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Access 2010

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Joyce Cox and Joan Lambert

Sample Chapters

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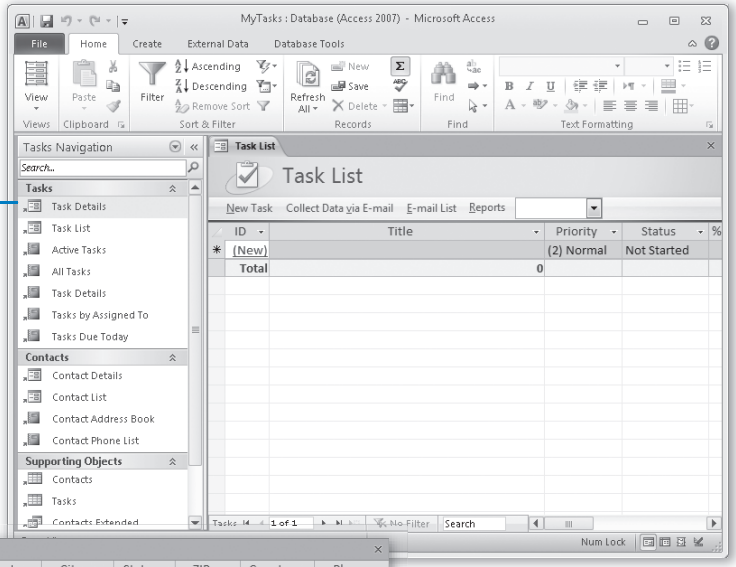
Chapter at a Glance



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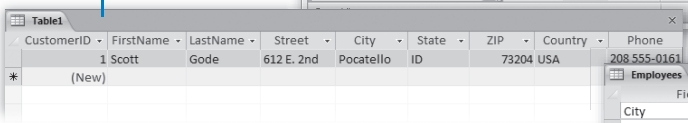

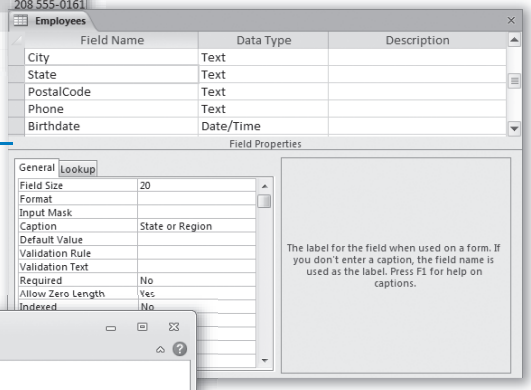

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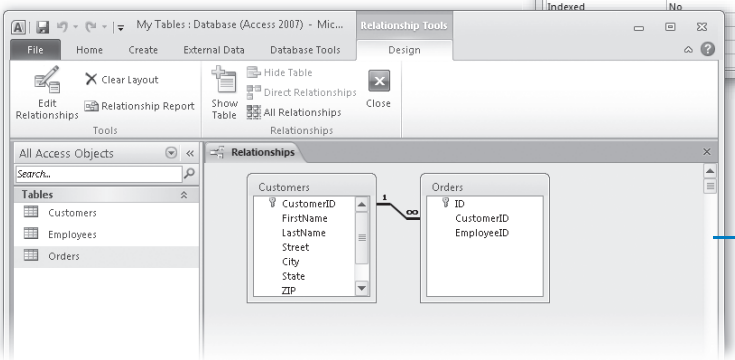

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2 Create Databases and Simple Tables

In this chapter, you will learn how to

- ✔ Create databases from templates.
- ✔ Create databases and tables manually.
- ✔ Manipulate table columns and rows.
- ✔ Refine table structure.
- ✔ Create relationships between tables.

Creating the container for a database is easy. But an empty database is no more useful than an empty document or worksheet. It is only when you fill a database with data in tables (known as populating a database) that it starts to serve a purpose. As you add forms, queries, and reports, it becomes a useful tool. If you customize it by adding a startup page and organizing the various objects into categories and groups, it moves into the realm of being a database application.

Not every database has to be refined to the point that it can be classified as an application. Databases that only you or a few experienced database users will work with can remain fairly simple. But if you expect someone without database knowledge to enter data or generate their own reports, spending a little extra time in the beginning to create a solid foundation will save a lot of work later. Otherwise, you'll find yourself continually repairing damaged files or walking people through seemingly easy tasks.

Microsoft Access 2010 takes a lot of the difficult and mundane work out of creating and customizing a database by providing database applications in the form of templates that you modify and populate with your own information. Access 2010 also provides templates for common elements that you might want to plug into a database. These application parts consist of sets of objects—a table and related forms, queries, or reports—that together provide a complete, functioning part of a database. All you have to do is fill in your data. If none of the templates meet your needs, you can create tables manually.

In this chapter, you'll create a database from a template and create a table manually. Then you'll adjust the display of a data table to fit your needs. By the end of this chapter, you'll have a database containing a few tables and you'll understand a bit about how the tables in the databases you will use for the exercises in the remaining chapters of the book were created.

Practice Files You don't need any practice files to complete the exercises in this chapter. For more information about practice file requirements, see "Using the Practice Files" at the beginning of this book.

Creating Databases from Templates

A few years ago (the distant past, in computer time), creating a database structure involved first analyzing your needs and then laying out the database design on paper. You would decide what information you needed to track and how to store it in the database. Creating the database structure could be a lot of work, and after you created it and entered data, making changes could be difficult. Templates have changed this process, and committing yourself to a particular database structure is no longer the big decision it once was.

A template is a pattern that you use to create a specific type of database. Access 2010 comes with templates for several databases typically used in business and education, and when you are connected to the Internet, many more are available from the Microsoft Office Online Web site at office.microsoft.com. By using pre-packaged templates, you can create a database application in far less time than it used to take to sketch the design on paper, because someone has already done the design work for you.

Using an Access template might not produce exactly the database application you want, but it can quickly create something that you can customize to fit your needs. However, you can customize a database only if you know how to manipulate its basic building blocks: tables, forms, queries, and reports. Due to the complexity of these templates, you probably shouldn't try to modify them until you're comfortable working with database objects in Design view and Layout view. By the time you finish this book, you will know enough to be able to confidently work with the sophisticated pre-packaged application templates that come with Access.

In this exercise, you'll create a database application based on the Tasks template. This template is typical of those provided with Microsoft Access 2010, in that it looks nice and demonstrates a lot of the neat things you can do in a database.

