

BASIC APPLICATION SOFTWARE

OBJECTIVES

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

1

Discuss common features of most software applications.

2

Discuss word processors and word processing features.

3

Describe spreadsheets and spreadsheet features.

4

Discuss database management systems and database management features.

5

Describe presentation graphics and presentation graphics features.

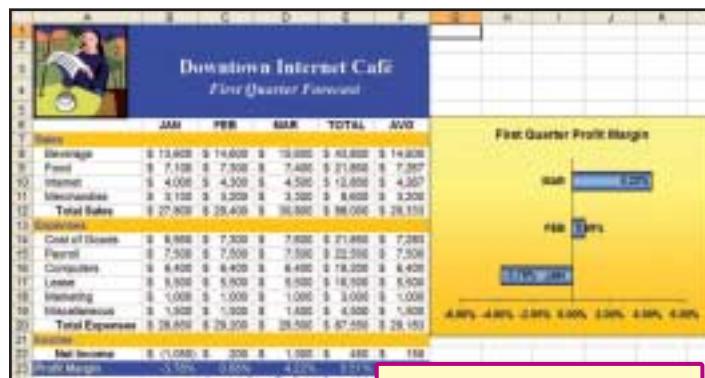
6

Discuss integrated software and software suites.

7

Describe ways to share data between applications.

Word Processing Software
Create text-based documents



Not long ago, trained specialists were required to perform many of the operations you can now do with a microcomputer. Secretaries used typewriters to create business correspondence. Market analysts used calculators to project sales. Graphic artists created designs 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 managing information. A microcomputer, however, can help you to do all these things—and much more. All it takes is the right kinds of software.

You are probably most familiar with the software available for sale in retail stores. You purchase these programs, store them on your hard disk, and run them. An emerging trend, however, is to use Web-based applications. These are programs you access from the Internet and run on your microcomputer.

Competent and knowledgeable end users need to understand the capabilities of basic application software, which includes word processors, spreadsheets, database management systems, and presentation programs. They need to know how to effectively use application programs and how to share data between applications.

Database Management Systems

Organize data for efficient retrieval



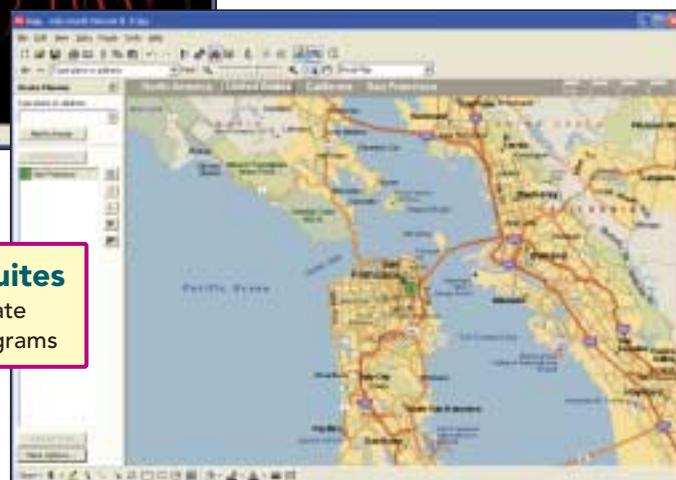
Presentation Programs

Create interesting and professional presentations



Software Suites

Combine separate application programs



APPLICATION SOFTWARE

Basic and specialized are the two categories of application software. Common interface features include icons, windows, menus, dialog boxes, help, toolbars, and buttons. ASPs provide access to Web-based applications.

As we discussed in Chapter 1, there are two kinds of software. **System software** works with end users, application software, and computer hardware to handle the majority of technical details. **Application software** can be described as end user software. It is used by end users to accomplish a variety of different tasks.

Application software in turn can be divided into two categories. One category, **basic applications**, is the focus of this chapter. These programs, also known as **general-purpose applications** and **productivity applications**, are widely used in nearly every discipline and occupation. They include word processors, spreadsheets, database management systems, and presentation graphics. The other category, **specialized applications**, also known as **special-purpose applications**, includes thousands of other programs that are more narrowly focused on specific disciplines and occupations. Some of the best known are graphics programs, audio/video editors, multimedia creation programs, Web authoring, and virtual reality programs. (A detailed discussion of these specialized applications is presented in Chapter 4.)

On the Web Explorations

Microsoft is one of the leaders in creating software applications. To learn more about the company, visit our Web site at <http://www.mhhe.com/oleary/CT05> and select On the Web Explorations from Tim's Toolbox.

COMMON FEATURES

A **user interface** is the portion of the application that you work with. Most applications use a **graphical user interface (GUI)** that displays graphical elements called **icons** to represent familiar objects and a mouse. The mouse

controls a **pointer** on the screen that is used to select items such as icons. Another feature is the use of windows to display information. 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.) More than one window can be opened and displayed on the computer screen at one time. For example, one window might contain a graphics program, another a spreadsheet program, and yet another a word processing program. (See Figure 3-1.)

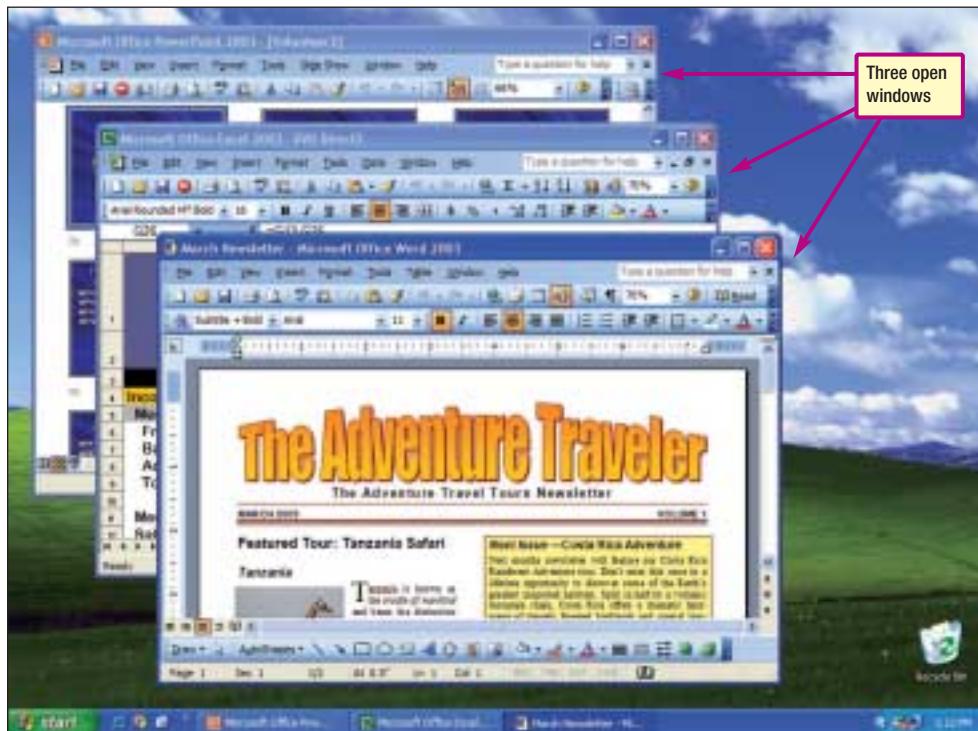


Figure 3-1 Three windows

Almost all software programs 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** or **drop-down menu** appears. This is a list of options or commands associated with the selected menu. Selecting one of these options may display an additional list of menu options or a **dialog box** that provides additional information and requests user input. One of the commands on the menu bar is **Help**. This option provides access to a variety of Help features and acts as an online reference manual for the application. It is an invaluable resource for learning and using application programs.

Toolbars typically are below the menu bar. They contain small outlined areas called **buttons** that provide shortcuts for quick access to commonly used commands. For example, the **standard toolbar** contains a variety of buttons that are common to most applications including those to open, save, and print files. (See Figure 3-2.) All Microsoft Office applications have a common user interface, including similar commands and menu structures. (See Figure 3-3.)



Figure 3-2 Common features on the standard toolbar

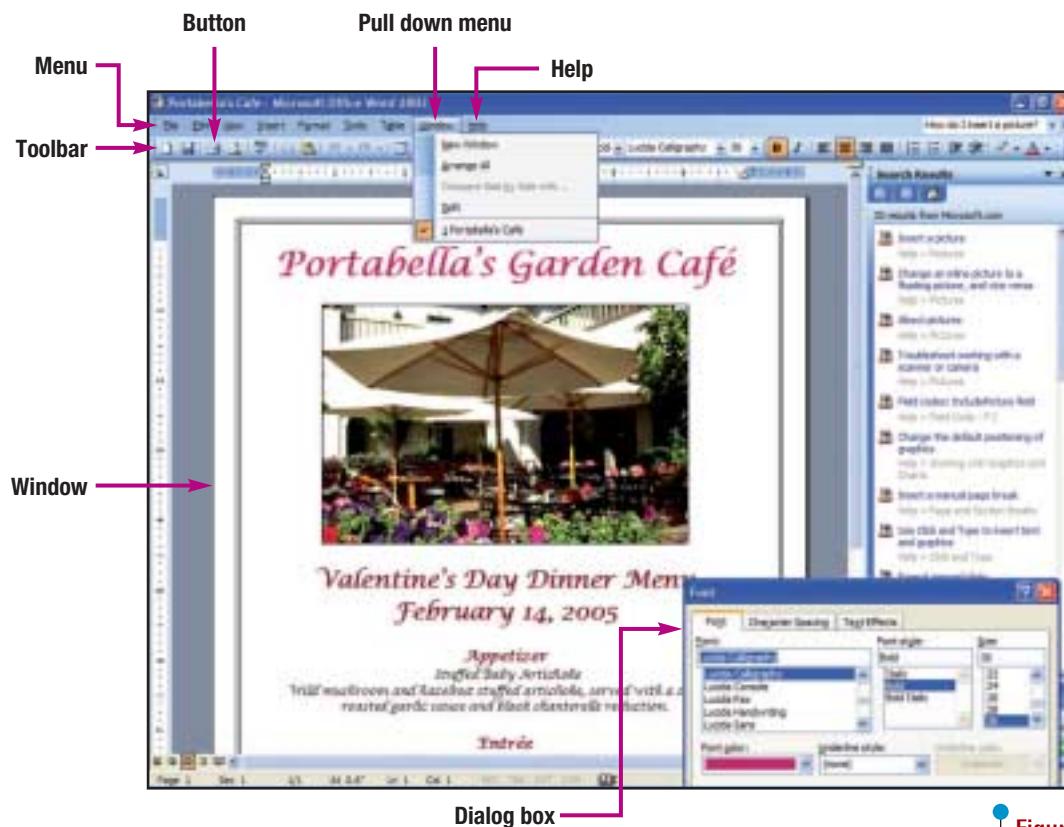


Figure 3-3 Common features

Term	Description
Clip Art	Collection of graphic illustrations including drawings, diagrams, and photographs that can be inserted into documents.
Cut, Copy, Paste	Selected items or portions of a document can be deleted (cut), copied, and inserted (paste) from one location to another.
Handwriting Recognition	Ability to accept handwritten text and drawings as input.
Spelling Checker	Identifies misspelled words and suggests alternative spellings.
Task Panes	Appear automatically to provide quick access to commands related to the current tasks being performed.
Templates	Blank forms that supply a basic structure or format for a variety of different types of documents.
Undo	Reverses (undo) the last action performed.
Voice Recognition	Ability to accept voice input for dictating text and issuing commands.
Wizards	Provide step-by-step guidance for users to perform specific tasks.

 **Figure 3-4** Additional common software features

The table in Figure 3-4 lists some additional common software application features.

WEB-BASED APPLICATIONS

Typically, application programs are owned by individuals or organizations and stored on their computer system's hard disks. For the application to be used, a copy of the program (or part of the program) is read into the computer system's memory. An emerging trend, however, is to free users from owning and storing applications by using Web-based applications.

Special Web sites, called **application service providers (ASPs)**, allow access to their application programs. To use one of these **Web-based applications**, you would connect to the ASP, copy the application program to your computer system's memory, and then run the application. Most ASPs provide access to a wide range of application programs and charge a fee for their service. To see how Web-based applications work, see Figure 3-5. Also see *Making IT Work for You: Web-based Applications* on pages 84 and 85, and consult your Computing Today CD or select Animations from Tim's Toolbox at <http://www.mhhe.com/oleary/CT05>.



Concept Check

-  What is the difference between basic and specialized applications?
-  What are user interfaces, icons, and windows?
-  What are menus, dialog boxes, toolbars, and buttons?
-  What are Web-based applications?

How Web-based Applications Work

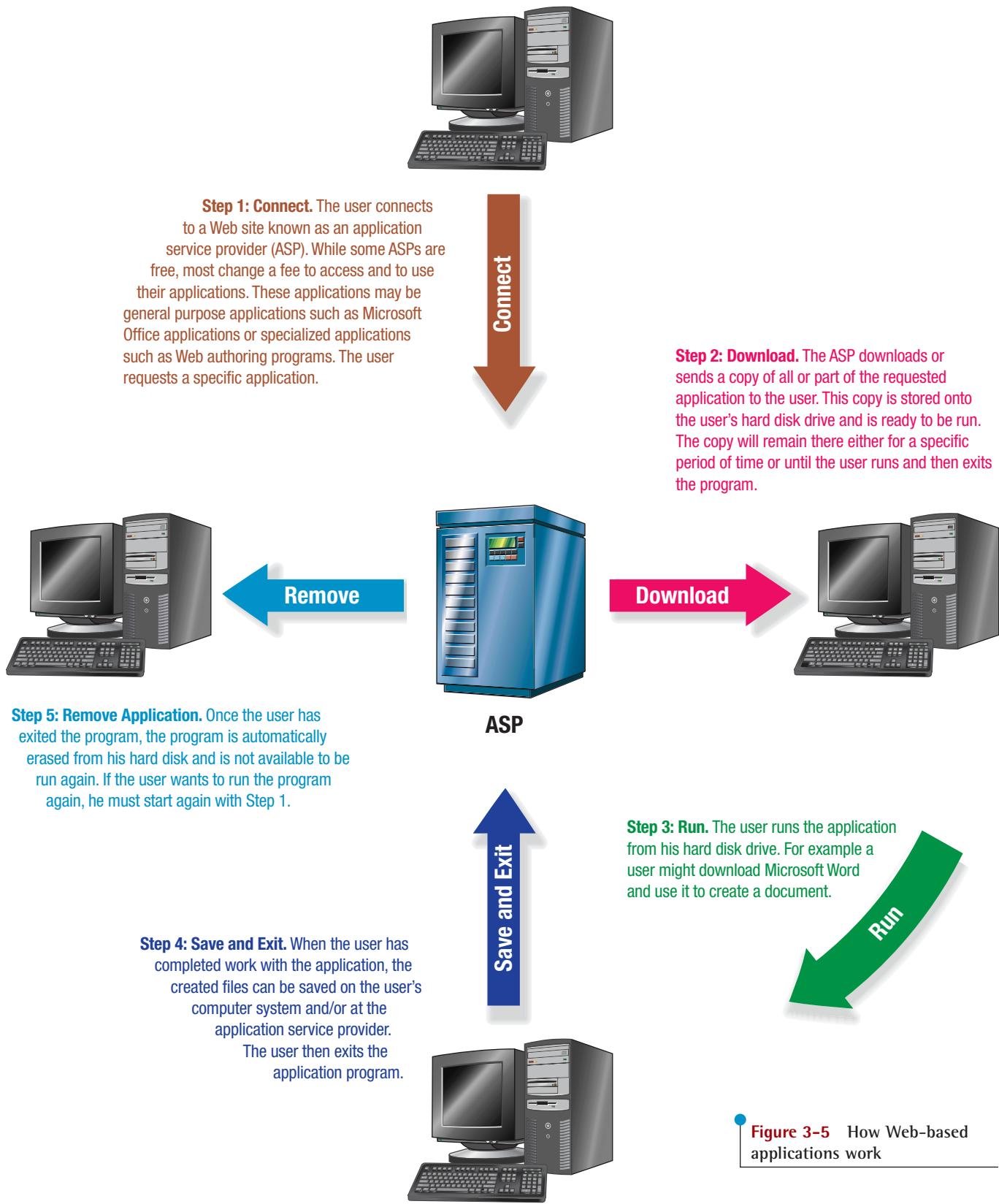


Figure 3-5 How Web-based applications work



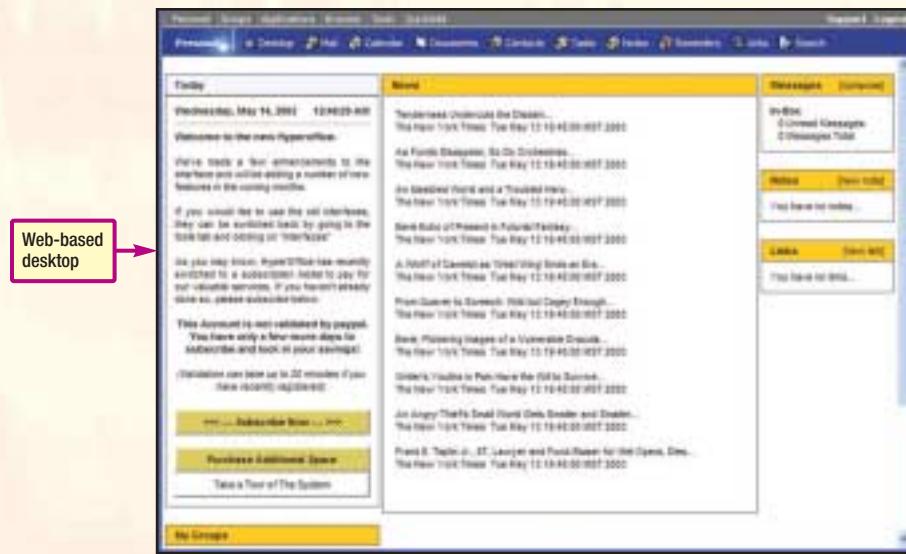
WEB-BASED APPLICATIONS

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.

