MOS 2016 Study Guide for Microsoft Access

John Pierce

Microsoft Office Specialist
Exam 77-730
Contents

Introduction ix
Taking a Microsoft Office Specialist exam xv

Exam 77-730 Access 2016: Core Database Management, Manipulation, and Query Skills 1
Prerequisites .......................................................... 2

1 Create and manage databases 5
Objective 1.1: Create and modify databases ......................... 6
Create databases 6
Import database objects and data 9
Delete database objects 17
Objective 1.1 practice tasks 18
Objective 1.2: Manage relationships and keys ......................... 20
Create and modify relationships 20
Set key fields 24
Objective 1.2 practice tasks 27
Objective 1.3: Navigate through a database ........................ 28
Navigate specific records 28
Create and modify navigation forms 30
Set a form as the startup option 31
Display objects in the Navigation Pane 31
Change object views 34
Objective 1.3 practice tasks 36
Objective 1.4: Protect and maintain databases ........................................ 37
  Compact and repair databases........................................................... 37
  Back up and restore databases ......................................................... 39
  Split a database .............................................................................. 41
  Encrypt database files ...................................................................... 43
  Objective 1.4 practice tasks ............................................................. 45

Objective 1.5: Print and export data .................................................... 46
  Print reports and records ................................................................. 46
  Save a database as a template ........................................................ 48
  Export data ..................................................................................... 50
  Objective 1.5 practice tasks ............................................................. 55

2 Build tables .................................................................................. 57

Objective 2.1: Create tables ............................................................... 58
  Create tables .................................................................................. 58
  Create linked tables ....................................................................... 62
  Create a table from a template by using application parts ............... 66
  Objective 2.1 practice tasks ............................................................. 68

Objective 2.2: Manage tables ............................................................. 69
  Hide fields in tables ....................................................................... 69
  Add Total rows ............................................................................... 71
  Add table descriptions ................................................................... 72
  Rename tables ............................................................................... 72
  Objective 2.2 practice tasks ............................................................. 74

Objective 2.3: Manage records in tables ............................................ 75
  Add, update, and delete records ...................................................... 75
  Append records from external data ................................................. 76
  Find, sort, and filter data ................................................................. 78
  Objective 2.3 practice tasks ............................................................. 85
Objective 2.4: Create and modify fields ........................................ 86
  Add and delete fields ..................................................... 86
  Add validation rules to fields ........................................... 89
  Modify field properties .................................................. 90
  Automate field values and formatting ................................ 92
  Objective 2.4 practice tasks ............................................. 95

3 Create queries ......................................................... 97

Objective 3.1: Create queries ........................................... 98
  Run queries .............................................................. 98
  Create select queries .................................................. 99
  Create crosstab queries ................................................ 104
  Create parameter queries .............................................. 107
  Create action queries .................................................. 109
  Create multiple-table queries ....................................... 113
  Save queries ............................................................. 115
  Objective 3.1 practice tasks ........................................... 118

Objective 3.2: Modify queries ........................................... 120
  Rename queries .......................................................... 120
  Change the fields in a query .......................................... 120
  Show and hide query fields .......................................... 122
  Specify the sort order for queries ................................... 123
  Format fields in a query ................................................ 123
  Objective 3.2 practice tasks ........................................... 125

Objective 3.3: Create calculated fields and grouping within queries .... 126
  Use calculated fields .................................................... 126
  Set filter criteria ........................................................ 128
  Group and summarize query records ................................ 130
  Group data by using operators ....................................... 132
  Objective 3.3 practice tasks ........................................... 134
4 Create forms .......................................................... 135

Objective 4.1: Create forms ........................................... 136

Create quick forms ..................................................... 137
Create forms by using the Form Wizard .......................... 138
Create forms from scratch ............................................ 139
Create forms from templates by using application parts .... 144
Save forms .................................................................... 145
Objective 4.1 practice tasks ........................................... 146

Objective 4.2: Configure form controls ............................ 147

Move controls ............................................................. 147
Add and remove controls ............................................. 149
Set control properties .................................................. 151
Modify data sources ................................................... 156
Manage labels .............................................................. 157
Create subforms ......................................................... 158
Objective 4.2 practice tasks ........................................... 160

Objective 4.3: Format forms .......................................... 162

Set tab order .............................................................. 162
Configure print settings .............................................. 164
Sort records .............................................................. 165
Apply themes to forms ................................................ 165
Control form positioning ............................................. 168
Modify the background of a form ................................. 170
Insert form headers and footers ................................... 172
Insert images ............................................................. 173
Objective 4.3 practice tasks ........................................... 174
5 Create reports 175

Objective 5.1: Create reports ............................................... 176
  Use the Report Wizard .................................................. 177
  Create reports from scratch ........................................ 180
  Objective 5.1 practice tasks ........................................... 184

Objective 5.2: Configure report controls .............................. 185
  Group and sort records ................................................ 185
  Modify data sources .................................................... 187
  Add controls to a report .............................................. 189
  Add and modify labels ................................................. 191
  Objective 5.2 practice tasks ........................................... 193

Objective 5.3: Format reports ............................................ 194
  Apply page setup options ............................................ 194
  Add a calculated field ................................................. 197
  Format report elements .............................................. 198
  Add information to report headers and footers ................ 200
  Objective 5.3 practice tasks ........................................... 202

Index 205

About the author 217
This page intentionally left blank
Introduction

The Microsoft Office Specialist (MOS) certification program has been designed to validate your knowledge of and ability to use programs in the Microsoft Office 2016 suite of programs. This book has been designed to guide you in studying the types of tasks you are likely to be required to demonstrate in Exam 77-730, “Access 2016: Core Database Management, Manipulation, and Query Skills.”

Who this book is for


MOS exams for individual programs are practical rather than theoretical. You must demonstrate that you can complete certain tasks or projects rather than simply answer questions about program features. The successful MOS certification candidate will have at least six months of experience using all aspects of the program on a regular basis; for example, using Access at work or school to create and manage databases, build database tables, import and export data, design and run queries, create and format forms, and design detail and summary reports.

As a certification candidate, you probably have a lot of experience with the program you want to become certified in. Many of the procedures described in this book will be familiar to you; others might not be. Read through each study section and ensure that you are familiar with the procedures, concepts, and tools discussed. In some cases, images depict the tools you will use to perform procedures related to the skill set. Study the images and ensure that you are familiar with the options available for each tool.
How this book is organized

The exam coverage is divided into chapters representing broad skill sets that correlate to the functional groups covered by the exam. Each chapter is divided into sections addressing groups of related skills that correlate to the exam objectives. Each section includes review information, generic procedures, and practice tasks you can complete on your own while studying. We provide practice files you can use to work through the practice tasks and result files you can use to check your work. You can practice the generic procedures in this book by using the practice files supplied or by using your own files.

Throughout this book, you will find Exam Strategy tips that present information about the scope of study that is necessary to ensure that you achieve mastery of a skill set and are successful in your certification effort.

Download the practice files

Before you can complete the practice tasks in this book, you need to copy the book’s practice files and result files to your computer. Download the compressed (zipped) folder from the following page, and extract the files from it to a folder (such as your Documents folder) on your computer:

https://aka.ms/MOSAccess2016/downloads

IMPORTANT The Access 2016 program is not available from this website. You should purchase and install that program before using this book.

You will save the completed versions of practice files that you modify while working through the practice tasks in this book. If you later want to repeat the practice tasks, you can download the original practice files again.
The following table lists the practice files provided for this book.

<table>
<thead>
<tr>
<th>Folder and objective group</th>
<th>Practice files</th>
<th>Result files</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOSAccess2016\Objective1 Create and manage databases</td>
<td>Access_1-1.xlsx Access_1-2.accdb Access_1-3.accdb Access_1-4.accdb Access_1-5.accdb</td>
<td>Access_1-1_results.accdb Access_1-2_results.accdb Access_1-3_results.accdb Access_1-4_results.accdb Access_1-5_results.accdb</td>
</tr>
<tr>
<td>MOSAccess2016\Objective2 Build tables</td>
<td>Access_2-1a.accdb Access_2-1b.accdb Access_2-1c.txt Access_2-1d.accdb Access_2-2.accdb Access_2-3a.accdb Access_2-3b.xlsx Access_2-4.accdb</td>
<td>Access_2-1_results.accdb Access_2-2_results.accdb Access_2-3_results.accdb Access_2-4_results.accdb</td>
</tr>
<tr>
<td>MOSAccess2016\Objective3 Create queries</td>
<td>Access_3-1.accdb Access_3-2.accdb Access_3-3.accdb</td>
<td>Access_3-1_results.accdb Access_3-2_results.accdb Access_3-3_results.accdb</td>
</tr>
<tr>
<td>MOSAccess2016\Objective4 Create forms</td>
<td>Access_4-1.accdb Access_4-2.accdb Access_4-3.accdb Access_4-3a.png</td>
<td>Access_4-1_results.accdb Access_4-2_results.accdb Access_4-3_results.accdb</td>
</tr>
<tr>
<td>MOSAccess2016\Objective5 Create reports</td>
<td>Access_5-1.accdb Access_5-2.accdb Access_5-3.accdb</td>
<td>Access_5-1_results.accdb Access_5-2_results.accdb Access_5-3_results.accdb</td>
</tr>
</tbody>
</table>
Adapt procedure steps

This book contains many images of user interface elements that you’ll work with while performing tasks in Access on a Windows computer. Depending on your screen resolution or program window width, the Access ribbon on your screen might look different from that shown in this book. (If you turn on Touch mode, the ribbon displays significantly fewer commands than in Mouse mode.) As a result, procedural instructions that involve the ribbon might require a little adaptation.

Simple procedural instructions use this format:

→ On the **Home** tab, in the **Sort & Filter** group, click the **Filter** button.

If the command is in a list, our instructions use this format:

→ On the **Home** tab, in the **Sort & Filter** group, click **Advanced Filter Options** and then, in the **Advanced Filter Options** list, click **Filter By Form**.

If differences between your display settings and ours cause a button to appear differently on your screen from how it does in this book, you can easily adapt the steps to locate the command. First click the specified tab, and then locate the specified group. If a group has been collapsed into a group list or under a group button, click the list or button to display the group’s commands. If you can’t immediately identify the button you want, point to likely candidates to display their names in ScreenTips.

The instructions in this book assume that you’re interacting with on-screen elements on your computer by clicking (with a mouse, touchpad, or other hardware device). If you’re using a different method—for example, if your computer has a touchscreen interface and you’re tapping the screen (with your finger or a stylus)—substitute the applicable tapping action when you interact with a user interface element.

