## CONTENTS

### Introduction

Who Should Read This Book 2

How This Book Is Organized 4
- Printed Parts and Chapters 5
- Online-Only Parts and Chapters 8
- Part IX: Programming and Converting
- Access Applications 10
- Appendixes 10
- The Downloadable Sample Files 11

How This Book Is Designed 11

Typographic Conventions Used in This
Book 12
- Key Combinations, Menu Choices, and
  Filenames 12
- SQL Statements and Keywords in Other
  Languages 12
- Typographic Conventions Used for
  VBA 13
- Typographic Conventions Used for
  VBScript 14

System Requirements for Access 2010 14

Other Sources of Information for Access
- Books 15
- Internet 16

### 1 Getting Acquainted with Access 2010

#### 1 Access 2010 for Access 2007 Users: What’s New 17

What’s New in Microsoft Office Access
2010: An Overview 18

Changes to the Office 2007 Ribbon User
Interface 22
- Access 2007’s Main Ribbons 22
- Contextual Ribbons for Access
  Databases and Projects 24

The Quick Access Toolbar 26
The File Tab’s Backstage View 26

Security, Trusted Locations, Packages, and
Certificates 29
- Specifying Trusted Locations 31
- Packaging and Code-Signing
  Databases 31
- Enabling Non-trusted Application
  Automation with Macros 31

Access Web Databases and SharePoint
Lists 32

Application Development by Templates 32

Access Macros Redux 33

SQL Server 2008 [R2] Express Edition
Setup 35
- Downloading and Installing SSX 35
- Managing SSX 40

#### 2 Building Simple Tracking
Applications 45

Creating Access Applications from
Downloaded Templates 46
- Using the Getting Started Window to
  Download Templates 46
- Changing the Default Folder for New
  Databases and Projects 48
- Creating a Database from a Getting
  Started Window Template 48
- Designating the Default Database Folder
  as a Trusted Location 53
- Creating a Database from Any Access
  Template on Microsoft Office Online 55
- Changing Forms from Overlapping
  Windows to Tabbed Documents 58

Touring the Modified Tasks
Application 59
- Understanding the Role of the
  Navigation Pane 59
Opening Forms and Reports with Macros 66

Importing and Exporting Data from and to Outlook 2010 70
  Importing Contacts from an Outlook Contacts Folder 70
  Exporting Contacts to Outlook 72
  Using Outlook to Email Lists and Detail Items 74
  Collecting Data by Email with Outlook HTML Forms 78

Integrating Objects from Other Template Databases 79
  Import Missing Objects 80
  Alter Inappropriate Field Names 83
  Conform MVLF Combo Boxes of List and Details Forms 86
  Add Approved By and Assigned To Employee Lookup Fields 90
  Add Approved By and Assigned To Combo Boxes to Lists and Details Forms 93

3 Navigating the Fluent User Interface 95

  Defining Access Functions 95
  Defining Access Operating Modes 98

Opening the Northwind.accdb Sample Database 100

Understanding Access’s Table Windows 102

Navigating the Home and Create Ribbons 106
  The Home Ribbon 106
  Context-Specific Table Tools Ribbons 110
  The Create Ribbon 118

Using the Function Keys 121
  Global Function Keys 121

Function-Key Assignments and Shortcut Keys for Fields, Grids, and Text Boxes 121

Setting Default Options 122
  The General Page 123
  The Current Database Page 124
  The Datasheet Page 126
  The Object Designers Page 126
  The Proofing Page 128
  The Language Page 129
  The Client Settings Page 129
  The Customize Ribbon Page 132
  The Quick Access Toolbar Page 132
  The Add-Ins Page 134
  The Trust Center Pages 134

Creating a Customized Template File 137

Using Access Online Help 138
  Searching for a Phrase 139
  Searching Other Sources 141

Spelunking the Database Utilities 141
  Compacting and Repairing Databases 142
  Converting Earlier Database Formats to Access 2007 Format 143
  Compile Errors in the Convert Database Process 143
  Creating .accde Files 143
  Creating .accdr Runtime Files 144

Packaging, Signing, and Distributing an Access 2007 Database 144
  Generate and Install a Self-Certified Digital Certificate 145
  Creating a Signed Package File (*.accd) 148
  Testing a Signed Package File (*.accd) 148
  Creating and Testing a Packaged Solution Installer File (*.msi) 150
II Learning the Fundamentals of Access Databases

4 Exploring Relational Database Theory and Practice 155

Moving from Spreadsheets to Databases 155

Reliving Database History 156
  The Early History of Databases 156
  The Relational Database Model 157
  Client/Server and Desktop RDBMSs 158

