555-9797	Bitmap Image
1234	Delano	Gordon	8943 W. Southern Ave.	Iona	FL	33101-7468	(941) 555-8201	Bitmap Image
1255	Walker	Aaron	76 Thomas Rd.	San Carlos	FL	33891-1605	(941) 555-2222	Bitmap Image
1262	Wacey	David	737 S. College Rd.	Cypress Lake	FL	33205-0093	(941) 555-7784	Bitmap Image
1263	Thomas	Jennifer	773 E. Laurel St.	San Carlos	FL	33891-1605	(941) 555-4956	Bitmap Image
1264	Weyer	Allison	234 S. Sycamore	Iona	FL	33101-0093	(941) 555-5532	Bitmap Image
1265	Wemstreet	Karen	999 Solano Dr.	San Carlos	FL	33891-1605	(941) 555-6325	Bitmap Image
1266	Wiedie	Mark	900 W. Campus Dr.	Fort Myers	FL	33301-1555	(941) 555-1139	Bitmap Image
1267	Wurke	Ellen	234 N. 1st St.	San Carlos	FL	33891-1605	(941) 555-7789	Bitmap Image
1268	Wueland	Valerie	34 University Dr.	Fort Myers	FL	33301-1555	(941) 555-1845	Bitmap Image
1269	Wunder	Jeff	947 S. Forest St.	Fort Myers	FL	33301-1555	(941) 555-7789	Bitmap Image
1270	Wabin	Greg	90 E. Rawhide Ave.	Cypress Lake	FL	33205-6911	(941) 555-4455	Bitmap Image
1277	Weron	Erona	7867 Forest Ave.	San Carlos	FL	33891-1605	(941) 555-1089	Bitmap Image

## SOFTWARE APPLICATIONS

General-purpose and special-purpose are the two categories of software applications. Common features include windows, menus, help, and toolbars.

Software applications, or programs, can be divided into two categories. One category, **general-purpose applications**, is the focus of this chapter. These programs, also known as **basic applications**, are widely used in nearly every discipline and occupation. They include browsers, word processors, spreadsheets, database management systems, and presentation graphics. The other category, **special-purpose applications**, also known as **advanced applications**, includes thousands of other programs that are more narrowly focused on specific disciplines and occupations. Some of the best known are multimedia, Web authoring, graphics, virtual reality, and artificial intelligence programs.

### COMMON FEATURES

A **window** is simply a rectangular area that can contain a document, program, or message. (Do not confuse the term *window* with the various versions of Microsoft's Windows operating systems, which are programs.) Many operating systems and application programs use windows to display information and request input. More than one window can be opened and displayed on the computer screen at one time. For example, one window might contain a browser, another a word processing program, and another a graphic image. Windows can generally be resized, moved, and closed.

Almost all software packages have **menus** to present commands. Typically, menus are displayed in a **menu bar** at the top of the screen. When one of the menu items is selected, a pull-down menu appears. This is a list of options or commands associated with the selected menu.

For most application packages, one of the commands on the menu bar is **Help**. The Help menu options typically provide access to a variety of Help features. The first option commonly allows access to a table of contents, a keyword index and a search feature to help you locate the information you need.

**Toolbars** typically are below the menu bar. They contain buttons and menus that provide quick access to commonly used commands. The **standard toolbar** and the **formatting toolbar** are common to most applications.

To learn more about the common features of most software applications, study Figure 2-1.

Typically, application programs are owned by users and stored on their hard disk drive. An emerging trend, however, is to free users from owning and storing applications by using Web-based applications. (See Making IT Work for You: Web-based Applications on pages 32–33.)



### TIPS

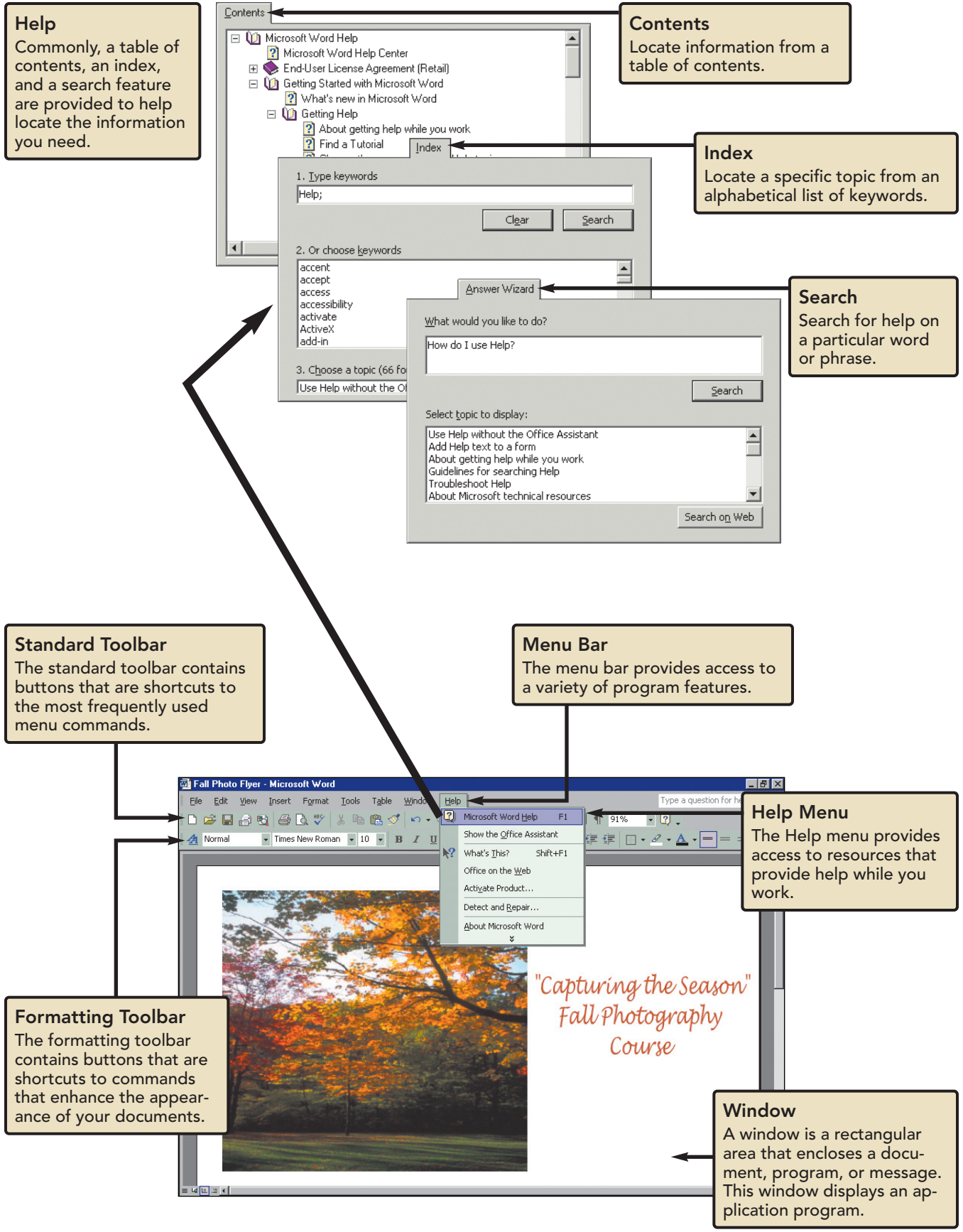
Have you ever been working on a document when the power goes off? Your original document and all your recent changes are gone. Fortunately, most applications automatically save your work every few minutes to a temporary recovery or backup file.

Here are a few tips that might help you to quickly get back underway again.

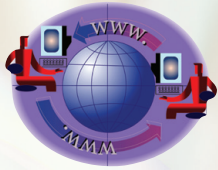
- 1 **Restart your computer.**
- 2 **Restart the application.**
- 3 **Open the recovery file.** If the recovery file is not automatically opened, select the option to open it.
- 4 **Verify recovery file contents.** The recovery file should contain the document current up to the last automatic save. Compare the contents of the recovery file to the contents of the original file (if you have one).
- 5 **Save the recovery file.** If the recovery file contains the information you want, save it using the original file name or some other appropriate name.

### Concept Check

- ✓ What are general-purpose applications?
- ✓ What are special-purpose applications?
- ✓ Describe four common software features.



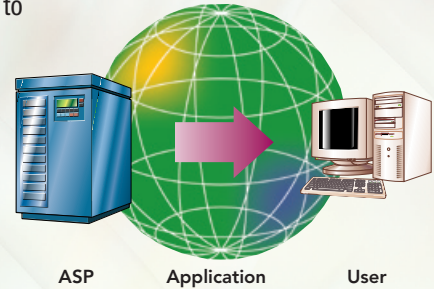
**Figure 2-1** Common features



Would you like access to free general-purpose applications from anywhere in the world? What about accessing your data files from any location? You can have it all with Web-based applications.

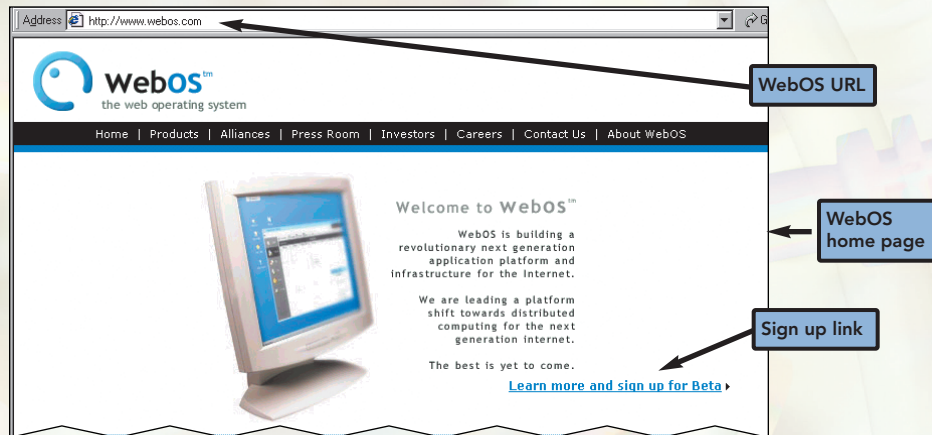
## WEB-BASED APPLICATIONS

**How It Works** A server on the Web, known as an Application Service Provider (ASP), provides access to programs such as word processors, spreadsheets, and more. After registering with an ASP, you can use the Web to access these applications and store data files at the ASP rather than on your hard disk. You can run programs and access data using the Web from any location in the world.

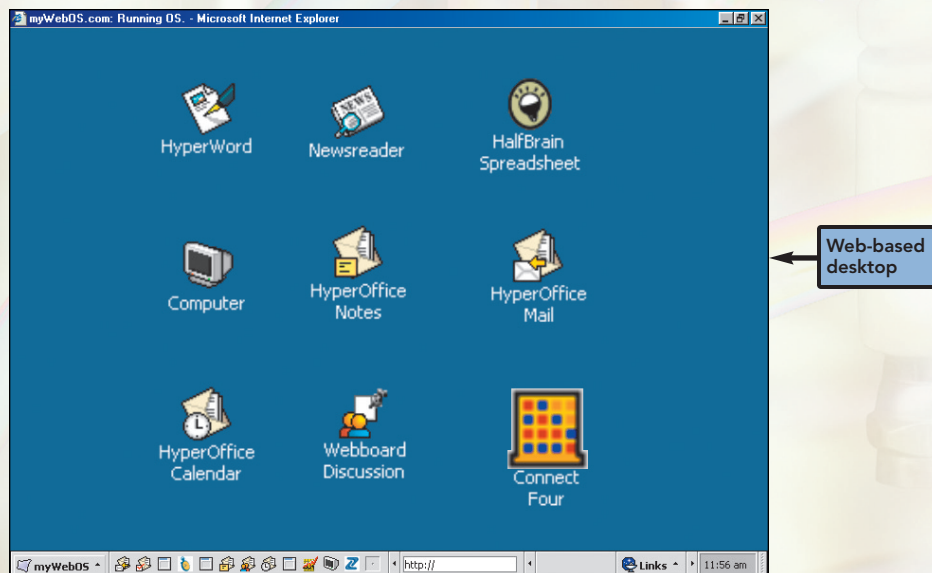


**Registering** Several ASP sites exist on the Web and some of them offer free services. One of the best-known sites is WebOS. Their only requirement is that you register for their service.

- 1 Connect to [www.WebOS.com](http://www.WebOS.com).
- Click the sign up link.
- Follow the instructions to register for your account.



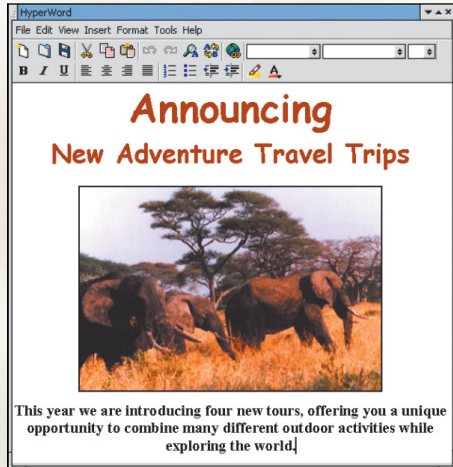
- 2 Once you've signed up for your account, return to the WebOS home.
- Scroll the page to the Login area.
- Enter your Username and Password.
- Select WebOS Desktop.
- Click Login.



