Microsoft®

Access 2000

The Richard Stockton College of New Jersey

This Course Covers:

• Database fundamentals: What a database is, how to enter, edit, and delete information
• How to find, filter, and sort information in a database
• How to create a database and customize it to meet your own specific needs

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Welcome to your first lesson on Microsoft Access! Microsoft Access is a powerful database program you can use to store all kinds of information—from a simple list of recipes to an inventory catalog with tens of thousands of products. Once information is stored in a Microsoft Access database, it’s easy to find, analyze, and print.

Of all the programs in the Microsoft Office suite, Microsoft Access is the one that most intimidates people. “Mastering Microsoft Excel or Word was hard enough” they think, “How can I ever understand a complicated program like Access”. While it’s true that Microsoft Access has many advanced features (there are computer consultants whose only job is programming Access databases) creating and working with a Microsoft Access database is probably a whole lot easier than you think.

With that in mind, this chapter is your introduction to Microsoft Access and the world of databases. In this chapter you will learn more about exactly what a database is, what it is used for, and how to perform simple database tasks, such as adding and deleting records. This chapter also takes you on a basic tour of various parts of a Microsoft Access database: Tables, Forms, Reports, and Queries. If you have worked with one of the other Microsoft Office applications, such as Microsoft Excel or Word, you will find that you already know a lot about the concepts covered in this chapter.

And so, without further ado, turn the page and take your first step into the world of databases.
In its simplest form, a database is a collection of information that is organized into a list. Whenever you make a list of information, such as names, addresses, products, or invoices, you are, in fact, creating a database. Technically speaking, you don’t even have to use a database program to create a database. You can make a list of information in all kinds of programs, such as Microsoft Excel, Word—even the meek and lowly Notepad program!

A database program, however, is much more powerful than a simple list you keep on paper or in a Microsoft Word document. A database program lets you:

- **Store Information**
  A database stores lists of information that are related to a particular subject or purpose. A database store personal information, such as a list of aunt Mildred’s home recipes, or business information, such as a list of hundred of thousands of customers. A database also makes it easy to add, update, organize, and delete information.

- **Find Information**
  You can easily and instantly locate information stored in a database. For example, you can find all the customers with the last name “Johnson” or all customers who live in the 55417 zip code and are older than 65.

- **Analyze and Print Information**
  You can perform calculations on information in a database. For example, you could calculate what percent of your total sales comes from the state of Texas. You can also present information in a professional-looking printed report.

- **Manage Information**
  Databases make it easy to work with and manage huge amounts of information. For example, with a few keystrokes you can change the area code for hundreds of customers in the (612) area code to a new (817) area code.
Share Information

Most database programs (including Microsoft Access) allow more than one user to view and work with the same information at once. Such databases are called multi-user databases.

Databases usually consist of several parts. A Microsoft Access database may contain up to six different database object types. The table on this page identifies the database objects you can use when creating a Microsoft Access database. Some objects you will use all the time (such as Tables), others you will hardly use (such as Modules).

<table>
<thead>
<tr>
<th>Object</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tables</td>
<td>Tables store a database's data in rows (records) and columns (fields). For example, one table could store a list of customers and their addresses while another table could store the customer's orders. A database must always contain at least one table where it can store information—all the other database objects are optional.</td>
</tr>
<tr>
<td>Queries</td>
<td>Queries ask a question of data stored in a table. For example, a query might only display customers who are from Texas.</td>
</tr>
<tr>
<td>Forms</td>
<td>Forms are custom screens that provide an easy way to enter and view data in a table or query.</td>
</tr>
<tr>
<td>Reports</td>
<td>Report present data in a table or query in a printed format.</td>
</tr>
<tr>
<td>Pages</td>
<td>A special type of Web page designed for viewing and working with Microsoft Access data from an Internet or Internet.</td>
</tr>
<tr>
<td>Macros</td>
<td>Macros help you perform routine tasks by automating them into a single command. For example, you could create a macro that automatically opens and prints a report.</td>
</tr>
<tr>
<td>Modules</td>
<td>Like macros, Modules automate tasks, but by using a built-in programming language called Visual Basic or VB. Modules are much more powerful and complex than macros.</td>
</tr>
</tbody>
</table>

Quick Reference

Databases are Used To:
- Store, Find, Analyze, Print, Manage, and Share information.

A Microsoft Access Database can contain these Database Object Types:
1. Tables
2. Queries
3. Forms
4. Reports
5. Pages
6. Macros
7. Modules

If you're upgrading from Access 97 to Access 2000 you’re in luck—in many respects Access 2000 looks and works almost the same as your trusty version of Access 97. Here’s what’s new:

Table 1-1: What’s New

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New Database File Format</strong></td>
<td>We may as well start off with the biggest downside of Access 2000... Unlike the other applications in the Microsoft Office 2000 suite, Access 2000 uses a new database file format. You can still read and write Access 97 databases, but it requires an extra step. For this reason, migrating from Access 97 to 2000 can be quite an undertaking for larger organizations.</td>
</tr>
<tr>
<td><strong>Personalized Menus</strong></td>
<td>Office 2000 displays only the commands that you use most often on new personalized menus and toolbars. A menu’s more advanced commands are hidden from view, although you can easily expand a menu to reveal all of it’s commands. After you click a command, it appears on your personalized menu.</td>
</tr>
<tr>
<td><strong>Multiple Cut, Copy, and Paste Clipboard</strong></td>
<td>Office 2000 programs share a multiple clipboard, which can hold 12 copied or cut object instead of just one. The only problem with the new clipboard is only Office 2000 programs can access all 12 copied or cut objects.</td>
</tr>
<tr>
<td><strong>See What You Have Open</strong></td>
<td>Use the Windows taskbar to switch between open Office documents—each document is appears an icon on the taskbar.</td>
</tr>
<tr>
<td><strong>Improved Office Assistant</strong></td>
<td>The Assistant uses less space on your screen, while still providing you with all the help you need. If the Office Assistant can’t answer your question, it can take you to the Web for more information.</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved User Interface</td>
<td>The Access 2000 database window makes it easier to work with components of your databases. Use the vertical Objects bar to switch between forms, tables, and reports. Organize database objects into groups, and create shortcuts to frequently used items.</td>
</tr>
<tr>
<td>Data Access Pages</td>
<td>Data Access Pages are forms and reports designed for the Web. They enable any employee to easily open, view, and update live data from the Internet or an Internet. These pages are stored as HTML files, outside the Access database file, so that users who do not have Access installed can share them.</td>
</tr>
<tr>
<td>Subdatasheets</td>
<td>Allows you to see information from tables that are related to the table you are currently viewing. With subdatasheets, you can browse hierarchical data in Datasheet View.</td>
</tr>
<tr>
<td>Name AutoCorrect</td>
<td>Rename a field and the Name AutoCorrect feature changes it in all queries and forms. You can keep working without interruption.</td>
</tr>
<tr>
<td>Conditional Formatting</td>
<td>Changed the format of a field based on the value in the data in a form or report. For example, if the date in a “Due Date” field is equal to or less than the current date, you might display the date in a large red font.</td>
</tr>
<tr>
<td>Form Enhancements</td>
<td>Allow you to simply select a field on a form and change its background color, size, or border. See the changes right away without switching to Design View.</td>
</tr>
<tr>
<td>Euro Currency Symbol</td>
<td>Additional number formats are available with the Euro currency symbol.</td>
</tr>
<tr>
<td>Seamless Integration with SQL Server</td>
<td>Microsoft Access 2000 includes built-in Microsoft SQL Server™ integration that brings the power of high-end database management to the familiar Access environment.</td>
</tr>
<tr>
<td>Detect and Repair</td>
<td>If you find that your Access program is getting buggy, instead of reinstalling the entire program, you can use Office 2000’s new Detect and Repair feature to diagnose and fix the problem.</td>
</tr>
<tr>
<td>AutoCompact</td>
<td>Automatically compresses and repairs a database when the file is closed.</td>
</tr>
</tbody>
</table>
Lesson 1-3: Starting Access and Opening a Database

You start Access 2000 the same as any other Windows program—with the Start button. Because every computer is set up differently (some people like to rearrange and reorder their Program menu) the procedure for starting Access on your computer may be slightly different from the one listed here.

1. Make sure that your computer is on and the Windows desktop appears on the screen.
2. Use your mouse to point to and click the **Start Button**, located at the bottom-left corner of the screen.
   The Windows Start menu pops up.

3. **Use the mouse to move the pointer over the word Programs.**
   A menu pops up to the right of Programs. The programs and menus listed you see depend on the programs installed on your computer, so your menu will probably look somewhat different from the illustration.

4. **On the Programs menu, point to and click Microsoft Access.**
   Once you click the Microsoft Access program your computer’s hard drive will whir for a moment while it loads Access. The Access program appears and displays a dialog box where you can open a database or create a new database, as shown in Figure 1-6. We don’t need to use this dialog box for now so…

5. **Click Cancel to close the Microsoft Access dialog box.**
   The Microsoft Access dialog box closes and you are left looking at an empty and somewhat intimidating screen. Most Microsoft Office applications, such as Word and Access, start out by giving you a blank document that you can start working with right away. Here Microsoft Access is very different than its Microsoft Office cousins; because you really can’t do anything in Microsoft Access unless you open an existing database or create a new database. Most of the time you will open an existing database, and here’s how to accomplish this simple task.

6. **Click the Open button on the toolbar.**
   The Open dialog box appears, as shown in Figure 1-5. Now you have to tell Access where the database you want to open is located.

7. **Navigate to the folder where your practice files are located.**
   Ask your instructor if you don’t know where your practice folder is located.

8. **Find and double-click the Lesson 1 file.**
   Access opens the Lesson 1 database and displays it in the database window.

### Table 1-2: Special Folders in the Open and Save As Dialog Boxes

<table>
<thead>
<tr>
<th><strong>Heading</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>History</strong></td>
<td>Displays a list of files that you’re recently worked on.</td>
</tr>
<tr>
<td><strong>My Documents</strong></td>
<td>Displays all the files in the My Document folder—the default location where Microsoft Office programs save their files.</td>
</tr>
<tr>
<td><strong>Desktop</strong></td>
<td>Temporarily minimizes or hides all you programs so that you can see the Windows desktop.</td>
</tr>
<tr>
<td><strong>Favorites</strong></td>
<td>Display a list of your “Favorite” folders, although these are often used to organize your favorite Web pages.</td>
</tr>
<tr>
<td><strong>Web Folders</strong></td>
<td>Displays all the files in any Web Folders—special locations to save Web pages.</td>
</tr>
</tbody>
</table>

### Quick Reference

**To Start Microsoft Access:**
1. Click the Windows **Start button**.
2. Select **Programs → Microsoft Access**.

**To Open a Database:**
- Click the **Open button** on the toolbar.
- Select **File → Open** from the menu.
- Press **<Ctrl> + <O>**.
Lesson 1-4: Understanding the Access Program Screen

You might find the Access 2000 program screen a bit confusing and overwhelming the first time you see it. What are all those buttons, icons, menus, and arrows for? This lesson will help you become familiar with the Access program screen. There are no step-by-step instructions in this lesson—all you have to do is look at Figure 1-7 then refer to Table 1-3: The Access Program Screen to see what everything you’re looking at means. And, most of all, relax! This lesson is only meant to help you get aquatinted with the Access screen—you don’t have to memorize anything.
Table 1-3: The Access Program Screen

<table>
<thead>
<tr>
<th>Element</th>
<th>What it’s Used For</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title bar</td>
<td>Displays the name of the program you are currently using (in this case, Microsoft Access) and the name of the database you are working on. The title bar appears at the top of all Windows programs.</td>
</tr>
<tr>
<td>Menu Bar</td>
<td>Displays a list of menus you use to give commands to Access. Clicking a menu name displays a list of commands—for example, clicking the Format menu name would display different formatting commands.</td>
</tr>
<tr>
<td>Toolbar</td>
<td>Toolbars are shortcuts—they contain buttons for the most commonly used commands (instead of having to wade through several menus). The toolbars in Access change depending on what you are working on. The database toolbar (the toolbar currently displayed) contains buttons for the Access commands that you will use the most often, such as opening and printing databases.</td>
</tr>
<tr>
<td>Database window</td>
<td>The command center for a database, the Database window allows you to view, create, edit, and modify database objects.</td>
</tr>
<tr>
<td>Object Bar</td>
<td>The Object bar categorizes the different types of database objects. Each type of database object has its own icon—to view a type of object click its icon on the Object bar.</td>
</tr>
<tr>
<td>Database Objects</td>
<td>Database objects are the basic components that make up a database. Database objects include tables, queries, forms, reports, macros, and modules.</td>
</tr>
<tr>
<td>Status bar</td>
<td>Displays messages and feedback. The Status bar is especially important in Access, since it can give you meaningful information and messages when you are entering information into a database.</td>
</tr>
</tbody>
</table>

Don’t worry if you find some of these objects confusing at first—they will make more sense after you’ve actually used them.

One more important note about the Access program screen: We have been examining the Database window in this lesson, it is by no means the only screen that you will in encounter in Microsoft Access. Just as there are several different types of database objects in Microsoft Access, there are also dozens of different program screens—something that makes Access quite different than its Microsoft Office cousins Word and Excel. You will see some of these screens as we continue this chapter’s tour of Microsoft Access.
Lesson 1-5: Using Menus

This lesson explains the one of the most ways to give commands to Access—by using the menus. Menus for all Windows programs can be found at the top of a window, just beneath the program’s title bar. In Figure 1-8 notice the words File, Edit, View, Insert, Tools, Window, and Help. The next steps will show you why they’re there.

1. **Click the word File on the menu bar.**
   A menu drops down from the word File, as shown in Figure 1-8. The File menu contains a list of file-related commands, such as New, which creates a new file, Open, which opens or loads a saved file, Save, which saves the currently opened file, and Close, which closes the currently opened file. Move on to the next step to try selecting a command from the File menu.

2. **Click the word Open in the File menu.**
   The Open dialog box appears. You don’t need to open a database quite yet so…

3. **Click the Cancel button to close the Open dialog box.**
   Notice each of the words in the menu has an underlined letter somewhere in them. For example, the F in the File menu is underlined. Holding down the <Alt> key and pressing the underlined letter in a menu does the same thing as clicking it. For example, pressing the <Alt> key and then the <F> key would open the File menu. Move on to the next step and try it for yourself.

4. **Press the <Alt> key then press the <F> key.**
   The File menu appears. Once you open a menu you can navigate through the different menus, using either the mouse or the <Alt> key and the letter that is underlined in the menu name.

   If you open a menu and then change your mind, it is easy to close it without selecting any commands. Click anywhere outside the menu or press the <Esc> key.

5. **Click anywhere outside the menu to close the menu without issuing any commands.**
   The menus in Access 2000 work quite a bit differently than in other Windows programs—even than previous versions of Access! Microsoft Access 2000 displays its menu commands on the screen in three different ways:
   - By displaying every command possible, just like most Windows programs, including earlier versions of Access, do.
• By hiding the commands you don’t use as frequently (the more advanced commands) from view.
• By displaying the hidden commands by clicking the downward-pointing arrows (▼) at the bottom of the menu or after waiting a couple seconds.

6. **Click the word** **Tools** **in the menu.**

The most common menu commands appear in the Tools menu. Some people feel intimidated by being confronted with so many menu options, so the menus in Office 2000 don’t display the more advanced commands at first. To display a menu’s advanced commands either click the downward-pointing (▼) at the bottom of the menu else keep the menu open a few seconds.

7. **Click the downward-pointing arrow (▼) at the bottom of the Tools menu.**

The more advanced commands appear shaded on the Tools menu. If you’re accustomed to working with earlier versions of Microsoft Office you may find that hiding the more advanced commands is disconcerting. If so, you can easily change how the menus work. Here’s how:

8. **Select** **View**  → **Toolbars**  → **Customize** **from the menu.**

The Customize dialog box appears, as shown in Figure 1-9. This is where you can change how Access’s menus work. There are two check boxes here that are important:

- **Menus Show Recently Used Commands First:** Clear this check box if you want to show all the commands on the menus, instead of hiding the advanced commands.
- **Show Full Menus After a Short Delay:** If checked, this option waits a few seconds before displaying the more advanced commands on a menu.

9. **Click Close.**

---

| **Table 1-4: Menus found in Microsoft Access** |
|------------------------|-------------------------------------------|
| **File** | **Description** |
| File | File-related commands to open, close, print, and create new files. |
| Edit | Commands to copy, cut, paste, find, and replace text. |
| View | Commands to change how the screen is displayed. |
| Insert | Lists items that you can insert into a database, such as graphics and charts. |
| Format | Commands to format fonts, cell alignment, and borders. |
| Tools | Lists tools such as the spell checker and macros. You can also change the default for Microsoft Access options here. |
| Records | Commands to add, delete, sort, and filter information. |
| Window | Commands to display and arrange multiple windows (if you have more than one file open.) |
| Help | Get help on using the program. |
Lesson 1-6: Using, Hiding, Displaying, and Moving Toolbars

In this lesson we move on to another very common way of giving commands to Access—using toolbars. Toolbars are shortcuts—they contain buttons for the most commonly used commands. Instead of wading through several menus to access a command, you can click a single button on a toolbar. Access displays different toolbars, depending on what you are working on. For example, when you view the Database window, Access displays the Database toolbar, which contains database object related commands.

This lesson explains how to use toolbars and also how to hide, display, and move toolbars.

1. **Position the mouse pointer over the New button on the toolbar (but don’t click the mouse yet!)**
   
   A Screen Tip appears over the button briefly identifying what the button is, in this case “New.” If you don’t know what a button on a toolbar does, simply move the pointer over it, wait a second, and a ScreenTip will appear over the button, telling you what it does.

2. **Click the New button on the toolbar.**
   
   The New dialog box appears.
3. **Click Cancel to close the New dialog box.**
When you first start Access, one toolbar—the Database toolbar—appears by default. As you work with Access, you may want to display other toolbars, such as the Web toolbar or the Formatting toolbar to help you accomplish your tasks. This lesson explains how to move Access toolbars to different positions on the screen, or by removing them all together.

4. **Select View → Toolbars from the menu.**
A list of available toolbars appears, as shown in Figure 1-11. Notice check marks appear next to the Database toolbar. This indicates the toolbar is already selected and appears on the Access screen.

5. **Select Web from the toolbar menu.**
The Web toolbar appears. Toolbars don’t have to be at the top the screen—you can move a toolbar anywhere you want.

6. **Move the pointer to the move handle, [ ] , at the far left side of the Web toolbar. Click and drag the toolbar to the middle of the screen, then release the mouse button.**
The Web toolbar is torn from the bottom of the screen and floats in the middle of the window. Notice a title bar appears above the Drawing toolbar. You can move a floating toolbar by clicking its title bar and dragging it to a new position. If you drag a floating toolbar to the edge of the program window, it becomes a docked toolbar.

7. **Click the Web toolbar’s title bar and drag the toolbar up until it docks with to the top of the screen.**
The Drawing toolbar is reattached to the bottom of the Access screen.

8. **Right-click any of the toolbars and select Web from the Toolbar shortcut menu.**
The Web toolbar disappears.
Lesson 1-7: Filling Out Dialog Boxes

Some commands are more complicated than others are. Opening a database is a simple process—you only need to select File → Open from the menu or click the Open button on the Database toolbar. Other commands are more complex, such as changing the default options for Access. Whenever you want to do something relatively complicated, you must fill out a dialog box. Filling out a dialog box is usually quite easy. If you have worked at all with Windows, you have undoubtedly filled out hundreds of dialog boxes. Dialog boxes usually contain several types of controls, including:

- Text boxes
- List boxes
- Check boxes
- Combo boxes (also called drop down lists)

It is important that you know the names of these controls, because this book will refer to them in many lessons throughout this guide. This lesson will give you a tour of a dialog box, and explain each of these controls to you, so that you will know what they are and know how to use them.

1. Click the word Tools from the menu.
   The Tools menu appears. Notice the Options menu in the Tools menu are followed by ellipses (...). The ellipses indicate there is a dialog box behind the Options menu.

2. Select Options from the Format menu.
   The Options dialog box appears, as shown in Figure 1-13. Some dialog boxes have so many options that they are organized and grouped on separate sheets. Such dialog boxes has several sheet tabs near the top of the dialog box. To view a sheet simply click its sheet tab.
3. **Click the Tables/Queries Tab.**

The Tables/Queries tab appears in front of the dialog box, as shown in Figure 1-13. This is a more complex sheet in the dialog box and contains several different types of components that you can fill out.

