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# Microsoft Excel 2000

# Bible

**John Walkenbach**

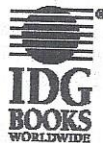
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# Microsoft® Excel 2000 Bible

John Walkenbach



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# Contents at a Glance

---

|  |            |
|--|------------|
| Preface .....  | ix         |
| Acknowledgments .....  | xiii       |
| <b>Part I: Getting Started .....</b>                             | <b>1</b>   |
| Chapter 1: A Bit of Background .....                             | 3          |
| Chapter 2: What's New in Excel 2000? .....                       | 15         |
| Chapter 3: Getting Acquainted with Excel .....                   | 21         |
| <b>Part II: Introductory Concepts .....</b>                      | <b>41</b>  |
| Chapter 4: Navigating Through Excel .....                        | 43         |
| Chapter 5: Working with Files and Workbooks .....                | 71         |
| Chapter 6: Entering and Editing Worksheet Data .....             | 93         |
| Chapter 7: Essential Spreadsheet Operations .....                | 121        |
| Chapter 8: Working with Cell Ranges .....                        | 139        |
| Chapter 9: Creating and Using Formulas .....                     | 169        |
| Chapter 10: Using Worksheet Functions .....                      | 199        |
| Chapter 11: Worksheet Formatting .....                           | 235        |
| Chapter 12: Printing Your Work .....                             | 263        |
| Chapter 13: Chart-Making Basics .....                            | 283        |
| Chapter 14: Enhancing Your Work with Pictures and Drawings ..... | 317        |
| Chapter 15: Putting It All Together .....                        | 343        |
| <b>Part III: Advanced Features .....</b>                         | <b>361</b> |
| Chapter 16: Advanced Charting .....                              | 363        |
| Chapter 17: Creating Maps with Microsoft Map .....               | 405        |
| Chapter 18: Creating and Using Worksheet Outlines .....          | 429        |
| Chapter 19: Linking and Consolidating Worksheets .....           | 441        |
| Chapter 20: Creating and Using Array Formulas .....              | 457        |
| Chapter 21: Using Excel in a Workgroup .....                     | 479        |
| <b>Part IV: Analyzing Data .....</b>                             | <b>489</b> |
| Chapter 22: Importing Data from Other Sources .....              | 491        |
| Chapter 23: Working With Lists .....                             | 511        |
| Chapter 24: Using External Database Files .....                  | 539        |
| Chapter 25: Analyzing Data with Pivot Tables .....               | 559        |
| Chapter 26: Performing Spreadsheet What-If Analysis .....        | 595        |
| Chapter 27: Analyzing Data Using Goal Seeking and Solver .....   | 617        |
| Chapter 28: Analyzing Data with Analysis ToolPak .....           | 639        |



|   |            |
|---|------------|
| <b>Part V: Other Topics</b> .....                             | <b>663</b> |
| Chapter 29: Sharing Data with Other Applications .....        | 665        |
| Chapter 30: Excel and the Internet .....                      | 685        |
| Chapter 31: Making Your Worksheets Error-Free .....           | 699        |
| Chapter 32: Fun Stuff .....                                   | 715        |
| <b>Part VI: Customizing Excel</b> .....                       | <b>729</b> |
| Chapter 33: Customizing Toolbars and Menus .....              | 731        |
| Chapter 34: Using and Creating Templates .....                | 747        |
| Chapter 35: Using Visual Basic for Applications .....         | 755        |
| Chapter 36: Creating Custom Worksheet Functions .....         | 785        |
| Chapter 37: Creating Custom Dialog Boxes .....                | 801        |
| Chapter 38: Using Dialog Box Controls in Your Worksheet ..... | 823        |
| Chapter 39: VBA Programming Examples .....                    | 839        |
| Chapter 40: Creating Custom Excel Add-Ins .....               | 857        |
| Appendix A: Using Online Help: A Primer .....                 | 871        |
| Appendix B: Worksheet Function Reference .....                | 881        |
| Appendix C: Excel's Shortcut Keys .....                       | 897        |
| Appendix D: What's on the CD-ROM .....                        | 905        |
| Index .....   | 915        |
| End-User License Agreement .....                              | 937        |
| CD-ROM Installation Instructions .....                        | 944        |



# Contents

.....

|   |          |
|---|----------|
| Preface .....                               | ix       |
| Acknowledgments .....                       | xiii     |
| <b>Part 1: Getting Started</b> .....        | <b>1</b> |
| <b>Chapter 1: A Bit of Background</b> ..... | <b>3</b> |
| What Is Excel? .....                        | 3        |
| The Evolution of Excel .....                | 4        |
| Excel 2 .....                               | 4        |
| Excel 3 .....                               | 4        |
| Excel 4 .....                               | 4        |
| Excel 5 .....                               | 4        |
| Excel 7 .....                               | 4        |
| Excel 8 .....                               | 4        |
| Excel 9 .....                               | 5        |
| Excel's Competitors .....                   | 5        |
| What Excel Has to Offer .....               | 5        |
| Multisheet Files .....                      | 6        |
| Multiple Document Interface .....           | 6        |
| File Compatibility .....                    | 7        |
| Interactive Help .....                      | 7        |
| Easy-to-Use Features .....                  | 7        |
| List Management .....                       | 7        |
| Built-in Functions .....                    | 8        |
| Customizable Toolbars .....                 | 8        |
| Flexible Text Handling .....                | 8        |
| Rich Text Formatting .....                  | 9        |
| Great Charts .....                          | 9        |
| Integrated Mapping .....                    | 9        |
| Drawing Tools .....                         | 9        |
| Worksheet Outlining .....                   | 10       |
| Pivot Tables .....                          | 10       |
| Advanced Analytical Tools .....             | 10       |
| Flexible Printing and Print Preview .....   | 10       |
| Worksheet Auditing and Annotation .....     | 10       |
| Scenario Management .....                   | 11       |
| Spell Checking and AutoCorrect .....        | 11       |
| Templates .....                             | 11       |
| Database Management .....                   | 11       |
| XML Macro Compatibility .....               | 11       |



|   |           |
|---|-----------|
| Visual Basic for Applications (VBA) .....             | 12        |
| Custom Dialog Boxes .....                             | 12        |
| Worksheet Controls .....                              | 12        |
| Protection Options .....                              | 13        |
| Add-In Capability .....                               | 13        |
| OLE Support .....                                     | 13        |
| Internet Support .....                                | 14        |
| Cross-Platform Consistency .....                      | 14        |
| <b>Chapter 2: What's New in Excel 2000? .....</b>     | <b>15</b> |
| Installation Improvements .....                       | 15        |
| New Internet Features .....                           | 16        |
| New File Dialog Boxes .....                           | 16        |
| PivotTable Enhancements .....                         | 17        |
| Automatic Formula Adjustment .....                    | 17        |
| See-Through Cell Selection .....                      | 17        |
| Personalized Menus .....                              | 17        |
| Easier Toolbar Customization .....                    | 18        |
| Documents on the Windows Taskbar .....                | 18        |
| Enhanced Clipboard .....                              | 18        |
| Euro Currency Symbol .....                            | 19        |
| New Image Import Options .....                        | 19        |
| A New Help System .....                               | 19        |
| Office Assistant .....                                | 19        |
| Multilingual Features .....                           | 20        |
| ModeLess UserForms .....                              | 20        |
| <b>Chapter 3: Getting Acquainted with Excel .....</b> | <b>21</b> |
| Starting Excel .....                                  | 21        |
| Excel's Parts .....                                   | 21        |
| Title Bar .....                                       | 22        |
| Window Control Menu Button .....                      | 23        |
| Minimize Button .....                                 | 23        |
| Restore Button .....                                  | 23        |
| Close Button .....                                    | 23        |
| Menu Bar .....  | 23        |
| Toolbars .....  | 23        |
| Formula Bar .....                                     | 23        |
| Name Box .....  | 24        |
| Status Bar .....                                      | 24        |
| Parts of a Workbook Window .....                      | 24        |
| Title Bar .....                                       | 24        |
| Window Control Menu Button .....                      | 24        |
| Minimize Button .....                                 | 24        |
| Maximize Button .....                                 | 24        |
| Close Button .....                                    | 25        |
| Select All Button .....                               | 25        |
| Active Cell Indicator .....                           | 26        |
| Row Headings .....                                    | 26        |



|                                |    |
|--------------------------------|----|
| Column Headings .....          | 26 |
| Tab Scroll Buttons .....       | 26 |
| Sheet Tabs .....               | 26 |
| Tab Split Bar .....            | 26 |
| Horizontal Scrollbar .....     | 26 |
| Vertical Scrollbar .....       | 27 |
| A Hands-on Excel Session ..... | 27 |
| Getting Ready .....            | 27 |
| Entering the Headings .....    | 28 |
| Entering the Data .....        | 30 |
| Creating a Formula .....       | 31 |
| Formatting the Table .....     | 31 |
| Adding a Title .....           | 34 |
| Creating a Chart .....         | 35 |
| Saving the Workbook .....      | 37 |
| Printing the Report .....      | 38 |
| Quitting Excel .....           | 38 |

## Part II: Introductory Concepts

41

### Chapter 4: Navigating Through Excel .....43

|                                     |    |
|-------------------------------------|----|
| Working with Excel's Windows .....  | 43 |
| Moving and Resizing Windows .....   | 44 |
| Switching Among Windows .....       | 45 |
| Closing Windows .....               | 47 |
| Mouseless Window Manipulation ..... | 47 |
| Moving Around a Worksheet .....     | 48 |
| Using the Keyboard .....            | 49 |
| Using a Mouse .....                 | 50 |
| Giving Commands to Excel .....      | 51 |
| Using Excel's Menus .....           | 51 |
| Using a Mouse .....                 | 52 |
| Using the Keyboard .....            | 55 |
| Moving the Menu .....               | 56 |
| Using Shortcut Menus .....          | 57 |
| Excel's Toolbars .....              | 58 |
| Hiding or Showing Toolbars .....    | 61 |
| Moving Toolbars .....               | 62 |
| Learning More About Toolbars .....  | 63 |
| Shortcut Keys .....                 | 64 |
| Working with Dialog Boxes .....     | 64 |
| About Dialog Boxes .....            | 64 |
| Dialog Box Controls .....           | 65 |
| Tabbed Dialog Boxes .....           | 68 |