The Web-based desktop appears, similar to the figure to the right.

**Accessing Applications** Each time you connect to the WebOS site and log in, your Web-based desktop will appear. It will display numerous icons that can be used to access Web-based applications. These include a word processor, spreadsheet, personal information manager, and a variety of games.

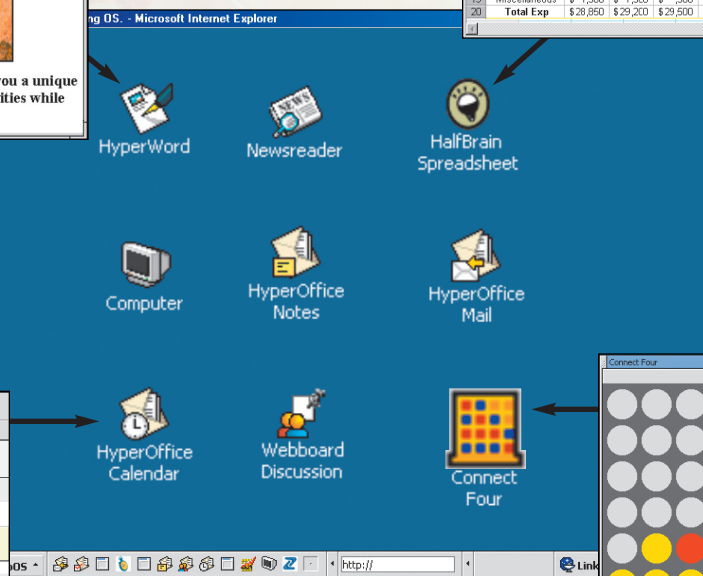
**Word Processor**



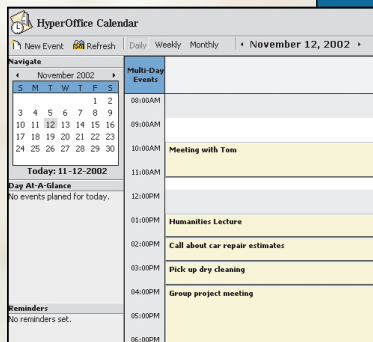
**Spreadsheet**

The screenshot shows a web-based spreadsheet window titled 'HalfBrain Spreadsheet'. It displays a financial forecast table for 'Downtown Internet Café Annual Forecast' with columns for months from January to September. The table includes rows for Sales, Expenses, and Total Sales/Expenses.

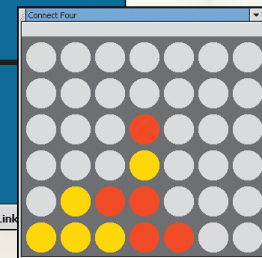
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
<b>Sales</b>									
Beverage	\$13,600	\$14,800	\$15,600	\$15,700	\$15,800	\$15,900	\$15,000	\$16,000	\$16,000
Food	\$7,100	\$7,300	\$7,400	\$7,500	\$7,600	\$7,600	\$7,800	\$7,800	\$7,800
Intemer:	\$4,000	\$4,200	\$4,600	\$4,500	\$4,500	\$4,500	\$4,700	\$4,800	\$4,900
Merchandise	\$3,100	\$3,200	\$3,300	\$3,200	\$3,200	\$3,200	\$3,100	\$3,100	\$3,100
<b>Total Sales</b>	\$27,800	\$29,300	\$30,800	\$30,900	\$31,100	\$31,200	\$31,600	\$31,700	\$31,800
<b>Expenses</b>									
Cost of Goods	\$6,950	\$7,300	\$7,600	\$7,675	\$7,750	\$7,775	\$7,900	\$7,900	\$7,900
Payroll	\$7,500	\$7,600	\$7,600	\$7,280	\$7,395	\$7,465	\$7,500	\$7,600	\$7,500
Computers	\$6,400	\$6,400	\$6,400	\$6,400	\$6,400	\$6,400	\$6,400	\$6,400	\$6,400
Lease	\$5,500	\$5,500	\$5,500	\$5,500	\$5,500	\$5,500	\$5,500	\$5,500	\$5,500
Advertising	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Miscellaneous	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
<b>Total Exp</b>	\$28,850	\$29,200	\$29,500	\$29,355	\$29,545	\$29,640	\$29,800	\$29,800	\$29,800



**Personal Information Manager**



**Games**



**Web-based Desktop** The Web-based desktop looks and operates like the traditional Windows desktop. It contains a variety of icons that are used to load and run applications.

Some suggest that Web-based applications may replace traditional application software some time in the future. They point out that Web-based applications offers advantages beyond universal access to software and to data. One advantage is that users may no longer need to upgrade software on their hard disk when a new version becomes available. Of course, there are some potential disadvantages or challenges of Web-based applications. One challenge relates to privacy and security of personal data stored at an ASP.

The Web is continually changing and some of the specifics presented in this Making IT Work for You may have changed. See our Web site at <http://www.mhhe.com/oleary> for possible changes and to learn more about this application of technology.

## BROWSERS

Browsers connect to Web sites and display Web pages.

The Web is accessed through your computer using special software known as a **browser**. This software helps connect you to remote computers, open and transfer files, display text and images, and provides in one tool an uncomplicated interface to the Internet and the Web. The two most widely used browser programs are Microsoft's Internet Explorer and Netscape's Navigator.

### FEATURES

In order to connect to other resources with a browser, the location, or address, of the resources must be specified. These addresses are called **uniform resource locators (URLs)** or simply **Web site addresses**.

Once the browser has connected to a Web site, a document file is sent to your computer. This document contains **Hypertext Markup Language (HTML)** commands. The browser interprets the HTML commands and displays the document as a **Web page**. Typically, the first page of a Web site is referred to as its **home page**. It presents information about the site along with references and **hyperlinks**, or connections to other documents that contain related information. These hypertext links typically appear as colored and/or underlined text, buttons, or other graphic images. (A thorough and detailed discussion of the Internet and the Web is presented in Chapter 8.)

### CASE

Assume that you have accepted a job as advertising coordinator for Adventure Travel Tours, a travel agency specializing in active adventure vacations. Carol, your supervisor, has asked you to review the company Web site, to locate travel information on Peru, and to communicate your findings to her. To learn more about browsers and how they could assist you to navigate, search, and communicate, study Figures 2-2 through 2-4.

**Web Page**  
An HTML document sent to your computer and displayed by a browser is a *Web page*.

**Web Site Address**  
Each Web page has its own Web site address, called the Uniform Resource Locator (URL), which provides location information used to navigate through the Internet to access a page.

**Hypertext Links**  
A hypertext link, also called a hyperlink or simply a link, is a connection to another Web page or to another location on the current page.

**CASE:** After your browser connects to the Web, you begin navigating by entering the Web address for Adventure Travel Tours and connecting to that site. The company's Web page appears on your display. You begin your evaluation by exploring the site and its *hypertext links*.

Figure 2-2 Navigating

### Search Service

Search services are Web sites that maintain and provide access to huge databases of Web pages and Internet sites.

### Keyword Search

A keyword search is conducted by entering a specific word or words into a text box then searching through a list of resulting Web sites that contain the word or words.

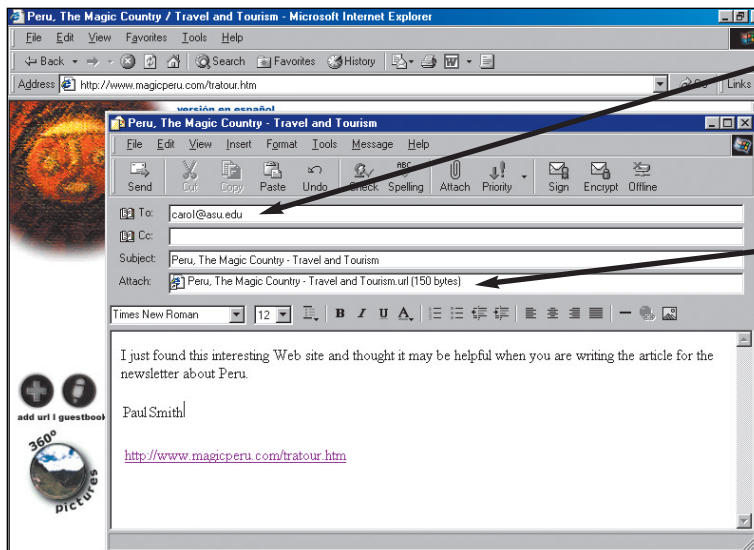
### Topic Search

A topic search is conducted by selecting a category and then continuing to select sub-categories until your search has been narrowed and a list of relevant documents appears.



**CASE:** After reviewing the company site, you begin your search for information on Peru. Using the Search button, you connect to Yahoo!, a well-known search service. After conducting a topic search and a keyword search, you locate a site that provides just the information you are looking for.

Figure 2-3 Searching



### E-Mail Address

On the Internet, each person has a unique e-mail address or means of identification.

### Attachment

An attachment is a file that is included with an e-mail message.

### New Message Window

The new message window is a part of Microsoft Outlook Express and is used to create e-mail messages.

**CASE:** To share the Peru site with your supervisor, you choose File/Send/Link By E-Mail from the browser's menu bar. An e-mail new message window opens with a hyperlink to the Peru site and an attachment containing the HTML document. All you need to do is enter your supervisor's e-mail address, type your note, and send it.

Figure 2-4 Communicating



## WORD PROCESSORS

Word processing software is used to create text-based documents.

**W**ord processing software creates text-based documents such as reports, letters, and memos. Word processors are one of the most flexible and widely used software tools. Students and researchers use word processors to create reports. Organizations of all types create newsletters to communicate with their members. Businesses create form letters to reach new and current customers. All types of people and organizations use word processors to create personalized Web pages.

The three most widely used word processing programs are Microsoft Word, Corel WordPerfect, and Lotus Word Pro.

### FEATURES

Most word processors include features to help you write better. For example, as you enter text, spelling errors are identified. They can be quickly corrected by selecting from a list of suggested alternative spellings. In a similar manner, grammar errors, such as capitalization, punctuation and subject-verb agreement problems are identified and can be corrected by selecting from a list of proposed grammar corrections. Another feature that helps you write better is the thesaurus which provides synonyms, antonyms, and related words for a word you look up.

You can quickly locate any character, word, or phrase in your document using the **search** or **find** commands. In addition, you can replace the located text with other text you specify using the **replace** command. For example, you could quickly locate each occurrence of the word *Chicago* and replace it with the word *Denver*.

One basic word processing feature is **word wrap**. A word processor automatically moves the insertion point to the next line once the current line is full. As you type, the words “wrap around” to the next line. To begin a new paragraph or leave a blank line, you press the Enter key.

### CASE

Your primary responsibilities as the advertising coordinator for Adventure Travel Tours are to create and coordinate the company’s promotional materials, including flyers, form letters, and travel reports. To learn more about word processor features and how they could assist you, see Figures 2-5 through 2-7.

### TIPS

Want to add some interest and a personal touch to your correspondence?

You can by including an audio clip of your voice in the text document. If you are using Word 97, 2000, or 2002:

- 1 Position cursor.** Place the cursor where you want the voice attachment to appear.
- 2 Start recording.** From the menu bar, choose Insert/Object/Wave/ Sound OK/Record.
- 3 Start talking.** Dictate a short message into the microphone.
- 4 Stop recording.** Choose Stop/File/Exit & Return.

A speaker icon appears in your document. To hear the audio clip, double-click the icon.

### Concept Check

- ✓ What do browsers do?
- ✓ Describe how a browser displays a Web page.
- ✓ What do word processors do?
- ✓ Describe three basic word processor features.

### Font and Font Size

A *font*, also commonly referred to as a typeface, is a set of characters with a specific design. *Font size* refers to a character's height and width commonly measured in points.

# Announcing

## New Adventure Travel Trips



### Graphics

A *graphic* is a non-text element or object, such as a drawing or picture that can be added to a document.

### Word Wrap

Word Wrap automatically begins a new line of text once the current line is full.

Attend an Adventure Travel presentation to learn about some of the earth's greatest unspoiled habitats and find out how you can experience the adventure of a lifetime. This year we are introducing four new tours and offering you a unique opportunity to combine many different outdoor activities while exploring the world.

### Alignment

*Alignment* is how text is positioned on a line between the margins or indents. There are four types of paragraph alignment: left, center, right, and justified.

Hike the Inca trail to Machu Picchu  
Camp on safari in Tanzania  
Climb Mt. Kilimanjaro  
Explore the Costa Rican rain forests

Presentation dates and times are January 5 at 7 PM, February 3 at 7:30 PM, and March 8 at 7 PM. All presentations are held at convenient hotel locations. The hotels are located in downtown Los Angeles, Santa Clara and at the airport.

Call 1-800-777-0004 for presentation locations, a full color brochure, and itinerary information, costs, and trip dates.

