



Understanding Computers

11th Edition

TODAY AND TOMORROW



Application Software

CHAPTER 5



Learning Objectives

- Describe what application software is, the different types of ownership rights, and the difference between installed and Web-based software.
- Detail some concepts and commands that many software programs have in common.
- Discuss word processing and explain what kinds of documents are created using this type of program.
- Explain the purpose of spreadsheet software and the kinds of documents created using this type of program.



Learning Objectives, *Cont'd*

- Identify some of the vocabulary used with database software and discuss the benefits of using this type of program.
- Describe what presentation graphics and electronic slide shows are and when they might be used.
- List some types of graphics and multimedia software consumers frequently use.
- Name other types of application software programs and discuss what functions they perform.



Overview

- This chapter covers:
 - Characteristics of application software in general
 - A look at a variety of types of application software, including:
 - Word processing
 - Spreadsheet
 - Database
 - Presentation graphics
 - Graphics and multimedia software
 - Other types of application software



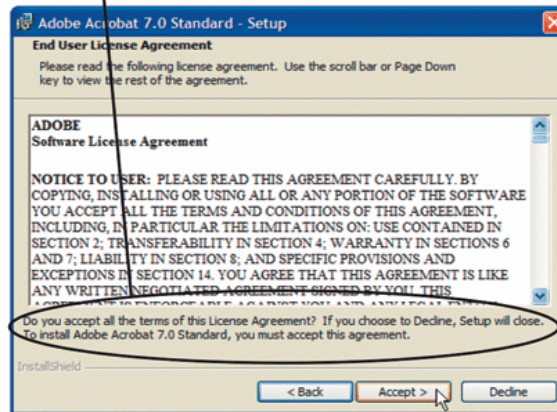
The Basics of Application Software

- All computer users should be familiar with the basic characteristics and concepts of application software
 - Different possible ownership rights and delivery methods
 - How software for desktop PCs and handheld PCs differ
 - The basic software commands that are common to most types of application software
- These topics also apply to other types of software, such as system software and programming languages

Software Ownership Rights

- *Ownership rights* of a software program specify the allowable use of the program
- **Software license:** agreement, either included in a software package or displayed on the screen during installation, that specifies the conditions under which a buyer of the program can use it

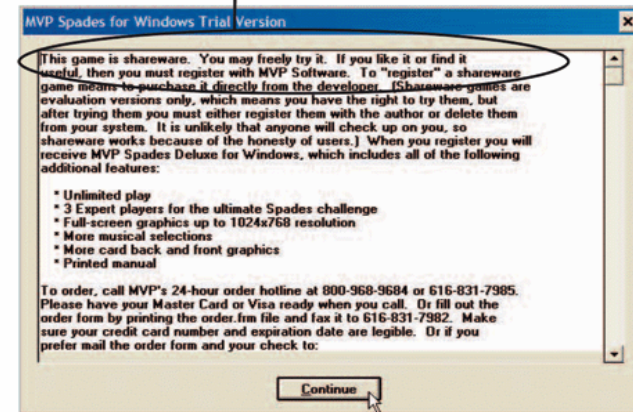
This statement explains that the program will not be installed unless you accept the terms of the license agreement.



COMMERCIAL SOFTWARE PROGRAM

FIGURE 6-1
Software licenses.

This statement explains that the program is shareware.




SHAREWARE PROGRAM



Software Ownership Rights, *Cont'd*

- **Commercial software:** copyrighted software that is developed, usually by a commercial company, for sale to others
- **Shareware:** copyrighted software that is distributed on the honor system; consumers should either pay for it or uninstall it after the trial period
- **Freeware:** copyrighted software that may be used free of charge
- **Public domain software:** software that is not copyrighted and may be used without restriction



Installed Software vs. Web-based Software

- **Installed software:** installed on the PC before it can be run. Installed software programs are either
 - Purchased in physical form
 - Downloaded from the Internet
- **Web-based software:** run directly from the Internet
 - Free (interactive game available through a site)
 - Fee-based (*application service provider (ASP)*)



SOFTWARE MANUFACTURER WEB SITE

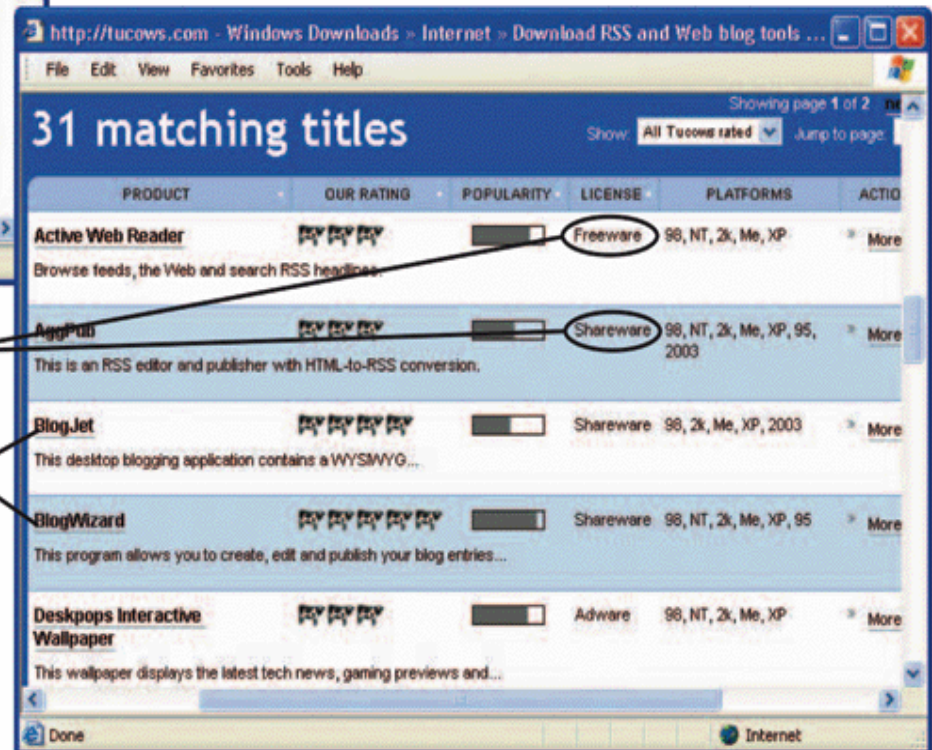
Package version will be shipped to the buyer.

Download version will be downloaded to the buyer's PC.

FIGURE 6-3

Installed software.

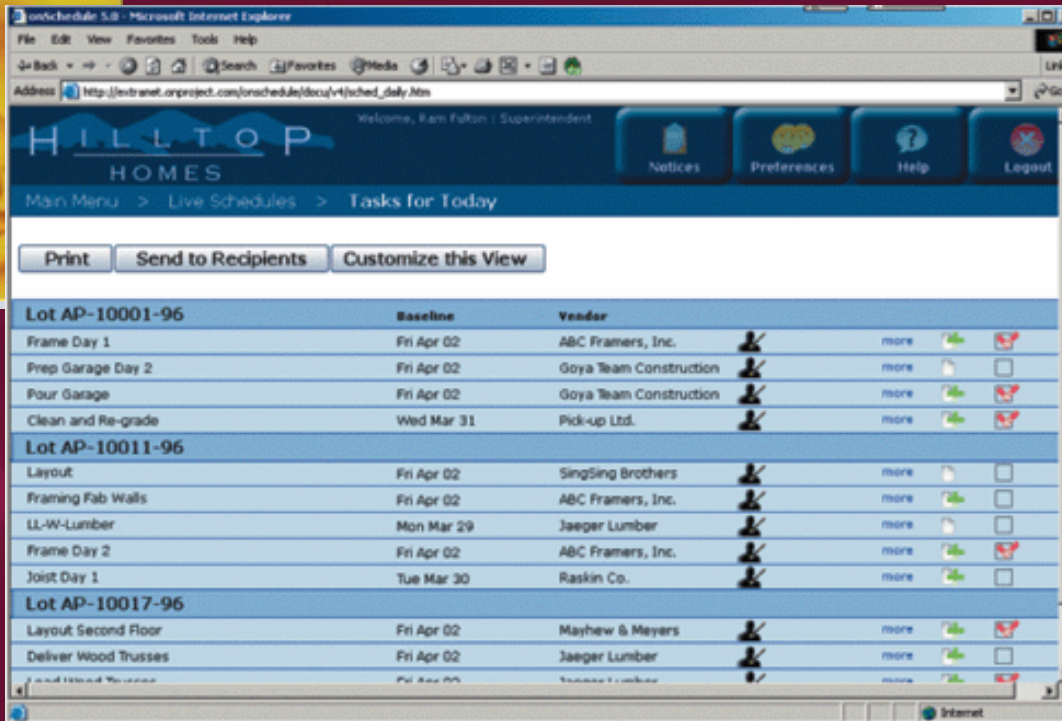
Installed software can be purchased in a physical package or downloaded via the Internet.