Instructions in this book refer to user interface elements that you click or tap on the screen as buttons, and to physical buttons that you press on a keyboard as keys, to conform to the standard terminology used in documentation for these products.
Ebook edition

If you’re reading the ebook edition of this book, you can do the following:

- Search the full text
- Print
- Copy and paste

You can purchase and download the ebook edition from the Microsoft Press Store at:

https://aka.ms/MOSAccess2016/detail

Errata, updates, & book support

We’ve made every effort to ensure the accuracy of this book and its companion content. If you discover an error, please submit it to us through the link at:

https://aka.ms/MOSAccess2016/errata

If you need to contact the Microsoft Press Book Support team, please send an email message to:

mspinput@microsoft.com

For help with Microsoft software and hardware, go to:

https://support.microsoft.com

We want to hear from you

At Microsoft Press, your satisfaction is our top priority, and your feedback our most valuable asset. Please tell us what you think of this book by completing the survey at:

https://aka.ms/tellpress

The survey is short, and we read every one of your comments and ideas. Thanks in advance for your input!
Stay in touch

Let’s keep the conversation going! We’re on Twitter at:

https://twitter.com/MicrosoftPress
Taking a Microsoft Office Specialist exam

Desktop computing proficiency is increasingly important in today’s business world. When screening, hiring, and training employees, employers can feel reassured by relying on the objectivity and consistency of technology certification to ensure the competence of their workforce. As an employee or job seeker, you can use technology certification to prove that you already have the skills you need to succeed, saving current and future employers the time and expense of training you.

Microsoft Office Specialist certification

Microsoft Office Specialist certification is designed to assist students and information workers in validating their skills with Office programs. The following certification paths are available:

- A Microsoft Office Specialist (MOS) is an individual who has demonstrated proficiency by passing a certification exam in one or more Office programs, including Microsoft Word, Excel, PowerPoint, Outlook, or Access.

- A Microsoft Office Specialist Expert (MOS Expert) is an individual who has taken his or her knowledge of Office to the next level and has demonstrated by passing Core and Expert certification exams that he or she has mastered the more advanced features of Word or Excel.

- A Microsoft Office Specialist Master (MOS Master) is an individual who has demonstrated a broader knowledge of Office skills by passing the Word Core and Expert exams, the Excel Core and Expert exams, the PowerPoint exam, and the Access or Outlook exam.
Selecting a certification path

When deciding which certifications you would like to pursue, assess the following:

- The program and program version(s) with which you are familiar
- The length of time you have used the program and how frequently you use it
- Whether you have had formal or informal training in the use of that program
- Whether you use most or all of the available program features
- Whether you are considered a go-to resource by business associates, friends, and family members who have difficulty with the program

Candidates for MOS certification are expected to successfully complete a wide range of standard business tasks. Successful candidates generally have six or more months of experience with the specific Office program, including either formal, instructor-led training or self-study using MOS-approved books, guides, or interactive computer-based materials.

Candidates for MOS Expert and MOS Master certification are expected to successfully complete more complex tasks that involve using the advanced functionality of the program. Successful candidates generally have at least six months, and might have several years, of experience with the programs, including formal, instructor-led training or self-study using MOS-approved materials.

Test-taking tips

Every MOS certification exam is developed from a set of exam skill standards (referred to as the objective domain) that are derived from studies of how the Office programs are used in the workplace. Because these skill standards dictate the scope of each exam, they provide critical information about how to prepare for certification. This book follows the structure of the published exam objectives.

See Also For more information about the book structure, see “How this book is organized” in the introduction.
The MOS certification exams are performance based and require you to complete business-related tasks in the program for which you are seeking certification. For example, you might be presented with a document and told to insert and format additional document elements. Your score on the exam reflects how many of the requested tasks you complete within the allotted time.

Here is some helpful information about taking the exam:

- Keep track of the time. Your exam time does not officially begin until after you finish reading the instructions provided at the beginning of the exam. During the exam, the amount of time remaining is shown in the exam instruction window. You can’t pause the exam after you start it.

- Pace yourself. At the beginning of the exam, you will receive information about the tasks that are included in the exam. During the exam, the number of completed and remaining tasks is shown in the exam instruction window.

- Read the exam instructions carefully before beginning. Follow all the instructions provided completely and accurately.

- If you have difficulty performing a task, you can restart it without affecting the result of any completed tasks, or you can skip the task and come back to it after you finish the other tasks on the exam.

- Enter requested information as it appears in the instructions, but without duplicating the formatting unless you are specifically instructed to do so. For example, the text and values you are asked to enter might appear in the instructions in bold and underlined text, but you should enter the information without applying these formats.

- Close all dialog boxes before proceeding to the next exam item unless you are specifically instructed not to do so.

- Don’t close task panes before proceeding to the next exam item unless you are specifically instructed to do so.
- If you are asked to print a document, worksheet, chart, report, or slide, perform the task, but be aware that nothing will actually be printed.
- Don’t worry about extra keystrokes or mouse clicks. Your work is scored based on its result, not on the method you use to achieve that result (unless a specific method is indicated in the instructions).
- If a computer problem occurs during the exam (for example, if the exam does not respond or the mouse no longer functions) or if a power outage occurs, contact a testing center administrator immediately. The administrator will restart the computer and return the exam to the point where the interruption occurred, with your score intact.

Exam Strategy  This book includes special tips for effectively studying for the Microsoft Office Specialist exams in Exam Strategy paragraphs such as this one.

Certification benefits

At the conclusion of the exam, you will receive a score report, indicating whether you passed the exam. If your score meets or exceeds the passing standard (the minimum required score), you will be contacted by email by the Microsoft Certification Program team. The email message you receive will include your Microsoft Certification ID and links to online resources, including the Microsoft Certified Professional site. On this site, you can download or order a printed certificate, create a virtual business card, order an ID card, review and share your certification transcript, access the Logo Builder, and access other useful and interesting resources, including special offers from Microsoft and affiliated companies.
Depending on the level of certification you achieve, you will qualify to display one of three logos on your business card and other personal promotional materials. These logos attest to the fact that you are proficient in the applications or cross-application skills necessary to achieve the certification. Using the Logo Builder, you can create a personalized certification logo that includes the MOS logo and the specific programs in which you have achieved certification. If you achieve MOS certification in multiple programs, you can include multiple certifications in one logo.

For more information

To learn more about the Microsoft Office Specialist exams and related courseware, visit:

http://www.certiport.com/mos
Microsoft Office Specialist

Exam 77-730

Access 2016: Core
Database Management, Manipulation, and Query Skills

This book covers the skills you need to have for certification as a Microsoft Office Specialist in Access 2016. Specifically, you need to be able to complete tasks that demonstrate the following skills:

1. Create and manage databases
2. Build tables
3. Create queries
4. Create forms
5. Create reports

With these skills, you can create, populate, and manage the types of databases most commonly used in a business environment.
**Prerequisites**

We assume that you have been working with Access 2016 for at least six months and that you know how to carry out fundamental tasks that are not specifically mentioned in the objectives for this Microsoft Office Specialist exam.

The certification exam and the content of this book address the processes of designing and building Access databases. We assume that you are familiar with the Microsoft Office ribbon and that you understand basic Access features—for example, that you know how to enter and edit data. We also assume you are familiar with the definition and function of relational databases and database objects such as tables and forms. To provide context and an opportunity for review, the following list provides brief explanations of five important terms:

- **Table**  Defines the data stored in a database. Tables are composed of fields, and each field is defined as a specific data type (text, number, date, or another data type). Each field also has certain properties. For example, you can specify that a field is required. You can also define the size of a field (such as the maximum number of characters a field can contain). Users of a database fill in fields (and must fill in required fields) with values to create a record in the database. In most tables, each record is identified by a unique value called a primary key, which might be a single field (such as a product ID) or a combination of fields.

- **Relationship**  Helps maintain the integrity of the information in a database and reduce data redundancy. You can create several types of relationships between tables in an Access database. In a one-to-many relationship, a record in one table can be related to one or many records in another. You can also create one-to-one relationships and many-to-many relationships. Relationships are created by linking a table’s foreign key (such as a customer ID field in an order table) with another table’s primary key (the customer ID field in the customer table). Relationships protect data integrity by preventing you from creating orphan records (for example, an order with no customer). Relationships help reduce data redundancy by letting you store information in separate tables that you link together. For example, you can create a customer table and then relate each order in an order table to the record for a specific customer. This prevents you from having to enter a custom record for each separate order.
- **Query** Can be used to select records that meet specific criteria and to perform actions such as updating a group of records. To build a select query, you add fields from one or more tables and then define criteria that Access uses to retrieve the records you want to view. For example, you might want to retrieve records with a certain value in a date field (all records created after 1/1/2017, for example) or records associated with a specific project. Using criteria, you can also create and run action queries that insert, update, or delete selected records.

- **Form** Used to display, enter, and edit data. Forms are often bound to tables (or to queries) that serve as the form’s record source. Forms use controls such as text boxes, check boxes, and list boxes to provide a user interface for a database. Forms can also be used to confirm and execute database operations and to navigate from one database object to another. Access provides several built-in form designs, a gallery of form controls, and tools you use to design and lay out a form.

- **Report** Used to share and present data and to summarize data for a specific field or fields. You might print reports for a meeting or distribute them electronically as PDF files or in email.
This page intentionally left blank
Objective group 1
Create and manage databases

The skills tested in this section of the Microsoft Office Specialist exam for Microsoft Access 2016 relate to creating and managing databases. Specifically, the following objectives are associated with this set of skills:

1.1 Create and modify databases
1.2 Manage relationships and keys
1.3 Navigate through a database
1.4 Protect and maintain databases
1.5 Print and export data

Many of the operations and tasks involved in creating and managing Access databases originate in the Backstage view. For example, the New page includes templates that you can use to create a database, and a search box that you can use to locate other templates. The Info page provides commands that help you maintain and protect a database. Beyond the specific commands you use, Access also offers a way to back up a database, which is a critical step in ensuring that data is available in the event of an accident or a security incident. By taking steps to make database navigation clear and logical, you help ensure that the database's users have an easy time keeping the data current.

This chapter guides you in studying ways to create and modify databases, manage relationships and keys, navigate through a database, protect and maintain a database, and print and export data.

To complete the practice tasks in this chapter, you need the practice files contained in the MOSAccess2016\Objective1 practice file folder. For more information, see “Download the practice files” in this book’s introduction.
Objective 1.1: Create and modify databases

When you start Access without opening a recently used database or double-clicking a database file, the program opens to its startup screen. The startup screen displays a list of recent files and a set of thumbnails for templates on which you can base a variety of desktop databases or Access web apps (a type of database stored in the cloud). Access also provides an option for creating a blank desktop database or a custom (blank) web app.

Tip
On the General page of the Access Options dialog box, you can set options for the default file format for a blank database and the default database folder.

Create databases

Access databases are made up of database objects: tables, queries, forms, reports, and supporting objects such as macros. Templates provide some or all of the database objects you need to manage the type of data the template is designed to support.
When you create a blank database, Access provides a single table by default. You can set up and define other database objects to expand the databases you create. By default, Access names new database files by using Databases\_n, where n is a number such as 1 or 2. You can enter a more descriptive name when you create the database.

Access provides templates for desktop databases and for what Access calls SharePoint web apps. (The thumbnails for web apps display a globe.) When you work with an Access web app, you work in a web browser, but you design and modify the web app in Access. You can share the data in a web app by using an instance of SharePoint.

---

Exam Strategy: Exam 77-730, “Access 2016: Core Database Management, Manipulation, and Query Skills,” does not require you to demonstrate that you can create an Access web app.

