Exploring Access 2007

Have you ever wondered how service agents who take your order over the telephone know what questions to ask about the products you order...or how sportscasters come up with little-known facts about teams and players in a flash? In most cases, these service agents and sportscasters have access to a powerful database from which they obtain the information.

In this lesson, you will take a tour of the Access 2007 application window and explore a database file to identify the structure of a database and how the elements of a database work together to aid people in all walks of life locate data and information efficiently. Exploring a new program provides valuable insight into the program and its features. Exploring an active database will help you unravel some of the mysteries surrounding data storage and retrieval.

LESSON OBJECTIVES

After studying this lesson, you will be able to:

- Define what a database is
- Identify the types of objects modern databases contain
- Launch Access 2007 and identify elements of the application window
- Open a database and use the Navigation Pane
- Open database objects, navigate within database objects, and close the objects
- Close a database properly and exit Access 2007

Case Study: Exploring Access 2007

Sara Wong has just accepted a position with Labyrinth Exports where she will be managing the data entry department. Her first day on the job, Sara focuses on familiarizing herself with the existing database that the data entry clerks use in an effort to learn what data they enter and how the database is set up. She also wants to review the data entry forms that the data entry clerks use to update and maintain the database.

The employee name shown in the form also appears in the Orders table.

Data about an employee appears in the Employee Details form.

Defining Access Databases

If you have ever used a phone book, a catalog, retrieved a note card from a card file, or pulled a file from a file cabinet, you have used a database. If you have ever used an index or a table of contents in a book, you have used a type of database. Each of these items consists of individual pieces of *data* that, when combined, make up a *database*.

What Is a Database?

A *database* is a collection of related data stored together in one electronic file. Historically, individuals and businesses have used databases to store vast amounts of data in an organized fashion to facilitate quick and easy retrieval of facts, figures, and information. Prior to the computer age, database records were stored on index cards, on columnar tablets, and in file folders stored in file cabinets. While these data storage methods are still around today, computer based databases have reduced the storage requirements of data and have improved the efficiency of data retrieval. As a result, reports from sportscasters, historians, politicians, stock sales, unemployment records, and many other details can be reported with amazing accuracy—and very quickly.

Database Structures

Early electronic databases stored data in flat files—that is, in one gigantic pool of information all stored together like family photos stored in a large box. Flat files contained repetitive data in many entries.

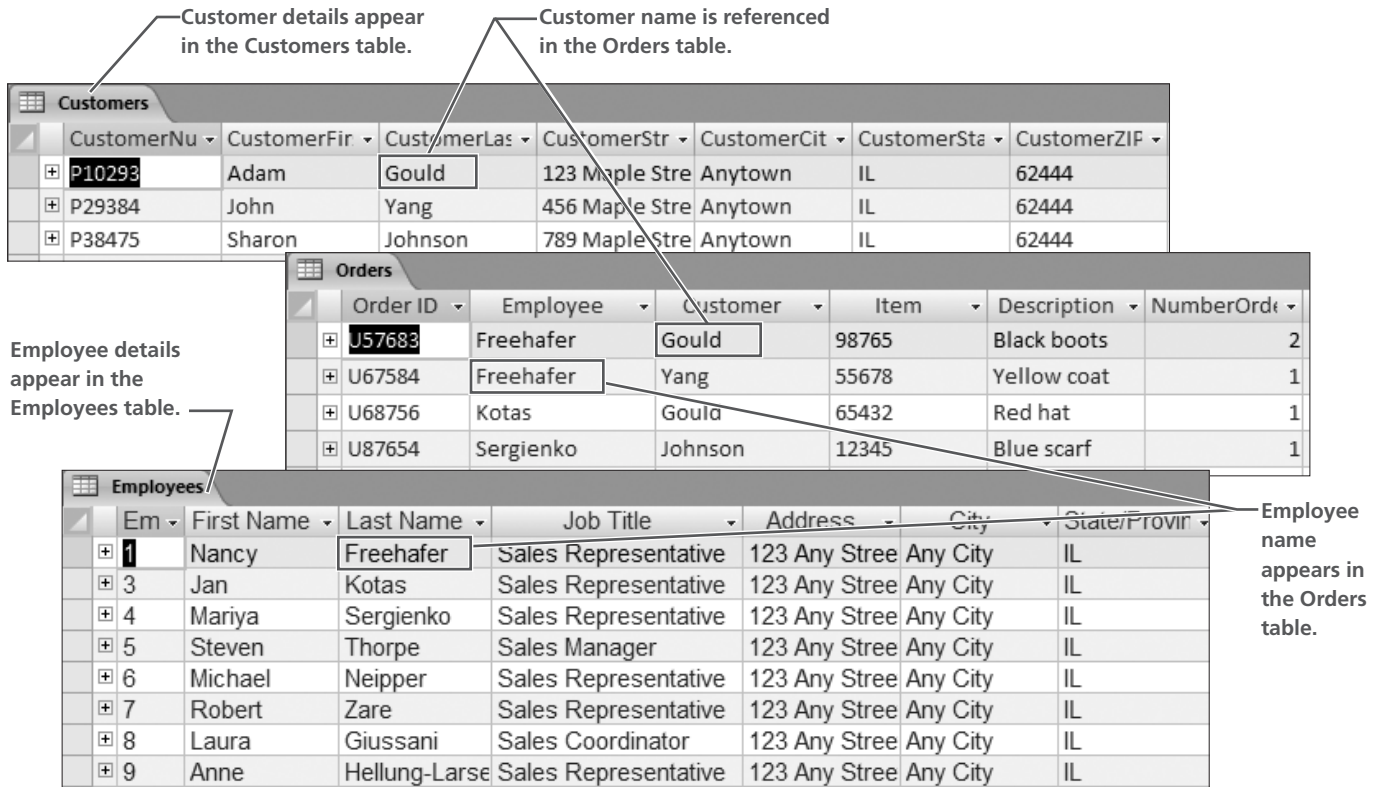**Someone had to type this product name four times.**

This long product name was typed twice.

Product	Quantity	Unit Cost	Date Received	Posted To In
Labyrinth Exports Almonds	20	$8.00	01/22/2007	☑
Labyrinth Exports Beer	100	$10.00	01/22/2007	☑
Labyrinth Exports Beer	50	$10.00	04/04/2007	☑
Labyrinth Exports Beer	60	$10.00	01/22/2007	☑
Labyrinth Exports Beer	300	$10.00	04/05/2007	☑
Labyrinth Exports Boysenberry Spread	100	$19.00	01/22/2007	☑
Labyrinth Exports Cajun Seasoning	40	$16.00	01/22/2007	☑
Labyrinth Exports Cajun Seasoning	40	$16.00		☐
Labyrinth Exports Chai	40	$14.00		☐
Labyrinth Exports Chai	40	$14.00	01/22/2007	☑
Labyrinth Exports Chocolate	100	$10.00	01/22/2007	☑
Labyrinth Exports Chocolate	100	$10.00	01/22/2007	☑
Labyrinth Exports Chocolate Biscuits Mix	20	$7.00	01/22/2007	☑

Data entry in a flat file database requires lots of repetition.

Modern database programs, such as Access 2007, work more efficiently to store data. Such database programs are often referred to as *object-oriented databases* because they store data in different tables to eliminate the need for repetitive data entry. Such database management systems (DBMS) organize data by placing data into various tables. For example, a business might place basic information about its customers—name, address, city, state, and ZIP—into one table, and data such as order details—date of order, item ordered, item description, number ordered, and unit price—into another table. A business might also place a list of employees and data related to the employees into one table and reference the employee who

sold merchandise with order details. As a result, data processing becomes more efficient—data entry personnel can enter only data that is unique rather than retyping data that is stored in a different table.

Customer details appear in the Customers table.

Customer name is referenced in the Orders table.

Employee details appear in the Employees table.

Employee name appears in the Orders table.