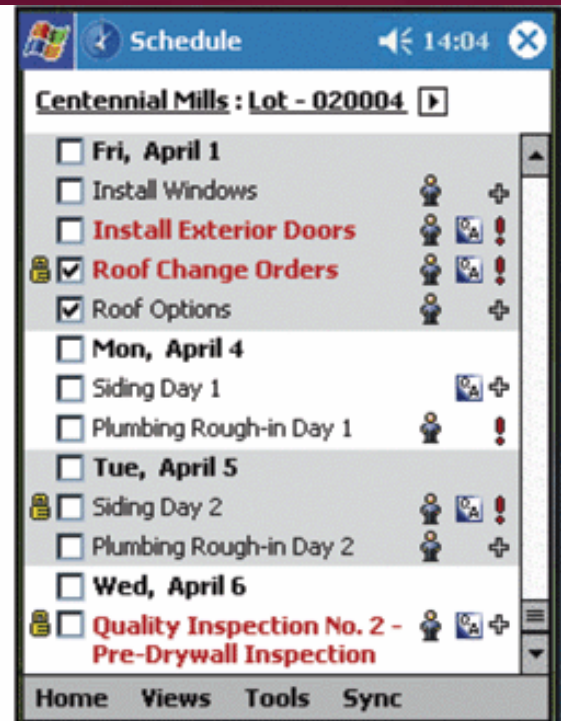
Most download sites list the license type for each program.

Clicking a program name will download that program to the user's PC.

SOFTWARE DOWNLOAD WEB SITE



DESKTOP WEB-BASED PROGRAM



HANDHELD WEB-BASED PROGRAM

FIGURE 6-4
 Web-based software. Web based software can be free or (like the programs shown here) fee-based.



Software Suites

- **Software suite:** a collection of software programs bundled together and sold as a single software package
- *Office suites (productivity software suites)* are used by most businesses and many individuals to produce written documents; typically include:
 - *Word processing software*
 - *Spreadsheet software*
 - *Database software*
 - *Presentation graphics software*













Desktop vs. Mobile Software

- Handheld PCs and mobile devices require special application software designed for that type of device
- Types of *mobile software* include:
 - Calendars and address books
 - Browser, e-mail, and instant messaging programs
 - Language translators and reference software
 - E-books and games
 - Productivity software and specialized applications
- Some mobile software programs are designed to be compatible with popular *desktop software*, such as Microsoft Office

Common Software Commands

- Application programs today have a number of concepts and commands in common

FIGURE 6-7
Common application software

| COMMAND | TOOLBAR BUTTON | KEYBOARD SHORTCUT | DESCRIPTION |
|----------------------|--|-------------------|--|
| New document |  | Ctrl+N | Creates a new blank document. |
| Open |  | Ctrl+O | Opens a previously saved document from a storage medium, usually for editing or printing. |
| Save |  | Ctrl+S | Saves the current version of the document to a storage medium. |
| Print |  | Ctrl+P | Prints the current version of the document onto paper. |
| Spelling and grammar |  | F7 | Starts the spelling and grammar check for the entire document. |
| Cut |  | Ctrl+X | Moves the selected item to the clipboard. |
| Copy |  | Ctrl+C | Copies the selected item to the clipboard. |
| Paste |  | Ctrl+V | Pastes the contents of the clipboard to the current location. |
| Undo |  | Ctrl+Z | Undoes the last change to the document. |
| Close |  | Alt+F4 | Closes the document. Any changes made to the document are lost if the document wasn't saved first. |

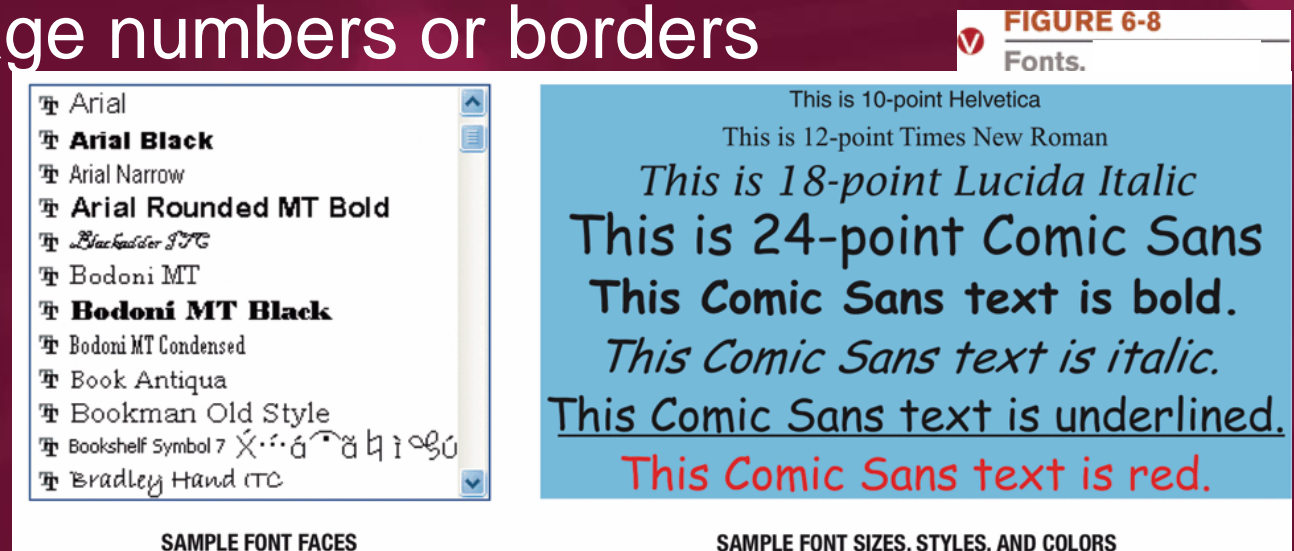


Common Software Commands, *Cont'd*

- Editing a document (changing the content of the document)
 - **Insertion point:** indicates the current location in the document (where changes will take place)
 - Typing text will insert it
 - Delete and Backspace key will delete text
 - Text and objects can typically be selected to be moved, copied, deleted, or *formatted*

Common Software Commands, *Cont'd*

- *Formatting* a document (changing the appearance of the document), such as:
 - Changing *font face, size, style* or *color*
 - Changing *line spacing* or *margins*
 - Adding page numbers or borders





Common Software Commands, *Cont'd*

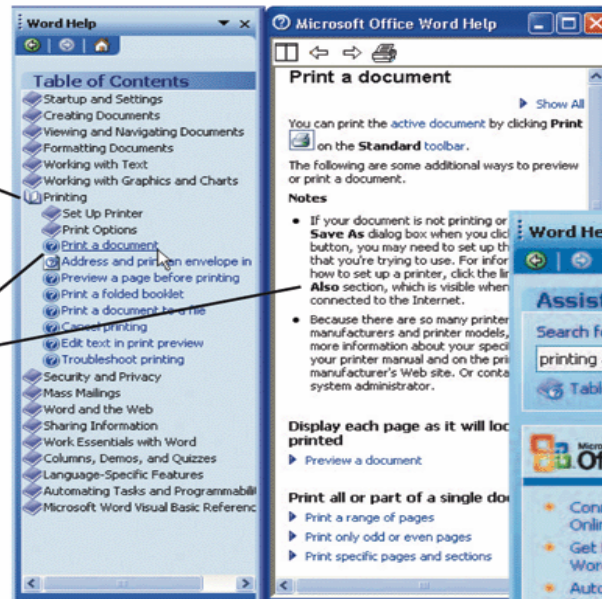
- Help for a software program includes:
 - Help built into the program
 - *Table of Contents*
 - *Index*
 - *Search*
 - Online help (via manufacturer's Web site and independent sites)
 - Offline help (periodicals, books, tutorial videos, classes)

FIGURE 6-9
Getting help.