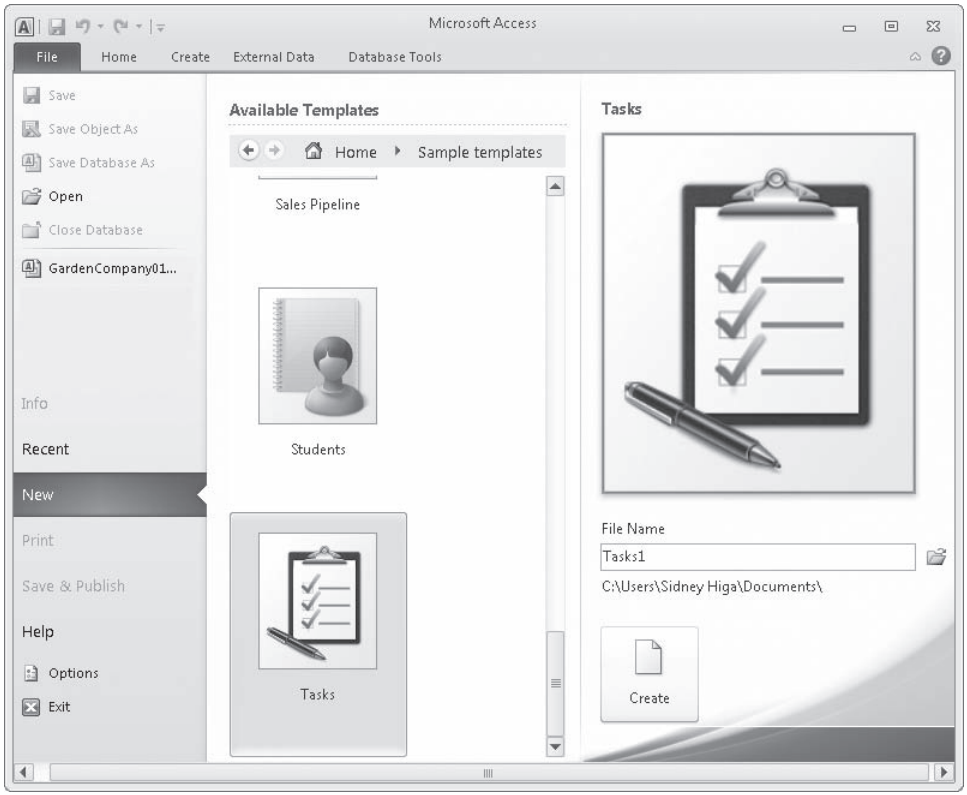
SET UP You don't need any practice files to complete this exercise. Close any open databases, and then with the New page of the Backstage view displayed, follow the steps.

1. In the **Available Templates** area, click **Sample Templates**.

   Access displays a list of the templates that shipped with the program and are installed on your computer.

2. Click the **Tasks** template icon.

   In the right pane, you can assign a name to the database and browse to the location where you want to store the database.



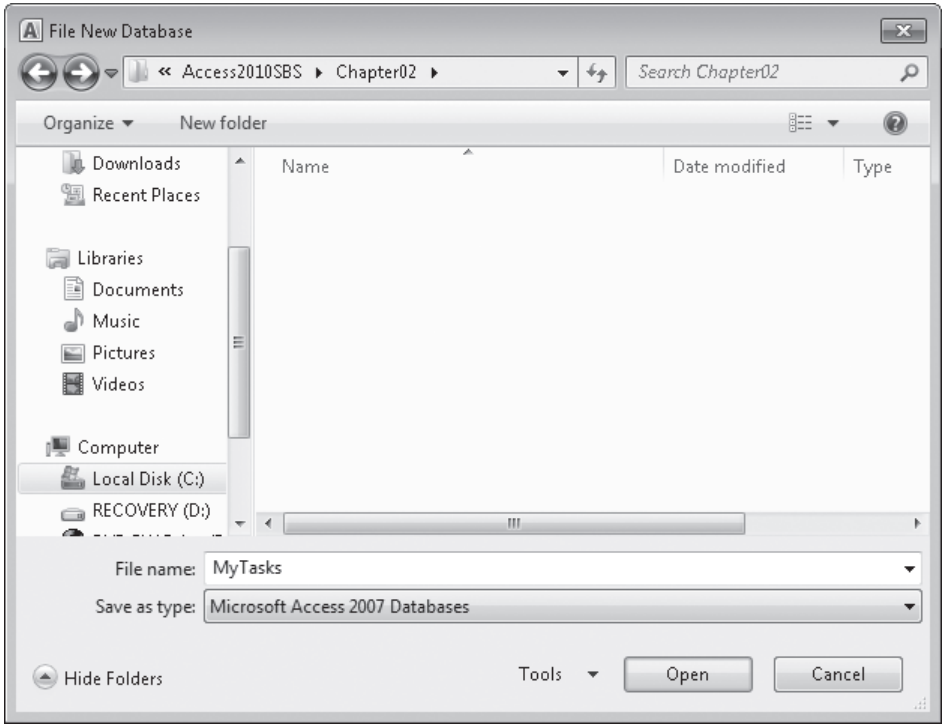
The Tasks template is supplied with Access.

3. In the **File Name** box, type **MyTasks**.

   Tip Naming conventions for Access database files follow those for Windows files. File names cannot contain the following characters: \ / : * ? " < > |. By default, file name extensions are hidden, and you shouldn't type the extension in the File Name box. (The extension for an Access 2010 database file is .accdb. For information about this file format, which was introduced with Access 2007, search for *accdb* in Access Help.)

4. Click the adjacent **Browse** button, and then in the **File New Database** dialog box, navigate to your **Chapter02** practice file folder.

   You use the same navigational techniques in this dialog box that you would use in any Open or Save dialog box.



The File New Database dialog box.

5. With **Microsoft Access 2007 Databases** selected in the **Save as type** box, click **OK**.

   The path to the specified folder is displayed below the File Name box.

   Tip By default, Access creates new databases in your Documents folder. You can change the location when you create each database, as you did here, or you can change the default save folder. To specify a different default folder, click the File tab to display the Backstage view, click Options, and then on the General page of the Access Options dialog box, under Creating Databases, click the Browse button to the right of Default Database Folder. In the Default Database Path dialog box, browse to the folder you want to be the default, and then click OK in each of the open dialog boxes.

