Chapter 3
Basic Application Software
Competencies (Page 1 of 2)

- Discuss common features of most software applications
- Discuss *word processors* and word processing features
- Describe *spreadsheets* and spreadsheet features
- Discuss *database management systems* and database management features
Competencies (Page 2 of 2)

- Describe presentation graphics and presentation graphics features
- Discuss integrated software and software suites
- Describe ways to share data between applications
Introduction

- Tasks such as business correspondence, sales projections, graphic design, and data processing used to require trained specialists.
- All these tasks, and many more, can be accomplished using microcomputers and application software.
- Competent end users in today’s word need to understand the capabilities of basic application software including word processors, spreadsheets, database management systems, and presentation programs.
Application Software

• **Application software** is end user software that is used to accomplish a variety of tasks

• Two categories
  – **Basic applications** (focus of this chapter)
  – **Specialized applications**
Basic Applications

- **Basic applications** are also called *general-purpose*
- **Common types**
  - Word processors
  - Spreadsheets
  - Database management systems
  - Presentation graphics
Specialized Applications

- Also known as special-purpose applications
- Includes thousands of other programs that are more narrowly focused on specific disciplines and occupations
- Best known
  - Graphic programs
  - Audio and video editors
  - Multimedia creation programs
  - Web authoring
  - Virtual reality programs
Common Features

- Graphical User Interface (GUI)
- Icons
- Windows
- Menus
- Toolbars
Toolbars

• Quick access to commonly used commands
• Contain **buttons** that provide shortcuts
• Examples
  – Standard Toolbar
  – **Speech Recognition**
Microsoft Office 2007

- Newest version of Microsoft Office
- New Interface
  - Ribbons
  - Contextual Tabs
  - Galleries
### Web-Based Applications

- Access to applications stored on Web sites
- Application service providers (ASP)
  - Special sites
  - Allows access to Web-based applications
Speech Recognition

• Allows your voice to control application software
• For best results, use your voice and mouse or keyboard
  – Train the software
  – Control a program
  – Dictate a document
Word Processors

• Used to create text-based documents
  – Memos, letters, and faxes
  – Newsletters, manuals, and brochures

• Word processing programs
  – Microsoft Word
  – Corel WordPerfect
  – Lotus Word Pro
  – Mac: Pages
  – Mac: SimpleText
Word Processor Features

• Word Wrap
• Editing
  – Thesaurus
  – Find and Replace
  – Spelling and grammar checkers
• Formatting
  – Font and font sizing
  – Character effects
  – Bulleted and numbered lists

<table>
<thead>
<tr>
<th>Font</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arial</td>
<td>ABCabc</td>
</tr>
<tr>
<td>Impact</td>
<td>ABCabc</td>
</tr>
<tr>
<td>Times New Roman</td>
<td>ABCabc</td>
</tr>
<tr>
<td>Broadway</td>
<td>ABCabc</td>
</tr>
</tbody>
</table>
Word Processor Examples

- **Creating a Flyer**
- **Creating a Report**
Creating a Flyer

Announcing

New Adventure Travel Trips

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

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

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

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

Spelling Checker
Correcting spelling and typing errors identified by the spelling checker creates an error-free and professional-looking document.

Fonts and Font Size
Using interesting fonts and a large font size in the flyer’s title grabs the reader’s attention.

Center Aligning
Center aligning all of the text in the flyer creates a comfortable, balanced appearance.

Word Wrap
The automatic word wrap feature frees you to focus your attention on the content of the flyer.

Character Effects
Adding character effects such as bold and color makes important information stand out and makes the flyer more visually interesting.

Grammar Checker
Incomplete sentences, awkward wording, and incorrect punctuation are identified and corrections are offered by the grammar checker.
Spreadsheets

- Programs that manipulate numeric data
- Spreadsheet programs
  - Microsoft Excel
  - Corel Quattro Pro
  - Lotus 1-2-3
  - Mac: Numbers
Spreadsheet Features

- Workbook files
- Worksheet or spreadsheet or sheet
- Formulas
- Functions
- Analytical graphs or charts
- What-if Analysis

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

- Creating a Sales Forecast
- Creating a Chart
- Analyzing Your Data
# Creating a Sales Forecast

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

## 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 for the Payroll expense expected for March.

## 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.

## 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).

<table>
<thead>
<tr>
<th></th>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>TOTAL</th>
<th>AVG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beverage</td>
<td>$13,600</td>
<td>$14,600</td>
<td>$15,600</td>
<td>$43,800</td>
<td>$14,600</td>
</tr>
<tr>
<td>Food</td>
<td>$7,100</td>
<td>$7,300</td>
<td>$7,400</td>
<td>$21,800</td>
<td>$7,267</td>
</tr>
<tr>
<td>Internet</td>
<td>$4,000</td>
<td>$4,300</td>
<td>$4,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merchandise</td>
<td>$3,100</td>
<td>$3,200</td>
<td>$3,300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Sales</td>
<td>$27,800</td>
<td>$29,400</td>
<td>$30,800</td>
<td>$86,000</td>
<td>$29,333</td>
</tr>
<tr>
<td>Expenses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of Goods</td>
<td>$6,950</td>
<td>$7,300</td>
<td>$7,600</td>
<td>$22,850</td>
<td>$2,249</td>
</tr>
<tr>
<td>Payroll</td>
<td>$7,500</td>
<td>$7,500</td>
<td>$7,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computers</td>
<td>$6,400</td>
<td>$6,400</td>
<td>$6,400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lease</td>
<td>$5,500</td>
<td>$5,500</td>
<td>$5,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marketing</td>
<td>$1,000</td>
<td>$1,000</td>
<td>$1,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$1,500</td>
<td>$1,500</td>
<td>$1,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Expenses</td>
<td>$26,500</td>
<td>$29,200</td>
<td>$29,500</td>
<td>$85,200</td>
<td>$29,133</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Income</td>
<td>$(1,050)</td>
<td>$200</td>
<td>$1,300</td>
<td>$450</td>
<td>$150</td>
</tr>
<tr>
<td>Profit Margin</td>
<td>-3.7%</td>
<td>-6.8%</td>
<td>4.2%</td>
<td>0.51%</td>
<td></td>
</tr>
<tr>
<td>Income Year-To-Date</td>
<td></td>
<td>$450</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Creating a Chart