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.**
- 2 **Click the *free trial* link.**
- 3 **Follow the instructions to register for your account.**
- 4 **Once you've signed up for your account, enter your Username and Password.**

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

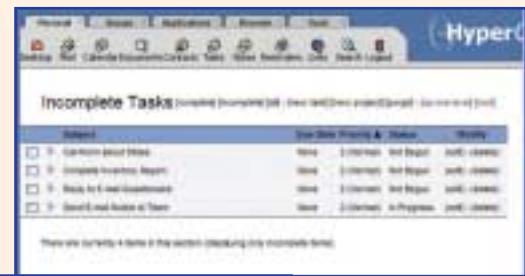


Accessing Applications Each time you connect to the WebOS site and log in, your Web-based desktop will appear. It will display numerous icons that can be used to access Web-based applications. These include notes, personal information manager, calendar, and a variety of games.

Notes



Personal Information Manager

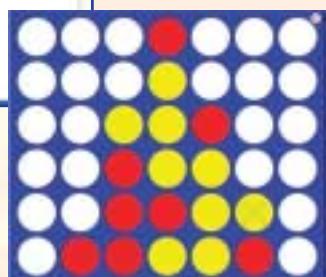


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Calendar



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 offer 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. To learn about other ways to make information technology work for you, visit our Web site at <http://www.mhhe.com/oleary/CT05> and select Making IT Work for You from Tim's Toolbox.

WORD PROCESSORS

Word processing software creates text-based documents. Features support entering, editing, and formatting text.

Word processors create text-based **documents** and are one of the most flexible and widely used software tools. All types of people and organizations use word processors to create memos, letters, and faxes. Organizations create newsletters, manuals, and brochures to provide information to their customers. Students and researchers use word processors to create reports. Word processors can even be used to create personalized Web pages.

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

FEATURES

Word processors provide a variety of features to make entering, editing, and formatting documents easy. One of the most basic features for entering text is **word wrap**. This feature 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.

There are numerous features designed to support **editing** or modifying a document. One of these is a **Thesaurus** which provides synonyms, antonyms, and related words for a selected word or phrase. You can quickly locate and replace selected words using the **find and replace** feature. **Spelling** and **grammar checkers** look for misspelled words and problems with capitalization, punctuation, and sentence structure. You can use the **AutoCorrect** feature to automatically make corrections for you. Using **AutoText**, previously specified words or phrases can be directly inserted into a document upon the user's request. Or as the user begins to enter the specified words or phrases, **AutoComplete** will complete the text and enter it into the document at the user's request.

There are numerous features designed to improve the **format** or appearance of a document. These features include:

Font	Sample
Arial	A B C a b c
Impact	A B C a b c
Times New Roman	A B C a b c
Broadway	A B C a b c

Figure 3-6 Sample fonts

- **Font** Also known as a **typeface**, a **font** is a set of characters with a specific design. Most word processors offer many different fonts including the four shown in Figure 3-6.
- **Font size** The height of a character is its **font size**. It is typically measured in **points** with each point being approximately $\frac{1}{2}$ inch.
- **Character effects** The appearance of characters can be enhanced using such **character effects** as **bold**, **italic**, shadow, and colors.
- **Alignment** Text can be aligned or positioned on a line. There are four basic types of **alignment**: left, center, right, and justified.
- **Bulleted and numbered lists** Presenting information in bulleted or numbered lists makes the information easy to read. A sequence or list of topics can be presented as a **bulleted list**. A sequence of steps or topics can be organized as a **numbered list**.

Frequently more than one person is involved in creating a document. This is called **collaboration** and many word processors include features to support this activity. One feature is **tracking changes** in which changes to the original document are identified. For example in Figure 3-7, a draft submitted by one person has been revised by others. Their changes and comments are displayed.

The table in Figure 3-8 lists some additional word processing features commonly used to create certain types of documents.

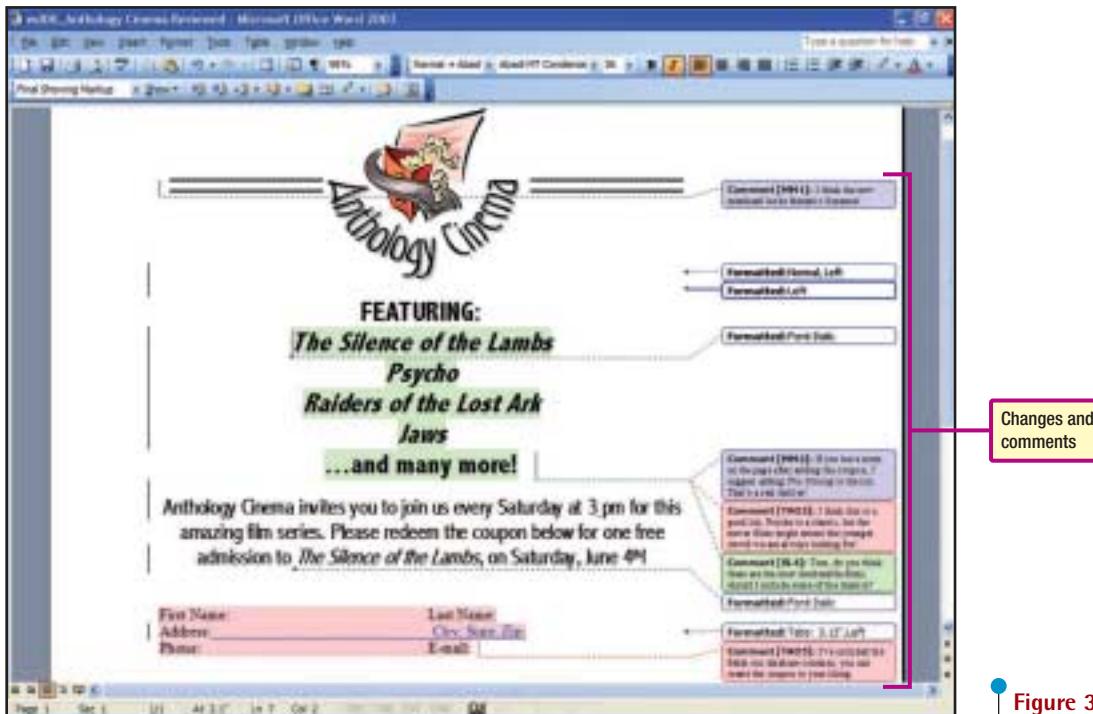


Figure 3-7 Tracking changes

Document	Features
Newsletters	WordArt to artistically modify titles, hyphenation, newsletter-style columns, and text boxes to highlight important information.
Reports	Tools to create figure captions, cross references, tables, headers, footers, footnotes, and endnotes.
Web Pages	Themes or predefined Web templates, hypertext links, and support for publishing Web pages on the Internet.

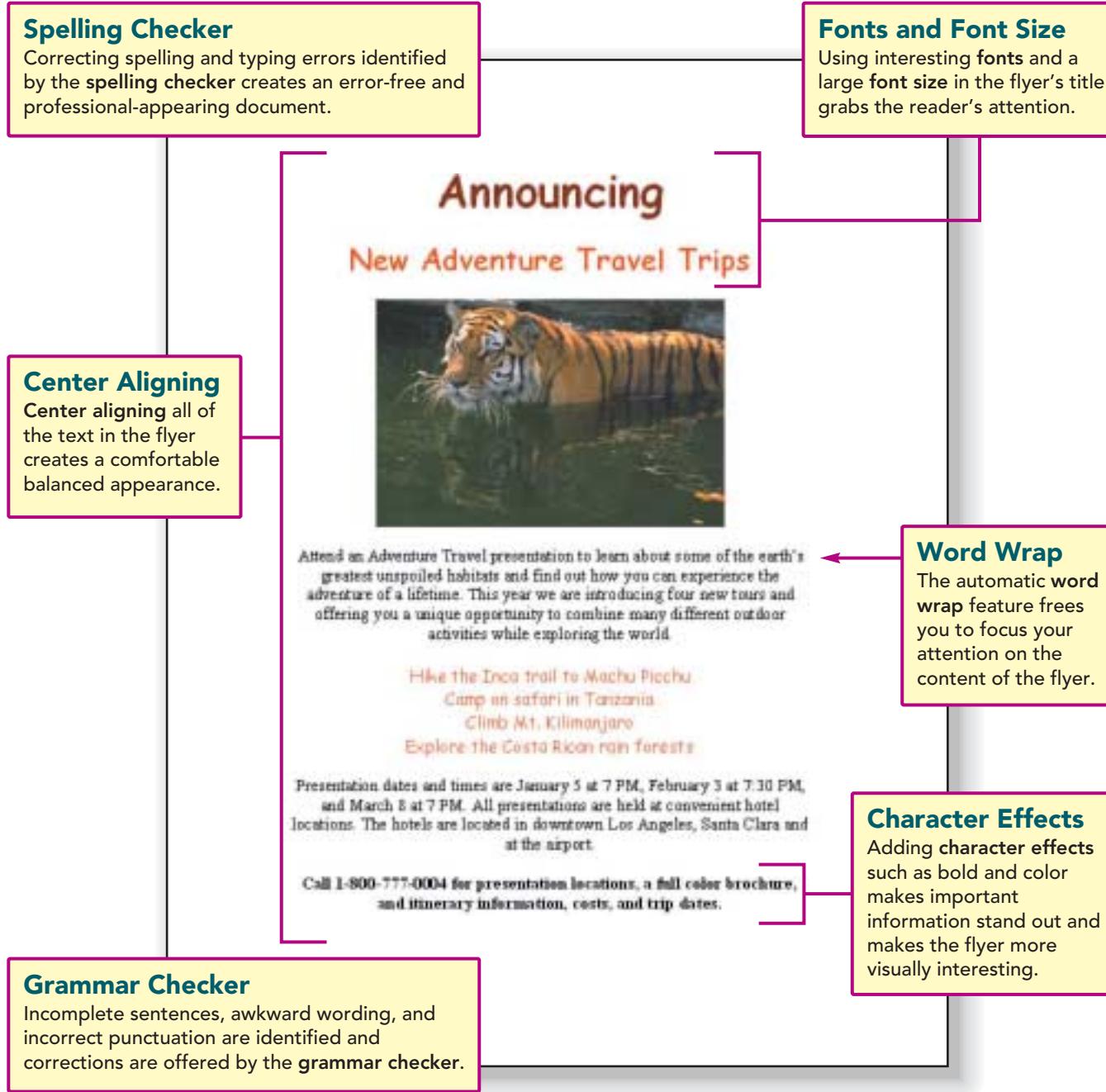
Figure 3-8 Additional word processing features

CASE

Assume that you have accepted a job as advertising coordinator for Adventure Travel Tours, a travel agency specializing in active adventure vacations. Your primary responsibilities are to create and coordinate the company's promotional materials including flyers, form letters, travel reports, newsletters, and Web pages. To see how you could use Microsoft Word, the most widely used word processing program, as the advertising coordinator for the Adventure Travel Tours, see Figures 3-9 through 3-12.

Concept Check

- What do word processors do?
- Describe editing features. Describe formatting features.
- What is collaboration? What does the tracking changes feature do?



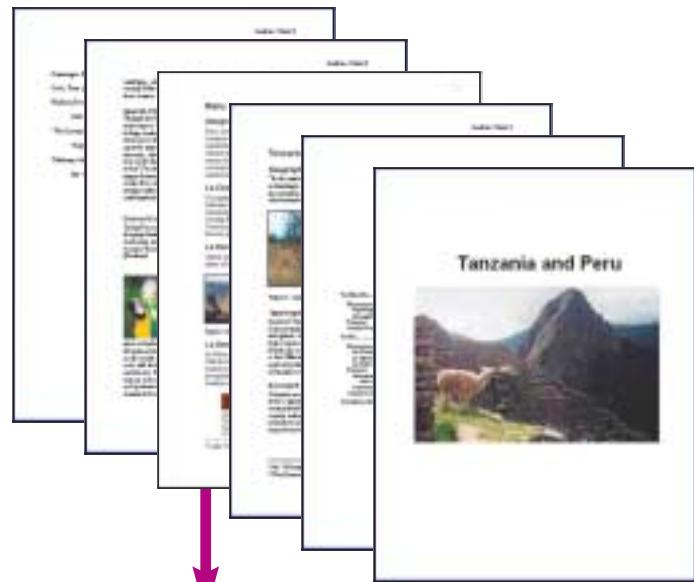
CREATING A FLYER

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 start to enter the flyer's text. As you enter the text, words wrap automatically at the end of each line. Also while entering the text, the spelling checker and grammar checker catch spelling and grammatical errors. Once the text has been entered, you focus your attention onto enhancing the visual aspects of the flyer. You add an interesting graphic and experiment with different character and paragraph formats including fonts, font sizes, colors, and alignments.

Figure 3-9 Flyer

CREATING A REPORT

Your next assignment is to create a report on Tanzania and Peru. After conducting your research, you start writing your paper. As you enter the text for the report, you notice that the AutoCorrect feature automatically corrects some grammar and punctuation errors. Your report includes several figures and tables. You use the *captions* feature to keep track of figure and table numbers, to enter the caption text, and to position the captions. When referencing figures or tables from the text, you use the *cross reference* feature. You then carefully document your sources using *footnotes*. Finally, you prepare the report for printing by adding *header* and *footer* information.



AutoCorrect

As you entered text, you occasionally forgot to capitalize the first word in a sentence. Fortunately, AutoCorrect recognized the error and automatically capitalized the word.

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 seashore, mountains, and rainforest.

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

Indeed 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.¹



Figure 3-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

¹ Lake Titicaca is 12,587 feet above sea level.

Footnote

To include a note about Lake Titicaca, you used the *footnote* feature. This feature inserts the footnote superscript number and automatically formats the bottom of the page to contain the footnote text.

Header or Footer

Page numbers and other document related information can be included in a *header or footer*.

Captions and Cross References

Identifying figures with *captions* and using *cross-references* in a report makes the report easier to read and more professional.

Table

To concisely present and organize the weather information, you used a *table*.

Figure 3-11 Newsletter

CREATING A NEWSLETTER

You have been asked to transform the report you created on Tanzania and Peru into a newsletter that will be sent to clients. To begin, you create a unique headline using *WordArt* at the top of the page. Using the text from the Tanzania and Peru report, you create a series of articles and format the articles so that they are displayed in *newsletter-style columns*. To improve the appearance of the text within the columns, you *hyphenate* the text within the columns. You use text boxes to focus the reader's attention to selective information. Finally, you use a *bulleted list* to present topics included in the newsletter.

WordArt

The newsletter's title is The Adventure Traveler. To grab the readers' attention, you use *WordArt* to stylize the title by giving it a wavy 3-D appearance.

The Adventure Traveler

The Adventure Travel Tours Newsletter

MARCH 2005

VOLUME 1

Featured Tour: Tanzania Safari

Tanzania



Tanzania is known as the *cradle of mankind* and bears the distinction of being the oldest inhabited country on earth, dating back over 4 million years. Straddled in east Africa, Tanzania is a stunningly beautiful, yet poor country. Home to Africa's highest mountain, Kilimanjaro, and the world famous Serengeti Plain, Tanzania provides the wildlife enthusiast with majestic landscapes and vast areas of true wilderness.

Hyphenate

After entering the text, you decide to *hyphenate* the text to give it a more professional appearance.