---

A blank desktop database opens with the Navigation Pane open. In a blank database, Access creates a default table, called Table1, which serves as a starting point. Access displays the default Table1 in what Access refers to as Datasheet view. When a table is displayed in Datasheet view, you can define field names and data types and insert records. You can also display a table in Design view. In Design view, you work directly with the structure of the table (the table’s field names and properties) instead of with the records stored in the table.

---

See Also: For more information about how to display objects in the Navigation Pane, see “Display objects in the Navigation Pane” in “Objective 1.3: Navigate through a database.”
The database templates represented by the set of thumbnails that appears on the startup page are not the only database templates you can use. At the top of the startup window is the search box, with the prompt “Search for online templates,” and just below the search box are suggested search terms. You can search by using one of the suggestions or enter the search term you want to use in the search box to locate other templates that might be available.

When you select a thumbnail for a database template on the startup screen, Access displays a window that provides a description of the template.

*Tip* Access 2016 includes the Northwind Traders sample database, which has been part of Access for many versions of the program. The Northwind Traders database provides examples of features, including a login dialog box, sample macros, and Microsoft Visual Basic for Application (VBA) modules. Use the search box to find the Northwind Traders database template (the thumbnail identifies the database as *Northwind 2007 sample*). Create the database, and then refer to it when you’re looking for a solution, or just work with it from time to time to gain an understanding of the extent of the work you can do in Access.
To create a database from a template

1. On the startup screen or the New page of the Backstage view, click the thumbnail for the template you want to use.

   **Tip** Use the search box to locate a template that’s not displayed. To create a blank desktop database, click the Blank Desktop Database thumbnail. (Depending on your installation of Access, the template might be named Blank Database or Blank Desktop Database.)

2. In the File Name box, enter a name for the database.

3. If you want to store the database in a location other than your Documents folder, do the following:
   a. Click the folder icon to the right of the File Name box.
   b. In the File New Database dialog box, navigate to the folder where you want to store the database.
   c. Click OK.

4. Click Create. Access downloads the template if necessary, and then creates and opens the new database.

5. If an Info bar below the ribbon displays a security warning, click Enable Content.

Import database objects and data

Whether you start with a blank database or base your database on a template, you can add some or all of your records by importing data. You can also define part of the structure of the data by, for example, using column headings in a spreadsheet as field names in a new table. Data sources you can use include Excel workbooks, other Access databases, text files, XML files, Microsoft SharePoint lists, and Microsoft Outlook folders.

When you import data, you generally have three options: importing the source data into a new table, appending the data to a table that’s already defined, or linking to the data source to create a linked table. When you are importing objects and data as part of creating a database, you use the first of these options in most cases. Access often provides wizards that help you provide the information Access requires to import data from a specific format.

---

See Also For information about appending data to a table, see “Append records from external data,” in “Objective 2.3: Manage records in tables.” For information about creating linked tables, see “Create linked tables,” in “Objective 2.1: Create tables.”
Options for importing data from an Excel spreadsheet

When you import data from Excel into a new table, the Import Spreadsheet Wizard prompts you for information to complete the operation. The wizard first prompts you for the worksheet or the named range you want to import. You can view the sample data that the wizard displays from the worksheet, but you cannot modify it. Access can use the column headings in the worksheet as field names in the database. You can also specify each field’s data type and whether Access should index the field. The wizard's fourth page provides options for setting the table’s primary key. Access can create an ID field in the table to use as the primary key, or you can select a primary key field or use no primary key in the new table.
Define field names and data types when you import data from a spreadsheet

See Also For information about running saved import and export operations, see “Objective 1.5: Print and export data.”
When you import data from another Access database, you can import all the objects in that database or only the objects you select. The Import Objects dialog box shows the tables, queries, forms, reports, macros, and modules in the source database on separate tabs.

Import options control how the data is imported

The available import options are described in the following list:

- In the Import area, the Relationships option determines whether table relationships are preserved in the import operation. Selecting the Menus And Toolbars option imports any custom menus and toolbars from databases created in versions of Access prior to Access 2007. Selecting Import/Export Specs includes any import or export specifications defined in the source database. Selecting Nav Pane Groups imports any custom Navigation Pane groups set up in the source database, and selecting All Images And Themes includes these elements with the import.

- Options in the Import Tables area control whether you import only the definition of the database objects you select or both the definition of the object and the data. For example, you can import a table with its fields and other properties but
no data or include the data in the table. If you are importing objects to create a new database, you might want to import only the definition for a table in which you store project details, but you might want to include the data when you import a table that stores a set of tasks that is common to all projects.

- The options in the Import Queries area determine whether Access imports a query as a query or as a table. You might import a query as a table when the query’s definition (the fields it includes) forms the basis of a table you want in a new database.

You can import data from a text file that uses the .txt, .csv, .tab, or .asc file name extension. When you import data from a text file, you work with the Import Text wizard. In the wizard, you first need to specify whether a character separates the fields of data in the text file (a delimited text file) or whether the data is arranged in fixed-width columns. For delimited text files, you need to specify which character is used as the delimiter; for fixed-width files, you indicate where column breaks should occur.

The later pages of the Import Text wizard are similar to those you work with in the Import Spreadsheet wizard. You can name fields, specify a data type, indicate whether the field should be indexed, and skip a specific field. The wizard also prompts you to set up a primary key for the table.

Three of the other formats you can import are as follows:

- **XML files** Access uses the structure of the XML file to determine table names and fields. Import options include Structure Only, Structure And Data, and Append Data To Existing Table(s).

- **SharePoint lists** You provide the URL for the SharePoint site, and you might need to provide your user name and password to gain access to the site. If Access connects to the site successfully, the lists stored on the site are displayed, and you can then select the list or lists that contain the data you want to import. If you select more than one list, each list is imported as a separate table. Access uses the list’s name for the table name and the list’s columns as the table’s fields.

- **Outlook folders** Importing a contacts or tasks folder from Outlook is an effective way to add this information to a database. Access runs the Import Exchange/Outlook wizard when you import data from Outlook. The wizard prompts you to provide field names, specify data types, and set up indexes. You can skip fields if you don’t want to import them.

**To import data from Excel into a new table**

1. On the **External Data** tab, in the **Import & Link** group, click **Excel**.
2. In the **Get External Data** dialog box, click **Import the source data into a new table in the current database**, click **Browse** to locate the source file, and then click **OK**.
3. In the **Import Spreadsheet Wizard**, select the worksheet or named range that has the data you want to import.

4. Click **Next**, and then work through the wizard to specify whether the first column of the data includes column headings, set field options, designate a primary key, and name the table.

5. Click **Finish** in the wizard. If you want to save the steps in this operation, in the **Get External Data** dialog box, select **Save import steps**.

**To import data from another Access database**

1. On the **External Data** tab, in the **Import & Link** group, click **Access**.

2. In the **Get External Data** dialog box, click **Browse** to locate the source database.

3. Click **Import tables, queries, forms, reports, macros, and modules into the current database**, and then click **OK**.

4. In the **Import Objects** dialog box, do either of the following:
   - To import all the objects from the source database, click **Select All**.
   - To import only specific objects from the source database, select objects you want to import.

5. Click **Options**, and then set the options for the import operation:
   - In the **Import** area, click **Relationships** to preserve table relationships defined in the source database.
   - In the **Import Tables** area, click **Definition and Data** or **Definition Only**.
   - If you are importing queries, in the **Import Queries** area, click **As Queries** or **As Tables**.

6. In the **Get External Data** dialog box, do the following:
   - If you want to save the steps of the operation for reuse, select the **Save import steps** check box and provide a name and optional description for the steps.
   - Click **Close**.

**To import data from a text file into a new table**

1. On the **External Data** tab, in the **Import & Link** group, click **Text File**.

2. In the **Get External Data** dialog box, do the following:
   - Click **Import the source data into a new table in the current database**.
   - Click **Browse**. Navigate to and select the source file, and then click **OK**.
3. In the Import Text wizard, do the following:
   a. Specify the format for the file you’re importing (Delimited or Fixed Width), and then click Next.
   b. Choose the delimiting character or specify column breaks (depending on the format selected in step a). Select First Row Contains Field Names if this option applies.
   c. Click Next, and then work through the remaining pages to set field options, designate a primary key, and name the table.
   d. In the Import Text wizard, click Finish.
4. In the Get External Data dialog box, do the following:
   a. If you want to save the steps of the operation for reuse, select the Save import steps check box and provide a name and optional description for the steps.
   b. Click Close.

To import an XML file
1. On the External Data tab, in the Import & Link group, click XML.
2. In the Get External Data dialog box, do the following:
   a. Click Browse to open the File Open dialog box. Locate and select the source file, and then click Open.
   b. Click OK to open the Import XML dialog box.
3. In the Import Options area of the Import XML dialog box, do either of the following, and then click OK:
   - To import only the XML file structure as the table’s definition, select Structure Only.
   - To import the XML file structure and the data values, select Structure and Data.
4. In the Get External Data dialog box, do the following:
   a. If you want to save the steps of the operation for reuse, select the Save import steps check box and provide a name and optional description for the steps.
   b. Click Close.
To import a SharePoint list
1. On the External Data tab, in the Import & Link group, click More, and then click SharePoint List.
2. In the Get External Data dialog box, do the following:
   a. In the Specify a SharePoint site box, enter the URL for the SharePoint site you want to connect to.
   b. Click Import the source data into a new table in the current database, and then click Next.
3. On the Import data from list page, for each list that you want to import as a table, do the following:
   a. Select the list check box.
   b. In the Items to Import list, select All Pages or an option such as Recent Changes.
   c. Click OK.
4. In the Get External Data dialog box, do the following:
   a. If you want to save the steps of the operation for reuse, select the Save import steps check box and provide a name and optional description for the steps.
   b. Click Close.

To import an Outlook folder as a table
1. On the External Data tab, in the Import & Link group, click More, and then click Outlook Folder.
2. In the Get External Data dialog box, click Import the source data into a new table in the current database, and then click OK.
3. If multiple mail profiles are configured on your computer, the Choose Profile dialog box opens. In the dialog box, select the profile you want to import from, and then click OK.
4. If prompted, enter the user name and password for your Outlook account.
5. In the Import Exchange/Outlook Wizard, do the following:
   a. Select the folder you want to import, and then click Next.
   b. Make changes to the field names or data types Access assigns to the folder’s contents, set the Indexed property for a field, or specify to skip a field. Then click Next.
c. Choose an option to have Access set a primary key, select your own key, or set no primary key. Then click **Next**.

d. Change the name of the table if you want to, and then click **Finish**.

6. In the **Get External Data** dialog box, do the following:

   a. If you want to save the steps of the operation for reuse, select the **Save import steps** check box and provide a name and optional description for the steps.

   b. Click **Close**.

**Delete database objects**

Access databases depend on the relationship between tables to preserve the integrity of data and to eliminate redundant data. You can delete most types of database objects, including queries, forms, and reports, without affecting underlying relationships. However, Access prevents you from deleting a table that is related to another table without first deleting the relationship. Access deletes the relationship for you if you agree.

![Microsoft Access message box](image)

*A warning about deleting a table*

---

**See Also**  For more information about table relationships, see “Objective 1.2: Manage relationships and keys.” For information about renaming database objects, see “Back up and restore databases” in “Objective 1.4: Protect and maintain databases.”