### Chapter 5: Working with Files and Workbooks .....71

|                                |    |
|--------------------------------|----|
| Some Background on Files ..... | 71 |
| How Excel Uses Files .....     | 72 |



|   |           |
|---|-----------|
| Excel's Data Files .....                                    | 72        |
| Foreign File Formats Supported .....                        | 73        |
| Essential Workbook File Operations .....                    | 74        |
| Creating a New Workbook .....                               | 74        |
| Opening an Existing Workbook .....                          | 75        |
| Opening Workbooks Automatically .....                       | 80        |
| Saving Workbooks .....                                      | 80        |
| Closing Workbooks .....                                     | 87        |
| Using Workspace Files .....                                 | 88        |
| Sharing Workbooks with Others .....                         | 88        |
| Using Template Files .....                                  | 88        |
| Protecting Your Work .....                                  | 90        |
| <b>Chapter 6: Entering and Editing Worksheet Data .....</b> | <b>93</b> |
| Types of Worksheet Data .....                               | 93        |
| Values .....  | 93        |
| Text .....  | 94        |
| Formulas .....  | 95        |
| Entering Values .....                                       | 96        |
| Entering Text .....   | 96        |
| Dates and Times .....                                       | 97        |
| Working with Date Values .....                              | 97        |
| Working with Time Values .....                              | 98        |
| Changing or Erasing Values and Text .....                   | 99        |
| Erasing the Contents of a Cell .....                        | 99        |
| Replacing the Contents of a Cell .....                      | 99        |
| Editing the Contents of a Cell .....                        | 99        |
| Formatting Values .....                                     | 102       |
| Automatic Number Formatting .....                           | 103       |
| Formatting Numbers Using the Toolbar .....                  | 103       |
| Formatting Numbers by Using Shortcut Keys .....             | 104       |
| Other Number Formats .....                                  | 104       |
| Custom Number Formats .....                                 | 108       |
| Basic Cell Formatting .....                                 | 112       |
| Alignment .....   | 112       |
| Font and Text Size .....                                    | 113       |
| Attributes .....  | 113       |
| Borders .....   | 113       |
| Colors .....  | 114       |
| Data Entry Tips .....                                       | 114       |
| Validating Data Entry .....                                 | 114       |
| Move the Cell Pointer After Entering Data? .....            | 115       |
| Use Arrows Instead of Enter .....                           | 116       |
| Selecting Cells Before Entering Data .....                  | 116       |
| Use Ctrl+Enter for Repeated Information .....               | 116       |
| Automatic Decimal Points .....                              | 116       |
| Using AutoFill .....  | 117       |
| Using AutoComplete .....                                    | 117       |
| Entering the Current Date or Time into a Cell .....         | 117       |



|  |            |
|--|------------|
| Forcing a New Line in a Cell .....                       | 118        |
| Entering Fractions .....                                 | 118        |
| Using a Data Entry Form .....                            | 118        |
| Using AutoCorrect for Data Entry .....                   | 119        |
| <b>Chapter 7: Essential Spreadsheet Operations .....</b> | <b>121</b> |
| Working with Worksheets .....                            | 121        |
| Activating Worksheets .....                              | 122        |
| Adding a New Worksheet .....                             | 122        |
| Deleting a Worksheet .....                               | 123        |
| Changing the Name of a Worksheet .....                   | 123        |
| Moving a Worksheet .....                                 | 124        |
| Copying a Worksheet .....                                | 125        |
| Hiding and Unhiding a Worksheet .....                    | 126        |
| Zooming Worksheets .....                                 | 126        |
| Views, Split Sheets, and Frozen Panes .....              | 128        |
| Multiple Views .....                                     | 128        |
| Splitting Panes .....                                    | 130        |
| Freezing Panes .....                                     | 131        |
| Working with Rows and Columns .....                      | 133        |
| Inserting Rows and Columns .....                         | 133        |
| Deleting Rows and Columns .....                          | 135        |
| Changing Column Widths and Row Heights .....             | 135        |
| Hiding Rows and Columns .....                            | 136        |
| <b>Chapter 8: Working with Cells and Ranges .....</b>    | <b>139</b> |
| Cells and Ranges .....                                   | 139        |
| Selecting Ranges .....                                   | 140        |
| Selecting Complete Rows and Columns .....                | 141        |
| Selecting Noncontiguous Ranges .....                     | 142        |
| Selecting Multisheet Ranges .....                        | 143        |
| Special Selections .....                                 | 145        |
| Annotating a Cell .....                                  | 147        |
| Deleting Cell Contents .....                             | 148        |
| Copying a Range .....                                    | 149        |
| Copying by Using Toolbar Buttons .....                   | 149        |
| Copying by Using Menu Commands .....                     | 151        |
| Copying by Using Shortcut Menus .....                    | 151        |
| Copying by Using Shortcut Keys .....                     | 152        |
| Copying by Using Drag and Drop .....                     | 152        |
| Copying to Adjacent Cells .....                          | 153        |
| Copying a Range to Other Sheets .....                    | 154        |
| Moving a Cell or Range .....                             | 154        |
| Other Cell and Range Operations .....                    | 155        |
| Using the Office 2000 Clipboard to Paste .....           | 155        |
| Pasting in Special Ways .....                            | 158        |
| Naming Cells and Ranges: The Basics .....                | 161        |
| Advantages of Using Names .....                          | 161        |



|  |            |
|--|------------|
| Valid Names .....  | 162        |
| Creating Names Manually .....                            | 162        |
| Creating Names Automatically .....                       | 164        |
| Creating a Table of Names .....                          | 166        |
| Deleting Names .....                                     | 167        |
| Redefining Names .....                                   | 168        |
| Changing Names .....                                     | 168        |
| Learning More About Names .....                          | 168        |
| <b>Chapter 9: Creating and Using Formulas .....</b>      | <b>169</b> |
| Introducing Formulas .....                               | 169        |
| Operators Used in Formulas .....                         | 170        |
| Operator Precedence .....                                | 172        |
| Excel's Built-in Functions .....                         | 174        |
| Entering Formulas .....                                  | 174        |
| Entering Formulas Manually .....                         | 175        |
| Entering Formulas by Pointing .....                      | 175        |
| Pasting Names .....                                      | 176        |
| Referencing Cells Outside the Worksheet .....            | 177        |
| Cells in Other Worksheets .....                          | 177        |
| Cells in Other Workbooks .....                           | 177        |
| Entering References to Cells Outside the Worksheet ..... | 178        |
| Absolute Versus Relative References .....                | 178        |
| Relative References .....                                | 178        |
| Absolute References .....                                | 179        |
| Mixed References .....                                   | 180        |
| Entering Nonrelative References .....                    | 181        |
| When a Formula Returns an Error .....                    | 181        |
| Editing Formulas .....                                   | 182        |
| Changing When Formulas Are Calculated .....              | 183        |
| Handling Circular References .....                       | 184        |
| Indirect Circular References .....                       | 186        |
| Intentional Circular References .....                    | 186        |
| Advanced Naming Techniques .....                         | 188        |
| Sheet-Level Names .....                                  | 188        |
| Using Multisheet Names .....                             | 189        |
| Naming Constants .....                                   | 190        |
| Naming Formulas .....                                    | 191        |
| Range Intersections .....                                | 192        |
| Applying Names to Existing References .....              | 194        |
| Tips for Working with Formulas .....                     | 196        |
| Don't "Hard Code" Values .....                           | 196        |
| Using the Formula Bar As a Calculator .....              | 196        |
| Making an Exact Copy of a Formula .....                  | 197        |
| Converting Formulas to Values .....                      | 197        |
| Array Formulas .....                                     | 198        |



|  |            |
|--|------------|
| <b>Chapter 10: Using Worksheet Functions .....</b> | <b>199</b> |
| What Is a Function? .....                          | 199        |
| Function Examples .....                            | 199        |
| More About Functions .....                         | 200        |
| Function Arguments .....                           | 201        |
| Using Names As Arguments .....                     | 202        |
| Literal Arguments .....                            | 202        |
| Expressions As Arguments .....                     | 202        |
| Other Functions As Arguments .....                 | 203        |
| Ways to Enter a Function .....                     | 203        |
| Entering a Function Manually .....                 | 203        |
| Pasting a Function .....                           | 204        |
| Function Examples .....                            | 209        |
| Mathematical and trigonometric functions .....     | 209        |
| Text Functions .....                               | 214        |
| Logical Functions .....                            | 216        |
| Information Functions .....                        | 218        |
| Date and Time Functions .....                      | 221        |
| Financial Functions .....                          | 223        |
| Lookup and Reference Functions .....               | 225        |
| Statistical Functions .....                        | 229        |
| Database Functions .....                           | 231        |
| Analysis ToolPak Functions .....                   | 232        |
| Creating Megaformulas .....                        | 232        |
| Creating Custom Functions .....                    | 234        |
| Learning More About Functions .....                | 234        |
| <b>Chapter 11: Worksheet Formatting .....</b>      | <b>235</b> |
| Overview of Stylistic Formatting .....             | 235        |
| Why Bother Formatting? .....                       | 235        |
| When to Format .....                               | 236        |
| The Formatting Toolbar .....                       | 237        |
| The Format Cells Dialog Box .....                  | 237        |
| Working with Fonts .....                           | 237        |
| About Fonts .....                                  | 238        |
| The Default Font .....                             | 238        |
| Changing Fonts in Excel 2000 .....                 | 239        |
| Using Multiple Formatting in One Cell .....        | 241        |
| Changing Cell Alignment .....                      | 242        |
| Horizontal Alignment Options .....                 | 242        |
| Vertical Alignment Options .....                   | 244        |
| Text Control Options .....                         | 244        |
| Changing a Cell's Orientation .....                | 245        |
| Colors and Shading .....                           | 246        |
| Borders and Lines .....                            | 249        |
| Adding a Worksheet Background .....                | 252        |
| AutoFormatting .....                               | 253        |