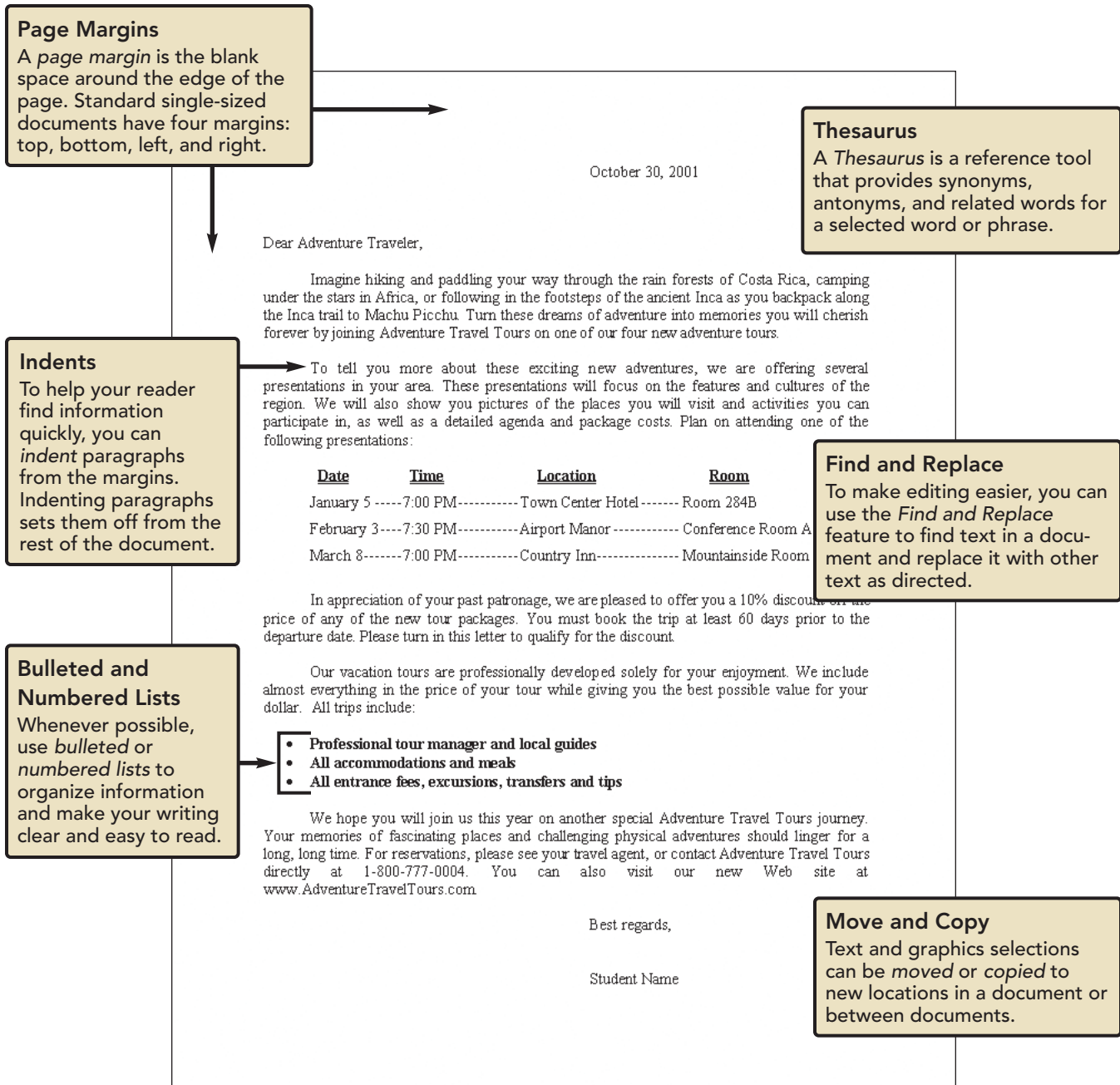
### Automatic Features

*Automatic features* include:

- Spelling Check identifies misspelled words and proposes corrections.
- Grammar Check identifies incorrect grammar and proposes corrections.
- AutoText and AutoComplete anticipate commonly used phrases and insert them upon request.
- AutoCorrect identifies basic typing errors and automatically corrects them.

**CASE:** You have been asked to create an advertising flyer for upcoming promotional presentations. After discussing the flyer's contents and basic structure with your supervisor, you enter the flyer's text. As you type, the text word wraps to the next line. You also notice several helpful *automatic features*. To maximize the flyer's visual impact, you experiment with different character and paragraph formats including *fonts*, *font sizes*, *colors*, and *alignments*. Finally, you add an interesting *graphic*.

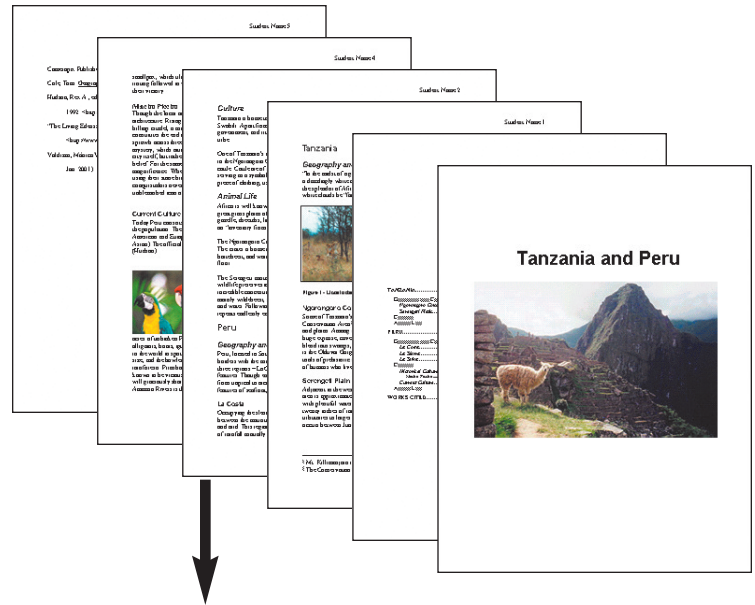
Figure 2-5 Flyers



**CASE:** After creating the brochure, you draft a letter to accompany it and submit the draft to your supervisor. She reviews the draft and makes several editing suggestions. One is to increase name recognition by repeating the name of the company several times. You quickly accomplish this request by *copying* the name and inserting it in several places. To improve the logical flow of the text, you reorder or move several paragraphs. To improve wording, you use the *Thesaurus* to identify alternative word choices and the *find and replace* feature to locate and replace selected words. To improve the format, you adjust *page margins* and add paragraph *indents*. Finally, you use the *numbered and bulleted list* feature to improve the clarity.

Figure 2-7 Letters

**CASE:** You are expected to create a report on Tanzania and Peru. After conducting your research, you begin to create the paper using many powerful word processing features. You use heading styles to assign consistent formats to the various heads within your paper. To surround a picture with text, you specify a text wrapping style and to identify the picture, you add a figure caption. You create and format a table to clarify some numeric information. As you add footnotes and endnotes to document your report sources, they are automatically numbered and displayed in the report.



**Style**  
A style is a set of formats that is assigned a name and can be quickly applied to a selected text.

**Text Wrapping**  
You can control how text appears around a graphic object by specifying the text wrapping style.

**Footnote and Endnote**  
A footnote is a source reference or text offering additional explanation that is placed at the bottom of a page. An endnote is a source reference or long comment that typically appears at the end of a document

## Peru

### Geography and Climate

Peru, located in South America, borders the Pacific Ocean on its west and shares common borders with the countries of Ecuador, Colombia, Brazil, and Bolivia. Peru is subdivided into three regions – La Costa, La Sierra, and La Selva — based on differing climate and geographical features. Though entirely within the tropics, Peru's climate varies from region to region, ranging from tropical to arctic. Its varied climate corresponds to the sharply contrasting geographical features of seafloor, mountains, and rainforests.

### La Costa

Occupying the slender area along Peru's western coastline, La Costa, provides a division between the mountains and sea. Although some of this area is fertile, mostly it is extremely dry and arid. The Andes Mountains prevent greater annual precipitation coming from the east. Some areas in the south are considered drier than the Sahara. Conversely, there are a few areas in this region where mountain rivers meet the ocean that are green with life and do not give the impression of being in a desert at all.

### La Sierra

Inland and to the east is the mountainous region called La Sierra, encompassing Peru's share of the Andes mountain range. The southern portion of this region is prone to volcanic activity, and some volcanoes are active today. La Sierra is subject to a dry season from May to September, which is winter in that part of the world. The weather is typically sunny, with moderate annual precipitation. The former Incan capital Cuzco is in this region, as well as the Sacred Valley of the Incas. This region also contains Lake Titicaca, the world's highest navigable lake.<sup>1</sup>



Figure 1-Sacred Valley

### La Selva

La Selva, a region of tropical rainforest, is the easternmost region in Peru. This region, with the eastern foot of the Andes Mountains, forms the Amazon Basin, into which numerous rivers flow. La Selva is extremely wet, with some areas exceeding an annual precipitation of 137 inches. Its wettest season occurs from November to April. The weather here is humid and extremely hot.

Region	Annual Rainfall (inches)	Average Temperature (Fahrenheit)
La Costa	2	68
La Sierra	35	54
La Selva	137	80

<sup>1</sup> Lake Titicaca is 12,507 feet above sea level.

**Captions and Cross References**  
A caption is a title or explanation for a table, picture, or graph. A cross reference is a reference from one part of a document to related information in another part.

**Table**  
A table is used to organize information into an easy-to-read format of rows and columns.

Figure 2-7 Reports

# SPREADSHEETS

Spreadsheet programs manipulate numeric data.

Spreadsheet programs organize, analyze, and graph numeric data such as budgets and financial reports. Spreadsheets are widely used by people in nearly every profession. Students and teachers record grades and calculate grade point averages. Marketing professionals analyze sales trends. Financial analysts evaluate and graph stock market trends.

The three most widely used spreadsheet programs are Microsoft Excel, Corel Quattro Pro, and Lotus 1-2-3.

## FEATURES

Data and information are stored in a **workbook**, which can contain one or more related worksheets. A **worksheet**, also known as a **spreadsheet** or **sheet**, is a rectangular grid of **rows** and **columns**. The columns are identified by letters and the rows are identified by numbers. The intersection of a row and column creates a **cell**. For example the cell A1 is formed by the intersection of column A and row 1.

Information is entered into cells. **Text entries** are typically used to identify or label information while **numeric entries** include numbers and formulas.

**Formulas** are instructions for calculations. They calculate results using the number or numbers in referenced cells. For example, the formula B9-B18

### On the Web Explorations

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<http://www.mhhe.com/oleary>

### Worksheet

A worksheet is a rectangular grid of rows and columns.

### Formulas and Functions

A *formula* is an equation that performs a calculation on data contained in a worksheet. *Functions* are rewritten formulas that perform certain types of calculations automatically.

### Text and Numeric Entries

The information or data you enter in a cell can be text, numbers, or formulas.

### Graphic

A *graphic* is a non-text element or object, such as a drawing or picture that can be added to a worksheet.

### Recalculation

Excel automatically recalculates formulas whenever a change occurs in a referenced cell.

### Number Formats

*Number formats* affect how numbers look onscreen and when printed.

	JAN	FEB	MAR	TOTAL
<b>Sales</b>				
Beverage	\$13,600	\$14,600	\$15,600	\$43,800
Food	\$7,100	\$7,300	\$7,400	\$21,800
Internet	\$4,000	\$4,200	\$4,500	\$12,700
Merchandise	\$3,100	\$3,200	\$3,300	\$9,600
<b>Total Sales</b>	<b>\$27,800</b>	<b>\$29,300</b>	<b>\$30,800</b>	<b>\$87,900</b>
<b>Expenses</b>				
Cost of Goods	\$6,950	\$7,300	\$7,600	\$21,850
Salary	\$7,500	\$7,500	\$7,500	\$22,500
Computers	\$6,400	\$6,400	\$6,400	\$19,200
Rent	\$5,500	\$5,500	\$5,500	\$16,500
Advertising	\$1,000	\$1,000	\$1,000	\$3,000
Miscellaneous	\$1,500	\$1,500	\$1,500	\$4,500
<b>Total Exp</b>	<b>\$28,850</b>	<b>\$29,200</b>	<b>\$29,500</b>	<b>\$87,550</b>
<b>Income</b>				
<b>Net Income</b>	<b>\$ (1,050)</b>	<b>\$ 100</b>	<b>\$ 1,300</b>	<b>\$ 350</b>
<b>Profit Margin</b>	<b>-3.78%</b>	<b>0.34%</b>	<b>4.22%</b>	<b>0.40%</b>

**CASE:** Your first project is to develop a first quarter sales forecast for the Café. After planning the basic structure of the *worksheet*, you enter descriptive text labels to identify the row and column headings. Then you enter *numeric data* and *formulas* and *functions* to perform calculations. To test the accuracy of the worksheet, you enter different numeric data and compare the *recalculated* spreadsheet results with hand calculations. Finally, you focus on the appearance of the worksheet by applying *number formats*, including currency (\$) and percent (%) symbols to selected *cells* and by inserting a *graphic*.