Remember: the purpose of this lesson is to learn about dialog boxes—not how to change the default options for Access (we’ll get to that later.) The next destination on our dialog box tour is the text box.

Look at the Text text box, located in the Default Field Sizes section of the dialog box. Text boxes are the most common dialog box components and are nothing more than the fill-in-the-blank you’re familiar with if you’ve filled out any type of paper form. To use a text box, you first select the text box by clicking it or pressing the <Tab> key until the insertion point appears in the text box, and then simply enter in the text you want into the text box.

5. **Click the Text text box and replace the 50 with 70.**

You’ve just filled out the text box—nothing to it. The next stop in our dialog box tour is the combo box. There’s a combo box located directly below the Text text box you just typed in. A combo lists several (or many) options in a small box. You must first click a combo box’s downward pointing arrow in order to display its options. Sometimes a combo box will contain so many options that they can’t all be displayed at once, and you must use the combo box’s scroll bar to move up or down the list.

6. **Click the Number combo box down arrow.**

A list of numbering options appears below the combo box.

7. **Select Byte from the combo box.**

Sometimes you need to select more than one item from a dialog box—in such cases you use the check box control when you’re presented with multiple choices.

8. **In the Query design section click the Output All Fields check box.**

The last destination on our dialog box tour is the button. Buttons are found in every dialog box and are used to execute or cancel commands. The two buttons you’ll see the most are:

- **OK:** Applies and saves any changes you have made and then closes this dialog box. Pressing the <Enter> key usually does the same thing as clicking the OK button.

- **Cancel:** Closes the dialog box without applying and saving any changes. Pressing the <Esc> key usually does the same thing as clicking the cancel button.

9. **Click the Cancel button to cancel the changes you made and close the Options dialog box.**

### Quick Reference

<table>
<thead>
<tr>
<th>To Use a Text Box:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simply type the information directly into the text box.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To Use a Combo Box:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click the Down Arrow to list the combo box’s options. Click an option from the list to select it.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To Check or Uncheck a Check Box:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click the check box.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To View a Dialog Box Tab:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click the tab you want to view.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To Save Your Changes and Close a Dialog Box:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click the OK button or press &lt;Enter&gt;.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>To Close a Dialog Box without Saving Your Changes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click the Cancel button or press &lt;Esc&gt;.</td>
</tr>
</tbody>
</table>
Lesson 1-8: Keystroke and Right Mouse Button Shortcuts

You are probably starting to realize that there are several methods to do the same thing in Access. For example, to open a database, you can use the menu (select File → Open) or the toolbar (click the Open button). This lesson introduces you to two more methods of executing commands: Right mouse button shortcut menus and keystroke shortcuts.

You know that the left mouse button is the primary mouse button, used for clicking and double-clicking—and it’s the mouse button that you will use over ninety-five percent of the time. So what’s the right mouse button for? Whenever you right-click something, it brings up a shortcut menu that lists everything you can do to the object. Whenever you’re unsure or curious about what you can do with an object, right-click it. A shortcut menu will appear with a list of commands related to the object or area you right-clicked.

Right mouse button shortcut menus are an especially effective way to give commands in Access, because you don’t have to wade through several levels of unfamiliar menus when you want to do something. For this lesson, assume you want to modify the Employees table.

1. **Position the pointer over the Employees table and click the right mouse button.**
   A shortcut menu appears where you clicked the mouse, as shown in Figure 1-14. Notice one of the items listed on the shortcut menu is Print. This is the same Print command that you can select from the menu by clicking File → Print. Using the right mouse button shortcut method is slightly faster and usually easier to remember than using the menus in Access. If you open a shortcut menu and then change your mind, you can close it without selecting anything. Here’s how:

2. **Move the mouse button anywhere outside the shortcut menu and click the left mouse button to close the shortcut menu.**
   Remember that the options listed in the shortcut menu will be different, depending on what or where you right-clicked.

Figure 1-14
Right-click any object to display a list of things that you can do to the object.

Figure 1-15
Hold down the Ctrl key and press another key to execute a keystroke shortcut.

Shortcut menu
Right-click an object to open a shortcut menu that lists everything you can do to the object.
3. Position the pointer over the Database toolbar and click the right mouse button.
   A shortcut menu listing all the toolbars you can view appears.

4. Move the mouse button anywhere outside the shortcut menu and click the left mouse button to close the shortcut menu.
   On to keystroke shortcuts. Without a doubt, keystroke shortcuts are the fastest way to give commands to Access, even if they are a little hard to remember. They’re great time-savers for issuing frequently-used commands. To issue a keystroke shortcut press and hold down the <Ctrl> key, press the shortcut key, and release both buttons.

5. Press <Ctrl>+<O> (the Ctrl and O keys at the same time.)
   This is the keystroke shortcut to open a database and thus pressing <Ctrl>+<O> causes the Open dialog box to appear. Since you already have a database open you can close the dialog box without opening a new file.

6. Click Cancel to close the Open dialog box.
   The Open dialog box closes.

   **NOTE:** Although we won’t discuss it in this lesson, you can change or remap the default keystroke shortcuts for Access and assign them to execute other commands.

Table 1-5: Common Keystroke Shortcuts lists the shortcut keystrokes you’re likely to use the most in Access.

<table>
<thead>
<tr>
<th>Keystroke</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;Ctrl&gt;+&lt;O&gt;</td>
<td>Open a database</td>
</tr>
<tr>
<td>&lt;Ctrl&gt;+&lt;W&gt;</td>
<td>Close a database</td>
</tr>
<tr>
<td>&lt;Ctrl&gt;+&lt;P&gt;</td>
<td>Print current view</td>
</tr>
<tr>
<td>&lt;Ctrl&gt;+&lt;Z&gt;</td>
<td>Undo</td>
</tr>
<tr>
<td>&lt;F7&gt;</td>
<td>Check spelling</td>
</tr>
<tr>
<td>&lt;Ctrl&gt;+&lt;-&gt;</td>
<td>New Record</td>
</tr>
<tr>
<td>&lt;Ctrl&gt;+&lt;-&gt;</td>
<td>Delete record</td>
</tr>
<tr>
<td>&lt;Ctrl&gt;+&lt;C&gt;</td>
<td>Copies the selected text or object to the Windows clipboard</td>
</tr>
<tr>
<td>&lt;Ctrl&gt;+&lt;X&gt;</td>
<td>Cuts the selected text or object from its current location to the Windows clipboard</td>
</tr>
<tr>
<td>&lt;Ctrl&gt;+&lt;V&gt;</td>
<td>Pastes any copied or cut text or object in the Windows clipboard to the current location</td>
</tr>
<tr>
<td>&lt;Ctrl&gt;+&lt;F&gt;</td>
<td>Find</td>
</tr>
<tr>
<td>&lt;Ctrl&gt;+&lt;H&gt;</td>
<td>Find and replace</td>
</tr>
<tr>
<td>&lt;Page Down&gt;</td>
<td>Next Screen</td>
</tr>
<tr>
<td>&lt;Page Up&gt;</td>
<td>Previous Screen</td>
</tr>
</tbody>
</table>

---

**Quick Reference**

To Open a Context-Sensitive Shortcut Menu:
- Right-click the object.

To Use a Keystroke Shortcut:
- Press <Ctrl> + the letter of the keystroke shortcut you want to execute.
Lesson 1-9: Opening and Modifying Database Objects

Think of the Database window as the mission control center for an Access database. You use the Database window to open, modify, and manage all the different types of objects in a database. The Database window contains tabs for each type of database object described in Table 1-6: Types of Database Objects. To display a type of object click the appropriate tab.
1. **Click the Forms icon on the Objects bar.**
Access displays all the forms in the database. To open a database object either select the object and click the Database window’s Open button or double-click the object.

2. **Double-click the Employees form.**
The Employees form appears in its own window. We’ll take a closer look at forms later on, so go to the next step and close form window.

3. **Close the Employee form by clicking its Close button.**
You can modify any database object by opening it in Design View. Design View displays the structure of a database object and allows you to make changes to it. You don’t have to know how to make changes to a database object yet, but knowing how to open an object in Design View is useful. Here’s how to open an object in Design View:

4. **Click the Employees form to select it and then click the Design button.**
The employee form opens in Design View. Now you can see the structure of the employee form object and even make changes to the form (don’t worry—we won’t be covering that topic for quite a while!)

5. **Close the Employee form by clicking its Close button.**
When you work with database objects you may find that you need to change how you view information on the screen. You can display database objects using one of four view modes: Large Icons, Small Icons, List, or Details. Figure 1-17 illustrates each of these four views. List view is the default view—and it’s usually the best way to view database objects—but there are times when you may want to change views. For example you might want to use Details view to see when an object was created.

6. **Click each of the four View buttons on the toolbar to display each of the four views shown in Figure 1-17, then return to List View.**

Here, once more for your viewing pleasure are the types of database objects.

**Table 1-6: Types of Database Objects**

<table>
<thead>
<tr>
<th>Object</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Table Icon]</td>
<td>Tables store a database’s data in rows (records) and columns (fields). For example, one table could store a list of customers and their addresses while another table could store the customer’s orders.</td>
</tr>
<tr>
<td>![Queries Icon]</td>
<td>Queries ask a question of data stored in a table. For example, a query might only display customers who are from Texas.</td>
</tr>
<tr>
<td>![Forms Icon]</td>
<td>Forms are custom screens that provide an easy way to enter and view data in a table or query.</td>
</tr>
<tr>
<td>![Reports Icon]</td>
<td>Report present data in a table or query in a printed format.</td>
</tr>
<tr>
<td>![Pages Icon]</td>
<td>A special type of Web page designed for viewing and working with Microsoft Access data from an Internet or Internet.</td>
</tr>
<tr>
<td>![Macros Icon]</td>
<td>Macros help you perform routine tasks by automating them into a single command. For example, you could create a macro that automatically opens and prints a report.</td>
</tr>
<tr>
<td>![Modules Icon]</td>
<td>Like macros, Modules automate tasks, but by using a built-in programming language called Visual Basic or VB. Modules are much more powerful and complex than macros.</td>
</tr>
</tbody>
</table>

Other Ways to Display an Object in Design View:
- Open the object and click the View button on the toolbar.
Lesson 1-10: Working with Multiple Windows

One of the many benefits of working with Windows is that you can open and work with several windows at once. Working with multiple windows is particularly important in Access, because each database object you open appears in its own window, and you will often have to switch between those windows. The Database window always remains open—closing the Database window closes the current database.

This lesson explains how to open and work with more than one window. You will also learn some tricks on changing the size of a window, moving a window, and arranging a window.

1. Click the **Tables icon** on the Objects bar to display the tables in the current database.
   Access displays all the tables in the current database.

2. Open the **Employees table**.
   Remember to open any database object you can select the object and click the Open button in the Database window or else just double-click the database object.
   The Employees table appears in its own window. The Database window is still open too, although you may not be able to see it because it’s behind the Employees table window.
   One of the big changes in Access 2000 is that each open window appears as an icon in the Windows taskbar, as shown in Figure 1-19. To switch to a different document click its icon on the taskbar.

3. Click the **Lesson 1: Database icon** on the Windows taskbar.
   The Database window appears. The Employees table window is still open, but you can’t see all of it because it is located behind the Database window.
   Sometimes it can be helpful to view two or more windows on screen at the same time. When you want to do this you use the Window command to select a tile option. Move on to the next step to try this for yourself.

Other Ways to Switch Between Windows:
- Select **Windows** from the menu and select the window you want to view.

Maximize button
4. Select **Window → Tile Horizontally** from the menu.

Both windows—the Database window and the Employees: Table window—on top of each other, as shown in Figure 1-19. Sometimes it’s useful to look at more than one window at a time. Notice how the Title Bar for the Employees: Table window is a different color than the Database window? That’s because the Database window is active, meaning it’s the window or document you’re currently working on. The other window, Employees: Table, is inactive.

5. Click anywhere in the Employees: Table window.

The Employees: Table window becomes active and the Database window becomes inactive.

To make working with several windows at once easier, you can change the size of the windows. You can maximize or enlarge a window so it takes up the document window.

6. Click the **Maximize button** in the Employees: Table window title bar.

The Employees: Table window maximizes and fills the entire screen. You can change a maximized window back to its original size by clicking the Restore button, which replaces the Maximize button whenever a window is maximized.

7. Click the **Restore button** in the Employees: Table window title bar to restore the Employees: Table window to its previous size.

Make sure you click the lower Restore button—the Restore button for Employees: Table window, and not the Restore button for the Access program. The window returns to its previous size.

You can also manually fine-tune a window’s size to meet your own specific needs. A window must not be in a maximized state if you want to manually size it.

8. Position the mouse pointer over the bottom edge of the Employees: Table window, until it changes to a ▼.

The two arrows point in the directions, indicating that you can drag the window’s border up or down.

**NOTE:** The mouse is very picky about where you place the pointer, and sometimes it can be a little tricky finding the exact spot where the pointer changes.

9. While the ▼ pointer is still over the bottom edge of the window, click and drag the mouse down a half-inch to move the window border, and release the mouse button.

Notice the window border follows as you drag the mouse. When the window is the size you want, you can release the mouse button to resize the window. You just resized the window by adjusting the bottom edge of a window, but you can also adjust the left, right, and top edges of a window.

Sometimes when you have more than one open at once, you may find that one window covers another window or other items on your screen. When this happens, you can simply move the window to a new location on the screen—just like you would move a report or folder to a new location on your desk.

10. Click and drag the **title bar** of the Employees: Table window to a new location on the screen. Release the mouse button to drop the window.

Remember that the title bar is at the top of the window or program, and displays the name of the program or window. An outline of the window follows your mouse as you drag the window, showing you where you are moving it.

11. Close the Employees: Table window.

---

### Quick Reference

**To Switch between Multiple Open Documents:**

- Click the document on the Windows taskbar.

  Or...

- Select **Window** and select the name of the document you want to view.

**To View Multiple Windows at the Same Time:**

- Select **Window** from the menu and select **Tile Horizontally**, **Tile Vertically**, or **Cascade** from the menu.

**To Maximize a Window:**

- Click the window’s **Maximize button**.

**To Restore a Window:**

- Click the window’s **Restore button**.

**To Manually Resize a Window:**

- Click and drag any of the window’s borders.

**To Move a Window:**

- Drag the window’s **title bar** to the location where you want to position the window.
Lesson 1-11: Tour of a Table

Tables are the heart and soul of any database. Tables are where a database stores all its information. All the other database objects—queries, forms, reports, and macros—are merely tools to analyze and manipulate the information stored in a table. Any of these other database objects are optional—but without tables a database wouldn’t be a database. Each table in a database stores related information. Most databases have more than one table: each table is used to store a different type of information. For example, one table might contain a list of customers and their addresses, while another table might contain any orders placed by the customers, while yet another table might contain a list of products.

Tables are made up of groups of fields. A field is a specific type of information, such as a person’s last name, address, or phone number. Together, the related fields for each individual person, place, or thing make up a single record. If your company has ten employees, your employee table would have ten records—one for each employee.

Here’s how to open and view a table:

1. **Click the Tables icon in the Database window Object bar.**
   Access lists all the tables in the current database.
2. **Click the Employees table** to select it and then **click the Open button** in the database window.

   The Employee table opens in its own window, as shown in Figure 1-20. If you are working on a table you will usually want to maximize the window so that you can see as much information as possible.

3. **Click the window’s Maximize button.**

   The table window expands to fill the entire screen. Table information is displayed, entered, and modified in a **datasheet**. A datasheet is a grid that contains all the records in a table. Records are stored in rows and field names are stored in columns, as shown in Figure 1-20.

   Let’s take a closer look at the current table. First notice the **record selector** that appears to the left of the first record in the table. This is the record selector and it shows the record that you are currently working on.

   Next, take a look at the **Record Navigation buttons** near the bottom of the screen, as shown in Figure 1-21. The record navigation buttons display the number of records in the current database and allow you to move between these records.

4. **Click the Next Record button** on the Record Navigation bar.

   Access moves to the next record in the table. Notice that the record selector moves to the next record and that the Record Navigation area indicates that you are currently viewing record 2.

5. **Click the Last Record button** on the Record Navigation bar.

   Tables will often contain too much information to display on the screen at once and you will have to use the vertical scroll bar (see Figure 1-22) to move up or down and/or the horizontal scroll bar to move left or right. Since the current database only contains 9 records, Access can display all of them on the screen at once, however you will still need to use the horizontal scroll bar in order to see all of the table’s fields.

6. **Click the Scroll Right button** on the horizontal scroll bar at the bottom of the screen to view to scroll to the right.

   The screen scrolls to the right, displaying previously hidden fields.

This ends the first half of our table tour. In the next lesson you’ll learn how to add, edit, and delete a table’s records.

**Table 1-7: Table Navigation**

<table>
<thead>
<tr>
<th>To Move To:</th>
<th>Navigation Buttons</th>
<th>Keyboard</th>
<th>Mouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Next Record</td>
<td>Click the Record Navigation button</td>
<td>Press the ↓ (down arrow) key</td>
<td>Click the record you want to select (if displayed)</td>
</tr>
<tr>
<td>The Previous Record</td>
<td>Click the Record Navigation button</td>
<td>Press the ↑ (up arrow) key</td>
<td>Click the record you want to select (if displayed)</td>
</tr>
<tr>
<td>The Last Record in the Table</td>
<td>Click the Record Navigation button</td>
<td>Press Ctrl + Page Down</td>
<td>N/A</td>
</tr>
<tr>
<td>The First Record in the Table</td>
<td>Click the Record Navigation button</td>
<td>Press Ctrl + Page Up</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Quick Reference**

**To Open a Table:**
- Click the Tables icon in the Object bar and double-click the table or select the table and click Open.

**To Move to the Next Record:**
- Click the Next Record Navigation button, or press the ↓ key, or click the record you want to select.

**To Move to the Previous Record:**
- Click the Previous Record Navigation button, or press the ↑ key, or click the record you want to select.

**To Move to the Last Record in a Table:**
- Click the Last Record Navigation button or press Ctrl + Page Down.

**To Move to the First Record in a Table:**
- Click the First Record Navigation button or press Ctrl + Page Up.
Lesson 1-12: Adding, Editing, and Deleting Records

You can easily add, change, or delete the records in your table. For example, you might want to add a record to store information about a new employee, change an existing record when an employee’s address changes, or delete a record for an employee who no longer works for the company. This lesson explains how to do all three of these tasks.

First here’s how to add a record to a table:

1. Click the New Record button on the Record Navigation bar.
   
   The record indicator jumps to the blank row at the end of the table and the blinking insertion point (|) appears in the first LastName field.

2. Enter your last name in the LastName field.
   
   If you make a mistake you can press the Backspace key to correct it.

3. Press <Tab> to move to the next field and enter your first name.
   
   Getting the hang of this data entry stuff? Move on to the next step and finish entering the new record.

4. Complete the record by entering your own information into each respective field (enter today’s date for the hire date). Remember to press <Tab> to move to the next field.
   
   Finish entering all that information? Super! When you enter data, you don’t have to click a Save button to save the information—Access automatically saves the information as you enter it. Neat, huh?
You can also make changes to the records in a table at any time. To edit a record, simply click the field you want to edit and make the changes. Let’s try it!

5. Position the mouse over the left edge of the Title cell (the mouse pointer changes to a modification icon) and then click to select the cell.

When a cell has been selected, anything you type will replace the original contents.

6. Type Inside Sales Coordinator.

The text “Inside Sales Coordinator” replaces the original contents of the Title field. You might want to glance at Table 1-8: Helpful Editing Keys, which lists several keys that are very important for editing and changing the contents of a field.

7. When you have finished making the changes press <Tab>.

You can permanently delete records that you no longer need from a table. Here’s how:

8. Place the insertion point anywhere in the record you just added and click the Delete Record button on the toolbar.

The record disappears and a warning dialog box appears, asking you to confirm the deletion.

9. Click Yes to confirm the deletion and then close the table.

Congratulations! While it may not seem like you have gone over very much, you have just learned the ins and outs of data entry with Access—the most important (and boring) database task of all!