Explore the Ngorongoro Crater

Some of Tanzania's most distinguishing geographical features are found in the Ngorongoro Conservation Area. The park is composed of many craters and gorges, as well as lakes, forest, and plains. Among these features is the area's namesake, the Ngorongoro Crater. The Crater is a huge expanse, covering more than one hundred square miles. On the Crater's floor, grasslands blend into savanna, lakes, rivers, and woodland. Also within the Conservation Area is the Olduvai Gorge, commonly called the "Cradle of Mankind," where in 1931 the stone tools of prehistoric man were found and subsequently led to the discovery of the remains of humans who lived 1.75 million years ago.

Continued on page 17

Newsletter-style Column

To make the newsletter appear more like a professional publication, you decide to format the text into two columns using the *Newsletter-style column* feature. This provides a professional magazine-like feel to the newsletter.

Next Issue—Costa Rica Adventure

Next month's newsletter will feature our Costa Rica Rainforest Adventure tour. Don't miss this issue in a lifetime opportunity to discover some of the Earth's greatest natural habitats. Split in half by a volcanic mountain chain, Costa Rica offers a dramatic landscape of densely forested highlands and coastal lowlands, all teeming with life. Exotic creatures great and small call this country home—a wonderland, natural beauty you can explore in all different ways—challenging hikes, exciting river canoe trips and energetic river rafting. An expert tour guide will accompany you and will help you discover why Costa Rica attracts nature lovers from around the world.

Natives

Tanzania is home to over 120 culturally diverse tribes but shares a common official language of Swahili. Apart from this linguistic bond, each tribe is unique. Their measures of worship, local government, and traditions vary greatly from tribe to tribe.

One of Tanzania's major tribes, the Maasi, dominate the northern portion of Tanzania. Residing in the Ngorongoro Conservation Area, tribe members constantly seek new grazing areas for their cattle. Cattle are of great importance to the Maasi, providing not only a source of food, but also serving as a symbol of wealth and prestige for their owners. The Maasi wear a single loincloth-like piece of clothing, usually a bright red or blue color. *

In This Issue

- Featured Tour: Tanzania Safari
- Explore the Ngorongoro Crater
- See the Serengeti Plains
- Animal Life
- Tanzania FACTS

Bulleted List

To highlight and focus attention on the topics in this issue, you formatted the topics as a *bulleted list*.

CREATING A WEB PAGE

Figure 3-12 Web page

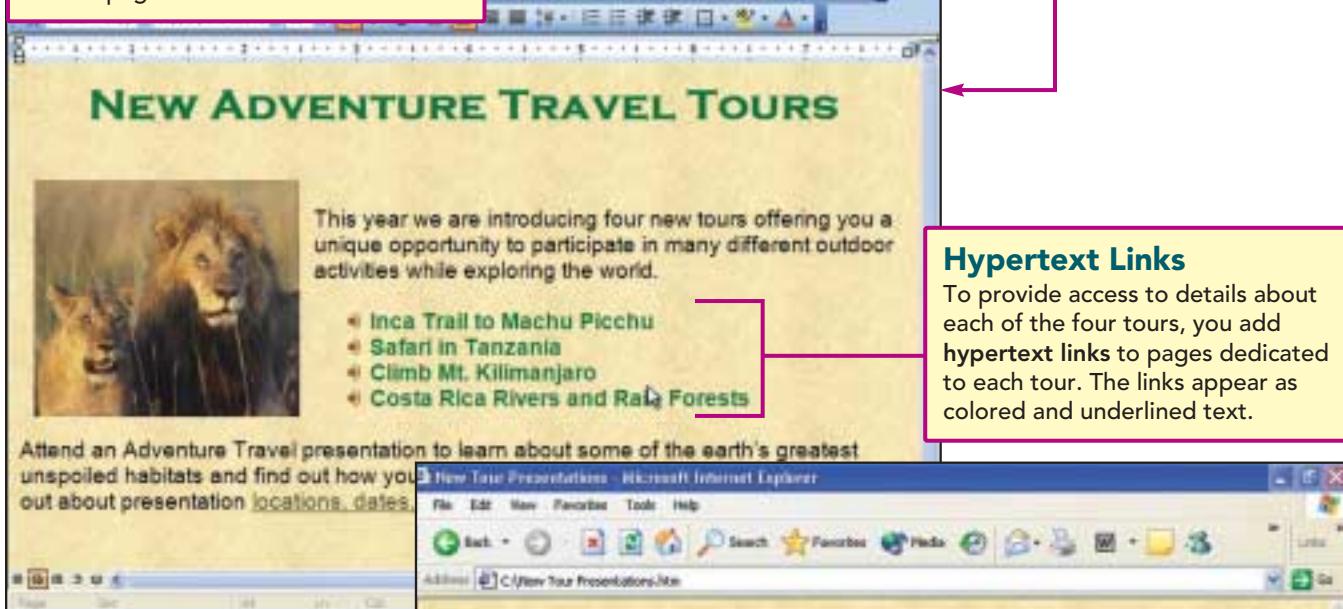
You have been asked to create a Web site to promote the upcoming trips to Machu Picchu, Tanzania, Mt. Kilimanjaro, and Costa Rica. You start by converting the recently completed advertising brochure to a Web page. To enhance the appearance of the page you add a *theme*. Next, you replace the image, edit the existing text, add additional documents to the site, and connect the documents to the home page using *hyperlinks*. Finally, you *publish* your Web page to make it available to the public on the Internet.

Theme

To give your Web pages a professional and well-designed appearance, you select the **Expedition** theme. This theme provides a basic layout and color scheme for the pages.

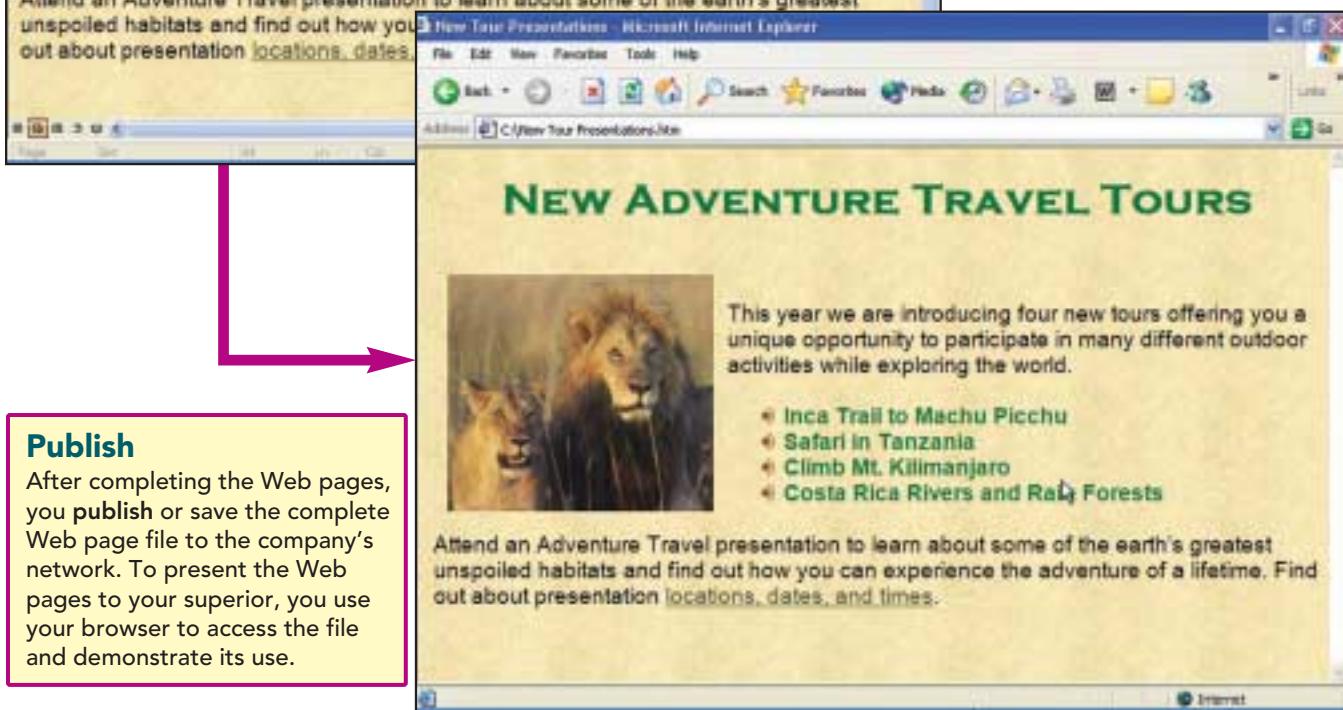
Web Page

To convert the advertising brochure file to a **Web page**, all you had to do was to save the text file as a Web Page. The file is converted to HTML code and saved as a Web page.



Hypertext Links

To provide access to details about each of the four tours, you add **hypertext links** to pages dedicated to each tour. The links appear as colored and underlined text.



Publish

After completing the Web pages, you **publish** or save the complete Web page file to the company's network. To present the Web pages to your superior, you use your browser to access the file and demonstrate its use.

SPREADSHEETS

Spreadsheet programs manipulate numeric data. Features include workbooks, worksheets, cells, ranges, text and numeric entries, formulas, functions, charts, recalculation, and what-if analysis.

Spreadsheet programs organize, analyze, and graph numeric data such as budgets and financial reports. Once used exclusively by accountants, spreadsheets are widely used by 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

Unlike word processors which manipulate text and create text documents, spreadsheet programs manipulate numeric data and create workbook files. **Workbook files** consist of one or more related worksheets. A **worksheet**, also known as a **spreadsheet** or **sheet**, is a rectangular grid of **rows** and **columns**. For example in Figure 3-13, 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 D8 is formed by the intersection of column D and row 8.

A cell can contain text or numeric entries. **Text entries** or **labels** provide structure to a worksheet by describing the contents of rows and columns. For example in Figure 3-13, cell B8 contains the label Food. The cell in D8 contains a number identified as the food expense.

A **numeric entry** can be a number or a formula. A **formula** is an instruction to calculate or process. For example the cell F15 contains the formula $=E5-E13$. This formula will calculate a value and display that value in cell F15 (Net). The value is calculated by taking the value in cell E5 (Wages) and subtracting the value in cell E13 (Total Expenses). **Functions** are prewritten formulas provided by the spreadsheet program that perform calculations such as adding a series of cells. For example, the cell E13 contains the function

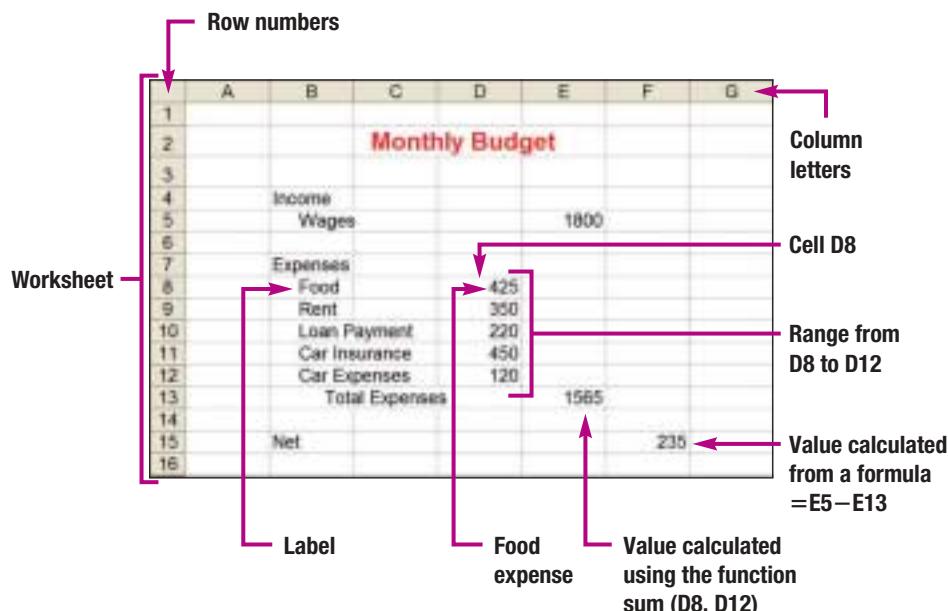


Figure 3-13 Monthly budget worksheet

`SUM(D8:D12)` which adds the values in the range from D8 to D12. A **range** is a series of continuous cells. In this case the range includes D8, D9, D10, D11, and D12 and displays the sum in cell E13. Spreadsheet programs typically provide a variety of different types of functions including financial, mathematical, statistical, and logical functions. Some of these functions are presented in Figure 3-14.

Analytical graphs or charts are visual representations of data in a worksheet. You can readily create graphs in a spreadsheet program by selecting the cells containing the data to be charted and then selecting the type of chart to display. If you change one or more numbers in your spreadsheet, all related formulas will automatically recalculate and charts will be recreated. This is called **recalculation**. The process of observing the effect of changing one or more cells is often referred to as **what-if analysis**. For example, to analyze the effect of a rent increase in the Monthly Budget worksheet in Figure 3-13, all you would need to do is replace the contents in cell D9. The entire worksheet including any charts that had been created would be automatically recalculated. There are numerous chart and analysis features. (See Figure 3-15.)



Have you ever wanted to draw attention to a cell in a spreadsheet? AutoShapes make it easy to emphasize the contents of your worksheet. If you are using Excel 2002:

- 1 **Open the Drawing Toolbar.** Right click a toolbar and select the Drawing toolbar from the menu.
- 2 **Open the AutoShapes Menu.** Click the AutoShapes button on the Drawing toolbar to open the AutoShapes menu.
- 3 **Choose and Insert an AutoShape.** Select an AutoShape click on the worksheet and drag to create the shape.

Type	Function	Calculates
Financial	PMT	Size of loan payments
	PV	Present value for an investment
Mathematical	SUM	Sum of the numbers in a range of cells
	ABS	Absolute value of a number
Statistical	AVERAGE	Average or mean of the numbers in a range of cells
	MAX	Largest numbers in a range of cells
Logical	IF	Whether a condition is true; if true a specified value displayed; if not true then a different specified value displayed
	AND	Whether two conditions are true; if both true then a specified value displayed, if either one or both not true then a different specified value displayed

Figure 3-14 Selected spreadsheet functions

Category	Features	Description
Chart	Chart types	Provides variety of different types of chart including bar, column, line, and pie. Most have a 3D variation.
	Chart options	Provides various titles (chart, x-axis, y-axis), legends, and data labels
Analysis	Solver	Evaluates effect of changing the values in two or more cells
	Goal seek	Determines values required in one or more cells to achieve a goal
	Scenario	Evaluates the effect of changing different sets (scenarios) of cell values. Scenario Manager and Scenario Summary provide tools for developing, managing, and reporting scenarios.

Figure 3-15 Chart and analysis features

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 see how you could use Microsoft Excel, the most widely used spreadsheet program, as the manager for the Downtown Internet Café, see Figures 3-16 through 3-19.

CREATING A SALES FORECAST

Your first project is to develop a first quarter sales forecast for the Café. You begin by studying the sales at the Downtown Internet Café and talking with several managers. After obtaining sales and expense estimates, you are ready to create the first quarter forecast. You start by structuring the worksheet by inserting descriptive text entries for the row and column headings. Next, you insert numeric entries including *formulas* and *functions* to perform calculations. To test the accuracy of the worksheet, you change the value in some cells and compare the recalculated spreadsheet results with hand calculations.

Figure 3-16 Worksheet

Worksheets

Worksheets are used for a wide range of different applications. One of the most common is to create, analyze, and forecast budgets.

Downtown Internet Café First Quarter Forecast						
	JAN	FEB	MAR	TOTAL	Avg	
7 Sales						
8 Beverage	\$ 13,600	\$ 14,600	\$ 15,600	\$ 43,800	\$ 14,600	
9 Food	\$ 7,100	\$ 7,300	\$ 7,400	\$ 21,800	\$ 7,267	
10 Internet	\$ 4,000	\$ 4,300	\$ 4,500	\$ 12,800	\$ 4,267	
11 Merchandise	\$ 3,100	\$ 3,200	\$ 3,300	\$ 9,600	\$ 3,200	
12 Total Sales	\$ 27,800	\$ 29,400	\$ 30,800	\$ 88,000	\$ 29,333	
13 Expenses						
14 Cost of Goods	\$ 6,950	\$ 7,300	\$ 7,600	\$ 21,850	\$ 7,283	
15 Payroll	\$ 7,500	\$ 7,500	\$ 7,500	\$ 22,500	\$ 7,500	
16 Computers	\$ 6,400	\$ 6,400	\$ 6,400	\$ 18,200	\$ 6,067	
17 Lease	\$ 5,500	\$ 5,500	\$ 5,500	\$ 16,500	\$ 5,500	
18 Marketing	\$ 1,000	\$ 1,000	\$ 1,000	\$ 3,000	\$ 1,000	
19 Miscellaneous	\$ 1,500	\$ 1,500	\$ 1,500	\$ 4,500	\$ 1,500	
20 Total Expenses	\$ 28,850	\$ 29,200	\$ 29,500	\$ 87,550	\$ 29,183	
21 Income						
22 Net Income	\$ (1,050)	\$ 200	\$ 1,300	\$ 450	\$ 150	
23 Profit Margin	-3.78%	0.68%	4.22%	0.51%		
24	Income Year-To-Date			\$ 450		

Functions

One advantage of using **functions** rather than entering formulas is that they are easier to enter. In this case, cell C20 (Total Expenses for February) contains the function `SUM(C14:C19)` rather than the formula `=C14+C15+C16+C17+C18+C19`.