Figure 2-8 Worksheets

means to subtract the value in cell B18 from the value in cell B9. **Functions** are prewritten formulas that perform calculations automatically. For example, the function @SUM(B5:B8) adds all the values in the range of cells B5 to B8.

If you change one or more numbers in your spreadsheet, all related formulas will recalculate automatically. Thus, you can substitute one value for another in a cell and observe the effect on other related cells in the worksheet. This is called **what-if analysis**.

To help visualize the data in your worksheets, you can create **analytical graphs** or **charts**. For example, you could display the numerical data in a worksheet as a pie chart, bar chart, or a line graph. The graphs automatically update when the data in the underlying worksheet changes. When the data changes, the graphs are automatically updated.

## CASE

Assume that you have just accepted a job as manager of the Downtown Internet Café. This Café provides a variety of flavored coffees as well as Internet access. One of your responsibilities is to create a financial plan for the next year. To learn more about spreadsheet features and how they could assist you as manager of an Internet café, see Figures 2-8 through 2-10.

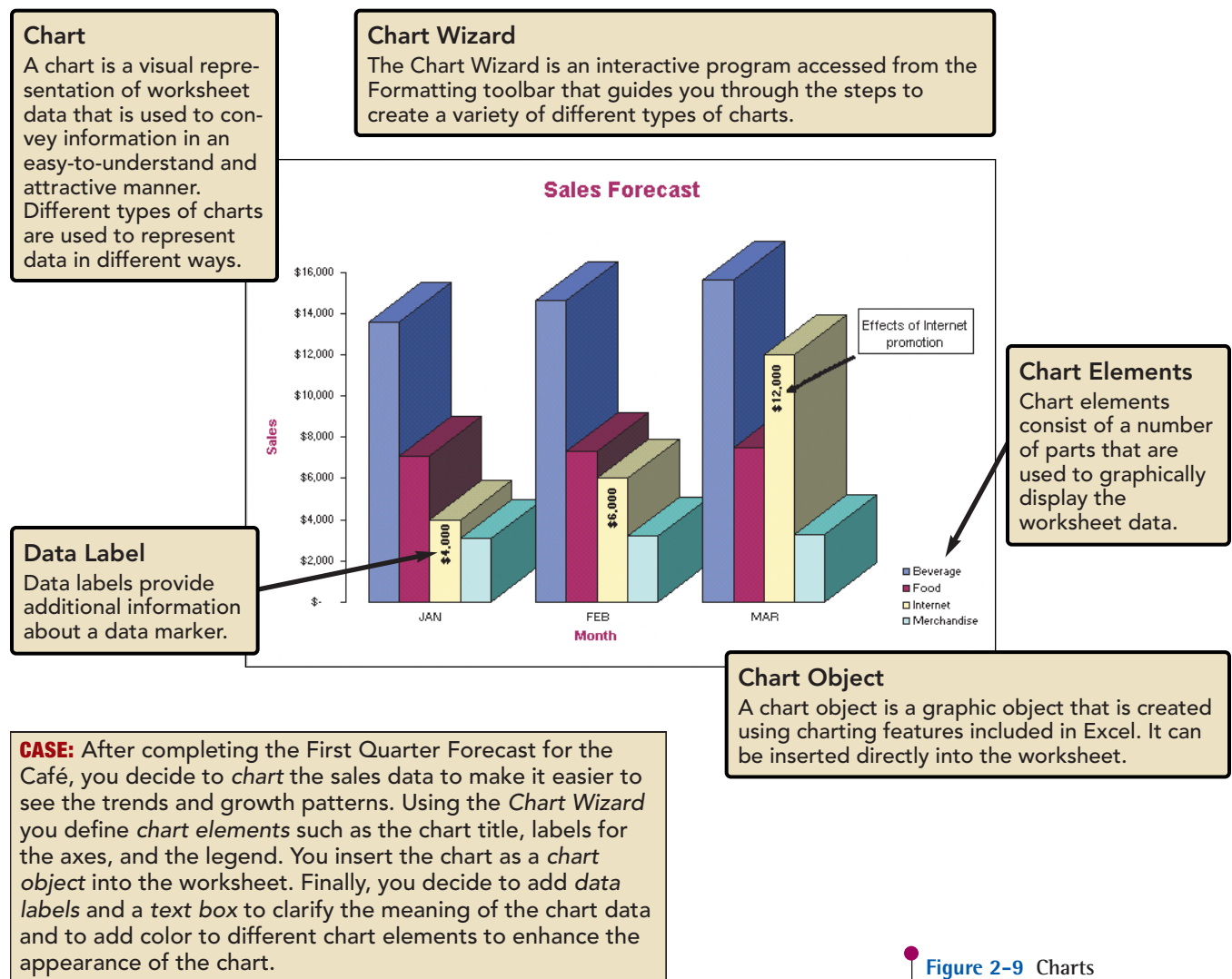
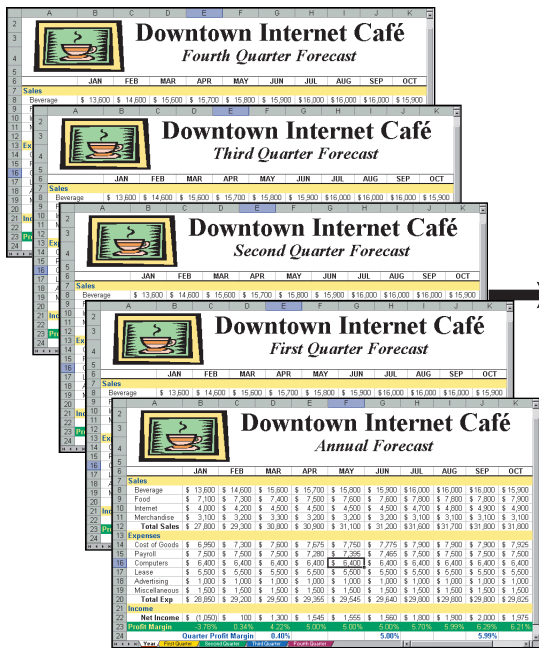
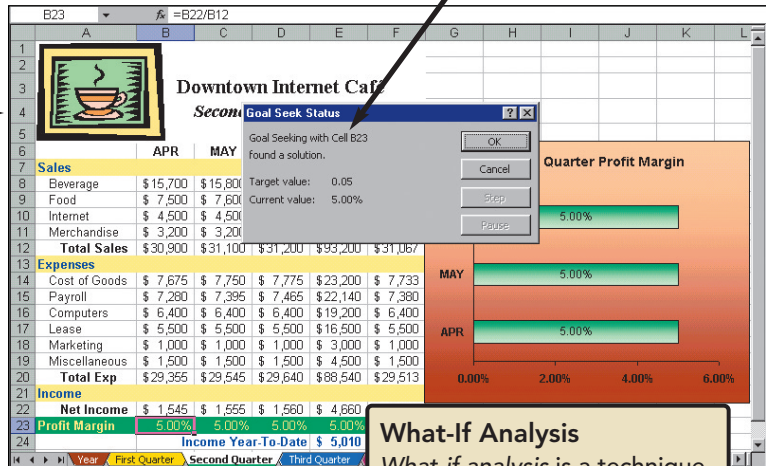


Figure 2-9 Charts



**Goal Seek**  
 Goal Seek is a tool used to find the value needed in one cell to attain a result you want in another cell.

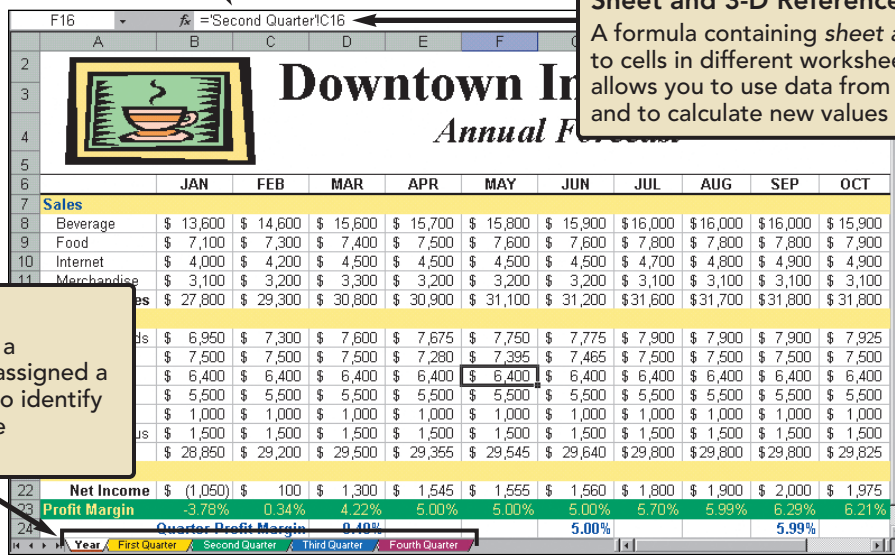


**What-If Analysis**  
 What-if analysis is a technique used to evaluate the effects of changing selected factors in a worksheet.

**Workbook**  
 A workbook is an Excel file that can contain one or more related worksheets.

**Sheet and 3-D References**  
 A formula containing sheet and 3-D references to cells in different worksheets in a workbook allows you to use data from other worksheets and to calculate new values based on this data.

**Sheet Names**  
 Each worksheet in a workbook can be assigned a descriptive name to identify the contents of the worksheet.



**CASE:** After presenting the First Quarter Forecast to the owner, you revise the format and expand the workbook to include worksheets for each quarter and an annual forecast summary. Each worksheet is given a descriptive sheet name. This annual forecast uses sheet and 3-D references to calculate and display values from the other sheets. At the request of the owner, you perform a what-if analysis to test the effect of different estimates for payroll and you use Goal Seek to determine how much payroll would have to be decreased to produce a profit margin of 5.00 percent.

Figure 2-10 Workbooks

## DATABASE MANAGEMENT SYSTEMS

A **database** is a collection of related data. A **database management system (DBMS)** or **database manager** is a program that sets up, or structures, a database, such as an inventory of supplies or a list of employees. It also provides tools to enter, edit, and retrieve data from the database. Database managers are used by all kinds of people, from teachers to police officers.

A database manager organizes a related collection of data so that information can be retrieved easily.

The **relational database** is the most widely used database structure. Data is organized into related **tables**. Each table is made up of rows called **records** and columns called **fields**. Each record contains fields of data about some specific item. For example, in a table containing information on employees, a record would contain fields of data such as a person's last name, first name, and street address.

Three of the most widely used database management systems are Microsoft Access, Corel Paradox, and Lotus Approach.

### FEATURES

A basic feature of all database programs is the capability to **locate** and **display** just the information you want from the tables of data. For example, you could ask or *query* a database of employees to locate only those who work in a specific department and display just their name and job title. Then, you could print a *report* of the information in **sorted** alphabetical order by last name.

Further, you can **analyze** the data using built-in math formulas. For example, in a database of sales information, you could calculate the total and average sales during a specified time period.

Most database management programs include a **programming control language** for advanced users to create sophisticated applications. In addition, they allow direct communication to larger, more specialized mainframe databases through languages like **structured query language (SQL)**.

### CASE

Assume that you have accepted a job as employment administrator for the Lifestyle Fitness Club. One of your responsibilities is to create a database management system to replace the club's manual system for recording employee information. To learn more about database management system features and how they could assist you as an employee administrator at the Lifestyle Fitness Club, see Figure 2-11 and Figure 2-12.

### On the Web Explorations

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<http://www.mhhe.com/oleary>

### Concept Check

- ✓ What is a workbook?
- ✓ What is a worksheet?
- ✓ What is a database?
- ✓ What is a database management system (DBMS)?
- ✓ What are the three most common database management systems?



### Primary Key

A *primary key* is a field that uniquely identifies each record.

### Fields

A *field* is the smallest unit of information about a record and is typically stored in a table's column.