TABLE OF CONTENTS
Organizes help screens into books by topic.

Each book represents a major topic that displays more specific topics when clicked.

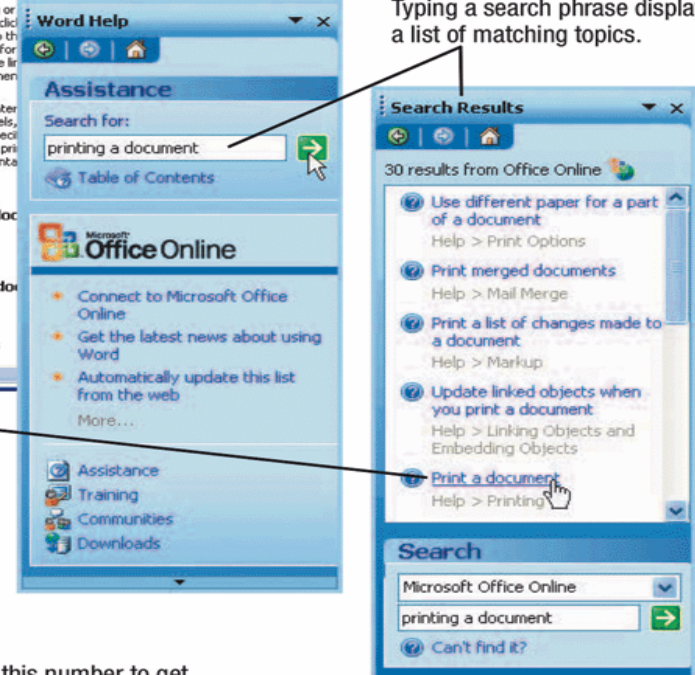
Selecting a topic displays the corresponding help screen.



SEARCH

Lets you type in search topics or a search phrase to see a list of matching topics. This program searches for online help, as well.

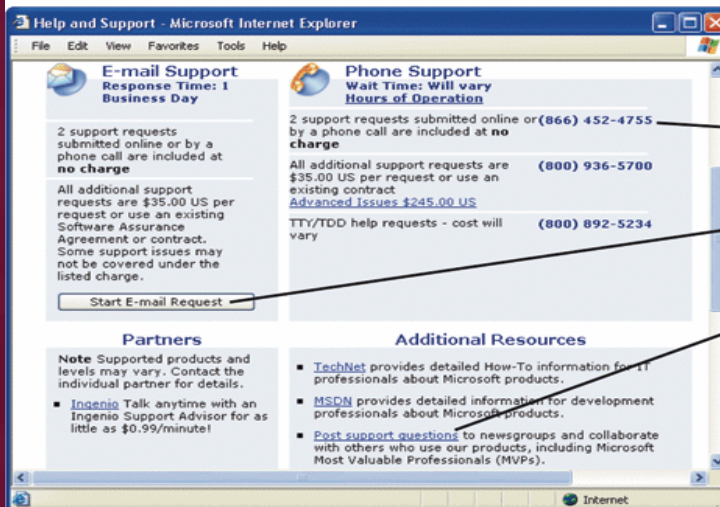
Typing a search phrase displays a list of matching topics.



LIVE HELP

Some software manufacturers offer help via e-mail, phone, live chat, and more.

Selecting this topic displays the same "Print a document" help screen shown above.



Call this number to get help via telephone.

Click to start an e-mail help request.

Click to post a help request on a discussion group for this product.



Quick Quiz – The Basics of Application Software

- Software programs that are distributed on the honor system and can be legally and ethically shared with others to try out the software are referred to as:
 - shareware programs.
 - commercial software.
 - public domain software.
- True or False: Software purchased via the Internet is always in downloaded, not packaged, form.
- A group of related software programs sold together as one unit is called a(n) _____.




Word Processing Concepts

- *Word processing* is one of the most widely used application programs today
- Actual commands and features vary somewhat from program to program
- Important to be familiar with the basic features of word processing and the general concept of what word processing enables you to do



What Is Word Processing?

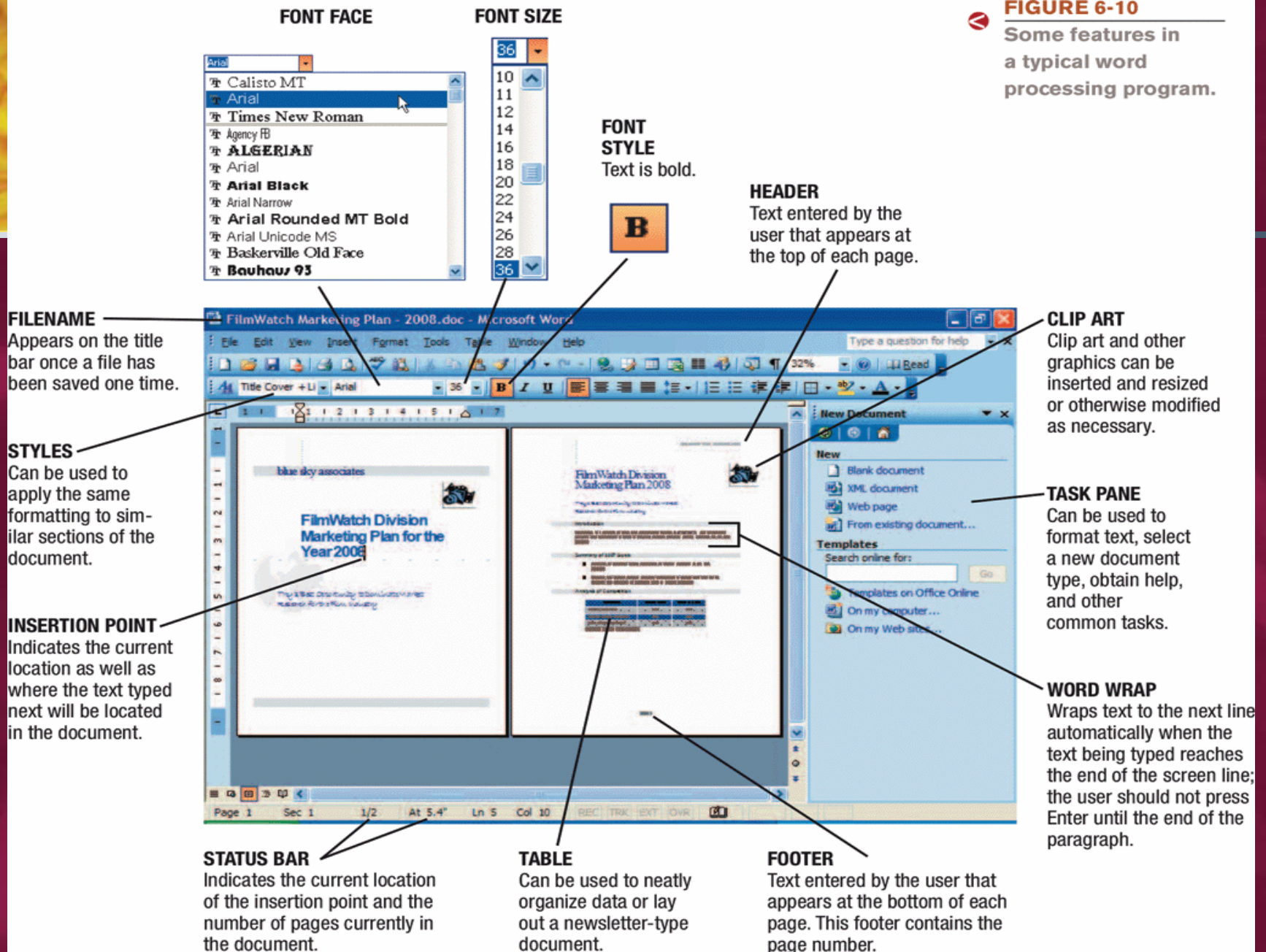
- **Word processing:** using a computer and **word processing software** to create, edit, save, and print written documents, such as letters, contracts, and manuscripts
- Like any document created with software instead of paper and pencil, word processing documents can be retrieved, modified, and printed as many times as needed; common word processors include
 - Microsoft Word
 - Corel WordPerfect
 - Lotus WordPro



Creating a Word Processing Document

- **Word wrap:** feature in a word processing program that automatically returns the insertion point to the next line when the end of the screen line is reached
- *Character formatting* (font face, size, style, or color)
- *Paragraph formatting* (line spacing, left and right margins, tabs, alignment, and styles)
- *Page formatting* (top and bottom margins, paper size, orientation, headers, footers, etc)
- *Document formatting* (footnotes, end notes, table of contents, index, background, theme)

FIGURE 6-10
Some features in a typical word processing program.