Defining the Structure of Relational Databases 159
  Removing Data Redundancy with Relationships 160

Conforming to Table Design Rules 164
  First Normal Form 164
  Second Normal Form 166
  Third Normal Form 167
  Fourth Normal Form 168
  Fifth Normal Form 169

Choosing Primary Key Codes 169

Maintaining Data Integrity and Accuracy 170
  Referential Integrity 171
  Entity Integrity and Indexes 172
  Data Validation Rules and Check Constraints 172
  Transactions 173

Displaying Data with Queries and Views 174

5 Working with Access Databases and Tables 179

Understanding Access Database Files 179
  Upgrading from Jet .mdb to Access .accdb Database Files 179
  Migrating from Access Applications to SQL Server Data Projects 180

Access Record-Locking Information Files 180
Access Add-In (Library) Databases 181

Creating a New Access Database from Scratch 181

Exploring the Properties of Tables and Fields 183
  Table Properties for Subdatasheets 185
  Field Properties 186

Choosing Field Data Types, Sizes, and Formats 191
  Choosing Field Sizes for Numeric and Text Data 193
  Selecting a Display Format 196
  Using Input Masks 202

Preparing to Add a Table Related to the Employees Table 204
  Determining What Information the Table Should Include 206
  Assigning Information to Fields 207
  Creating the HRActions Table in Design View 208
  Creating Tables from Templates 212
  Creating a Table Directly in Datasheet View 213

Setting Default Values of Fields 213

Working with Relations, Key Fields, and Indexes 215
  Establishing Relationships Between Tables 215
  Cascading Updates and Deletions 220
  Selecting a Primary Key 221
  Adding Indexes to Tables 222

Altering Fields and Relationships 224
  Rearranging the Sequence of Fields in a Table 225
  Changing Field Data Types and Sizes 226
  Changing Relationships Between Tables 227
7 Sorting, Finding, and Filtering Data 267

Sorting Table Data 267
  Freezing Display of a Table Field 268
  Sorting Data on a Single Field 268
  Sorting Data on Multiple Fields 269
  Removing a Table Sort Order and Thawing Columns 270

Finding Matching Records in a Table 271

Replacing Matched Field Values Automatically 274

Filtering Table Data 274
  Filtering by Selection 275
  Using the Text Filters Option 277
  Filtering by Form 278
  Applying Menu-based Filters and Sort Orders 284

Applying Advanced Filters and Sort Orders 285
  Adding Multifield Sort and Compound Filter Criteria 286
  Using Composite Criteria 288
  Saving Your Filter as a Query and Loading a Filter 291
  Applying a Saved Query as a Filter 292

Customizing Table Datasheet View 292

Copying, Exporting, and Mailing Sorted and Filtered Data 295

8 Linking, Importing, and Exporting Data 297

Importing and Linking Spreadsheet Files 298
  Creating a Table by Importing an Excel Worksheet 299
  Linking Excel Worksheets 307
Working with Microsoft Outlook and Exchange Folders 308
   Importing and Exporting Access Tables with Outlook 2010 308
   Linking with the Exchange/Outlook Wizard 311

Importing Text Files 313
   Using the Import Text Wizard 314
   Setting the Import Text Wizard's Advanced Options 318

Working with Tables in Other Database File Formats 321
   Dealing with PC Database Files 324
   Linking and Importing External ISA\ AM Tables 324
   Dealing with Images in External Database Files 326
   Converting Field Data Types to Access Data Types 328

Using the Linked Table Manager Add-in to Relink Tables 330

Using the Access Mail Merge Wizard 331
   Creating and Previewing a New Form Letter 332
   Using an Existing Mail Merge Document with a New Data Source 339

Exporting Tables to Word, Excel, PDF, and XPS Files 341

Exporting Table Data as Text Files 344

Exporting Data in Other File Formats 345

Using the Query Design Window 355
   Selecting Fields for Your Query 356
   Selecting Records by Criteria and Sorting the Display 360
   Preventing Updates to the Query ResultSet 362
   Creating More Complex Criteria 364
   Changing the Names of Query Column Headers 365
   Printing Your Query as a Report 367

Testing the Other Query Wizards 369
   Finding Duplicate Values in a Field 371
   Finding Values in One Table with No Matching Values in a Related Table 372

Creating Other Types of Queries 373
   Creating and Using a Simple Make-Table Action Query 374
   Adding a Parameter to Your Make-Table Query 375