---

**To delete a database object**

1. Close the object that you want to delete.

2. In the **Navigation Pane**, right-click the object, and then click **Delete**.

3. In the **Microsoft Access** message box asking you to confirm that you want to delete the object and remove it from all groups, click **Yes**.

4. If you are deleting a table and Access prompts you to confirm that you want Access to delete the relationship, click **Yes** to remove the relationship and delete the table.
Objective 1.1 practice tasks

The practice file for these tasks is located in the MOSAccess2016\Objective1 practice file folder. The folder also contains a result file that you can use to check your work.

➤ Start Access and do the following:

☐ Create a database from the Desktop contacts template. (Depending on your installation of Access, the template might be named Contacts desktop.) Name the database MOSContacts and save it in the practice file folder.

➤ If you want to explore the contact management database features, play the Using the Contacts Database video from the Welcome screen.

Tip If the Welcome screen doesn’t open automatically, double-click the Welcome form in the Navigation Pane.

☐ Close the MOSContacts database without exiting Access.

➤ From the Access Start screen or the New page of the Backstage view, do the following:

☐ From the search box, locate the Northwind 2007 sample template.

☐ Create a database from the template. Name the database Northwind and save it in the practice file folder.

☐ Close the Northwind database without exiting Access.

➤ From the Access Start screen or the New page of the Backstage view, do the following:

☐ Create a blank desktop database. (Depending on your installation of Access, the template might be named Blank database or Blank desktop database.) Name the database MOSDatabase and save it in the practice file folder.

☐ Import the Customers and Orders table definitions (not the data) from the Northwind database you created.

Tip Display the Options area and, in the Import Tables section, select Definition Only.
Import the ExpensesPaid worksheet from the Access_1-1 workbook located in the practice file folder to create a new table in the MOSDatabase database, using the worksheet's column headings. Use the ExpenseID field as the primary key. Name the table Expenses.

Open the Access_1-1_results database. Compare the two databases to check your work. Then close the open databases.
Objective 1.2: Manage relationships and keys

Formally, Access is known as a relational database management system, or RDBMS. In this model, relationships between tables maintain the integrity of the data and reduce the need to store redundant data. For example, customer names can be stored in one table and orders stored in another. By creating a relationship between these tables, you relate each order to a customer; you don’t need to repeat the customer’s name in the record for new orders. Relationships between tables are also used when you base a query, form, or report on more than one table.

Set options for a relationship in the Relationships window and the Edit Relationships dialog box

This topic describes how to create table relationships, how to set primary keys and foreign keys in an Access database, and how to display relationships in the Relationships window.

Create and modify relationships

When you create a table relationship, the type of the relationship depends on the data that the tables contain and how that data is related. Tables can have the following types of relationships:

- **One-to-many**  In this relationship, any one record in the first table can be related to many records in the second table (for example, one customer can place many orders), but any record in the second table (an order) is related to only one record in the first table (for example, each order is placed by a single customer).
Objective 1.2: Manage relationships and keys

- **One-to-one** In a one-to-one relationship, each record in the first table is related to only one record in the second table. You can use a one-to-one relationship to maintain a separate table that defines and stores fields for data that you don’t refer to regularly or that you want to keep more confidential. For example, in an Employees table, you can store general employee information such as first and last name, department, job title, and building and office location. In separate EmployeeRating and EmployeeCompensation tables, you can store performance ratings and compensation data—information that you want only certain people or groups to use. Each record in the Employees table has a single matching record in the table for ratings or compensation.

- **Many-to-many** An Orders table and a Products table have a many-to-many relationship because each record in the Orders table can have many matching records in the Products table, and each record in the Products table can have many matching order records. You can’t define a many-to-many relationship directly. Instead, you need to create a linking table (also known as a junction table) to create two one-to-many relationships. The linking table includes the primary key fields from both the other tables.

  Tip In the Northwind sample database that comes with Access, the Order Details table is a linking table.

When you create a relationship, Access displays the Edit Relationships dialog box. If Access detects matching fields in the tables (for example, if each table has a field named CustomerID), Access displays these fields in the Table/Query and Related Table/Query lists. You can replace these default selections when you need to. The relationship type is indicated at the bottom of the dialog box.

---

See Also For information about join types, see “Create multiple-table queries,” in “Objective 3.1: Create queries.”
The Edit Relationships dialog box includes several important options, such as the following:

- **Enforce Referential Integrity** Referential integrity is used to prevent orphan records (records in one table with no matching record in a related table) and to maintain references between related tables. By using referential integrity, you ensure that no record in one table refers to a record in another table that doesn’t exist; for example, a record for a book cannot refer to an author if a record for that author does not exist. If you enforce referential integrity, Access does not allow operations that violate referential integrity rules for that relationship; for example, you can’t enter a customer ID in the Orders table if that customer ID does not exist in the Customers table. Also, you can’t delete records that reflect an existing relationship; for example, you can’t delete a customer record if order records for that customer exist.

- **Cascade options** When you apply referential integrity to a relationship, you can choose one or both Cascade options:
  - If Cascade Update Related Fields is selected, Access updates the foreign key for all related fields when you make a change to the primary record.
  - If Cascade Delete Related Records is selected, Access deletes all related records when you delete a primary record. If you delete a customer, for example, Access also deletes all order records for that customer.

In a large database with a web of table relationships, you might need to refine the view of the relationships in the Relationships window. You can modify the content of the Relationships window in the following ways:

- Hide a table to remove it from the window.
- Select a set of tables you want to view.
- View the tables with direct relationships for the selected table.
- View all the relationships in the database.
- Drag the table thumbnails to alter the arrangement of the window.

When you close the Relationships window, Access prompts you to save the current layout.

The Object Dependencies pane provides information about how one database object depends on others and how others depend on it. Although the dependencies displayed are not the same as table relationships, you can use the Object Dependencies pane to see, for example, which forms depend on the data or fields in a specific table.

---

To open the Relationships window


To display tables in the Relationships window

1. On the Design tool tab, in the Relationships group, click Show Table.
2. In the Show Table dialog box, select the tables, and then click Add.

*Tip* Hold down the Ctrl key to select multiple items.

To remove tables from the Relationships window

- In the Relationships window, do either of the following:
  - To remove one table, click the table to select it. Then on the Design tool tab, in the Relationships group, click Hide Table.
  - To remove all tables, on the Design tool tab, in the Tools group, click Clear Layout.

To display relationships in the Relationships window

- In the Relationships window, do either of the following:
  - To display all direct relationships of a specific table, click the table to select it. Then on the Design tool tab, in the Relationships group, click Direct Relationships.
  - To display all relationships in the database, on the Design tool tab, in the Relationships group, click All Relationships.

To view object dependencies

1. In the Navigation Pane, select the database object whose dependencies you want to view.
3. In the message box informing you that Access needs to update dependency information, click OK.
4. In the Object Dependencies pane, click Objects that depend on me or Objects that I depend on.

To create a table relationship

1. Open the Relationships window. If the tables you want to create relationships between aren’t displayed in the Relationships window, add them.
2. Drag the linking field from the first table (the “one” table in a one-to-many relationship) to the second table (the “many” table).
3. In the **Edit Relationships** dialog box that opens, do the following:
   a. Ensure that the linking fields are selected in the **Table/Query** and **Related Table/Query** lists.
   b. If you want to enforce referential integrity for this relationship, select the **Enforce Referential Integrity** check box.
   c. If you enforce referential integrity, you can also do one or both of the following:
      - If you want Access to update related fields when you change the primary record, select the **Cascade Update Related Fields** check box.
      - If you want Access to delete related records when you delete the primary record, select the **Cascade Delete Related Records** check box.
   d. Click **Create** to establish the relationship and close the dialog box.

**To modify a relationship**

1. Open the **Relationships** window and do either of the following:
   - Click the relationship line between two tables. Then on the **Design** tool tab, in the **Tools** group, click **Edit Relationship**.
   - Right-click the relationship line between two tables, and then click **Edit Relationship**.
2. In the **Edit Relationships** dialog box, modify the table or query selections, the join type, or the options, and then click **OK**.

**Set key fields**

In Access, key fields are used when you establish table relationships. For example, if you have a table named **Project Managers**, the table could include the ProjectManagerID field as its **primary key**. A table’s primary key uniquely identifies each record in the table. You can then add the ProjectManagerID field to the Projects table to create a relationship between the tables that lets you identify the manager for each project. In the Projects table, the ProjectManagerID field is referred to as a **foreign key**. Primary keys and foreign keys can also be used in queries to join tables; Access uses that relationship to retrieve the set of records that match the criteria you define.

You can use a single field (for example, a unique product or customer code, or an ID field that is set to the AutoNumber data type that Access provides) or a combination of fields as a table’s primary key. A multifield primary key is called a **composite key**. For an AutoNumber field, Access assigns a unique number to each record in a table; you don’t need to keep track of values that might be duplicates. If you don’t use the
AutoNumber data type but instead use a field whose value you enter, be sure that you set the field’s Required property to Yes and that you use a field or a combination of fields whose values change infrequently or not at all.

See Also  For information about setting field properties, see “Objective 2.4: Create and modify fields.”

Tip  When you create a new table, Access includes an ID field in the table and sets this field to be the table’s primary key.

A foreign key field should be set to the Number data type. You do not need to enter data for the foreign key field. Instead, the field’s values are tied to the unique values from the table in which the field is the primary key field.

To set the primary key for a table, you must have the table open in Design view. Access adds a small key icon to the row selector area to indicate that a field is a primary key field.

A key icon identifies the primary key field

If a table already contains data, the field or fields you designate for the primary key must have unique values. Also, if a primary key field is part of any table relationship, you must remove the relationship before you can change the primary key.

See Also  For information about adding and deleting relationships, see “Create and modify relationships” earlier in this topic.
To open a table in Design view

➔ If the table is closed, right-click the table in the Navigation Pane, and then click Design View.
➔ If the table is open in another view, on the Design tool tab, in the Views group, click View, and then click Design View.

See Also  For more information about object views, see “Change object views” in “Objective 1.3: Navigate through a database.”

To set a primary key

1. Open the table in Design view.
2. Select the field or fields you want to designate as the table’s primary key. To select multiple fields, press Ctrl and select the fields.
3. On the Design tool tab, in the Tools group, click Primary Key.

To remove the primary key designation from a field

1. Open the table in Design view.
2. Select the field or fields from which you want to remove the primary key designation.
3. On the Design tool tab, in the Tools group, click Primary Key.

To set a foreign key in a table

1. Open the table in Design view.
2. In the Field Name column, enter the name of the foreign key field.
3. In the Data Type column, select Number.
4. Save the changes to the table.
Objective 1.2 practice tasks

The practice file for these tasks is located in the MOSAccess2016\Objective1 practice file folder. The folder also contains a result file that you can use to check your work.

- Open the Access_1-2 database from the practice file folder, and then do the following:
  - Open the Status table in Design view.
  - Set the StatusID field as the table’s primary key.
  - Save the changes to the table.