Text Entries

Text entries provide meaning to the values in the worksheet. The rows are labeled to identify the various sales and expense items. The columns are labeled to specify the months.

Cells

Cells can contain labels, numbers, formulas, and functions. A cell's content is indicated by the row and column labels. For example, cell D15 contains a number or the Payroll expense expected for March.

Formulas

Formulas provide a way to perform calculations in the worksheet. In this case Cell B22 (Net Income for January) contains the formula `=B12 (Total Sales for January) - B20 (Total Expenses for January)`.

CREATING A CHART

After completing the First Quarter Forecast for the Internet Café, you decide to *chart* the sales data to better visualize the projected growth in sales. You select the 3D column chart type to show each month's projected sales category. Using a variety of chart options, you enter descriptive *titles* for the chart, the x-axis, and the y-axis. Then you use *data labels* to focus attention on the growing Internet sales. Finally, you insert a *legend* to define the chart's different columns.

Figure 3-17 Chart

Titling

Clearly titling the chart as well as the x-axis and y-axis makes the chart easier to read and understand.

Chart Types

To display the monthly expenses over the quarter, you consider several different chart types before selecting the 3D column chart. The 3D variation of the chart provides an interesting depth perception to the columns.

Chart

Once data is in the worksheet, it is very easy to *chart* the data. All you need to do is to select the data to chart, select the chart types, and add some descriptive text.



Data Labels

Data labels draw the viewer's attention to selected pieces of information in the chart.

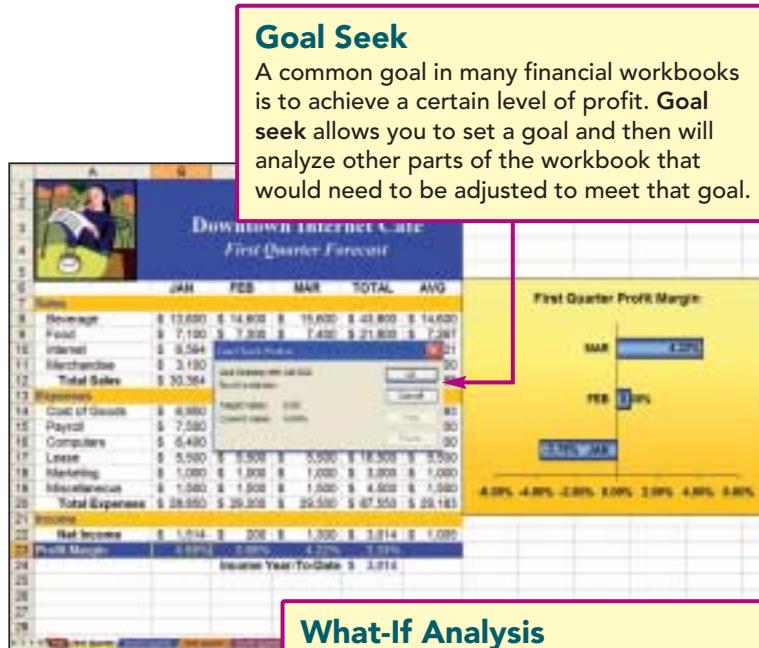
Legend

The legend defines each sales expense by a color. Legends are essential to charts that depict more than one set of data.



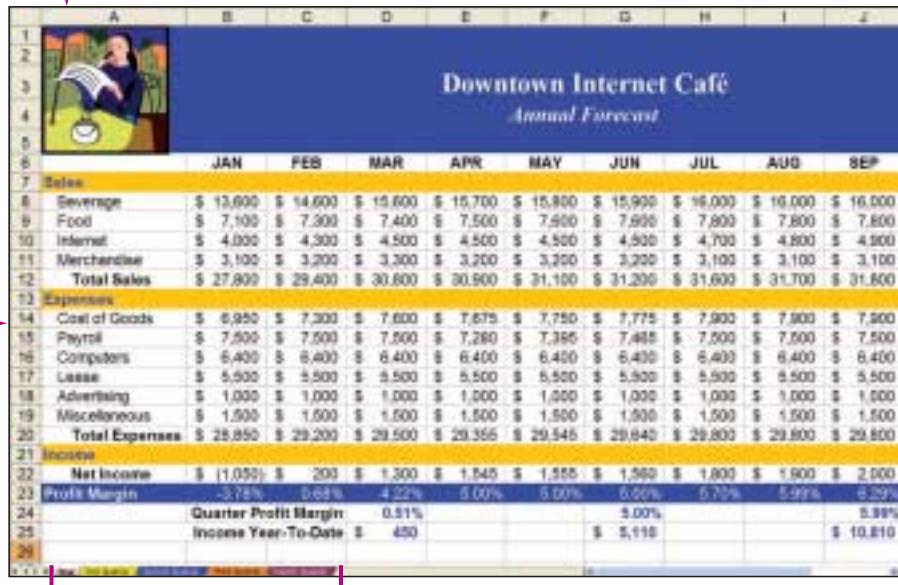
Workbook

The first worksheet in a **workbook** is often a summary of the following worksheets. In this case, the first workbook presents the entire year's forecast. The subsequent worksheets provide the details.



What-If Analysis

What-if analysis is a very powerful and simple tool to test the effects of different assumptions in a spreadsheet.



Sheet Name

Each worksheet has a unique **sheet name**. To make the workbook easy to navigate, it is a good practice to always use simple yet descriptive names for each worksheet.

ANALYZING YOUR DATA

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**. 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 Internet Sales would have to increase to produce a profit margin of 5.00 percent for January.

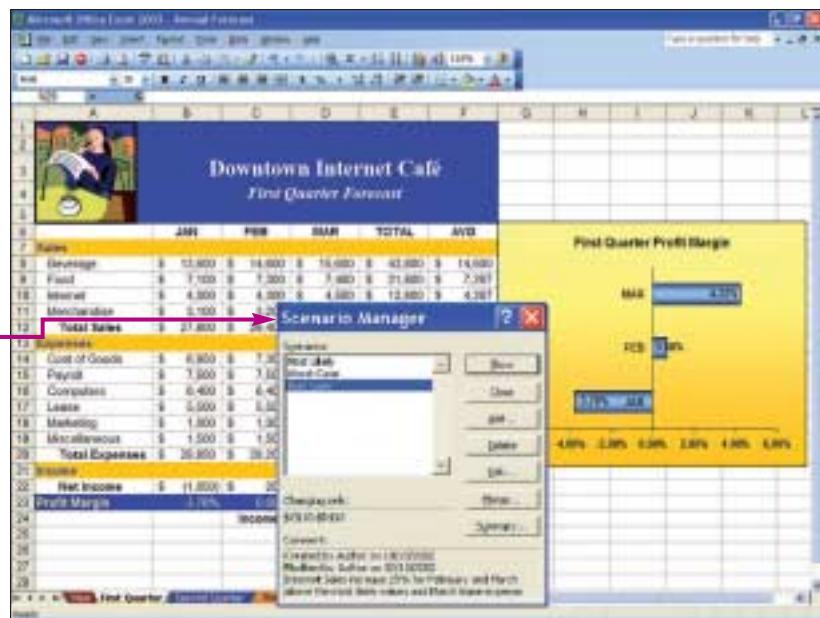
Figure 3-18 Workbook

Scenario

Many times the values in a worksheet are estimates. These estimates reflect the most likely scenario or set of estimated values. To test the sensitivity of these estimates, a common approach is to define a worst-case set of estimates and a best-case set of estimates. A more informative forecast can be made by inserting these different scenarios into the workbook and analyzing the results.

Scenario Manager

Scenario manager is an Excel tool that helps in creating, editing, and evaluating alternative scenarios. The number of scenarios is not limited to the most likely, best case, and worst case. Any number of different scenarios can be analyzed.



Scenario Summary

A scenario summary is an Excel tool that summarizes and reports the effects of the different scenarios created in the Scenario Manager. This report is created and displayed in a separate worksheet.

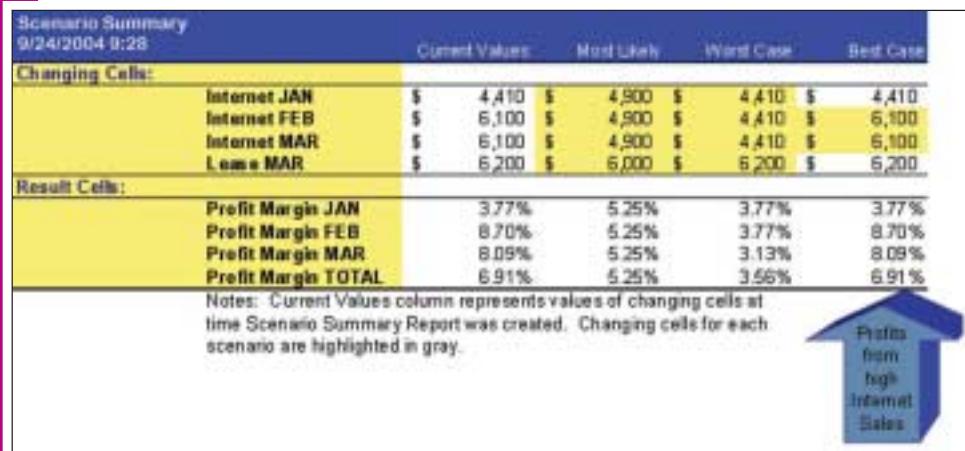


Figure 3-19 Scenarios

ANALYZING SCENARIOS

New information has affected the estimates for several values in the first quarter forecast. After discussing this new information and the uncertainty of forecasting the future with the owner, you revise the first quarter forecast to reflect the most likely values. Additionally, you use scenario manager to evaluate different scenarios and print a scenario summary. The best-case scenario is that Internet sales for February and March are 25% greater than expected. The worst-case scenario is that each month's Internet sales are 10% lower than expected and that the March lease increases from \$6,000 to \$6,200.

Concept Check



What are spreadsheets used for? What is a workbook? What is a worksheet?

Define cells, ranges, text, and numeric entries.

Describe the following spreadsheet features: formulas, functions, charts, recalculation, and what-if analysis.

DATABASE MANAGEMENT SYSTEMS

A database is like an electronic file cabinet. DBMS structures data and provides tools. Relational databases use tables, records, fields, primary fields, joins, file sizes, and data types. Features include tools for sorting, filtering, defining criteria, querying, creating forms, and reports.

On the Web Explorations

Corel is one of the leaders in software development. To learn more about the company, visit our Web site at

<http://www.mhhe.com/oleary/CT05> and select On the Web Explorations from Tim's Toolbox.

A **database** is a collection of related data. It is the electronic equivalent of a file cabinet. A **database management system (DBMS)** or **database manager** is a program that sets up, or structures, a database. It also provides tools to enter, edit, and retrieve data from the database. All kinds of individuals use databases from teachers recording grades to police officers checking criminal histories. Colleges and universities use databases to keep records on their students, instructors, and courses. Organizations of all types maintain employee databases.

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

FEATURES

The **relational database** is the most widely used database structure. Data is organized into related **tables**. For example, an organization's personnel database might contain three tables: Employee, Location and Position, and Pay Rate. (See Figure 3-20.) The Employee table contains basic information, such as employee identification number, first name, and last name. The Location and Position table contains work location information and job title. The Pay Rate table contains employee pay rate and hours worked. All of this data could be contained in one large table; however, smaller tables make the data easier to work with and faster to process.

Each table is made up of rows called **records** and columns called **fields**. Each record contains fields of data about some specific person, place, or thing. For example, the Employee table in Figure 3-20 contains several fields including ID, Last Name, and First Name. Every record has at least one **primary key** or **primary field** that uniquely identifies the record. Social security numbers, student identification numbers, and employee identification numbers are common primary keys. Tables can be linked or **joined** by their common fields. For example in Figure 3-20, the tables are linked by the common field ID.

When a database is set up, each field is assigned a field size and data type. **Field size** is the maximum number of characters that can be entered into the field. **Data type** defines the kind of data that can be entered. To see the basic types of data, see Figure 3-21.

DBMS provides a variety of tools to create and use databases. A **sort** tool will quickly rearrange a table's records according to a selected field. For example, the Employee table could be sorted alphabetically by last name. A **filter** will locate and display records from a table that fit a set of limiting conditions or **criteria**. For example, a filter could be used to locate all employees that live in a particular city.

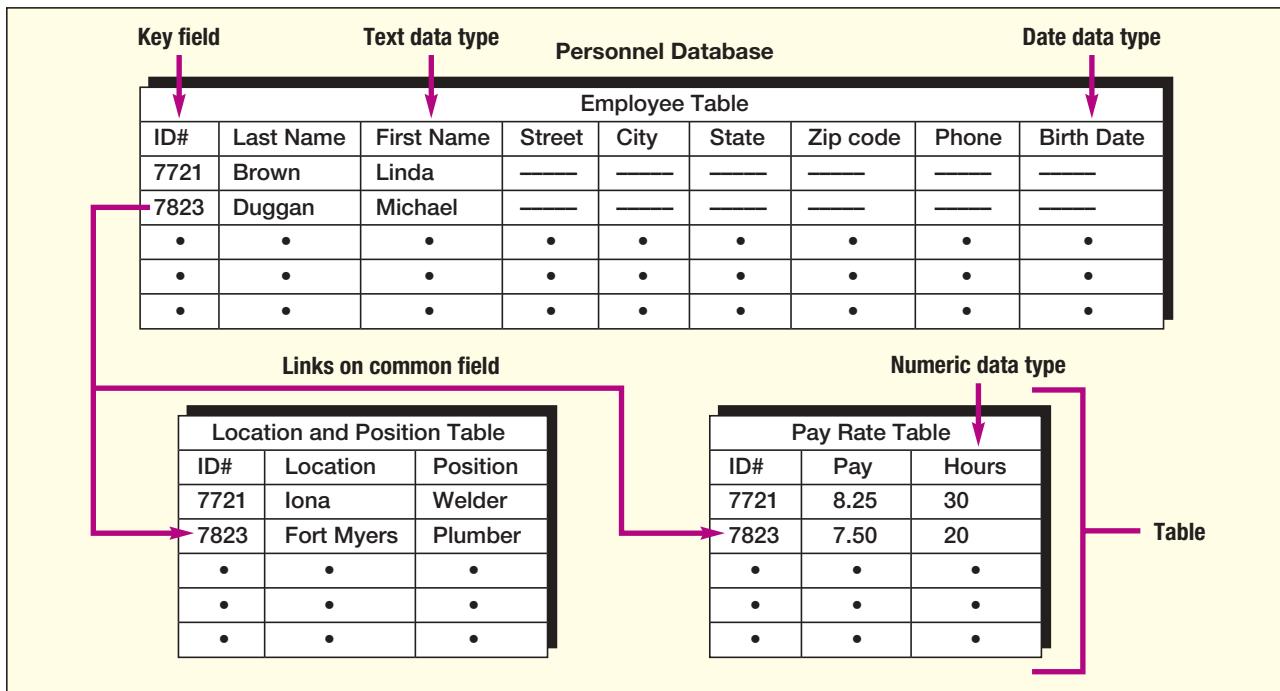


Figure 3-20 Personnel database

Data Type	Description
Text	Letters, words, and numbers that are not used in calculations. Examples include names and telephone numbers.
Numeric	Digits or numbers that can be used in calculations. Examples include number of hours worked and number of vacation days.
Currency	Similar to numeric except formatted to display decimal places and currency symbols.
Date	Month, day, and year information. Examples include the birth dates and dates hired.
Object	Photographs, video, audio, and documents created by other applications. Examples include photos of employees and employee evaluation reports created in Word.

Figure 3-21 Basic data types

The greatest power of a DBMS, however, comes from its ability to quickly find and bring together information stored in separate tables using queries, forms, and reports.