<table>
<thead>
<tr>
<th>Key(s)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;Esc&gt;</td>
<td>The &lt;Esc&gt; or Escape key is the “Wait, I’ve changed my mind” key. Press &lt;Esc&gt; to cancel any changes you’ve made to a record.</td>
</tr>
<tr>
<td>&lt;Tab&gt;</td>
<td>Use the arrow keys to move between fields and records. If you are editing a field pressing the left and right arrow keys will move the insertion point one character to the left or right.</td>
</tr>
<tr>
<td>&lt;Del&gt;</td>
<td>Nothing surprising here. The &lt;Delete&gt; key deletes or erases whatever is selected—text, cell contents—even entire records! If you’re working with text, the &lt;Delete&gt; key erases characters to the right of the insertion point.</td>
</tr>
<tr>
<td>&lt;Backspace&gt;</td>
<td>Use the &lt;Backspace&gt; key to fix your typing mistakes—it erases characters to the left of the insertion point.</td>
</tr>
</tbody>
</table>

Table 1-8: Helpful Editing Keys

Quick Reference

To Add a New Record:
1. Click the New Record navigation button.
   Or...
   Click the New Record button on the toolbar.
   Or...
   Press <Ctrl>+<+>.

2. Enter the record information for the field, pressing <Tab> to move to the next field and <Shift>+<Tab> to move to the previous field.

To Edit a Record:
   • Click the field you want to edit and make the changes.

To Delete a Record:
   • Place the insertion point anywhere in the record and click the Delete Record button on the toolbar.
Lesson 1-13: Tour of a Form

Adding, viewing, and modifying information in a database should be straightforward and easy. Information in a table is often difficult to understand and manage. Access solves this problem by using forms to display table and query information. The forms in Access are actually quite similar to the ordinary paper type of form you fill out with a pen or pencil. Access forms have several major advantages over the traditional paper type of forms, however—they save you time, effort, and paper. Not to mention not having to worry about trying to read bad penmanship!

Forms can include fill-in-the blank fields, checkboxes, lists of options—even information and prompts to help users complete the form. Forms can also contain buttons that allow you to perform other actions, such as running macros to print reports or labels. Forms can even validate data entry by automatically checking your entries for errors.

This lesson will give you a brief overview of the ins and outs of working with forms.

1. **Click the Forms icon in the Objects bar.**
   Access lists all the forms in the current database.

2. **Double-click the Employees form.**
   The Employee form opens in its own window, as shown in Figure 1-24. You should already be familiar with some of the items on the form, such as the Record Navigation buttons located at the bottom of the screen. As with tables, the Record Navigation buttons are used to move between records.
3. Click the **Next Record Navigation button**.
   Access moves to the next record. The Employees form displays information from the Employees table, one record at a time.

4. Practice using the form **Navigation buttons** to move through the various records in the Employees table.
   You can usually add new records to a form’s underlining table. The procedure for adding a new record with a form is virtually the same as adding a new record to a table.

5. Click the **New Record button** on the Record Navigation bar.
   A blank form appears, ready to accept your information.

6. Enter your last name in the **LastName** field.
   Just as with tables, once you have finished entering data into a form’s field you can press <Tab> or <Enter> to move to the next field or <Shift> + <Tab> to move to the previous field.

7. Press <Tab> to move to the next field and enter your first name.

8. Complete the record by entering your own information into each respective field (enter today’s date for the hire date). Remember to press <Tab> to move to the next field.
   When you enter data you don’t have to click a Save button to save the information—Access automatically saves the information as you enter it. When you have finished entering the record you can close the form, click the New Record button to enter another record, or use the Record Navigation buttons to view another record.

   **NOTE:** The simple form used in this exercise contains only fill-in-the-blank style text fields. Some forms are more complex and may contain lists, combo boxes, check boxes—even sub-forms! If you are unfamiliar with these controls you might want to review the Dialog box lesson, presented earlier in this chapter.

   You can also delete records using a form. The procedure for deleting records in a form is no different than deleting them from a table.

9. **Make sure the record you just added appears in the form and click the Delete Record button** on the toolbar.
   The record disappears and a warning dialog box appears, asking you to confirm the deletion.

10. Click **Yes** to confirm the deletion.
    Access deletes the record from the Employees table.
Lesson 1-14: Tour of a Query

Webster’s definition of a query is:

1. A question; an inquiry.
2. A doubt in the mind; a mental reservation.
3. A notation, usually a question mark, calling attention to an item in order to question its validity or accuracy.

In its simplest form, a query in Access is no different than this definition—well, the first one, anyway. Queries ask a question of the information in a table and then retrieve and display the results. For example, if you wanted to know which employees had worked for the company for more than five years, you could create a query to examine the contents of the HireDate field to find all the records in which the hire date is more than five years old. Access would retrieve the information that meets your criteria and displays it in a datasheet.
Here’s how to open and run a query:

1. **Click the Queries icon in the Objects bar.**
   Access lists all the queries in the current database.

2. **Double-click the USA Employees query.**
   The USA Employees query opens in its own window, as shown in Figure 1-26. This query asks the Employee table “Which employees are from the USA?” and then displays the results in a datasheet. The information displayed in the USA Employees query isn’t a duplication of the data in the Employees table—just another way of looking at it.

   You have probably already noticed that layout of the USA Employees query doesn’t look any different than a table—records appear in rows, fields appear in columns, and the Record Navigation buttons appear at bottom of the window. Some queries even allow you to add, edit, and delete records to and from the underlying tables (as is the case with this query).

   So how do queries work their magic? Let’s take a “behind-the-scenes” look at the USA Employees query in **Design View**.

3. **Click the View button on the toolbar.**
   Access displays the USA Employees query in Design View, as shown in Figure 1-27. In Design View you can see a query’s underlying tables, which fields are included in the query, and the criteria used to specify which records to display.

   Here you can see that the underlying table for this query is the Employees table, which appears in the upper portion of the Design View window. You can also see that three field names—LastName, FirstName, and Country—appear in the design grid below. These are the fields that are included in the query. Notice "USA" appears in the Criteria row below the Country field. The query displays only the records that meet the criteria entered in this row. This query filters only those employees whose Country field equals "USA".

   Let’s try changing this query’s criteria and see what happens…

4. **Select the "USA" text in the criteria box and replace it with UK.**
   Now the query will display only employees from the UK. Let’s return to Datasheet View and see the new query results. To switch back to Datasheet View simply click the View button on the toolbar.

5. **Click the View button on the toolbar.**
   Access displays the results of the query in Datasheet View. This time instead of displaying employees from the USA the query uses the new criteria and displays employees from the UK.

6. **Close the USA Employees window.**
   Because you made changes to the USA Employees query a dialog box appears asking if you want to save your changes.

7. **Click No.**
   The USA Employees query used in this exercise is about as simple as queries can get. Queries can ask much more detailed and complex questions of tables, such as “What were the totals of last month’s sales, by region?” or “Which sales representatives had higher than average sales?” or “Which customers have purchased our meteorite protection coverage option for their car insurance?” For now though, you have a good understanding of what queries are and what they can do for you.
Lesson 1-15: Tour of a Report

Managers like paper. Don’t try explaining anything to them—they’ll want to see it in printed hardcopy first. Fortunately, with a Report you can print database information from tables and queries and satisfy the demands of even the most paper-hungry supervisor. Although you can print table and query information directly from their datasheets, reports give you many more formatting and display options. Reports can be a simple list of records in a table, or complex presentations that include calculations, graphics—even charts!

Reports are the most static of all the database objects. Unlike tables and forms, which allow user interaction, reports just sit there, waiting to be printed.

This lesson is your report primer. You won’t get a chance to actually create a report in this lesson, but you will get a chance to look at an existing report. Here’s how to open a report:

1. Click the Reports icon in the Objects bar.
   Access lists all the reports in the current database.

2. Double-click the Employee List report.
   The Employee List report opens in its own window, as shown in Figure 1-28. Reports open in Print Preview mode by default so that you can see how they will look when printed.
   You can enlarge the report by clicking the area you want to magnify with the pointer.

3. Move the pointer over an area of the report that contains data and click the mouse button.
   Access magnifies the selected area. Once you have seen an enlarged area, you can zoom back out to see the overall page.
4. Move the pointer over any area of the report and click the mouse button.  
   The report returns to the previous preview size.

If a report contains more than one page you can use the vertical scroll bar or <Page Up> and <Page Down> keys to scroll through the pages of the report.

Reports wouldn’t be very valuable if they couldn’t be printed. To print a report simply click the Print button on the toolbar. We’ll skip printing the report for now, unless you want to see for yourself that the report will print when you click the Print button (it will).

5. Click the Close button to close the report.

Quick Reference

To Open a Report:

- Click the Reports icon in the Object bar and double-click the query or select the query and click Open.

To Zoom in Print Preview:

- Click the area you want to zoom (either in or out) with the pointer.

To Print a Report:

- Click the Print button on the toolbar.

Or...

- Select File → Print from the menu.

Or...

- Press <Ctrl> + <P>.
Lesson 1-16: Previewing and Printing a Database Object

Most database objects—tables, forms, queries, and reports—and the information they contain can be printed. Sometimes it’s a good idea to preview a database object on screen to see if something needs to be changed before sending it to the printer. You can preview a database object by clicking the Print Preview button on the toolbar.

1. Click the Tables Icon in the Objects bar.
   Access lists all the tables in the database.
2. Double-click the Employees table.  
The Employee table appears in its own window.

3. Click the Print Preview button on the toolbar.  
The datasheet is previewed on the screen, as shown in Figure 1-30. You can enlarge the datasheet by clicking the area of the datasheet you want to magnify with the \( \mathbb{Q} \) pointer.

4. Move the \( \mathbb{Q} \) pointer over an area of the datasheet that contains data and click the mouse button.  
Access magnifies the selected area. Once you have seen an enlarged area, you can zoom back out to see the overall page again.

5. Move the \( \mathbb{Q} \) pointer over any area of the datasheet and click the mouse button.  
The datasheet returns to the previous size.

6. Select File \( \rightarrow \) Print from the menu.  
The Print Dialog box appears, as shown in Figure 1-31. The Print Dialog box allows you to specify printing options such as which pages to print and the number of copies you want printed. Table 1-9: Print Dialog Box Options describes the options listed in the Print dialog box.

Normally you would click the dialog box’s Print button to print, however we are going to save the paper and close the Print dialog box without printing.

7. Click Cancel.  
Access closes the Print dialog box without printing anything.

**NOTE:** You can also print by clicking the Print button on the toolbar, by selecting File \( \rightarrow \) Print from the menu, or by pressing \(<\text{Ctrl}> + <\text{P}>\). (Actually, this is the method you’ll usually use to print something.)

---

### Table 1-9: Print Dialog Box Options

<table>
<thead>
<tr>
<th>Print option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Used to select what printer to send your file to when it prints (if you are connected to more than one printer). The currently selected printer is displayed.</td>
</tr>
<tr>
<td>Properties</td>
<td>Displays a dialog box with options available to your specific printer such as the paper size you want to use, if your document should be printed in color or black and white, etc.</td>
</tr>
</tbody>
</table>
| Page range   | Allows you to specify what pages you want printed. There are several options:  
  - **All:** Prints the entire document.  
  - **Selection:** Prints only the text you have selected (before using the print command.)  
  - **Pages:** Prints only the pages of the file you specify. Select a range of pages with a hyphen (like 5-8) and separate single pages with a comma (like 3,7). |
| Number of copies | Specify the number of copies you want to print. |
Lesson 1-17: Selecting Data

Often, before you can do anything in Access, you must select the data that you want to work with. Many common tasks, such as editing, formatting, copying, cutting, and pasting all require you know how to select information in Access. The procedure for selecting text in Access is no different than selecting text in any other Microsoft Office program, so hopefully this lesson will be an easy review for you.

1. If it isn’t already open, open the Employees table.

2. In the first record (Janet Leverling) find and click the Address field, then click and drag the mouse across the words Moss Bay Blvd. as shown in Figure 1-32. When you’re finished release the left mouse button.

   The words “Moss Bay Blvd.” should be highlighted in black, as shown in Figure 1-32. Selecting text with the mouse can be a little tricky for some people, especially if you don’t have much experience using the mouse. While text is selected, anything you type replaces the existing selected text.

3. Type East River Road.

   The phrase “East River Road” replaces the selected text “Moss Bay Blvd”.

   You can also select an entire record or even groups of records in a table. Here’s how:
4. Click the record selector for the Janet Leverling record ( will change to ➡) to select the record.
   To select multiple records, position the pointer to the left of the first record and then drag the ➡ mouse pointer down until you have highlighted all the records you want to select.

5. Position the pointer over the record selector for the Janet Leverling record ( will change to ➡), then click and drag the ➡ pointer down to the Andrew Fuller record selector.
   You have highlighted the first few records in the table.
   The procedure for selecting a field or column is almost the same as selecting a row—just click the field name that you wish to select.

6. Position the mouse over the FirstName field name ( changes to ↓) and click to select the column.
   The FirstName field is selected.

7. Click anywhere in the datasheet to deselect the text.
   The FirstName field no longer selected.

That’s all there is to selecting data in Access. It can’t be stressed enough how important that you know how to select text and records. Knowing how to select text will make you more proficient and skillful at editing and formatting data.

Table 1-10: Data selection shortcuts describes several shortcut techniques you can use to select data in Microsoft Access.

<table>
<thead>
<tr>
<th>To select</th>
<th>Do this</th>
<th>Visual Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>A word</td>
<td>Double-click anywhere in the word.</td>
<td></td>
</tr>
<tr>
<td>A cell</td>
<td>Position the mouse over left edge of the cell you want to select ( changes to ) and click to select the cell.</td>
<td></td>
</tr>
<tr>
<td>A record or row</td>
<td>Position the mouse over the record selector ( changes to ➡ ) and click to select the record.</td>
<td></td>
</tr>
<tr>
<td>A field or column</td>
<td>Position the mouse over the name of the field you want to select ( changes to ↓ ) and click to select the field.</td>
<td></td>
</tr>
<tr>
<td>The entire table</td>
<td>Click the empty box ( ) to the left of the field of the field names.</td>
<td></td>
</tr>
</tbody>
</table>

You can also select text using the keyboard by pressing and holding the <Shift> key while using the arrow keys to select the text you want.

To deselect text point the mouse and click anywhere in the document.

![Quick Reference](image)

To Select Text:
1. Move the insertion point to the beginning or end of the text you want to select.
2. Click and hold the left mouse button and drag the insertion point across the text then release the mouse button once the text is selected.

To Replace Text:
• Replace text by first selecting it and then typing the new text you want.

To Select Cells, Records, Fields, and Tables:
• Refer to Table 1-10: Data selection shortcuts
Lesson 1-18: Cutting, Copying, and Pasting Data

You already know how to select database data. Once you have selected some text, a cell, a record—just about any database object—you can cut it, removing it from its original location, and then paste it in another location. Copying is similar to cutting, except the information is copied instead of removed. Whenever you cut or copy something, it is placed in a temporary storage area called the Clipboard. The Clipboard is available to any Windows program, so you can cut and paste between different programs.

In Microsoft Access you can cut, copy, and paste any of the following items:

- Text
- Records
- Database objects (such as tables, queries, forms, and reports)
- Controls (such as text boxes and labels on forms and reports)

This lesson will give you some practice copying and pasting text and objects in Access.
1. If it isn’t already open, open the Employees table.
First you have to select the information you want to cut or copy.

2. Find and select the Title field for the Steve Buchanan record (it should contain Sales Manager).
You want to copy the text “Sales Manager” to the clipboard so you can paste it to a different record. There are several different ways to copy something—we’ll look at all of them. Try out each method and then use the method you like best.

3. Click the Copy button on the toolbar.
Nothing appears to have happened, but Access has just copied the selected “Sales Manager” text to the Windows clipboard. Now you must move the cell pointer to the destination where you want to paste the copied text.

4. Find and select the Title field for the Janet Leverling record (it should contain Sales Representative).
This is where you want to paste the copied text. There are several ways to paste information from the Windows clipboard. Here’s one of them:

5. Click the Paste button on the toolbar.
The copied text is pasted into the selected Title field, replacing its original contents. Access still keeps the copied information in the Clipboard so you can paste it again in other locations. Try pasting the copied information in another record.

6. Find and select the Title field for the Andrew Fuller record (it should contain Sales Representative). Click the Paste button on the toolbar.
The copied information is pasted in the selected field. Now that you’re familiar with copying, let’s try cutting some text.

7. Find and select the HireDate field for the Robert King record (it should contain 1/2/94).
This time we’ll cut or move the information in this cell instead of copying it.

8. Click the Cut button on the toolbar.
This time the contents of the cell disappear as they are removed or “cut” from their original location into the Windows clipboard.

9. Find and select the HireDate field for the Anne Dodsworth record (it should contain 11/15/94). Click the Paste button on the toolbar.
Access pastes the copied Hire Date in the selected field.

You can also copy, cut, and paste text between two different Windows programs—for example, you could copy information from an Excel worksheet and paste it in an Access table. The cut, copy, and paste commands (the toolbar buttons, menus, and/or keyboard shortcuts) you learned in Access will work with most Windows applications.

If you are entering a lot of records that are nearly identical, you can also Copy and Paste entire records to create existing records quickly. After copying and pasting, you can edit the new record quickly to make a few changes. To copy a record select the record’s row selector, copy the record, select an empty row for the new record and then paste the copied record.

Other Ways to Paste:
- Select Edit → Paste from the menu.
- Press <Ctrl> + <V>.
Lesson 1-19: Using Undo

You may not want to admit this, but you’re going to make mistakes when you use Access. You might accidentally delete a record you didn’t mean to delete, or paste something you didn’t mean to paste. Fortunately, Access has a wonderful feature called undo that does just that. It undoes your mistakes and actions, making them as though they never happened. This lesson explains how you can undo both single and multiple mistakes, and how to redo your actions in case you change your mind.

It’s important to note that the Undo feature in Access isn’t nearly as powerful as it is in other Microsoft Office programs. In Microsoft Access 2000, Undo will only reverse the last action or command you made. If you make a mistake and don’t catch it right away, chances are you won’t be able to use Undo to correct it. If that weren’t bad enough, Access can’t even undo many actions! For example if you delete a record and then decide you want to use Undo to retrieve the record, you’re out of luck. (To its credit Access does warn you whenever you delete a record that you will not be able to use Undo to bring it back.) Hopefully Microsoft will fix these problems in the next version of Access.

Here’s how to use Undo:
1. If it isn’t already open, open the Employees table.
   First we need to make a “mistake” that we can undo…

2. Find the Robert King record. Change Robert’s LastName from King to Queen.
   Don’t remember how to edit a record? Click the left edge of Robert King’s LastName cell to select it and type “Queen.” Press <Tab> when you’re finished.
   The Robert King is now Robert Queen. Whoops! Somebody’s played a joke on you—better change Robert’s last name back to “King” before he sees it. Here’s how you can undo your “mistake.”

3. Click the Undo button on the toolbar.
   Poof! The LastName field changes back to the original “King.” That’s all there is to using Undo in Access.

Quick Reference
To Undo Your Last Action:
• Click the Undo button on the toolbar.
Or…
• Select Edit → Undo from the menu.
Or…
• Press <Ctrl> + <Z>.
Lesson 1-20: Checking Your Spelling

Spell check use to be a feature only available in word processing programs—but no more! You can use the spell checker in Access to find and correct any spelling errors that you might have made in your tables and forms. The spell checker in Access is shared and used by the other programs in the Microsoft Office suite, so any words you add to the custom spelling dictionary in one Microsoft Office program will be available to the other Microsoft Office programs.

Unfortunately, spell check in Access is not nearly as useful as it is in a word processor. Most databases contain names, addresses, and information the spell checker may not recognize. When this happens click either Ignore to ignore the word, or Add to add the word to the custom spelling dictionary.

1. If it isn’t already open, open the Employees table.
   Access will start checking the spelling of the words in a table where the cursor is located and will stop whenever it encounters a word that is not found in its dictionary. Before we start spell check, let’s move to the very beginning of the table.

2. Press <Ctrl> + <Home> to move to the very beginning of the table.
   Access selects the first field in the first record of the table. Here’s how to use spell check:

3. Click the Spelling button on the toolbar.
   The Spelling dialog box appears, as shown in Figure 1-36. Because it can’t find the word “Leveling” in its dictionary, Access flags it as possible spelling error. Obviously Access is going to have problems checking the spelling of the LastName field. Instead of having to click “Ignore” for each and every last name Access doesn’t recognize, you can tell Access to ignore the entire last name field.
4. **Click Ignore ‘LastName’ Field** to ignore all text in the LastName field.
   Access ignores the LastName field and continues looking for words that aren’t in its spelling dictionary. The next word Access flags, “Concordia,” is the correctly spelled name of a school, so you can tell Access to ignore this word.