- Open the Relationships window and do the following:
  - Display the Tasks and Status tables in the window.
  - Create a relationship between the Status table (StatusID field) and the Tasks table (Status field).
  - Use the Show Table command to add the Compensation table to the Relationships window.
  - Edit the relationship between the Compensation table and the Employees table to enforce referential integrity.

- Open the Access_1-2_results database. Compare the two databases to check your work. Then close the open databases.
Objective 1.3: Navigate through a database

In an Access database, navigational features can be different for users who are responsible for designing and maintaining the database and for users whose role is only to enter, edit, and view data. Later in this topic, you examine how to create a navigation form that greets database users when they open a database and provides a set of controls for opening forms, running queries, and viewing and printing reports. In this topic, you also study how to find specific records, set up different views in the Navigation Pane, and work with basic Access views.

Navigate specific records

You have a choice of tools when you need to find a specific record in a table or in the results of a query, or when you’re working with a form or report. Navigation buttons that appear at the bottom of a form or a table in Datasheet view move from record to record or to the first or last record. The record indicator displays which record is selected. The navigation area also includes a simple search box in which you can enter the text you want to search for. Access finds the first instance of that text in any of the object’s fields.

Use the search box in the navigation area to find specific records
Objective 1.3: Navigate through a database

On the Home tab, commands in the Find group help you locate records, perform find-and-replace operations, and move between records by using the Go To options. In the Find dialog box, you can select an option to search the current field or the current document (the full database). The Match box provides options for matching the whole field, any part of the field, or the start of the field. For example, if you were searching for records for *pasta*, you could enter *pasta* and match the whole field, *pa* and match the start of the field, or *st* and match any part of the field. You can also conduct case-sensitive searches. The Search Fields As Formatted check box is selected by default. You can clear this option to search for values as Access stores them rather than as they are formatted in the database.

Another approach for navigating to a specific record is to use the options that Access provides for sorting and filtering records. You can sort the records in text fields in ascending or descending order, and in number fields from smallest to largest or largest to smallest. When you filter records, only the records that match the filter’s criteria are displayed. This reduces a long list of records to just a few records among many.

---

See Also For information about sorting and filtering records, see “Find, sort, and filter data” in “Objective 2.3: Manage records in tables.”

---

To use the navigation area

- ➤ In the navigation area at the bottom of a table, query, or form, use the arrows to move to the first, next, previous, or last record in the record set.
- ➤ To find a specific record, in the navigation area’s search box, enter text related to the record.

To go to a record

- ➤ On the Home tab, in the Find group, click Go To, and then click First, Previous, Next, or Last.

To find records

1. On the Home tab, in the Find group, click Find.
2. In the Find And Replace dialog box, in the Find What box, enter text related to the record you want to locate.
3. Use the Look In, Match, and Search lists and the Match Case option to specify conditions that Access will use to locate records.
4. Click Find Next.
Create and modify navigation forms

To augment or replace the Navigation Pane, you can build a form that database users use to open forms, run queries, view reports, and perform other database operations.

*A simple navigation form*

Access provides several default layouts for navigation forms. Each of the built-in layouts provides tabs (in various locations and orientations) that users click to display the object they want to use. You can add other forms and reports to the navigation form to complete it. As you add objects to the navigation form’s tabs, Access duplicates the Add New tab, to mark where the next object tab will appear. You can also insert a navigation button to add a link in a specific position.

**To create a navigation form**

1. On the **Create** tab, in the **Forms** group, click **Navigation**, and then click the layout you want to use.
2. Expand the **Navigation Pane** if it is collapsed.
3. Drag the first database object (a form or report, for example) that you want to add to the navigation form from the **Navigation Pane** to the **Add New** area of the navigation form.
4. For each additional object that you want to add to the form, drag the object from the **Navigation Pane** and drop it before or after an existing tab.
5. To create a navigation tab that isn’t linked to a specific object, do either of the following:
   - To insert a tab after the existing tabs, double-click the [Add New] tab, and then click away from it.
   - To insert a tab between others, right-click the tab that is currently in the position you want for the new tab, and then click **Insert Navigation button**.

6. In the content area of the program window, right-click the form tab, and then click **Save**.

**Set a form as the startup option**

After you create a navigation form, you can select it as the default form that Access displays when you open the database. You can use this option to designate any form in your database as the default form to display. You don’t need to select a navigation form.

**To specify a startup form**

1. Open the **Access Options** dialog box and display the **Current Database** page.
2. In the **Application Options** section, open the **Display Form** list, and click the form you want to use.

**Display objects in the Navigation Pane**

This section focuses on the Access Navigation Pane and how you can modify and organize it to display different views of the objects in a database. The ability to modify the Navigation Pane means that it can serve the needs of a range of users—from a database’s designer to its casual users.

The Northwind sample database provides examples of how you can configure the Navigation Pane. In the Northwind database, objects by default are arranged within several categories, not by object name or object type. Objects are grouped under headings such as Customers & Orders, Suppliers, and Shippers instead of headings such as Tables, Queries, and Forms. Headings such as Customers & Orders help clarify functional areas of the database and help users find forms and queries related to the area they are working with.

When you change how database objects are displayed in the Navigation Pane, you work with a menu that has several options. This menu arranges commands in two areas, marked by the shaded labels Navigate To Category and Filter By Group. The Navigate To Category area includes categories such as Object Type, Tables And Related Views, Created Date, and Modified Date. For each category, the Filter By
Group area provides options that you can apply to display a subset of objects. For example, if you select Modified Date in the Navigate To Category area, you can then filter the list by selecting Today, Three Weeks Ago, Yesterday, Older, or All Dates. For the Object Type category, you can filter the Navigation Pane to view only objects of a specific type or view all objects.

The Tables And Related Views category displays each table in the database together with other database objects that depend on it. Using this view is helpful when you make changes to a table's design. For example, by choosing the Tables And Related Views category and then choosing a single table in the Filter By Group area, you can see which objects depend on the table, and you can review the design of those objects to be sure that the changes you want to make to the table won’t affect the other objects in ways you don’t intend.

You can also sort the list of objects in a category, showing them in ascending or descending order or by name, type, and date criteria. You can also change the level of detail that is shown for objects in the Navigation Pane. You can display a list of names with a small icon, show a larger icon next to the name of the object, or show details such as the created and modified date for the object.

The search bar at the top of the Navigation Pane helps you locate a specific object (or group of objects) by name. As you enter a text string, Access filters the list of objects and displays those that match.

As with the Northwind sample database, database templates often provide a specific category for viewing database objects by functional role. For example, the Task Management template provides a category called Tasks Navigation, which lets you filter by groups such as tasks and contacts. A blank desktop database includes a category named Custom that you can rename and use to build your own Navigation Pane view.

You can set up Navigation Pane categories and groups of your own in the Navigation Options dialog box.
Organize the Navigation Pane into categories and groups

The categories defined for the database appear in the list at the left, and each group defined for a category appears in the list at the right. You can hide a group from being displayed in the Navigation Pane, or select display options to show hidden and system objects in the Navigation Pane or to show or hide the search bar. By using the Open Objects With options, you can control whether an object opens when it is clicked (similar to a hyperlink) or double-clicked.

In the Groups For list is a group named *Unassigned Objects*, which is a built-in group that contains all the objects in a database. When you work with the default Custom category in a blank database, Access also provides a group named *Custom Group 1*.

**Tip**  You can reposition a custom category or group by using the arrows that appear beside an item’s name when you select it. You cannot place a custom category above the two built-in categories or place a custom group below the built-in group Unassigned Objects.

When you add a database object to a custom group, you add only a shortcut to that object, not the object itself. This means that you can delete a shortcut from a custom group without deleting the database object.
To create and modify Navigation Pane categories and groups

1. Right-click the Navigation Pane title bar, and then click Navigation Options.
2. In the Navigation Options dialog box, do any of the following, and then click OK:
   - To add a category, click Add Item and then enter a name for the category.
   - To rename the selected category, click Rename Item, edit the name, and then press Enter.
   - To delete the selected category, click Delete Item, and then in the message box asking you to confirm the deletion, click OK.
   - To add a group to the selected category, click Add Group, and then enter a name for the group.
   - To rename the selected group, click Rename Group, edit the name, and then press Enter.
   - To delete the selected group, click Delete Group, and then in the message box asking you to confirm the deletion, click OK.

Tip You can rename and delete only custom groups.

- In the Display Options area, select or clear the check boxes for showing hidden objects, system objects, and the search bar.
- In the Open Objects With area, click Single-click or Double-click.

To add objects to a group

1. In the Navigation Pane, display the Unassigned Objects group.
2. Right-click the object you want to add to the group, click Add to group, and then select the group.

Change object views

You work with database objects in a variety of views. Each type of object (tables, queries, forms, and reports) can be opened in Design view. In Design view, you can add and define fields and field properties for a table; add fields to a query; add command buttons, list boxes, and other controls to a form; and apply formatting, group records, add calculated fields, and complete other tasks when you work with reports.

Forms and reports can also be opened in Layout view. In Layout view, you can design and modify a form or report while viewing the actual data. In Design view, data is not displayed. When you work with a form (for data entry or when searching for a specific record), the form is displayed in Form view. When you view a completed report, the report is displayed in Report view.
When you open a table for data entry or view the results that a query returns, you work with the table or query in Datasheet view.

**To change object views**

- In the **Navigation Pane**, right-click the object and then choose the view you want to use. (Not every object view is available on the menu.)
- With the database object open, right-click the object’s tab in the Access design window, and then select the view you want to use.
- With the database object open, click **View** on the object’s **Design** tool tab, and then select the view you want to use. (For tables, the View command appears on the Fields tool tab.)
Objective 1.3 practice tasks

The practice file for these tasks is located in the MOSAccess2016\Objective1 practice file folder. The folder also contains a result file that you can use to check your work.

- Open the Access_1-3 database from the practice file folder, and then do the following:
  - Open the Customers table in Datasheet view. Use the search box to locate the record for The Big Cheese.
  - Create a Navigation Pane category named Campaigns, and groups named Campaign Details, Products, and Employees.
  - Add the Campaign Expenses, CampaignLanguages, and Marketing Campaigns tables to the Campaign Details group. Add the Orders and Products tables to the Products group, and add the Employees table to the Employees group.
  - Create a navigation form that has the Vertical Tabs, Left layout. Add the TaskDetails form to the navigation form. Save the form (use the default name for this practice task), and then set the form as the startup form.

- Open the Access_1-3_results database. Compare the two databases to check your work. Then close the open databases.
Objective 1.4: Protect and maintain databases

Access provides several options for maintaining and protecting a database. The first of these—Compact & Repair—can help improve the performance of a database and can repair database files in the event of a problem. You can use the Encrypt With Password option to restrict database access to only those users who know the password.

This topic describes these options and other tasks you perform to protect and maintain a database, including backing up a database, recovering data from a backup, and splitting a database—a step that applies especially to a database shared by multiple users.

Compact and repair databases

As you and other users work with an Access database, the database file grows larger as you add data and because Access creates and uses hidden objects to perform its work behind the scenes. Database files can also become corrupt. Frequent use of the database—especially by multiple users working on the database over a network—can result in a corrupted file, which can in some cases result in data loss or affect the ease with which you can change the database’s design.