- A **query** is a question or a request for specific data contained in a database. Queries are used to view data in different ways, to analyze data, and even to change existing data. For example referring to the Personnel database shown in Figure 3-20, a query could be used to locate all employees living in a particular city and working at a specific location. This query would use data contained in Employee table and the Location and Position table.
- Database **forms** look similar to traditional printed forms. These electronic forms are displayed on the computer monitor and typically reflect the contents for one record in a table. They are primarily used to enter new records and to make changes to existing records.
- Data from tables and queries can be printed in a variety of different report formats. **Reports** can be a simple listing of an entire field in a table or a list of selected fields based on a query involving several tables. Typical database reports include sales summaries, phone lists, and mailing labels.

CASE

Assume that you have accepted a job as an 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 see how you could use Microsoft Access, one of the most widely used relational DBMS programs, as the employment administrator for the Lifestyle Fitness Club, see Figures 3-22 and 3-23.

CREATING A DATABASE

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 *primary key* field. To make the process faster and more accurate you create a form and use the form to enter the data for each employee as a *record* in the table.

Figure 3-22 Table and form

Primary Key

The **primary key** is the unique employee identification number. You considered using the last name field as the primary key but realized that more than one employee could have the same last name. Access will not allow more than one entry in a table to have the same primary key value. Primary keys are often used to link tables.

Fields

Fields are given field names that are displayed at the top of each table. You selected the field names to be descriptive of their contents. To make the table easy to read and to be efficient with computer resources, however, you did not use excessively long field names.

ID	First Name	Last Name	Address
0738	R		
0745	M		
0754	P		
0755	E		
0765	L		
0839	R		
0843	Smith	Brent	4321 Toledo St.
0943	Robson	David	8584 Bryan Dr.
1151	Suton	Liss	4309 S. Hayden Rd.
1200	Leitow	Ryan	358 Maple Dr.
1219	Polonsky	Mitch	8701 E. Sheridan
1223	Reddick	Suzanne	932 E. Parkway Dr.
1224	Rath	Kathy	87 E. Aurora Ave.
1234	Delana	Gordon	8943 W. Southern
1235	Walker	Aaron	76 Thomas Rd.
1236	Shaeey	David	737 S. College Rd.
1238	Thomas	Jennifer	773 E. Laurel St.
1242	Player	Allison	234 S. Sycamore
1244	Hemstreet	Karen	999 Selano Dr.
1261	Reddick	Mark	900 W. Campus Dr.
1261	Burke	Ellian	234 N. 1st St.
1265	Stuyland	Valerie	34 University Dr.
1270	Bader	Jeff	947 S. Forest St.
1273	Sabin	Greg	90 E. Rawhide Ave.
1277	Thi	Ersnia	7867 Forest Ave.

Record

Each record contains information about one employee. A record typically includes a combination of numeric, text, and object data types. Each employee's photo is an object data type.

Phone Number	Photo
(414) 555-9870	Bitmap Image
(414) 555-6372	Bitmap Image
(414) 555-2321	Bitmap Image
(414) 555-3211	Bitmap Image
(414) 555-8332	Bitmap Image
(414) 555-0091	Bitmap Image
(414) 555-6464	Bitmap Image
(414) 555-5555	Bitmap Image
(414) 555-1950	Bitmap Image
(414) 555-2805	Bitmap Image

Table

Tables are the basic element in a relational database. Tables make up the basic structure of a database with columns containing field data and rows containing record information. This table records basic information about each employee including name, address, and telephone number.

Form

Like printed paper forms, electronic forms should be designed to be easy to read and use. This form makes it easy to enter and view all employees' data including their photograph.



Query

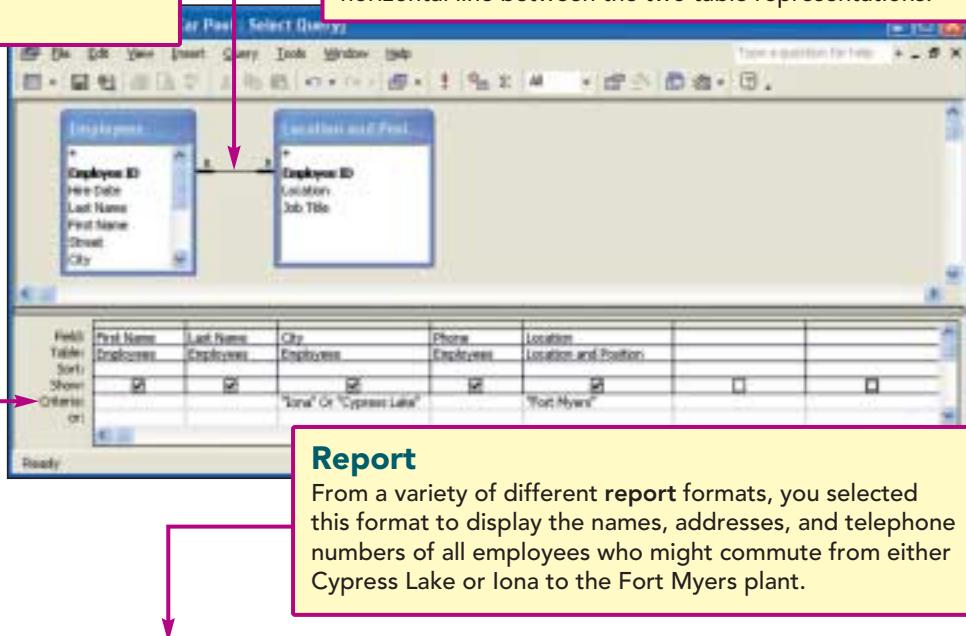
Your query requests the names, addresses, and telephone numbers of all employees living in Iona or Cypress Lake who work in Fort Myers. This query uses the Employee table and the Location and Position table.

Joined

Since the query involves two tables, they must be linked or joined by common fields. You chose to link the tables by the key field ID. This join is represented by the horizontal line between the two table representations.

Criteria

The query criteria to produce the car pool list require that both the Employees table and the Location and Position table be consulted. The Employee table is used to identify all employees living in either Iona or Cypress Lake. The Location and Position table is used to evaluate where the employees work. The criteria identify all employees who work at Fort Myers and live either in Iona or Cypress Lake.



Report

From a variety of different report formats, you selected this format to display the names, addresses, and telephone numbers of all employees who might commute from either Cypress Lake or Iona to the Fort Myers plant.

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 Redoak Rd.	Cypress Lake	(941) 555-0110
Hetland	Eric	4801 E. Willow Dr.	Iona	(941) 555-9101
Lawrence	Nichol	433 S. Gaucho Dr.	Cypress Lake	(941) 555-7656
Lopez	Mina	4290 E. Alameda Dr.	Cypress Lake	(941) 555-6050
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) 555-1050

Sorted

To make the report easier for employees to locate their name and the names of others, you sorted the query results alphabetically by last name.

CREATING A QUERY

You have continued to build the database by creating a second table containing information about each employee's work location and job title. This table is linked or joined with the Employee table by the common field, ID. After you completed this second table, you received a request to create car pool information for those employees who live in either Iona or Cypress Lake and work in Fort Meyers. You created a query using the appropriate criteria to create the car pool list. After sorting the resulting list alphabetically according to last name, you created a report to distribute to interested employees.

Figure 3-23 Query and report

Concept Check



What is a database? What is a DBMS? A relational database?

What are records, fields, primary keys, joins, field sizes, and data types?

Describe the following DBMS features: sort, filter, criteria, query, form, and report.

PRESENTATION GRAPHICS

Presentation graphics create interesting and professional presentations.

Features include slides, views, and presentation styles. Other features include color schemes, slide layouts, special effects, design templates, and master slides.

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/CT05> and select On the Web Explorations from Tim's Toolbox.

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

People in a variety of settings and situations use presentation graphics programs to make their presentations more interesting and professional. For example, marketing managers use presentation graphics to present proposed marketing strategies to their superiors. Sales people use these programs to demonstrate products and encourage customers to make purchases. Students use presentation graphics programs to create high-quality class presentations.

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

FEATURES

An electronic presentation consists of a series of **slides**. For example, Figure 3-24 shows a PowerPoint presentation consisting of four slides. The slides are presented in the **layout view**, in which a miniature of each slide is displayed. Other views include the **normal view**, which is used to create individual slides and the **slide show view**, which is used to present the slides. The slides can be presented in a variety of ways called **presentation styles**. These styles include onscreen presentations, Web presentations, overhead slides, and 35mm slides.

Presentation programs include a variety of features to help you create effective dynamic presentations. Most include a wizard such as Microsoft's **AutoContent wizard** that steps you through the process of creating a presentation. Other features include tools to select alternative color schemes, slide layouts, special effects, design templates, and master slides.

- **Color schemes** are combinations of complementary colors to apply to a slide's background, text, and other elements.
- Each slide in a presentation can have a different **slide layout** or arrangement of items.
- **Special effects** such as animation, transitions, and builds add interest and motion to a presentation. **Animation** adds action to text and graphics and interest with prerecorded sounds. **Transitions** control how one slide moves off the screen and the next one appears. **Builds** are used to display

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.
- 2 **Practice and time** your presentation by giving it to a friend.
- 3 **Begin and end well.** Begin with a joke or story. End with a summary.
- 4 **Know when to move.** Move around to focus attention on you. Remain still to focus attention on your slides.
- 5 **Relax.** Prior to a presentation, take a short walk, stretch, or just take a few quiet moments to breathe deeply.

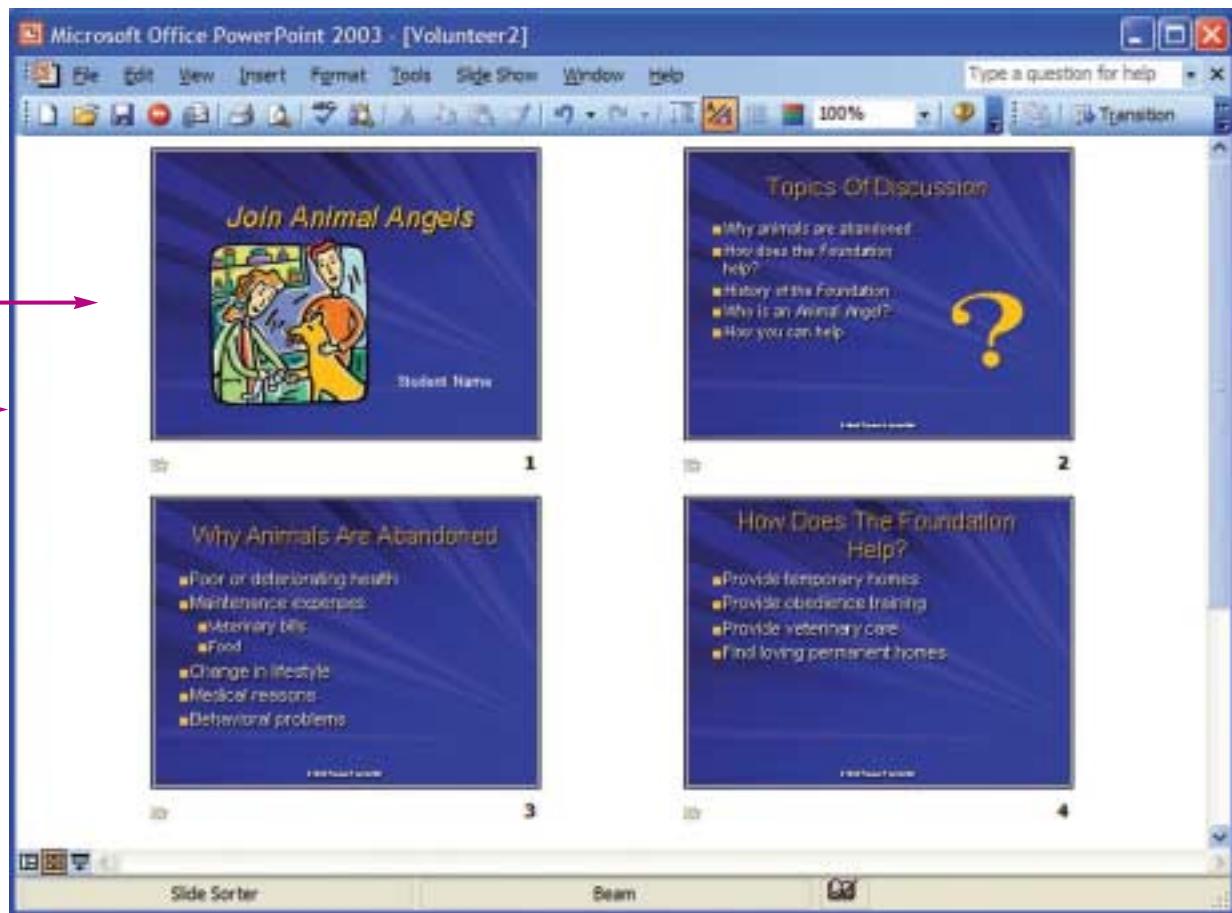


Figure 3-24 Slides

each bullet point, text, paragraph or graphic independently of the other text or objects on the slide.

- **Design templates** provide professionally selected combinations of color schemes, slide layouts, and special effects.
- The **master slide** is a special slide that does not appear in a presentation but controls all the format and placement of all slides in a presentation. The design template for a presentation can be easily changed for an entire presentation using the master slide.

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 see how you could use Microsoft PowerPoint, one of the most widely used presentation graphics programs, as a volunteer for the Animal Rescue Foundation, see Figures 3-25 through 3-27.

Concept Check



What are presentation graphics programs? What are they used for?



What are slides, views, and presentation styles?



What is the AutoContent Wizard? What is it used for?



Describe the following presentation graphics features: color schemes, slide layouts, special effects, design templates, and master slides.

Presentation Style

The AutoContent wizard asks you to select your presentation style. Since you anticipate presenting either directly from a computer monitor or from a projection device, you select the onscreen style.

How Does the Foundation Help?

- Provide Temporary Homes
- Provide Obedience Training
- Provide Veterinary Care
- Find Loving Permanent Homes

AutoContent Wizard

One way to create a presentation is to use the **AutoContent Wizard**. This wizard guides you through the process of creating a variety of different types of presentations.

Topics of Discussion

- How Does the Foundation Help?
- Foundation History
- Why animals are abandoned
- Who are Animal Angels
- How Animal Angels help
- How you can help

Become an Animal Angel



Animal Rescue Foundation

Templates

Templates provide an excellent way to quickly create a presentation by presenting a sample layout with sample text. You customize the presentation by replacing the sample text.

Figure 3-25 Presentation

CREATING A PRESENTATION

You start creating the presentation using the AutoContent Wizard and specify the *template* and *presentation style* to use. The wizard creates a sample presentation containing suggested content in each slide and uses a consistent design style throughout. After replacing the sample content with the information for your presentation, you are on your way to the director's office to show him what you have.

Design Templates

To make your presentation more professional and eye catching, you select a **design template** and apply that template to your entire presentation.

How Does the Foundation Help?



- Provide Temporary Homes

Topics of Discussion

- How Does the Foundation Help?
- Foundation History
- Why animals are abandoned
- Who are Animal Angels
- How Animal Angels help
- How you can help

Special Effects

To make your presentation more dynamic, you add several **special effects** including animated text and fading transitions between slides.

Become an Animal Angel



Animal Rescue Foundation

Master Slide

The master slide helps to quickly compare different design templates. By making a single change to this slide, all slides in the presentation are changed.

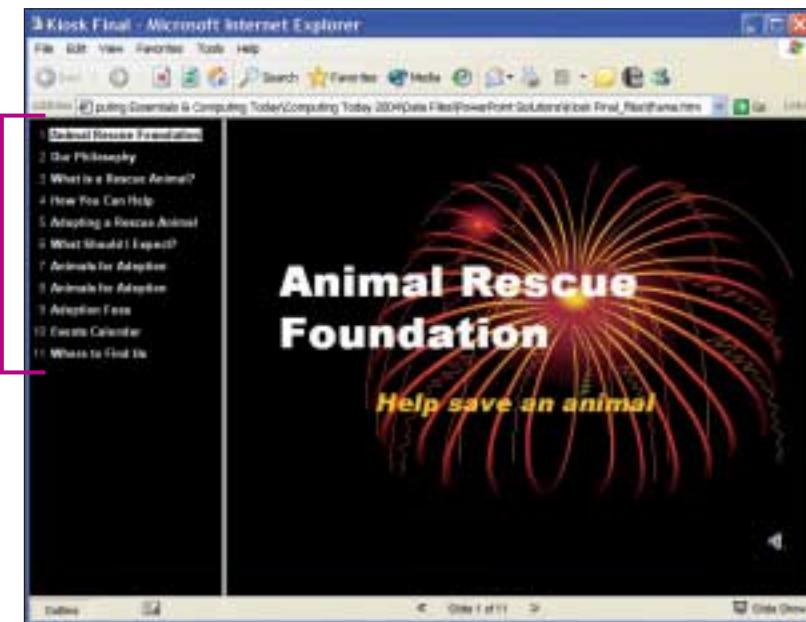
UPDATING A PRESENTATION

After discussing the presentation with the director, you have some ideas to enhance the effectiveness of the message. First, you improve the color of selected items and add more graphics. Next, you select one of the *design templates* and make some other changes. You apply these changes to all the slides by simply adjusting the *master slide*. You add some *special effects* including *animations* and *sound effects*. Finally, you practice or rehearse the presentation, create speaker notes, and print out audience handouts. You're ready to give a professionally designed, dynamic presentation.