10 Understanding Access Query Operators and Expressions 381

Understanding the Elements of Expressions 382

Operators 384
   Arithmetic Operators 385
   Assignment and Comparison Operators 386
   Logical Operators 386
   Concatenation Operators 387
   Identifier Operators 387
   Other Operators 388

Literals 389

Identifiers 390

Functions 391
   Using the Immediate Window 391
   Getting Help as You Write Queries 392
   The Variant Data Type in VBA 394
   The TempVars Collection 396
   Functions for Date and Time 396

III Transforming Data with Queries and PivotTables

9 Designing Queries for Access Databases 347

   Trying the Simple Query Wizard 348
      Creating a Simple SELECT Query 348
Intrinsic and Named Constants 403

Creating Access Expressions 404
Expressions for Creating Default Values 404
Expressions for Validating Data 405
Expressions for Query Criteria 405
The SQL Server Version of a Query 414
Expressions for Calculating Query Field Values 418

11 Creating Multitable and Crosstab Queries 421

Joining Tables to Create Multitable Queries 422
Creating Conventional Single-Column Inner Joins 424
Specifying a Sort Order and Top Values Limit 426
Designing Nested Queries 430
Creating Queries from Tables with Indirect Relationships 433
Creating Multicolumn Inner Joins and Selecting Unique Values 438

Using Lookup Fields in Tables 442
Adding a Foreign Key Drop-down List with the Lookup Wizard 443
Adding a Fixed-Value Lookup List to a Table 447
Creating Multivalued Lookup Fields 450

Adding Subdatasheets to a Table or Query 456
Table Subdatasheets 458
Query Subdatasheets 459

Outer, Self, and Theta Joins 463
Creating Outer Joins 463
Creating Self-Joins 466

Creating Not-Equal (Theta) Joins with Criteria 467

Updating Table Data with Queries 469
Characteristics That Determine Whether You Can Update a Query 469
Taking Advantage of Access's Row Fix-up Feature 471
Formatting Data with the Query Field Property Sheet 472

Making All Fields of Tables Accessible 474

Making Calculations on Multiple Records 475
Using the SQL Aggregate Functions 476
Making Calculations Based on All Records of a Table 476
Making Calculations Based on Selected Sets of Rows or Records 479

Designing Parameter Queries 481
Adding a Parameter to the Monthly Sales Query 482
Specifying the Parameter's Data Type 484

Creating Crosstab Queries 485
Using the Wizard to Generate a Quarterly Product Sales Crosstab Query 486
Designing a Monthly Product Sales Crosstab Query 492
Using Fixed Column Headings with Crosstab Queries 493

Writing UNION Queries and Subqueries 496
Using UNION Queries to Combine Multiple Resultsets 496
Implementing Subqueries 499

Creating Queries from Tables in Other Databases 500
12 Working with PivotTable and PivotChart Views 505

Slicing and Dicing Data with PivotTables 506
   Creating the Query for a Sample PivotTable View 506
   Designing the PivotTable View of the Sample Query 507
   Generating the Initial PivotTable 509
   Reducing the Level of Detail and Adding Grand Totals 512
   Filtering PivotTable Category Values 515
   Increasing the Level of Detail for Drill-Down 517
   Changing Fill/Background and Text Colors 519
   Exchanging PivotTable Axes and Category Hierarchies 519

   Setting PivotTable Property Values 520
   Exporting the PivotTable to Excel 523
   Optimizing Performance of PivotTables 524

   Formatting and Manipulating PivotCharts 528
      Adding Legends, Axis Titles, and Filters 529
      Altering Category Presentation 530
      Changing the Chart Type 532

Creating Action Queries to Append Records to a Table 543
Deleting Records from a Table with an Action Query 546
Updating Values of Multiple Records in a Table 549
   Adding a ShipToID Field to the tblOrders Table 549
   Adding a ShipToID Field and Composite Primary Key to the tblShipAddresses Table 550
   Writing Update Queries to Update Foreign Key Values in the tblOrders Table 551
   Using the tblShipAddress Table in a Query 554
   Using the tblShipAddress Table with UNION Queries 555

Testing Cascading Deletion and Cascading Updates 559
   Creating the Test Tables and Establishing Relationships 559
   Testing Cascading Deletions 562
   Testing Cascading Updates 562

IV Designing Forms and Reports

14 Creating and Using Access Forms 565

   Autogenerating a Basic Transaction-Processing Form 566
   Creating a Master/Child Form from Related Tables 567
   Exploring the frmHRActions Form in Layout View 567

   Form Layout View's Contextual Ribbons 568
      The Form Layout Tools—Format Ribbon 568
      The Form Layout Tools—Arrange Ribbon 572