|  |            |
|--|------------|
| Using AutoFormats .....                              | 254        |
| Controlling AutoFormats .....                        | 256        |
| Using Conditional Formatting .....                   | 256        |
| Using Named Styles .....                             | 257        |
| Applying Styles .....                                | 259        |
| Creating New Styles .....                            | 260        |
| Overriding a Style .....                             | 260        |
| Modifying a Style .....                              | 261        |
| Deleting a Style .....                               | 261        |
| Merging Styles from Other Workbooks .....            | 261        |
| Controlling Styles with Templates .....              | 262        |
| <b>Chapter 12: Printing Your Work .....</b>          | <b>263</b> |
| One-Step Printing .....                              | 263        |
| Adjusting Your Print Settings .....                  | 264        |
| Settings in the Print Dialog Box .....               | 264        |
| Selecting a Printer .....                            | 264        |
| Printing Selected Pages .....                        | 266        |
| Specifying What to Print .....                       | 266        |
| Printing Multiple Copies .....                       | 266        |
| Settings in the Page Setup Dialog Box .....          | 266        |
| Controlling Page Settings .....                      | 267        |
| Adjusting Margins .....                              | 268        |
| Changing the Header or Footer .....                  | 269        |
| Controlling Sheet Options .....                      | 271        |
| Printer-Specific Options .....                       | 273        |
| Using Print Preview .....                            | 273        |
| Accessing Print Preview .....                        | 274        |
| Making Changes While Previewing .....                | 275        |
| Dealing with Page Breaks .....                       | 276        |
| Inserting a Page Break .....                         | 276        |
| Removing a Page Break .....                          | 276        |
| Using Page Break Preview .....                       | 277        |
| Using Custom Views .....                             | 278        |
| More About Printing .....                            | 279        |
| Problems with Fonts (When WYS Isn't WYG) .....       | 279        |
| Printing Noncontiguous Ranges on a Single Page ..... | 279        |
| Hiding Cells Before Printing .....                   | 280        |
| Using a Template to Change Printing Defaults .....   | 281        |
| <b>Chapter 13: Chart-Making Basics .....</b>         | <b>283</b> |
| Overview of Charts .....                             | 283        |
| Chart Types .....                                    | 285        |
| Which Chart Type to Use? .....                       | 286        |
| The Chart Wizard .....                               | 287        |
| Creating a Chart with One Keystroke .....            | 288        |
| How Excel Handles Charts .....                       | 289        |
| Embedded Charts .....                                | 291        |
| Chart Sheets .....                                   | 292        |



|   |            |
|---|------------|
| Creating Charts .....   | 292        |
| Creating an Embedded Chart with Chart Wizard .....                      | 293        |
| Creating an Embedded Chart Directly .....                               | 293        |
| Creating a Chart on a Chart Sheet with the<br>Chart Wizard .....        | 294        |
| Creating a Chart with the Chart Wizard .....                            | 295        |
| Selecting the Data .....  | 295        |
| Chart Wizard — Step 1 of 4 .....  | 296        |
| Chart Wizard — Step 2 of 4 .....  | 297        |
| Chart Wizard — Step 3 of 4 .....  | 298        |
| Chart Wizard — Step 4 of 4 .....  | 298        |
| Basic Chart Modifications .....   | 299        |
| Activating a Chart .....  | 299        |
| Moving and Resizing a Chart .....                                       | 299        |
| Changing a Chart's Location .....                                       | 300        |
| Changing the Chart Type .....   | 300        |
| Moving and Deleting Chart Elements .....                                | 301        |
| Other Modifications .....   | 301        |
| Changing the Default Chart Type .....                                   | 301        |
| Printing Charts .....   | 302        |
| Reference: Excel's Chart Types .....                                    | 303        |
| Column Charts .....   | 303        |
| Bar Charts .....  | 304        |
| Line Charts .....   | 306        |
| Pie Charts .....  | 307        |
| XY (Scatter) Charts .....   | 308        |
| Area Charts .....   | 309        |
| Doughnut Charts .....   | 310        |
| Radar Charts .....  | 311        |
| Surface Charts .....  | 311        |
| Bubble Charts .....   | 312        |
| Stock Charts .....  | 313        |
| Cylinder, Cone, and Pyramid Charts .....                                | 314        |
| <b>Chapter 14: Enhancing Your Work with Pictures and Drawings .....</b> | <b>317</b> |
| Importing Graphics Files .....  | 317        |
| Using the Clip Gallery .....  | 318        |
| Importing Graphics Files .....  | 320        |
| Copying Graphics by Using the Clipboard .....                           | 322        |
| Importing from a Digital Camera or Scanner .....                        | 324        |
| Modifying Pictures .....  | 324        |
| Using Excel's Drawing Tools .....                                       | 325        |
| The Drawing Toolbar .....   | 325        |
| Drawing AutoShapes .....  | 327        |
| Formatting AutoShape Objects .....                                      | 328        |
| Changing the Stack Order of Objects .....                               | 330        |
| Grouping Objects .....  | 331        |
| Aligning Objects .....  | 332        |
| Spacing Objects Evenly .....  | 332        |



|   |            |
|---|------------|
| Changing the AutoShape Defaults .....             | 333        |
| Adding Shadows and 3D Effects .....               | 333        |
| Using WordArt .....                               | 334        |
| Drawing Tips .....                                | 335        |
| A Gallery of Drawing Examples .....               | 336        |
| Calling Attention to a Cell .....                 | 336        |
| Creating Shapes with Shadow and 3D Effects .....  | 336        |
| Creating Organizational Charts .....              | 338        |
| Changing the Look of Cell Comments .....          | 338        |
| Linking Text in an Object to a Cell .....         | 339        |
| Creating Flow Diagrams .....                      | 340        |
| Annotating a Chart .....                          | 341        |
| Pasting Pictures of Cells .....                   | 341        |
| <b>Chapter 15: Putting It All Together .....</b>  | <b>343</b> |
| The Audience for Spreadsheets .....               | 343        |
| Developing Spreadsheets for Yourself .....        | 343        |
| Developing Spreadsheets for Others .....          | 344        |
| Characteristics of a Successful Spreadsheet ..... | 345        |
| Uses for Spreadsheets .....                       | 346        |
| Financial or Data-Analysis Models .....           | 346        |
| Reports and Presentations .....                   | 348        |
| List Management .....                             | 348        |
| Database Access .....                             | 348        |
| Turnkey Applications .....                        | 349        |
| Steps in Creating a Spreadsheet .....             | 349        |
| Developing a Plan .....                           | 350        |
| Considering the Audience .....                    | 350        |
| Designing the Workbook Layout .....               | 351        |
| Entering Data and Formulas .....                  | 352        |
| Applying Appropriate Formatting .....             | 353        |
| Testing the Spreadsheet .....                     | 354        |
| Applying Appropriate Protection .....             | 355        |
| Documenting Your Work .....                       | 356        |
| A Workbook That's Easy to Maintain .....          | 358        |
| When Things Go Wrong .....                        | 358        |
| Where to Go from Here .....                       | 359        |

**Part III: Advanced Features 361**

|  |            |
|--|------------|
| <b>Chapter 16: Advanced Charting .....</b> | <b>363</b> |
| Chart Customization: An Overview .....     | 363        |
| Elements of a Chart .....                  | 364        |
| Using the Format Dialog Box .....          | 365        |
| Chart Background Elements .....            | 367        |
| The Chart Area .....                       | 368        |
| The Plot Area .....                        | 368        |



|   |            |
|---|------------|
| Working with Chart Titles .....                           | 369        |
| Working with the Legend .....                             | 370        |
| Changing Gridlines .....                                  | 371        |
| Modifying the Axes .....                                  | 372        |
| Axes Patterns .....                                       | 373        |
| Axes Scales .....   | 374        |
| Working with Data Series .....                            | 377        |
| Deleting a Data Series .....                              | 378        |
| Adding a New Data Series to a Chart .....                 | 378        |
| Changing Data Used by a Series .....                      | 379        |
| Displaying Data Labels in a Chart .....                   | 382        |
| Handling Missing Data .....                               | 383        |
| Controlling a Data Series by Hiding Data .....            | 384        |
| Adding Error Bars .....                                   | 385        |
| Adding a Trendline .....                                  | 386        |
| Creating Combination Charts .....                         | 389        |
| Using Secondary Axes .....                                | 389        |
| Displaying a Data Table .....                             | 390        |
| Creating Custom Chart Types .....                         | 390        |
| Working with 3D Charts .....                              | 392        |
| Modifying 3D Charts .....                                 | 392        |
| Rotating 3D Charts .....                                  | 392        |
| Chart-Making Tricks .....                                 | 394        |
| Changing a Worksheet Value by Dragging .....              | 394        |
| Unlinking a Chart from Its Data Range .....               | 395        |
| Creating Picture Charts .....                             | 395        |
| Pasting Linked Pictures to Charts .....                   | 397        |
| Simple Gantt Charts .....                                 | 399        |
| Comparative Histograms .....                              | 401        |
| Charts That Update Automatically .....                    | 402        |
| <b>Chapter 17: Creating Maps with Microsoft Map .....</b> | <b>405</b> |
| Mapping: An Overview .....                                | 405        |
| A Mapping Example .....                                   | 406        |
| Available Maps .....                                      | 407        |
| Creating a Map .....                                      | 409        |
| Setting Up Your Data .....                                | 409        |
| Creating the Map .....                                    | 409        |
| Setting the Map Format(s) .....                           | 410        |
| Customizing Maps .....                                    | 417        |
| Zooming In and Out .....                                  | 418        |
| Repositioning a Map .....                                 | 419        |
| Adding Labels .....                                       | 419        |
| Adding Text .....   | 420        |
| Adding Pins to a Map .....                                | 420        |
| Modifying the Legend .....                                | 421        |
| Adding and Removing Features .....                        | 422        |
| Plotting U.S. ZIP Codes .....                             | 424        |
| Adding More Data to a Map .....                           | 426        |