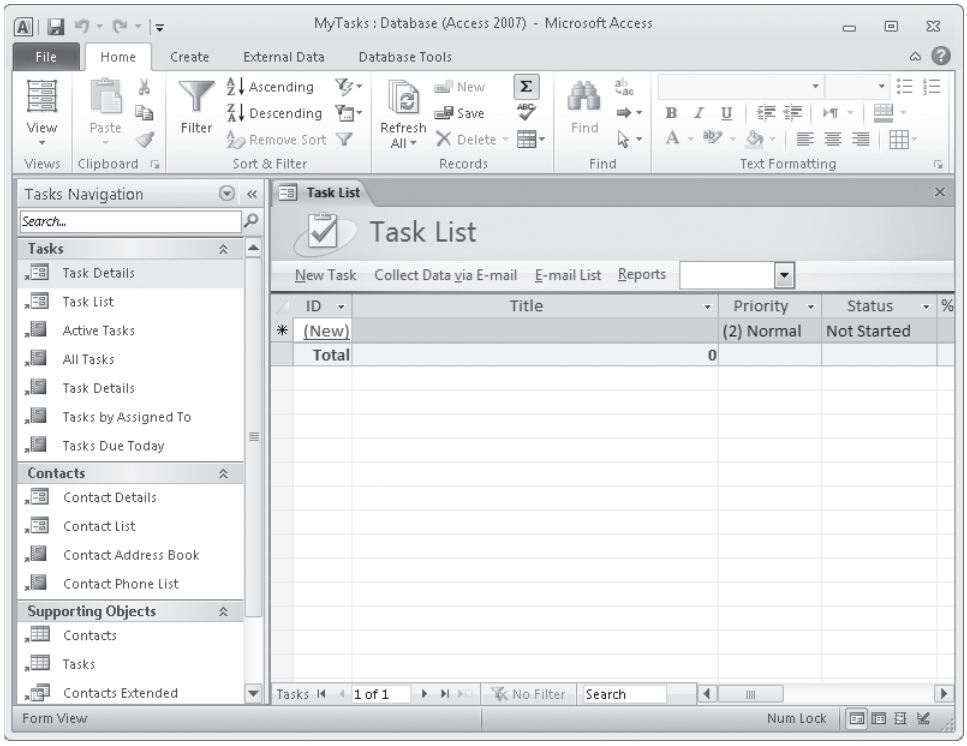
6. Click the **Create** button.

   Access briefly displays a progress bar, and then the new database opens, with the Task List form displayed in Layout view.

   Tip Below the form name is a toolbar with commands created by embedded macros. These commands are an example of what makes this a database application rather than a simple database. The topic of macros is beyond the scope of this book. For information, search for *macros* in Access Help.

7. If the **Navigation** pane is closed, click the **Shutter Bar Open** button at the right end of its title bar to open it. Then if any of the groups are collapsed, click their chevrons to open them.

   The Navigation pane displays a custom Tasks Navigation category.



The custom category has custom Tasks, Contacts, and Supporting Objects groups.

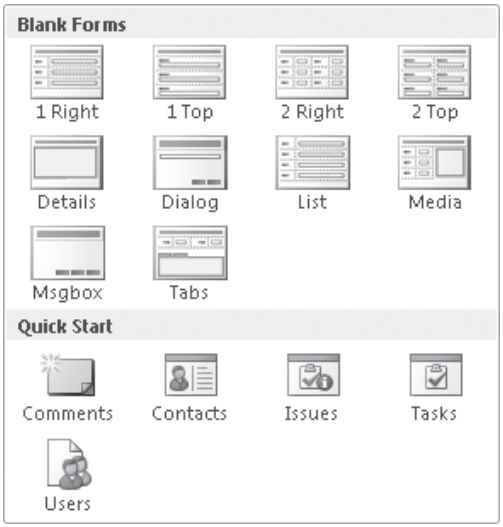
Troubleshooting The appearance of buttons and groups on the ribbon changes depending on the width of the program window. For information about changing the appearance of the ribbon to match our screen images, see "Modifying the Display of the Ribbon" at the beginning of this book.

8. In the **Navigation** pane, click the **Tasks Navigation** title bar, and then in the category and group list, click **Object Type** to list all the objects in this database.
9. In the **Tables** group, double-click **Contacts**.

   The empty Contacts table is displayed. You could now start entering data in this table.
10. Right-click the **Contacts** tab, and click **Close All**.

11. On the **Create** tab of the ribbon, in the **Templates** group, click the **Application Parts** button.

    The Application Parts gallery appears.



The Application Parts gallery.

You can add various types of forms and several sets of related tables and other database objects to this or any other database. These ready-made objects give you a jump start on creating a fully functional database application.

12. Click away from the gallery to close it.
13. Continue exploring the objects that are part of the **MyTasks** database on your own.

CLEAN UP Close the MyTasks database.

Web Databases

Several of the templates in the Sample Templates gallery and many of the templates available from the Microsoft Office Online Web site are designated as Web databases. A Web database is one that is compatible with the new Web publishing capabilities of Access 2010.

If Access Services are installed on your organization's Microsoft SharePoint server, you can now publish a database to Access Services. Publishing converts tables to SharePoint lists stored on the server and makes it possible to work with the database either in Access or in a Web browser.

You can create a Web database based on a Web template or build a new one from scratch by choosing Blank Web Database on the New page of the Backstage view. You can also publish a regular database as a Web database, although the tables in the database must conform to Web database requirements for publication to be successful. Because of these requirements, if you work for an organization where future deployment of Access Services is a possibility, you might want to consider creating a Web database to ensure that your database can be published to Access Services in the future.

In a Web database, you can create two kinds of objects:

- **Web objects** These can be created and viewed in either a Web browser or Access.
- **Non-Web objects** These can be created and viewed only in Access.

When you are working with a Web database from a browser, you are working with the database on the server. When you are working with it from Access, you are working with a local copy of the database that is synchronized with the database on the server. For both types of objects, you can make design changes only in Access and only when connected to the server.

These days, more and more companies have employees and clients in different geographic locations, and more and more people are working away from company offices. Web databases make it possible for people to access company databases from wherever they are and from any computer, whether or not it has Access installed.