Creating New Tables with Make-Table Queries 536
   Designing and Testing the Select Query 537
   Converting the Select Query to a Make-Table Query 537
   Establishing Relationships for the New Table 540
   Using the New tblShipAddresses Table 543

13 Creating and Updating Access Tables with Action Queries 535

   Creating Action Queries to Append Records to a Table 543
   Deleting Records from a Table with an Action Query 546
   Updating Values of Multiple Records in a Table 549
      Adding a ShipToID Field to the tblOrders Table 549
      Adding a ShipToID Field and Composite Primary Key to the tblShipAddresses Table 550
      Writing Update Queries to Update Foreign Key Values in the tblOrders Table 551
      Using the tblShipAddress Table in a Query 554
      Using the tblShipAddress Table with UNION Queries 555

Testing Cascading Deletion and Cascading Updates 559
   Creating the Test Tables and Establishing Relationships 559
   Testing Cascading Deletions 562
   Testing Cascading Updates 562

IV Designing Forms and Reports

14 Creating and Using Access Forms 565

   Autogenerating a Basic Transaction-Processing Form 566
   Creating a Master/Child Form from Related Tables 567
   Exploring the frmHRActions Form in Layout View 567

   Form Layout View's Contextual Ribbons 568
      The Form Layout Tools—Format Ribbon 568
      The Form Layout Tools—Arrange Ribbon 572
Rearranging the Default Form Layout 573
Changing Form View from a Tabbed Document to a Modal Pop-up Window 575
Setting Form Appearance Properties 577
Default Values for Forms 577
Changing the Office Theme 579
Changing an Object’s Colors Without Changing the Theme 585
Using the Windows Clipboard and Deleting Controls 592
Changing the Content of Text Controls 592
Using the Format Painter 592
Creating a Master/Child Form with the Form Wizard 594
Refining the Wizard-Generated Form’s Layout 596
Setting Subform Properties 598
Using HTML to Format Memo Data as Rich Text 600
Generating Multiple Items and Split Forms 601
Using Transaction-Processing Forms 602
Appending New Records to the HRActions Table 603
Modifying the Properties of a Form or Control After Testing 605
Removing Fields from the Tab Order 605
Disabling Editing of Specific Controls 606

15 Designing Custom Multitable Forms 607
Getting Acquainted with Form Design View’s Contextual Ribbons 608
The Form Design Tools—Design Ribbon 608
Control Categories 611
The Form Design Tools—Arrange Ribbon 612
Working in Form Design View 613
Selecting Form Elements and Controls 613
Changing the Size of the Form and Its Sections 615
Selecting, Moving, and Sizing a Single Control or Label/Control Pair 615
Aligning Controls to the Grid 617
Selecting and Moving Multiple Controls 617
Aligning a Group of Controls 619
Adding Label and Text Box Controls to a Blank Form 620
Creating the Query Data Source for the Main Form 620
Creating a Blank Form with a Header and Footer 621
Adding a Label to the Form Header 624
Formatting Text and Adjusting Text Control Sizes 625
Creating Bound and Calculated Text Boxes 626
Accepting or Declining Control Error Correction 630
Changing the Default View and Obtaining Help for Properties 631
Adding Group Boxes with the Wizard 632
Changing One Control Type to Another 637
Using the Clipboard to Copy Controls to Another Form 637
Adding Combo and List Boxes 639
Using the Combo Box Wizard 640
Using the Query Builder to Populate a Combo Box 645
Creating a Combo Box with a List of Static Values 648
Creating a Combo Box to Find Specific Records 651
Adding an Attachment Control for Images 656

Working with Tab Controls 659
  Adding the Tab Control to a Form 659
  Adding Tab Control Pages 660
  Changing the Page Order 661
  Deleting a Tab Control Page 662
  Setting the Tab Control’s Properties 662
  Placing Other Controls on Tab Pages 664

Optimizing the Form’s Design 665

Adding a History Subform to a Tab Control Page 667
  Creating a Modified HRActions Subform 667
  Adding the sbfHRActionsTab Subform with the Wizard 669
  Modifying the Design of Continuous Forms 672

Adding New Records in the HRActionEntry Form 673

Using the New Navigation Control and Application Parts 676

Using the Web Browser Control 679

Overriding the Field Properties of Tables 680

Adding Page Headers and Footers for Printing Forms 681

16 Working with Simple Reports and Mailing Labels 683

Categorizing Types of Access Reports 685

Autogenerating a Simple Tabular Report 686

Creating a Grouped Report with the Report Wizard 688

Using Access’s Report Ribbons 695
  The Report Design and Layout Tools—Design Ribbons 695
  The Report Layout and Design Tools—Arrange Ribbon 697
  The Report Design and Layout Tools—Format Ribbon 698
  The Report Layout and Design Tools—Page Setup Ribbon 698