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.

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

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.
Analyzing Your Data

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

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.

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

Goal Seek
A common goal in many financial workbooks is to achieve a certain level of profit. Goal seek allows you to set a goal and then will analyze other parts of the workbook that would need to be adjusted to meet that goal.
Database Management Systems (DBMS)

- A collection of related data
- Sets up a structure for data storage
- Database programs
  - Microsoft Access
  - Corel Paradox
  - Lotus Approach
Database Features

• Relational
• Tables
  – Records
  – Fields
• Record sorting
• Queries
• Forms
• Reports
Database Case

- Creating a Database
- Creating a Query
Creating a Database

**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. Primary keys are often used to link tables.

**Fields**
Fields are given field names that are displayed at the top of each table. You select the field names to describe their contents.

**Table**
Tables make up the basic structure of a relational 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.

**Record**
Each record contains information about one employee. A record often includes a combination of numeric, text, and object data types.

**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 photographs.
Creating a Query

**Query**
Your query requests the names, addresses, and telephone numbers of all employees living in Iona or Cypress Lake who work in Fort Myers.

**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 criteria identify all employees who work at Fort Myers and live either in Iona or Cypress Lake.

**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.

**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.

**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 Fort Myers.

### Iona to Fort Myers Car Pool Report

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>Street Address</th>
<th>City</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>DeLucchi</td>
<td>William</td>
<td>950 S. Terrace Dr.</td>
<td>Cypress Lake</td>
<td>(941) 555-8195</td>
</tr>
<tr>
<td>Frombach</td>
<td>Lisa</td>
<td>320 Redcoat Dr.</td>
<td>Cypress Lake</td>
<td>(941) 555-0110</td>
</tr>
<tr>
<td>Lawrence</td>
<td>Nicole</td>
<td>433 S. Gaucho Dr.</td>
<td>Iona</td>
<td>(941) 555-7656</td>
</tr>
<tr>
<td>Lopez</td>
<td>Nina</td>
<td>4290 S. Almeda Dr.</td>
<td>Cypress Lake</td>
<td>(941) 555-1746</td>
</tr>
<tr>
<td>Martin</td>
<td>Cathy</td>
<td>75 Brook Lane Dr.</td>
<td>Iona</td>
<td>(941) 555-7893</td>
</tr>
<tr>
<td>Schiff</td>
<td>Mark</td>
<td>2365 Cliff Ave.</td>
<td>Cypress Lake</td>
<td>(941) 555-8795</td>
</tr>
<tr>
<td>Sutton</td>
<td>Lisa</td>
<td>4389 S. Hayden Dr.</td>
<td>Iona</td>
<td>(941) 555-1950</td>
</tr>
</tbody>
</table>
Presentation Graphics

• Programs that create visually interesting presentations
• Presentation programs
  – Microsoft PowerPoint
  – Corel Presentations
  – Lotus Freelance Graphics
Presentation Graphics Features

- Slides
- AutoContent wizard
- Design templates
- Master slide
Presentation Graphics Case

- Creating a Presentation
- Updating a Presentation
Creating a Presentation

**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 on-screen style.

**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.

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

**Become an Animal Angel**
Animal Rescue Foundation
Design Templates
To make your presentation more professional and eye-catching, you select a design template and apply that template to your entire presentation.

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

• A single program that provides the functionality of several widely used programs
  – Popular with many home users
  – Classified as personal or home software

• Advantages: cost, simplicity

• Disadvantage: limited functions

• Popular packages are Microsoft Works & Apple iWork
Software Suites

• Collection of separate application programs sold as a group
• Four types of suites
  – Productivity suite or Business suite
  – Personal suite or Home suite
  – Specialized suite
  – Utility suite
Careers In IT

• Computer trainers instruct new users on the latest software or hardware

• Attributes
  – Good communication skills
  – Teaching experience
  – Detail oriented
  – IT Experience
  – Comfort speaking to groups is a plus

• Earning potential of $26,000 to $54,000 annually
A Look to the Future

- Agents will help write papers, pay bills, and shop on the internet
  - Intelligent programs
  - Primitive agents currently exist
  - Microsoft and “Clippy”
  - Next Generation
Discussion Questions (Page 1 of 2)

• Explain the difference between general-purpose and special-purpose applications.
• Discuss the common features of most software programs. Describe the new interface introduced with 2007 Microsoft Office.
• What is the difference between a function and a formula? How is a formula related to what-if analysis?
Discussion Questions (Page 2 of 2)

• What are presentation graphics programs? How are they used?
• What is the difference between an integrated package and a software suite? What are the advantages and disadvantages of each?