To keep ahead of these potential problems, you can compact and repair a database. You can perform these operations on the current database (the database you have open) or select a different database when you perform these operations.

Some restrictions apply to compacting and repairing a database. For example, if more than one person has the database open when you compact or repair it, Access displays a message indicating that you attempted to open a database that is already open. Before you compact a multiuser database, you should be sure that no one has the database open and then open the database for exclusive access.

Tip Select the Compact On Close option on the Current Database page of the Access Options dialog box to compact a database each time you close it.

To open a database for exclusive access

1. If the database is open, click the File tab, and then click Close. (If other users have the database open, they must also close the database.)

2. Display the Open page of the Backstage view. In the Places list, click the location where the database is stored, such as This PC. Then click Browse.

3. In the Open dialog box, navigate to the folder where the database is stored, and then select the database.
4. Click the Open arrow, and then click Open Exclusive.

Opening a database for exclusive access

To compact and repair the current database
   1. Open the database for exclusive access.
   2. On the Info page of the Backstage view, click Compact & Repair Database.

To compact and repair a database that isn’t currently open
   1. Close any open databases.
   2. On the Database Tools tab, in the Tools group, click Compact and Repair Database.
   3. In the Database to Compact From dialog box, select the database you want to compact, and then click Compact.
4. In the Compact Database Into dialog box, enter a name for the compacted database, and then click Save.

5. If you used the current name of the database, click Yes in the message box Access displays to confirm that Access should replace the current database file.

Back up and restore databases

Another step in protecting your database files from corruption and the potential loss of data is to perform regular backups. In practice, you need to back up some databases more often than others. A database that serves as an archive, for example, and isn’t used frequently, doesn’t need to be backed up on a specific schedule. A database that you and others work with nearly every day should be backed up on a regular schedule. You should also follow standard backup procedures such as keeping the backup copies on external media (such as a DVD or a flash drive) and in a secure location.

Exam Strategy  The objective domain for this exam includes backing up a database and recovering database objects from a backup. You might be required to demonstrate the recovery of specific objects, such as tables.

When you back up a database, Access appends the current date to the name of the database file. You can retain this date or replace it with an alternative identifier. You might also add “backup” to the file name so that you can identify a backup easily.

If one or more objects in a database become corrupt, if you lose data, or if you need to return to an earlier version of a database for some other reason, you can restore a database by replacing it with a backup file. You can also recover specific database objects by importing them from a recent backup.

IMPORTANT  You might be able to at least partially repair a corrupt database by running the Compact & Repair command. For information, see “Compact and repair databases” earlier in this topic.

Recovering an object from a backup doesn’t automatically replace the original object. For example, if you restore a table named Tasks from a recent backup, Access creates a table named Tasks1 in the current database. Before you begin the steps to recover a database object, you should delete the object from the current database or rename the original object (by adding an identifier such as “old” or “bad”).

To back up a database

1. Display the Save As page of the Backstage view.
2. In the Advanced area, click Back Up Database, and then click Save As.
3. In the Save As dialog box, modify the file name that Access provides (or accept the default name), and then click Save.
To rename a database object

1. In the Navigation Pane, right-click the object, and then click Rename to activate the object name for editing.
2. Enter the new object name, and then press Enter.

See Also For information about deleting database objects, see “Delete database objects” in “Objective 1.1: Create and modify databases.”

To restore database objects from a backup

1. Open the database in which you want to restore an object.
2. In the Navigation Pane, rename or delete the current instance of the object. (If you are restoring a missing object, you can ignore this step.)
3. On the External Data tab, in the Import & Link group, click Access.
4. In the Get External Data dialog box, click Import tables, queries, forms, reports, macros, and modules into the current database.
5. Click Browse and navigate to the backup file you want to use. Then click Open.
6. In the Get External Data dialog box, click OK.
7. In the Import Objects dialog box, do either of the following, and then click OK:
   - Click Select All to select all the objects and restore the entire database.
   - Select the object or objects you want to restore.
8. In the Get External Data dialog box, click Close.

Split a database
You can think of an Access database as composed of two parts. The tables, which define and store the raw data, make up one part (the back end). The second part consists of the queries, forms, reports, and supporting objects that users interact with to enter, edit, and view data (the front end). You can split a database to store the tables in one file and the other database objects in a second file. Splitting a database into a front end and back end allows the database designers and administrators to create new forms or update reports for the front end without interfering with the use of the back-end database while doing so. When the new objects are ready, the administrators can implement the updated front end without affecting the relationships and references in place in the back end.
Another reason to split a database is to reduce network traffic when the database is used by more than one person. The back-end database (the tables) can reside in a shared location, and each person can use a local copy of the front-end database.

---

**Tip** You should back up your database before you split it.

After you split a database, Access displays a small arrow icon in the Navigation Pane next to the names of tables.

![All Access Objects](image)

*The arrows in the Navigation Pane indicate tables that are linked to the back-end database*

**To split a database**

1. Close all open database objects.
2. On the **Database Tools** tab, in the **Move Data** group, click **Access Database**. If Access displays a security notice that shows the path to the file ACWZTOOL. ACCDE, click **Open** to proceed and open the Database Splitter dialog box.
3. In the **Database Splitter** dialog box, read through the information provided, and then click **Split Database**.
4. In the **Create Back-end Database** dialog box, choose a location for the back-end file. By default, Access uses the current database name and adds _be to the end of the file name.

5. Click **Split** to begin the process. When the process completes, in the **Database Splitter** message box confirming that the database split was successful, click OK.

**Encrypt database files**

When you assign a password to a database, any user who wants to work with the database must enter the password to open the file. You can use this process, for example, to restrict who can open a database that is stored in a location that many users share.

A database must be open for exclusive use before you can encrypt the database by using a password. If you are encrypting the current database, you need to close it before you open it for exclusive use.

---

**IMPORTANT**  If any properties of the database are incompatible with encryption, Access displays a message box telling you that the feature (such as row-level locking) will be ignored. You can safely dismiss this message and proceed with encryption.
You can also remove a password from a database after you open it for exclusive use.

To encrypt a database with a password

1. Close the database without exiting Access.
2. Display the Open page of the Backstage view.
3. In the Places list, click the drive where the database is stored, and then click Browse.
4. In the Open dialog box, navigate to the database storage location and select the database file. Click the Open arrow, and then click Open Exclusive.
6. In the Set Database Password dialog box, enter the password you want to use, enter the password again in the Verify box, and then click OK.

![Set Database Password dialog box](image)

*Enter a password to protect the database*

To remove a database password

1. Open the database for exclusive access, and enter the database password.
2. On the Info page of the Backstage view, click Decrypt Database.
3. In the Unset Database Password dialog box, enter the password applied to the database, and then click OK.
Objective 1.4 practice tasks

The practice file for these tasks is located in the MOSAccess2016\Objective1 practice file folder. The folder also contains a result file that you can use to check your work.

➤ Open the Access_1-4 database from the practice file folder for exclusive use, and then do the following:
   - Log on by using any user name.
   - Create a password for the database. Use the password Access2016.
   - Compact and repair the database.
   - Create a backup of the database. Name the backup MOSBackup.
   - Rename the Customer List form as Customer List_old.
   - Restore the Customer List form from the MOSBackup database.
   - Delete the Customer List_old form.
   - Split the Access_1-4 database to create a front-end database and a back-end database. Save the back-end database in the practice file folder using the default name Access_1-4_be.

➤ Open the Access_1-4_results database. Compare the two databases to check your work. Then close the open databases.
Objective 1.5: Print and export data

You can use the data you store in Access in several ways. Within Access, you can create reports, for example, and distribute the reports in printed or electronic format. You can also export data to formats that are compatible with earlier versions of Access and with other programs, including Microsoft Excel and Word.

This topic first focuses on how to print reports and specific database records. It then describes how to export data from Access and how to save a database as a template.

Print reports and records

When you print a report, you can send the report directly to the default printer (without setting any printing options), use the Print dialog box to select a printer and set printing options, or work in print preview, a view that enables you to refine the report's layout, view the report in different ways, and export the data.

The Print dialog box provides standard options with which you can specify a page range, set the number of copies, and adjust the page setup. It also provides an option for printing selected records. You must select the records you want to print before opening the Print dialog box. In general, you will print records that you select in a table or query that is open in Datasheet view.
When you display a report in print preview, Access provides commands to adjust page size and margins, change the page layout and page orientation (switching from portrait to landscape, for example), set up the report in columns, and view the report by zooming in and out or by displaying one or more pages. With these views, you can assess whether the report’s formatting is consistent, for example, or whether any important data might be missing. Many of the commands on the Print Preview tab are also available when you design and format a report in Design view or Layout view.

Tip The Print Preview tab also provides a set of options (in the Data group) for exporting data to other programs or in various formats. These options are described in “Export data” later in this topic.

In the Page Size group on the Print Preview tab, the Show Margins option displays or hides the report’s margins, and the Print Data Only option removes elements such as column headings and information in page headers and footers from the report that Access prints. You can open the Page Setup dialog box from the Page Size group, but many of the options in the Page Size and Page Layout groups duplicate options that the dialog box provides.

The range of zoom levels in print preview extends from 10 percent to a maximum of 1,000 percent (not all zoom levels apply to every object), but you can choose only preset options (such as 75% or 200%). The Zoom slider, in the lower-right corner of the Access window, adjusts the zoom level with greater flexibility. The Zoom group also lets you choose how many pages to display in a multipage report or printout. By default, one page is displayed. You can also display 2, 4, 8, or 12 pages.

To print a report directly to the default printer

➔ Right-click the report, and then click Print.

Or

1. Open the report from the Navigation Pane.
2. On the Print page of the Backstage view, click Quick Print.

To set printing options and print a report

1. Open the report from the Navigation Pane.
2. On the Print page of the Backstage view, click Print.
3. In the Print dialog box, set options for the print range, number of copies, and other printer properties. Then click OK.
To print selected records from a table or a query

1. Open the table or query in Datasheet view.
2. Select the records you want to print.
3. On the Print page of the Backstage view, click Print.
4. In the Print dialog box, do the following:
   a. In the Print range area, click Selected Records. (If you don’t click Selected Records, Access prints all the records in the datasheet.)
   b. Click OK.

To manage print and page setup options for a database object in print preview

1. Open the database object you want to print, if it is not already open.
2. On the Print page of the Backstage view, click Print Preview.
3. In the Page Size group, adjust paper size and margins and specify whether only data should be printed.
4. In the Page Layout group, set the page orientation, columns, and other page setup options.
5. In the Print group, click Print.
6. In the Print dialog box, set options for the number of copies and other printing options, and then click OK.

Save a database as a template

As described earlier in this chapter, you can use a template as the basis for a new database. The template can provide a set of default database objects (tables, forms, and reports, for example) that you customize for the needs of a specific database.