ID	Last Name	First Name	Street Address	City	State	Zip Code	Phone Number	Photo
0728	Roman	Anita	2348 S. Bala Dr.	Fort Myers	FL	33301-1555	(941) 555-6464	Bitmap Image
0745	Matsumoto	Tyrus	34 S. Onza Ave.	Cypress Lake	FL	33205-6911	(941) 555-6666	Bitmap Image
0754	Pario	Ian	983 E. Carrage Ln.	Fort Myers	FL	33301-1555	(941) 555-1950	Bitmap Image
0755	Ernster	Barbara	1153 S. Wilson	San Carlos	FL	33891-1605	(941) 555-1139	Bitmap Image
0765	Lamm	Chris	382 E. Ladonna Dr.	Iona	FL	33101-7468	(941) 555-7789	Bitmap Image
0839	Ruiz	Enrique	35 Palm St.	Cypress Lake	FL	33205-6911	(941) 555-9797	Bitmap Image
0843	Smith	Brent	4321 Toledo St.	San Carlos	FL	33891-1605	(941) 555-6464	Bitmap Image
0943	Robson	David	8584 Bryan Dr.	San Carlos	FL	33891-1605	(941) 555-6666	Bitmap Image
1151	Sutton	Lisa	4389 S. Hayden Rd.	Iona	FL	33101-0093	(941) 555-1950	Bitmap Image
1200	Lettow	Ryan	358 Maple Dr.	Fort Myers	FL	33301-1555	(941) 555-2805	Bitmap Image
1219	Polonsky	Mitch	8701 E. Sheridan	Fort Myers	FL	33301-1555	(941) 555-1018	Bitmap Image
1223	Reddie	Suzanne	932 E. Parkway Dr.	Iona	FL	33101-7468	(941) 555-1191	Bitmap Image
1224	Rath	Kathy	87 E. Aurora Ave.	Cypress Lake	FL	33205-0093	(941) 555-9797	Bitmap Image
1234	Delano	Gordon	8943 W. Southern Ave.	Iona	FL	33101-7468	(941) 555-1191	Bitmap Image
1235	Walker	Aaron	76 Thomas Rd.	San Carlos	FL	33891-1605	(941) 555-6325	Bitmap Image
1236	Stacey	David	737 S. College Rd.	Cypress Lake	FL	33205-6911	(941) 555-2805	Bitmap Image
1238	Thomas	Jennifer	773 E. Laurel St.	San Carlos	FL	33891-1605	(941) 555-7789	Bitmap Image
1242	Player	Allison	234 S. Sycamore	Iona	FL	33101-7468	(941) 555-1191	Bitmap Image
1244	Hemstreet	Karen	999 Solano Dr.	San Carlos	FL	33891-1605	(941) 555-6325	Bitmap Image
1251	Reddie	Mark	900 W. Campus Dr.	Fort Myers	FL	33301-1555	(941) 555-1139	Bitmap Image
1261	Burke	Ellen	234 N. 1st St.	San Carlos	FL	33891-1605	(941) 555-7789	Bitmap Image
1266	Stueland	Valerie	34 University Dr.	Fort Myers	FL	33301-1555	(941) 555-1845	Bitmap Image
1270	Badger	John	1234 E. Main St.	Fort Myers	FL	33301-1555	(941) 555-1845	Bitmap Image
1273	Sabin	John	1234 E. Main St.	Fort Myers	FL	33301-1555	(941) 555-1845	Bitmap Image
1277	Thompson	John	1234 E. Main St.	Fort Myers	FL	33301-1555	(941) 555-1845	Bitmap Image

### Record

A *record* contains all the information about one person, thing, or place.

### Table


*Tables* make up the basic structure of a database. Their columns display field data and their rows display records.

**Employee Data Form**

Record: 33 of 75

First Name:  Employee ID:

Last Name:  Hire Date:

Street:  Picture: 

City:

State:

Zip Code:

Home Phone:

Gender:

Date:

### Form

A *form* displays records onscreen and makes it easy to enter new records and make changes to existing records.

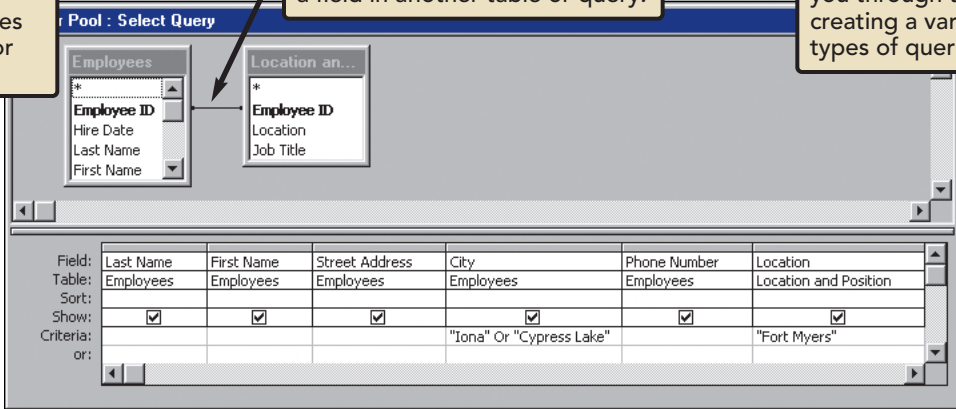
**CASE:** The first step in creating the database management system is to plan. You study the existing manual system focusing on how and what data is collected and how it is used. Next, you design the basic structure or organization of the new database system to have two related *tables*, which will make entering data and using the database more efficient. Focusing on the first table, Employees, you create the table structure by specifying the *fields*, data types, and the *primary key field*. You then enter the data for each employee as a *record* in the table. To make the process faster and more accurate you create a *form*.

Figure 2-11 Tables and Forms

**Query**  
A *query* is a request for specific data contained in a database. Queries may use single or multiple tables.

**Join**  
A *join* is an association between a field in one table or query and a field in another table or query.

**Query Wizard**  
The *Query Wizard* is an interactive program that guides you through the process of creating a variety of different types of queries.



**Report**  
A *report* is printed output generated from tables or queries.

**Report Wizard**  
The *Report Wizard* is an interactive program that guides you through the process of creating a variety of different types of reports.

**Sort**  
You can quickly rearrange a table's records by *sorting* the table data in a different order.

## Iona to Fort Myers Car Pool Report

Last Name	First Name	Street Address	City	Phone Number
Delucchi	Bill	950 S. Terrace Dr.	Cypress Lake	(941) 555-8195
Fromthart	Lisa	32 Redcoat Rd.	Cypress Lake	(941) 555-0110
Helfand	Eric	4601 E. Willow Dr.	Iona	(941) 555-9101
Lawrence	Nichol	433 S. Gaucho Dr.	Cypress Lake	(941) 555-7666
Lopez	Mina	4290 E. Alameda Dr.	Cypress Lake	(941) 555-5050
Nichols	Cathy	75 Brooklea Dr.	Cypress Lake	(941) 555-0001
Reddie	Suzanne	932 E. Parkway Dr.	Iona	(941) 555-1191
Schiff	Marc	235 N. Cactus Dr.	Cypress Lake	(941) 555-0010
Sutton	Lisa	4389 S. Hayden Rd.	Iona	(941) 555-1950

**CASE:** You have continued to build the database by creating a second table containing information about the employee's work location and job title. Now you want to create a *report* to help employees form car pools. To do this you use the *Query Wizard* to create a *query* using information from both tables. The tables are *joined* on the primary keys and the query specifies the information to display from both tables. Then you use the *Report Wizard* to quickly create a professional report of the query results *sorted* alphabetically by the employee's last name.

Figure 2-12 Reports

## PRESENTATION GRAPHICS

Presentation graphics create interesting and professional presentations.

Research shows that people learn better when information is presented visually. A picture is indeed worth a thousand words or numbers. **Presentation graphics** are used to combine a variety of visual objects to create attractive, visually interesting presentations. They are excellent tools to help you communicate a message or persuade people.

People in a variety of settings and situations use presentation graphic programs to make their presentations more interesting and professional. For example, a marketing manager may present information to a group on marketing strategy and a salesperson may make a presentation to persuade you to purchase their product. Students use presentation graphics programs to create high-quality class presentations that effectively convey their message.

Three of the most widely used presentation graphics programs are Microsoft PowerPoint, Corel Presentations, and Lotus Freelance Graphics.

### On the Web Explorations

Lotus is one of the leaders in developing presentation graphics. To learn more about the company, visit our Web site at <http://www.mhhe.com/oleary>

### FEATURES

Most presentation programs include features that help you organize the content of your presentation. Commonly, an **outline** feature is included that helps you enter and organize the topics of your talk. Most programs also provide presentation **layout files** that include sample text for many different types of presentations—from delivering a report to selling a product.

Professionally designed **templates** or model presentations are provided. These can help take the worry out of the design and layout decisions. They include selected combinations of text layouts with features such as title placement and size. Additionally, various bullet styles, background colors, patterns, borders, and other enhancements are provided.

**Animations** include special visual and sound effects. These effects include moving pictures and transitions between topics. You can insert audio and video clips that play automatically or when selected. You can even record your own voice to provide a narration to accompany a slide show.

### CASE

Assume that you have volunteered for the Animal Rescue Foundation, a local animal rescue agency. You have been asked to create a powerful and persuasive presentation to encourage other members from your community to volunteer. To learn more about presentation software features and how they could assist you to create a presentation for the Animal Rescue Foundation, see Figure 2-13.

**TIPS** Planning a presentation for school or work? Here are a few tips from professionals to make it the best ever:

- 1 Be prepared.** Know your audience, equipment, and presentation room. Practice out loud in the room.
- 2 Begin and end well.** Begin with a joke or story. End with a summary.
- 3 Know when to move.** Move around to focus attention on you. Remain still to focus attention on your slides.
- 4 Relax.** Prior to a presentation, take a short walk, stretch, or just take a few quiet moments to breathe deeply.

### Concept Check

- ✓ What do presentation graphics software do?
- ✓ What are the three most widely used presentation graphics programs?
- ✓ Describe three basic presentation graphics features.

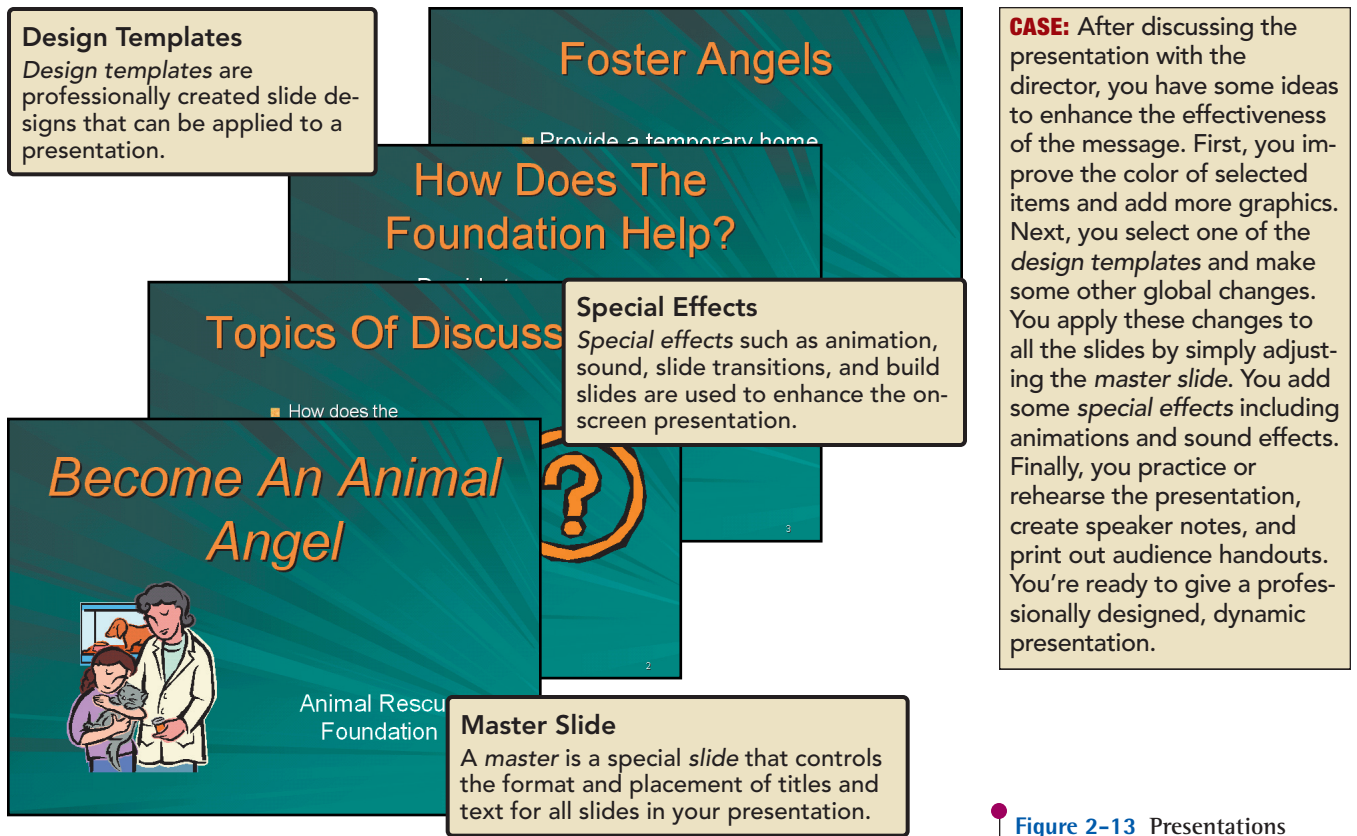
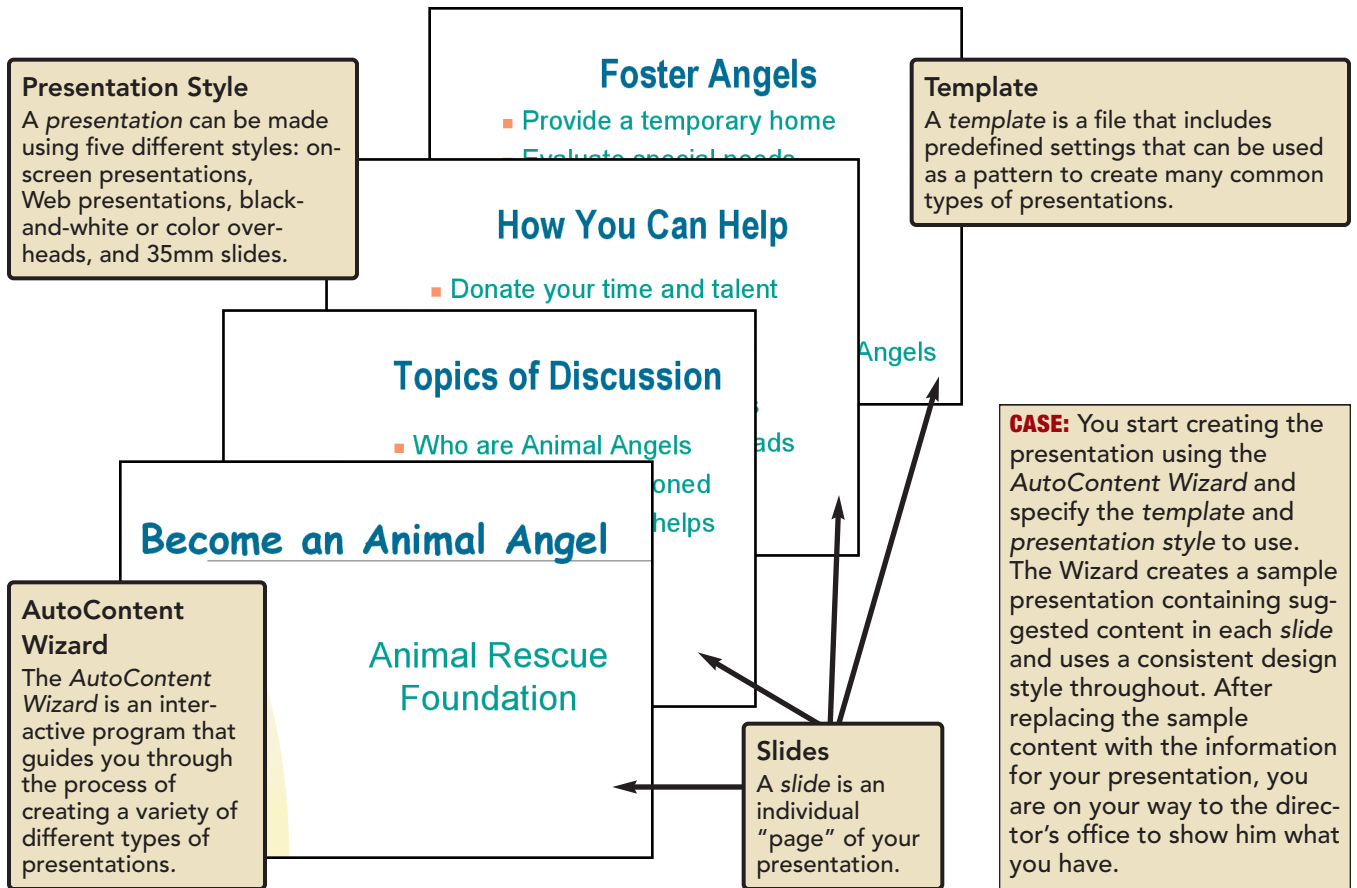