5. **Click Ignore All** to ignore all occurrences of the word “Concordia” in the table.
   Access continues looking for words that aren’t in its spelling dictionary. The next word Access flags, “Sussex” is the correctly spelled name of a university.

6. **Click Ignore All** to ignore all occurrences of the word “Sussex” in the table.
   Access ignores the “error” and continues looking for words that aren’t in its spelling dictionary.
   Access ignores the LastName field and continues looking for spelling errors in the table. The next “mistake” it finds is in the word “Edgeham” in the address field. The Address field is obviously going to continue to be a problem, so…

7. **Click Ignore ‘Address Field’ to ignore all text in the Address field.**
   The spell checker moves on and selects the word “Londan” as the next misspelled word in the table. Finally a legitimate misspelling! Access lists a possible suggestion for the correct spelling of the word.

8. **Click London in the Suggestions list and click Change.**
   Access makes the spelling correction for you.
   The remainder of the of the words in the Employee table are spelled correctly, so you can safely ignore them

9. **Continue with the spell check, ignoring the remainder of the flagged words.**
   When the spell checker can’t find any more incorrectly spelled words, Access will indicate the spelling check is complete by displaying the dialog box shown in Figure 1-37

10. **Click OK.**

After the following exercise you’re probably wondering if you should even bother using spell check at all. That depends largely on what type of information is in your table. Spell check can be very useful for identifying and correcting errors in certain types of fields, memos, and notes. Spell check is nearly useless for last name fields, address fields, and other similar types of information.

---

**Quick Reference**

**To Check Your Spelling:**
- Click the **Spelling button** on the toolbar.
  Or...
- Select **Tools → Spelling** from the menu.
  Or...
- Press **<F7>**.
Lesson 1-21: Getting Help from the Office Assistant

When you don’t know how to do something in Windows or a Windows based program, don’t panic—ask the Office Assistant for help. The Office Assistant is a cute animated character (a paperclip by default) that can answer your questions, offer tips, and provide help for all of Access’s features. Many Access users don’t use the Office Assistant because they think that it’s nothing more than an amusing distraction—something to keep them entertained when they pound out boring budget number with Access. This is sad, because the Office Assistant knows more about Access than most Access books do!

Whenever you use Access, you can make the Office Assistant appear by pressing the <F1> key. Then all you have to do is ask the Office Assistant your question in normal English. This lesson will show you how you can get help by asking the Office Assistant a question about an Access feature in normal English.
1. **Press the <F1> key.**
   The Office Assistant appears and asks what you would like to do.

2. **Type How do I create a table? in the Office Assistant’s speech balloon, as shown in Figure 1-38.**
   You can ask the Office Assistant questions about Access in regular English, just as if you were asking a person instead of a computer. No, the Office Assistant doesn’t really understand the English language—computers have a way to go before they can do that. The Office Assistant actually looks for key words and phrases in your questions like “create” and “table”.

3. **Click Search.**
   The Office Assistant presents you with a list of topics it thinks may be relevant for your question, as shown in Figure 1-39. You have to select the help topic that you’re looking for.

4. **Click the Create a table topic in the Office Assistant’s speech balloon, as shown in Figure 1-39.**
   Access displays several help topics about creating a table, as shown in Figure 1-40.

5. **Click the Find out more about what tables are and how they are used topic as shown in Figure 1-40.**
   Access displays the help topic about what tables are and what they are used for.

6. **Click the Help window’s Close button (×) to close the help window.**
   The Help window closes, however Office Assistant remains on-screen and will remain there, distracting and annoying you with its animated antics unless you close it as well.

7. **Click the Office Assistant’s Close button to close the Office Assistant.**
   The helpful but oh-so-annoying Office Assistant disappears from the screen and stands by ready to assist you the next time you press the <F1> help key.

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Shows or hides a list of all available Help topics.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Moves back to the previous help topic.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Moves forward to the next help topic.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Prints the current help topic.</td>
</tr>
<tr>
<td><img src="image" alt="Button" /></td>
<td>Displays a list of help options and commands.</td>
</tr>
</tbody>
</table>

---

**Quick Reference**

To Get Help from the Office Assistant:

1. Press the <F1> key.
2. Type your question in the Office Assistant’s speech balloon and click Search or press <Enter>.
3. Click the help topic that best matches what you’re looking for (repeat as this step as necessary.)
Lesson 1-22: Changing the Office Assistant and Using the “What’s This” Button

If you find that Clippit’s (the cartoon paperclip) antics are getting old, you can choose a different Office Assistant at anytime. People have different tastes and personalities, and that’s why Microsoft allows you to select from eight different Office Assistants (see Table 1-12: Office Assistants) to guide you through Access. Of course, if you really hate the Office Assistant, you can always completely shut it off too.

The other topic covered in this lesson is how to use the “What’s This” button. During your journey with Access you will undoubtedly come across a dialog box or two with a number of confusing controls and options. To help you find out what the various controls and options in a dialog box are there for, many dialog boxes contain a “What’s This” button that explains the purpose of each of the dialog box’s controls. This lesson will show you how to use the “What’s This” button, but first, let’s start taming the Office Assistant.

1. **Click the Office Assistant and then click the Options button.**

   The Office Assistant dialog box appears with the Options tab in front. By selecting and clearing the various check boxes you can change how your Office Assistant works. Since most of these options are self-explanatory, we won’t be going through any of them. The main features you can change about the Office Assistant are the tips it displays, how the type of help it displays, and how it responds.
2. **Click the Gallery tab.**
   The Gallery tab, shown in Figure 1-43, appears.

3. **Click the Back or Next button to see the available Office Assistants.**
   The Office Assistant you select is completely up to you. They all work the same—they just look and act different.

4. **Click OK when you find an Office Assistant you like.**
   If you find the Office Assistant annoying (a lot of people do) and want to get rid of it altogether here’s how:

5. **Right-click the Office Assistant**
   A shortcut menu appears.

6. **Select Hide from the shortcut menu.**
   You can always bring the Office Assistant back whenever you require it’s help by pressing the <F1> key. Now let’s move on to how to use the “What’s This” button to discover the purpose of confusing dialog box controls.

7. **Select Tools → Options from the menu and click the View tab.**
   The Options dialog box appears. Notice the “What’s This” button located in the dialog box’s title bar just to the left of the dialog box’s close button?

8. **Click the “What’s This” button ( ).**
   The mouse pointer changes to a $\mathbb{Q}$, indicating you can point to anything on the dialog box to find out what it does. The Windows in Taskbar check box is rather confusing it’s it? Move on to the next step and we’ll find out what it’s there for.

9. **Click the Windows in Taskbar check box with the $\mathbb{Q}$ pointer.**
   A brief description of the Windows in Taskbar check box appears.

10. **Close the Format Cells dialog box.**

---

### Table 1-12: Office Assistants

<table>
<thead>
<tr>
<th>Office Assistant</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clippit</td>
<td>Though nothing more than a thin metal wire, Clippit will help you find what you need and keep it together. Clippit is the default Office Assistant.</td>
</tr>
<tr>
<td>The Dot</td>
<td>Need a guide on the electronic frontier? Able to transform into any shape, the Dot will always point you in the right direction.</td>
</tr>
<tr>
<td>F1</td>
<td>F1 is the first of the 300/M series, built to serve. This robot is fully optimized for Office use.</td>
</tr>
<tr>
<td>The Genius</td>
<td>The mind of the Genius works at the speed of light. Harness his power of thought to save yourself time and energy.</td>
</tr>
<tr>
<td>Office Logo</td>
<td>The Office Logo gives you help accompanied by a simple spin of its colored pieces. It won’t distract you as you’re taking care of business.</td>
</tr>
<tr>
<td>Mother Nature</td>
<td>Transforming into images from nature, such as the dove, the volcano, and the flower, Mother Nature provides gentle help and guidance.</td>
</tr>
<tr>
<td>Links</td>
<td>If you’re on the prowl for answers in Windows, Links can chase them down for you.</td>
</tr>
<tr>
<td>Rocky</td>
<td>If you fall into a ravine, call Lassie. If you need help in Office, call Rocky.</td>
</tr>
</tbody>
</table>

---

Lesson 1-23: Using the Zoom Box

When you are viewing and working with data sometimes a column will not be wide enough to display all the text in a cell or field. This is especially true for notes and memo fields, which may contain several paragraphs of text. Don’t worry—you can summon the Zoom Box to make the contents of any cell easier to view and edit.

1. If it isn’t already open, open the Employees table.  
   Most of the information in this table fits nicely into its designated column. Move on to the next step and take a look at the Notes field, however.

2. Scroll to the right using the horizontal scroll bar until you can see the Notes field.  
   The Notes field is not wide or tall enough to display all its information. Move to the next step to see how the Zoom box can display the contents of a Notes cell.

3. Click the Notes field for any record, then zoom into that cell by pressing <Ctrl> + <F2>.  
   The Zoom box appears and displays the contents of the selected cell, as shown in Figure 1-46. You can edit the cell information in the Zoom box. When you’re finished viewing or editing the cell simply click OK to close the Zoom box. The cell will display any changes you made to the data.

4. Click OK to close the Zoom box and then close the Employees table window.
Lesson 1-24: Closing a Database and Exiting Access

Because the tasks covered in this lesson are so simple—closing an open database and exiting the Access program—you’re at what is undoubtedly the easiest lesson in the guide.

Whenever you close the Database window you close the current database.

1. **Click the Database window’s close button.**
   If any of your Access windows are maximized you may see two close buttons on your screen, as shown in Figure 1-48. Make sure you click the lower close button to close the database window. The close button located in the far upper-right hand corner of the screen closes the Microsoft Access program. The current database closes but the Access program does not. You can close a database when you’re finished working on it but may still want to remain in the Access program—perhaps to open and work on another database. You have finished both this lesson and this chapter, so you want to exit, or close the Access program.

2. **Click the Close button on the Microsoft Access Title Bar.**
   The Access program window closes and you return back to the Windows desktop.

That’s it! You’ve just completed your first chapter and are well on your way towards mastering Microsoft Access. You’ve already learned some very important things: how to start Access; enter records, open and work with tables, forms, queries and reports and print a database object. You will use these skills all the time in your long and illustrious career with Microsoft Access.

---

**Quick Reference**

**To Close a Database:**
- Click the Database window close button.
- Or...
  - Select **File → Exit** from the menu.

**To Exit Microsoft Access:**
- Click the Access Program close button.
- Or...
  - Select **File → Exit** from the menu.

---

**Figure 1-47**
Access without an opened database.

**Figure 1-48**
The Access program and database object window close buttons.

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**Figure 1-47**
Access without an opened database.

**Figure 1-48**
The Access program and database object window close buttons.
Chapter One Review

Lesson Summary

Starting Access and Opening a Database

- **To Start Microsoft Access:** Click the Windows Start button and select Programs → Microsoft Access.
- **To Open a Database:** Click the Open button on the toolbar, or select File → Open from the menu, or press <Ctrl> + <O>.

Understanding the Access Screen

- Be able to identify the main components of the Access program screen.

Using Menus and Toolbars

- **Menus:** Either click the menu name with the mouse pointer or press the <Alt> key and the letter that is underlined in the menu name.
- **Toolbars:** Simply click the toolbar button you want to use. Leave the pointer over the button to display a screen tip of what the buttons does.
- **To Display a Toolbar Button’s Description:** Position the pointer over the toolbar button and wait a second. A ScreenTip will appear above the button.

Filling Out Dialog Boxes

- Be able to identify and use text boxes, list boxes, combo boxes, check boxes, and sheet tabs.

Keystroke and Right-Mouse Button Shortcuts

- **Keystroke shortcuts:** Press <Ctrl> and the letter that corresponds to the shortcut command at the same time.
- **Right-mouse Button shortcut menus:** Whenever you’re unsure or curious about what you can do with an object, click it with the right mouse button to display a list of commands related to the object.

Opening and Modifying Database Objects

- **To View Different Types of Database Objects:** From the Database window, click the appropriate icon in the Objects bar.
- **To Open a Database Object:** Double-click the object or click the database object and click the Open button on the Database window.
- **To Open a Database Object in Design View:** Click the database object and click the Design button on the Database window.
To Change How Database Objects are Displayed: Click the appropriate View button on the toolbar or Select View from the menu and select the desired view.

Working with Multiple Windows

To Switch between Multiple Windows: Click the corresponding icon on the Windows taskbar or select Window and select the name of the window you want to view.

To View Multiple Windows at the Same Time: Select Window from the menu and select Tile Horizontally, Tile Vertically, or Cascade from the menu.

To Maximize a Window: Click the window's Maximize button.

To Restore a Window: Click the Window's Restore button.

To Manually Resize a Window: Position the mouse pointer over the edge of the window, hold down the mouse button and drag the mouse to resize the window then release the mouse button.

Using the keyboard: Move the cell pointer by pressing the keyboard arrow key that corresponds to the direction you want to move.

To Move a Window: Drag the window's title bar to the location where you want to position the window.

Tour of a Table

To Move to the Next Record: Click the Next Record Navigation button, or press the <↓> key, or click the record you want to select.

To Move to the Previous Record: Click the Previous Record Navigation button, or press the <↑> key, or click the record you want to select.

To Move to the Last Record in a Table: Click the Last Record Navigation button or press <Ctrl> + <Page Down>.

To Move to the First Record in a Table: Click the First Record Navigation button or press <Ctrl> + <Page Up>.

Adding, Editing, and Deleting Records

To Add a New Record: Do any of the following:
- Click the New Record navigation button
- Click the New Record button on the toolbar
- Press <Ctrl> + <+>
...then enter the record information for the field, pressing <Tab> to move to the next field and <Shift> + <Tab> to move to the previous field.

To Edit a Record: Click the field you want to edit and make the changes.

To Delete a Record: Place the insertion point anywhere in the record and click the Delete Record button on the toolbar.

Tour of a Form

To Move between Records: Use the Record Navigation buttons near the bottom of the screen.
• To Add a New Record: Do any of the following:
  - Click the $New Record navigation button
  - Click the $New Record button on the toolbar
  - Press $<Ctrl> + <+>
  ...then enter the record information for the field, pressing $<Tab>$ to move to the next field and
  $<Shift> + <Tab>$ to move to the previous field.

• To Delete a Record: Place the insertion point anywhere in the record and click the $Delete Record button$ on the toolbar.

Tour of a Query

• To Display a Query in Design View: Open the query and click the $View button$ on the toolbar. You can also select the query and click $Design$.

Tour of a Report

• To Zoom in Print Preview: Click the area you want to zoom (either in or out) with the $pointer$.

• To Print a Report: Click the $Print button$ on the toolbar, or select $File → Print$ from the menu, or press $<Ctrl> + <P>$.

Previewing and Printing a Database Object

• To Preview: Click the $Print Preview button$ on the toolbar or select $File → Print Preview$ from the menu.

• To Print: Do any of the following:
  - Click the $Print button$ on the toolbar
  - Select $File → Print$ from the menu.
  - Press $<Ctrl> + <P>$.

• For Advanced Printing Options: Select $File → Print$ from the menu and select your printing options from the Print dialog box.

Selecting Data

• To Select:
  A word    Double-click anywhere in the word.
  A cell    Click the left edge of the cell you want to select
  A record  Click the $record selector for the record you want to select
  The entire table  Click the empty box ($□$) to the left of the field of the field names.

• To Select Text: Move the insertion point to the beginning or end of the text you want to select, click and hold the left mouse button and drag the insertion point across the text then release the mouse button once the text is selected.

• To Replace Text: Replace text by first selecting it then typing the new text you want.

• To Select a Cell: Position the mouse over left edge of the cell you want to select ($חש$ changes to $строен$) and click to select the cell.

• To Select a Record: Position the mouse over the $record selector ($חש$ changes to $строен$) and click to select the record.

• To Select a Field or Column: Position the mouse over the name of the field you want to select ($חש$ changes to $ין$) and click to select the field.
To Select the Entire Table: Click the empty box (□) to the left of the field of the field names.

Cutting, Copying, and Pasting Data

- To Cut: Cut text or objects by selecting the text or object and using one of four methods to cut:
  1) Click the Cut button on the toolbar.
  2) Select Edit → Cut from the menu.
  3) Press <Ctrl>+<T>
  4) Right-click and select Cut from the shortcut menu.

- To Copy: Copy text or objects by selecting the text or object and using one of four methods to copy:
  1) Click the Copy button on the toolbar.
  2) Select Edit → Copy from the menu.
  3) Press <Ctrl>+<C>
  4) Right-click and select Copy from the shortcut menu.

- To Paste: Paste text or objects by selecting the text or object and using one of four methods to paste the data:
  1) Click the Paste button on the toolbar.
  2) Select Edit → Paste from the menu.
  3) Press <Ctrl>+<V>
  4) Right-click and select Paste from the shortcut menu.

Using Undo

- To Undo Your Last Action: Click the Undo button on the toolbar, or select Edit → Undo from the menu, or press <Ctrl>+<Z>.

Checking Your Spelling

- To Check Your Spelling: Click the Spelling button on the toolbar, or select Tools → Spelling from the menu, or Press <F7>.

Using the Zoom Box

- To Zoom into a Cell: Select the cell you want to zoom and press <Shift>+<F2>.

Closing a Database and Exiting Access

- To Close a Database: Click the Database window close button or select File → Close from the menu.

- To Exit Microsoft Access: Click the Access Program close button or select File → Exit from the menu.

Quiz

1. Microsoft Access is a:
   A. Word processing program
   B. Database program
   C. Spreadsheet program
   D. Drawing program
2. **Right-clicking something in Access:**
   A. Deletes the object.
   B. Opens a shortcut menu listing everything you can do to the object.
   C. Selects the object.
   D. Nothing—the right mouse button is there for left-handed people.

3. **Which of the following is NOT a type of Microsoft Access database object?**
   A. Tables
   B. Queries
   C. Worksheets
   D. Forms

4. **Which of the following database objects asks a question of information in a database and then displays the results?**
   A. Tables
   B. Queries
   C. Forms
   D. Reports

5. **Which of the following database objects makes it easy to view, edit, and enter database information?**
   A. Tables
   B. Queries
   C. Forms
   D. Reports

6. **Design View lets you view and modify the structure of any database object. (True or False?)**

7. **You can display a database object in Design View by: (Select all that apply)**
   A. Select the database object and press <Ctrl> + <V>.
   B. Select the database object and click the Design button on the Database window.
   C. Open the database object and select Tools → Design View.
   D. Open the database object and click the View button on the toolbar.

8. **Click the Save button on the toolbar to save a database record. (True or False)**

9. **The that appears to the left of every record is:**
   A. The *New Record Pointer*, which indicates the records have not been saved.
   B. The *Record Delete Button*, which is used to delete records.
   C. The *Record Selector*, which is used to select records.
   D. The *Record Edit Indicator*, which indicates the record is being edited.

10. **Which of the following statements is NOT true? (Select all that apply)**
    A. You can display any database field in a Zoom Box by pressing the <F2> key.
    B. Microsoft Access is a spelling wizard, and even recognizes the names of people, places, and products.
    C. In Microsoft Access, the <Tab> key moves to the next field and <Shift> + <Tab> moves to the previous field.
    D. You can add and edit information in tables, forms, and some queries.