You can also save a database that you create (either from scratch or by using a template) as a template. You might use this option to save a basic contact database that includes information you need in more than one database. You might also create a set of forms with a look and feel that you want each database to include and then save those forms as a template. By default, templates are stored in your user profile, in \AppData\Roaming\Microsoft\Templates\Access.
Settings for a user-defined database template

In the Create New Template From This Database dialog box, you can categorize the templates you create. Access sets the Category box to User Templates by default, but you can define a category of your own and assign a template to it. If you plan to share this template with other users or just want to add a professional touch to a template you’re creating for yourself, you can specify an image file to use as an icon for the template. This icon replaces the standard Access icon in the program’s application window and as the thumbnail preview of the template that appears in the Backstage view. You can also specify a preview image and a form that appears when the database opens. If the database you are saving as a template already includes data, you can include that data in the template or include only the database objects themselves, without any data.
The Instantiation Form list specifies the form you want to display as a splash screen, for example. Access displays the form you select in this list only once and then deletes the form. Be careful not to confuse this option with a startup form, which you can specify for the current database by using the Access Options dialog box.

You can include the template as an application part, which makes it available in the Application Parts gallery on the Create tab. The application part appears under the heading you provide in the Category box in the Create New Template From This Database dialog box. The template is also available on the Access startup screen or on the New page in the Backstage view.

**To save a database as a template**

1. Create and format the database objects you want to include in the template. Enter any data you want the template to store by default.
2. Click the File tab, and then click Save As. In the Database File Types list, click Template, and then click Save As.
3. In the Create New Template from This Database dialog box, enter a name and description for the database, and then specify a category, icon image, preview image, and instantiation form (if you want to use one).
4. Select the Application Part check box to add this template to the Application Parts gallery, and then specify a primary table for the template.
5. Select Include All Data in Package as applicable.

**Export data**

One of the advantages of entering and maintaining data in a database is the capability to make the data available in other formats. For example, you can export data to use it in other programs and in other contexts. Data related to sales, budgets, orders, and other financial records can be exported to Excel for analysis. A list of contacts can be exported to a list in a SharePoint site or used in a mail merge in Word. Exporting data to a text file or to an XML file puts the data in a format that is compatible with other database and spreadsheet programs, and creating a PDF or an XPS file by using an export operation lets you distribute data in formats designed for review instead of analysis and editing.

The Export dialog box provides options to maintain an object’s formatting and layout when you export it, view the exported file when the operation is complete, and export only selected records (in lieu of the complete record set that is contained in a specific
table or query, for example). Specific operations, such as exporting to a text file, require you to set additional options that control where and how data is exported. You can also save export settings and then repeat an export operation in a single step.

Exporting data to an Excel workbook

The default setting for exporting data to Excel is the Excel Workbook file format (.xlsx). The options you can choose for a file format depend on the type of object you export. When you export records from a query, for example, you can keep Excel Workbook (.xlsx) or choose Excel Binary Workbook, Microsoft Excel 5.0/95 Workbook, or Excel 97–Excel 2003 Workbook. If you export a report, the file formats are limited to Microsoft Excel 5.0/95 Workbook and Excel 97–Excel 2003 Workbook.

The availability of export options also depends on the type of object. If you export a report, the Export Data With Formatting And Layout check box is selected by default and cannot be cleared. If you export a query or a table, you can select or clear the formatting and layout check box. By selecting that check box, you can open the destination file, and if you selected a subset of the records, you can then select the option to export only those records.

If you export an object’s complete record set, Access displays another dialog box, which has an option for saving the export steps. Saving the export steps saves time if you expect to run this export operation again using the same object and the same export settings.
When you export data to a text file, the steps you follow depend on whether you select the Export Data With Formatting And Layout option. When you select this option, Access displays the Encode As dialog box, which provides a choice of encoding schemes: Windows (Default), MS-DOS, Unicode, or Unicode (UTF-8). The Windows (Default) and MS-DOS options apply to text files that will be used only in programs that support these formats. Most programs consuming text files can use files encoded with the Unicode option. Unicode (UTF-8) is a format used widely on the web.

If you don’t select the Export Data With Formatting And Layout option, Access displays the Export Text Wizard. In export operations that rely on the Export Text Wizard, you specify whether to export the data as a delimited text file or as a fixed-width text file.

From this point, the Export Text Wizard displays screens that refine your initial choice. For example, for delimited text files, you specify the character that separates fields in each record (often a comma), whether to include field names in the first row of the exported file, and the text qualifier character (which is used to handle instances of the delimiting character that appear in actual values). For fixed-width exports, you use the wizard to indicate where field breaks occur by dragging lines to create columns.

When you export data to an XML file, you have the option to also export the schema for the data (an XSD file) and the presentation of the data (which is defined in an XSL file). For the data, you can export records in related tables in addition to the data in the object you selected. You can also specify an encoding scheme (UTF-8) or (UTF-16).
Objective 1.5: Print and export data

Among the options related to exporting the schema are whether to include table and field properties and whether to embed the schema in the XML file or create a separate schema document. Presentation options include the location where the XLS file is stored, where related images are stored, and whether the XSL transformation is run from a client or a server computer. In the Run From area, the Client option creates an HTML file on the local computer that programmatically merges the XSL file and the data (XML) file. This option does not embed the presentation information in the data, which lets you update either the XSL file or the XML file without having to run the export operation again. The Server (ASP) option creates an Active Server Pages (ASP) file that merges the presentation with the data and sends the HTML file that is created to the local computer.

You can export database objects to another Access database or in the following formats:

- For a PDF or XPS file, you can export all the object's data, selected records, or specific pages from a report. Both formats also provide options for accessibility.
- The Email option in the Export group attaches a database object to email messages in a format that you select.
- You can export the data in an object to use in a mail-merge operation in Word (the data becomes the recipient list associated with the mail merge) or save the data as a rich-text format (RTF) document.

If you expect to use an export operation regularly, you can save the export steps you defined. By saving the export steps, you can run the operation in a single step.

Select the Save Export Steps check box to later perform the export in a single step

When you want to run a saved export in Access, on the External Data tab, in the Export group, click Saved Exports. Access opens the Manage Data Tasks dialog box. This dialog box provides options to run the export, create an Outlook task, modify the name or description provided earlier, and delete any saved exports (or saved imports) that you no longer need.
To export data from Access

1. Open the object that contains the data you want to export.
2. On the External Data tab, in the Export group, click the format or program you want to export to.
3. In the Export dialog box, specify the file name and location, and select the export options you want to use: to include formatting and layout, to view the exported file, and to export only selected records.
4. Depending on the export option you select in step 2, use the options in the dialog boxes and the wizards Access provides to specify file format and related export options.

To save export steps

1. In the Export dialog box, select Save export steps.
2. Enter a name for the export steps (or accept the default name) and enter a description.
3. If you want, select Create Outlook Task.
4. Click Save Export.

To run a saved export

1. On the External Data tab, in the Export group, click Saved Exports.
2. In the Manage Data Tasks dialog box, select the export operation you want to run, and then click Run.
Objective 1.5 practice tasks

The practice file for these tasks is located in the MOSAccess2016\Objective1 practice file folder. The folder also contains a result file that you can use to check your work.

- Open the Access_1-5 database from the practice file folder and do the following:
  - Open the Customers report from the Navigation Pane, and then display the report in print preview. Change the margins to Wide.
  - Export the Customers report to Word (use the Rich Text format option).
  - Export the Customers table to Excel.
  - Save the Access_1-5 database as a template. Save the template in a custom category you create named MOSAccessSamples.

- Open the Access_1-5_results database. Compare the two databases to check your work. Then close the open databases.
This page intentionally left blank
Index

A

action queries
  append query 110, 112–113
  delete query 110–111, 113
  make-table query 109–112
  update query 110–111, 113
Allow Additions form property 143
AllowDatasheet View form property 142
Allow Deletions form property 143
Allow Edits form property 143
Allow Filters form property 143
Allow Form View form property 142
Allow Layout View form property 142
append query 110, 112–113
appending records 76–77
application parts
  creating forms using 144–145
  creating tables from templates using 66–67
  defining 88
arithmetic operators 132, 197
Attachment data type 61
Attachment form control property 153
AutoNumber data type 60
autonumbering 92
Avg function 131

B

backgrounds
  adding images to forms 171
  applying color to controls 200
  applying color to queries 124
  setting image properties 171
backing up databases 39
Before Update form control property 151
Bound object frame form control 154
Button form control 153

C

Calculated data type 61
calculated fields 126–128, 197–198
captions, changing for fields 91
cells, merging/splitting 148
Chart form control 154
Check box form control 153
Close Button form property 142
color schemes, modifying for themes 167
columns
  inserting/deleting in query design
  grid 121
  settings in reports 196
Combo box form control 153
Combo Box Wizard 150
Command Button Wizard 150
Compact & Repair 37–39
compacting databases 38–39
comparison operators 132–133
composite key 24
concatenation operator 197
Control Source property 151, 157
controls
  adding/removing from forms 151
  adding to reports 190
  aligning 148–149
  anchoring 169
  appearance of 154
controls (continued)
   arranging on reports 183
   background color 155
   changing order of 149
   changing shapes 155
   configuring properties 155
   formatting 155, 200
   hyperlinks 150
   inserting padding between 169
   labels 157–158
   layouts 191
   margins 168
   modifying Control Source property for reports 189
   moving/positioning 147–148
   properties 151–155
   reports 182
   selecting on reports 200
   setting properties 200
   setting tab order 163
   sizing/spacing 149
   subreport, adding 190
   web browsers 150

corrupt databases, repairing 39

Count function 131

crosstab queries, creating 104–107
Crosstab Query Wizard 105–107
Currency data type 60
Cycle form property 163

options for importing 9
   sources 9
Data Entry form property 142
data sources 156, 187–189

data types
   changing 92
   defining custom 88

database objects 6
   See also objects
   attaching to email messages 53
   deleting 17
   dependencies 22
   exporting to another Access database 53
   filtering 32
   renaming 40
   restoring from backup 40–41
   saving queries as 116
   shortcuts 33
   Unassigned Objects 33

databases
   back-end 41
   backing up 39
   compacting and repairing 37–39
   compacting on close 37
   creating 6–9
   default file format, setting 6
   default folder, setting 6
   encrypting 43–44
   front-end 41
   naming 7
   Northwind Traders sample 8
   opening for exclusive access 37–38
   restoring 39–41
   restricting access 43–44
   saving as templates 48–50
   splitting 41–43

Datasheet view 7
   adding field validation rules 90
   adding records 75

D

data
   exporting 54
   exporting to Excel 51
   exporting to text files 52
   importing from Access databases 12, 14
   importing from Excel 10–11
   importing from text files 13–15
   importing from XML files 15

206
fields

deleting fields 88
filtering by selection 83
filtering tables 79
formatting forms 171
inserting Quick Start data types 88
renaming fields 88
tables in 58
date filters 80
Date/Time data type 60
Default View form property 142
delete query 110–111, 113
delimited text files
exporting data to 52
importing 13
design grid, showing/hiding 147
Design view 7
adding field validation rules 90
adding fields to tables 87
adding table descriptions 72
aligning form controls 149
creating crosstab queries 107
creating forms 141–142
deleting fields 89
form controls 147
inserting fields in tables 87
inserting table rows 87
opening reports 183
opening tables 26
queries 103–104
renaming fields 88
running queries 99
saving queries 116
sizing/spacing form controls 149
tables in 58, 61
Dynaset (Inconsistent Updates) record source type 156
Dynaset record source type 156