Figure 2-13 Presentations

## SOFTWARE SUITES

A software suite is a group of application programs. OLE allows you to share information between applications.

A **software suite** is a collection of separate applications bundled together and sold as a group. While the applications function *exactly* the same whether purchased in a suite or separately, it is significantly less expensive to buy a suite of applications than to buy each application separately.

Microsoft Office is the most popular software suite. It comes in several different versions. One of the most recent is Microsoft Office XP Professional Edition, which includes Word, Excel, Access, and PowerPoint. (See Figure 2-14.) Other popular software suites are Corel WordPerfect Office and Lotus SmartSuite.

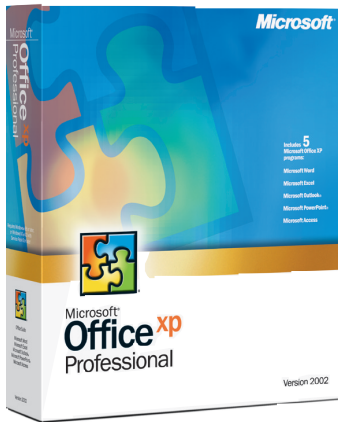


Figure 2-14 Microsoft Office XP Professional Edition

### OBJECT LINKING AND EMBEDDING

**Object linking and embedding (OLE)** is a powerful feature of many application programs. Using OLE, you can share information or objects between files created in different applications. For example, you could create a chart in Excel and then use it in a Word document.

With object linking, a copy of the object from the source file (the file in which it was created), is inserted in the *destination file* (the file receiving the object) and a *link* or connection between the two files is established. If the source file changes, the object in the destination file is updated automatically.

For example, if a chart (an object) in an Excel workbook file (the source file) is linked to a Word document (the destination file), the chart appears in the Word document. Later, if the Excel worksheet changes the chart, the Word document will be automatically updated. Object linking is useful if you want the destination document to always contain the most up-to-date information.

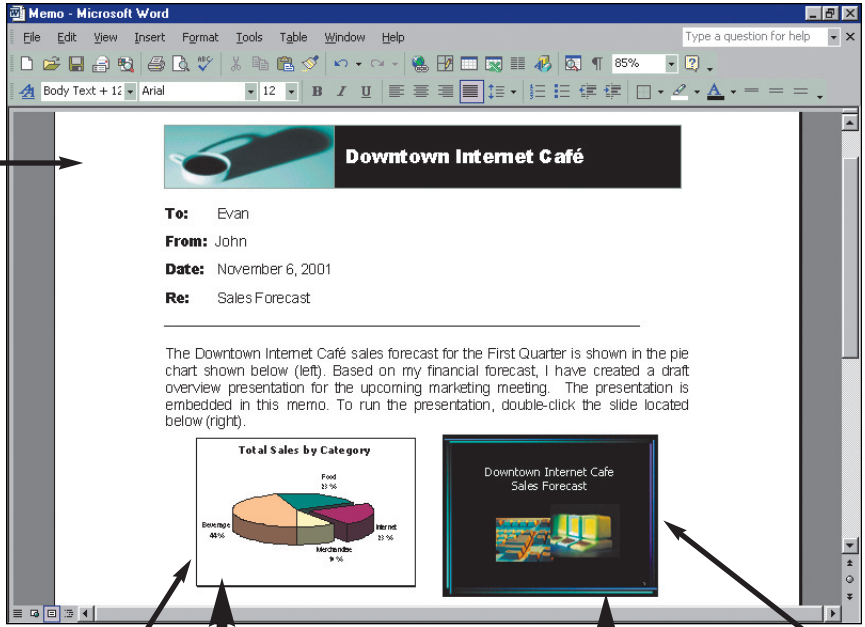
With object embedding, the object from the source file is *embedded* or added in the destination document and becomes part of the destination document. The embedded object can be opened and edited from within the destination document using the source application. However, changes you make to the embedded object are not reflected in the source file.

For example, if a presentation (an object) created in PowerPoint is embedded in a Word document (the destination file), the presentation can be run from the Word document. Object embedding is useful for providing activity and flexibility to a document.

### CASE

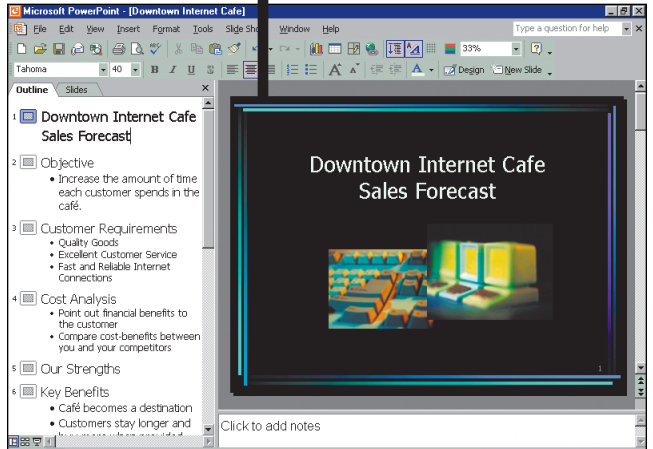
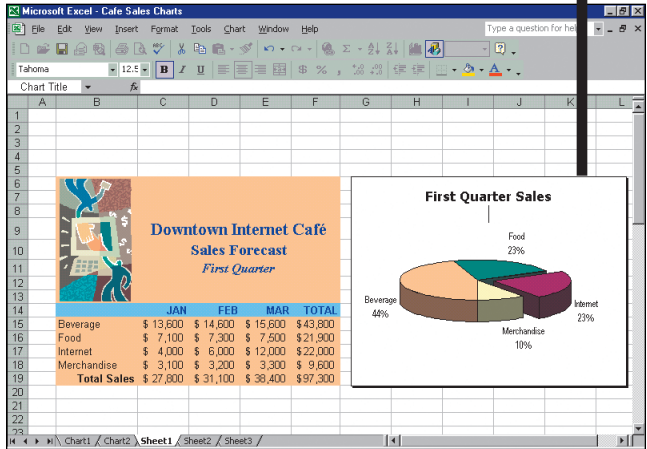
As manager and financial planner for the Internet Café, you have been working on a presentation for the annual sales meeting. You have analyzed recent sales trends using Excel and have drafted a presentation using PowerPoint. To present your work to Evan, the owner, you have just completed a Word document. To learn more about OLE and how you could use it, see Figure 2-15.

**Word Document**  
The **Word document** contains text and two objects. The first object is linked to an Excel file. The second is an embedded PowerPoint presentation.



**Linked Object**  
The chart, a **linked object**, from the Excel file appears in the word document. Any changes in the Excel file that affect the chart will automatically be updated in the Word document.

**Embedded Object**  
The first slide of the **embedded** presentation appears in the Word document. Double clicking the slide from the Word document plays the entire presentation.



**CASE:** Your supervisor, Evan, has requested an update on your work, which includes an ongoing analysis of sales data using Excel and a PowerPoint presentation. You create a memo to Evan using Word that includes a chart as an *object linked* to your Excel spreadsheet and a PowerPoint presentation as an *embedded object*. By linking your spreadsheet, you can continue with your analysis with Excel and any changes in the chart will automatically be reflected in the memo. By embedding your presentation, Evan will be able to view it directly from the memo even if he does not have PowerPoint installed on his computer system.

**Figure 2-15** Object linking and embedding

## INTEGRATED PACKAGES

Integrated software is an all-in-one application program.

An **integrated package** is a single program that provides the functionality of a word processor, spreadsheet, database manager, and more. For example, to create a report on the growth of sales for a sporting goods store, you could use all parts of an integrated package. You could use the database to search and retrieve yearly sales data. The spreadsheet could be used to analyze the data and graphics to visually present the data. You could use the word processor to write the report that includes tables from the spreadsheet and visuals from the graphics program. (See Figure 2-17.)

The primary disadvantage of an integrated package is that the capabilities of each function (such as word processing) are not as extensive as in the specialized programs (such as Microsoft Word). The primary advantage is that the cost of an integrated package is much less than the cost of purchasing a word processor, spreadsheet, and database manager. The most widely used integrated packages are Microsoft Works (see Figure 2-16) and AppleWorks.

For a summary of the basic application software, see Figure 2-18.

### Concept Check

- ✓ What is a software suite?
- ✓ Describe object-linking and embedding.
- ✓ What is an integrated package?