	CustomerNu ▾	CustomerFir ▾	CustomerLas ▾	CustomerStr ▾	CustomerCit ▾	CustomerSta ▾	CustomerZIF ▾
⊞	P10293	Adam	Gould	123 Maple Stre	Anytown	IL	62444
⊞	P29384	John	Yang	456 Maple Stre	Anytown	IL	62444
⊞	P38475	Sharon	Johnson	789 Maple Stre	Anytown	IL	62444

Orders

	Order ID ▾	Employee ▾	Customer ▾	Item ▾	Description ▾	NumberOrde ▾
⊞	U57683	Freehafer	Gould	98765	Black boots	2
⊞	U67584	Freehafer	Yang	55678	Yellow coat	1
⊞	U68756	Kotas	Gould	65432	Red hat	1
⊞	U87654	Sergienko	Johnson	12345	Blue scarf	1

Employees

	Em ▾	First Name ▾	Last Name ▾	Job Title ▾	Address ▾	City ▾	State/Provir ▾
⊞	1	Nancy	Freehafer	Sales Representative	123 Any Stree	Any City	IL
⊞	3	Jan	Kotas	Sales Representative	123 Any Stree	Any City	IL
⊞	4	Mariya	Sergienko	Sales Representative	123 Any Stree	Any City	IL
⊞	5	Steven	Thorpe	Sales Manager	123 Any Stree	Any City	IL
⊞	6	Michael	Neipper	Sales Representative	123 Any Stree	Any City	IL
⊞	7	Robert	Zare	Sales Representative	123 Any Stree	Any City	IL
⊞	8	Laura	Giussani	Sales Coordinator	123 Any Stree	Any City	IL
⊞	9	Anne	Hellung-Larse	Sales Representative	123 Any Stree	Any City	IL

These three tables from an object-oriented database reduce repetitive data entry because, by storing some data in different tables, it is no longer necessary to retype the data in other tables—a simple reference to one piece of information is sufficient.

Learning to use Access 2007 helps you understand and appreciate data retrieval used by professionals in many walks of life.

Storing Your Exercise Files

Throughout this book you will be referred to files in a folder that corresponds to the lesson number you are studying (for example, "the Lesson 02 folder"). you can store your excercise files on various media such as a USB flash drive, the My Documents folder, or a network drive at a school or company. While some figures in exercises may display files on a USB flash drive, it is assumed that you will substitute your own location for that shown in the figure. See Appendix A, Storing Your Exercise Files, for additional information on alternative file storage media.

Exploring the Access Environment

When you launch Access 2007, one of the first things you will notice is that, unlike other Microsoft Office applications, Access displays a Getting Started welcome screen rather than a new blank file. Because of the number of different objects used to organize data in the database, Access lets you determine how to proceed: either to open an existing database or create a new one.
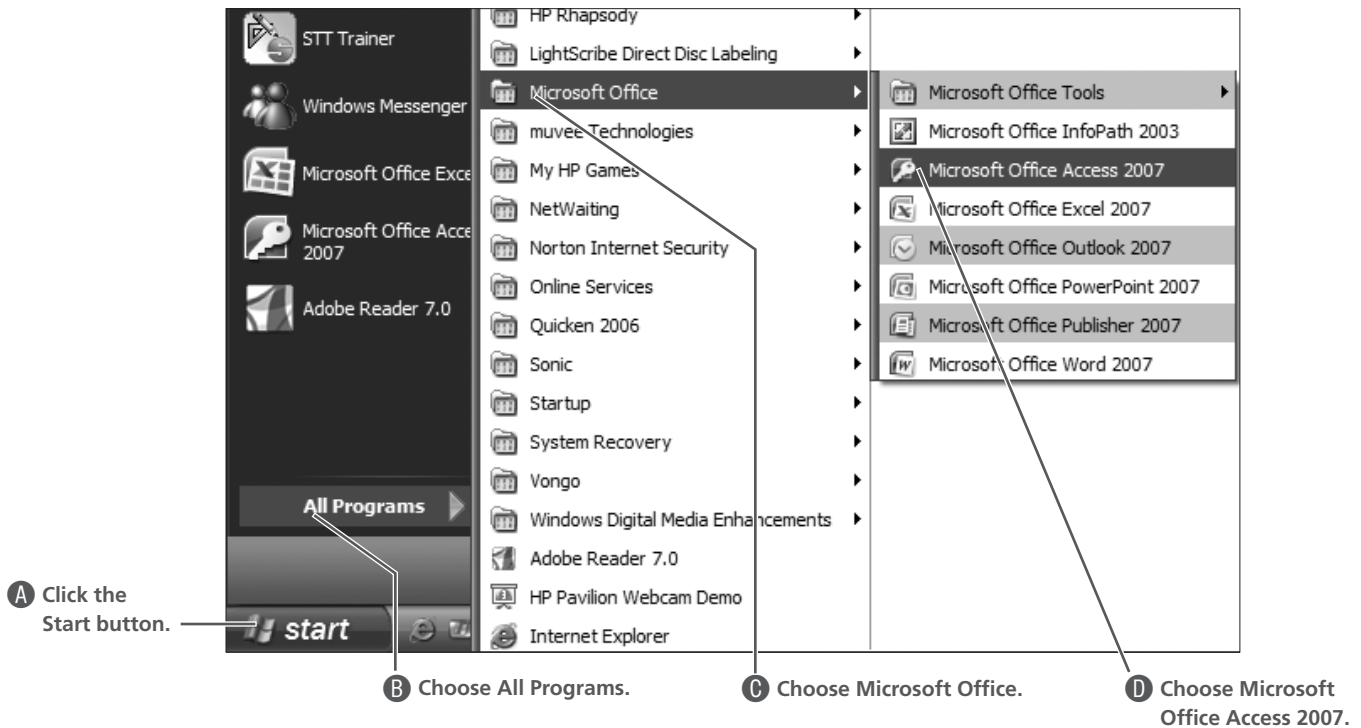
Launching Access 2007

The basic procedures for launching Access 2007 are the same as those used to launch other Microsoft Office applications. After you launch Access, you are prompted to take action to create or open a database.

Hands-On 1.1 Launch Access 2007

In this exercise, you will launch Access 2007 from the Start menu.

1. Click the Start button on the taskbar.

2. Follow these steps to launch Microsoft Office Access 2007:

Ⓐ Click the Start button.

Ⓑ Choose All Programs.

Ⓒ Choose Microsoft Office.

Ⓓ Choose Microsoft Office Access 2007.

The Access 2007 program window appears.

!NOTE! *In future lessons, a Start menu command like this will be written as: Choose All Programs→Microsoft Office→Microsoft Office Access 2007.*

Identifying Elements of the Access Window

2007 new! As noted, Access, unlike other Microsoft Office applications, displays a welcome or splash screen each time you launch it. From this screen, you can choose to create a new database, open an existing database, or open a sample database.
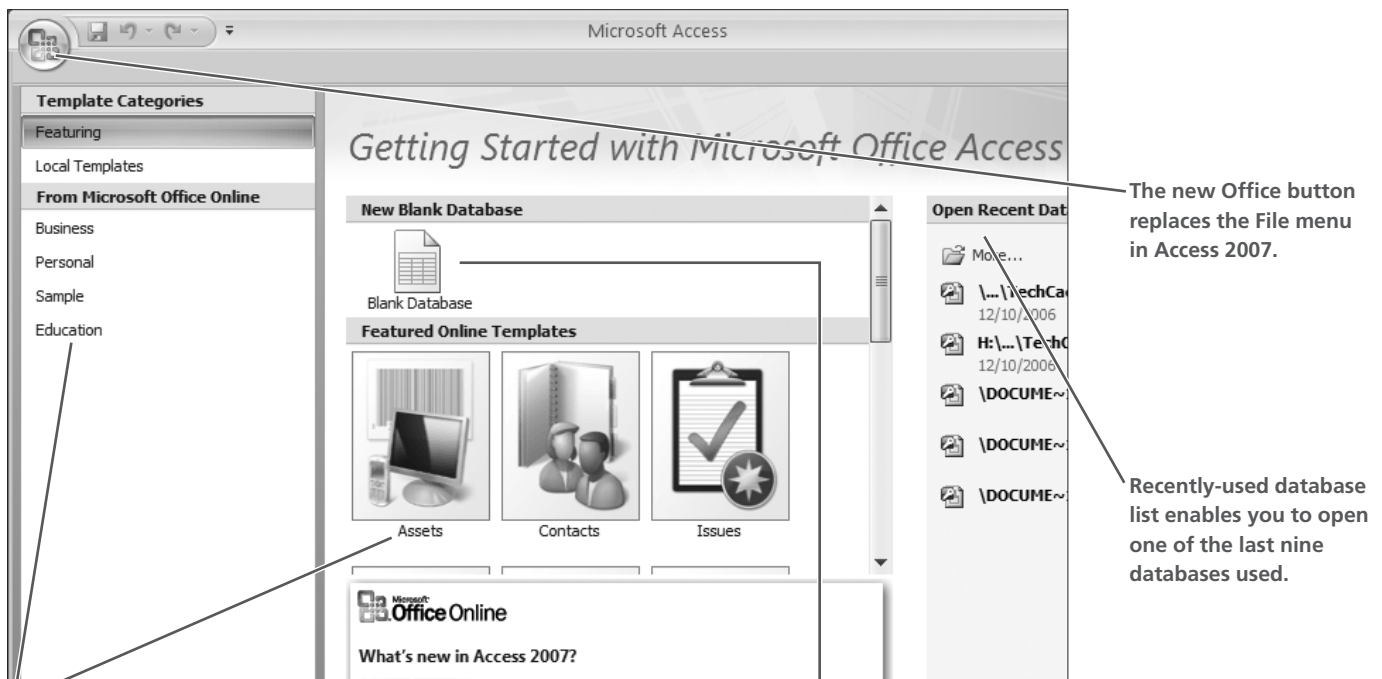
The new Office button replaces the File menu in Access 2007.