E

e-mail messages, attaching database objects to 53
embedded queries 188
encoding schemes 52
enforcing referential integrity 22
exam  See Microsoft Office Specialist Excel
  exporting data to 51
  importing data from 10–11
  importing data into new tables 13–14
Excel worksheets, linking to 65
export steps, saving 51, 53–54
exporting
data as fixed-width text files 52
data formats 52
data to delimited text files 52
data to Excel 51
data to text files 52
data to XML files 52–53
database objects 53
encoding schemes 52–53
report data 53
schema 52–53
exports, running saved 53–54
Expression Builder 127–128, 197
Expression function 131
expressions 126
  arithmetic operators 132
  comparison operators 132–133
  logical operators 132
external data, appending records from 76–77

F

field properties 86, 90–92
fields
  See also tables
    adding to queries 121
    adding to tables 86–87
fields (continued)
  adding validation rules in Design view 90
  automatically incrementing values 94
  automating values 92–94
  calculated, using expressions 126–128
  changing captions 91
  changing data types 92
  changing order in queries 121
  changing sizes of 91
  data types 59–62
  deleting 87
  deleting from queries 121
  deleting in Datasheet view 88
  deleting in Design view 89
  deleting values 76
  filtering by, in Datasheet view 83
  formatting in queries 123–124
  formatting in tables 92–94
  freezing 69–70
  hidden, showing 70
  hiding 69–70
  input masks 92–94
  inserting in tables 87
  properties 61
  removing primary key 26
  renaming in Datasheet view 88
  renaming in Design view 88
  setting default values 91
  setting properties in queries 124
  showing/hiding in queries 122
  sizes 60
  unfreezing 70
  updating values 75
  validation rules 89–90

filter criteria, setting 128–130

filtering
  advanced options 81
  by field, in Datasheet view 83
  by form 83
  by selection, in Datasheet view 83
  records 79–81

filters
  advanced, creating 83
  saving as queries 84
  using queries as 84

finding
  objects 32
  records 29, 78
  templates 9

First function 131

font schemes 168

footers
  inserting on forms 172–173
  inserting on reports 200–201

foreign key 24–25

form backgrounds, images 170

form controls
  adding/removing 151
  aligning in Design view 149
  anchoring 169
  appearance of 154
  background color 155
  changing order of 149
  configuring properties 155
  formatting 155
  hyperlinks 150
  inserting padding between 169
  managing labels 157–158
  margins 168
  moving/positioning 147–148
  properties 151–155
  setting tab order 163
  sizing/spacing in Design view 149
  web browsers 150

form footers/headers, inserting 172–173

Form Wizard 138–139
forms
  adding controls 151
  adding images as backgrounds 170, 171
  anchoring controls 169
  applying alternate row color 171
  applying themes 167
  creating from scratch 139–143
  creating from templates 144–145
  creating quick forms 137
  data source 156–157
  Design view 141–142
  displaying as splash screen 50
  elements of 137
  filtering by 83
  form field list, displaying 143
  Form Wizard 138–139
  formatting in Datasheet view 171
  inserting headers/footers 172–173
  inserting images 173
  inserting padding between controls 169
  Layout view 139–140
  merging cells in Layout view 148
  modifying data source 157
  moving controls 147–148
  navigation 30–31
  printing 164
  properties 142–143
  property sheet, opening 143
  record source 156
  removing controls 151
  saving 145
  setting as startup option 31
  setting properties 143–146
  setting tab order 162–163
  sorting records 165
  specifying text box margins 169
  splitting cells in Layout view 148
  subforms 158
  functions in summary queries 131

G
  grid, hiding/showing 147
  grouping data using operators 132–133
  groups
    adding objects to 34
    creating in Navigation Pane 34
    object shortcuts 33

H
  headers
    inserting on forms 172–173
    inserting on reports 200–201
  hyperlink control 150
  Hyperlink data type 60
  Hyperlink form control 153

I
  Image form control 154
  images
    form backgrounds 170–171
    inserting on forms 173
    setting properties 171
  importing
    data from Access databases 12, 14
    data from Excel 10–11
    delimited text files 13
    Excel data into new tables 13–14
    objects 12
    Outlook folders 13, 16–17
    queries 13
    relationships 12
    SharePoint lists 13, 16
    tables 12
    XML files 13
  inner joins 114
  input masks 92–94
joins 114

key fields, setting 24–25

Label form control 153
labels
  adding to reports 192
  form controls 157–158
  properties 191
  turning off error checking 192
Last function 131
Layout view
  control layouts 191
  creating forms 140–141
  merging cells 148
  moving controls 148
  opening reports 183
  positioning forms 168
  splitting cells 148
layouts, reports 180
left joins 114
Line form control 154
linked tables
  creating 62–64
  managing 66
linking
  to Excel worksheets 65
  to named ranges 65
  tables to other Access database tables 64
  to text files 65
List box form control 153
List Box Wizard 150
logical operators 132
Long Text data type 59
Lookup Wizard data type 61

mail-merge, exporting object data to use in 53
make-table query 109–112
many-to-many relationships 21
margins
  form controls 168
  reports 47, 195
Max function 131
Microsoft Office Specialist certification xvi
exam tips xvi–xviii
objective domain xvi
Min function 131
Min Max Buttons form property 142
multiple-table query 113–115

Name AutoCorrect options, setting 73
Name form control 152
named ranges, linking to 65
naming
  databases 7
  queries 115
navigating records 28–29
navigation area 29
Navigation Buttons form property 142
Navigation Caption form property 142
Navigation form control 153
navigation forms 30–31
Navigation Pane
  adding table descriptions 72
  creating categories 34
  creating groups 34
  displaying objects in 31–34
  running queries 99
Northwind Traders database 8
Number data type 60
objects
   See also database objects
   adding to groups 34
   changing views 34–35
   displaying in Navigation Pane 31–34
   importing 12
   sorting in Navigation Pane 32
   themes 166
   viewing dependencies 23

OLE Object data type 60
On Click form control property 151
On Enter form control property 151
On Exit form control property 151
one-to-many relationships 20
one-to-one relationships 21
operators, grouping data by using 132–133
Option button form control 154
Order By form property 165
Order By On Load form property 165
outer joins 114–115
Outlook folders, importing
   13, 16–17

queries
   action queries 109–113
   adding fields to 121
   adding tables 115
   append query 110, 112–113
   changing field order 121
   criteria 128–129
   crosstab query, creating 104–107
   Crosstab Query Wizard 105–107
   delete query 110–111, 113
   deleting columns in query design grid 121
   deleting fields 121
   Design view 103–104
   expressions 126
   filtering results 128–130
   formatting fields 123–124
   grouping records in 131
   importing 13
   inserting columns in query design grid 121
   joins 114
   make-table query 109–112
   multiple-table query 113–115
   naming 115
   parameter queries, creating 107–108
   printing selected records 48
   Query Designer 98–101
   removing tables 115

print options, setting 47
print preview 47–48
printing
   forms 164
   records 46–48
   reports 46–48
   selected records 48
   setting options 47
property sheets, opening for reports 183
queries (continued)
  renaming 120
  running 98–99
  saving 115–117
  saving filters as 84
  select queries, creating 99–104
  setting field properties 124
  setting up outer joins in tables 115
  showing/hiding fields 122
  Simple Query Wizard 100, 102–103
  sorting records 123
  specifying sort order 123
  summary queries 130–131
  Total row 130–131
  update queries 110–111, 113
  using as filters 84
  viewing summary data 132
  zooming cells 128
Query Builder 156
Query Designer 98–101
quick forms, creating 137
Quick Start data types, inserting in Datasheet view 88

R
record indicator 28
Record Selectors form property 142
record source 156, 187–189
records
  See also tables
  adding in Datasheet view 75
  appending to tables 76–77
  deleting 76
  filtering 79–81
  finding 29, 78, 128–129
  going to 29

  grouping in queries 131
  grouping in reports 185, 187
  navigating 28–29
  printing 46–48
  sorting from Home tab 82
  sorting in forms 165
  sorting in queries 123
  sorting in reports 186
  sorting in tables 78–79
  sorting using shortcut menu 82
Rectangle form control 154
referential integrity 75
cascade options 22
enforcing 22
relational database management system 20
relationships
  See also tables
  creating 20–21, 23–24, 66
displaying in Relationships window 23
editing 22
importing 12
the many side 66
modifying 24
the one side 66
and select queries 100
specifying join type 115
types 20–21
renaming
  fields 88
  queries 120
  tables 72–73
repairing databases 38–39
Report Wizard 177–180
reports
  adding controls 190
  adding labels 192
  adding subreport controls 190
arranging controls 183
controls 182
creating calculated fields 197–198
creating from scratch 180–183
creating with Report Wizard 177–180
default layouts 180
displaying field list 183
elements 198–199
exporting data from 53
formatting controls 198–200
grouping records 185, 187
inserting footers 200–201
inserting headers 200–201
margins 47, 195
modifying Control Source property for controls 189
modifying record sources 188
opening in Design view 183
opening in Layout view 183
opening property sheets 183
page setup options 194–195
print preview 47
printing 46–48
saving 183
sections 180–181
selecting controls 200
setting properties 200
sorting records 186
specifying page orientation 197
specifying page size 196
summarizing values 187
restoring
  database objects 40–41
databases 39–41
right joins 114
rows, inserting in tables 87
S
Scroll Bars form property 142
searching
  for objects 32
  for records 29, 78
  for templates 9
select queries 99–104
SharePoint lists, importing 13, 16
SharePoint web apps 7
sharing templates 49
Short Text data type 59
Simple Query Wizard 100, 102–103
sizes, changing for fields 91
Snapshot record source property 156
sorting records 78–79, 82
splash screens, displaying forms as 50
splitting databases 41–43
startup forms, specifying 31
startup page 8
StDev function 131
Subform/subreport form control 154
subforms, creating 158–159
subreport controls, adding 190
summary queries 130–131
T
Tab form control 153
tab order of form controls 162–163
tables
  See also fields; records; relationships
    adding descriptions 72
    adding fields 86–87
    adding to queries 115
    appending records 76–77
    creating 58–62
    creating from templates using application parts 66–67
saving databases as 48–50
sharing 49
Task Management 8
Text box form control 152
text boxes, specifying margins on forms 169
text files
  exporting data to 52
  importing data from 13–15
  linking to 65
text filters 80
text formatting in fields 123–124
themes
  applying to forms 167
  inherited 166
  modifying color schemes 167
  modifying font schemes 168
Themes gallery 166
Toggle button form control 154
Total row, adding/removing 71
trace error buttons 191

U
Unassigned Objects group 33
Unbound object frame form control 154
update query 110–111, 113

V
validation messages, creating 90
validation rules, adding to fields 89–90
Var function 131
Visible form control property 151
W
Web browser form control 153
Where function 131
worksheets, importing data from 10

X
XML files
  exporting data to 52–53
  importing 13
  importing data from 15
XPS files, saving queries as 117

Y
Yes/No field type 60

Z
zoom levels, previewing reports 47