Homework

1. Start Microsoft Access and open the Homework database.
2. Open the Science Test Answers table.
3. Without counting by hand, how many records are currently in the Science Test Answers table?
4. Use the Record Navigation buttons to navigate between the records in the Science Test Answers table.
5. Add a new record to the table: Click the New button on either the Table Navigation button area or on the toolbar.
6. Enter the following information into the new record:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score</th>
<th>Class</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th</td>
<td>C-</td>
<td>Science</td>
<td>Liter: A nest of young puppies.</td>
</tr>
</tbody>
</table>
7. Change the score of the previous record from a C- to a D+.
8. Select the previous record by clicking its Record Selector, then delete the record by pressing the <Delete> key.
9. Click the Undo button to undo the deletion.
11. Click the Forms icon in the Objects bar and open the Test Answer form.
12. Enter the following information into the new record:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score</th>
<th>Class</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>8th</td>
<td>D</td>
<td>Biology</td>
<td>Germinate: To become a naturalized German.</td>
</tr>
</tbody>
</table>
13. Close the Test Answer form.
14. Click the Queries icon in the Objects bar and open the Sort by Grades query.
15. Click the View button on the toolbar to display the Grades query in Design View.
Quiz Answers

1. C. Microsoft Access is a database program. Hopefully you got this question right!
2. B. Right-clicking an object displays a shortcut menu for the object.
3. C. You’ll find worksheets in Microsoft Excel but not in Microsoft Access.
4. B. Queries ask a question of information in a table and display the results.
5. C. Forms display table and query information in an organized format, making it easy to view, add, and edit records.
7. B and D. Either of these procedures will display a database object in Design View.
8. False. Microsoft Access automatically saves database records—you don’t have to click the Save button on the toolbar.
9. C. This is the Record Indicator and is used to select records.
10. B. Spell Checker is usually not suitable for checking the spelling of typical table information.
Chapter Two: Creating and Working with a Database

Chapter Objectives:

- Create a database from scratch and use the Database Wizard
- Create a table from scratch and use the Table Wizard
- Understand field data types
- Create and modify a query
- Create queries that sort and filter database information
- Create a form using the Form Wizard
- Create reports and mailing labels using the Report Wizard

Chapter Task: Create and modify a simple Access database

Prerequisites

- How to start Access.
- How to use menus, toolbars, dialog boxes, and shortcut keystrokes.
- How to open and modify database objects.

Stop typing lists of information in Microsoft Word or Excel! In this chapter, you will learn how to create databases that can store names, addresses, and any other type of information that you can think of. You will be pleasantly surprised to find that creating a database isn’t all that difficult. Microsoft Access even comes with a Database Wizard that takes you step-by-step through the process of creating a database.

Because there are so many components that constitute a database, this chapter will cover a lot of ground—but thankfully not in great detail. In this chapter you will learn to create and modify the major database objects: tables, forms, queries, and reports. You will even learn some basic database management tasks, such as how to delete and rename database objects and how to repair and compress a database.

If all you need is a simple, easy-to-use database, look no farther than this chapter—more than likely, everything you need to know about creating databases is here.
Lesson 2-1: Planning a Database

Although you can always make changes to a database, a little planning ahead before you create a database can save you lots of time and headaches later on.

Consider Figure 2-1. In the first table you can only sort by the name or address field. If you sort the name field the sort is performed by the first name and then the last name. If you sort the address field the sort is performed by the street—You cannot sort by city, state, or zip code. Furthermore, the information stored in the first table is inflexible. You couldn’t create a query or filter that only displays people from a particular state because the states are not stored in their own field.

Now take a look at the second table in Figure 2-1. Here you can sort records by first name, last name, address, city, state, and zip code. You can also query and filter records using any of these fields.
Here are some guidelines for creating a well-designed database:

- **Determine the Purpose of the Database**
  The best way to do this is to write down a list of the reports and lists that you want to come out of the database. This may seem a little backward at first, but if you think about it, these reports are really the reason you’re creating the database. Make a list of the reports and lists you want to see and then sketch some samples of these reports and lists—be as detailed as possible. This will help determine the tables and fields to include in your database.

- **Determine the Fields You Need**
  This should be an easy step once you have determined the purpose of your database and have sketched some sample reports and lists. Think about the data type for each type of your fields—Will the field store text information? Numbers? Dates? Write down the data type next to each field.

- **Determine the Tables You Need**
  Each table in the Database should be based on only one subject. By breaking each subject into its own table you avoid redundant information and make the database more organized. The second database in Figure 2-2 is broken down into two tables, Customers and Invoices, so there isn’t any duplicated data. When you brainstorm try to break down your information as much as possible. If your tables contain fields like Item 1, Item 2, Item 3, Item 3, and so on you should probably break the information up into its own table.

- **Determine the Primary Key**
  Each record in a table should have a primary key that uniquely identifies it. When you think about a primary key field think unique—each primary key value must be the only one of its kind in a table. A customer ID or invoice number would be two good examples of fields that could be used as a table’s primary key.

- **Determine the Relationship between Tables**
  In Figure 2-2 the ID field links the Customers and Invoices tables together. One of the linked fields should be the table’s primary key.

- **Sketch a Diagram of Your Database**
  Create a diagram of your database. Draw a box for each of your tables and write the table’s field names inside that box. Draw a line between the related fields in the tables. For example, in Figure 2-2 each record in the Customers table is related to one or more records in the Invoices table.

<table>
<thead>
<tr>
<th><strong>Table 2-1: Guidelines for Good Database Design</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Guideline</strong></td>
</tr>
<tr>
<td>Each field or column should contain the same type of information</td>
</tr>
<tr>
<td>Try to break up information as much as possible</td>
</tr>
<tr>
<td>Use multiple tables so that you don’t duplicate information in the same table</td>
</tr>
<tr>
<td>Don’t use duplicate field names</td>
</tr>
</tbody>
</table>
Lesson 2-2: Creating a Database Using the Database Wizard

The easiest way to create a database is with the Database Wizard. The Database Wizard saves you time and effort by walking you step by step through the process of creating a database and provides you with ready read-to-use tables, forms, queries, and reports. The Database Wizard can create databases for contact management, keeping track of inventory, and taking orders. You can also modify a database created by the Database Wizard to better suit your needs.

This lesson explains how to use the Database Wizard to create a database.

1. **Start Microsoft Access by clicking the Windows Start button and selecting Programs → Microsoft Access from the Start menu.**

   The Microsoft Access program appears with the Microsoft Access dialog box displayed, as shown in Figure 2-3. The Microsoft Access dialog box gives you quick access to any database you have worked on recently and allows you to create a new database.

2. **Click the Database Wizard option, click OK, and click the Databases tab if necessary.**

   The New dialog box appears with the Database tab selected. Here you need to select the type of database you want to create. For this exercise we’ll create a Contact Management database.
3. **Double-click the Contact Management icon.**
Access prompts you to type in a file name for your new database, as shown in.

4. **Type My Contacts and click Create.**
The first screen of the Database Wizard appears and describes the database it will create for you.

5. **Click Next to continue.**
The next screen of the Database Wizard appears as shown in Figure 2-4. This dialog box displays the standard tables and fields that the Database Wizard is building for you. Click a table on the left side of the dialog box to view its fields on the right side. If you want, you can add or remove the standard fields from the database by checking or unchecking them. For this exercise we will leave the standard fields as they are.

Also notice the “Yes, include sample data” check box. Checking this box causes Access to generate some sample records for your database—something that is very helpful if you want to print some sample reports.

6. **Click Next to accept the Database Wizard’s standard tables and fields.**
Next you have to decide what your new database should look like. Access provides you with several aesthetic styles to choose from. Click a style to see a sample of what it looks like.

7. **Browse the various styles by clicking each of them, then select the style you like best and click Next.**
Another screen and more aesthetic decisions to make. Here, you need to select the font you want to use in your reports. You can preview each of the font styles by clicking them.

8. **Select the font style that you like best and click Next.**
You’re just about done. The next step in the Database Wizard is entering the title of your new database. This title will appear on the heading of all the reports in your database. You can even add a graphic or logo to your reports by checking the “Yes, I’d like to include a picture” box, clicking the Picture button and selecting the picture or graphic file.

9. **Type ACME Client List and click Next.**
That’s it—you’ve finished giving the Database Wizard all the information it needs to create the database.

10. **Click Finish to create the new database.**
Access chugs along and creates the new database for you. When it’s finished it will create a handy switchboard screen that makes it easy to access the database’s tables, forms, and reports.

11. **Explore the tables, forms, and reports in the new database by clicking the various buttons on the switchboard form.**
Move on to the next step when you have seen enough of the new database.

12. **Close the new database by selecting File → Close from the menu.**
That’s it! You’ve created your first database using the Database Wizard! The database created by the Database Wizard may not be exactly what you’re looking for, but you can always modify its tables, forms, and reports to better suit your needs. A lot of people create databases using the Database Wizard to serve as the foundation for a more customized database.

<table>
<thead>
<tr>
<th>Quick Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>To Create a Database using the Database Wizard:</strong></td>
</tr>
<tr>
<td>1. Click the New button on the toolbar.</td>
</tr>
<tr>
<td>Or...</td>
</tr>
<tr>
<td>Select File → New from the menu.</td>
</tr>
<tr>
<td>2. Click the Databases tab and double-click the Access database wizards, pages, and projects option.</td>
</tr>
<tr>
<td>3. Double-click the type of database you want to create.</td>
</tr>
</tbody>
</table>
Lesson 2-3: Creating a Blank Database

Can’t find a suitable database in the Database Wizard? Then you’ll have to create a blank database and start from scratch. The advantage of creating a blank database is that it gives you the most flexibility and control over your database design. The disadvantage of creating a blank database is that you have to create every table, form, report, and query yourself.

Here’s how to create a blank database.

1. **Click the New button on the toolbar.**
   The New dialog box appears, as shown in Figure 2-5. The New dialog box has two tabs:
   - **General:** Blank databases that you create from scratch.
• **Databases:** An assortment of databases which you can create using the Database Wizard.

2. Select the **Blank Database** and click **OK**.
   The File New Database dialog box appears. Before can put anything into your new database you must first give it a file name and save it.

3. **Navigate to the drive and folder where you want to save the new database, then type My First Database in the File Name box and click Create.**

   Access creates a new database and saves it with the “My First Database” file name. The Database window appears when its finished. If you click the various database object tabs you will notice that there aren’t any database objects in this database yet. You will have to create all the database yourself—something we will be doing in the next several lessons.
Lesson 2-4: Creating a Table Using the Table Wizard

Figure 2-7
The Table Wizard lets you create a table by adding ready-made fields to it.

If you’re new to Access, the easiest way to add a table to an existing database is with the Table Wizard. The Table Wizard asks you a series of questions about what fields you want to appear in your table and does the dirty work of creating a new table for you. The Table Wizard can create a variety of different tables to store mailing lists, inventory, catalogs and more.

1. **Make sure that you have a blank database open.**
   If you don’t have a blank database open you can create one by clicking the New button on the toolbar, double-clicking blank database, entering a name for your database and clicking OK.

2. **Click the Tables icon in the Objects bar if it is not already selected.**
   Access lists all the tables in the current database.

3. **Double-click the Create table using wizard icon.**
   The Table Wizard dialog box appears, as shown in Figure 2-7. This is definitely one of the more confusing dialog boxes in Access. The list to the far left of the dialog box contains the sample tables you can choose from.
   You start the Table Wizard by selecting the sample table you want to use.

4. **Click the Contacts sample table from the Sample Table list.**
   The Table Wizard displays the ready-made fields that you can incorporate into your table in the Sample Fields list. To add a field to your table double-click the field or select the field and click the button. Click the button to add all the sample fields to your table.

5. **Double-click the Contact ID field in the Sample Fields list.**
   The Contact ID field appears in the Fields in my new table list. If you accidentally add a field to the Fields in my new table list you can remove it by double-clicking it or by selecting it and clicking the button.
6. Add the following fields to your table by double-clicking them: FirstName, LastName, Address, City, StateOrProvince, and PostalCode.

You can easily change the field names in your new table if you don’t like the default names given to them by the Table Wizard. Here’s how to rename a field:

7. Select the StateOrProvince field from the Fields in my new table list and click Rename Field.

The Rename Field dialog box appears. From here, renaming a field is pretty much self-explanatory.

8. Replace the StateOrProvince text with State and click OK.

Once you have finished adding the fields to your table you can move on to the next step in the Table Wizard.

9. Click Next.

The Table Wizard asks you to give your table a name and if you want to have Access set a primary key for you. You will learn more about primary keys later on, so for now let’s accept the Table Wizard’s default settings and create the table.

**NOTE:** If other tables exist in your database, another screen will appear, asking you how this table relates to the other tables in your database.

10. Click Finish to create the new table.

The Table Wizard builds the table using the fields you selected and then opens the new table—ready for your data input.

11. Close the Contacts table.

| Table 2-2: Useful Sample Tables from the Table Wizard |
|-----------------|-----------------|
| **Sample Table** | **Description** |
| Employees        | Tracks such employee data as addresses and phone numbers. |
| Orders           | Tracks customer orders. |
| Contacts         | A generic table that stores details about your customers and prospects. |
| Customers        | Stores all your customer or client information. |
| Products         | Maintains a list of products that your company sells. |
| Order Details    | Used with the Orders table—tracks what was purchased in each order |
| Time Billed      | Used to keep track of how much time to bill a client. |
| Expenses         | Tracks expenses—useful for reimbursements or for billing customers. |
| Tasks            | Tracks to-do items. |

**Quick Reference**

**To Create a New Table using the Table Wizard:**

1. From the database window click the **Tables icon** in the Objects bar and then double-click the **Create table using wizard icon**.

2. Select the type of table you want to create.

3. Follow the on-screen instructions and specify what you want to appear in your database.
Lesson 2-5: Modifying a Table and Understanding Data Types

Once you have created a table you can modify it later in Design View. Design View allows you to change the structure of a table by adding, deleting, and modifying its fields.

Because there are so many different types of data, Access offers several different types of fields. A field’s data type determines the type of information that can be stored in a field. Table 2-3: Data Types lists the various data types available in Access. A field’s data type restricts what type of information you can enter in a field. For example, you can not enter text into a number data type field.

In this lesson you will modify a table by adding a new field and then determining the field’s data type.

1. Select the Contacts table and click the Database window’s Design button.
   The Contacts table appears in Design View, which allows you to add, delete, or modify the table’s structure and fields.
   Here’s how to change a field name in Design View:

2. Scroll down, if necessary, select the PostalCode Field Name box and replace the text “PostalCode” with ZipCode.
   That’s how easy it is to change a field name. Next try adding a new field to the table.

3. Press <Tab> three times.
   The cursor should be located in the blank Field Name box below the Zip Code field name. To add a field in Design View simply type a new field name in the first blank Field Name box you find.
4. **Type Birthday and press** <Tab>.  
New fields are text data type fields by default. Here’s how to change a field’s data type:

5. **Click the Data Type area next to the Birthday field.**  
A down arrow appears on the right side of the Birthday’s Data Type box.

6. **Click the Data Type arrow and select Date/Time from the list.**  
The new Birthday field will now only accept date and time information. The new Date/Time data type also makes your database more flexible and powerful because now you can sort birthdays by date or use them in a calculation—for example to determine a person’s age.

Once you have finished modifying a table you have to save your changes.

7. **Click the Save button on the toolbar to save your changes.**  
You’ve finished modifying the table, so…

8. **Close the Contacts table.**

---

**Table 2-3: Data Types**

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text</td>
<td>Legal Name: John Doe</td>
<td>Stores text, numbers, or a combination of both, up to 255 characters long. Text fields are the most common of all data types.</td>
</tr>
<tr>
<td>Memo</td>
<td>Notes: Sally displays a high amount of…</td>
<td>Stores long text entries—up to 64,000 characters long (equivalent to 18 pages of text!) Use memo fields to store notes or anything else that requires lots of space.</td>
</tr>
<tr>
<td>Number</td>
<td>Age: 31</td>
<td>Stores numbers that can be used in calculations.</td>
</tr>
<tr>
<td>Date/Time</td>
<td>Birthday: April 7, 1969</td>
<td>Stores dates, times, or both.</td>
</tr>
<tr>
<td>Currency</td>
<td>Price: $84.95</td>
<td>Stores numbers and symbols that represent money.</td>
</tr>
<tr>
<td>AutoNumber</td>
<td>Invoice Number: 187001</td>
<td>Automatically fills in a unique number for each record. Many tables often contain an AutoNumber field that is also used as their primary key.</td>
</tr>
<tr>
<td>Yes/No</td>
<td>Smoker?: Yes</td>
<td>Stores only one of two values, such as Yes or No, True or False, etc.</td>
</tr>
<tr>
<td>OLE Object</td>
<td>Photo:</td>
<td>Stores objects created in other programs such as a graphic, Excel spreadsheet, or Word document.</td>
</tr>
<tr>
<td>Hyperlink</td>
<td>Web Site: <a href="http://www.amazon.com">www.amazon.com</a></td>
<td>Stores clickable links to files on your computer or on the network or to web pages on the Internet.</td>
</tr>
<tr>
<td>Lookup Wizard</td>
<td>Purpose of Trip: Business</td>
<td>A wizard that helps you create a field whose values are selected from a table, query or a preset list of values.</td>
</tr>
</tbody>
</table>

---

**Quick Reference**

To Display a Table in Design View:

- Select **File → Save**  
  from the menu.
- Press <Ctrl> + <S>.

To Change the Data Type for a Field:

1. Display the table in Design View.
2. Click the field’s Data Type box, click the Data Type list arrow and select the data type.

To Save Changes to a Database Object:

- Click the Save button on the toolbar.
- Select **File → Save** from the menu.
- Press <Ctrl> + <S>. 

---

The Richard Stockton College of New Jersey
Lesson 2-6: Creating a New Table from Scratch

The Table Wizard is helpful if you’re new at building tables, but the more you start using Access, the less you will probably want to use the Table Wizard. That’s because you will know exactly what type of tables and fields your database needs and how to create them.

This lesson explains how to build your own tables by from scratch. The most straightforward way of building a table is in Design View, where adding fields to a table and specifying their data types is not much more than basic data entry.

1. Click the Tables icon in the Objects bar if it already isn’t selected, then double-click the Create Table in Design View icon.
   The new blank table appears in Design View. Now all you have to do is add the field you want included in the table. The table you will create in this exercise will track telephone calls made to customers. Let’s add the first field.

2. Type Date in the first blank Field Name box.
   Since this field will store the date the call was made, you need to change the data type of the field to Date/Time.

3. Click the Data Type area next to the Date field.
   A down arrow appears on the right side of the Date Data Type box.
Chapter Two: Creating and Working with a Database

4. **Click the Data Type arrow** and select Date/Time from the list.
   The Date field will now only accept date and time information. Let’s add the next field to the table…

5. **Press <Tab> two times and type Contact ID.**
   In case you were wondering, the Description box you just tabbed past is used to provide users with online prompts and instructions. Anything that you enter in a field’s Description box will appear in the Status bar whenever a user selects that field. We’ll discuss the Description box in greater depth a little later on.

   The Contact ID field will indicate the contact that was called. Since the Contact ID field will always be a number, you need to change its data type to numeric. A faster way of changing a field’s data type is to type the first letter of the data type in the Data Type box. For example typing a ‘D’ would change the data type to Date. Table 2-4: Data Type Shortcuts lists these keyboard shortcuts.

6. **Click the Data Type area next to the Contact ID field.**
   Try typing in the data type this time.

7. **Type N in the Data Type box.**
   “Number” appears in the Data Type box.

8. **Complete the table by entering the following field names and data types:**

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Data Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phone</td>
<td>Text</td>
</tr>
<tr>
<td>Comments</td>
<td>Memo</td>
</tr>
<tr>
<td>FollowUp</td>
<td>Yes/No</td>
</tr>
</tbody>
</table>

   Make sure that you press <Tab> after each field. If you make a mistake you can either click the field you want to edit or press <Shift> + <Tab> to move back to the previous field.

   Once you have finished modifying a table you have to save your changes.

9. **Click the Save button on the toolbar to save your changes.**
   Access asks you to give your new homemade table a name.

10. **Type Phone Calls and click OK,** then close the current database.

### Table 2-4: Data Type Shortcuts

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Shortcut</th>
<th>Data Type</th>
<th>Shortcut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text</td>
<td>T</td>
<td>Yes/No</td>
<td>Y</td>
</tr>
<tr>
<td>Memo</td>
<td>M</td>
<td>OLE Object</td>
<td>O</td>
</tr>
<tr>
<td>Number</td>
<td>N</td>
<td>AutoNumber</td>
<td>A</td>
</tr>
<tr>
<td>Date/Time</td>
<td>D</td>
<td>Lookup Wizard</td>
<td>L</td>
</tr>
<tr>
<td>Currency</td>
<td>C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lesson 2-7: Creating a Query in Design View

1. Open the Lesson 2 database.
   Here’s how to create a simple query:

2. Click the Queries icon in the Database window Objects bar and double-click the Create query in Design view icon.
   The Show Tables dialog box appears, as shown in Figure 2-11. You have to select the table or query you want to use.