Tables, Graphics, and Templates

- *Tables*—allow content to be organized in a table consisting of *rows* and *columns*
- *Graphics* or *drawing* features—allow images to be inserted into a document (*clip art*, photographs, drawn images, etc.) and then modified
- *Templates*—help users create new documents quickly
- *Wizards*—available for creating documents (envelopes, legal pleadings, calendars, and agendas), as well as for tasks (sending a fax or publishing a Web page)



Word Processing and the Web

- Most word processing programs today include Web-related features, such as to:
 - Send a document as an e-mail message
 - Include Web page hyperlinks in documents
 - Create or modify Web pages
- Optional file formats for documents created in many word processing programs include:
 - *Hypertext Markup Language (HTML)*
 - *Extensible Markup Language (XML)*
 - *Single file Web page or MHTML (MIME Hypertext Markup Language)*



Quick Quiz – Word Processing Concepts

- Changing the line spacing of a document is an example of which word processing feature?
 - word wrap
 - editing
 - Formatting
- True or False: Microsoft Word is an example of a word processing program.



Spreadsheet Concepts

- **Spreadsheet software:** application software used to create *spreadsheets*—*documents* which typically contain a great deal of numbers and mathematical computations and are organized into rows and columns
- Commonly used by a variety of businesses and employees, including CEOs, managers, assistants, analysts, and sales representatives



What Is a Spreadsheet?

- **Spreadsheet:** a group of values and other data organized into rows and columns
 - Contains numbers and *formulas*, which automatically update the spreadsheet as data in the spreadsheet changes
 - **Worksheet** = single spreadsheet
 - **Workbook** = multiple worksheets saved in a single file
- Most widely used spreadsheet programs
 - Microsoft Excel
 - Corel Quattro Pro
 - Lotus 1-2-3



Creating a Spreadsheet

- Data is entered into **cells** (where **rows** and **columns** meet)
- Cells are identified by their *cell address*, such as B4 or E22
- Cells can contain:
 - **Labels:** text-based entry in a worksheet cell that identifies data on the worksheet
 - **Constant values:** numerical entry in a worksheet cell
 - **Formulas:** performs mathematical operations on the content of other cells
 - **Functions:** named programmed formula

NAME BOX

Identifies the active cell, which is the location of the cell pointer.

COLUMNS

Run vertically and are identified by letters.

FORMULA BAR

Lists the contents of the active cell, in this case the formula entered into cell E8.

FIGURE 6-12

Some features in a typical spreadsheet program.

MENUS AND TOOLBARS

Can be used to issue commands.

NUMBER FORMATS

Used to specify the appearance of the numbers on a worksheet.

ACTIVE CELL/RANGE

Identifies the active cell or range; in this case the active cell is E8, and the range D8:E9 is selected.

WORKSHEET AREA

Contains the worksheet itself.

GRAPHS

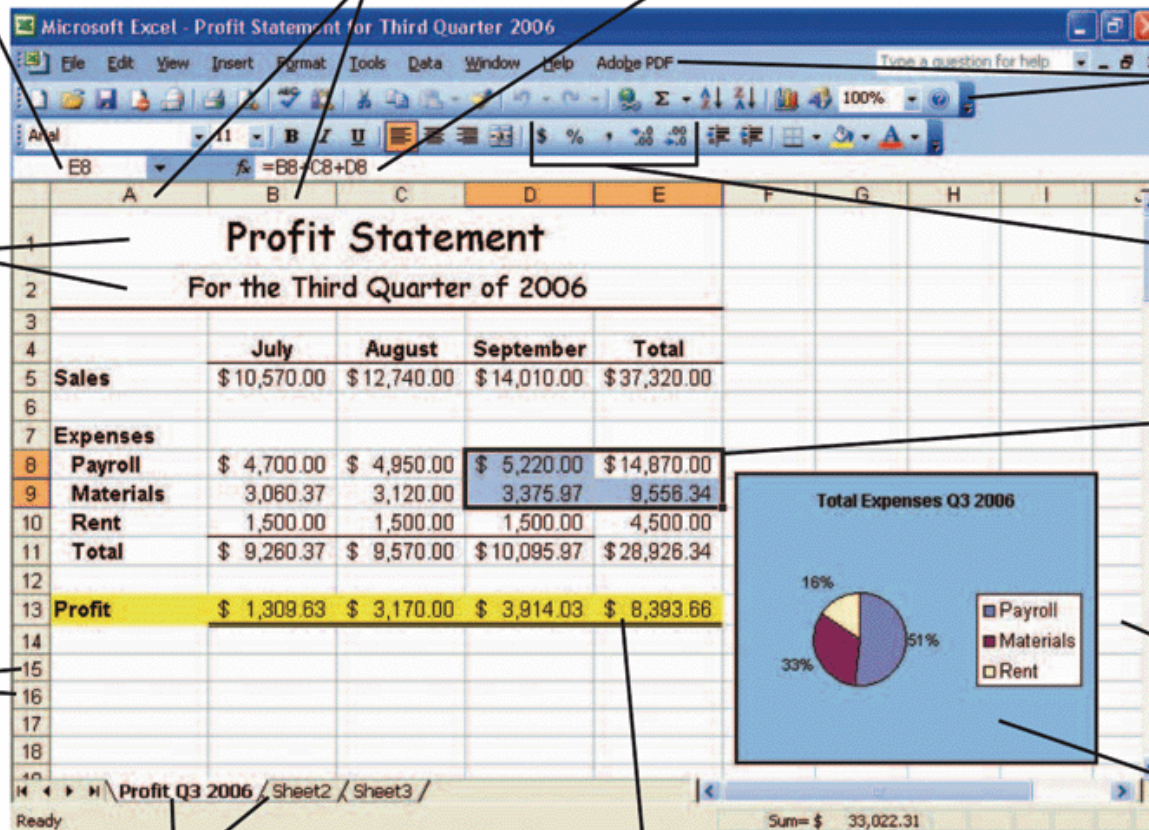
Are typically based on worksheet data and can be inserted into the worksheet area.

CELL HEIGHT AND WIDTH

Can be changed to a specific value or to automatically fit the content.

ROWS

Run horizontally and are identified by numbers.

**WORKSHEET TABS**

Identify the different worksheets saved in a single spreadsheet (workbook) file.

CELL FORMATTING

Can be applied to cells (this cell is shaded yellow with a double bottom border) and to cell content (such as currency with two decimal places).