Recently-used database list enables you to open one of the last nine databases used.

Lists of templates from a variety of sources enable you to create databases using templates that you will use later in your study of Access.

Tool used to create a new blank database. You will learn how to use this in a later lesson.

Opening a Database and Identifying Features of the Database Window

The procedures for opening an existing file in Access 2007 are basically the same as those found in other Microsoft Office applications. You can choose one of the following procedures:

■ Select the file from the Open Recent Database list on the Getting Started with Microsoft Office Access screen.

■ Click the Office 🔘 button and point to the Open command to display the Recent Documents submenu and select the recently used database to open.

■ Open the file from the Open dialog box.

Enabling Macros Controlling Database Security

Most database files contain *macros*—programming codes that automate common tasks. Because Access 2007 is highly security conscious, settings that may be active within Access prevent these macros from running without your "permission." The files you use throughout this book have been checked before posting on the website, scanned for viruses, etc., so it's okay to open them and enable database content. If security settings in Access 2007 on your system are set above "low," the message you see onscreen when you open files notifies you of blocked content and provides instructions on how to proceed. You should select the Enable This Content option each time you see this message.

Depending on your security setting, Access may display an alert when you open any database file containing macros.

Hands-On 1.2   Open a Database and Identify Screen Elements

In this exercise, you will open a database and review screen features.

Before You Begin: If you have not done so already, please turn to Downloading the Student Exercise Files section of Appendix A for instructions on how to retrieve the student exercise files for this book from the Labyrinth website and for copying the files to your file storage location for use in this and future lessons.
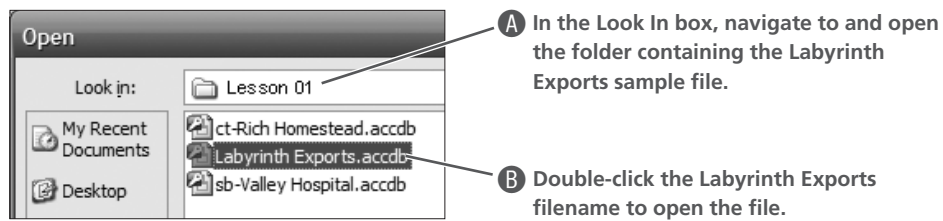
1. Follow these steps to open a database file:

Ⓐ Click the Office button on the Quick Access toolbar.
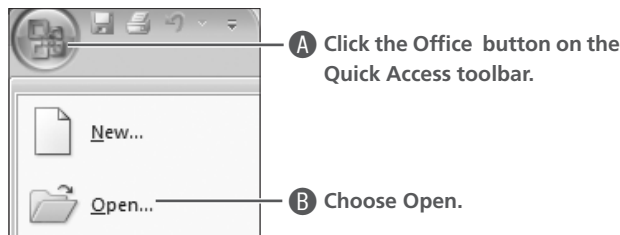
Ⓑ Choose Open.

!NOTE! *Later in this book, a command like this will be written Choose Office→Open from the Quick Access toolbar.*
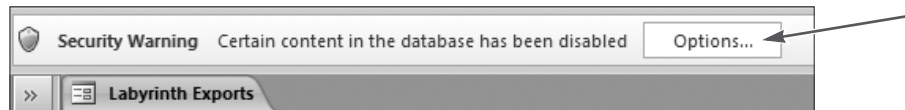
*The Open dialog box displays the last folder from which you opened an Access file.*

2. Follow these steps to open the file:

Ⓐ In the Look In box, navigate to and open the folder containing the Labyrinth Exports sample file.

Ⓑ Double-click the Labyrinth Exports filename to open the file.

3. Click the Options button on the following Business Bar as shown, if prompted.

4. Follow these steps to enable the content, if necessary:

Ⓐ Click the Enable This Content radio button.

Ⓑ Click OK.
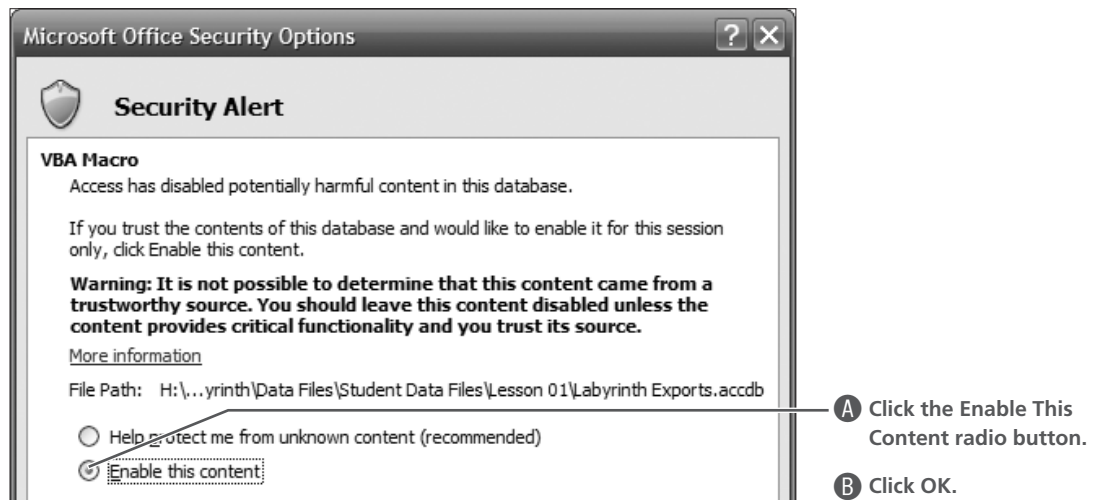
The sample database contains a start-up option that enables each person opening the database to log in.

5. Complete your login to the database by following these steps:

Ⓐ Click the down arrow at the right end of the Select Employee textbox.

Ⓑ Select an employee name that corresponds to your gender.