|  |            |
|--|------------|
| Map Templates .....  | 426        |
| Converting a Map to a Picture .....                            | 426        |
| Learning More .....  | 426        |
| <b>Chapter 18: Creating and Using Worksheet Outlines .....</b> | <b>429</b> |
| Introducing Worksheet Outlines .....                           | 429        |
| An Example .....   | 429        |
| More About Outlines .....                                      | 432        |
| Creating an Outline .....                                      | 433        |
| Preparing the Data .....                                       | 433        |
| Creating an Outline Automatically .....                        | 434        |
| Creating an Outline Manually .....                             | 434        |
| Using Outlines .....   | 437        |
| Displaying Levels .....  | 437        |
| Applying Styles to an Outline .....                            | 437        |
| Adding Data to an Outline .....                                | 439        |
| Removing an Outline .....                                      | 439        |
| Hiding the Outline Symbols .....                               | 439        |
| Creating Charts from Outlines .....                            | 440        |
| <b>Chapter 19: Linking and Consolidating Worksheets .....</b>  | <b>441</b> |
| Linking Workbooks .....  | 441        |
| Why Link Workbooks? .....                                      | 441        |
| Creating External Reference Formulas .....                     | 442        |
| Working with External Reference Formulas .....                 | 444        |
| Potential Problems with External Reference Formulas .....      | 447        |
| Consolidating Worksheets .....                                 | 448        |
| Consolidating Worksheets by Using Formulas .....               | 449        |
| Consolidating Worksheets by Using Paste Special .....          | 451        |
| Consolidating Worksheets by Using Data Í Consolidate .....     | 452        |
| <b>Chapter 20: Creating and Using Array Formulas .....</b>     | <b>457</b> |
| Introducing Arrays .....                                       | 457        |
| Advantages of Array Formulas .....                             | 459        |
| Disadvantages of Array Formulas .....                          | 459        |
| Understanding Arrays .....                                     | 459        |
| Array Formulas Versus Standard Formulas .....                  | 459        |
| An Array Formula in One Cell .....                             | 461        |
| Looping with Arrays .....                                      | 461        |
| Working with Arrays .....                                      | 462        |
| Entering an Array Formula .....                                | 463        |
| Editing an Array Formula .....                                 | 463        |
| Selecting an Array Range .....                                 | 464        |
| Formatting Arrays .....  | 464        |
| Using Array Constants .....                                    | 464        |
| Examples of Using Array Formulas .....                         | 466        |
| Using an Array Constant .....                                  | 466        |
| Identifying a Value in a Range .....                           | 467        |



|  |            |
|--|------------|
| Counting Characters in a Range .....                       | 468        |
| Computing Maximum and Minimum Changes .....                | 469        |
| Looping Through Characters in a Cell .....                 | 470        |
| Summing Every nth Value in a Range .....                   | 471        |
| An Alternate Method of Ranking .....                       | 472        |
| Frequency Distributions .....                              | 473        |
| Dynamic Crosstabs .....                                    | 475        |
| Returning the Last Value in a Column .....                 | 476        |
| Returning the Last Value in a Row .....                    | 476        |
| A Single-Formula Calendar .....                            | 476        |
| Tips for Array Formulas .....                              | 477        |
| <b>Chapter 21: Using Excel in a Workgroup .....</b>        | <b>479</b> |
| Using Excel on a Network .....                             | 479        |
| File Reservations .....                                    | 479        |
| Shared Workbooks .....                                     | 481        |
| Appropriate Workbooks for Sharing .....                    | 481        |
| Limitations of Shared Workbooks .....                      | 482        |
| Designating a Workbook As a Shared Workbook .....          | 482        |
| Advanced Settings .....                                    | 483        |
| Mailing and Routing Workbooks .....                        | 485        |
| Mailing a Workbook As an E-mail Attachment .....           | 485        |
| Routing a Workbook to Others .....                         | 486        |
| <b>Part IV: Analyzing Data .....</b>                       | <b>489</b> |
| <b>Chapter 22: Importing Data from Other Sources .....</b> | <b>491</b> |
| An Overview of Importing .....                             | 491        |
| A Few Words About Data .....                               | 492        |
| File Formats Supported by Excel .....                      | 492        |
| Lotus 1-2-3 Spreadsheet Files .....                        | 494        |
| Quattro Pro Spreadsheet Files .....                        | 495        |
| Database File Formats .....                                | 495        |
| Text File Formats .....                                    | 495        |
| HTML Files .....   | 496        |
| Other File Formats .....                                   | 496        |
| Using the Clipboard to Get Data .....                      | 497        |
| About the Clipboard .....                                  | 497        |
| Copying Data from Another Windows Application .....        | 500        |
| Copying Data from a Non-Windows Application .....          | 501        |
| Importing Text Files .....                                 | 502        |
| About Text Files .....                                     | 503        |
| Using the Text Import Wizard .....                         | 504        |
| Using the Text to Columns Wizard .....                     | 509        |
| <b>Chapter 23: Working with Lists .....</b>                | <b>511</b> |
| What Is a List? .....                                      | 511        |



|  |            |
|--|------------|
| What Can You Do with a List? .....                           | 512        |
| Designing a List .....                                       | 513        |
| Entering Data into a List .....                              | 514        |
| Entering Data with the Data Form Dialog Box .....            | 515        |
| Other Uses for the Data Form Dialog Box .....                | 516        |
| Using Microsoft Access Forms for Data Entry .....            | 516        |
| Filtering a List .....                                       | 517        |
| AutoFiltering .....  | 517        |
| Advanced Filtering .....                                     | 522        |
| Using Database Functions with Lists .....                    | 528        |
| Sorting a List .....   | 529        |
| Simple Sorting .....   | 530        |
| More Complex Sorting .....                                   | 530        |
| Using a Custom Sort Order .....                              | 534        |
| Sorting Nonlists .....                                       | 536        |
| Creating Subtotals .....                                     | 536        |
| <b>Chapter 24: Using External Database Files .....</b>       | <b>539</b> |
| Why Use External Database Files? .....                       | 539        |
| Using Query: An Example .....                                | 540        |
| The Database File .....                                      | 540        |
| The Task .....   | 541        |
| Using Query to Get the Data .....                            | 541        |
| Working with an External Data Range .....                    | 551        |
| Adjusting External Data Range Properties .....               | 551        |
| Refreshing a Query .....                                     | 552        |
| Making Multiple Queries .....                                | 553        |
| Copying or Moving a Query .....                              | 553        |
| Deleting a Query .....                                       | 553        |
| Changing Your Query .....                                    | 553        |
| Using Microsoft Query Without Query Wizard .....             | 554        |
| Creating a Query .....                                       | 554        |
| Using Multiple Database Tables .....                         | 556        |
| Adding and Editing Records in External Database Tables ..... | 556        |
| Formatting Data .....  | 556        |
| Sorting Data .....   | 556        |
| Learning More .....  | 557        |
| <b>Chapter 25: Analyzing Data with Pivot Tables .....</b>    | <b>559</b> |
| What Is a Pivot Table? .....                                 | 559        |
| Data Appropriate for a Pivot Table .....                     | 562        |
| Creating a Pivot Table .....                                 | 564        |
| Identifying Where the Data Is Located .....                  | 565        |
| Specifying the Data .....                                    | 567        |
| Completing the Pivot Table .....                             | 567        |
| Working with Pivot Tables .....                              | 573        |
| Changing the Pivot Table Structure .....                     | 574        |
| Removing a Field .....                                       | 575        |



|   |            |
|---|------------|
| Adding a New Field .....  | 575        |
| Refreshing a Pivot Table .....  | 575        |
| Customizing a Pivot Table Field .....                                 | 575        |
| Formatting a Pivot Table .....  | 576        |
| Grouping Pivot Table Items .....                                      | 577        |
| Seeing the Details .....  | 580        |
| Displaying a Pivot Table on Different Sheets .....                    | 581        |
| Inserting a Calculated Field into a Pivot Table .....                 | 582        |
| Inserting a Calculated Item into a Pivot Table .....                  | 583        |
| <b>Pivot Table Examples .....</b>                                     | <b>585</b> |
| Using a Pivot Table to Consolidate Sheets .....                       | 585        |
| Creating Charts from a Pivot Table .....                              | 587        |
| Analyzing Survey Data .....   | 588        |
| Customer Geographic Analysis .....                                    | 591        |
| Grouping by Month and Years .....                                     | 593        |
| <b>Chapter 26: Performing Spreadsheet What-If Analysis .....</b>      | <b>595</b> |
| A What-If Example .....   | 595        |
| Types of What-If Analyses .....                                       | 597        |
| Manual What-If Analysis .....   | 597        |
| Macro-Assisted What-If Analysis .....                                 | 597        |
| Creating Data Tables .....  | 599        |
| Creating a One-Input Data Table .....                                 | 600        |
| Creating a Two-Input Data Table .....                                 | 603        |
| Using Scenario Manager .....  | 607        |
| Defining Scenarios .....  | 608        |
| Displaying Scenarios .....  | 611        |
| Modifying Scenarios .....   | 611        |
| Merging Scenarios .....   | 612        |
| Generating a Scenario Report .....                                    | 612        |
| Scenario Manager Limitations .....                                    | 614        |
| <b>Chapter 27: Analyzing Data Using Goal Seeking and Solver .....</b> | <b>617</b> |
| What-If Analysis — In Reverse .....                                   | 617        |
| Single-Cell Goal Seeking .....  | 618        |
| A Goal-Seeking Example .....  | 618        |
| More About Goal Seeking .....   | 619        |
| Graphical Goal Seeking .....  | 620        |
| Introducing Solver .....  | 622        |
| Appropriate Problems for Solver .....                                 | 623        |
| A Simple Solver Example .....   | 623        |
| More About Solver .....   | 627        |
| Solver Examples .....   | 628        |
| Minimizing Shipping Costs .....                                       | 629        |
| Scheduling Staff .....  | 631        |
| Allocating Resources .....  | 635        |
| Optimizing an Investment Portfolio .....                              | 636        |



|   |            |
|---|------------|
| <b>Chapter 28: Analyzing Data with Analysis ToolPak .....</b> | <b>639</b> |
| The Analysis ToolPak: An Overview .....                       | 639        |
| Using the Analysis ToolPak .....                              | 640        |
| Using the Analysis Tools .....                                | 640        |
| Using the Analysis ToolPak Functions .....                    | 641        |
| The Analysis ToolPak Tools .....                              | 641        |
| The Analysis of Variance Tool .....                           | 642        |
| The Correlation Tool .....                                    | 643        |
| The Covariance Tool .....                                     | 644        |
| The Descriptive Statistics Tool .....                         | 645        |
| The Exponential Smoothing Tool .....                          | 646        |
| The F-Test ( Two-Sample Test for Variance) Tool .....         | 647        |
| The Fourier Analysis Tool .....                               | 648        |
| The Histogram Tool .....                                      | 648        |
| The Moving Average Tool .....                                 | 650        |
| The Random Number Generation Tool .....                       | 651        |
| The Rank and Percentile Tool .....                            | 652        |
| The Regression Tool .....                                     | 653        |
| The Sampling Tool .....                                       | 655        |
| The t-Test Tool .....   | 656        |
| The z-Test ( Two-Sample Test for Means) Tool .....            | 656        |
| Analysis ToolPak Worksheet Functions .....                    | 657        |
| Date & Time Category .....                                    | 657        |
| Engineering Category .....                                    | 658        |
| Financial Category .....                                      | 660        |
| Information Category .....                                    | 661        |
| Math & Trig Category .....                                    | 662        |