Creating a Spreadsheet, *Cont'd*

- Entering formulas and functions
 - Begin with the appropriate symbol (usually =)
 - Use the addresses of the numbers in the formula, not the numbers themselves
 - i.e. =B2+C2 NOT =600+200
 - Enter the formula into the cell where the result of the formula should be displayed
 - Formulas can be edited
 - Formulas can be copied to save time



Creating a Spreadsheet, *Cont'd*

- Absolute vs. relative cell references
 - *Relative cell references*: cell addresses are adjusted as the formula is copied; the default in most spreadsheet programs (B6)
 - *Absolute cell references*: cell addresses are not adjusted as the formula is copied (\$B\$6)
 - Use an absolute cell reference when the formulas should always use the value in a particular cell, regardless of which cell the formula is placed in
 - Constant value (sales tax rate, etc.)
 - Percent computation (always divide by total)

COPYING WITH RELATIVE CELL REFERENCES

In most formulas, cell addresses are relative and will be adjusted as the formula is copied.

| | A | B | C | D |
|---|-------|-------|---------|-------|
| 1 | | Cones | Sundaes | Total |
| 2 | April | 600 | 200 | 800 |
| 3 | May | 800 | 500 | 1300 |
| 4 | June | 1500 | 600 | 2100 |
| 5 | Total | | | |
| 6 | | | | |

Formula for cell D2: $=B2+C2$

Formula for cell D4 became $=B4+C4$

Results when the formula in cell D2 is copied to cells D3 and D4.

COPYING WITH ABSOLUTE CELL REFERENCES

A dollar (\$) sign marks a cell reference as absolute; it will be copied exactly as it appears in the source cell.

| | A | B | C | D |
|---|-------|-------|---------|-------|
| 1 | | Cones | Sundaes | Total |
| 2 | April | 600 | 200 | 800 |
| 3 | May | 800 | 500 | 800 |
| 4 | June | 1500 | 600 | 800 |
| 5 | Total | | | |
| 6 | | | | |

Formula for cell D2: $=\$B\$2+\$C\2

Results when the formula in cell D2 is copied to cells D3 and D4.

Formula for cell D4 became $=\$B\$2+\$C\2 .

IMPROPER USE

| | A | B | C | D | E |
|---|-------|-------|---------|-------|---------|
| 1 | | Cones | Sundaes | Total | Percent |
| 2 | April | 600 | 200 | 800 | 19.05% |
| 3 | May | 800 | 500 | 1300 | 30.95% |
| 4 | June | 1500 | 600 | 2100 | 50.00% |
| 5 | Total | | | 4200 | 100.00% |
| 6 | | | | | |

Formula for cell E2: $=D2/\$D\5

Results when the formula in cell E2 is copied to cells E3 and E4.

PROPER USE

Formula for cell E4 became $=D4/\$D\5 .

FIGURE 6-15
Relative vs. absolute cell referencing.



Charts and What-If Analysis

- Most spreadsheet programs include some type of *charting* or *graphing* capability
 - Can create graph from the data in the spreadsheet (don't have to reenter it)
 - Graphs change accordingly if the data in the spreadsheet changes
- *What-if analysis (sensitivity analysis)*: allows you to change certain numbers on a spreadsheet and immediately see the results of that change
 - Tool frequently used to help make business decisions



Spreadsheets and the Web

- Most spreadsheet programs have built-in Web capabilities
- Many spreadsheet programs have an option on the File menu to save the current worksheet as a Web page
- Hyperlinks can be inserted into worksheet cells
- Ranges of cells can be selected and copied to a Web publishing or word processing program to insert spreadsheet data into a Web page as a table



Quick Quiz – Spreadsheet Concepts

- Which of the following is the correct cell address for the top left cell of a spreadsheet?
 - A1
 - 1A
 - Z1
- True or False: A label is a special type of named formula, such as SUM to add up a group of cell values.
- A spreadsheet document created in a spreadsheet program is often called a(n) _____.



Database Concepts

- *Database management system*: software used retrieve large amounts of data rapidly, such as:
 - A customer service representative who needs to find a customer's order status while they are on the telephone
 - A university's registrar who needs a student's GPA or want to determine if the student has outstanding fees before processing his registration
 - A clerk in a video store who needs to determine if a movie is available and, if not, when it is due to be returned
- Most common type of database used on PCs today is a *relational database*



What Is a Database?

- **Database:** a collection of related data that is stored in a manner enabling information to be retrieved as needed
- **Database management system (DBMS) (or database software):** application software that allows the creation and manipulation of an electronic database
- Most PC-based databases are organized into **fields (columns)**, **records (rows)**, and **files (tables)**
- Common *relational database management systems (RDBMS)* include
 - Microsoft Access
 - Corel Paradox
 - Lotus Approach

FIGURE 6-16
 Paper-based vs. computerized databases.

PAPER-BASED DATABASE

One student's record stored in the Addresses file.

16231

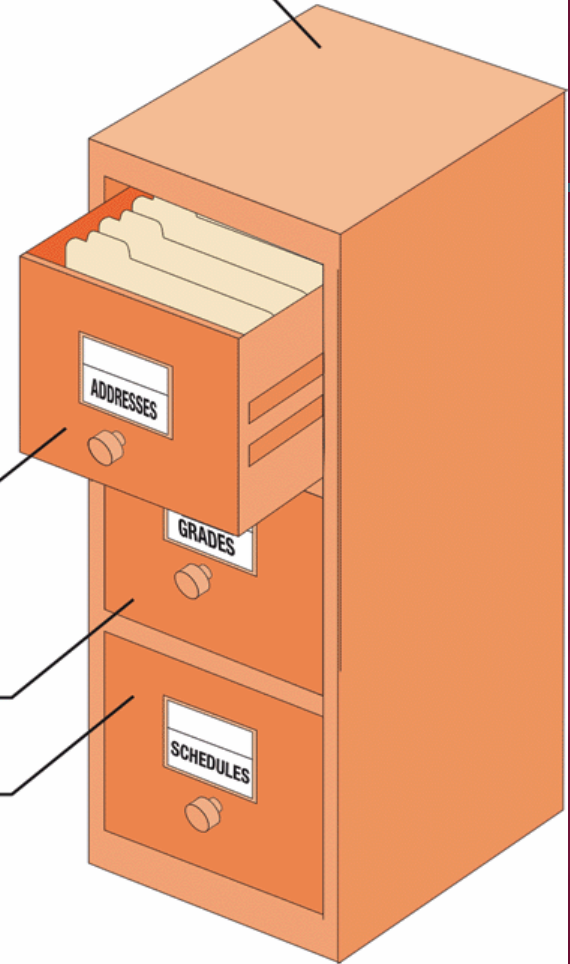
ID: 16231
 Name: Hoffman, Phyllis
 Street: 706 Elm Street
 City: New Milford
 State: NJ
 Major: Business

Data is organized into fields.