Ⓒ Click Login.
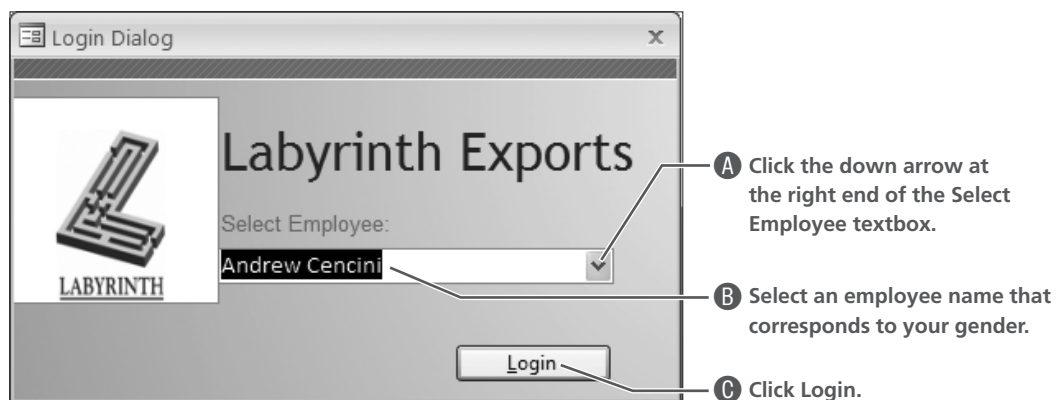
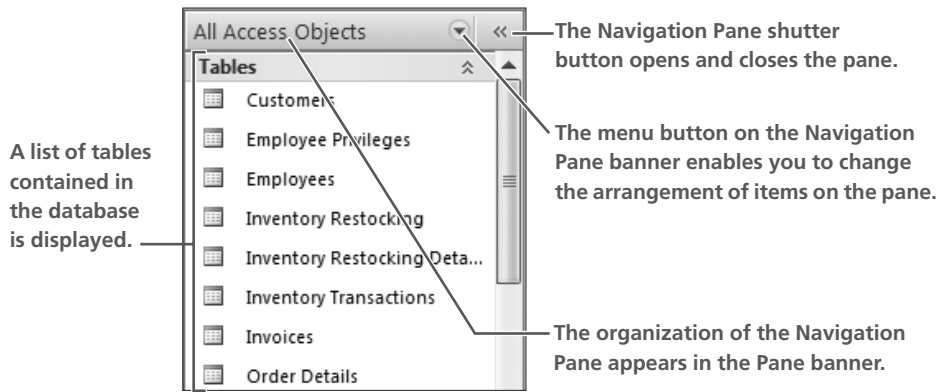## Identifying Features of the Database Window

Now that you have a database open and ready to go, take a moment to study the layout of the window and compare the visual elements of the window with the features you have seen in other Microsoft Office applications.

The title bar shows the database name and the version of Access you are using.

The Ribbon contains four tabs to display Access tools.

The work area shows a tab with the name of the object that is displayed.

The double-chevron at the top of the Navigation Pane is called the Shutter Bar Open/Close button and enables you to open and close the Navigation Pane.

The Navigation Pane appears down the left side of the window.
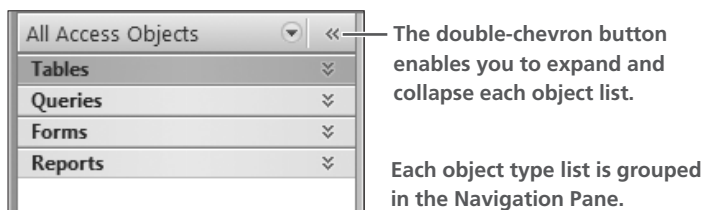
Using the Navigation Pane

2007 new!

If you have used Microsoft Office Excel, you know that navigating within a worksheet or workbook is different from navigating within paragraphs of a document. Navigating within an Access database is also different from navigating in a document. As you begin working with the database, some basic procedures for using the Navigation Pane will enable you to navigate the file more efficiently.

The Navigation Pane shutter button opens and closes the pane.

A list of tables contained in the database is displayed.

The menu button on the Navigation Pane banner enables you to change the arrangement of items on the pane.

**The organization of the Navigation Pane** appears in the Pane banner.

Object Types

Objects on the Navigation Pane are grouped according to object type. You can expand and collapse each object list to view each object type. You can also select an object from the Navigation Pane banner to display only one object type.

The double-chevron button enables you to expand and collapse each object list.

Each object type list is grouped in the Navigation Pane.

The Navigation Pane Menu

The arrangement of items on the Navigation Pane menu is set when the database is created. Because those who use databases work differently, Access provides a variety of arrangements for displaying database items. These arrangements can vary from database to database to contain arrangements unique to the database; however, options to display database objects by type, date created, and date modified are standard. In addition to selecting the arrangement of objects, the menu contains tools that enable you to display one list of objects at a time.


The Navigation Pane menu button

Ways to organize the Navigation Pane list

Current arrangement is identified by checkmarks.
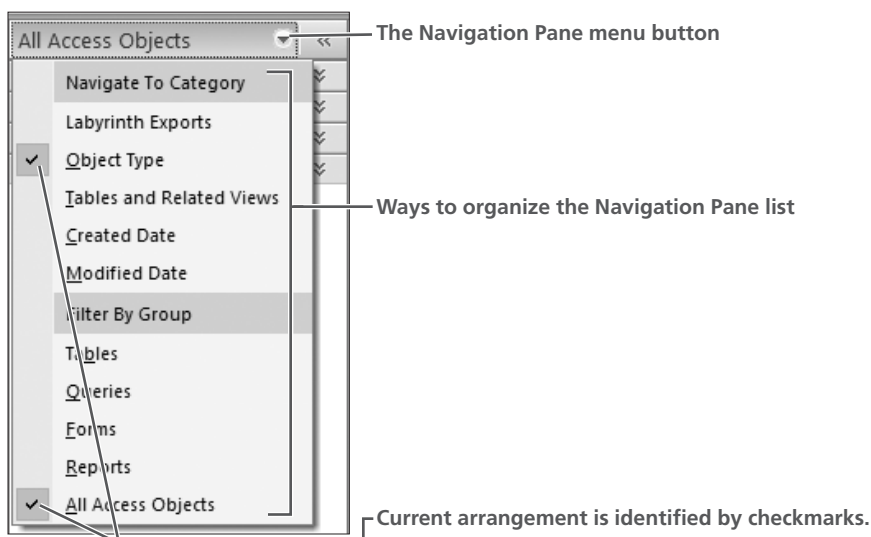
Hands-On 1.3   Use the Navigation Pane

In this exercise, you will use the Navigation Pane to display database objects, expand and collapse object lists, and reorganize database objects.
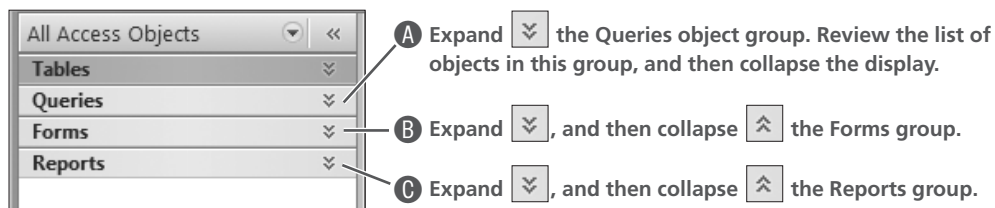
1. Click the Shutter Bar ⟩⟩ button for the Navigation Pane, as shown at right, to open it.

2. Click the Collapse ⌃ button for the Tables group, as shown below.
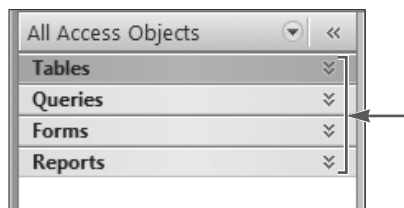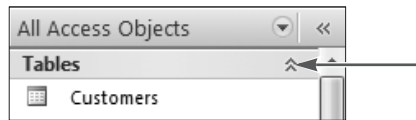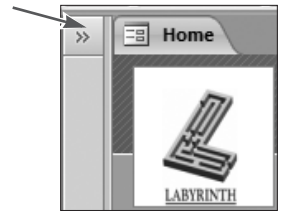
Notice that expand buttons appear for all objects.