**Part V: Other Topics 663**

|   |            |
|---|------------|
| <b>Chapter 29: Sharing Data with Other Applications .....</b> | <b>665</b> |
| Sharing Data with Other Windows Applications .....            | 665        |
| Using the Windows or Office Clipboards .....                  | 666        |
| Linking Data .....  | 669        |
| Creating Links .....  | 669        |
| More About Links .....  | 669        |
| Copying Excel Data to Word .....                              | 671        |
| Pasting Without a Link .....                                  | 671        |
| Pasting with a Link .....                                     | 673        |
| Embedding Objects .....                                       | 674        |
| Embedding an Excel Range in a Word Document .....             | 675        |
| Creating a New Excel Object in Word .....                     | 677        |
| Embedding an Existing Workbook in Word .....                  | 679        |
| Embedding Objects in an Excel Worksheet .....                 | 679        |
| Using Office Binders .....                                    | 682        |



**Chapter 30: Excel and the Internet .....685**

- What Is the Internet? .....685
- What's Available on the Internet? .....687
- How Do You Get on the Internet? .....687
- Where to Find Out More About the Internet .....689
- Excel's Internet Tools .....689
  - Using HTML As a Native File Format .....690
  - Providing Interactivity in Your Web Documents .....691
  - Using the Web Toolbar .....692
  - Working with Hyperlinks .....693
  - Web Queries .....694

**Chapter 31: Making Your Worksheets Error-Free .....699**

- Types of Worksheet Problems .....699
- Formula AutoCorrect .....700
- Tracing Cell Relationships .....700
  - The Go To Special Dialog Box .....701
  - Excel's Auditing Tools .....703
  - Tracing Error Values .....705
  - Circular References .....706
- Other Auditing Tools .....706
- Spelling and Word-Related Options .....707
  - Spell Checking .....708
  - Using AutoCorrect .....709
  - Using AutoComplete .....710
- Learning About an Unfamiliar Spreadsheet .....711
  - Zooming Out for the Big Picture .....711
  - Viewing Formulas .....712
  - Pasting a List of Names .....713

**Chapter 32: Fun Stuff .....715**

- Games .....715
  - Tick-Tack-Toe .....715
  - Moving Tile Puzzle .....716
  - Keno .....717
- Power Utility Pak Games .....717
  - Video Poker .....717
  - Dice Game .....718
  - Bomb Hunt .....718
  - Hangman .....719
- Animated Shapes .....720
- Symmetrical Pattern Drawing .....721
- For Guitar Players .....722
- An April Fool's Prank .....722
- Creating Word Search Puzzles .....723
- ASCII Art .....724



|  |     |
|--|-----|
| Sound File Player .....                | 724 |
| Fun with Charts .....                  | 725 |
| Plotting Trigonometric Functions ..... | 725 |
| XY-Sketch .....                        | 726 |

## Part VI: Customizing Excel

729

### Chapter 33: Customizing Toolbars and Menus .....731

|   |     |
|---|-----|
| Menu Bar = Toolbar .....                          | 731 |
| Customizing Toolbars .....                        | 732 |
| Types of Customizations .....                     | 733 |
| Shortcut Menus .....                              | 733 |
| Moving Toolbars .....                             | 733 |
| Using the Customize Dialog Box .....              | 734 |
| The Toolbars Tab .....                            | 735 |
| The Commands Tab .....                            | 736 |
| The Options Tab .....                             | 736 |
| Adding or Removing Toolbar Buttons .....          | 738 |
| Moving and Copying Buttons .....                  | 738 |
| Inserting a New Button .....                      | 738 |
| Other Toolbar Button Operations .....             | 740 |
| Creating a Custom Toolbar: An Example .....       | 741 |
| Adding the First Button .....                     | 741 |
| Adding More Buttons .....                         | 742 |
| Saving the Custom Toolbar .....                   | 743 |
| Changing a Toolbar Button's Image .....           | 744 |
| Using a Built-in Image .....                      | 744 |
| Editing a Button Image .....                      | 744 |
| Copying Another Button Image .....                | 745 |
| Activating a Web Page from a Toolbar Button ..... | 746 |

### Chapter 34: Using and Creating Templates .....747

|  |     |
|--|-----|
| An Overview of Templates .....               | 747 |
| The Default Workbook Template .....          | 748 |
| Changing the Workbook Defaults .....         | 748 |
| Editing the book.xlt Template .....          | 749 |
| Resetting the Default Workbook .....         | 749 |
| The Default Worksheet Template .....         | 749 |
| Editing the sheet.xlt Template .....         | 750 |
| Resetting the Default New Worksheet .....    | 750 |
| Custom Workbook Templates .....              | 750 |
| How Templates Work .....                     | 751 |
| Templates That Are Included with Excel ..... | 751 |
| Creating Custom Templates .....              | 752 |
| Ideas for Creating Templates .....           | 754 |



**Chapter 35: Using Visual Basic for Applications .....755**

- Introducing VBA Macros .....755
- VBA: One of Two Macro Languages in Excel .....756
- What You Can Do with VBA .....756
- Two Types of VBA Macros .....757
  - VBA Subroutines .....757
  - VBA Functions .....758
- Creating VBA Macros .....760
- Recording VBA Macros .....760
  - Recording Your Actions to Create VBA Code: The Basics .....761
  - Recording a Macro: An Example .....762
  - Examining the Macro .....762
  - Testing the Macro .....764
  - Editing the Macro .....765
  - Another Example .....765
- More About Recording VBA Macros .....767
  - Absolute Versus Relative Recording .....768
  - Storing Macros in the Personal Macro Workbook .....769
  - Assigning a Macro to a Toolbar Button .....770
- Writing VBA Code .....770
  - The Basics: Entering and Editing Code .....771
  - How VBA Works .....772
  - Objects and Collections .....775
  - Properties .....776
  - Methods .....778
  - Variables .....778
  - Controlling Execution .....778
  - A Macro That Can't Be Recorded .....780
- Learning More .....783
  - Read the Rest of the Book .....783
  - Record Your Actions .....783
  - Use the Online Help System .....784
  - Buy Another Book .....784

**Chapter 36: Creating Custom Worksheet Functions .....785**

- Overview of VBA Functions .....785
- An Introductory Example .....786
  - A Custom Function .....786
  - Using the Function in a Worksheet .....786
  - Using the Function in a VBA Subroutine .....787
  - Analyzing the Custom Function .....788
- About Function Procedures .....789
  - Declaring a Function .....789
  - Executing Function Procedures .....790
- Function Procedure Arguments .....792
  - Example: A Function with No Argument .....792
  - Example: A Function with One Argument .....793
  - Example: A Function with Two Arguments .....794



|  |            |
|--|------------|
| Example: A Function with a Range Argument .....                      | 795        |
| Debugging Custom Functions .....                                     | 796        |
| Pasting Custom Functions .....                                       | 797        |
| Learning More .....  | 799        |
| <b>Chapter 37: Creating Custom Dialog Boxes .....</b>                | <b>801</b> |
| Why Create Custom Dialog Boxes? .....                                | 801        |
| Custom Dialog Box Alternatives .....                                 | 802        |
| The InputBox Function .....  | 802        |
| The MsgBox Function .....  | 803        |
| Creating Custom Dialog Boxes: An Overview .....                      | 806        |
| Working with UserForms .....   | 807        |
| Adding Controls .....  | 807        |
| Changing the Properties of a Control .....                           | 809        |
| Handling Events .....  | 810        |
| Displaying Custom Dialog Boxes .....                                 | 810        |
| A Custom Dialog Box Example .....                                    | 810        |
| Creating the Dialog Box .....  | 811        |
| Testing the Dialog Box .....   | 812        |
| Creating an Event-Handler Subroutine .....                           | 812        |
| Attaching the Macro to a Button .....                                | 813        |
| Another Custom Dialog Box Example .....                              | 814        |
| Creating the Dialog Box .....  | 814        |
| Testing the Dialog Box .....   | 816        |
| Creating Event-Handler Subroutines .....                             | 817        |
| Testing the Dialog Box .....   | 819        |
| Making the Macro Available from a Toolbar Button .....               | 819        |
| More on Creating Custom Dialog Boxes .....                           | 820        |
| Adding Accelerator Keys .....  | 820        |
| Controlling Tab Order .....  | 821        |
| Learning More .....  | 821        |
| <b>Chapter 38: Using Dialog Box Controls in Your Worksheet .....</b> | <b>823</b> |
| Why Use Controls on a Worksheet? .....                               | 823        |
| Controls That Are Available to You .....                             | 824        |
| Using Controls .....   | 825        |
| Adding a Control .....   | 826        |
| About Design Mode .....  | 826        |
| Adjusting Properties .....   | 826        |
| Common Properties .....  | 827        |
| Linking Controls to Cells .....                                      | 828        |
| Creating Macros for Controls .....                                   | 829        |
| The Controls Toolbox Controls .....                                  | 831        |
| CheckBox Control .....   | 831        |
| ComboBox Control .....   | 831        |
| CommandButton Control .....  | 832        |
| Image Control .....  | 833        |
| Label Control .....  | 833        |