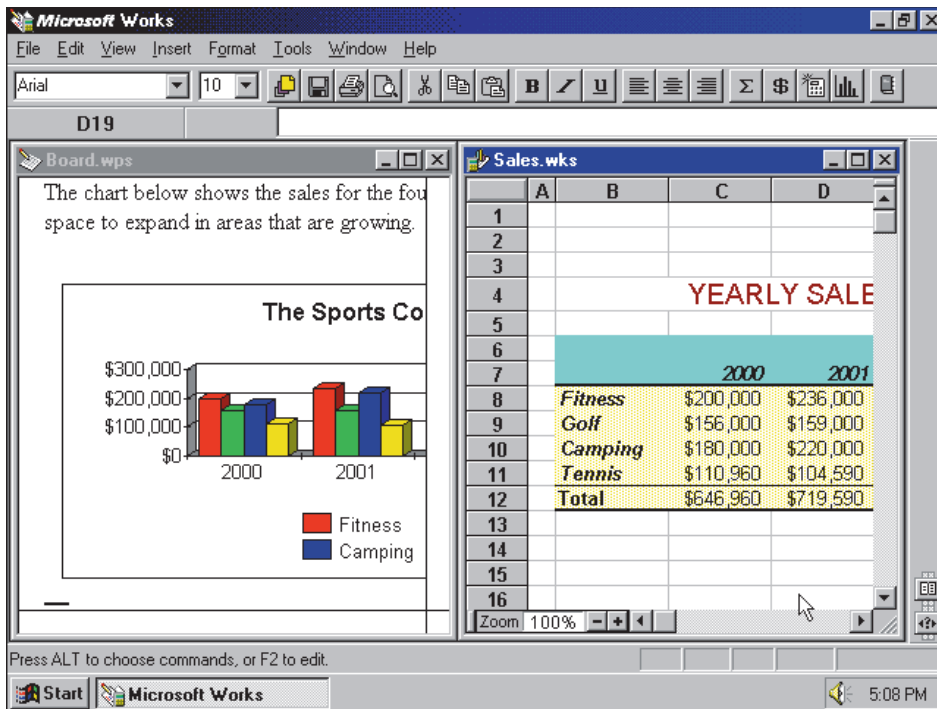


Figure 2-16 Integrated package (Microsoft Works)



Figure 2-17 Integrated package (Microsoft Works)

Browsers	Microsoft Internet Explorer, Netscape Navigator
Word processors	Microsoft Word, Corel WordPerfect, Lotus Word Pro
Spreadsheets	Microsoft Excel, Corel Quattro Pro, Lotus 1-2-3
Database management systems	Microsoft Access, Corel Paradox, Lotus Approach
Presentation graphics	Microsoft PowerPoint, Corel Presentations, Lotus Freelance Graphics
Software suites	Microsoft Office, Corel Office, Lotus SmartSuite
Integrated packages	Microsoft Works, AppleWorks

FIGURE 2-18 Software programs



## A Look to the Future



**New software versions will offer more capabilities, freeing your creativity and enhancing the quality and quantity of your work.**

New versions of basic application software are being released all the time. One way these programs change is in the way you interact with them. Another way is in the software's capabilities.

Interacting with them may not be as difficult as you might think. That's because almost all new software today has a similar command and menu structure. When a new version comes out, it looks and feels quite similar to the previous version. This frees you to focus on the new capabilities.

Basic applications will continue to become more

and more powerful by adding breadth to their capabilities. They are no longer limited by the machines that they were designed to replace. Word processors, for example, do much more than typewriters ever could. Recent versions have added desktop publishing and Web page design capabilities.

Some experts predict that our days of buying, installing, and upgrading software will some day be a thing of the past. These activities will be done by specialized Web sites that provide Web-based applications. When you want to run the most recent and powerful applications, you will connect to the appropriate site, pay a fee, and run the application.

What does all this mean to you? You will have access to more powerful applications, which will free your creativity and enhance the quality and quantity of your work. Additionally, you will be challenged to learn how and when to use these more powerful tools.



# VISUAL SUMMARY

## Application Software

### GENERAL-PURPOSE APPLICATIONS



**Browsers** connect to remote computers, open and transfer files, display text and images, and provide an uncomplicated interface to the Internet.

### Features

Principal browser features include the following:

- **Uniform resource locators (URLs)**—in order to connect to other resources with a browser, the address, or URL must be specified.
- **Hypertext Markup Language (HTML)**—browsers interpret HTML documents to display **Web pages**.
- **Home page**—typically the first page of a Web site is referred to as its home page.
- **Hyperlinks**—these create connections between information references within a document or between documents.

### WORD PROCESSORS

**Peru**

**Geography and Climate**


Peru, located in South America, borders the Pacific Ocean on its west and shares common borders with the countries of Ecuador, Colombia, Brazil, and Bolivia. Peru is subdivided into three regions—La Costa, La Sierra, and La Selva—based on differing climate and geographical features. Though entirely within the tropics, Peru's climate varies from region to region, ranging from tropical to arctic. Its varied climate corresponds to the sharply contrasting geographical features of seafloor, mountains, and rainforests.

**La Costa**

Occupying the slender area along Peru's western coastline, La Costa, provides a division between the mountains and sea. Although some of this area is fertile, mostly it is extremely dry and arid. The Andes Mountains prevent greater annual precipitation coming from the east. Some areas in the south are considered drier than the Sahara. Conversely, there are a few areas in this region where mountain rivers meet the ocean that are green with life and do not give the impression of being in a desert at all.

**La Sierra**

Extending to the east is the mountainous region called La Sierra, encompassing Peru's share of the Andes mountain range. The southern portion of this region is prone to volcanic activity, and some volcanoes are active today. La Sierra is subject to a dry season from May to September, which is winter in that part of the world. The weather is typically sunny, with moderate annual precipitation. The former Incan capital Cuzco is in this region, as well as the Sacred Valley of the Incas. This region also contains Lake Titicaca, the world's highest navigable lake.<sup>1</sup>



**La Selva**

La Selva, a region of tropical rainforest, is the easternmost region in Peru. This region, with the eastern foot of the Andes Mountains, forms the Amazon Basin, into which numerous rivers flow. La Selva is extremely wet, with some areas exceeding an annual precipitation of 137 inches. Its wettest season occurs from November to April. The weather here is humid and extremely hot.

Region	Annual Rainfall (inches)	Average Temperature (Fahrenheit)
La Costa	65	65
La Sierra	35	54
La Selva	137	80

<sup>1</sup> Lake Titicaca is 12,507 feet above sea level.

**Word processors** allow you to create, edit, save, and print text-based **documents** including flyers, letters, and reports. They are also used to create Web pages.

### Features

Principal word processing features include the following:

- **Word wrap**—automatically moves the insertions pointer to the next line.
- **Spelling checkers**—identify incorrectly spelled words and present alternative spellings.
- **Grammar checkers**—identify poor wording, faulty grammar, and long sentences.
- **Thesaurus**—provides synonyms, antonyms, or related words.
- **Search**—quickly locates characters, words, or phrases.
- **Replace**—replaces the located text with new text.

To be a competent end user, you need to understand the capabilities of basic application software, which includes browsers, word processors, spreadsheets, database management systems, and presentation programs.

## SPREADSHEETS

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
<b>Sales</b>										
Beverage	\$ 13,600	\$ 14,800	\$ 15,600	\$ 15,700	\$ 15,800	\$ 15,900	\$ 16,000	\$ 16,000	\$ 16,000	\$ 15,900
Food	\$ 7,100	\$ 7,300	\$ 7,400	\$ 7,500	\$ 7,600	\$ 7,600	\$ 7,800	\$ 7,800	\$ 7,800	\$ 7,900
Internet	\$ 4,000	\$ 4,200	\$ 4,300	\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,700	\$ 4,800	\$ 4,900	\$ 4,900
Merchandise	\$ 3,100	\$ 3,200	\$ 3,300	\$ 3,200	\$ 3,200	\$ 3,200	\$ 3,100	\$ 3,100	\$ 3,100	\$ 3,100
<b>Total Sales</b>	\$ 27,800	\$ 29,300	\$ 30,800	\$ 31,100	\$ 31,200	\$ 31,800	\$ 31,700	\$ 31,800	\$ 31,800	\$ 31,800
<b>Expenses</b>										
Cost of Goods	\$ 6,950	\$ 7,300	\$ 7,600	\$ 7,675	\$ 7,750	\$ 7,775	\$ 7,900	\$ 7,900	\$ 7,900	\$ 7,925
Payroll	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,200	\$ 7,395	\$ 7,465	\$ 7,500	\$ 7,500	\$ 7,500	\$ 7,500
Computers	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400	\$ 6,400
Lease	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500	\$ 5,500
Advertising	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000
Miscellaneous	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500
<b>Total Exp</b>	\$ 29,850	\$ 29,200	\$ 29,500	\$ 29,365	\$ 29,545	\$ 29,640	\$ 29,800	\$ 29,800	\$ 29,800	\$ 29,825
<b>Income</b>										
<b>Net Income</b>	\$ (1,050)	\$ 100	\$ 1,300	\$ 1,545	\$ 1,555	\$ 1,860	\$ 1,800	\$ 1,900	\$ 2,000	\$ 1,975
<b>Profit Margin</b>	-3.76%	0.34%	4.22%	5.00%	5.00%	5.70%	5.70%	5.99%	6.29%	6.21%
<b>Quarter Profit Margin</b>		0.40%			5.00%			5.99%		

Spreadsheets are used to organize, manipulate, and graph numeric data. Also known as a **worksheet**, a spreadsheet consists of **rows** and **columns** forming **cells**. Individual cells are identified by their **cell address**.

### Features

Principal spreadsheet features include the following:

- **Rows** and **columns** form **cells** in worksheet.
- **Text** entries (labels) and numeric entries are entered in cells.
- **Formulas** are instructions for calculations.
- **Functions** are prewritten formulas.
- **What-if analysis** is the result of changing one or more values and observing the effect on related cells in the spreadsheet.
- **Analytical** graphs or charts are used to help visualize data in a spreadsheet.

## DATABASE MANAGEMENT SYSTEMS

ID	Last Name	First Name	Street Address	City	State	Zip Code	Phone Number	Photo
0728	Roman	Anita	2348 S. Bala Dr.	Fort Myers	FL	33301-1555	(841) 555-9870	Bitmap Image
0745	Matsimoto	Tynus	34 S. Onza Ave.	Cypress Lake	FL	33205-6911	(841) 555-9372	Bitmap Image
0754	Pano	Ian	993 E. Carriage Ln.	Fort Myers	FL	33301-1555	(841) 555-3231	Bitmap Image
0755	Emster	Barbara	1153 S. Wilson	San Carlos	FL	33891-1605	(841) 555-3211	Bitmap Image
0765	Lamm	Chris	382 E. Ladonna Dr.	Iona	FL	33101-7468	(841) 555-8332	Bitmap Image
0839	Ruiz	Enrique	36 Palm St.	Cypress Lake	FL	33205-6911	(841) 555-0091	Bitmap Image
0843	Smith	Brent	4321 Toledo St.	San Carlos	FL	33891-1605	(841) 555-6454	Bitmap Image
0843	Robson	David	8564 Bryan Dr.	San Carlos	FL	33891-1605	(841) 555-6666	Bitmap Image
1151	Sutton	Lisa	4389 S. Hayden Rd.	Iona	FL	33101-0093	(841) 555-1950	Bitmap Image
1200	Littow	Ryan	388 Maple Dr.	Fort Myers	FL	33301-1555	(841) 555-2055	Bitmap Image
1219	Polonsky	Match	8701 E. Sheidan	Fort Myers	FL	33301-1555	(841) 555-1018	Bitmap Image
1223	Reddie	Suzanne	932 E. Parkway Dr.	Iona	FL	33101-7468	(841) 555-1191	Bitmap Image
1224	Rath	Kathy	87 E. Aurora Ave.	Cypress Lake	FL	33205-0093	(841) 555-9797	Bitmap Image
1234	Delano	Gordon	8843 W. Southern Ave.	Iona	FL	33101-7468	(841) 555-8201	Bitmap Image
1235	Walker	Aaron	76 Thomas Rd.	San Carlos	FL	33891-1605	(841) 555-2222	Bitmap Image
1236	Stacey	David	737 S. College Rd.	Cypress Lake	FL	33205-0093	(841) 555-7764	Bitmap Image
1239	Thomas	Jennifer	773 E. Laurel St.	San Carlos	FL	33891-1605	(841) 555-4956	Bitmap Image
1242	Player	Allison	234 S. Sycamore	Iona	FL	33101-0093	(841) 555-5532	Bitmap Image
1244	Hemstreet	Karen	999 Solano Dr.	San Carlos	FL	33891-1605	(841) 555-6326	Bitmap Image
1251	Reddie	Mark	900 W. Campus Dr.	Fort Myers	FL	33301-1555	(841) 555-1139	Bitmap Image
1261	Burke	Ellen	234 N. 1st St.	San Carlos	FL	33891-1605	(841) 555-7789	Bitmap Image
1266	Stueland	Valerie	34 University Dr.	Fort Myers	FL	33301-1555	(841) 555-1845	Bitmap Image
1270	Bader	Jeff	947 S. Forest St.	Fort Myers	FL	33301-1555	(841) 555-7789	Bitmap Image
1273	Sabin	Greg	90 E. Rawhide Ave.	Cypress Lake	FL	33205-6911	(841) 555-4455	Bitmap Image
1277	Thi	Erena	7867 Forest Ave.	San Carlos	FL	33891-1605	(841) 555-1089	Bitmap Image

Database management systems are used to create and use databases. A **relational database** organizes data into related **tables** that are linked by **primary key fields**. In the tables, rows are called **records** and columns are called **fields**.

### Features

Principal database management system features include the following:

- **Locate and display**—finding and displaying records.
- **Sort and analyze**—rearranging records in a database. Built-in math formulas may be used to manipulate and analyze data.
- **Program control languages**—like SQL (Structured Query Language) are programming languages for advanced users to create sophisticated database applications.
- **Form**—allows onscreen viewing and editing of records.
- **Report**—printed database output.