The Print Preview Ribbon 699

Modifying a Basic Wizard Report 701
  Deleting, Relocating, and Editing Existing Controls 701
  Printing the Lookup Fields of a Table 703
  Completing the Initial Report Modifications 704
  Adding the Calculated Controls 709
  Aligning and Formatting Controls and Adjusting Line Spacing 713
  Aligning Controls Horizontally and Vertically 714
  Formatting Controls 714
  Adjusting Line Spacing 715

Adjusting Margins and Printing Conventional Reports 717

Preventing Widowed Records with the Group Keep Together Property 720

Printing Multicolumn Reports as Mailing Labels 721
  Creating a Mailing Label with the Label Wizard 721
  Modifying an Existing Mailing Label Report 725

17 Preparing Advanced Reports 729

Grouping and Sorting Report Data 730
  Grouping Data 731
  Sorting Data Groups 735
Working from a Blank Report 737
  Using a Report as a Subreport 737
  Creating the Monthly Sales by Category Report 739

Incorporating Subreports 744
  Adding a Linked Subreport to a Bound Report 744
  Using Unlinked Subreports and Unbound Reports 748

Customizing De Novo Reports 749
  Adding and Deleting Sections of Your Report 749
  Controlling Page Breaks and Printing Page Headers and Footers 750
  Adding Other Controls to Reports 751
  Reducing the Length of Reports 752

Mailing Reports as Attachments 752
  Sending a Report with an Outlook Message 752

18 Adding Graphs, PivotCharts, and PivotTables 755

  Generating Graphs and Charts with Microsoft Graph 755
    Creating the Query Data Source for the Graph 756
    Using the Chart Wizard to Create an Unlinked Graph 759
    Modifying the Design Features of Your Graph 764
    Changing the Graph to a Chart 768

  Printing Graphs or Charts in Reports 771

Creating a Linked Graph from an Access Crosstab Query 775
  Designing the Crosstab Query for the Graph 776
  Assigning the Crosstab Query as the Graph's Row Source 778
  Linking the Graph to a Single Record of a Table or Query 779

Working with PivotChart Forms 783
  Creating a PivotChart Form from a Query 784
  Using the PivotChart Form as a Subform 787
  Linking the PivotChart to the Main Form's Current Record 790
  Cloning a Linked PivotChart Form/Subform Pair 791
  Tweaking the Design of the PivotChart Subform 792
  Persisting Linked PivotChart Properties with VBA Code 794

Substituting or Adding a PivotTable in a Form 795

V Programming Databases with Macros

19 Automating Access Applications with Macros and Procedures 797

  What Are Access Macros? 798
  How Do I View a Macro's Actions? 799
  Why Use Macros Instead of VBA? 801

  Exploring Access 2010's Event Repertoire 801

  Generating Embedded Macros with the Command Button Wizard 804

  Responding to Events from Combo and List Boxes 810
    Create a Category Combo Box with the Wizard 810
    Write and Test an Embedded ApplyFilter Macro 812

  Exploring Access 2010's Macro-based Switchboard Manager 816
Contents

20 Emulating Table Triggers with Access Data Macros 821

Designing Simple Event-Driven Data Macros 823
  Writing a Simple Data Macro to Handle After Update Events 825
  Eliminating Macro Recursion Errors 834
  Logging Table Updates 836

Writing and Invoking Named Data Macros 841
  Writing a Parameterized Named Data Macro for Creating and Setting Custom Log Records 842

VI Collaborating with Access Data

21 Linking Access Front Ends to Access and Client/Server Tables 859

Separating Tables from Access Front-End Objects 860
  Creating Linked Access Tables with the Database Splitter 861
  Establishing Network Share, Folder, and File Security for the Back End 864
  Verifying Back-End Database Network Security 868

Evaluating the Benefits of Migrating to Client/Server Databases 870
  Client/Server Reliability and Scalability Benefits 871
  SQL Server 2008 R2 Express Edition Features and Limitations 871

Choosing a Client/Server Migration Strategy 873
  Migrating Access Applications to SQL Server with the Upsizing Wizard 873
  Exporting Tables to Other RDBMSs 874

Upsizing a Single-File Application to SQL Server 2005 or Later 875
  Modifying Table Properties to Ensure Successful Upsizing 876
  Running the Upsizing Wizard 877
  Verifying the Upsizing and Linking Process 881
  Upsizing an Application with Linked Tables 884
  Examining the ODBC Table Connection String 885