Group buttons for the four main object types contained in Access databases are now visible. You'll learn more about each type of database object in the next section.
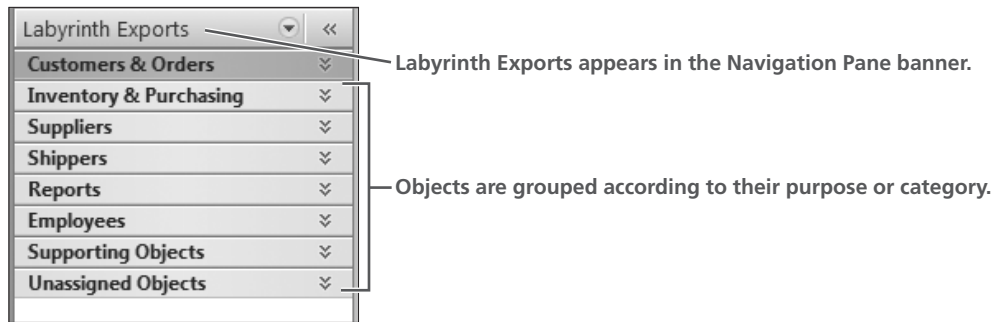
3. Follow these steps to examine the other object types in this database:

   Ⓐ Expand ⌄ the Queries object group. Review the list of objects in this group, and then collapse the display.

   Ⓑ Expand ⌄, and then collapse ⌃ the Forms group.

   Ⓒ Expand ⌄, and then collapse ⌃ the Reports group.

4. Follow these steps to change the display of objects in the Labyrinth Exports database Navigation Pane:

   Ⓐ Click the Navigation Pane menu button.

   Ⓑ Choose Labyrinth Exports from the menu.
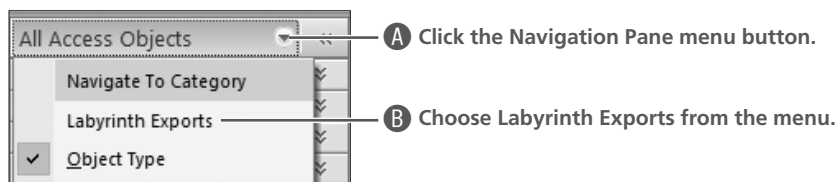
A list specifically for the Labyrinth Exports database appears.

Labyrinth Exports appears in the Navigation Pane banner.

Objects are grouped according to their purpose or category.

5. Click the Navigation Pane menu button, and then choose Object Type to return the Navigation Pane display to its original format.
The Navigation Pane returns to its All Access Objects mode.

Opening, Navigating, and Closing Database Objects

As you have already discovered, Access databases contain a variety of different objects to display data and information. As a result, Access is known as an *object-oriented* database program. Each of these objects appears in the Navigation Pane when it is open. Access is also a *relational database management system* (RDMS) because each of the objects contained in the database is related to other objects in the database.

Each type of object in an Access database has a specific purpose. Some are used to input data, others are used to store raw data, and still others are used to select and report specific data. Each object type has a different icon to help you identify what type of object it is. The object icon appears in the object tab or title bar, as well as beside each object in the object list.

QR > QUICK REFERENCE: WORKING WITH OBJECT TYPES IN ACCESS DATABASES

Object Type	Object Icon	Description
Tables		The basic objects in a database that contain the data used in all other database objects. Tables hold the data and are also used as input objects because you can use the tables to add data to a database.
Forms		Objects used to display and input data in a layout that is more aesthetically pleasing than table layout.
Reports		The object in Access databases that processes table data and presents the data as meaningful information. Reports are output objects.
Queries		Objects used to retrieve data contained in tables on the basis of specific criteria and conditions.

This *table* displays customer data. Notice the column and row layout of the table.

Forms display data about one customer at a time and offer a more appealing layout and design.

Reports summarize data and display meaningful information.


Queries display the columns of data that meet the criteria you set—in a column and row layout.

As you complete this section, you will learn more about each object type and its purpose within the database.

Working with Tabbed Objects

2007 new!

The default setting in Access is to display items as tabbed objects within the database. When objects in a database are set to display as tabbed items, Access displays as much of each object as it can fit within the work area of the Access window. As a result, the entire object fills the work area and all objects are layered, one on top of another, with tabs at the top of the work area to identify each object. Each object, therefore, is the same size. You can switch from one object to the next simply by clicking the object tab.
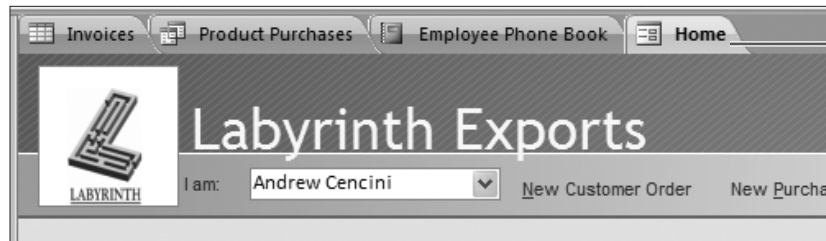
Tabs appear at the top of the work area to identify objects. Notice the object icon beside the object name.

Working with Tables

A database table is the basic object of any database because tables store all of the raw data placed into the database. All other objects in a database are based on data stored in tables. In the Labyrinth Exports database, you will find a number of tables, each of which holds data related in some way to other tables in the database.

Three key terms are used in relation to the data stored in Access databases:

- **Field:** The basic unit of database tables that holds one piece of data, such as first name, last name, street address, ZIP code, date of birth, and so forth.

- **Record:** A collection of all fields related to one item, such as all fields of data for each person or company, all items placed on an order, and personnel information for each employee.

- **File:** A collection of all related records stored together, such as all employee records found in a table, all customers, all suppliers, and so forth.

As you review the following sample table and work with tables, you will see how these elements fit together.

The Customers table is highlighted in the Navigation Pane.

The first cell in the table is outlined by a colored border to indicate that it is active.

The Customers table appears in the work area and the object tab is highlighted to show it is active.

Each column of the table represents a field, and the field name appears as the column heading.

All Access Objects	«		ID	Company	First Name	Last Name	E-mail Address	Job Tit
Tables	☆	⊞	1	Company A	Anna	Bedecs		Owner
☐ Customers		⊞	2	Company B	Antonio	Gratacos Solsona		Owner
☐ Employee Privileges		⊞	3	Company C	Thomas	Axen		Purchasing Rep
☐ Employees		⊞	4	Company D	Christina	Lee		Purchasing Mai
☐ Inventory Restocking		⊞	5	Company E	Martin	O'Donnell		Owner
☐ Inventory Restocking Deta...		⊞	6	Company F	Francisco	Pérez-Olaeta		Purchasing Mai
☐ Inventory Transactions		⊞	7	Company G	Ming-Yang	Xie		Owner

Record: ◄ ◄ 1 of 29 ► ►► 🔾 No Filter   Search

Datasheet View   Num Lock

The default view for tables is the column and row layout called the Datasheet View.

Each table contains navigation buttons for moving among records.

Each row of the table represents a record. Here is the record for Company G.

Hands-On 1.4   Browse a Table

In this exercise, you will open a table, review the structure of the table, and navigate within the table.

1. Expand the Tables list in the Navigation Pane and double-click the Customers table name to open the table.

	ID	Company	First Name	Last Name	E-mail Address	Job Tit
⊞	1	Company A	Anna	Bedecs		Owner
⊞	2	Company B	Antonio	Gratacos Solsona		Owner
⊞	3	Company C	Thomas	Axen		Purchasing Rep
⊞	4	Company D	Christina	Lee		Purchasing Mai
⊞	5	Company E	Martin	O'Donnell		Owner
⊞	6	Company F	Francisco	Pérez-Olaeta		Purchasing Mai
⊞	7	Company G	Ming-Yang	Xie		Owner

Record: ◄ ◄ 1 of 29 ► ►► ►❉ 🔾 No Filter   Search

Table Close button

Notice the column and row layout of the table and the active insertion point in the ID column of the first record (row). Each column represents a field *in the database and each row represents a* record.

2. Press ⌨Tab to move to the Company column.
You can continue to press ⌨Tab *to move to the next column (field) until you reach the last column containing data. Pressing* ⌨Tab *from the last column of the first row (record) moves the cursor to the first column (field) in the second row (record).*

3. Follow these steps to move among table records using table navigation buttons:

A Click the Next Record button to move to the Company column for Company B.