Most of the time the fastest and easiest way to create a query is in Design View. Here’s how:

1. Open the Lesson 2 database.

Here’s how to create a simple query:

2. Click the Queries icon in the Database window Objects bar and double-click the Create query in Design view icon.
   The Show Tables dialog box appears, as shown in Figure 2-11. You have to select the table or query you want to use.
3. **Click the Employees table and click Add.**
   When you have finished adding the tables and/or queries to your new query you can close the Show Tables dialog box.

4. **Click Close.**
   The Query window appears in Design View, as shown in Figure 2-12. Notice that the window is split. The top half contains a box labeled Employees, which displays all the fields in the Employees table. The bottom half of the screen contains a design grid, which is where the information goes.
   You add the fields you want to appear in your query to the design grid in two ways:
   - By double-clicking the field on the field list.
   - By clicking and dragging the field down to the design grid yourself.

5. **Double-click the LastName field and FirstName field in the field list.**
   Access adds the LastName and FirstName fields to the design grid.
   Often you will have to use the field list’s scroll bar to scroll up or down the list in order to find a field.

6. **Scroll down Employees Field list and double-click the City field.**
   Next you need to specify any criteria for the query. You type the criteria in the design grid’s Criteria row. For this exercise you want to see only the records whose City fields contain London—move on to the next step to add this criteria to the query.

7. **Click the City column’s Criteria row and type London.**
   If you want to use a field in the query but you don’t want it to be displayed in the query results uncheck the Show box for that field.

8. **Uncheck the Show box for the City field.**
   The query will still use the criteria you specified for the City field but it won’t display the City field in query results. You’ve created a simple query. Here’s how to save it:

9. **Click the Save button on the toolbar, type London Query and click OK.**
   OK—let’s run our new query!

10. **Click the Run button on the toolbar.**
    Access displays the results of the query. Notice that although the City field is part of the query it is not displayed because you unchecked its Show box back in Step 10.

Here is a smattering of criteria operators and examples to get you started:

**Table 2-5: Common Criteria Operators**

<table>
<thead>
<tr>
<th>Operator</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>=</td>
<td>=&quot;MN&quot;</td>
<td>Finds records equal to MN</td>
</tr>
<tr>
<td>&lt;&gt;</td>
<td>&lt;&gt;&quot;MN&quot;</td>
<td>Finds records not equal to MN</td>
</tr>
<tr>
<td>&lt;</td>
<td>&lt;10</td>
<td>Finds records less than 10</td>
</tr>
<tr>
<td>&lt;=</td>
<td>&lt;=10</td>
<td>Finds records less than or equal to 10</td>
</tr>
<tr>
<td>&gt;</td>
<td>&gt;10</td>
<td>Finds records greater than 10</td>
</tr>
<tr>
<td>&gt;=</td>
<td>&gt;=10 AND &lt; &gt;5</td>
<td>Finds records greater than or equal to 10</td>
</tr>
<tr>
<td>BETWEEN</td>
<td>BETWEEN 1/1/99 AND 12/31/99</td>
<td>Finds records between 1/1/99 AND 12/31/99</td>
</tr>
<tr>
<td>LIKE</td>
<td>LIKE &quot;S&quot;</td>
<td>Finds text beginning with the letter S. You can use LIKE with wildcards such as *</td>
</tr>
</tbody>
</table>

---

**Quick Reference**

**To Create a Query in Design View:**
1. From the database window click the Queries icon in the Objects bar and then double-click the Create query in Design View icon.
2. Select the table you want to add to the query and click Add.
3. Repeat Step 2 as necessary for additional tables or queries, and click Close.
4. Double-click each field you want to include from the field list.
5. In the design grid, enter any desired search criteria for the field in the Criteria box.
6. Click the Sort box list arrow for the field and select a sort order.
7. Close the query window.
8. Click Yes to save the query, enter a query name, and then click OK.
Lesson 2-8: Modifying a Query

Quick Reference

To Add a Field to a Query:
- Double-click each field you want to include form the field list.
  Or...
- Drag the field from the field list onto the design grid.

To Delete a Query Field:
- Click the top of the field you want to delete (_changes to ▼) and press <Delete>.

To Rearrange Fields:
- Position the pointer over the field (_changes to ▼) and then click and drag the field to a new location.

As with any database object, you can modify any existing query. This lesson explains how to add and remove a field from a query and how to rearrange the fields in a query.

1. Make sure you have the London Query you created in the previous lesson open in Design View.
   First here’s how to remove a field from a query:
   2. Position the mouse over the top of the City field (_changes to ▼) and click to select the field.
      Once you have selected a field you can delete it.
   3. Press <Delete> to delete the selected City field from the query.
      Next add a new field to the query
   4. Double-click the Region field in the field list.
      Access adds the Region field to the design grid. Now add some criteria to the new field so that only employees from Washington are displayed.
   5. Click the Region column’s Criteria row and type WA.
      You can also rearrange the order of field names in a query. Here’s how:
   6. Select the FirstName field, then click and drag the selected field in front of the LastName field, as shown in Figure 2-15.
      Let’s see the results of the modified query.
   7. Click the Run button on the toolbar to view the results of the query. Save your changes and close the query.
Lesson 2-9: Sorting a Query using Multiple Fields

Tables normally display records in the order they were entered. Instead of working with a table’s jumbled record order, you can create a simple query that sorts the table information and presents it in an ordered, easy to read display. You can sort records alphabetically, numerically, or chronically (by date) in ascending (A to Z) or descending (Z to A) order. You can also sort by multiple fields—for example, you could sort by LastName and then by FirstName. This lesson will show you can use a query to sort information in a table.

1. From the Database window create a new query in Design View that uses the Employees table as the underlying data source.
   Notice an asterisk (*) appears at the top of the Employee field list. Selecting a table’s asterisk (*) in a query is the same as selecting all its fields.

2. Double-click the asterisk (*) in the Employees field list.
   Access adds the asterisk to the design grid. Next you have to add the fields you want to use to sort the query.

3. Double-click the LastName field and the FirstName field to add them to the design grid.
   You are going to use the LastName and FirstName fields to sort the query. To sort a query click the Sort row for the field you want to use to sort the query and select either Ascending or Descending.

4. Click the LastName field’s Sort Row and select Ascending. Do the same for the FirstName field.
   The LastName and FirstName fields will already be displayed with all the other fields in the table because you added the asterisk (*) to the design grid. Because you don’t want the LastName and FirstName fields to appear twice you can uncheck the LastName and FirstName fields Show boxes.

5. Uncheck the Show box for the LastName and FirstName fields.
   The query will still use the LastName and FirstName fields for sorting purposes but it won’t display these field names in the query results.

6. Save your query as AZ Query and then click the Run button on the toolbar to view the results. Close the query when you’ve finished.

Quick Reference

To Sort a Query using Multiple Fields:
1. Open/display the query in Design View.
2. If necessary, add the field you want to use to sort the query to the design grid.
3. Click the Sort box list arrow for the first field you want to use to sort the query and select a sort order.
4. Repeat Steps 2-3 for each additional field you want to use to sort the query, bearing in mind that the fields will be sorted from left to right.
Lesson 2-10: Developing AND and OR Operators

The longer you work with Access, the more you will want to analyze your data. Before long you will want to create queries that match two or more conditions, such as “Which people have bought our cigarettes AND have contracted lung cancer?” You will also, at some time, want to create a query that matches only one of several conditions, such as “Which people have bought our cigarettes OR have bought our chewing tobacco?”

Towards that goal this lesson introduces AND and OR operators. Here’s the run-down on the two:

- **AND** narrows your query, making it more restrictive. For example you could filter for employees from Washington AND who had been with the company for more than 5 years. To create an AND query enter the criteria for the fields on the same Criteria row of the Design grid.

- **OR** relaxes your query, so that more records match. For example you could filter for employees from California OR Minnesota. To create an OR query enter the criteria for the fields on different Criteria rows of the Design grid.

The terms AND and OR operators may sound like they belong to the frighteningly technical world of programming, but if you already have a basic understanding of queries they are remarkable easy to use.
1. **Open the Customers List query in Design View.**
   Remember: To open any database object in Design View simply select the object and click the Database window’s Design button.
   The Customers List query appears in Design View. For this exercise you want to find which of your customers are from France **AND** own their own business. You will need to create an AND query because the ContactTitle field must equal Owner and the Country field must equal France. To create an AND query simply list each criteria on the same line, as shown in Figure 2-17.

2. **Click the ContactTitle column’s Criteria row and type Owner.**
   This will retrieve records whose ContactTitle equals Owner. Next you have to enter the country criteria.

3. **Click the Country column’s Criteria row and type France.**
   Because you entered the Country criteria in the same Criteria row as the ContactTitle criteria Access will treat it as an AND statement. (Which of my customers is an Owner **AND** is from France?)
   Move on to next step to view the results of your first AND query.

4. **Click the View button on the toolbar.**
   Access displays the results of the query, as shown in Figure 2-19. Notice the results match your queries AND criteria—all the records have Owner in the ContactTitle field and France in the Country field.
   Next we’ll modify the query and create an OR statement.

5. **Switch to Design View by clicking the View button on the toolbar.**
   You’re back in Design View. First let’s remove the Owner criteria from the query.

6. **Delete the “Owner” criteria from the ContactTitle column Criteria row.**
   This time you want to find which of your customers are from France **OR** are from Mexico. You will need to create an OR query to find these records. To create an OR query, simply list each criteria on its own line, as shown in Figure 2-18.

7. **Click the second Criteria row for the Country column and type Mexico.**
   Because you entered each criteria in a different row Access will treat is as an OR statement. (Which customers are from France **OR** are from Mexico?)
   Move on to the next step to view the results of your OR query.

8. **Click the View button on the toolbar.**
   Access displays the results of the query, as shown in Figure 2-20. Notice the results match your queries OR criteria—all the records are from either France **OR** Mexico.

9. **Click the Save button on the toolbar to save your work and close the query window.**

---

### Quick Reference

To Create AND/OR Criteria:

1. **Open/display the query in Design View.**
2. **Enter your criteria in the appropriate field’s first Criteria box.**
3. **Enter additional criteria as follows:**
   - **AND:** Enter additional criteria for one or more fields in the appropriate field **Criteria box** in the same row.
   - **OR:** Enter additional criteria for one or more fields in the appropriate field **Criteria box**, using a different row for each OR criteria.
Lesson 2-11: Creating a Form with the Form Wizard

You will usually want to use the Form Wizard to create your forms. It’s almost always easier to create and modify a form created by the Form Wizard than it is to create one from scratch. This lesson will show you how to use the Form Wizard to create a form.

1. **Click the Forms icon** in the Objects bar if it already isn’t selected, then double-click the **Create form by using wizard** icon.

   The Form Wizard appears, as shown in **Figure 2-21**. Anytime you create a form you have to tell Access which table or query you want to use for your form.

2. **Click the Tables/Queries list** and select Employees.

   Now that you have specified the field, you tell the Wizard which fields you want to display on the form. To add a field, double-click the field or select the field and click the **button. Click the **button to add all the fields to your form.

3. **Double-click the LastName field in the Available Fields list.**

   The LastName field appears in the Selected Fields list. If you accidentally add a field to the Selected Fields list you can remove it by double-clicking it or by selecting it and clicking the **button.

4. **Add the following fields to your table by double-clicking them:** FirstName, Title, Address, City, Region, PostalCode and Country.

   Compare your Form Wizard dialog box to the one in **Figure 2-21** when you’re finished.
5. Click Next.

If you had selected fields from more than one table, the Form Wizard would ask how you would like to organize the data on your form. The Form Wizard doesn’t ask us this question, however, since we are creating a form based on a single table.

Next the Form Wizard asks how you want to display the data on the form, as shown in Figure 2-22. You have four layout choices:

- **Columnar:** Displays one record at a time in an easy to read format.
- **Tabular:** Displays many records at a time.
- **Datasheet:** Displays many records at a time and looks exactly like a table in Datasheet View.
- **Justified:** Displays one record at a time in a format similar to a tax return—interesting, but usually creates complicated forms that are difficult to work with.

The Form Wizard will select the layout options it thinks is best for your data. Keep in mind—the Form Wizard isn’t very bright.

For this exercise we will use the default Columnar option.

6. Click Next.

Next the Form Wizard offers some interesting color styles you can use in your form, as shown in Figure 2-23. Simply click a style to preview it.

**NOTE:** Some of the color styles can slow down the performance of your forms. Try to stick with either the Standard, Colorful, or Stone styles.

7. Click and preview each of the styles. When you’re finished click the Standard style and click Next.

The final window of the Form Wizard appears—you have to give your form a name.

8. Type Employees Form in the text box and click Finish.

After a few moments your new form appears on-screen, as shown in Figure 2-24. You don’t have to worry about saving your new form—the Form Wizard does this for you automatically as part of the form creation process.

9. Use the form’s Record Navigation buttons to browse through the records in the underlying Employees table. Close the form when you’re finished.
Lesson 2-12: Creating a Report with the Report Wizard

Even more so than the Form Wizard, the fastest and easiest way to create a report is with the Report Wizard. It’s almost always easier to create and modify a report created by the Report Wizard than it is to create one from scratch.

1. **Click the Reports icon** in the Objects bar and double-click the `Create report by using wizard` icon.

   The Report Wizard appears, as shown in Figure 2-25. Anytime you create a report you have to tell Access which table or query you want to use for your report.

2. **Click the `Tables/Queries list` and select Employees.**

   Now that you have specified the field, you tell the Wizard which fields you want to display on the report. To add a field, double-click the field or select the field and click the `button. Click the `button to add all the fields to your report.

3. **Double-click the CompanyName field in the Available Fields list.**

   The CompanyName field appears in the Selected Fields list. If you accidentally add a field to the Selected Fields list you can remove it by double-clicking it or by selecting it and clicking the `button.
4. Add the following fields to your table by double-clicking them: **ContactName, Address, City, and Country**.
   Compare your Report Wizard dialog box to the one in **Figure 2-25** when you’re finished.

5. **Click Next**.
   The Report Wizard asks you if and how you want to group the data in your report, as shown in **Figure 2-26** For example, you can group all the customers from the same country together in your report. Grouping can help organize and summarize the information in your report. To use by a specific field to group data, double-click the field you want to use. For this exercise we’ll group our report data using the Country field.

6. **Double-click the Country field from the list**.
   The Country field appears on top of the sample report to show how Access will group the data in the report. If you change your mind, simply double-click the grouping field at the top of the sample report to remove it.

7. **Click Next**.
   Next the Report Wizard asks if you want to sort the records in your report. Simply select the field you want to use to sort the records. You can click the button to toggle between ascending and descending sort orders. You can also perform calculations in your report by clicking the Summary Options button.

8. **Select CompanyName from the list and click Next**.
   Next the Report Wizard asks how you want to display the data on the report. Click a layout option to see it previewed on-screen. You also specify the page orientation here.

   **NOTE:** If you’re trying to get a lot of fields onto your report, consider using **Landscape orientation**, which lays the page along its longest side.

9. **Select the Tabular option and click Next**.
   Next the Report Wizard offers some interesting styles you can use in your report. Simply click a style to preview it on-screen. We’ll use the default style.

10. **Click Next**.
    You need to give your new report a name.

11. **Type Customers by Country in the text box and click Finish**.
    After a few moments your new report appears on-screen, as shown in **Figure 2-24** You don’t have to worry about saving your new report—the Report Wizard does this for you automatically as part of the report creation process.

12. **Close the report**.
Lesson 2-13: Creating Mailing Labels with the Label Wizard

For bulk mailings, nothing beats a good stack of mailing labels. The Access Label Wizard helps you quickly create labels for any number of uses: mailing labels, name tags—even labels for your floppy disks! The Label Wizard supports a huge variety of label sizes and brands (as long as they’re from Avery).

In this lesson you will use the Label Wizard to create a set of mailing labels.

1. **Click the Reports icon in the Objects bar.**
   Access lists all the reports in the current database.

2. **Click the Database Window’s New button.**
   The New Report dialog box appears, as shown in Figure 2-29.

3. **Select Label Wizard from the list but DON’T CLICK OK YET.**
   Anytime you create a report you have to tell Access which table or query that contains the fields you want to use in your report.
4. **Select Customers from the Table or Query drop-down list and click OK.**

   The first screen of the Label Wizard appears, as shown in Figure 2-30. If you’re using Avery labels, the Label Wizard lists the various types of labels by product number. Simply scroll down and find the number that matches the one on your label box. If you’re not using Avery labels you’ll have to click the Customize button and tell the Label Wizard how to set up your nonstandard labels.

   **NOTE:** Save yourself time and headaches and always make sure to buy Avery or Avery compatible labels.

5. **Select 5161 from the list and click Next.**

   The next window of the Label Wizard lets you change the font used in your label. You can format the font type, size, weight and color. If you’re satisfied with the default font (Arial 8 point) you can simply click next.

6. **Click Next to accept the default font.**

   It’s time to tell the Form Wizard which fields you want to use, as shown in Figure 2-31. You’ve done this before: Double-click a field to add it or select the field and click the button.

7. **Double-click the ContactName field in the Available Fields list.**

   The ContactName field appears in the Prototype label. OK there’s a slight twist to the Label Wizard. The Label Wizard creates labels exactly how you tell it to. So if you want to place fields on separate rows you need to press <Enter> to move to the next row.

   Use the backspace key to delete a field from the Prototype label if you make a mistake.

8. **Press <Enter>, Double-click the CompanyName field in the Available Fields list, press <Enter>, double-click the Address field and press <Enter>.**

   If you want a character or text to appear on your labels you’ll need to type in that too. For example, in the next step you will have to type in the comma and space between the City field and the Region field.

9. **Double-click the City field, type a , (comma) followed by a <Spacebar>, double-click the Region field, press <Spacebar> and double-click the PostalCode field.**

   When you’re finished compare your prototype label to the one in Figure 2-31, then move on to the next step.

10. **Click Next.**

    The next window lets you sort your labels by any field. Simply double-click the field you want to use to sort the labels.

11. **Double-click the PostalCode field.**

    The final window of the Label Wizard appears. All you have to now is give your new report a name.

12. **Type Customers Labels in the text box and click Finish.**

    After a few moments your labels appear on-screen, as shown in Figure 2-32. You don’t have to worry about saving your new labels—the Label Wizard does this for you automatically as part of the report creation process.

13. **Close the report.**

    You cannot convert an Access database into a file with the same name and location as the original database.

5. **Type a name for the new Microsoft Access database file and click Save.**

    Microsoft Access converts the database to Access 2000 format.

6. **Close the Microsoft Access program.**
Chapter Two Review

Lesson Summary

Planning a Database
• Know how to plan a good database design.

Creating a Database Using the Database Wizard
• To Create a Database using the Database Wizard: Click the New button on the toolbar or select File → New from the menu. Click the Databases tab and double-click the Access database wizards, pages, and projects option. Double-click the type of database you want to create.

Creating a Blank Database
• To Create a New Blank Database: Click the New button on the toolbar, or select File → New from the menu, or press <Ctrl> + <N>. Then Select the Blank Database icon and click OK, Navigate to the drive and folder where you want to save the new database, then type a name for your new database in the File Name box and click Create.

Creating a Table Using the Table Wizard
• To Create a New Table using the Table Wizard: From the database window click the Tables icon in the Objects bar and then double-click the Create table using wizard icon then select the type of table you want to create. Follow the on-screen instructions and specify what you what to appear in your database.

Modifying a Table and Understanding Data Types
• To Display a Table in Design View: Open the table and click the View button on the toolbar or from the database window click the Tables icon in the Objects bar, select the table and click the Design button.
• To Change the Data Type for a Field: Display the table in Design View, click the field’s Data Type box, click the Data Type list arrow and select the data type.
• To Save Changes to a Database Object: Click the Save button on the toolbar, or Select File → Save from the menu, or Press <Ctrl> + <S>.

Creating a New Table from Scratch
• To Create a Table from Scratch: From the database window click the Tables icon in the Objects bar and then double-click the Create table in Design View icon. Type a field name in the Field name column, press <Tab> click the Data Type list arrow and select a data type for the field. Repeat the preceding steps as necessary to add additional fields. When you’re finished close the table window, click Yes to save the table, enter a table name, and then click OK.
Chapter Two: Creating and Working with a Database

Creating a Query in Design View

- **To Create a Query in Design View:** From the database window click the **Queries icon** in the Objects bar and then double-click the **Create query in Design View** icon. Select the table you want to add to the query and click **Add**—repeat as necessary to add additional tables or queries. When you're finished click **Close**. Double-click each field you want to include from the field list. In the design grid, enter any desired search criteria for the field in the **Criteria box** and click the **Sort box list arrow** for the field and select a sort order. Close the query window and click **Yes** to save the query, enter a query name, and then click **OK**.