Student addresses file

Student database



Student grades file

Student schedules file

COMPUTERIZED DATABASE

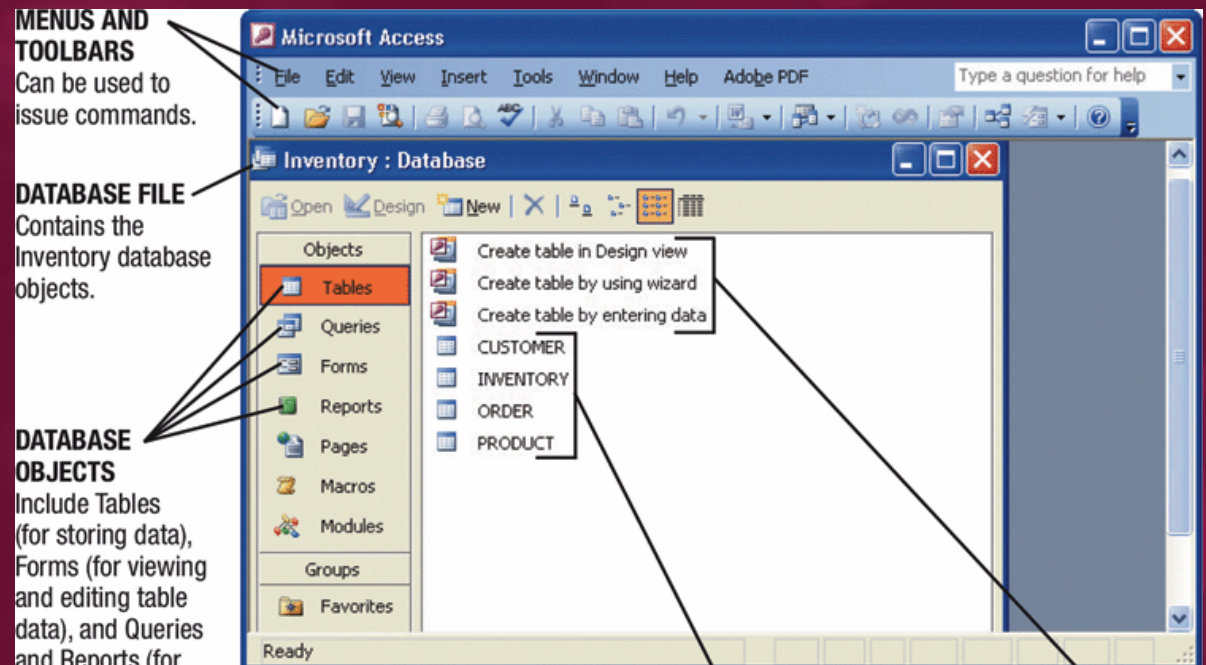
Fields (columns) Table

| ID | Name | Street | City | State | Major |
|-------|------------------|------------------|-------------|-------|-----------|
| 15265 | Michaels, Jane | 111 First Avenue | Boston | MA | Math |
| 16231 | Hoffman, Phyllis | 706 Elm Street | New Milford | NJ | Business |
| 48595 | Adams, Jose | 45 Center Street | New York | NY | Business |
| 49658 | Gomez, Maria | 3699 Lincoln | Boston | MA | Nursing |
| 78982 | Rivera, Cynthia | 122 Morton | Martinez | CA | Chemistry |
| 79856 | Jenkins, Paul | 789 White Avenue | Hamilton | NJ | Pre-Med |

Record (row)

Creating a Database

- Databases can contain a variety of *objects* (such as tables, queries, forms, reports)
- Objects are given names



MENUS AND TOOLBARS
Can be used to issue commands.

DATABASE FILE
Contains the Inventory database objects.

DATABASE OBJECTS
Include Tables (for storing data), Forms (for viewing and editing table data), and Queries and Reports (for retrieving information from a table). Here, the Tables object is selected.

Double-click a table name to open that table in Datasheet view; the Inventory Database currently contains four tables.

Select one of these options to create a new table.

FIGURE 6-17
Typical database objects.



Creating a Database

- The table *structure* is specified first
 - Includes a list of fields and their properties, including:
 - Field name (unique identifying name)
 - Data type (text, number, date, object)
 - Field size (maximum number of characters)
 - Default value (initial content of the field)
 - The table is named and saved
 - The table structure can be modified using the *Design view*



Creating a Database, *Cont'd*

- After the table structure has been created, data is entered into the table
 - *Datasheet view*: lists all data and looks similar to a spreadsheet
 - *Form*: created by the user and typically displays just one record at a time
 - In either case, data is entered into the database table
- Either Datasheet view or a form can be used to modify data or delete records

PRODUCT : Table

| Field Name | Data Type | Description |
|----------------|-----------|---------------------------------|
| Product Name | Text | Name of the Product |
| Product Number | Text | Company Assigned Product Number |
| Supplier | Text | Supplier name |
| Price | Currency | Current wholesale price |
| In Stock | Number | Quantity currently in stock |

Field Properties

General Lookup

Field Size: 25
 Format:
 Input Mask:
 Caption:
 Default Value:
 Validation Rule:
 Validation Text:
 Required: Yes
 Allow Zero Length: No
 Indexed: Yes (Duplicates OK)
 Unicode Compression: Yes
 IME Mode: No Control
 IME Sentence Mode: None
 Smart Tags:

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

TABLE STRUCTURE

In Design view, the user gives each field a name and assigns a data type, then field size and other properties can be specified.

Product Name is a text field.

Properties of the Product Name text field.

PRODUCT

Product name: Poles
 Product number: A220
 Supplier: Bent Corp.
 Price: \$25.00
 Number in stock:

Record: 3 of 6

Forms usually display one record at a time. Records are added by filling out the form.

ENTERING DATA

Data entry can take place in either the table's Datasheet view, which displays an entire page of records at one time (below), or by using a form, which displays one record at a time (right).

PRODUCT : Table

| Product Name | Product Number | Supplier | Price | In Stock |
|--------------|----------------|-------------------|---------|----------|
| Skis | A202 | Ellis | \$90.00 | 25 |
| Boots | A211 | Ajax Bros. | \$60.00 | 11 |
| Poles | A220 | Bent Corp. | \$25.00 | 99 |
| Bindings | A240 | Acme Corp. | \$15.00 | 55 |
| Wax | A351 | Candle Industries | \$3.00 | 7 |
| | | | \$0.00 | 0 |

Record: 6 of 6

PRODUCT

Product name:
 Product number:
 Supplier:
 Price: \$0.00
 Number in stock: 0

Record: 6 of 6

In Datasheet view, fields appear as columns, and records appear as rows.

Record buttons can be used to quickly move up or down the table, as well as to the end of the table to add a new record.

FIGURE 6-18
 Creating a database in a typical database program.



Queries and Reports

- **Queries:** questions, or, in database terms, requests for specific information from the database
 - Contain *criteria* to specify the records and fields to be included in the query results
 - Are named and saved so they can be run again at a later time; the results always include the current database data
- **Reports:** created when a more formal output is desired

QUERY DESIGN SCREEN

This query will display only the records that meet the specified criteria each time the query is retrieved.

Only these three fields will be displayed in the query results.

The screenshot shows the Query Design View for a query named 'Products Less than \$25 : Select Query'. The design grid is as follows:

| Field: | Product Name | Product Number | Price |
|-----------|-------------------------------------|-------------------------------------|-------------------------------------|
| Table: | PRODUCT | PRODUCT | PRODUCT |
| Sort: | Ascending | | |
| Show: | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Criteria: | | | <25 |

Only the records in which the price is less than \$25 will be displayed in the query results.

The screenshot shows the Query Results View for the same query. It displays a table with two records:

| Product Name | Product Number | Price |
|--------------|----------------|---------|
| Bindings | A240 | \$15.00 |
| Wax | A351 | \$3.00 |

At the bottom, the record navigation shows 'Record: 1 of 2'.

QUERY RESULTS

Only the two records meeting the specified criteria are displayed.



FIGURE 6-19

Creating and using a database query.



Databases and the Web

- Many Web sites use one or more databases to
 - Keep track of inventory
 - Allow searching for people, documents, products, or other information
 - Place real-time orders
- Anytime you type keywords in a search site or hunt for a product on a retail store's Web site using its search feature, you are using a Web database



Quick Quiz – Database Concepts

- A single type of data to be included in a database (viewed as a column in a table) is called a
 - record
 - field
 - table
- True or False: A query is request for information from a database.
- In a database, a record is also called a(n) _____.



Presentation Graphics Concepts

- If you try to explain to others what you look like, it may take several minutes. Show them a color photograph, and you can convey the same information within seconds
- The saying “a picture is worth a thousand words” is the cornerstone of *presentation graphics*



What Is a Presentation Graphic?

- **Presentation graphic:** an image designed to visually enhance a presentation
- Can be used in *electronic slide shows*, as well as in printed handouts, overhead transparencies, word processing documents, and Web pages
- To create presentation graphics, **presentation graphics software** is used. Most common presentation graphics programs are
 - Microsoft PowerPoint
 - Corel Presentations
 - Lotus Freelance Graphics



Creating a Presentation

- Many presentation graphics programs include preformatted *slide layouts* containing placeholders for the various elements in the slide (text, images, charts)
- Slides are created one at a time; new slides can be inserted as needed
- Multimedia objects and animated effects can be used
- *Transitions*—special effects used between slides—can be applied to specific slides, or random transitions can be selected for the entire slide show

OUTLINE AND SLIDES PANES
Show either slide text (in the Outline pane, as shown here) or thumbnails of the slides in the presentation (in the Slides pane).

CLIP ART AND OTHER GRAPHICS
Can be inserted and resized or otherwise modified.

TEXT
Can be formatted with the toolbar buttons the same as in other Windows programs.

NEW SLIDES
Click to create a new slide.

SLIDE LAYOUT
Select a slide layout to quickly apply that layout to the current slide.