Moving the Upsized Database to Another Server 886
  Moving or Copying the SQL Server Database Files 886
  Changing the Link Connection String with a VBA Subprocedure 887

Linking Client/Server Tables Manually 890
  Creating the ODBC Data Source 890
  Exporting Access Table Data to the RDBMS 893
  Attaching the Exported Tables 895

Writing and Executing Pass-through Queries 897

Adding SQL Server User Logins with SQL Server Management Studio 900
  Understanding Server and Database Roles 901
  Creating the NWReader and NWWriter Logins with SSMSX 902
  Granting Execute Rights to Stored Procedures 907
  Verifying Database Securables Protection 910

Password-Protecting and Encrypting Access Front Ends 911
  Adding a Database Password 912
  Password-Protecting VBA Code 914
  Creating and Testing an .accde Front End 915
Collaborating with Windows SharePoint Foundation 2010 917

Installing SPF 2010 Under 64-Bit Windows Server 2008 919

Getting Acquainted with SPF 2010 920
  Standard SPF 2010 Site Types 921
  Add a New SPF 2010 Subsite 921
  SPF 2010 Users and Security Groups 930

Managing Data with Access and SharePoint 2010 934

Saving an Existing Access Database in a SharePoint Document Library 935

Moving Tables and Saving an Existing Database to SharePoint 940
  SharePoint List Data Types 940
  Customize SharePoint List Views 941
  Moving and Saving the Northwind Database to SPF 2010 948
  Fixing Up Lists to Resemble Source Tables 951
  Checking Out and Checking In a Database from a Document Library 954

Working Offline and Synchronizing Lists 964

Exporting Tables or Queries to a SharePoint List 967

Linking a SharePoint List to an Access Table 970
  Link or Export SharePoint Lists to Access Tables from SharePoint 970
  Link Access Tables to SharePoint Lists from Access 971

Sharing Web Databases with SharePoint Server 2010 975

Licensing SharePoint Server 2010 976
  Server, External Connector, and Client Access Licenses 976
  Hosted SharePoint 2010 Enterprise Sites 977
  SharePoint Trial Software 978

Understanding the Role of Access Services 978
  The Reporting Services 2008 R2 for SharePoint 2010 Add-in 979
  Access Services Limitations and Restrictions 979

Installing SharePoint Server 2010 980
  Hardware and Software Requirements 980
  Starting Installation from a DVD 981
  Installing the SQL Server 2008 R2 Reporting Services Add-In 982
  Continuing the SharePoint Setup Process 983

Creating a Web Database from a Template 985
  Fixing the Session State Issue with the SharePoint 2010 Management Shell 989

Making Design Changes to Web Databases 992
  Deleting the Getting Started Form from the Contacts Web Database 992
  Investigating and Correcting Web Database Incompatibilities 996

Working with a Hosted SharePoint Site 998

Signing Up for and Testing a Trial Access Hosting Account 999
  Publishing a Web Database to an Access Hosting Subsite 1000
  Working Around Time Zone Conflicts 1003
  Publishing Web Databases to Office 365 SharePoint Servers 1004
VII Working with HTML and XML Documents

24 Importing and Exporting Web Pages

Importing or Linking Data from HTML Tables 1008
  Analyzing an HTML Table's Structure 1009
  Importing HTML Tables from Web Pages 1009
  Counting Duplicate Rows with the Find Duplicates Query Wizard 1016
  Removing Duplicate Rows with an Append Query 1018
  Linking HTML Documents to Access Tables 1020

Importing HTML Lists to Access Tables 1020

Fixing Source Content Before Importing with HTML Tidy 1025
  Downloading and Running HTML Tidy 1026
  Running tidy.exe from the Command Prompt 1027
  Using HTML Tidy Configuration Files 1028

Exporting Access Tables to HTML Files 1028

Exporting Reports to HTML Tables 1031

Modifying Page Layout with HTML Templates 1035

Upgrading Access HTML Documents to HTML 4.01 and CSS 1038
  Using HTML Tidy's Clean Option 1038
  Fixing Tidy-Generated CSS Code 1041
  Linking Documents to a CSS File 1042

Converting HTML 4.01 Files to XHTML 1.0 with Tidy 1043

Gathering Data by Email with HTML Forms 1044
  Creating an HTML Form for the CustomersUpdate Table 1045
  Emulating the Recipient by Editing the Form(s) 1048
  Creating a Message to Add a Record to a Table 1051