Modifying a Query

- **To Add a Field to a Query:** Click the **Show Tables** button on the toolbar, select the table you want to display and click **Add**. Repeat for any additional tables and click **Close** when you're finished. Double-click each field you want to include from the field list, or drag the field from the field list onto the design grid.

- **To Delete a Query Field:** Click the top of the field you want to delete (_changes to_) and press <Delete>.

- **To Rearrange Fields:** Position the pointer over the field (_changes to_) and then click and drag the field to a new location.

Sorting a Query using Multiple Fields

- **To Sort a Query using Multiple Fields:** Open/display the query in Design View, click the **Sort box list arrow** for the first field you want to use to sort the query and select a sort order. Repeat for each additional field you want to use to sort the query, bearing in mind that the fields will be sorted from left to right.

Developing AND and OR Operators

- **To Create AND/OR Criteria:** Open/display the query in Design View, enter your criteria in the appropriate field's first **Criteria box**, enter additional criteria as necessary. Enter additional criteria as follows:
  - **AND:** Enter additional criteria for one or more fields in the appropriate field **Criteria box** in the same row.
  - **OR:** Enter additional criteria for one or more fields in the appropriate field **Criteria box**, using a different row for each OR criteria.

Creating a Form with the Form Wizard

- **To Create a Form using the Form Wizard:** From the database window click the **Forms icon** in the Objects bar and then double-click the **Create form using wizard** icon. Select the table or query you want to use to create your form, select the fields that you want to appear on the form and click **Next** when you're finished. Select the type of form you want to create and click **Next**, select a format for your form and click **Next**, give your form a name and click **Finish**.

Creating a Report with the Report Wizard

- **To Create a Report using the Report Wizard:** From the database window click the **Reports icon** in the Objects bar and then double-click the **Create reports using wizard** icon. Select the table or query you want to use to create your report and select the fields that you want to appear on the form. Click **Next** when you're finished. Specify the field(s) you want to use to sort the report and click **Next** (optional) or select a field to group the report by and click **Next** (also optional). Select a format for the report and click **Next**, and give your report a name and click **Finish**.
Creating Mailing Labels with the Label Wizard

- **To Create Labels:** From the database window click the Reports icon in the Objects bar, click New, select the Label Wizard from the list and click OK. Select the table or query you want to use to create your labels, click Next, select the product number for your labels click Next, select the fields that you want to appear on the form and enter any text, click Next when you’re finished. Give your report a name and click Finish.

### Quiz

1. **Which of the following is NOT a step in planning a database?**
   
   A. Determine the fields you’ll need and their data type
   B. Determine the tables you’ll need
   C. Use the Database Planning Wizard to help determine the structure of your database
   D. Determine the purpose of the database: the information you want to put into it and the reports you want to come out of it

2. **Which of the following statements is NOT true?**
   
   A. The Database Wizard steps you through the process of creating a database and provides you with ready read-to-use tables, forms, queries, and reports
   B. Datasheet View lets you view and modify the structure of any database object
   C. The Table Wizard asks you a series of questions about what you want to appear in a table and then creates the table for you
   D. You can add criteria to a query to determine which records are displayed

3. **Which of the following is NOT a data type?**
   
   A. Text
   B. Number
   C. Picture/Graphic
   D. Date/Time

4. **You can add a field to a query without displaying it in the query results (True or False?)**

5. **Which of the following statements is NOT true? (Select all that apply)**
   
   A. To add a field to a query, double-click the field from the field list
   B. Selecting the asterisk (*) in a query is the same as selecting all of a table’s fields
   C. You can only specify one set of criteria for each query—for example to display customers from Texas AND from Minnesota you would have to create two separate queries
   D. You can sort a query’s records by clicking the Sort box list arrow for the field you want to use to sort the query and selecting a sort order
6. The fastest and easiest way to create a form or report is with the Form Wizard or the Report Wizard (True or False?)

7. Microsoft Word is required in order to print mailing labels with Microsoft Access (True or False?)

**Homework**

1. Start Microsoft Access.
2. Create a new blank database named Homework 2.
3. Create a new table in Design View that contains the following fields:
   
<table>
<thead>
<tr>
<th>Field Name</th>
<th>Data Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last</td>
<td>Text</td>
</tr>
<tr>
<td>First</td>
<td>Text</td>
</tr>
<tr>
<td>Phone</td>
<td>Text</td>
</tr>
<tr>
<td>Age</td>
<td>Number</td>
</tr>
</tbody>
</table>

4. Save the table as Phone Numbers.
5. Use the Forms Wizard to create and save a columnar form named InsuranceClaim, using the Insurance Claims table as the data source.
6. Use the Reports Wizard to create and save a tabular report named InsuranceClaim, using the Insurance Claims table as the data source.

**Quiz Answers**

1. C. Since there is no Database Planning Wizard you can’t use it to help determine the structure of a database.
2. B. Design View lets you view and modify the structure of any database object. Datasheet View lets you view the records in a table, query, or form in a grid format.
3. C. There isn’t a Picture/Graphic field in Microsoft Access, although OLE fields can store pictures and graphics, in addition to other files created with external programs.
4. True. You can include a field in a query without displaying it in the query results by unchecking its Show box.
5. False. You can specify additional AND / OR criteria to a query by entering it in the appropriate AND / OR criteria rows.
6. True. Once you create a form or report using the Form Wizard or the Report Wizard you can modify it to better suit your needs.
7. False. The Mailing Label Wizard, including with Microsoft Access, makes creating mailing labels a snap.
8. C and D. The expression <>"MN" would display only those records that are not equal to “MN” and Avery is the standard of the label industry.
Chapter Three: Finding, Filtering, and Formatting Data

Chapter Objectives:

- Find and replace database information
- Sort table information in ascending or descending order
- Filter information by selection
- Filter information by form
- Create an advanced filter
- Adjust the row height and column width in a datasheet
- Freeze and hide a datasheet's columns
- Change the appearance of a datasheet

Chapter Task: Filter and sort information in a table and change the appearance of a datasheet

Prerequisites

- How to use menus, toolbars, dialog boxes, and shortcut keystrokes.
- How to open and modify database objects.
- How to add and edit database records.

As databases grow larger and larger, finding a specific record or group of records becomes harder and harder. Fortunately, Microsoft Access is equipped with an arsenal of Find, Sort, and Filter commands that can track down and organize a table’s information in record time.

In this chapter you will learn how to use these commands. First you’ll learn how to use the Find command to lookup a specific record. Next you’ll learn how to sort information in a table—in ascending or descending order. Then you’ll learn all about filters: How they can find and display only records that meet your criteria, such as customers from the state of Texas.

Once you’ve learned how to organize and sort all that information, you’ll learn how to make it look more professional. This chapter explains how to format a datasheet to change its font and appearance. You will also learn how to freeze and hide columns in a datasheet—an important task if you need to view large amounts of information.
Finding specific records or information in a large database would be like finding a needle in a haystack if it weren’t for the Find feature. Find allows you to quickly search tables, queries, and forms for specified text—a critical database task.

Select a field to search through all records in the current field only. This is usually quicker, especially if the field is indexed. Or, select the datasheet or form to search through all fields in all records.

Finding specific records or information in a large database would be like finding a needle in a haystack if it weren’t for the Find feature. Find allows you to quickly search tables, queries, and forms for specified text—a critical database task.

Select a field to search through all records in the current field only. This is usually quicker, especially if the field is indexed. Or, select the datasheet or form to search through all fields in all records.

As very useful and important is the Find and Replace feature. Imagine you are working on a huge database that tracks the feeding patterns of squirrels. You’re almost finished when you realize that you’ve mistakenly referred to one of the species of squirrels you’re tracking—flying squirrels—not by their proper scientific name “Sciuridae Glaucomys” but by the scientific name for the common gray squirrel “Sciuridae Sciurus.” Yikes! It will take hours to go back and find every instance of “Sciuridae Sciurus” in your database and replace it with “Sciuridae Glaucomys.” It could… or it could take you less than a minute if you use Access’s find and replace function.

1. **Start Microsoft Access, open the Lesson 3 database and then find and open the Employees table.**
   First you need to put the cursor in the field that contains the data you want to look for. For this exercise we’ll search the City field.

2. **Click anywhere in the City field.**
   Here’s how to open the Find dialog box.
3. **Click the Find button on the toolbar.**
   The Find dialog box appears, as shown in Figure 3-1. You tell Access what you’re looking for in the Find What box.

4. **In the Find what box type Redmond.**
   Also important is the Match combo box, which has the following options:
   - **Match combo box:** See Table 3-1: Using the Match List Options for a description of the Match combo box and its options.
   - **Match Case check box:** Finds only text that has the same pattern of uppercase and lowercase characters as the text you specified.
   - **Search Only Current Field check box:** Check to search through only current field (faster). Clear to search through all fields in all records (slower).

5. **Click the Find Next button.**
   Access jumps to the first (and only) occurrence of the word “Redmond” it finds in the table.

6. **Click Close.**
   The Find dialog box closes. You can also replace information in a worksheet.

7. **Click anywhere in the Title field and select Edit → Replace from the menu.**
   The Replace dialog box appears, as shown in Figure 3-2.

8. **In the Find what box text box type Sales Representative.**
   You want to replace every occurrence of the phrase “Sales Representative” with the phrase “Sales Associate”.

9. **Select the Replace with box by clicking it or by pressing the <Tab> key and type Sales Associate.**

10. **Click Replace All.**
    Access finds all the occurrences of the phrase “Sales Representative” in the table and replaces them with the word “Sales Associate.”

   **NOTE:** Think before you use the Replace All button—you might not want it to replace every instance of a label or value! You can find and replace each individual occurrence of a label or value by clicking Find Next and then Replace.

11. **Click Close.**
    The Replace dialog box disappears and you’re back to your worksheet. Notice how all the occurrences of the phrase “Sales Representative” have been replaced by the phrase “Sales Associate”.

### Table 3-1: Using the Match List Options

<table>
<thead>
<tr>
<th>Match</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Field</td>
<td>Finds only data that is exactly the same.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> John finds John, but not Johnson or Sue and John.</td>
</tr>
<tr>
<td>Any Part of Field</td>
<td>Finds data anywhere in the field.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> John finds John, Johnson, and Sue and John.</td>
</tr>
<tr>
<td>Start of Field</td>
<td>Finds data only at the beginning of the field.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> John finds John and Johnson but not Sue and John.</td>
</tr>
</tbody>
</table>

Other Ways to Find and Replace Information:
- **Press <Ctrl> + <H>.**

### Quick Reference

To Find Information:
1. Click the Find button on the toolbar.
   Or... Press <Ctrl> + <F>.
   Or... Select Edit → Find from the menu.
2. Enter the text you want to search for in the Find What box.
3. Click the Find Next button.
4. Repeat Step 3 until you find the text you’re looking for.

To Find and Replace Information:
1. Select Edit → Replace from the menu.
   Or... Press <Ctrl> + <H>.
2. Enter the text you want to search for in the Find What box.
3. Enter the text you want to replace the word with in the Replace With box.
4. Click the Find Next button.
5. Click the Replace button to replace the text.
6. Repeat Steps 4 and 5 if there is more than one occurrence that you want to replace.
   Or... Click Replace All to search and replace every occurrence of text in the table.
Lesson 3-2: Sorting Records

When you enter new records to a table they are added at the end of the table in the order you enter them. Working with information in such a jumbled order can be difficult if not impossible. Fortunately, you can sort, or change the order of records in a table. You can sort records alphabetically, numerically, or chronically (by date). Additionally, you can sort information in ascending (A to Z) or descending (Z to A) order. This lesson will show you several techniques you can use to sort information in your tables, queries, and forms.

NOTE: If you frequently sort a table the same way you should consider creating and using a query that automatically sorts the table data for you. A query that sorts a table alphabetically by name would be a good example of such a query.

1. If it isn’t already open, find and open the Employees table.
   First you need to put the cursor in the field you want to use to sort the table. You want to sort the list by the last name, so you would select the Last field.

2. Click anywhere in the LastName field.
   Here’s how to sort a table:

   ![Figure 3-3](image1.png)
   A table is normally displayed in the order its records were entered.

   ![Figure 3-4](image2.png)
   The table sorted by the LastName field.

   When you enter new records to a table they are added at the end of the table in the order you enter them. Working with information in such a jumbled order can be difficult if not impossible. Fortunately, you can sort, or change the order of records in a table. You can sort records alphabetically, numerically, or chronically (by date). Additionally, you can sort information in ascending (A to Z) or descending (Z to A) order. This lesson will show you several techniques you can use to sort information in your tables, queries, and forms.

   NOTE: If you frequently sort a table the same way you should consider creating and using a query that automatically sorts the table data for you. A query that sorts a table alphabetically by name would be a good example of such a query.

   1. If it isn’t already open, find and open the Employees table.
      First you need to put the cursor in the field you want to use to sort the table. You want to sort the list by the last name, so you would select the Last field.

   2. Click anywhere in the LastName field.
      Here’s how to sort a table:
Chapter Three: Finding, Filtering, and Formatting Data

3. **Click the Sort Ascending button on the toolbar.**
   Access sorts the table, ordering the records in ascending (A-Z) order by last name, as shown in Figure 3-4. You can also sort a list in descending (Z-A) order.

4. **Click the Sort Descending button on the toolbar.**
   The list is sorted in descending (Z-A) order by the First field.
   Let’s try sorting the table using a different field.

5. **Click anywhere in the BirthDate field and click the Sort Ascending button on the toolbar.**
   Access sorts the table by the BirthDate field and we instantly discover that poor Margaret Peacock is the oldest employee in the company.

<table>
<thead>
<tr>
<th>Table 3-2: Sort Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Order</strong></td>
</tr>
<tr>
<td>Ascending</td>
</tr>
<tr>
<td>Descending</td>
</tr>
</tbody>
</table>

---

**Quick Reference**

To Sort Records by One Field:
1. Move the cell pointer to the column you want to use to sort the list.
2. Click either the Sort Ascending button or Sort Descending button on the toolbar.
Lesson 3-3: Filtering by Selection

Sometimes you may want to see only certain records in your table. By filtering a table, you display only the records that meet your criteria and hide the records that do not. For example, you could filter a client list to display only clients who live in California.

There are several filter methods:

- **Filter by Selection:** The fastest and easiest of the three filter commands. Simply find and select the value you want to use as the filter criteria, and then use Filter By Selection to find all records with the selected value.

- **Filter by Form:** Here you type your filter criteria into a blank form that contains all the field names in the table. Works well if you have more than one criteria.

- **Advanced Filter/Sort:** The most powerful and complicated filter method. Creating an advanced filter is really not any different than creating a query.

In this lesson, you will learn how to use the fastest and easiest way to filter a list with the nifty Filter by Selection feature.
Chapter Three: Finding, Filtering, and Formatting Data

1. If it isn’t already open, find and open the Employees table.
   The first step is finding a record and field that matches your criterion. For example, to find all the addresses from Minnesota you would put the cursor in any State field that contained MN.

2. Find the Region field and then right-click any WA value.
   A shortcut menu with the Filter by Selection command appears, as shown in Figure 3-5. Notice that the shortcut menu actually contains four filter-related commands: you can read more about these other commands in Table 3-3: Filter Shortcut Menu Commands.

3. Select Filter By Selection from the shortcut menu.
   Access filters the table so that only records that contain WA in the Region field are displayed, as shown in Figure 3-6. Notice the bottom of the table window tells you the number of records that match your filter criteria. Also the message (Filtered) indicates that the table is currently being filtered.

   Here’s how to remove a filter:

4. Click the Remove Filter button on the toolbar.
   All the records in the table are displayed.

   The opposite of Filter by Selection is Filter Excluding Selection, which filters all records that don’t contain the criteria value. For example, to find all the addresses that aren’t from Minnesota you would put the cursor in any State field that contained MN.

5. Find the City field and then right-click any London value. Select Filter Excluding Selection from the shortcut menu.
   This time Access displays all the records that do not contain London in the City field.

6. Click the Remove Filter button on the toolbar.
   All the records in the table are displayed.

The following table describes the filter commands that appear in the table shortcut menu.

### Table 3-3: Filter Shortcut Menu Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filter by Selection</td>
<td>Finds and displays all records with the selected value.</td>
</tr>
<tr>
<td>Filter Excluding Selection</td>
<td>Find and displays all records that don’t contain the selected value.</td>
</tr>
<tr>
<td>Filter For</td>
<td>Finds and displays all records that match the text you enter.</td>
</tr>
<tr>
<td>Remove Filter/Sort</td>
<td>Removes the applied filter from the table.</td>
</tr>
</tbody>
</table>

Other Ways to Filter by Selection:
- Select the record and field that matches your criterion and click the Filter by Selection button on the toolbar.

Quick Reference

To Filter by Selection:
1. Find the field value on which you want to base the filter.
2. Right-click the field value and select Filter by Selection from the shortcut menu.
   Or...
   Click the field value then click the Filter by Selection button on the toolbar.

To Filter Excluding the Selection:
- Right-click the field value you want to exclude and select Filter Excluding Selection from the shortcut menu.

To Remove a Filter:
- Right-click the filtered table and select Remove Filter/Sort from the shortcut menu.
   Or...
   - Click the Remove Filter button on the toolbar.
Lesson 3-4: Filtering by Form

Filtering by Form makes it easy to create a filter that uses more than one criterion. The Filter by Form window enables you to enter your filter criterion by picking values that you want the filtered records to have.

If you look at Figure 3-7 you’ll notice that several tabs appear at the bottom of the Filter by Form window. If you specify more than one criterion on the same Filter by Form tab, Access treats it as an AND criteria statement, meaning a record must match all the criterion in order to be displayed. For example you could filter for employees from Washington AND who had been with the company for more than 5 years.

If you specify filter criterion on different tabs Access treats it as an OR criteria statement, meaning a record has to match the criterion on one tab or the other to be displayed. For example you could filter for employees from California OR Minnesota.

1. **If it isn’t already open, find and open the Employees table.**
   First you need to display the Filter by Form window.

2. **Click the Filter by Form button on the toolbar.**
   The Filter by Form window, which looks like an empty replica of your table, appears as shown in Figure 3-7.
   The Filter by Form window may already contain a value from a previous filter. If that’s not a field that you want to use in your filter you can press <Delete> to clear the old criteria.

3. **Press <Delete> to delete any old filter criteria.**
   Next you have to select the field and value you want to use as your criteria.

4. **Click the City field.**
   A down arrow appears in the field that the cursor is in. Click this down arrow to see a list of values used in that field.
5. **Click the City arrow and select London from the list.**

   This will display only records whose City field contains London.

   You can create an AND criteria statement by specifying more than one criterion on the same Filter by Form tab. For example you could filter for employees from London AND who have been employed before 1994.

6. **Click the Title field, click the Title arrow and select Sales Manager from the list.**

   This will display only records from London and whose Title is Sales Manager.

7. **Click the Apply Filter button on the toolbar.**

   Access applies the filter and displays only those records whose City Field equals “London” AND whose Title field equals “Sales Manager.” Only one record meets the filter criteria. Let’s try modifying the query and adding an OR criteria statement.

8. **Click the Filter by Form button on the toolbar.**

   If you have another set of criteria or rules to filter records by, click the Or tab at the bottom of the Filter by Form window.

9. **Click the Or tab at the bottom of the Filter by Form window.**

   Access displays another blank Filter by Form window. Access will search for any criterion you enter on this tab in addition to your original criterion. You decide to filter for records whose City Field equals “London” AND whose Title field equals “Sales Manager” OR whose title is “Vice President, Sales”.

10. **Click the Title field and select Vice President, Sales from the list.**

    Notice a new Or tab appears at the bottom of the Filter by Form window. You can use as many “Or” statements as you need to define all your filter criterion.

    Let’s see what records our modified filter will find.

11. **Click the Apply Filter button on the toolbar.**

    Access applies the filter and displays records whose City Field equals “London” AND whose Title field equals “Sales Manager” OR whose title is “Vice President, Sales”.

12. **Click the Remove Filter button on the toolbar.**

    Access once more displays all the records in the table.