SLIDES
Can contain elements such as text, clip art, photographs, bulleted lists, charts, and video clips. Often a color scheme or design layout is used to apply a universal appearance to all slides.

DRAWN OBJECTS
Can be added, formatted, and resized; include lines, shapes, and more.

VIDEO CLIPS
Can be inserted into slides and set up to play automatically when the slide is loaded or when the video placeholder is clicked.

STATUS BAR
Indicates the current slide number and how many slides are in the presentation.

NOTES
Can be added so they can be seen by the presenter during the slide show or included on printouts.

SOUND CLIPS
Can be inserted into slides and set up to play automatically when the slide is loaded or when the sound placeholder is clicked.



FIGURE 6-21
Some features in a typical presentation graphics program.



Finishing a Presentation

- Preview the slides and rearrange them if needed
 - Most programs have a way to view thumbnails of all slide to more easily rearrange them
- Run the slide show and edit as needed
 - Can be set up to run automatically or on mouse click
- Can usually print the slides to create overhead transparencies or an audience handout



Presentation Graphics and the Web

- Presentation graphics programs can be used to generate Web pages or Web page content
- Slides can include hyperlinks
- When a slide show is saved as a series of Web pages and displayed using a Web browser, generally forward and backward navigational buttons are displayed on the slides to allow the user to control the presentation



Quick Quiz – Presentation Graphics Concepts

- Which of the following is NOT a presentation graphics program?
 - a. Freelance Graphics
 - b. Microsoft Access
 - c. Microsoft PowerPoint
- True or False: Each slide in a slide presentation can contain only one type of element, such as text, an image, or a video clip.
- Dissolving one slide into another during a slide presentation is an example of a(n) _____.



Graphics and Multimedia Concepts

- *Graphics* are graphical images, such as digital photographs, clip art, scanned drawings, and original images created using a software program
- *Multimedia* typically refers to sound or video
- There is a variety of software programs designed to help individuals
 - Create or modify graphics
 - Edit digital audio or video
 - Play multimedia files
 - Burn CDs and DVDs



Graphics and Multimedia Concepts, *Cont'd*

- **Graphics software:** used to create or modify images
 - *Painting programs*—allow you to create *bit-mapped images* (*Microsoft Paint*, *Corel's Paint Shop Pro*)
 - *Drawing programs*—typically create images using mathematical formulas (*Adobe® Illustrator®*, *Macromedia Freehand*, *CorelDRAW*)
 - *Image editing or photo editing programs*—designed for touching up or modifying images



PAINTING PROGRAMS
Typically create images pixel by pixel so images cannot be layered or resized.



DRAWING PROGRAMS
Typically create images using mathematical formulas so images can consist of multiple objects that can be layered, and the images can be resized without distortion.

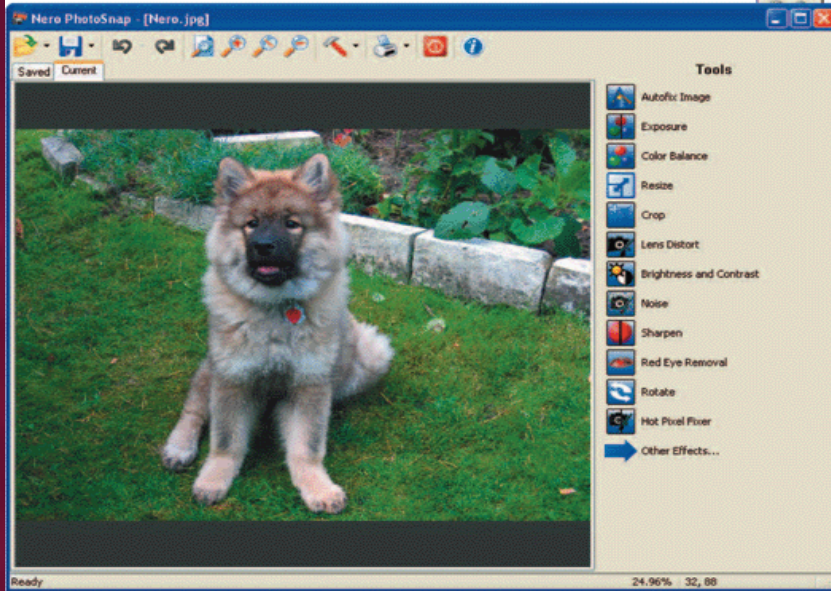


PHOTO EDITING PROGRAMS
Allow users to edit digital photos.

FIGURE 6-23
Graphics software.



Graphics and Multimedia Concepts, *Cont'd*

- *Audio editing software:* used to create and edit audio files
- *Video editing software:* used to modify existing videos, such as
 - Deleting scenes
 - Rearranging scenes
- *DVD authoring software:* used to create DVD content, including
 - Importing videos
 - Creating menus
 - Burning onto a DVD



FIGURE 6-25

DVD authoring software.

Today, these programs typically include video editing and DVD burning capabilities.

The menu structure uses the appearance and designated titles selected by the user.

Video clips can be captured directly from a video camera.



Video clips are associated with each title and can be edited as needed.

This timeline is used to shorten or crop out sections of the current video clip.

DVDs can be burned from within the program.



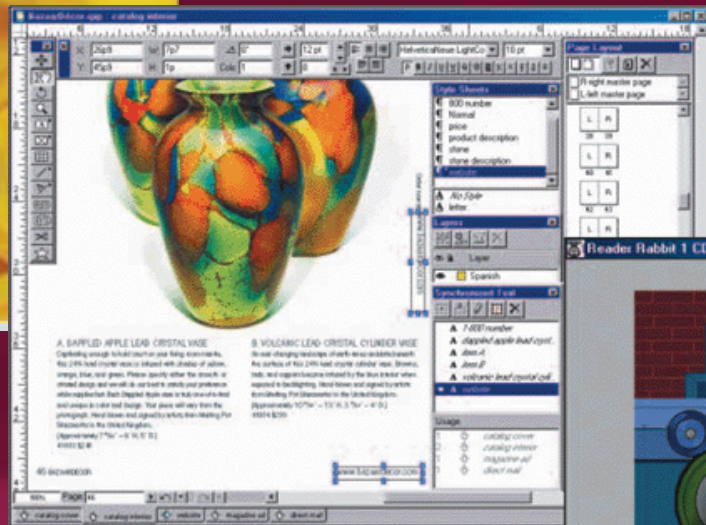
Graphics and Multimedia Concepts, *Cont'd*

- *CD and DVD burning software:* used to record data on recordable or rewritable CDs and DVDs
- *Media players:* used to play media available via your PC—such as music CDs or downloaded music or video—as well as online audio and video clips
- Graphics and multimedia software is often used by individuals and businesses alike to create Web sites or content to be shared via the Web



Other Types of Application Software

- *Desktop and personal publishing software*
- *Educational software*
- *Entertainment software*
- *Reference software*
- *Accounting and personal finance software*
- *CAD and other types of design software*
- *Project management and collaboration software*
- *Note taking and personal productivity software*



DESKTOP PUBLISHING PROGRAMS

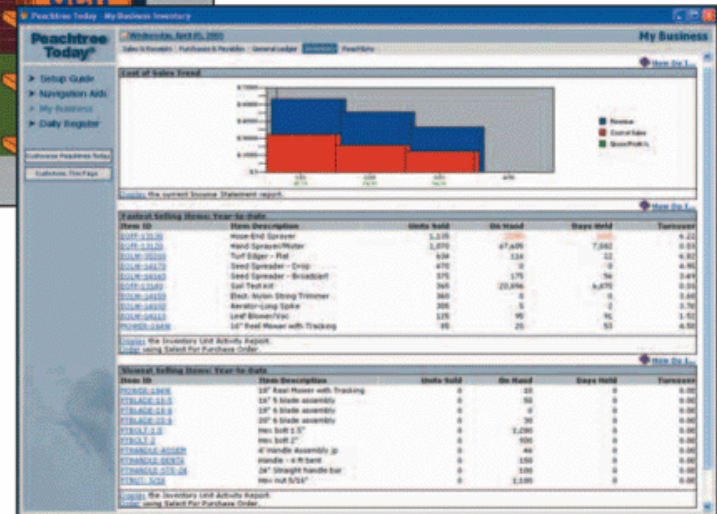
Desktop publishing programs allow users to create publication-quality documents on their PCs.