|  |            |
|--|------------|
| ListBox Controls .....                                 | 833        |
| OptionButton Controls .....                            | 834        |
| ScrollBar Control .....                                | 835        |
| SpinButton Control .....                               | 836        |
| TextBox Controls .....                                 | 837        |
| ToggleButton Control .....                             | 838        |
| <b>Chapter 39: VBA Programming Examples .....</b>      | <b>839</b> |
| Working with Ranges .....                              | 839        |
| Copying a Range .....                                  | 840        |
| Copying a Variable-Size Range .....                    | 841        |
| Selecting to the End of a Row or Column .....          | 842        |
| Selecting a Row or Column .....                        | 842        |
| Moving a Range .....                                   | 843        |
| Looping Through a Range Efficiently .....              | 843        |
| Prompting for a Cell Value .....                       | 844        |
| Determining the Type of Selection .....                | 845        |
| Identifying a Multiple Selection .....                 | 846        |
| Changing Excel's Settings .....                        | 847        |
| Boolean Settings .....                                 | 847        |
| Non-Boolean Settings .....                             | 847        |
| Working with Graphic Objects (Shapes) .....            | 848        |
| Creating a Text Box to Match a Range .....             | 848        |
| Drawing Attention to a Range .....                     | 849        |
| Working with Charts .....                              | 850        |
| Modifying the Chart Type .....                         | 850        |
| Modifying Properties .....                             | 851        |
| Applying Chart Formatting .....                        | 851        |
| VBA Speed Tips .....                                   | 852        |
| Turning Off Screen Updating .....                      | 852        |
| Preventing Alert Messages .....                        | 852        |
| Simplifying Object References .....                    | 853        |
| Declaring Variable Types .....                         | 853        |
| <b>Chapter 40: Creating Custom Excel Add-Ins .....</b> | <b>857</b> |
| What Is an Add-In? .....                               | 857        |
| Working with Add-Ins .....                             | 858        |
| Why Create Add-Ins? .....                              | 860        |
| Creating Add-Ins .....                                 | 860        |
| An Add-In Example .....                                | 862        |
| Setting Up the Workbook .....                          | 862        |
| Module1 .....  | 862        |
| ThisWorkbook .....                                     | 863        |
| UserForm1 .....  | 863        |
| Testing the Workbook .....                             | 865        |
| Adding Descriptive Information .....                   | 867        |
| Protecting the Project .....                           | 867        |
| Creating the Add-In .....                              | 868        |
| Opening the Add-In .....                               | 868        |



|   |            |
|---|------------|
| <b>Appendix A: Using Online Help: A Primer .....</b>  | <b>871</b> |
| <b>Appendix B: Worksheet Function Reference .....</b> | <b>881</b> |
| <b>Appendix C: Excel's Shortcut Keys .....</b>        | <b>897</b> |
| <b>Appendix D: What's on the CD-ROM .....</b>         | <b>905</b> |
| <b>Index .....</b>                                    | <b>915</b> |
| <b>End-User License Agreement .....</b>               | <b>937</b> |
| <b>CD-ROM Installation Instructions .....</b>         | <b>944</b> |



# A Bit of Background

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**E**very book has to start somewhere. This chapter starts from square one by introducing you to the concept of a spreadsheet. Also included is a lot of interesting background information about Excel and Windows.

## What Is Excel?

Excel is a software product that falls into the general category of spreadsheets. Excel is one of several spreadsheet products that you can run on your PC. Others include 1-2-3 and Quattro Pro.

A *spreadsheet* (including Excel) is a highly interactive computer program that consists of a collection of rows and columns displayed onscreen in a scrollable window. The intersection of each row and column is called a *cell*, which can hold a number, a text string, or a formula that performs a calculation by using one or more other cells. Copying and moving cells and modifying formulas is easy with a spreadsheet.

A spreadsheet can be saved in a file for later use or discarded after it has served its intended purpose. The cells in a spreadsheet can be formatted in various ways and printed for hard-copy reference. In addition, groups of numerical cells can be used to generate charts and maps.

The most significant advantage of an electronic spreadsheet is that the formulas recalculate their results if you change any of the cells that they use. As a result, after you set up your spreadsheet by defining formulas, you can use this "model" to explore different possibilities, with very little additional effort. Excel is currently the best-selling Windows spreadsheet — and I hope to explain why in this book.

## CHAPTER

# 1



### In This Chapter

What Is Excel?

The Evolution of Excel

Excel's Competitors

What Excel Has to Offer





## The Evolution of Excel

Excel 2000 is actually Excel 9 in disguise.

A bit of rational thinking might lead you to think that this is the ninth version of Excel. Think again! Microsoft may be a successful company, but its version-naming techniques can be quite confusing. As you'll see, Excel 2000 actually is the seventh version of Excel.

### Excel 2

Excel 2 was the original version of Excel for Windows, which first appeared in late 1987. It was labeled Version 2 to correspond to the Macintosh version, which was the original Excel. Because Windows wasn't in widespread use at the time, Version 2 included a *run-time* version of Windows — a special version with just enough features to run Excel and nothing else. This version was quite crude by today's standards and was actually quite ugly.

### Excel 3

At the end of 1990, Microsoft released Excel 3 for Windows. This was a significant improvement in both appearance and features. It included toolbars, drawing capabilities, worksheet outlining, add-in support, 3D charts, workgroup editing, and lots more.

### Excel 4

Excel 4 hit the streets in the spring of 1992. This version made quite an impact in the marketplace, because Windows was becoming more popular. It had lots of new features, many of which made it easier for beginners to get up to speed quickly.

### Excel 5

In early 1994, Excel 5 appeared on the scene. This version introduced tons of new features, including multisheet workbooks and the new Visual Basic for Applications (VBA) macro language. Like its predecessor, Excel 5 took top honors in just about every spreadsheet comparison that was published in the trade magazines.

### Excel 7

Technically, this version was called Excel for Windows 95 (there was no Excel 6). It began shipping in the summer of 1995. On the surface, this version wasn't that



much different from Excel 5, and included only a few major new features. But Excel 7 was significant, because it was the first version to use the more advanced 32-bit code. Excel 7 and Excel 5 used the same file format.

## Excel 8

Excel 8 (officially known as Excel 97) was probably the most significant Excel upgrade ever. The toolbars and menus had a great new look, online help took a dramatic step forward, and the number of rows available in a worksheet quadrupled. Developers were pleased to discover that Excel's programming language (VBA) improved significantly in Excel 97.

## Excel 9

Excel 9 (better known as Excel 2000) is the topic of this book (although most of the material is also relevant to Excel 97). Excel 2000 has quite a few enhancements, but its most significant advancement is the capability to use HTML as a standard file format. Chapter 2 provides a list of all the new features in Excel 2000.

## Excel's Competitors

Although Excel is usually considered the best spreadsheet available, it does have competitors, the two main ones being 1-2-3 and Quattro Pro.

The three leading spreadsheets are similar in their basic capabilities. For example, they all let you work with multiple worksheets in a single file; they all support a wide variety of charts; and they all have macro capabilities to help you automate or customize your work.

Many users, myself included, find that Excel is superior to the other products in both power and ease of use.

## What Excel Has to Offer

Excel is a feature-rich product that can be used at many different levels. Chances are good that you won't need all of Excel's features, but you should become generally familiar with what they can do. Otherwise, you could seek another software product to accomplish a particular task, and not even realize that Excel has a feature that can accomplish it. Or, you could spend lots of time performing a task manually that Excel can handle automatically.



The following is a quick overview of what Excel can do for you. All of these topics are discussed in subsequent chapters of this book.

## Multisheet Files

Excel's files (called *workbooks*) can consist of any number of separate sheets, and you access these sheets by clicking a notebook-like tab. The sheets can be worksheets or chart sheets. This feature makes organizing your work easy. For example, you can keep all of your budgeting spreadsheets in a single workbook.

## Multiple Document Interface

Excel enables you to work with many files simultaneously; you don't have to close a file to consult another file (see Figure 1-1). This capability enables you to transfer information easily between worksheets in different workbooks.

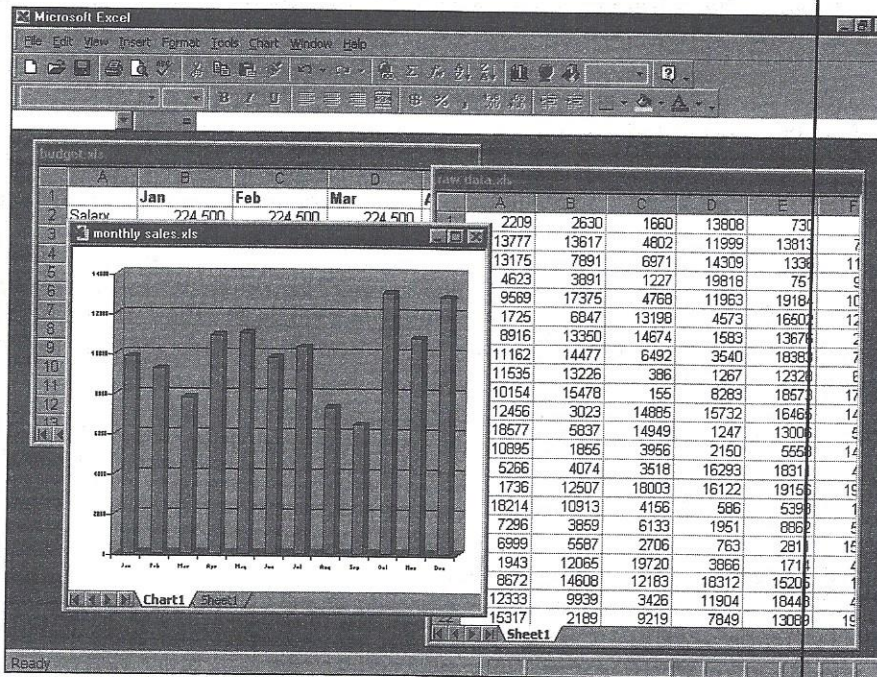


Figure 1-1: Excel enables you to work with as many different files as you need.



## File Compatibility

Excel has its own file format, identifiable by the XLS file extension. In addition, Excel can read files produced by other spreadsheet programs (such as 1-2-3 and Quattro Pro), and it can read text files, dBASE files, and HTML documents.

## Interactive Help

Computer documentation keeps getting better. In the past, users were lucky if the manual that accompanied a software product accurately covered all the features. Nowadays, the trend is away from written manuals and toward online help. Almost all applications, including Excel, emphasize *online help*—in other words, you can get help onscreen while working in Excel. Excel's online help is excellent and extremely detailed.

Figure 1-2 shows the Office Assistant, which serves several purposes, including:

- ♦ It observes your actions and stores up a series of tips, which can save you time. You can choose to view these tips whenever you want.
- ♦ It provides specific help with certain aspects of the program (for example, creating charts).
- ♦ If you enter an invalid formula, it will often make a suggestion on how to correct it.
- ♦ It provides an easy way to search for help on a particular topic. Just enter your question in natural language, and the Office Assistant displays a list of relevant help topics.