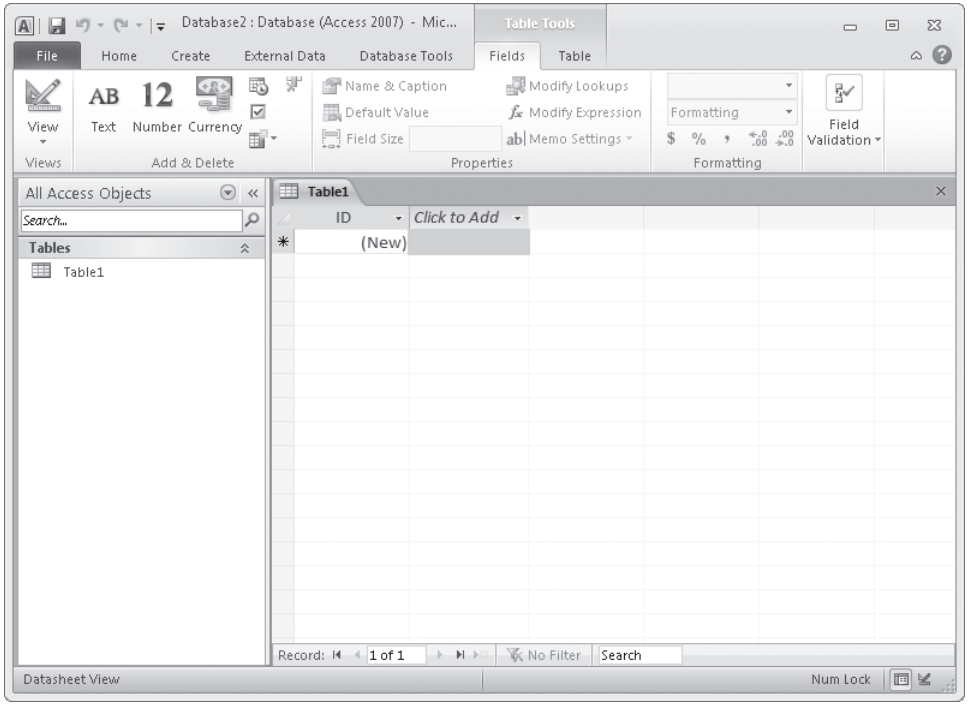
Creating Databases and Tables Manually

Suppose you need to store different types of information for different types of people. For example, you might want to maintain information about employees, customers, and suppliers. In addition to the standard information—such as names, addresses, and phone numbers—you might want to track these other kinds of information:

- Employee identification numbers, hire dates, marital status, deductions, and pay rates
- Customer orders and account status
- Supplier contacts, current order status, and discounts

You could start with a template, add fields for all the different items of information to a single Contacts table, and then fill in only the relevant fields for each type of contact. However, cramming all this information into one table would soon get pretty messy. It's better to create a new database based on the Blank Database template and then manually create separate tables for each type of contact: employee, customer, and supplier.

When you create a new blank database or insert a new table into an existing database, the table is displayed on a tabbed page in Datasheet view with one empty row that is ready to receive data. Because the active object is a table, Access adds the Table Tools contextual tabs to the ribbon so that you can work with the table.

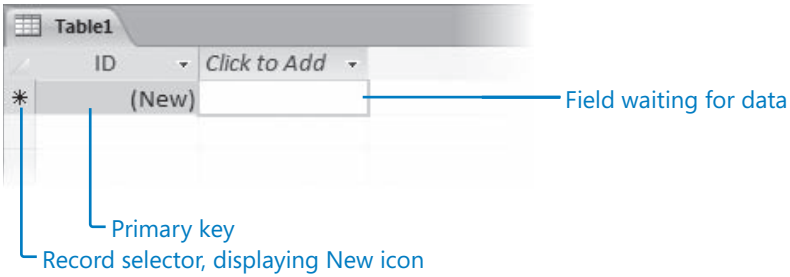


A new table in a new database.

If you close the table at this point, it will disappear, because it contains no data and it has no structure. The simplest way to make the table part of the database is to create at least one record by entering data, which simultaneously defines the table's structure.

Tip **You can also define the structure of the table without entering data. For information about table structure, see "Refining Table Structure" later in this chapter. For information about adding new blank fields to a table, see "Restricting the Type of Data" in Chapter 6, "Maintain Data Integrity."**

Obviously, to create a record, you need to know how to enter information in Datasheet view.



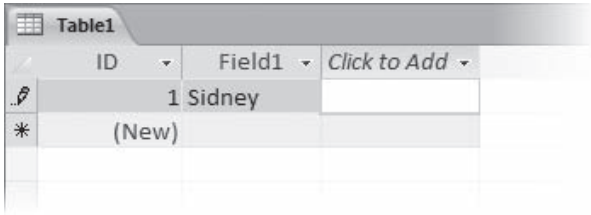
The first record in a new table, before data is entered.

Every table has an empty row that is ready to receive a new record, as indicated by the New icon (the asterisk) in the record selector at the left end of the row. By default, the first field in each new table is an ID field designed to contain an entry that will uniquely identify the record. Also by default, this field is designated as the table's *primary key*. No two records in this table can have the same value in this primary key field. Behind the scenes, the data type of this field is set to AutoNumber, so Access will enter a sequential number in this field for you.

Tip **As you'll see in a later exercise, the primary key field does not have to be the default AutoNumber type. If you need to you create your own primary key field, then anything meaningful and unique will work.**

See Also **For information about data types, see "Refining Table Structure" later in this chapter.**

The first field you need to be concerned about is the active field labeled *Click To Add*. You enter the first item of information for the new record in the first cell in this field, and then press the Tab or Enter key to move to the first cell in the field to the right. Access then assigns the value 1 to the ID field, assigns the name Field1 to the second field, and moves the Click To Add label to the third field. The icon in the record selector at the left end of the record changes to two dots and a pencil to indicate that this record has not yet been saved, and the New icon moves to the record selector of the next row.



The first record in a new table, after data has been entered in the first field.

When creating a new table in Datasheet view, you need to save the first record after entering the first item of data. If you don't, Access increments the ID value for each field you add to that record. For example, if you add seven fields, Access assigns the value 7 to the ID field of the first record. To avoid this problem, you simply click the icon in the record selector after you enter your first value in the first record. This saves the record with the value 1 assigned to the ID field, and subsequent records will be numbered sequentially.

Having entered the first item of data and saved the record, you continue entering items of information in consecutive cells and pressing Tab or Enter. When you finish entering the last item for the first record, you click anywhere in the row below to tell Access that the record is complete.

After you complete the first record of a new table, you will probably want to change the default field names to something more meaningful. To rename a field, you simply double-click its field name and then type the name you want.

At any time while you are entering data in a new table, you can save the table by clicking the Save button on the Quick Access Toolbar and naming the table. If you try to close the table without explicitly saving it, Access prompts you to save the table. If you click No, Access discards the table and any data you have entered.