Record: I◄ ◄ 1 of 29 ► ►I ►⊞

Record: I◄ ◄ 2 of 29 ► ►I ►⊞
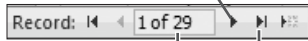
B Notice that the record number changes as you move to a new record and also shows the total number of records in the table.

C Click the Last Record button to move to the last record in the table.

D Click the Previous Record button to move to record 28.

E Click the First Record button to return to record 1.

4. Click the Customer table close button to close the table.

Viewing Forms

Database tables present a continuous list of records in a table-grid layout so that you can view multiple records onscreen at the same time. A database *form* is an object built from fields contained in tables that are positioned in a layout so that each table record (or row) appears in the form window one record at a time. As with other objects, forms can be set to display as tabbed items in the database work area, as the following form shows, or in separate windows onscreen.
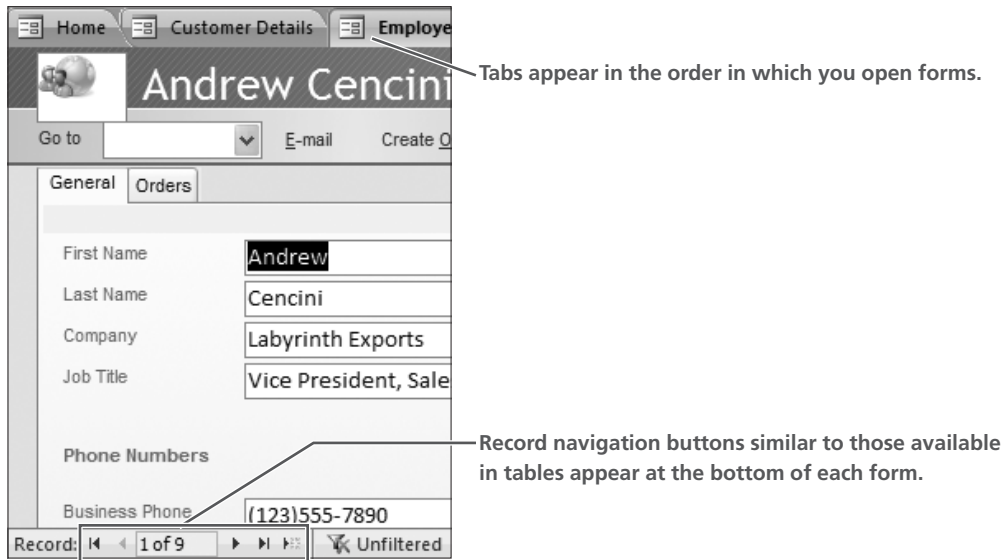
This form is formatted to appear as a tabbed object in the database work area.

Fields from the table appear in the form but in a different arrangement.

Navigating Data in Forms

Forms display many of the same navigation tools available in tables. The main difference in the display is that records appear onscreen one record at a time. As a result, when you navigate to a specific record, only the data for one item appears. In tables, one record was active as you navigated the table even though multiple records displayed at the same time because of the column and row layout of the tables.

Tabs appear in the order in which you open forms.

Record navigation buttons similar to those available in tables appear at the bottom of each form.

Forms Containing Special Features

Forms vary from the very simple to more sophisticated layouts. Some forms, such as the Home form displayed when you open the Labyrinth Exports database, contain buttons and links to open other database objects or perform tasks such as closing forms and other objects.
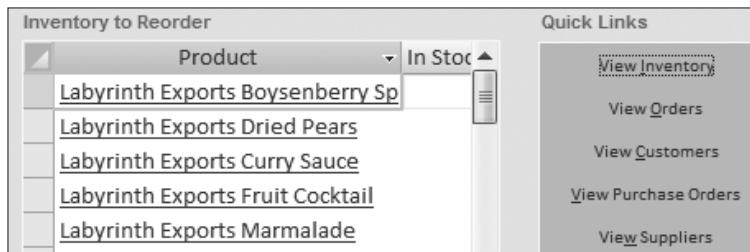
Links in the Home form: Those on the left are formatted as hyperlinks to link to products, while those on the right open forms and other database objects for viewing.
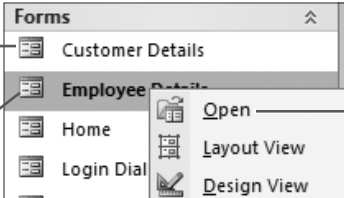
Hands-On 1.5   View and Navigate Forms

In this exercise, you will open forms, identify key features of forms, navigate within the form, and close the form.

1. Collapse ⏶ the Tables list in the Navigation Pane and expand ⏷ the Forms list.

2. Follow these steps to open two forms:

A Double-click the Customer Details form to open it.

B Right-click the Employee Details form to display the shortcut menu.

Forms	⏶
🔲 Customer Details	
🔲 Employee Details	
🔲 Home	
🔲 Login Dial	

Open — **C** Choose Open.

Layout View

Design View

3. Follow these steps to navigate between open forms and records within each form:

🔲 Home   🔲 Customer Details   🔲 Employee

Andrew Cencini

A Click the Customer Details form tab to display the form.

Go to ⏷   E-mail   Create O

General	Orders

First Name   Andrew

Last Name   Cencini

Company   Labyrinth Exports

Job Title   Vice President, Sale

B Click the Next Record button to move to the next customer form.

C Click to display the last customer form.

Phone Numbers

Business Phone   (123)555-7890

Record: ⏮ ◀ 1 of 9 ▶ ⏭ ⏯ 🔽 Unfiltered

D Click to display the first customer form.

4. Follow these steps to display employee form eight:

Ⓐ **Click the Employee Details form tab to display the form.**

Ⓑ **Click the form number in the record navigation area, delete the number 1, type 8, and press [Enter].**

5. Double-click the Product Details form in the Forms list to open it.

6. Follow these steps to navigate records using this pop-up form:

Ⓐ **Click the Go to Product down arrow and select any product in the list.**

Ⓑ **Click the Order/Purchase History tab in the form window.**

Ⓒ **Click the Go to Product down arrow again and select a different product.**

Ⓓ **Click the Close button at the bottom of the form window.**

7. Right-click the Employee Details form tab and choose Close All.

Viewing Reports

Tables and forms display data contained in databases as it is entered and stored in the database. They serve as input objects because you can use both tables and forms to add data to the database. *Reports*, on the other hand, process and summarize data and display it as useful and meaningful information on a printed document. Reports can display data in different formats—as columnar information, charts, tables, and so forth—and can also include subtotals and totals.
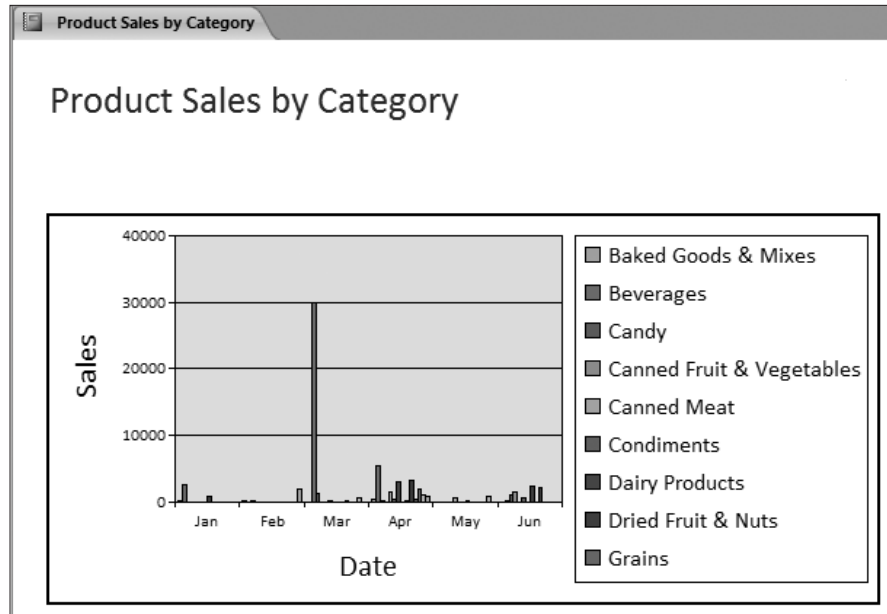
A report can display information as a chart. Notice this object appears as a tabbed object in the database work area.