25 Integrating with XML and InfoPath 2010

Gaining an XML Vocabulary 1054

Exporting Tables and Queries to XML and HTML 1058
  Analyzing the Exported XML Schema and Data 1059
  Spelunking the vwUnion.xsl File 1064

Reformatting HTML Tables and Adding Page Elements 1065
  Applying CSS Rules to Table and Text Elements 1065
  Adding a Table Header and Caption 1067

Deploying Exported XML File Sets to a Web Server 1069

Exporting Static Reports as XML and Web Pages 1070

Importing XML Data to Tables 1073
  Importing a Flat XML Data Document 1074
  Importing Data with an XML Schema 1077

Exporting and Importing Data in Related Tables 1077
  Exporting Related Tables and Their Schema 1078
  Re-creating and Populating Related Tables 1079
Gathering Data by Email with InfoPath 2010
Forms 1080
Creating an InfoPath Form for the SuppliersUpdate Table 1081
Editing Existing Table Data and Adding a New Record 1084

VIII Creating Access Front Ends to SQL Server Databases

26 Exploring Access Data Projects and SQL Server 2008 1089 (Online)

Understanding the Role of SQL Server and ADP 1091
- SQL Server Editions, Licensing, and Features 1092
- Benefits and Drawbacks of Access Data Projects 1092

Exploring the Northwind SQL Sample Project 1093

Working with SQL Server Tables in the Project Designer 1096
- Project Designer’s Table Design View 1097
- The Table Properties Dialog 1099
- The Relationships Page 1101

Exploring SQL Server Views 1106

Taking Advantage of Inline Functions 1113
- Creating a Parameterized Table-Valued Function 1113
- Adding Default Values for the Input Parameters 1115

Examining Stored Procedures 1116
- Creating and Executing Make-Table and Update Stored Procedures 1117
- Adding Records with Append Stored Procedures 1119
- Dealing with Identity Fields 1119
- Updating Records 1124
- Deleting Records 1124

Diagramming Table Relationships 1125
Backing Up and Restoring Databases 1127
Transferring the Project’s Database to a Server 1131
Connecting to a Remote SQL Server Database 1133
Designing Forms and Reports with SQL Server Data Sources 1134
Securing Your Project as an .ade File 1134

27 Moving from Access Queries to Transact-SQL 1137 (Online)

Understanding SQL Grammar 1138

Writing SELECT Queries in SQL 1140
- Using SQL Punctuation and Symbols 1142
- Translating SQL Statements into QBE Designs 1143
- Using the SQL Aggregate Functions and Writing Inline Functions 1148
- Creating Joins with SQL 1152
- Writing UNION Queries 1155
- Implementing Subqueries 1158

Writing Action Queries and Stored Procedures 1160
- Specifying Parameters for Criteria and Update Values 1162
- Taking Advantage of Transactions in Stored Procedures 1163

Working with Tables in Another Database 1165

Creating Tables with ANSI-SQL92 DDL 1167

Using SQL Statements with Forms, Reports, and Controls 1169
28 Upsizing Access Applications to Access Data Projects and SQL Azure 1171 (Online)

Preparing to Upsize Your Access Applications 1172

Upsizing with the Trial-and-Error Approach 1173
   Performing an Initial Test of the Upsizing Process 1173
   Running a Second Upsizing Pass 1179
   Correcting Wizard Errors 1180
Conforming Computed Columns to the ANSI SQL Standard 1183
Upsizing Access SQL Statements Executed by Forms, Reports, and Controls 1195

Comparing ANSI-92 SQL, T-SQL, and Access SQL 1197
   ANSI-92 SQL Reserved Words in Access SQL 1198
   Access SQL Reserved Words, Operators, and Functions Not in ANSI SQL 1200
   Access's DISTINCTROW and ANSI SQL's DISTINCT Keywords 1202
Access and Corresponding SQL Server Data Types 1202
VBA Functions That Upsize to SQL Server Functions 1203
VBA Functions That You Must Manually Convert to Related SQL Server Functions 1204

Emulating Access Crosstab Queries with T-SQL 1205
   The Pragmatic Approach for Static Data—Cheat 1206
   The Better Approach for Dynamic and Static Data—PIVOT Views or Stored Procedures 1212

Crossfooting Crosstab Queries 1221

Securing Upsized Projects and Their Data 1225

Linking Access Applications to SQL Azure Cloud Databases 1227
   Opening a SQL Azure Account 1228
   Using the SQL Server Migration Assistant with Access Applications 1230
   Linking SQL Azure Tables to a Sample Access Front End 1231