After you have saved the table for the first time, Access automatically saves each record when you move away from it. You don't have to worry about losing your changes, but you do have to remember that most data entries can be undone only by editing the record.

Databases almost always contain more than one table. You can create additional empty tables by clicking the Table button in the Tables group on the Create tab of the ribbon. If you need to create a table that is similar in structure to an existing one, you can copy and paste the existing table to create a new one. When you paste the table, Access gives you the option of naming the table and of specifying whether you want the new table to have the existing table's structure or both its structure and its data.

For some kinds of tables, Access provides Quick Start fields that you can use to add common sets of fields or kinds of fields to a table. The Quick Start options take the work out of defining these fields and can be very useful when you know exactly what type of field you need.

In this exercise, you'll create a blank database, enter information into the first record of its default table, assign field names, add another record, and save and close the table. Then you'll copy that table to create a second one. Finally, you'll create a new table and experiment with Quick Start fields.

SET UP You don't need any practice files to complete this exercise. Close any open databases, and then with the New page of the Backstage view displayed, follow the steps.

1. In the center pane of the **New** page, in the **Available Templates** area, click **Blank Database**.
2. In the right pane, click the **File Name** box, and type **MyTables**. Then click the **Browse** button, navigate to your **Chapter02** practice file folder, and click **OK**.

   Tip You can't create a blank database without saving it. If you don't provide a file name and location, Access saves the file with the name *Database* followed by a sequential number in the default location (your Documents folder, unless you have changed it).
3. In the right pane, click the **Create** button.

   Access creates the blank database in the specified location, opens the database, and displays a new blank table named *Table1*.
4. With the empty field below **Click to Add** selected, type **Scott**, and then press Tab to move to the next field.

   The icon in the record selector changes to indicate that this record has not yet been saved. The value 1 appears in the ID field, the name of the second column changes to Field1, and the Click To Add label moves to the third column.
5. Click the icon in the record selector to save the record before you move on.

   Tip Clicking the record selector is necessary only after you enter the first value in a new table. This action sets the ID field value to 1.

6. Click the cell under **Click to Add**, and type the following information into the next seven cells, pressing Tab after each entry:

   Gode

   612 E. 2nd

   Pocatello

   ID

   73204

   USA

   208 555-0161

   As the cursor moves to the next cell, the name of the field in which you just entered data changes to *Field* followed by a sequential number.

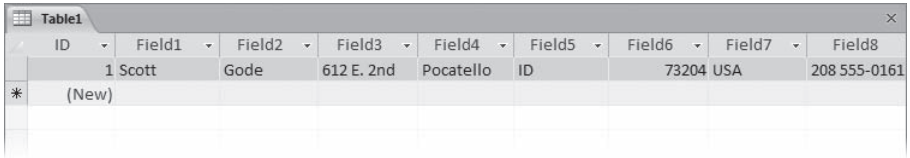


Table1

ID	Field1	Field2	Field3	Field4	Field5	Field6	Field7	Field8
1	Scott	Gode	612 E. 2nd	Pocatello	ID	73204	USA	208 555-0161
(New)								

The first complete record.

Tip Don't be concerned if your screen does not look exactly like ours. In this graphic, we've scrolled the page and adjusted the widths of the columns so that you can see all the fields. For information about adjusting columns, see "Manipulating Table Columns and Rows" later in this chapter.

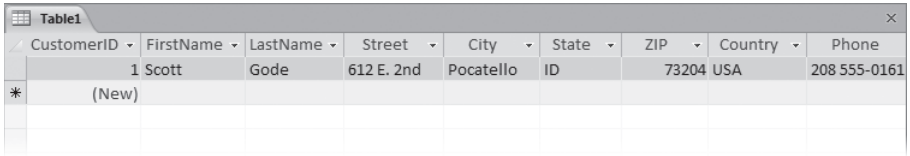
7. Double-click the **ID** field name (not the ID value in Field5), and then type **CustomerID** to rename it.

   Tip Field names can include spaces, but the spaces can affect how queries have to be constructed, so it is best not to include them. For readability, capitalize each word and then remove the spaces, or use underscores instead of spaces.

8. Repeat step 7 for the other fields, changing the field names to the following:

Field1	**FirstName**	**Field4**	**City**	**Field7**	**Country**
Field2	**LastName**	**Field5**	**State**	**Field8**	**Phone**
Field3	**Street**	**Field6**	**ZIP**		

   The table now has intuitive field names.



CustomerID	FirstName	LastName	Street	City	State	ZIP	Country	Phone
1	Scott	Gode	612 E. 2nd	Pocatello	ID	73204	USA	208 555-0161
(New)								

The renamed fields.

Tip Again, don't worry if your screen doesn't look exactly like this graphic, because we've made adjustments so that you can see all the fields.

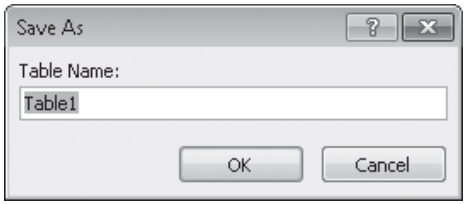
9. Add another record containing the following field values to the table, pressing Tab to move from field to field:

FirstName	**John**	**City**	**Montreal**	**Country**	**Canada**
LastName	**Frederickson**	**State**	**Quebec**	**Phone**	**514 555-0167**
Street	**43 rue St. Laurent**	**ZIP**	(press Tab to skip this field)		

10. At the right end of the tab bar, click the **Close** button.
11. When Access asks whether you want to save the design of the table, click **Yes**.

Important Clicking No will delete the new table and its data from the database.

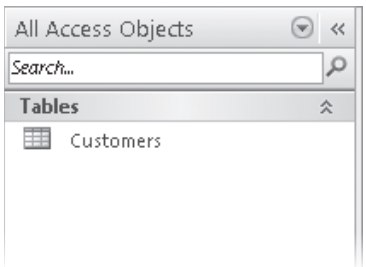
Access displays the Save As dialog box.



You must save the table before closing it.

12. In the **Table Name** box, type **Customers**, and then click **OK**.

Access closes the table, which is now listed in the Tables group on the Navigation bar.



The database now contains one table.

Tip You can rename a table by right-clicking it in the Navigation pane and then clicking Rename. You can delete a table by right-clicking it, clicking Delete, and then confirming the deletion in the message box that appears. (You can also delete a table by selecting it in the Navigation bar and then clicking the Delete button in the Records group on the Home tab or pressing the Delete key.)