FIGURE 6-27
Other types of application software.



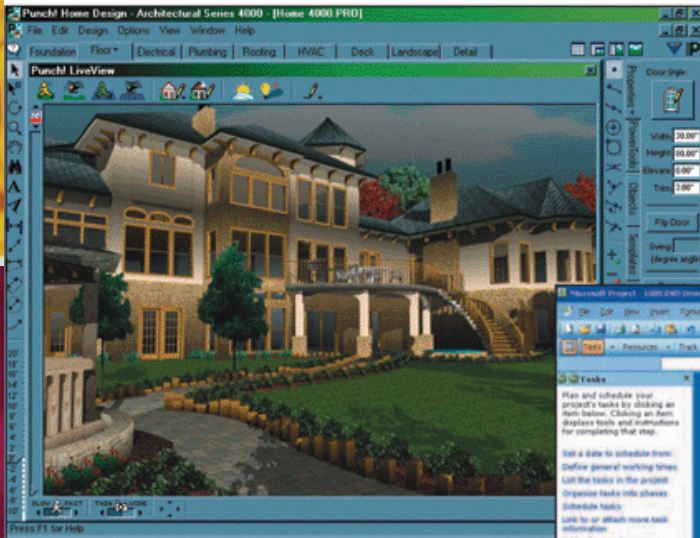
EDUTAINMENT PROGRAMS

Designed to teach skills in a fun, entertaining manner, such as the children's program shown here.



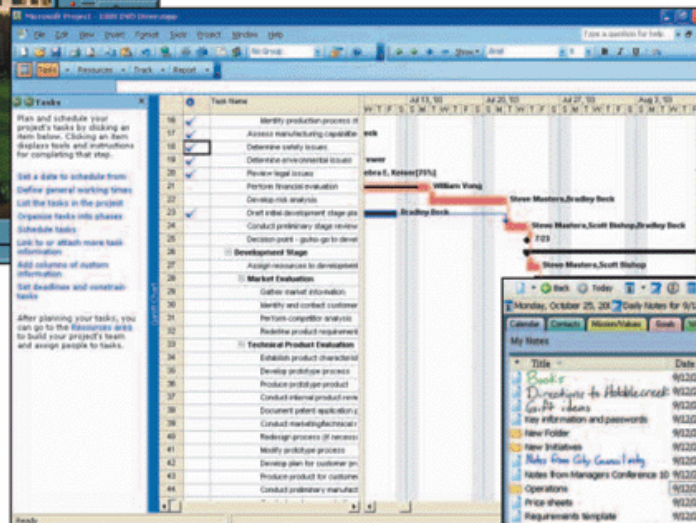
ACCOUNTING PROGRAMS

Automate accounting tasks, such as accounts receivable, accounts payable, and more, to save time and increase accuracy.



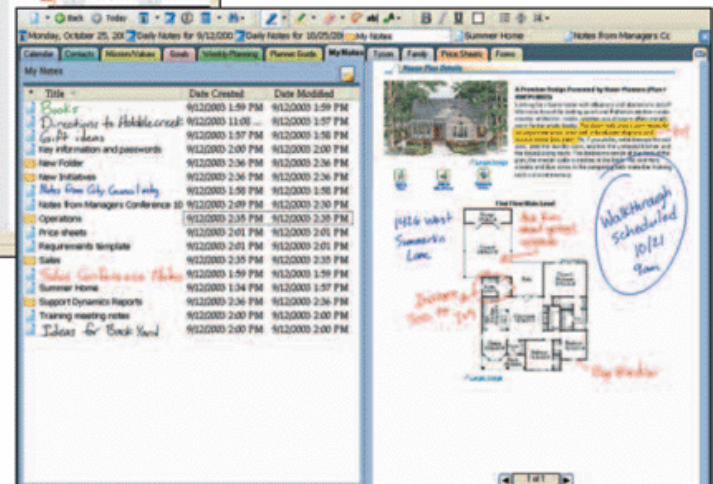
DESIGN PROGRAMS

Help users design new products, homes, landscapes, and more. A popular home design program is shown here.



PROJECT MANAGEMENT PROGRAMS

Help users plan, track, and manage the various parts of a project; used in a wide range of industries.



PERSONAL PRODUCTIVITY PROGRAMS

Allow individuals to access schedules, contacts, notes, and more in one location.

FIGURE 6-27
Other types of application software.



Quick Quiz – Graphics and Multimedia Concepts and Other Types of Application Software

- Which of the following types of software typically creates images with mathematical formulas so that images can be resized without losing quality?
 - a. Painting program
 - b. Drawing program
 - c. Audio editing program
- True or False: Many media player programs can be used to burn music CDs.
- A program that can be used to track the progress of a project is _____ software.



Summary

- The Basics of Application Software
- Word Processing Concepts
- Spreadsheet Concepts
- Database Concepts
- Presentation Graphics Concepts
- Graphics and Multimedia Concepts
- Other Types of Application Software



Key Terms

1. **Application software:** Programs that enable users to perform specific tasks on a computer, such as writing a letter or playing a game.
2. **Cell :** The location at the intersection of a row and column on a worksheet into which data can be typed.
3. **Column:** In a spreadsheet program, a vertical group of cells on a worksheet. In a database, a field.
4. **Commercial software:** Copyrighted software that is developed, usually by a commercial company, for sale to others.
5. **Constant value :** A numerical entry in a worksheet cell.



Key Terms

6. Database : A collection of related data that is stored in a manner enabling information to be retrieved as needed; in a relational database, a collection of related tables.
7. Database software : Application software that allows the creation and manipulation of an electronic database.
8. Field : A single category of data to be stored in a database, such as a person's name or telephone number. Also called a column.
9. Formula : An entry in a worksheet cell that performs computations on worksheet data and displays the results.
10. Freeware : Copyrighted software that may be used free of charge.



Key Terms

11. **Function** : A named formula that can be entered into a worksheet cell to perform some type of calculation or to extract information from other cells in the worksheet.
12. **Graphics software** : Application software used to create or modify images.
13. **Insertion point** : An onscreen character that indicates the current location in a document, which is where the next change will be made to the document.
14. **Label**: A text-based entry in a worksheet cell that identifies data on the worksheet.
15. **Microsoft Office** : One of the most widely used office software suites.



Key Terms

16. Open source software : Software programs whose source code is made available to the general public.
17. Presentation graphic : An image, such as a graph or text chart, designed to visually enhance a presentation.
18. Presentation graphics software: Application software used to create presentation graphics and online slide shows.
19. Public domain software : Software that is not copyrighted and may be used without restriction.
20. Record : A collection of related fields in a database. Also called a row.



Key Terms

21. Row : In a spreadsheet program, a horizontal group of cells on a worksheet. In a database program, a record.
22. Shareware : Copyrighted software that is distributed on the honor system; consumers should either pay for it or uninstall it after the trial period.
23. Slide : A one-page presentation graphic that can be displayed in a group with others to form an online slide show.
24. Software license : An agreement, either included in a software package or displayed on the screen during installation, that specifies the conditions under which a buyer of the program can use it.
25. Software suite : A collection of software programs bundled together and sold as a single software package.



Key Terms

26. Spreadsheet : A group of values and other data organized into rows and columns.
27. Spreadsheet software : Application software used to create spreadsheets, which typically contain a great deal of numbers and mathematical computations and are organized into rows and columns.
28. Table : In a relational database, a collection of related records or rows.
29. Word processing : Using a computer and word processing software to create, edit, save, and print written documents, such as letters, contracts, and manuscripts.
30. Word processing software : Application software used to create, edit, save, and print written documents.



Key Terms

31. Word wrap : The feature in a word processing program that automatically returns the insertion point to the next line when the end of the screen line is reached.
32. Workbook: A collection of worksheets saved in a single spreadsheet file.
33. Worksheet : A document in a spreadsheet program.