This report displays information in columns and rows. It, too, is formatted as a tabbed object.

In this exercise, you will open reports, review the information contained in the reports, and close the reports.

1. Collapse ⟨≽⟩ the Forms list and expand ⟨≽⟩ the Reports list in the Navigation Pane.
2. Double-click the Employee Phone Book report to open it.

Employee Phone Book			
Employee Phone Book			Monday,
File As	**Employee Name**	**Business Phone**	**Home Phone**
C			
	Andrew Cencini	(123)555-7890	(123)555-7890
F			
	Nancy Freehafer	(123)555-7890	(123)555-7890

Notice that this report simply displays data in an organized columnar layout for printing and easy reference.

3. Double-click the Top Ten Biggest Orders report to open it.

#	Invoice #	Order Date	Company	
1	41	03/24/2007	Company G	
2	38	03/10/2007	Company BB	
3	47	04/08/2007	Company F	
4	46	04/05/2007	Company I	
5	58	04/22/2007	Company D	

This report analyzes data contained in the Orders table and identifies the 10 orders that contain the highest sales amount. The format of the table contains a colorful layout and a graphic.

4. Follow these steps to explore report views:

Ⓐ Click the Print Preview button in the View buttons at the bottom right of the report window and notice that the page margins appear in the work area.

Ⓑ Drag the slide bar toward the minus (–) symbol to decrease the size of the print.

100%

Ⓒ Click the Report View button to return the display to its original format.
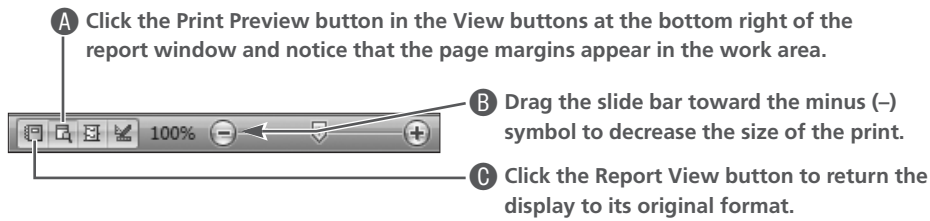
!NOTE! *View buttons are available for all database objects. They vary according to object type.*

5. Close the Employee Phone Book report (leaving the Top Ten Biggest Orders report open) and collapse the Reports list in the Navigation Pane.

Glimpsing the Power of Queries

You have now explored three different types of database objects and identified how each object fits into the overall scheme of the database. The purpose of all databases is to store data in such a way that you can retrieve required data and information in the quickest, most efficient manner. In Access and many other database programs, *queries* are the tools that enable you to achieve this goal. A *query* is a database object that enables you to select data and records from database tables on the basis of criteria you set. Only records and data that meet the criteria are shown when you run the query; other records are filtered out. Queries can display data from more than one table in the same datasheet. Remember the sportscaster who reports interesting statistics on the spur of the moment? Queries make his work easy.

When you open a query, Access runs the query and displays only the data requested in the query. As a result, the minute you double-click a query, you'll be able to view the data you want to view. Queries can display data from more than one table or from a single table, depending on the data required to obtain the desired query results.

Notice that Access compared the Qty Available value with the Reorder Level value, and when the number in the Qty Available column is less than the Reorder Level value, the item appears in the datasheet.

Product ID	Product Name	Product Code	Qty Available	Reorder Level	Pro
6	Labyrinth Exports Boysenberry Spread	NWTJP-6	0	25	Lab
7	Labyrinth Exports Dried Pears	NWTDFN-7	0	10	Lab
8	Labyrinth Exports Curry Sauce	NWTS-8	0	10	Lab
17	Labyrinth Exports Fruit Cocktail	NWTCFV-17	0	10	Lab
20	Labyrinth Exports Marmalade	NWTJP-6	0	10	Lab
21	Labyrinth Exports Scones	NWTBGM-21	0	5	Lab
34	Labyrinth Exports Beer	NWTB-34	0	15	Lab
40	Labyrinth Exports Crab Meat	NWTCM-40	0	30	Lab
41	Labyrinth Exports Clam Chowder	NWTSO-41	0	10	Lab
48	Labyrinth Exports Chocolate	NWTCA-48	0	25	Lab

Record: 1 of 29 — No Filter — Search

Scroll bars provide standard access to off-screen records and columns.

The navigation area identifies the number of items that need to be reordered.

The Inventory Needing Reordering query displays only those items that show a quantity of 0 available. Notice, again, that the query datasheet resembles the column and row layout of tables, often with fields from more than one table shown together in one datasheet.
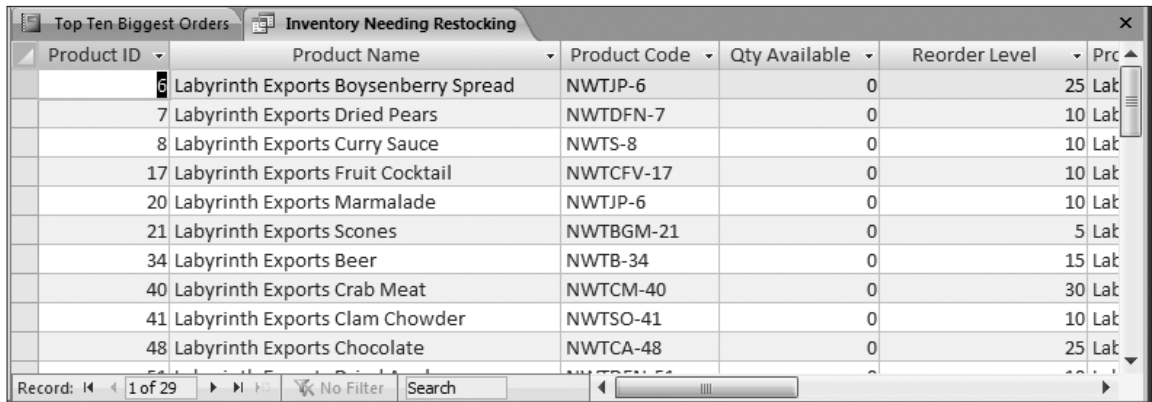
Hands-On 1.7   Run Queries

In this exercise, you will run queries to display select data, and close queries.

1. Expand ⌄ the Queries list and double-click the Inventory Needing Restocking query to run it.

Product ID ▾	Product Name	▾	Product Code ▾	Qty Available ▾	Reorder Level ▾	Pro ▲
6	Labyrinth Exports Boysenberry Spread		NWTJP-6	0	25	Lab
7	Labyrinth Exports Dried Pears		NWTDFN-7	0	10	Lab
8	Labyrinth Exports Curry Sauce		NWTS-8	0	10	Lab
17	Labyrinth Exports Fruit Cocktail		NWTCFV-17	0	10	Lab
20	Labyrinth Exports Marmalade		NWTJP-6	0	10	Lab
21	Labyrinth Exports Scones		NWTBGM-21	0	5	Lab
34	Labyrinth Exports Beer		NWTB-34	0	15	Lab
40	Labyrinth Exports Crab Meat		NWTCM-40	0	30	Lab
41	Labyrinth Exports Clam Chowder		NWTSO-41	0	10	Lab
48	Labyrinth Exports Chocolate		NWTCA-48	0	25	Lab

Record: ◄ ◄ 1 of 29 ► ►► ►▦ ▓ No Filter   Search

2. Scroll down the datasheet and review all records listed.

3. Run the Top Ten Orders by Sales Amount query and study the datasheet.

The records display in order on the basis of the amount of sales, from highest to lowest.