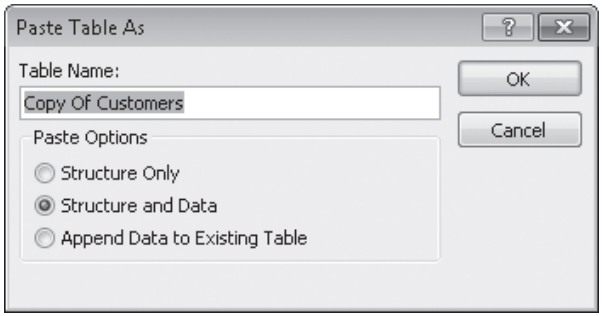
13. In the **Navigation** pane, click the **Customers** table to select it.

14. On the **Home** tab, in the **Clipboard** group, click the **Copy** button. Then click the **Paste** button.

Keyboard Shortcut Press Ctrl+C to copy data. Press Ctrl+V to paste data.

See Also For more information about keyboard shortcuts, see "Keyboard Shortcuts" at the end of this book.

The Paste Table As dialog box opens.



If you need to create a table that is similar to an existing table, it is sometimes easier to customize a copy than to create it from scratch.

15. In the **Table Name** box, type **Employees**. In the **Paste Options** area, click **Structure Only** to capture the fields from the **Customers** table but none of the customer information. Then click **OK**.

The new Employees table appears in the Navigation pane.

Tip You can also use the Copy and Paste commands to append the information in the selected table to another existing table. In that case, in the Paste Table As dialog box, type the name of the destination table in the Table Name box, click Append Data To Existing Table, and then click OK.

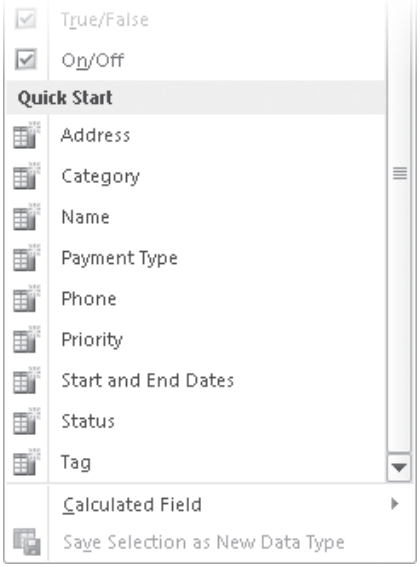
16. Double-click **Employees** to open it in Datasheet view so that you can view its fields. Then close the table again.

17. On the **Create** tab, in the **Tables** group, click the **Table** button.

    Access creates a new table containing an ID field and a Click To Add field placeholder.

18. With the **Click to Add** field active, on the **Fields** contextual tab, in the **Add & Delete** group, click the **More Fields** button.

    The More Fields gallery appears.



The Quick Start fields are at the bottom of the More Fields gallery.

19. If necessary scroll to the bottom of the gallery, and then under **Quick Start**, click **Name**.

    Access inserts ready-made LastName and FirstName fields.

20. Repeat steps 18 and 19 to add the **Address** fields from the **Quick Start** list.

    Access inserts ready-made Address, City, State Province, ZIP Postal, and Country Region fields.

21. Close the table, saving it with the name **Shippers** when prompted.

CLEAN UP Retain the MyTables database for use in later exercises.

Database Design

In a well-designed database, each item of data is stored only once. If you're capturing the same information in multiple places, that is a sure sign that you need to analyze the data and figure out a way to put the duplicated information in a separate table.

For example, an Orders table should not include information about the customer placing each order, for two significant reasons. First, if the same customer orders more than once, all his or her information has to be repeated for each order, which inflates the size of the table and the database. Second, if the customer moves, his or her address will need to be updated in the record for every order placed.

The way to avoid this type of problem is to put customer information in a Customers table and assign each customer a unique identifier, such as a sequential number or unique string of letters, in the primary key field. Then in the Orders table, you can identify the customer by the unique ID. If you need to know the name and address of the customer who placed a particular order, you can have Access use the unique ID to look up that information in the Customers table.

The process of ensuring that a set of information is stored in only one place is called *normalization*. This process tests a database for compliance with a set of normalization rules that ask questions such as "If I know the information in the primary key field of a record, can I retrieve information from one and only one record?" For example, knowing that a customer's ID is 1002 means you can pull the customer's name and address from the Customers table, whereas knowing that a customer's last name is Jones does not mean that you can pull the customer's name and address from the table, because more than one customer might have the last name Jones.

The topic of normalization is beyond the scope of this book. If you need to design a database that will contain several tables, you should search for *Database design basics* in Access Help to learn more about the normalization process.

Manipulating Table Columns and Rows

In Chapter 1, "Explore an Access 2010 Database," we showed you how to quickly adjust the width of table columns to efficiently display their data. In addition to adjusting column width, sometimes you might want to rearrange a table's fields to get a better view of the data. For example, if you want to look up a phone number but the names and phone numbers are several fields apart, you will have to scroll the page to get the information you need. You might want to rearrange or hide a few fields to be able to simultaneously see the ones you are interested in.

You can manipulate the columns and rows of an Access table without affecting the underlying data in any way. You can size rows and size, hide, move, and freeze columns. You can save your table formatting so that the table will look the same the next time you open it, or you can discard your changes without saving them.

In this exercise, you'll open a table and manipulate its columns and rows.

SET UP **You need the MyTables database you worked with in the preceding exercise to complete this exercise. Open the MyTables database, and then follow the steps.**

1. In the **Navigation** pane, double-click the **Customers** table to open it in Datasheet view.
2. In the field name row, point to the right border of the **Street** field name, and when the pointer changes to a double-headed arrow, drag to the right until you can see all of the street addresses.
3. Double-click the right border of any column that seems too wide or too narrow to adjust the column to fit its contents.

   This technique is particularly useful in a large table where you can't easily determine the length of a field's longest entry.
4. Point to the border between any two record selectors, and drag downward.

   When you release the mouse button, Access increases the height of all rows in the table.

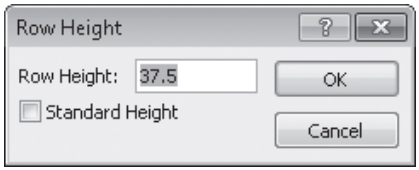
Customers

CustomerID	FirstName	LastName	Street	City	State	ZIP	Country	Phone
1	Scott	Gode	612 E. 2nd	Pocatello	ID	73204	USA	208 555-0161
2	John	Frederickson	43 rue St. Laurent	Montreal	Quebec		Canada	514 555-0167
(New)								

You cannot adjust the height of a single row.