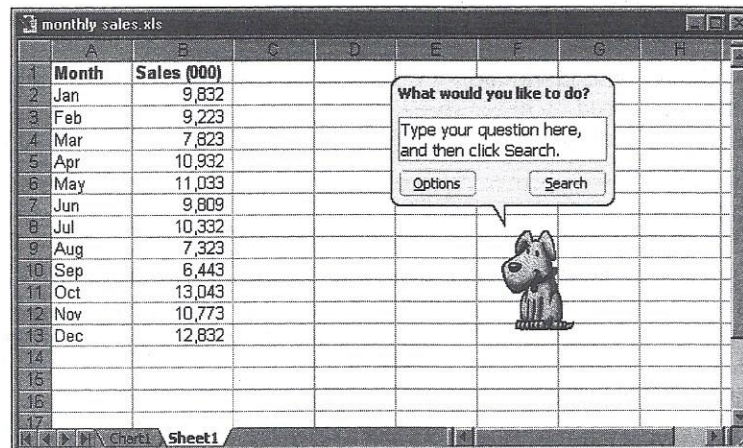
## Easy-to-Use Features

Excel may well be the easiest-to-use spreadsheet available. It includes many features designed specifically to make commonly performed tasks straightforward and fast for both beginners and experts. The program walks you step by step through several procedures, and basic editing and formatting commands are intuitive and efficient. For example, a single dialog box enables you to change any aspect of formatting for a cell or range, and right-clicking anything brings up a context-sensitive shortcut menu.

## List Management

Among Excel's most significant strengths is how well it works with lists stored in a worksheet. This feature makes it easy to sort, filter, summarize, and manipulate data stored in your worksheet.





**Figure 1-2:** The Office Assistant pops up to provide help when needed.

## Built-in Functions

Excel includes an enormous collection of built-in functions that you can use in your formulas. In addition to common functions, such as SUM and AVERAGE, you can choose functions that perform sophisticated operations that otherwise are difficult or impossible to do. For example, the CORREL function calculates the correlation coefficient for two sets of data. You also can develop other functions by using the VBA macro language (it's not as difficult as you may think).

## Customizable Toolbars

Excel's *toolbars* — groups of buttons representing commands — are real time-savers, enabling you to perform common commands without using the menu. You can customize your toolbars by adding buttons for tasks that you do most often. To find out what a button does, drag the mouse over a toolbar button and pause for a second. Excel pops up a brief description of the button.

Beginning with Excel 97, the menu bar at the top of the screen is actually a toolbar. As such, you can easily customize it or even move it to a different location on the screen.

## Flexible Text Handling

Although Excel's forte is number crunching, it's not too shabby at handling text. You can format or orient text that you put in cells. You also can insert text boxes (which you can move and resize) anywhere on your worksheet.



## Rich Text Formatting

Excel is the only spreadsheet that enables you easily to format individual characters within a cell. For example, if a cell contains text, you can make one letter bold or a different color.

## Great Charts

Excel's charting features — among the best available in any spreadsheet — enable you to modify and augment a wide assortment of graph types. You can insert a chart anywhere in a worksheet or place it on a special chart sheet.

## Integrated Mapping

Excel's mapping feature lets you display your data in the form of a geographic map (see Figure 1-3). For example, you can easily create an attractive map that shows your company's sales volume by state.

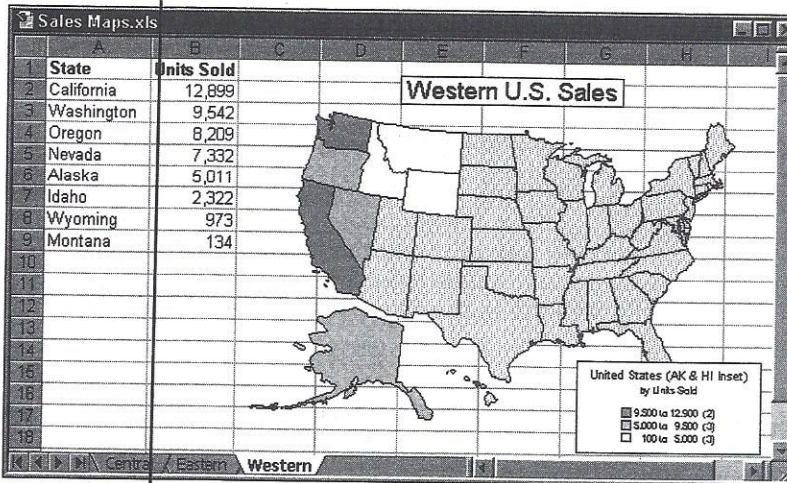


Figure 1-3: This map was generated with only a few mouse clicks.

## Drawing Tools

Excel includes an excellent set of drawing tools that enables you to create attractive diagrams and basic drawings directly on your worksheet or chart. For example, you can include a simple flow diagram along with your numerical analysis.



## Worksheet Outlining

Spreadsheet outlining enables you to collapse hierarchical information to show any level of detail. People who work with multilevel budgets will find this feature particularly valuable.

## Pivot Tables

A pivot table makes it easy to change how you view a table of data. A pivot table can quickly summarize a list or database, and you can use drag-and-drop techniques to change the layout of the table. If you work with multidimensional data, you should check out this powerful feature—which I consider to be one of Excel's major strengths.

## Advanced Analytical Tools

Analytical types will be particularly excited about Excel's unique *array* feature, which enables you to do things that are impossible in other spreadsheets. Excel also includes goal seeking, a powerful Solver feature, and the Analysis ToolPak add-in, which provides extensive statistical, financial, engineering, and scientific functions and procedures.

## Flexible Printing and Print Preview

When you are ready to put your work on paper, you'll be pleased to see how easy it is. Besides normal WYSIWYG (*What You See Is What You Get*) formatting, Excel provides a handy print preview feature. From the preview window, you can easily make last-minute adjustments, including new column widths and margins. In addition, a Page Break Preview mode lets you adjust the page breaks by using simple dragging techniques.

## Worksheet Auditing and Annotation

No one's perfect, but Excel can help you get closer to that goal. Excel provides a variety of auditing tools to help you track down errors and potential errors in your worksheet formulas.

A feature in Excel automatically displays comments attached to cells when the user drags the mouse over a cell that contains a comment. This is an excellent way to remind others (or yourself) what a particular cell represents.



## Scenario Management

Spreadsheets are often used for *what-if analysis*—change one or more assumptions and observe the effects on dependent formulas. Excel simplifies this process with its scenario manager.

You can name scenarios, switch among scenarios (with just a few mouse clicks), and generate reports that summarize the results of your scenarios.

## Spell Checking and AutoCorrect

An integrated spell checker spots spelling errors in your worksheets and charts, so you need never again display a chart titled “Bugdet Review” in a crowded boardroom.

Excel has borrowed a handy feature, AutoCorrect, from Microsoft Word. This corrects many types of input errors as you type. For example, if you enter *BUdget* into a cell, Excel automatically changes the second letter to a lowercase *u*. You can also use this feature to develop your own shorthand. For example, you can instruct Excel to replace IWC with International Widget Corporation.

## Templates

If your work tends to fall into a few specific categories, it may be worth your time to set up custom spreadsheet *templates*, which are preconfigured shells that include text, row, and column headings, as well as formats, column widths, macros, and so on. You can use these templates to help create similar spreadsheets.

Excel has a Template Wizard that walks you through the steps required to create a custom template. Excel also includes a few handy templates that you may find useful. An example of such a template is shown in Figure 1-4.

## Database Management

You can work with spreadsheet data as if Excel were a database. Excel features all the standard database commands and enables you to work with databases that are stored in external files.

## XLM Macro Compatibility

In older versions of Excel, you could create macros by using special macro functions in XLM documents. Although Visual Basic for Applications is a much better macro language, Excel 2000 still supports XLM macros. This means that you can continue to run macros that were developed for older versions of Excel (Excel 4 and earlier).



**Expense Statement1**

**COMPANY NAME**  
 Company Address  
 City, State ZIP Code  
 Phone Number fax Fax Number

**Employee**  
 Name  
 SSN  
 Department  
 Emp #  
 Position  
 Manager

| Date | Account | Description | Accom | Transport | Fuel | Meals | Phone | Entertain |
|------|---------|-------------|-------|-----------|------|-------|-------|-----------|
|      |         |             |       |           |      |       |       |           |

**Figure 1-4:** Expense Statement1 is one of several templates included with Excel 2000.

## Visual Basic for Applications (VBA)

VBA is a powerful programming language that is built right into Excel (as well as several other Microsoft products). After you learn VBA's ropes, you can do magic with your Excel workbooks.

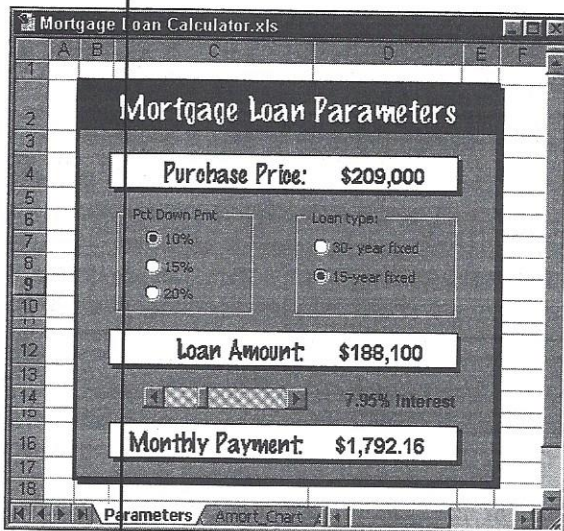
## Custom Dialog Boxes

Excel makes it very easy to create custom dialog boxes (also known as user forms). Custom dialog boxes usually are used in conjunction with VBA macros that you write.

## Worksheet Controls

With Excel, you can insert functional "dialog box" controls (such as buttons, scrollbars, list boxes, and check boxes) directly on your worksheet. You can even link these controls to cells without using macros. Figure 1-5 shows an example of such controls.





**Figure 1-5:** You can add functional controls, such as buttons, scrollbars, list and check boxes, directly to your worksheet to make it easier to use.

## Protection Options

If you need to keep others (or yourself) from modifying your worksheet, you'll find that Excel offers a variety of protection techniques. For example, you can protect cells that contain formulas, to eliminate the possibility of accidentally deleting an important formula.