Here are some criteria operators and examples you can use in your filters.

<table>
<thead>
<tr>
<th>Operator</th>
<th>Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>=</td>
<td>=&quot;MN&quot;</td>
<td>Finds records equal to MN</td>
</tr>
<tr>
<td>&lt;&gt;</td>
<td>&lt;&gt;&quot;MN&quot;</td>
<td>Finds records not equal to MN</td>
</tr>
<tr>
<td>&lt;</td>
<td>&lt;10</td>
<td>Finds records less than 10</td>
</tr>
<tr>
<td>&lt;=</td>
<td>&lt;=10</td>
<td>Finds records less than or equal to 10</td>
</tr>
<tr>
<td>&gt;</td>
<td>&gt;10</td>
<td>Finds records greater than 10</td>
</tr>
<tr>
<td>&gt;=</td>
<td>&gt;=10 AND &lt;&gt;5</td>
<td>Finds records greater than or equal to 10 and not equal to 5</td>
</tr>
<tr>
<td>BETWEEN</td>
<td>BETWEEN 1/1/99 AND 12/31/99</td>
<td>Finds records between 1/1/99 AND 12/31/99</td>
</tr>
<tr>
<td>LIKE</td>
<td>LIKE &quot;S*&quot;</td>
<td>Finds text beginning with the letter S. You can use LIKE with wildcards such as *</td>
</tr>
</tbody>
</table>
Lesson 3-5: Creating an Advanced Filter

The most powerful filter is the Advanced Filter. The Advanced Filter is so powerful that you can think of it as a baby query. In fact, the procedure for creating an Advanced Filter is virtually the same as it is for creating a simple query. The problem with Advanced Filters is that they can be difficult to set up the first few times—especially if you’re new to Access.

Advanced Filters have many advantages—they have the ability to:

- **Sort by multiple fields:** You can sort records using several fields. For example, you could sort a table alphabetically by last name and then by first name.
- **Use complex filter criteria and expressions:** You can use advanced expressions and operators to search for data. For example you could filter for dates that fall between 1/1/95 and 12/31/99.
- **Use multiple AND/OR statements:** You can use more than one criteria to sift through records. For example you could filter for employees from Washington AND who had been with the company for more than 5 years.

This lesson explains how to get your own Advanced Filters up and running.

1. **If it isn’t already open, find and open the Employees table.**
   Here’s how to create an Advanced Filter/Sort:

2. **Select Records -> Filter -> Advanced Filter/Sort** from the menu.
   The Filter window appears, as shown in Figure 3-8. The Advanced Filter will probably contain criteria from a previous filter that will have to be removed.
3. **Click the Clear Grid button** form the toolbar to clear the grid of any preexisting criteria.

You’re ready to create your Advanced Filter. Notice in Figure 3-8 that the window is split. The top half contains a box labeled Employees, which displays all the fields in the current table. The bottom half of the screen contains a design grid, which is where the filter information goes.

The first thing you need to do is select the fields that you want to use in your filter. You can add fields to the design grid in two ways:

- By double-clicking the field on the field list.
- By clicking and dragging the field down to the design grid yourself.

Because the field list doesn’t have a lot of room you will usually need to use the field list’s scroll bar to scroll up or down the list.

4. **Double-click the LastName field in the field list.**

Access adds the LastName field to the design grid.

5. **Add the FirstName, City, HireDate, and Region fields to the design grid.**

You can use any field on the design grid to sort or filter the table. To sort by a field click the Sort row in the column that contains the field that you want to sort and select Ascending or Descending from the list.

6. **Click the LastName column’s Sort row and select Ascending.**

This will sort the table by the LastName field in Ascending order. You can also sort by more than one field. For example, you could sort by LastName and then by FirstName. When you use several fields to sort a table Access performs the sort in the order the fields appear in the design grid.

7. **Click the FirstName column’s Sort row and select Ascending.**

Next you need to specify the criteria for the Advanced Filter. You type the criteria in the design grid’s Criteria row.

8. **Click the City column’s Criteria row and type London.**

If you specify more than one criterion on the same Criteria row, Access treats it as an AND criteria statement, meaning a record must match all the criterion, in order to be displayed. For example you could filter for employees from Washington AND who were hired after January 1, 1993.

9. **Click the HireDate column’s Criteria row and type >1/1/93.**

This criteria will display only records whose HireDate is greater or after 1/1/93. Because it’s on the same Criteria row as the City field’s London criteria the filter will display other those records whose City field equals London and whose Hire Date is after 1/1/93.

If you specify filter criterion on different Criteria rows, Access treats it as an OR criteria statement, meaning a record has to match the criterion on one tab or the other to be displayed. For example you could filter for employees from California OR Minnesota.

10. **Click the Region column’s Second Criteria row and type WA.**

Your completed design grid should look similar to the one shown in Figure 3-9 You’re ready to try the Advanced Filter.

11. **Click the Apply Filter button on the toolbar to apply the filter.**

The Advanced Filter window closes and Access applies the filter and displays the records that meet your criterion.

12. **Click the Remove Filter button to remove the filter.**
Lesson 3-6: Adjusting Row Height and Column Width

If it isn’t already open, find and open the Employees table. Most of the columns in this table are wide enough to display all their information. The Title column however, needs to be slightly wider.

Carefully position the pointer over the right edge of the LastName field, until it changes to a <<. Once the pointer is positioned over the column line and appears as a <<, you can adjust the column width to make it smaller or wider.

Click and hold the mouse button and drag the line to the right until about a half-inch, as shown in Figure 3-10, then release the mouse button. Access resizes the width of the LastName column.
You can also have Access automatically adjust the width of a field or column so that it can hold the widest entry. This neat feature is called *AutoFit*. To use AutoFit simply double-click the right edge of the column or field you wish to adjust.

4. **Scroll to the right until the Address field is displayed. Double-click the right edge of the Address field name to automatically adjust its width.**

AutoFit automatically adjusts the width of the Address field so that it is wide enough to display its longest entry.

Unless you are working with a table that contains several memo fields with lots of text you will probably want to stick with the default row height. The procedure for adjusting the height of a row is almost the same as adjusting the width of a column—simply click and drag the bottom of any record's row heading.

5. **Move the pointer to the record selection area and carefully position the pointer between any two records, until it changes to a ‡.**

Once the pointer appears as a ‡ you can adjust the row height to make it smaller or wider.

6. **Click and hold the mouse button and drag the line down until the row height doubles, as shown in Figure 3-12, then release the mouse button.**

The height of all the rows in the table is doubled.

Splendid! In just one lesson you’ve learned how to adjust the width of columns and height of rows in a datasheet.
Lesson 3-7: Rearranging Columns

When you first created a table you hopefully thought about its field order, so that most of the time your data will appear in the order you want. Sometimes, however you may want to temporarily change the column order of a table.

This lesson explains how to move a field to a different location on the datasheet.

1. **If it isn’t already open, open the Employees table.**
   For this exercise image that you have to call all the people listed in the Employees table. The only problem is that you can’t view both the employee name fields and Home Phone fields at the same time. To fix this problem you decide to move the Home Phone field next the employee name fields.

   Here then, is how to move a field or column.

2. **Scroll to the right until you find the Home Phone field. Click the Home Phone field name and hold down the mouse button.**
   Now you have to drag the column to its new destination. If the destination is too far to the left or right to appear on the screen drag the column to the left or right of the window—the datasheet will scroll in that direction.

3. **Drag the Home Phone column to the far left of the window to scroll the datasheet to the left.**
   Make sure you keep holding down the mouse button! As you move the column, a bar moves between the columns, showing where the column will go when you release the mouse button, as shown in Figure 3-14

4. **Drag the column to the right of the Region field and release the mouse button to drop the column.**
   The Home Phone column and all its data moves next to the Region field.
Lesson 3-8: Changing Gridline and Cell Effects

Unless you are the type of person who likes to frequently change their Windows desktop wallpaper or rearrange your bedroom furniture on a monthly basis, you can safely skip this lesson. Changing the appearance of cells in a table is purely cosmetic and is probably one of the least important things to know about Access.

Are you still there? OK, here’s how to give a table a three-dimensional look.

1. If it isn’t already open, open the Employees table.

2. Select Format → Cells from the menu.

   The Cell Effect dialog box appears, as shown in Figure 3-15. You can select one of the 3-D effects from the Cell Effect area. See Figure 3-16 for an illustration of each of these cell effects.

   You can also change the color of a table’s gridlines (the lines that separate the rows and columns) and background. Unless you have a compelling reason for doing so, you should normally leave these color settings as they are.

   If you don’t want gridlines at all, set the Cell Effect to Flat and uncheck both of the Gridlines Shown boxes.

3. Select the Cell Effects options you want.

   The Sample area of the dialog box displays how the Cell Effects settings will appear.

4. Click OK when you’re finished making the Cell Effect settings.

   The datasheet changes according to your settings.

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Quick Reference

To Change a Datasheet’s Gridline Effects:
1. Select Format → Cells from the menu.
2. Select the Cell Effect option you want and click OK.
Lesson 3-9: Freezing a Field

Most tables have so much information that it won’t all fit on the same screen. When this happens, you have to scroll through the datasheet to add, delete, modify, and view information. The problem with scrolling and viewing information in a large table is that is can be confusing when you can’t see such important information as names or product numbers.

To overcome this problem, you can freeze a field so it stays in the same place while you scroll around the rest of the table.

1. If it isn’t already open, open the Employees table.
   Here’s how to freeze a field.

2. Right-click the LastName field name and select Freeze Columns from the shortcut menu.
   The LastName field is now frozen and will always remain visible as you move through the rest of the table. Try scrolling the table window to see for yourself.

3. Scroll the table to the right to view all its data.
   Notice how the frozen LastName field stays on the screen as you scroll the table, allowing you to always be able to see the last name for each record. Now you’re ready to unfreeze the LastName field.

4. Select Format → Unfreeze All Columns from the menu.
   All the fields in the table are now unfrozen.
Lesson 3-10: Hiding a Column

A hidden column or field is still in your table—you just can’t see it. You can temporarily hide a column when you want to reduce the amount of information that is displayed on the screen. The procedure for hiding and unhiding a column is almost the same as freezing a column. Here it is:

1. If it isn’t already open, open the Employees table.
   Here’s how to hide a field.

2. Right-click the LastName field name and select Hide Columns from the shortcut menu.
   The LastName field is temporarily hidden from view.
   You can select and hide several columns at once by clicking the first field name and then dragging to the last field name but you will have to select Format → Hide Columns from the menu. You can right-click any of the columns to display the shortcut menu without deselecting the columns.
   When you want to make your hidden columns reappear try this:

3. Select Format → Unhide Columns from the menu.
   The Unhide Dialog box appears, as shown in Figure 3-19. To redisplay a column, simply click the check box next to the field you want to see again.

4. Click the LastName check box and click Close.
   Poof! The LastName field is redisplayed.

Quick Reference

To Hide a Column:
- Right-click the column field name you want to hide and select Hide Columns from the shortcut menu.

To Unhide a Column:
- Select Format → Unhide Columns from the menu.
Lesson 3-11: Changing the Datasheet Font

Being a practical business program, Access displays its tables in a no-nonsense, easy-to-read font. You can change the font used to display table data. You can make the text darker and heavier (bold), slanted (italics), larger, appear in a different typeface or color. Most people are satisfied with the default font used in tables, and if you’re one of them you may want to skip this lesson.

One very important note about changing a table’s font: The font settings you make apply to the entire table, not just a particular cell, column, or row.

Here’s how to change the font used in a table.

1. If it isn’t already open, open the Employees table.
   Once you have the table in Datasheet View you can change its font.

2. Select Format → Font from the menu.
   The Font dialog box makes its entrance, as shown in Figure 3-21. To select a new font simply find and click it from the Font list.

3. Scroll down the Font list until you find Times New Roman. Click the Times New Roman font.
   The table data will now be displayed using the Times New Roman font.

   NOTE: When selecting fonts always try to use a TrueType font. TrueType fonts are the universal font standard used by Windows and they look great when printed. TrueType fonts have a double-T icon next to them.

   Next try changing the font size. Font sizes are measured in points (pt.) which are 1/72 of an inch. The larger the number of points, the larger the font. Here’s how to change font size:
4. **Select 11 from the Size list.**

Notice the Sample area of the Font dialog box displays what your new font setting will look like.

You’ve finished making changes to the font settings so move on to the next step.

5. **Click OK to save your font change settings and close the Font dialog box.**

The Font dialog box closes and Access displays the table with the new font settings.

Don’t like your new font settings? Don’t worry—you can always close a table without saving your layout changes.

6. **Close the Employees Table without saving any of your layout changes.**

There are several other font formatting options available in the Font Dialog box. The purpose of this lesson isn’t to go through all of them, but to explain how to use the Font Dialog box. You can experiment with the different font formatting options to see what they do. Table 3-5: **Font Formatting Options** explains the different options in the Font dialog box.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Font</td>
<td>Displays and allows you to change the font from those installed on your computer.</td>
</tr>
<tr>
<td>Font style</td>
<td>Formats the style of the font: Regular (no emphasis), Italic, Bold, and Bold Italic</td>
</tr>
<tr>
<td>Size</td>
<td>Displays and allows you to increase or decrease the size of the font.</td>
</tr>
<tr>
<td>Color</td>
<td>Displays and allows you to change the font color.</td>
</tr>
<tr>
<td>Underline</td>
<td>Allows you to add underlining to your fonts.</td>
</tr>
<tr>
<td>Script</td>
<td>If supported by the selected font, allows you to display foreign characters used in other languages, such as ñ and à.</td>
</tr>
</tbody>
</table>

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**Quick Reference**

To Open the Font Dialog Box:

- Select **Format → Font** from the menu.
Chapter Three Review

Lesson Summary

Finding and Replacing Information

- **To Find Information:** Click the Find button on the toolbar, or press <Ctrl> + <F>, or select Edit → Find from the menu. Enter the text you want to search for in the Find What box, and then click the Find Next button until you find what you are looking for.

- **To Find and Replace Information:** Select Edit → Replace from the menu, or press <Ctrl> + <H>. Enter the text you want to search for in the Find What box, enter the text you want to replace the word with in the Replace With box. Click the Find Next button to move the first occurrence of the text and click the Replace button to replace the text or click the Find Next button to move the next occurrence of the text. Repeat if there is more than one occurrence that you want to replace or click Replace All to search and replace every occurrence of text in the table.

Sorting Records

- **To Sort Records by One Field:** Click anywhere in the column you want to use to sort the list, and click either the Sort Ascending button or Sort Descending button on the toolbar.

Filtering by Selection

- **To Filter by Selection:** Find the field value on which you want to base the filter, right-click the field value and select Filter by Selection from the shortcut menu, or click the field value then click the Filter by Selection button on the toolbar.

- **To Filter Excluding the Selection:** Right-click the field value you want to exclude and select Filter Excluding Selection from the shortcut menu.

- **To Remove a Filter:** Right-click the filtered table and select Remove Filter/Sort from the shortcut menu, or Click the Remove Filter button on the toolbar.

Filtering by Form

- **To Filter by Form:** Click the Filter by Form button on the toolbar, click the text box for the field you want to filter, click the drop-down arrow and select the value you want to use to filter the records. Repeat this step each additional field you want to use to specify additional filter criteria—if you want to use Or criteria, click the Or tab at the bottom of the screen to specify the additional filter criteria. Click the Apply Filter button on the toolbar.

Creating an Advanced Filter

- **To Create an Advanced Filter:** Select Records → Filter → Advanced Filter/Sort from the menu, double-click each field you want to include from the field list or drag the field from the field list onto the design grid. In the design grid, enter any desired search criteria for the field in the Criteria row. Click the Apply Filter button on the toolbar.
Adjusting Row Height and Column Width

- **To Adjust the Width of a Column:** Drag the column header’s right border to the left or right. You can also right-click the column header(s), select **Column Width** from the shortcut menu and enter the column width or select the column header(s), select **Format → Column Width** from the menu and enter the column width.
- **To Adjust the Height of a Row:** Drag the row header’s bottom border up or down. You can also right-click the row header(s), select **Row Height** from the shortcut menu, and enter the row height or select the row header(s), select **Format → Row Height** from menu and enter the row height.
- **To Automatically Adjust the Width of a Column or Row:** Double-click the right border of the column or bottom border of a row.

Rearranging Columns

- **To Move a Column:** Click the field name of the column you want to move, then drag the selected column to its new location.

Changing Gridline and Cell Effects

- **To Change a Datasheet’s Gridline Effects:** Select **Format → Cells** from the menu, and then select the Cell Effect option you want and click **OK**.

Freezing a Field

- **To Freeze a Column:** Right-click the column field name you want to freeze and select **Freeze Columns** from the shortcut menu.
- **To Unfreeze a Column:** Select **Format → Unfreeze All Columns** from the menu.

Hiding a Column

- **To Hide a Column:** Right-click the column field name you want to hide and select **Hide Columns** from the shortcut menu.
- **To Unhide a Column:** Select **Format → Unhide Columns** from the menu.

Changing the Datasheet Font

- **To Open the Font Dialog Box:** Select **Format → Font** from the menu.

Quiz

1. Which of the following is NOT a command to find specific words or phrases in a database?
   A. Click the Find button on the toolbar
   B. Select Edit → Find from the menu
   C. Click the Find button on the Record Navigation button area
   D. Press <Ctrl> + <F>
2. The only way to find and replace information in Microsoft Access is with an Update Query (True or False?)

3. Which of the following is NOT true? (Select all that apply)
   A. Filter by Selection finds all records that match a selected value
   B. Filter excluding Selection finds all records that do not match a selected value
   C. Filter by Form lets you enter your filter criteria in a blank form and works well so long as you do not need to use multiple AND/OR criteria
   D. An Advanced Filter is similar to creating a simple query

4. The criteria BETWEEN 1/1/99 AND 12/31/99 would:
   A. Display records between the dates 1/2/99 and 1/1/00
   B. Display records whose dates equal 1/1/99 or 12/31/99
   C. Display records between the dates 1/1/99 and 12/31/99
   D. Do nothing – this criteria has not been entered using the proper syntax

5. In an Advanced Filter, which of the following are ways you can add fields to the design grid: (Select all that apply.)
   A. Select the field from the Add Field List on the toolbar
   B. Double-click the field from the Field List
   C. Select Edit → Add Field from the menu, select the field from the list and click OK.
   D. Drag and drop the field from the Field List to the design grid

6. The only way you can rearrange the order of fields in a datasheet is by reordering the fields in table Design View (True or False?)

7. Which of the following statements are not true? (Select all that apply)
   A. Bill Gates has more money than I do
   B. When you freeze a field it stays in the same place while you scroll around the rest of the datasheet
   C. You can temporarily hide a field or column when you want to reduce the amount of information that is displayed on the screen
   D. To hide a field, first select the field, then click the Hide Column button on the toolbar

Homework

1. Start Microsoft Access and open the Homework database.
2. Open the Customers table in Datasheet View.
3. Click anywhere in the LastName field and find any customers with the last name “Eller”.
4. With the cursor still in the LastName field use the Find and Replace command to replace every instance of the first name “John” with the first name “Jack”.
5. Use the Sort command to sort the Customers table by the LastName field, in ascending order.
6. Use the Filter by Selection command to display only records from the state of Texas (TX).
   Hint: Right-click any TX value in the State field and select Filter by Selection from the shortcut menu.
7. Remove the filter.
8. Use the Filter by Form command to display only those records from “TX” or “MN”.
9. Create an Advanced Filter to display records for customers from “TX” or “MN” and who were born before 1/1/1950.

**Hint:** Use the following illustration as an example of how the Advanced Filter should look:

![Advanced Filter Illustration]


**Quiz Answers**

1. C. There are buttons to add and navigate records in the Record Navigation area, however there isn’t a Find button.
2. False. An Update Query can find and replace information in Microsoft Access (more about that later) but so can the Find and Replace command, which you can use by selecting Edit → Replace or pressing <Ctrl> + <H>.
3. C. Filter by Form is great for using multiple AND/OR criteria.
4. C. Display records between the dates 1/1/99 and 12/31/99
5. B and D. Both of these are ways to add fields to the design grid in an Advanced Filter.
6. False. You can rearrange the order of fields in a datasheet by simply selecting them and then dragging and dropping them to the new desired location.
7. D. To hide a field, simply right-click the column and select Hide Columns from the shortcut menu.