5. On the **Home** tab, in the **Records** group, click the **More** button, and then click **Row Height**.

   The Row Height dialog box opens.



You can set the rows to the precise height you want.

6. In the **Row Height** dialog box, select the **Standard Height** check box, and then click **OK**.

   Access resets the height of the rows to the default setting.

7. Click anywhere in the **FirstName** field. Then in the **Records** group, click the **More** button, and click **Hide Fields**.

   The FirstName field disappears, and the fields to its right shift to the left.

   Tip If you select several fields before clicking Hide Fields, they all disappear. You can select adjacent fields by clicking the field name of the first one, holding down the Shift key, and then clicking the field name of the last one. The two fields and any fields in between are selected.

8. To restore the hidden field, in the **Records** group, click the **More** button, and then click **Unhide Fields**.

The Unhide Columns dialog box opens.

You can select and clear check boxes to control which fields are visible.

Tip If you want to hide several columns that are not adjacent, you can display the Unhide Columns dialog box and clear their checkboxes.

9. In the **Unhide Columns** dialog box, select the **FirstName** check box, and then click **Close**.

   Access redisplays the FirstName field.

10. If you can see all of the fields in the table, for the purposes of this exercise, adjust the size of the program window until some of the fields are no longer visible.

11. Point to the **CustomerID** field name, hold down the mouse button, and drag through the **FirstName** and **LastName** field names. With the three columns selected, click the **More** button in the **Records** group, and then click **Freeze Fields**.

12. Scroll the page to the right until the **Phone** field is adjacent to the **LastName** field.

    The first three columns remain in view as you scroll.

13. In the **Records** group, click **More,** and then click **Unfreeze All Fields** to restore the fields to their normal condition.

    Tip The commands to hide, unhide, freeze, and unfreeze columns are also available from the shortcut menu that appears when you right-click a field name.

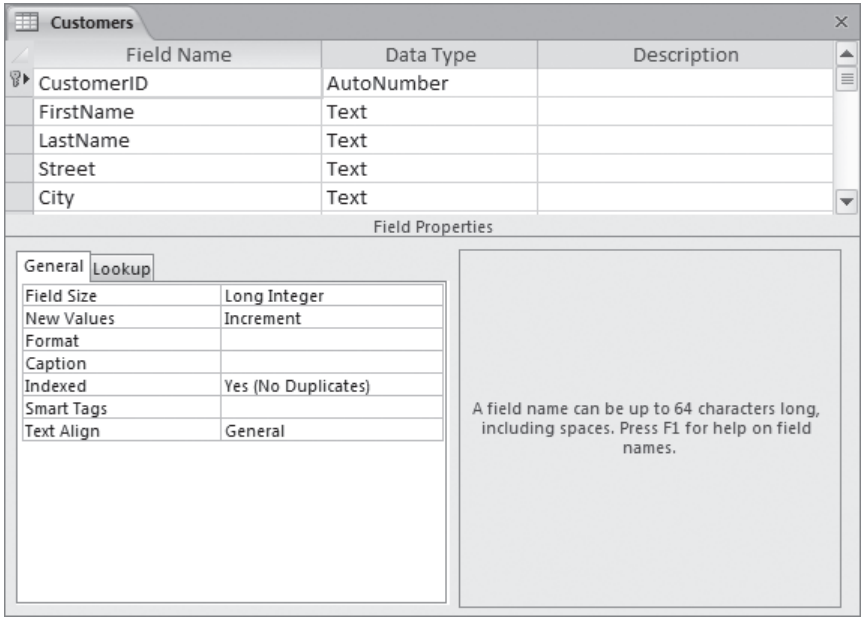
14. Click the **Phone** field name to select that field. Then drag the field to the left, releasing the mouse button when the thick black line appears to the right of the **LastName** field.
15. Close the **Customers** table, clicking **Yes** to save the changes you have made to the column widths and order. If you see a warning that this action will clear the Clipboard, click **Yes**.

CLEAN UP Retain the MyTables database for use in later exercises.

Refining Table Structure

Although you can create the structure of a database in Datasheet view, some structural refinements can be carried out only in Design view. When you are familiar with tables, you might even want to create your tables from scratch in Design view, where you have more control over the fields. You can open a new table in Design view by clicking the Table Design button in the Tables group on the Create tab.

When you open an existing table in Design view, the tabbed page shows the underlying structure of the table.



The table design page.

This page has two parts. The top part consists of the following:

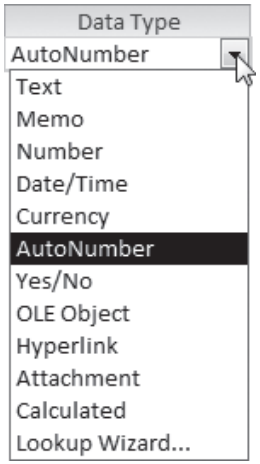
- **Selector** You can click the shaded box at the left end of a row to select the entire field. You can then insert a row above the selected one, delete the row (thereby deleting the field), or drag the row up or down to reposition its field in the table.

  The selector also identifies the primary key field of the table by displaying the Primary Key icon (a key with a right-pointing arrow).

  Tip If you don't want a table to have a primary key (for example, if none of the fields will contain a unique value for every record), select the field designated as the primary key, and on the Design contextual tab, in the Tools group, click the Primary Key button to toggle it off. If you want to designate a different field as the primary key, select the new field, and click the Primary Key button to toggle it on. (You don't have to remove the primary key from the current field first; it will happen automatically.)

- **Field Name column** This column contains the names you specified when you created the table. You can edit the names by using regular text-editing techniques. You can add a new field by typing its name in the first empty cell in this column.

- **Data Type column** This column specifies the type of data that the field can contain. By default, the ID field in a new table is assigned the AutoNumber data type, and all other fields are assigned the Text data type. With the exception of fields with the OLE Object and Attachment data types, you can change the type of any field by clicking its Data Type entry, clicking the arrow that appears, and clicking a new data type in the list.



The list of data types.

See also For more information about data types, see "Restricting the Type of Data" in Chapter 6, "Maintain Data Integrity."

- **Description column** This column contains an optional description of the field.