## PRESENTATION GRAPHICS



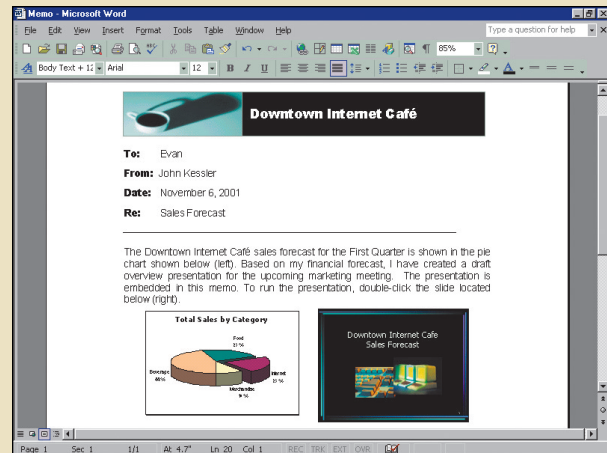
**Presentation graphics** are used to create professional and exciting presentations.

### Features

Principal presentation graphics features include the following:

- **Content development assistance**—Most provide organizational assistance using an outline feature. **Layout files** are provided to offer content assistance. These files include sample text for a variety of different types of presentations.
- **Professional design**—Sample **templates** or model presentations are provided. They include selected combinations of text layouts, bullet styles, background colors, patterns, borders, and other enhancements.
- **Animations** include special visual and sound effects including moving graphics and transitions between topics. Additionally, audio and video clips can be inserted. These features add interest and keep audience attention.

## SOFTWARE SUITES



A **software suite** is a collection of individual application packages sold together. While functionally identical, application packages purchased in a suite are significantly less expensive than those purchased separately.

### OLE

**OLE**, or **object linking and embedding**, allows sharing of information (objects) between applications.

- **Object linking**—linked objects are automatically updated whenever a change in the source file is changed.
- **Embedded linking**—the object from the source is embedded or added and can be run from the destination file.

## INTEGRATED PACKAGES

An **integrated package** is a single program providing the functionality of a word processor, spreadsheet, database manager, and more. Although not as powerful, integrated packages are much less expensive than individual packages.

# KEY TERMS

## KEY TERMS

advanced application (XX)  
analytical graphs or charts (XX)  
animations (XX)  
basic application (XX)  
browser (XX)  
cell (XX)  
column (XX)  
database (XX)  
database management system (DBMS) (XX)  
database manager (XX)  
destination file (XX)  
document (XX)  
embedded object (XX)  
field (XX)  
find (XX)  
formatting toolbar (XX)  
formula (XX)  
function (XX)  
general-purpose application (XX)  
grammar checker (XX)  
Help (XX)  
home page (XX)  
hyperlink (XX)  
Hypertext Markup Language (HTML) (XX)  
integrated package (XX)  
layout files (XX)  
linked object (XX)  
menu (XX)  
menu bar (XX)  
numeric entry (XX)  
object (XX)  
Object linking and embedding (OLE) (XX)  
presentation graphics (XX)  
range (XX)  
record (XX)  
relational database (XX)  
replace (XX)  
row (XX)  
search (XX)  
sheet (XX)  
software suite (XX)  
sorting (XX)  
source file (XX)  
special-purpose application (XX)  
spelling checker (XX)  
spreadsheet (XX)  
standard toolbar (XX)  
structured query language (SQL) (XX)  
table (XX)  
template (XX)  
text entry (XX)  
toolbar (XX)  
uniform resource locator (URL) (XX)  
Web page (XX)  
Web site address (XX)  
what-if analysis (XX)  
window (XX)  
word processing (XX)  
word wrap (XX)  
workbook (XX)  
worksheet (XX)

# CHAPTER REVIEW

## MULTIPLE CHOICE

Circle the letter of the correct answer.

- General-purpose applications are also known as \_\_\_\_\_.
  - software suites
  - advanced applications
  - basic applications
  - special-purpose applications
  - none of the above
- Multimedia, Web authoring, graphics, and virtual reality programs are examples of \_\_\_\_\_.
  - special-purpose applications
  - general-purpose applications
  - basic applications
  - occupational applications
  - b and c
- Web site addresses are also called \_\_\_\_\_.
  - HTML
  - home pages
  - URLs
  - hyperlinks
  - none of the above
- \_\_\_\_\_ are prewritten formulas that perform calculations automatically.
  - Functions
  - Macros
  - Templates
  - Calculators
  - none of the above
- In a relational database, data is organized into \_\_\_\_\_.
  - fields
  - columns
  - records
  - tables
  - rows
- Database management systems are comprised of tables that are made up of rows called \_\_\_\_\_ and columns called \_\_\_\_\_.
  - fields, records
  - records, fields
  - addresses, fields
  - ranges, sheets
  - records, ranges
- Most presentation graphics programs provide \_\_\_\_\_ that include sample text for many different types of presentations.
  - layout files
  - templates
  - samples
  - records
  - formatting
- The file an object is linked from is called the \_\_\_\_\_.
  - destination file
  - origin file
  - layout file
  - support file
  - source file
- To have an object automatically updated in a destination file when a change is made to the source file, the object must be \_\_\_\_\_.
  - embedded
  - linked
  - replaced
  - resolved
  - amended
- A(n) \_\_\_\_\_ is a single program that provides the functionality of a word processor, spreadsheet, database manager, and more.
  - general-purpose application
  - software suite
  - integrated package
  - program manager
  - none of the above

## MATCHING

Match each numbered item with the most closely related lettered item. Write your answers in the spaces provided.

- |                                 |   |
|---------------------------------|---|
| a. browser                      | 1. Word processors, spreadsheets, database management systems, and presentation graphics. _____                                   |
| b. cell                         | 2. Rectangular area that can contain a document, program, or message. _____   |
| c. word processor               | 3. A feature that contains buttons and menus to provide access to commonly used commands. _____                                   |
| d. general-purpose applications | 4. Software that connects to and displays Web resources. _____  |
| e. HTML                         | 5. Addresses of resources on the Web. _____   |
| f. find                         | 6. Programming language for the document files that are used to display Web pages. _____  |
| g. range                        | 7. Opening page of a Web site. _____  |
| h. formulas                     | 8. Software that creates text-based documents such as reports, letters, and memos. _____  |
| i. toolbar                      | 9. Identifies incorrectly spelled words and suggests alternatives. _____  |
| j. template                     | 10. Tool that quickly locates any character, word, or phrase in a document. _____   |
| k. window                       | 11. The intersection of a row and column in a spreadsheet. _____  |
| l. what-if analysis             | 12. A collection of two or more cells in a spreadsheet. _____   |
| m. spelling checker             | 13. Instructions for calculations. _____  |
| n. relational database          | 14. Spreadsheet feature in which changing one or more numbers results in the automatic recalculation of all related fields. _____ |
| o. URL                          | 15. A widely used database structure, in which data is organized into related tables. _____                                       |
| p. sorting                      | 16. Arranging objects numerically or alphabetically. _____  |
| q. home page                    | 17. Graphics used to communicate a message or to persuade. _____  |
| r. presentation graphics        | 18. Professionally designed model presentations provided in a presentation graphics program. _____                                |
| s. software suite               | 19. Individual application programs that are sold together as a group. _____  |
| t. OLE                          | 20. Powerful feature of many application programs that allows sharing of information. _____                                       |

## OPEN-ENDED

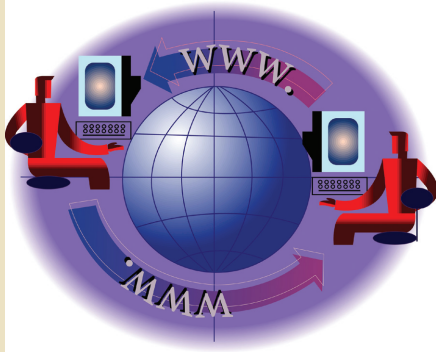
On a separate sheet of paper, respond to each question and statement.

1. Explain the difference between general-purpose and special-purpose applications.
2. What are presentation graphics program? How are they used?
3. What is the difference between an integrated package and a software suite? What are the advantages and disadvantages to each?
4. Explain the difference between a linked object and an embedded object? What are the advantages of OLE?
5. What is the difference between a function and a formula? How is a formula related to what-if analysis?

# USING TECHNOLOGY



## 1 Online Personal Information Managers



Online Personal Information Managers, or PIMs, are among the most popular Web-based applications. Visit our site at <http://www.mhhe.com/oleary> to link to some online PIMs. Explore each, and then answer the following questions: (a) Describe the common features of online PIMs. (b) What is the advantage of using an online PIM versus one that is stored on our system's hard disk? (c) What are the disadvantages? (d) Which would you choose? Why?

## 2 Corel Office Suite

Microsoft's major competitor in the office suite market is Corel. Visit our site at <http://www.mhhe.com/oleary> to connect to Corel's Web site. Review the site, and then write a one-page paper that answers the following questions: (a) What applications are provided in Corel's WordPerfect Office Suite? (b) What are the similarities and differences between the Microsoft and Corel office suites? (c) Which suite would you choose? Why?

The screenshot shows the Corel website for WordPerfect Office 2002. The address bar displays <http://www3.corel.com/cgi-bin/gx.cgi/AppLogic+FTContentServer?pagename>. The page features the Corel logo, a navigation menu with links for 'About Corel', 'Careers', 'Products', 'Support', 'Corel® Store', 'Newsletter', and 'Downloads'. A 'Solutions' section lists categories like Home Users, Business, Government, Academic, Designers, Legal Community, Corel Services, and Corel Partners. A 'Resource Sites' section lists Designer.com, Linux:Corel.com, and OfficeCommunity.com. The main content area highlights 'WordPerfect Office 2002' with a 'Purchase Product Register Product' button and a 'Print Page' button. A large blue globe graphic is prominent, with text indicating 'Now Available' and 'New Features and Enhancements' such as 'Superb Power', 'Unprecedented Control', and 'Outstanding Compatibility'. A 'Description' section states: 'Power up your office with the time-saving innovations and outstanding compatibility of WordPerfect® Office 2002 – Professional Edition, the latest version of the suite you know and love. Along with advanced word processing, spreadsheets, presentations, an e-mail client and address book, it delivers world-class database and speech-recognition software. WordPerfect Office 2002: Cutting-edge technology. Timeless choice.' A 'Try Online...' button with 'No Download Required' is also visible.

## EXPANDING YOUR KNOWLEDGE



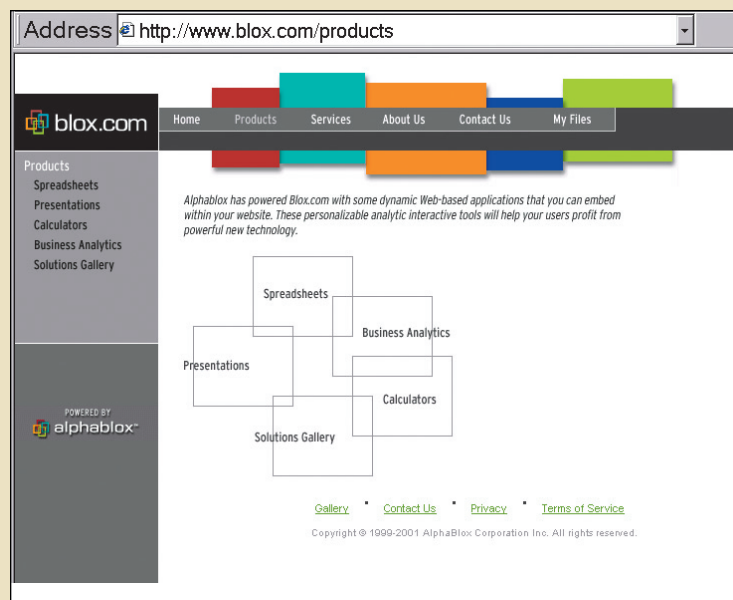
# Interactive Companion CD-ROM 1

Complete the Word Processing and Spreadsheets Lab located on your Interactive Companion CD-ROM, and then answer the following questions in a one-page paper: (a) What was the first really successful microcomputer, and why did people buy it? (b) What advantages of word processors are described in the Lab? (c) What is the sample spreadsheet in the Lab used to calculate?



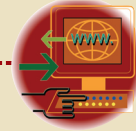
# Application Service Providers 2

Application Service Providers (ASPs) offer access to basic applications from anywhere in the world. Visit our site at <http://www.mhhe.com/oleary> to link to some ASPs. Explore each, then answer the following questions in a one-page paper: (a) List common applications provided by ASPs. (b) What are some advantages to users of ASPs beyond universal access to software and data? (c) What concerns might a user have about personal data stored at an ASP? (d) Would you use an ASP? If so, how? If not, explain why.





# BUILDING YOUR PORTFOLIO



## 1 Software Suites



Software suites offer both end users and businesses some unique advantages. In a two-page paper titled *Software Suites*, address the following items: (a) Define software suites. (b) Which ones are the most popular today? Why? (c) New versions of software suites are coming out all the time. As a user, how can you know when it's time to upgrade?

## 2 Acquiring Software

There are three common ways to obtain new software (use public domain software, use shareware, buy commercial software). Investigate each option, and then answer the following questions in a two-page paper: (a) Define and discuss each option. Be sure to discuss both the advantages and disadvantages of each. (b) Which seems like the best method to you? Why? (c) In addition to these three ways, two others are to copy programs from a friend or purchase unauthorized copies of programs.

Do you think there is anything wrong with obtaining software in this manner? Identify and explore the key issues.



# NOTES