## Add-In Capability

Excel supports add-ins — a feature that lets you enhance the program's functionality. Excel includes several add-ins, and you can use VBA to create your own add-ins.

## OLE Support

Excel supports Microsoft's Object Linking and Embedding (OLE) technology, which makes data sharing easier than ever. For example, you can embed a Word for Windows document in a worksheet and then access all of the features of Word right in your worksheet.



## Internet Support

Excel 2000 includes a variety of features that make it easy to access Internet documents, save and retrieve documents stored in HTML format, and create hyperlinks directly in your spreadsheet documents.

## Cross-Platform Consistency

Excel runs on the Macintosh and the PC (in Windows); in fact, the versions are very similar across the two platforms. If you learn the Windows version, you can move to a Mac and feel right at home.

## Summary

This chapter introduces the concept of a spreadsheet, presents a brief history of Excel, and examines Excel's evolution within the Microsoft environment. The bulk of the chapter provides an overview of Excel's key features — all of which are covered in subsequent chapters.





# Navigating Through Excel

**B**ecause you'll spend lots of time working in Excel, you need to understand the basics of navigating through workbooks and how best to use Excel's user interface. If you're an experienced Windows user, some of this information may already be familiar to you, so this is your chance to learn even more.

If you're new to Excel, some of the information in this chapter may seem confusing. It will become clearer as you progress through the other chapters, however.

## Working with Excel's Windows

The files that Excel uses are known as *workbooks*. A workbook can hold any number of sheets, and these sheets can be either worksheets (a sheet consisting of rows and columns) or chart sheets (a sheet that holds a single chart). A *worksheet* is what people usually think of when they think of a spreadsheet.

Figure 4-1 shows Excel with four workbooks open, each in a separate window. One of the windows is minimized and appears near the top-right corner of the screen (when a workbook is minimized, only its title bar is visible).

Worksheet windows can overlap so that the title bar of one window is a different color. That's the window that contains the *active workbook*.

The workbook windows that Excel uses work much like the windows in any other Windows program. Excel's windows can be in one of the following states:

- ◆ **Maximized:** Fills Excel's entire workspace. A maximized window does not have a title bar, and the worksheet's name appears in Excel's title bar. To maximize a window, click its Maximize button.

# CHAPTER 4



## In This Chapter

Working with Excel's Windows

Moving Around a Worksheet

Giving Commands to Excel

Using Excel's Menus

Using Shortcut Menus

Excel's Toolbars

Shortcut Keys

Working with Dialog Boxes





- ♦ **Minimized:** Appears as a small window with only a title bar. To minimize a window, click its Minimize button.
- ♦ **Restored:** A nonmaximized size. To restore a maximized or minimized window, click its Restore button. If you work with more than one workbook simultaneously (which is quite common), you have to learn how to move, resize, and switch among the workbook windows.

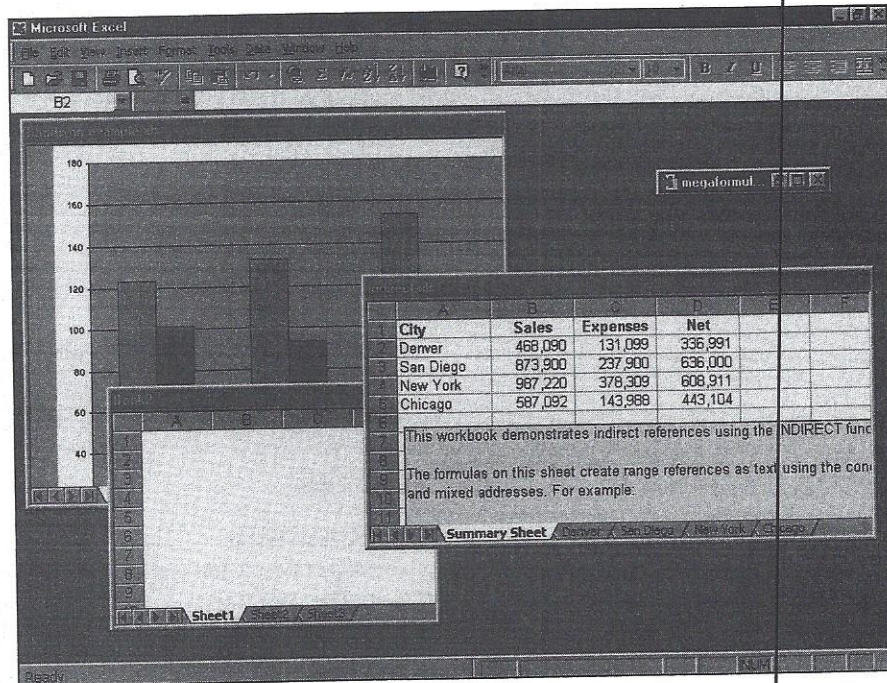


Figure 4-1: Excel with four workbooks open, one of them minimized.

As you're probably aware, Excel itself is contained in a window. Excel's window also can be maximized, minimized, or displayed in a nonmaximized size. When Excel's window is maximized, it fills the entire screen. You can activate other programs by using the Windows taskbar (usually located at the bottom of your screen).

## Moving and Resizing Windows

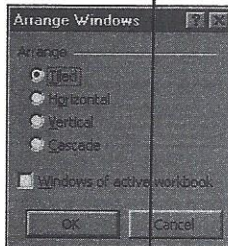
You *cannot* move or resize a workbook window if it is maximized. You *can* move a minimized window, but doing so has no effect on its position when it is subsequently restored.

To move a window, click and drag its title bar with your mouse. Note that the windows can extend offscreen in any direction, if you want them to.



To resize a window, click and drag any of its borders until it's the size that you want it to be. When you position the mouse pointer on a window's border, the mouse pointer changes shape, which lets you know that you can now click and drag to resize the window. To resize a window horizontally and vertically at the same time, click and drag any of its corners.

If you want all of your workbook windows to be visible (that is, not obscured by another window), you can fiddle around by moving and resizing the windows manually, or you can let Excel do it for you. The Window ⇨ Arrange command displays the Arrange Windows dialog box, shown in Figure 4-2. This dialog box has four window-arrangement options. Just select the one that you want and click OK.



**Figure 4-2:** The Arrange Windows dialog box makes it easy to arrange the windows of all open workbooks.

## Switching Among Windows

As previously mentioned, at any given time, one (and only one) workbook window is the active window. This is the window that accepts your input, and it is the window on which your commands work. The active window's title bar is a different color, and the window appears at the top of the stack of windows.

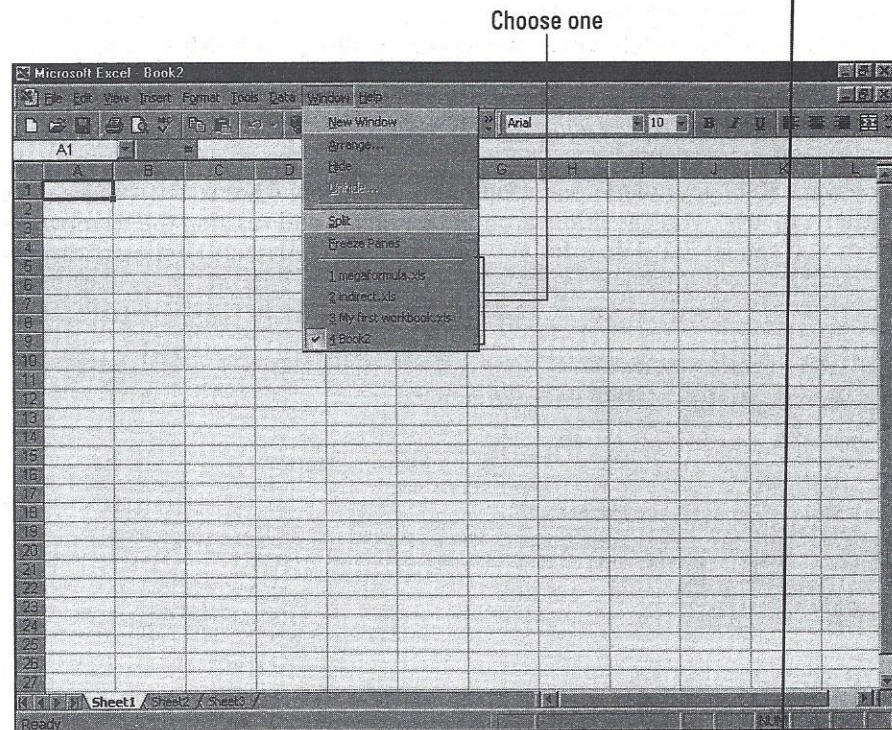
The following are several ways to make a different window the active workbook:

- ♦ Click another window, if it's visible. The window you click moves to the top and becomes the active window.
- ♦ Press Ctrl+Tab to cycle through all open windows until the window that you want to work with appears on top as the active window. Shift+Ctrl+Tab cycles through the windows in the opposite direction.
- ♦ Click the Window menu and select the window that you want from the bottom part of the pull-down menu. The active window has a check mark next to it, as shown in Figure 4-3. This window can display up to nine windows. If you have more than nine workbook windows open, choose More Windows (which appears below the nine window names).



Excel 2000 offers another way to make a different window the active workbook: Click the icon in the Windows taskbar that represents the workbook window that you want to view. This feature works only with Windows 98.



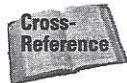


**Figure 4-3:** You can activate a different window by selecting it from the pull-down Window menu.

Many users (myself included) prefer to do most of their work with maximized workbook windows. This enables you to see more cells and eliminates the distraction of other workbook windows getting in the way. And besides, it's easy to activate another workbook window when you need to use it.

When you maximize one window, all the other windows are maximized, too (but you can't see them). Therefore, if the active window is maximized and you activate a different window, the new active window is also maximized. If the active workbook window is maximized, you can't select another window by clicking it (because other windows aren't visible). You must use either Ctrl+Tab, the Windows taskbar, or the Window menu to activate another window.

When would you *not* want to work exclusively with maximized worksheet windows? Excel also has some handy drag-and-drop features. For example, you can drag a range of cells from one workbook window to another. To do this type of drag and drop, both windows must be visible (that is, not maximized).



Chapter 8 discusses Excel's drag-and-drop features.