Order ID ▾	SaleAmount ▾	Order Date ▾	CompanyName ▾	Shipped Date ▾
38	$13,800.00	03/10/2007	Company BB	03/11/2007
41	$13,800.00	03/24/2007	Company G	
47	$4,200.00	04/08/2007	Company F	04/08/2007
46	$3,690.00	04/05/2007	Company I	04/05/2007
58	$3,520.00	04/22/2007	Company D	04/22/2007
79	$2,490.00	06/23/2007	Company F	06/23/2007
77	$2,250.00	06/05/2007	Company Z	06/05/2007
36	$1,930.00	02/23/2007	Company C	02/25/2007
44	$1,674.75	03/24/2007	Company A	
78	$1,560.00	06/05/2007	Company CC	06/05/2007

Record: ◄ ◄ 1 of 10 ► ►► ►▦ ▓ No Filter   Search

Ten records display, those representing the highest order sales amount.

Only five fields of data display in the datasheet.

4. Click the Top Ten Biggest Orders report tab and review the data shown on the report. *Notice that all data fields from the Top Ten Orders by Sales Amount query are displayed in the report except for the Shipped Date. Queries can be used as the basis for creating both forms and reports; however, remember that the data originally comes from tables—queries simply display selected table fields from one or more database tables.*

5. Close all open database objects.

Closing a Database and Exiting Access

Now that you have had a glimpse of the basic elements that make up an Access database, you can close the database and exit Access. The procedures used to perform these tasks are the same as those used to close files and exit other Microsoft Office applications. You can use three techniques to exit Access:

■ Press [Alt]+[F4] from the keyboard.

■ Click the Office button [⊞]→Exit Access.

■ Click the Access 2007 application window Close [×] button.

Because Access databases contain numerous objects, it is always a good idea to close each database properly before exiting Access. This ensures that all objects in the database are put away carefully.

Hands-On 1.8   Close a Database and Exit Access

In this exercise, you will close the Labyrinth Exports database and exit Access.

1. Click [⊞]→Close Database from the Quick Access bar.

2. Click the Access 2007 application window Close [×] button.

■

This lesson provided you with an overview of the basic features and elements related to Access 2007 databases. This sets the foundation for your study of Access. As you progress through this book, you will learn more about each element and feature.

Concepts Review

True/False Questions

1. Access databases contain multiple types of objects.   TRUE   FALSE
2. Access databases can hold only one of each object type.   TRUE   FALSE
3. The basic unit of data in a database is referred to as a field.   TRUE   FALSE
4. Access is an object-oriented database program.   TRUE   FALSE
5. All data about one item is referred to as a file.   TRUE   FALSE
6. Records summarize data contained in a database.   TRUE   FALSE
7. Queries, forms, tables, and reports are all object types found in Access databases.   TRUE   FALSE
8. Queries and forms serve as input objects.   TRUE   FALSE
9. Tables hold all other types of database objects.   TRUE   FALSE
10. A datasheet is a row and column layout of data contained in a database.   TRUE   FALSE

Multiple Choice Questions

1. Which Access database object holds the data in a database?
   a. Forms
   b. Queries
   c. Reports
   d. Tables

2. Which of the following statements is true about the relationship between fields and records and databases?
   a. A record is made up of multiple fields.
   b. A field is made up of multiple records.
   c. A database is made up of multiple records.
   d. All of the above

3. The database object used to select specific database records is called what?
   a. Form
   b. Query
   c. Report
   d. Table

4. Which Access object allows users to enter, edit, and view data records onscreen one at the time?
   a. Form
   b. Query
   c. Report
   d. Table

Skill Builders

Skill Builder 1.1   Explore Database Objects

In this exercise, you will open a sample database designed specifically for a medical facility and review the objects contained in the database.

!NOTE! *The Labyrinth Exports database used throughout this lesson focuses on the types of objects common to databases created for businesses that sell products. Other types of businesses would require databases that contain different types of data. Take, for example, a medical facility. Although data for employees and patients would resemble data contained in tables for other types of businesses, some data would be unique.*

1. Launch Access 2007 and use the Open dialog box to open the sb-Valley Hospital database from the Lesson 01 folder on your file storage location.
   Because of security settings, it may, at first, appear that the database failed to open. Notice the filename in the title bar to ensure that the database is open, and then look for the Enable content bar.

2. Enable content and then open the Navigation Pane and expand all database object lists.

Explore Data Tables

Data in a database is stored in tables. Now you will examine some individual tables and learn about the data they contain.

3. Open the Drugs table.

   How many active fields (columns) does the table contain (not counting the Add New Field column)? _____

   How many records (rows) does the table contain? _____

   Are there pieces of information you think should be included in the table that have been omitted? If so, what data is missing?

   _____

4. Open the Employees table.

   How many active fields does the table contain?   _____

   How many records does it contain? _____

   What vital data is missing from the table? _____

5. Open the Patient Information table.

   How many active fields does the table contain?   _____

   How many records does it contain? _____

   What data from this table is used in another table in the database? _____

   _____

6. Open the Pay Ranks table.

   How many fields does the table contain? _____

   How many records does it contain? _____

   What data from this table is used in another table? _____

Explore Forms

7. Display the Forms list and open the Personnel Records form contained in the database.

From which table does the data come? _____

How many records can you display using this form? _____

How many fields display for each record? _____

8. Is there a form available for each table in the database? If not, which table has no form?

_____

Explore a Report

9. Display the Reports list in the database and open the Employees Phone List report. From which table is this report generated?

_____

10. Now open the Employees table.

Are all fields from the table displayed in the phone list?_____

If not, what fields are missing from this report? _____

Why would the fields be omitted from the report? _____

11. Close each open object, close the database, and exit Access.

Assessments

Assessment 1.1   Explore Additional Database Objects

In this exercise, you will explore additional features and objects within the Labyrinth Exports database.

Launch Access, Open, and Log In to a Database

1. Launch Microsoft Office Access 2007 and open the Labyrinth Exports database file listed on the Open Recent Database list.

2. Enable content and log in as Andrew Cencini.

3. Open the Navigation Pane and expand all object lists.

Use Special Features of Forms

4. In the Quick Links section of the Home form, click the View Customers link.

    What object opens? _____

    What object type is it? _____

5. Display the Home form and click the View Purchase Orders link.

    What object opens? _____

    What object type is it? _____

6. Display the Home form again and click the Labyrinth Exports Dried Pears link in the Inventory to Reorder list.

    What happens? _____

    Is it an object? _____ If so, what type?_____

7. Click the Purchase button at the end of the Dried Pears item.

    What does this button do? _____

    What happened to the Dried Pears item on the Restock List?_____

    Why?_____

Compare Queries and Reports

8. Run the Product Sales by Category query and the Product Sales by Category report.

    How do these objects resemble each other? _____

    How do they differ? _____

9. Open the Product Sales Qty by Employee query and the Product Sales Quantity by Employee report.

    How does the arrangement of data in the report differ from the data in the query datasheet? _____

    Are all fields contained in the query datasheet contained in the report?_____

Rearrange Items on the Navigation Pane

10. Display only Tables and Related Views in the Navigation Pane, and then study the arrangement of database objects as they appear in each group of this organization.

11. Change the Navigation Pane to display all object types arranged by object type.

12. Close all database objects, close the Navigation Pane, close the database and exit Access.

Critical Thinking

Critical Thinking 1.1   Examine and Develop a Database Plan

Now that you have started your study of Access and databases in general, you will begin to see the potential for using databases in many areas of your life. In fact, you will find databases almost everywhere. Consider online sales of items by all types of businesses as well as locations where you can list personal items for sale. In this exercise, you will download and examine a personal database posted online to list and sell items from an estate. As you review the database tables, you can start thinking about the type of database you might want to develop for your personal use.

1. Launch Access and open the ct-Rich Homestead database from the Lesson 01 folder, open the Navigation Pane and review the list of tables and forms included in the database.

2. Open the Records table and review the data.

   How many active fields of data does the table contain? _____

3. Open the Comics table and review the data.

   Does this table contain the same number of fields that the Records table contains? _____

   Which of the two tables do you believe contains the better list of fields for relaying information about the items in the database? _____

4. Open each additional table and review the data contained in the tables.

   What common thread among all the tables relates the tables to each other to create a valid file? _____

   _____

5. Open each form and review the data contained in them.

   What do you think of the layout of the forms? _____

   How or why might you change the layout of the forms? _____

   _____

6. Close all open database objects, close the Navigation Pane, close the database, and exit Access.