Figure 3-26 Revised presentation

Hyperlinks

These hyperlinks provide a quick way for a viewer to jump to selected slides.



HTML

By saving the presentation as a Web page, HTML commands are automatically created to display each page.

PUBLISHING A PRESENTATION ON THE WEB

The director is planning a presentation at a national conference. Her presentation is to describe the entire scope of the Animal Rescue Foundation. You have created this extensive presentation and present it to the director. The director is so impressed with the presentation that she has asked you to publish the presentation to the organization's Web site. You begin by adding *hyperlinks* to the first slide and then save the presentation in *HTML* format.

Figure 3-27 Published presentation

INTEGRATED PACKAGES

Integrated packages provide the functionality of several separate application programs within a single program. Also known as personal or home software, they provide limited capability at low cost.

An **integrated package** is a single program that provides the *functionality* of a word processor, spreadsheet, database manager, and more. 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 individual programs (such as Microsoft Word). The primary advantages are cost and simplicity. The cost of an integrated package is much less than the cost of the individual powerful, professional grade application programs discussed thus far in this chapter. Because an integrated package is a single program, using and switching between functions is very easy and convenient.

Integrated packages are popular with many home users who are willing to sacrifice some advanced features for lower cost and simplicity. For this reason, integrated packages are sometimes classified as **personal** or **home software**. (Other personal software applications will be discussed in Chapter 4.) The most widely used integrated packages are Microsoft Works and AppleWorks. See Figure 3-28.



Figure 3-28 AppleWorks

CASE

Assume that you publish a gardening newsletter that you distribute to members of the Desert Gardening Club. Using many of the features in AppleWorks, you have prepared several articles including the feature article on planting seeds. Using the word processing function, you entered text, formatted titles and subtitles, and inserted several photographs. (See Figure 3-29.) Using the spreadsheet function, you analyzed daily rainfall for the feature article and included a chart within the article to summarize your findings. After completing the newsletter, you will use the database function and the membership database to print mailing labels.

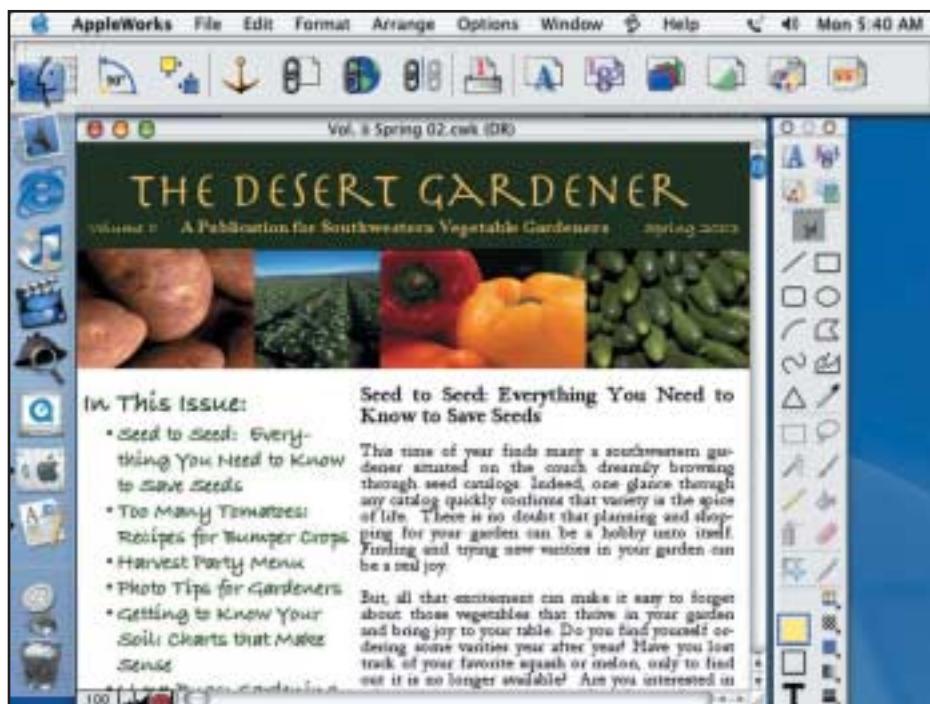


Figure 3-29 Integrated package (AppleWorks)

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Concept Check

- What is an integrated package?
- Describe the advantages and disadvantages of an integrated package.
- Why are integrated packages classified as personal or home software?

SOFTWARE SUITES

A software suite is a group of application programs. Four types are productivity, personal, specialized, and utility.

A software suite is a collection of separate application programs 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.

sive to buy a suite of applications than to buy each application separately. There are four types of suites:

- **Productivity suite** Productivity suites, also known as **business suites**, contain professional grade application programs including a word processor, spreadsheet, database manager, and more. The best known is Microsoft Office. (See Figure 3-30.) Two other well-known productivity suites are Corel WordPerfect OfficeSuite and Lotus SmartSuite.
- **Personal suite** Also known as **home suites**, these contain personal software applications or programs intended for home use. The best known is Microsoft Works Suite, which includes the Works integrated package along with Works Calendar, Streets&Trips, and more. (See Figure 3-31.)
- **Specialized suite** Specialized suites focus on specific applications. These include graphics suites, financial planning suites, and many others. (Graphics and financial planning suites will be discussed in Chapter 4.)
- **Utility suite** These suites include a variety of programs designed to make computing easier and safer. One of the best known is Norton System Works and Norton Internet Security Suite. (Utility suites will be discussed in detail in Chapter 5.)

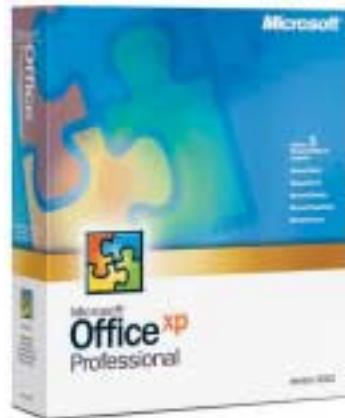


Figure 3-30 Microsoft Office XP

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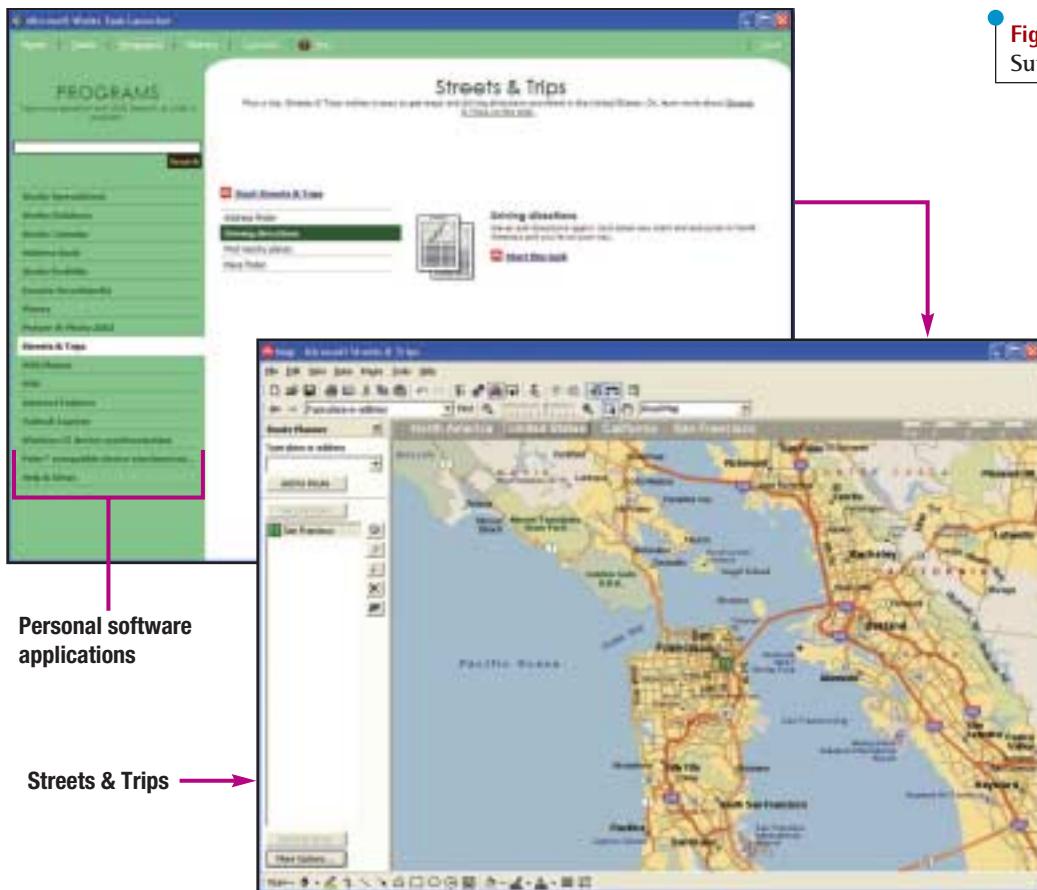


Figure 3-31 Microsoft Works Suite

Concept Check

- What is a software suite? What are the advantages to purchasing a suite?
- What are the four types of software suites?
- What is the best-known productivity suite? What is the best-known personal suite?

Ways to share data include copy and paste, object linking, and object embedding. Copy and paste is static. OLE is dynamic.

Many times it is convenient to share data between applications. For example, when writing a report it may be useful to include a chart from a spreadsheet or data from a database. Data created by one application can be shared with another application in a variety of different ways including copying and pasting, object linking, and object embedding.

COPY AND PASTE

The most straightforward way to share data is to copy and then paste. From the file that contains the data to be shared, you would select the item and then select the copy command. Next, go to the file where the selected data is to be inserted. Position the insertion pointer to the location where the data is to be inserted and select the paste command. The data will be inserted into this file.

This is a static copy in that any changes to one file will not affect the other file. Object linking and object embedding, however, create more dynamic relationships.

OBJECT LINKING AND EMBEDDING

Object linking and embedding (OLE) is a feature that makes it easy to dynamically share and exchange data between applications. For example, you could create a text document using a word processing program that includes a chart created by a spreadsheet program and a presentation created by a graphics program. Whenever the text document is opened, the most up-to-date version of the chart would appear in the document and the presentation could be run. (See Figure 3-32.)

With **object linking**, a copy of the object from a **source file** (the file containing the object) is inserted in a **destination file** (the file receiving the object) and a *link* or connection between the two files is established. In our example, the object is a chart from a spreadsheet (source) file. If a change occurs in the spreadsheet file that affects the chart, the link between the two files will automatically update the chart in the word processing file. Object linking is useful if you want the destination document to always contain the most up-to-date data.

With **object embedding**, the object from the source file is *embedded* or added to the destination document and becomes part of the destination document. In our example, the embedded object is a presentation created by a presentation graphics program. The presentation (embedded object) can be run and edited from within the destination document. However, changes you make to the embedded object are not reflected in the original source file.

Object linking and embedding is a powerful and useful functional feature that connects separate application programs to support sharing and exchanging of data.

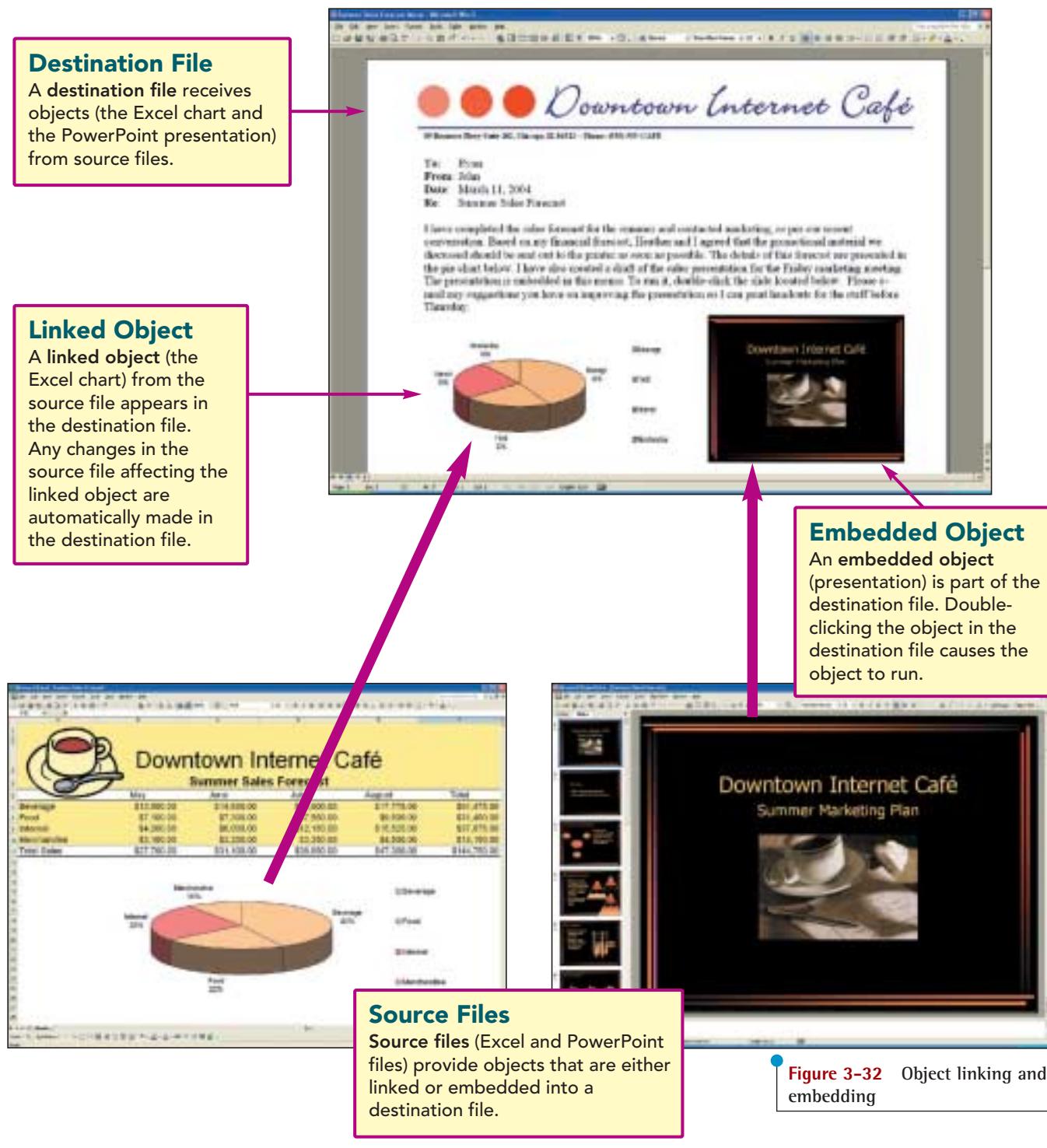


Figure 3-32 Object linking and embedding

Concept Check

- ✓ Discuss the three ways to share data between applications.
- ✓ What are OLE, source files, and destination files?
- ✓ What is the difference between object linking and object embedding?



Careers in IT

Computer Trainer

Computer trainers instruct new users on the latest software or hardware. They are usually expected to prepare new materials for instruction and may be asked to write and maintain a course manual. A position may also include design and development of a Web site for the course. Computer trainers typically teach new users how to use the latest software and hardware. Many computer training positions are offered to those with experience with the most popular business software.

Employers look for good communication skills and teaching experience. Though a teaching degree may not be required, it may be preferred. Experience with the latest software and/or hardware is essential but this

varies depending on the position. Applicants who are comfortable speaking in front of groups may be preferred. Employers often seek detail-oriented individuals with IT experience.

Computer trainers can expect to earn an annual salary of \$35,000 to \$50,000. However, salary is dependent on experience and may vary drastically. This position may be very autonomous. Responsibilities typically include preparation of course materials, grading coursework, and continuing education in the field. Opportunities for advancement include management of other trainers and consulting work. To learn more about other careers in information technology visit us at <http://www.mhhe.com/oleary/CT05> and select Careers in IT from Tim's Toolbox.