IX Programming and Converting Access Applications

29 Learning Visual Basic for Applications 1239 (Online)

Getting Acquainted with VBA 6.0 1240
   Where You Use VBA Code 1240
   Security Issues with VBA Code 1241
   Typographic and Naming Conventions Used for VBA 1241
Modules, Functions, and Subprocedures 1242
Elements of Modules 1244
References to VBA and Access Libraries 1246
The Object Browser 1247
Data Types and Database Objects in VBA 1248
Variables and Naming Conventions 1250
Symbolic Constants 1257
VBA Named and Optional Arguments 1259

Controlling Program Flow 1260
   Branching and Labels 1260
   Conditional Statements 1261
   Repetitive Operations: Looping 1264
Handling Runtime Errors 1266
   Detecting the Type of Error with the Err Object 1268
   Using the Error Event in Form and Report Modules 1268

Exploring the VBA Editor 1269
   The Toolbar of the Module Window 1269
   Module Shortcut Keys 1271
   The VBA Help System 1271

Examining the Utility Functions Module 1273
   Adding a Breakpoint to the IsLoaded() Function 1273
   Printing to the Immediate Window with the Debug Object 1275

Using Text Comparison Options 1278

30 Handling Events with VBA and Macros 1279 (Online)

Understanding the Role of Class Modules 1280
   Creating a Switchboard Class Module with the Macro-to-VBA Converter 1280
   Testing and Fixing Converted Code 1283

Examining Project Class Module Members in Object Browser and Project Explorer 1287

Using Functions to Respond to Events 1289

Working with Access 2010’s DoCmd Methods 1291
   DoCmd Methods by Task 1292
   Arguments of DoCmd Methods 1293

Customizing Applications with Ribbon Objects 1294
   Creating New RibbonX Objects 1295
   Obtaining RibbonX Documentation and Sample Code 1296
   Editing RibbonX Documents with Visual Studio 2005 or Later 1299

Editing RibbonX Documents with XML Notepad 2007 1300
Converting Macros to VBA Callback Functions 1303

Referring to Access Objects with VBA 1307
   Referring to Open Forms or Reports and Their Properties 1307
   Referring to Controls and Their Properties 1309
   Referring to Controls on a Subform or the Main Form 1310
   Using Alternative Collection Syntax 1311

Responding to Data Events Triggered by Forms and Controls 1311
   Validating Data Entry in a BeforeUpdate Event Handler 1311
   Using the On Current Event to Set Linked PivotChart Properties 1312

31 Programming Combo and List Boxes 1317 (Online)

Constraining Query Choices with Combo Boxes 1317
   Designing the Decision-Support Query 1318
   Creating the Form and Adding a List Box 1318
   Adding the Query Combo Boxes to the Form 1321

Adding Code to Create the Query’s SQL Statement 1326

Drilling Down from a List Box Selection 1330
   Creating the Drill-Down Query and Adding the List Box 1330
   Programming the Drill-Down List Box 1331
Attaching and Upgrading MSDE Databases  1417

Changing the Database Owner and Setting Database Compatibility Level  1419

X Appendix

A What Was New in Access 2007 for Users of Access 2003 and Earlier  1423 (Online)

What Was New in Microsoft Office Access 2007: An Overview  1424

The Office 2007 Ribbon User Interface  1427
  Access 2007’s Main Ribbons  1429
  Contextual Ribbons for Access Databases  1432
  Contextual Ribbons for Access Data Projects  1437
  Customizing Ribbons for Specific Applications  1438
  The Quick Access Toolbar  1439
  The Office Button and Its Gallery  1442

Security, Trusted Locations, Packages, and Certificates  1446
  Specifying Trusted Locations  1447
  Packaging and Code-Signing Databases  1447
  Enabling Nontrusted Application Automation with Macros  1447

The Navigation Pane  1447
  Customizing the Custom Category  1449
  Hiding Prebuilt Categories and Locking the Navigation Pane  1452
  Searching, Filtering, and Sorting the Navigation Pane  1452

Changes to Tables and the Access Database Engine  1453
  Taking Advantage of New or Upgraded Data Types  1453
  EnhancingDatasheet View  1454

Application Development by Templates  1458

New Form and Report Features  1458
  Tabbed Documents and Modal Dialogs  1458
  Form and Report Layout View  1459
  Default Form and Report Layouts  1459
  Control Grouping, Anchoring, Margins, and Padding  1461
  Publish to PDF or XPS Documents  1461

Access Macros Redux  1462

Collaboration with SharePoint  1463

Features Missing from Access 2007  1464

SQL Server 2005 Express Edition SP2 Setup  1465
  Downloading and Installing SSX  1465
  Managing SSX  1470

B Glossary  1475 (Online)

Index  1505