A Look to the Future

Web-based Application Software Updates Ease Maintenance

Wouldn't it be great if you never had to buy software again? What if you could "pay as you go," only paying for those parts of a software suite you actually use? These options sound terrific to end users eager to avoid the high cost and difficulties of software maintenance. They sound even better to large and small corporations, where the costs of maintaining software and the information systems department can be huge expenditures.

Of course, that is what Web-based application service providers, ASPs, are all about. As we discussed earlier, you can use the Web to connect to an ASP and use their software. A major advantage to using an ASP is that others do all the administration work—there are no programs for you to install and configure, and you never have to worry about the hassle of upgrades.

As you've already seen, with an ASP you can access your data from any Internet-connected computer in the world. This means that if a computer is lost or damaged, no data or time has been wasted. And because any computer that can access the Internet can connect to an ASP, any platform can be used. For example, PCs and Apple computers could share data and applications in the same office. Finally using an ASP allows for a simpler and cheaper computer system, be-

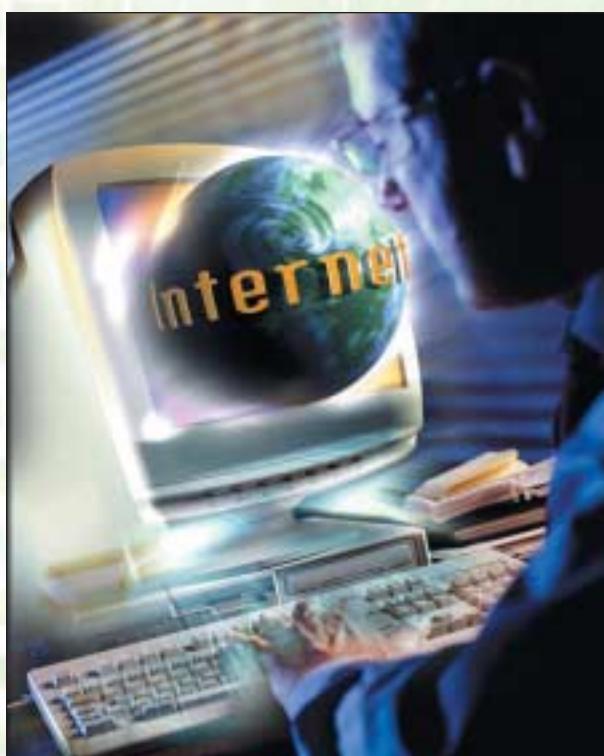
cause you don't have to worry about hardware requirements or storage space.

These considerations may sound tempting to individuals who dislike installing and maintaining software, and some experts predict that eventually all software may be distributed this way. However, ASPs are currently very valuable to smaller companies with fewer dollars to spend on these labor intensive maintenance and installation tasks. ASPs allow them to customize their software in ways that would have been too expensive for them in the past.

Some experts have even suggested ASPs may become widely used by large corporations, with IT departments, who decide to outsource these projects. They predict that software may become a "service" that companies receive from an outside company. For example, a large company in the

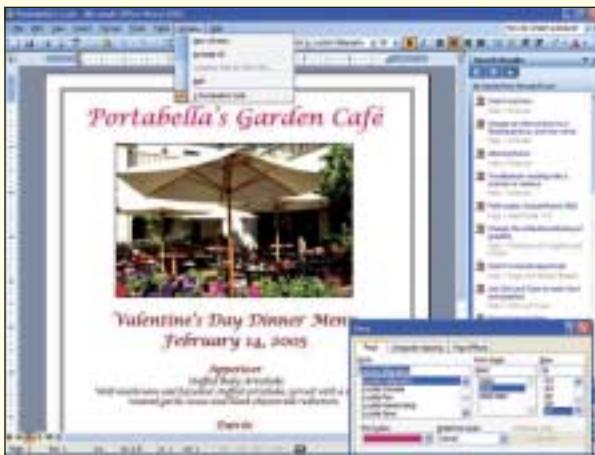
future may have a software contract with a company that agrees to supply a word processing program over the Internet. In fact, some traditional software developers are slowly moving toward Web deployment. Microsoft's .NET program is believed to be a step by the corporation toward Web services of their popular software programs.

Do you think you and other end users will use ASPs for these new services? Will we be using ASPs to create customized programs for our personal use?



BASIC APPLICATION SOFTWARE

APPLICATION SOFTWARE



There are two basic types of software. **System software** focuses on handling technical details. **Application software** focuses on completing specific tasks or applications. Two categories:

- **Basic applications (general-purpose applications, productivity applications)** are widely used.
- **Specialized applications (special-purpose applications)** are more specialized.

Common Features

Common features of most application programs include:

- **User interface**—most have **graphical user interfaces (GUI)** that display **icons**.
- **Windows**—rectangular areas that can contain documents, programs, and messages.
- **Menus**—present commands listed on the **menu bar**; use **pull-down (drop-down)** menus. **Help** menu provides access to online assistance.
- **Dialog box**—provides additional information or requests user input.
- **Toolbars**—contain **buttons** and menus; **standard toolbar** common to most applications.

Web-based Applications

Web-based applications accessed from Web sites called **application service providers (ASP)**.

WORD PROCESSORS



Word processors allow you to create, edit, save, and print text-based **documents** including flyers, reports, newsletters, and Web pages.

Features

Word wrap is a basic feature that automatically moves insertion point to next line.

Editing features include:

- **Find** and **Replace** which locates (finds), removes, and inserts (replace) another word(s).
- **Spelling** and **grammar checkers** automatically locate misspelled words and grammatical problems.
- **AutoCorrect, AutoText, and AutoComplete** automatically correct, insert, and complete text.

Formatting features include:

- **Font (typeface, font)**—set of characters with specific design. **Font size** is measured in **points**.
- **Character effects**—include **bold**, *italic*, shadow, and colors.
- **Alignment**—positions text.
- **Bulleted and numbered lists**—used to present sequences of topics or steps.

To be a competent and knowledgeable end user, you need to understand the capabilities of basic application software, which includes word processors, spreadsheets, database management systems, and presentation programs. You need to know how to use these applications and how data can be shared between them.

SPREADSHEET

Spreadsheet programs are used to organize, analyze, and graph numeric data.

Features

Principal spreadsheet features include the following:

- **Workbook** files consist of one or more related worksheets.
- **Worksheets**, also known as **spreadsheets** or **sheets**, are rectangular grids of **rows** and **columns**. Rows are identified by numbers. Columns by letters
- **Cells** formed by intersection of a row and column; used to hold text and numeric entries.
- **Text entries (labels)** provide structure and **numeric entries** can be numbers or formulas.
- **Formulas** are instructions for calculations. **Functions** are prewritten formulas.
- **Range** is a series of cells.
- **Analytical graphs (charts)** represent data visually.
- **Recalculation** occurs whenever a value changes in one cell that affects another cell(s).
- **What-if analysis** is the process of observing the effect of changing one or more values.

DATABASE MANAGEMENT SYSTEMS

#	Last Name	First Name	Street Address	City	State	Zip Code	Phone Number	Phone
2720	Werner	Heidi	2340 S. State St.	Fred Meyer	FL	3335-5501	ext 155-4975	800-155-4975
2746	McDonald	Mark	14 S. Chestnut St.	Express Lane	FL	3335-4497	ext 155-4497	800-155-4497
2747	Perez	Patricia	14 S. Chestnut St.	Fred Meyer	FL	3335-5500	ext 155-5500	800-155-5500
2748	Stevens	Richard	1101 S. 10th St.	Star Center	FL	3335-5271	ext 155-5271	800-155-5271
2749	Wright	Robert	807 S. Lakewood St.	Express Lane	FL	3335-5502	ext 155-5502	800-155-5502
2750	Wright	Robert	807 S. Lakewood St.	Express Lane	FL	3335-5503	ext 155-5503	800-155-5503
2751	Smith	Steve	1212 Tuckett St.	Star Center	FL	3335-5265	ext 155-5265	800-155-5265
2752	Smith	Steve	1212 Tuckett St.	Star Center	FL	3335-5266	ext 155-5266	800-155-5266
2753	Powers	David	1884 Brynn St.	Star Center	FL	3335-5267	ext 155-5267	800-155-5267
1500-1599								
1501	Salter	John	4385 T. Higgins Rd.	Star	FL	3335-5503	ext 155-5503	800-155-5503
1502	Lohman	Ryan	1002 W. May Dr.	Fred Meyer	FL	3335-5507	ext 155-5507	800-155-5507
1503	Presberg	Albert	1025 E. 10th St.	Fred Meyer	FL	3335-5508	ext 155-5508	800-155-5508
1504	Pearlman	Barbara	1022 S. Parkway Dr.	Star Center	FL	3335-5270	ext 155-5270	800-155-5270
1505	Wright	Stephen	107 E. Anna Ave.	Express Lane	FL	3335-5509	ext 155-5509	800-155-5509
1506	Tarver	Barbara	1814 W. Southern Ave.	Star	FL	3335-5268	ext 155-5268	800-155-5268
1507	Walker	James	10 Thomas Rd.	Star Center	FL	3335-5269	ext 155-5269	800-155-5269
1508	Wright	Steve	107 S. College St.	Express Lane	FL	3335-5281	ext 155-5281	800-155-5281
1509	Thomas	Janice	171 S. Lake St.	Star Center	FL	3335-5285	ext 155-5285	800-155-5285
1510	Player	Alison	174 S. Raymond	Star	FL	3335-5287	ext 155-5287	800-155-5287
1511	Hanneman	Debbie	180 S. Holden St.	Star Center	FL	3335-5288	ext 155-5288	800-155-5288
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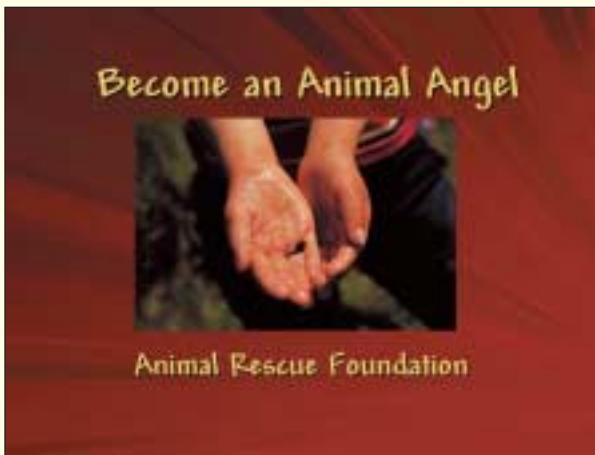
A **database** is a collection of related data. A **database management system (DBMS)**, also known as a **database manager**, structures a database and provides tools for entering, editing, and retrieving data.

Features

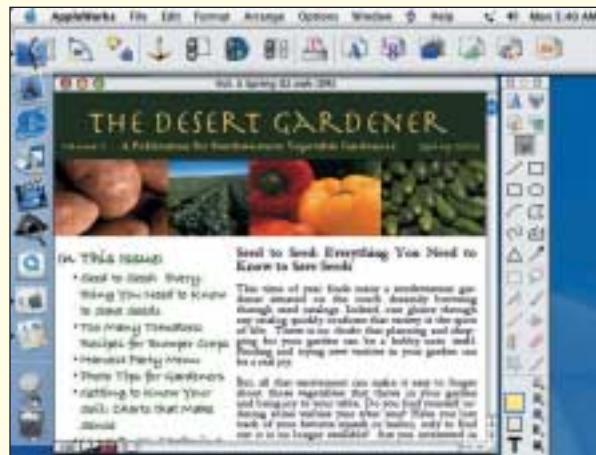
Principal database management system features include the following:

- **Relational database** organizes data into related tables.
- **Tables** have rows (**records**) and columns (**fields**).
- **Primary key (field)** uniquely identifies each record.
- **Field size** is the maximum number of characters in a record.
- **Data type** (text, numeric, currency, date, object) defines type of data for a field.
- **Sort** is a tool to rearrange records using a particular field.
- **Filter** is a tool to locate and display records that meet a set of **criteria**.
- **Query** is a question or request for specific data contained in a database.
- **Forms** used to enter new records or edit existing records.
- **Reports** are printed output in a variety of forms.

PRESENTATION GRAPHICS



INTEGRATED PACKAGES



Presentation graphics combine a variety of visual objects to create attractive, visually interesting presentations. They are excellent tools to communicate a message and to persuade people.

Features

Principal presentation graphics features include the following:

- **Slides** make up a presentation.
- **Layout, normal, and slide show** are different presentation views.
- **Presentation styles** include onscreen, Web, overhead slides, and 35mm slides.
- **AutoContent wizard** steps users through process of creating a presentation.
- **Color schemes** provide a set of complementary colors for slides.
- **Slide layout** describes how items are arranged on a slide.
- **Special effects** include **animations, transitions, and builds**.
- **Design templates** provide professionally selected combinations of color schemes, slide layouts, and special effects.
- **Master slides** control the format and placement of all slides in a presentation.

An **integrated package**, also known as **personal** or **home software**, is a single program that provides the functionality of several application packages. Some important characteristics include:

- Functions typically include word processing, spreadsheet, database manager, and more.
- Each function not as extensive or powerful as a single function application program.
- Less expensive than purchasing several individual application programs.
- Simple to use and switch between functions.
- Popular with home users who are willing to sacrifice some advanced features for cost and simplicity.



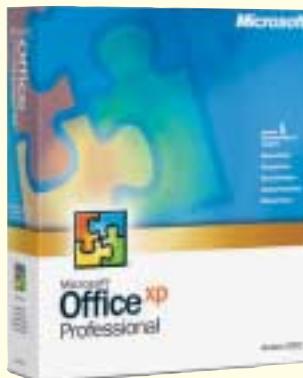
SOFTWARE SUITES



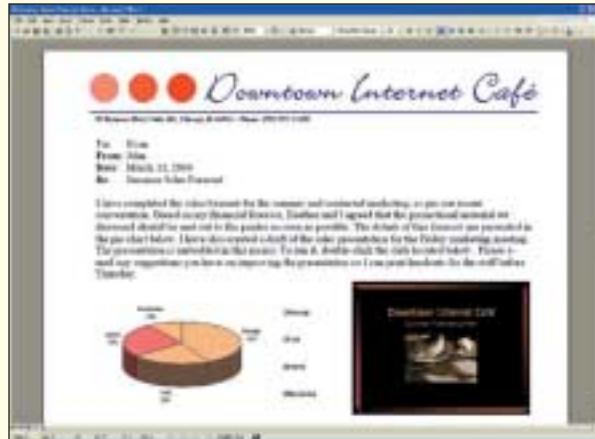
A **software suite** is a collection of individual application packages sold together. While functionally identical, application packages purchased in a suite are significantly less expensive than those purchased separately.

Four types of suites are productivity, personal, specialized, and utility:

- **Productivity or business suites** contain professional grade applications. Microsoft Office includes Word, Excel, Access, PowerPoint, and a collection of more specialized programs.
- **Personal or home suites** include a combination of personal applications. Microsoft Works includes Works Calendar, Address Book, Money, Picture IT!, Streets&Tips, and more.
- **Specialized suites** include programs for specific applications such as graphics and financial planning.
- **Utility suites** consist of programs designed to make computing easier and safer.



SHARING DATA



Sharing data between files created with different applications is often convenient.

Copy and Paste

Copy and paste is the most straightforward way to share between files.

- The item to be shared is simply copied from its file and then pasted into the other file.
- This creates a static copy since changes to one file will not affect the other file. Object linking and object embedding, however, create more dynamic relationships.

OLE

Object linking and embedding (OLE) is a feature to dynamically share and exchange data between files.

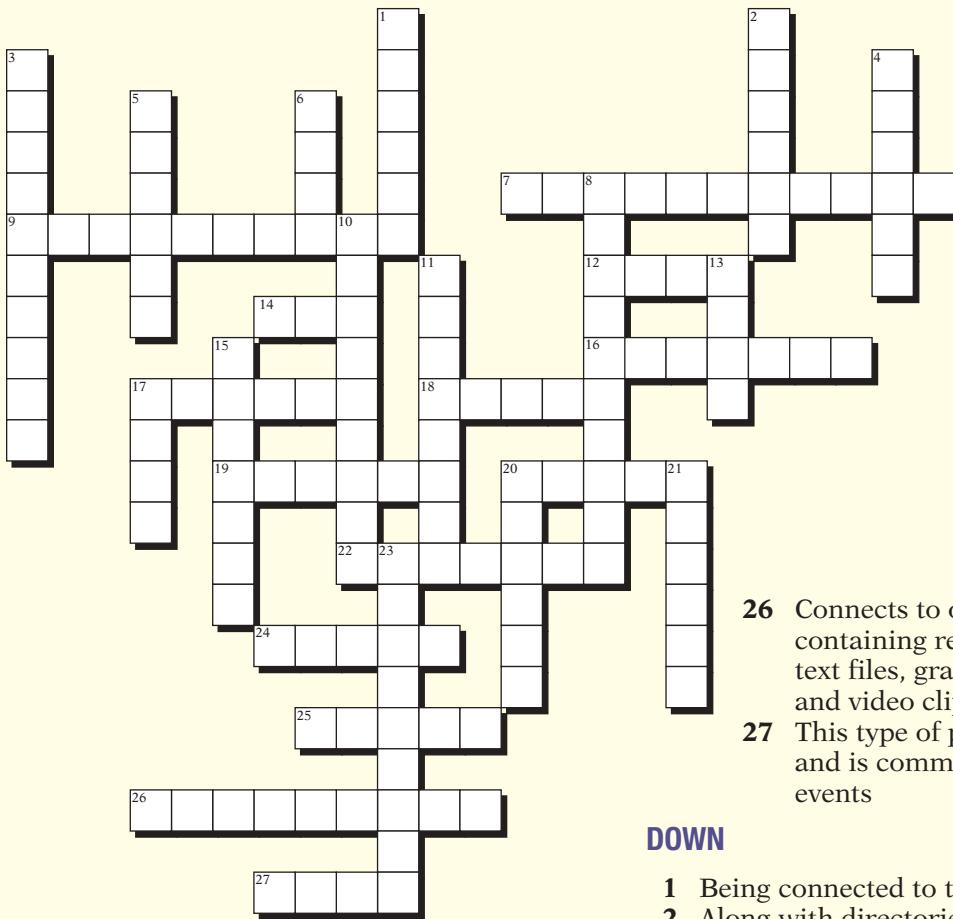
- With **object linking** a copy of an **object** from a **source file** is inserted into a **destination file** and a *link* between the two files is made. If a change occurs in the source file, the destination file will be updated.
- With **object embedding**, the object is embedded into the destination file and the embedded object can be run from that file. However, changes to the source file will not affect the destination file.

KEY TERMS

- alignment (86)
- analytical graph (93)
- animation (102)
- application service providers (ASPs) (82)
- AutoComplete (86)
- AutoContent wizard (102)
- AutoCorrect (86)
- AutoText (86)
- basic applications (80)
- build (102)
- bulleted list (86)
- business suite (107)
- button (81)
- cell (92)
- character effect (86)
- chart (93)
- collaboration (86)
- color scheme (102)
- column (92)
- criteria (98)
- database (98)
- database management system (DBMS) (98)
- database manager (98)
- design template (103)
- destination file (108)
- dialog box (81)
- document (86)
- drop-down menu (81)
- editing (86)
- filter (98)
- find and replace (86)
- font (86)
- font size (86)
- form (99)
- format (86)
- formula (92)
- function (92)
- general-purpose applications (80)
- grammar checker (86)
- graphical user interface (GUI) (80)
- Help (81)
- home software (105)
- home suite (107)
- icons (80)
- integrated package (105)
- joined (98)
- label (92)
- layout view (102)
- master slide (103)
- menu (81)
- menu bar (81)
- normal view (102)
- numbered list (86)
- numeric entry (92)
- object embedding (108)
- object linking (108)
- object linking and embedding (OLE) (108)
- personal software (105)
- personal suite (107)
- pointer (80)
- points (86)
- presentation graphic (102)
- presentation style (102)
- primary field (98)
- primary key (98)
- productivity applications (80)
- productivity suite (107)
- pull-down menu (81)
- query (99)
- range (93)
- recalculation (93)
- record (98)
- relational database (98)
- report (99)
- row (92)
- sheet (92)
- slide (102)
- slide layout (102)
- slide show view (102)
- software suite (106)
- sort (98)
- source file (108)
- special effect (102)
- specialized applications (80)
- spelling checker (86)
- spreadsheet (92)
- standard toolbar (81)
- system software (80)
- table (98)
- text entry (92)
- Thesaurus (86)
- toolbar (81)
- tracking changes (86)
- transition (102)
- typeface (86)
- user interface (80)
- utility suite (107)
- Web-based application (82)
- what-if analysis (93)
- window (80)
- word processor (86)
- word wrap (86)
- workbook file (92)
- worksheet (92)

To test your knowledge of these key terms with animated flash cards, select Flash Cards from Tim's Toolbox at <http://www.mhhe.com/oleary/CT05>.

CHAPTER REVIEW



ACROSS

- 7 The process of receiving a file from another computer
- 9 The space of electronic movement of ideas and information
- 12 Programs that continually update search engines and databases
- 14 Multimedia interface to connect to the Internet
- 16 Another word for the location of resources on the Web; browsers look for these
- 17 The provider's computer
- 18 Destructive program
- 19 Someone who has comprehensive knowledge about a subject
- 20 Someone who aids new users in an online discussion group by answering questions
- 22 Reading news but not joining in to contribute
- 24 One type of connection technology
- 25 Scrollable windows

- 26 Connects to other documents containing related information—text files, graphic images, audio, and video clips
- 27 This type of page is easily updatable and is commonly used as a diary of events

DOWN

- 1 Being connected to the Internet
- 2 Along with directories, offers navigational and organizational services
- 3 A file that is attached to an e-mail message
- 4 A special network of computers used by newsgroups
- 5 A sequence of ongoing messages on the same subject in a discussion group
- 6 Programming language of choice used to create applets
- 8 Process of broadcasting audio or video over the Internet
- 10 Provides access to a variety of stores online
- 11 Gives us access to the Internet
- 13 To explore the Web
- 15 Program that provides access to Web resources
- 17 Unwelcome mail
- 20 Program that continually updates search engines and databases
- 21 A web utility that makes working with the Web and the Internet easier and safer
- 23 Copying files from your computer to another computer on the Internet

For an interactive crossword puzzle select Crosswords from Tim's Toolbox at
<http://www.mhhe.com/oleary/CT05>.

MULTIPLE CHOICE

Circle the letter or fill in the correct answer.

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

To test your knowledge of this chapter, select Self Test from Tim's Toolbox at
<http://www.mhhe.com/oleary/CT05>.

MATCHING

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

- a. ASP
- b. cell
- c. find
- d. formulas
- e. general-purpose applications
- f. grammar checker
- g. integrated package
- h. OLE
- i. presentation graphics
- j. range
- k. relational database
- l. software suite
- m. sort
- n. spelling checker
- o. template
- p. toolbar
- q. utility
- r. what-if analysis
- s. window
- t. word processor

- 1. Word processors, spreadsheets, database management systems, and presentation graphics. _____
- 2. Rectangular area that can contain a document, program, or message. _____
- 3. A feature that contains buttons and menus to provide access to commonly used commands. _____
- 4. Site that provides access to Web-based applications. _____
- 5. Type of suite that makes computing easier and safer. _____
- 6. Automatically checks for problems with capitalization, punctuation, and sentence structure. _____
- 7. Includes the functionality of a word processor, spreadsheet, database manager, and more. _____
- 8. Software that creates text-based documents such as reports, letters, and memos. _____
- 9. Identifies incorrectly spelled words and suggests alternatives. _____
- 10. Tool that quickly locates any character, word, or phrase in a document. _____
- 11. The intersection of a row and column in a spreadsheet. _____
- 12. A collection of two or more cells in a spreadsheet. _____
- 13. Instructions for calculations. _____
- 14. Spreadsheet feature in which changing one or more numbers results in the automatic recalculation of all related fields. _____
- 15. A widely used database structure, in which data is organized into related tables. _____
- 16. Arranging objects numerically or alphabetically. _____
- 17. Programs used to communicate a message or to persuade. _____
- 18. Professionally designed model presentations provided in a presentation graphics program. _____
- 19. Individual application programs that are sold together as a group. _____
- 20. Powerful feature of many application programs that allows sharing of information. _____

OPEN-ENDED

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

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

USING TECHNOLOGY



1 Web-based Applications



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. To learn more about Web-based applications, review Making IT Work for You: Web-based Applications on pages XX and XX. Then complete the following questions: (a) What are Web-based applications? What are ASPs? (b) Compared to typical application programs, what are the advantages and disadvantages of Web-based applications? (c) Have you ever used a Web-based application? If you have, describe what programs you used and how you used them. If you have not, discuss why and how you might use one.

2 Presentation Graphics

For presentations, having the right software can help grab your audience's attention and improve your effectiveness as a speaker. Connect to our Web site at <http://www.mhhe.com/oleary/CT05> and select Using Technology from Tim's Toolbox to link to a presentation graphics software package. Once connected, review the product's features, and answer the following questions: (a) What computer hardware and software is required to use the presentation graphics product? (b) List and describe three features that could help you organize or present your ideas. (c) What types of files can be embedded with a presentation using this software?



Corel Office Suite 3

Microsoft's major competitor in the office suite market is Corel. Visit our site at <http://www.mhhe.com/oleary/CT05> and select Using Technology from Tim's Toolbox to connect to Corel's Web site. Review the site, and then answer 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?



Open Source Office Suites 4

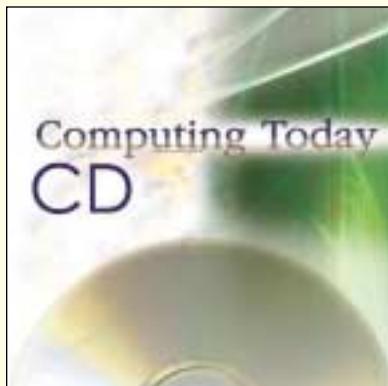
In recent years, software projects to build open source productivity and office software have emerged. Open source means that anyone may freely download and modify the suite. Visit our Web site at <http://www.mhhe.com/oleary/CT05> and select Using Technology from Tim's Toolbox to connect to one such project. Review the site, and then answer the following questions briefly: (a) What is the goal of the project? Why create an open source office suite? (b) How is this office suite different from popular commercial ones? (c) How is it similar? (d) Do you think open source office suites will be a threat to commercial ones? Justify your answer.



EXPANDING YOUR KNOWLEDGE



1



Computing Today CD

Some predict that many organizations will be using Web-based applications in the near future. These organizations will not be required to own, install, upgrade, or store applications. Additionally, applications and application files can be accessed from almost anywhere in the world. After viewing the “How Web-based Applications Work” animation on your Computing Today CD or from Tim’s Toolbox at <http://www.mhhe.com/oleary/CT05> and studying Figure 3-5 on page 83,

consider the following case.

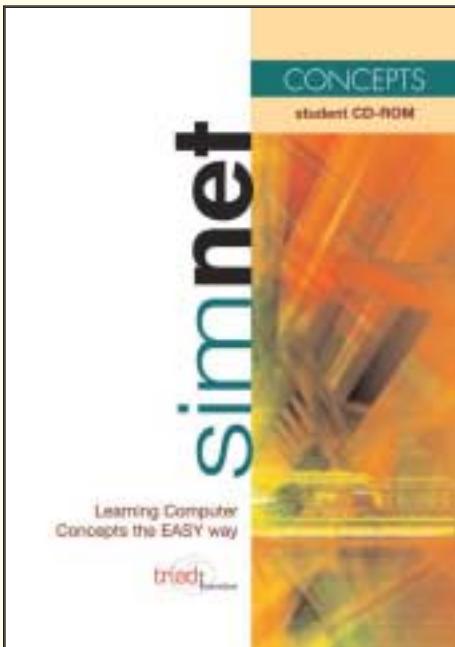
Assume that you are about to give a presentation at your company’s national sales meeting. Earlier in the week you created the presentation using a Web ASP’s program PRESENT and saved the presentation at the ASP’s site. This presentation will be run from your notebook computer and be displayed on a projection screen large enough for everyone at the sales meeting to see. To run the program, you need access to the presentation file and the PRESENT program.

On a single page of paper, create a drawing similar to Figure 3-5 that describes how you will use the Web-based application to give the presentation.

2 Application Service Providers

Application Service Providers (ASPs) offer access to basic applications from anywhere in the world. Conduct a Web search to learn more about application service providers. Then answer the following questions: (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, explain why. If not, explain why not.





Complete Chapter 2: Application Software on your SimNet CD and then answer the following questions.

- All of today's Web browsers are based at least in part on which original Web browser? Why are Web pages often "double-coded"?
- Describe some of the common types of business application software.
- Describe the basic features of a word processing application.
- Describe the elements of a spreadsheet application.
- Identify the two items shown below.

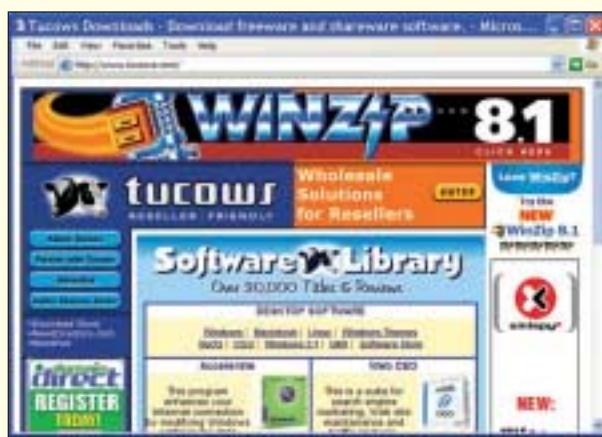
1.

Employee ID	Last Name	First Name	Address	State	Zip Code
1	Mann	Cheryl	1000 1st	ND	20009
2	Martello	Michelle	111 2nd	ND	20000
3	Goldsack	Catherine	2122 3rd	ND	20000

2.

Timecard ID	Employee ID	Week	Hours	Total Pay
1	1	2010/AUG	40	\$1111.11
2	2	2010/AUG	40	\$1111.11

One way to acquire new application software is by downloading shareware. Conduct a Web search for shareware programs. Connect to and explore a shareware site offering a program that might interest you. Then respond to the following: (a) What is shareware? Who creates it? (b) What does shareware cost to use? What about support if you have a problem using it? (c) What are the risks of using shareware? Be thorough. (d) Would you use shareware? Why or why not?



BUILDING YOUR PORTFOLIO



1 Software Suites



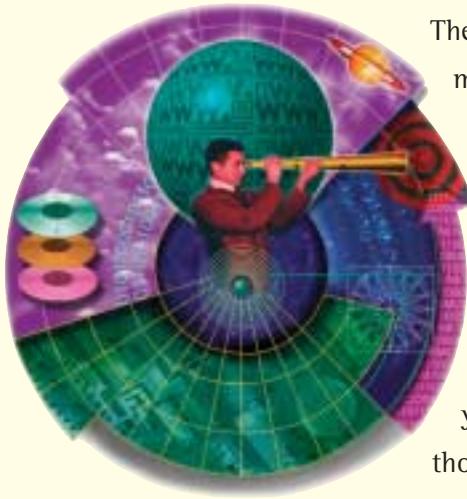
Software suites offer both end users and businesses some unique advantages. In a one-page paper titled “Software Suites,” address the following items: (a) Define software suites. (b) Which suites are the most popular today? Why? (c) New versions of software suites are coming out all the time. As a user,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

2 User Certification

To demonstrate competence with a particular software suite, users may become *certified* for it. This means they are officially recognized as having certain skills with the software. Choose a software suite, and research programs of certification for it. Then in a one-page paper, answer the following questions: (a) What software suite did you choose? What certification programs are available? (b) What are the requirements of certification? (c) What are the benefits of certification? Who should become certified? (d) Do you believe that software certification would be useful to you? If so, how? If not, why?



Acquiring Software 3



There are three common ways to obtain new software (use public domain software, use shareware, buy commercial software). In addition to these three ways, two others are to copy programs from a friend or purchase unauthorized copies of programs. Investigate each of these five options, and then answer the following questions in a one-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) Do you think there is anything wrong with obtaining and using unauthorized software in this manner? Identify and explore the key issues.

Software Standards 4

Most of the products you encounter every day, such as cars, electronics, and food are required by law to meet certain conditions to ensure your safety and a minimum level of quality. Software, however, can be written by anyone with few of these constraints. Fortunately, some standards of certifications do exist. Research a certification program for software vendors. Write a one-page paper to answer the following: (a) Describe the certification program you selected. What type of software is it intended for? (b) What requirements must software meet to receive certification? (c) Who performs the software tests to ensure compliance? (d) As a consumer of software, what additional certification requirements would you like to see? Explain your answer.

The objective of the Standards Activities Board (SAB) is "to provide an organizational framework and conductive environment within which to develop broadly accepted, sound, timely, and technically excellent standards that will advance the theory and practice of computing and information processing science and technology."

Standards Committees & Working Groups

- Design Automation Standards Committee P&P
- Learning Technology Standards Committee P&P
- Local Area Networks/MAN Standards Committee IEEE P&P
- Microprocessor & Microcomputer Standards Committee P&P
- Portable Applications Standards Committee P&P
- Reliability Interoperability Standards Committee P&P
- Software Engineering Standards Committee P&P