The Field Properties area at the bottom of the design page displays the properties of the field selected in the top part. Different properties are associated with different data types. They can determine such things as the number of characters allowed in a field, the value inserted if the user doesn't type an entry, and whether an entry is required. Properties can also assess whether an entry is valid and can force the user to select from a list of values rather than typing them (with the risk of errors).

All fields, no matter what their data type, can be assigned a Caption property that will appear in the place of the field name in tables or in other database objects. For example, you might want to use captions to display the names of fields with spaces, such as First Name for the FirstName field.

See Also For information about using properties to control the accuracy of data entry, see Chapter 6, "Maintain Data Integrity." For a comprehensive list of data types and properties, search on *data types* in Access Help.

In this exercise, you'll open a table in Design view, add and delete fields, change a data type, set field sizes, and add a caption.

SET UP You need the MyTables database you worked with in the preceding exercise to complete this exercise. Open the MyTables database, and then follow the steps.

1. In the **Navigation** pane, right-click the **Employees** table, and then click **Design View**.

   Access opens the table with its structure displayed. Because you created this table by copying the Customers table, you need to make some structural changes.

2. With **CustomerID** highlighted in the **Field Name** column, type **EmployeeID**, and then press the Tab key twice.
3. In the **Description** column, type **Unique identifying number**.
4. Click the **Country** field's selector, and then on the **Design** contextual tab, in the **Tools** group, click the **Delete Rows** button.

5. In the empty row below the **Phone** field, click the **Field Name** cell, and type **Birthdate**. Then click the **Data Type** cell.

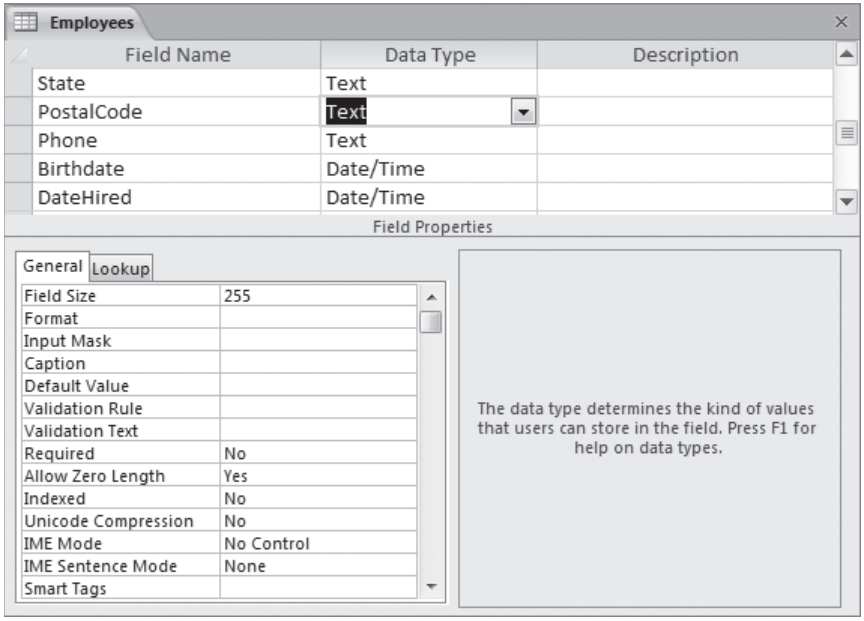
   Access assigns the default Text data type to the new field.

6. Click the arrow at the right end of the **Data Type** cell, and in the list, click **Date/Time**.
7. Repeat steps 5 and 6 to add another **Date/Time** field named **DateHired**.

8. Select the **ZIP** field name, change it to **PostalCode**, and then change its data type to **Text**.

   Tip If you use only five-digit ZIP codes, the Number data type is fine. But setting it to Text allows you to enter ZIP+4 codes or the letter-number postal codes used in Canada and other countries.

   The properties in the Field Properties area at the bottom of the design page change to those that are appropriate for this type of field.



The properties for the Text data type.

9. In the box to the right of **Field Size**, double-click **255**, and type **10**.

   You are specifying that this field can contain no more than 10 characters.

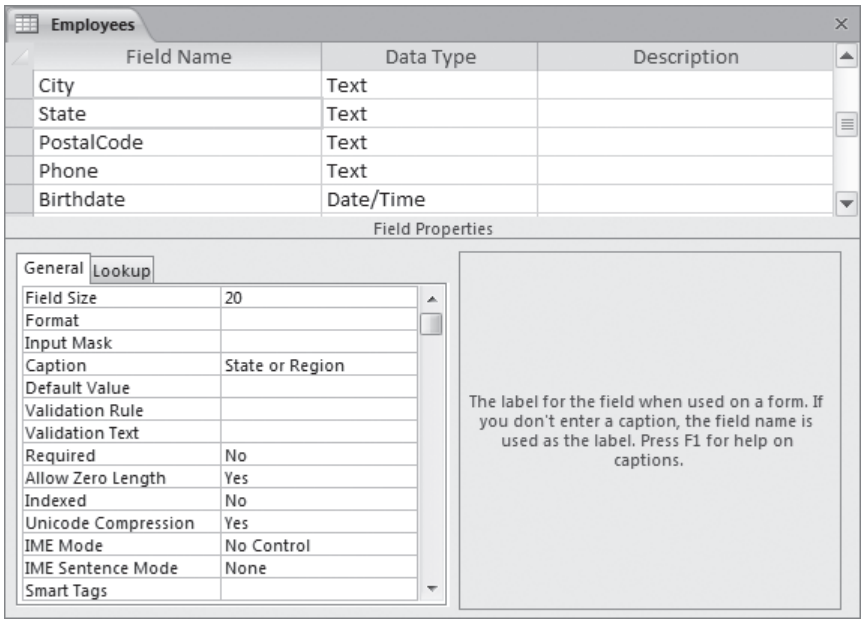
10. Change the **Field Size** property of the following fields as shown:

FirstName	**50**	**City**	**50**	**Phone**	**30**
LastName	**50**	**State**	**20**		

   Tip Sometimes changing the field properties of a table that already contains data can produce unanticipated results. If you make a change to a field property that might cause data to be lost (for example, if you make the Field Size property smaller than one of the field's existing values), Access warns you of this problem when you attempt to save the table. For more information, see Chapter 6, "Maintain Data Integrity."

11. Click the **State** field. Then in the **Field Properties** area, click the **Caption** box, and type **State or Region**.

    The Field Name remains State, but in Datasheet view, the column heading will be *State or Region*.



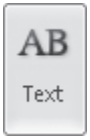
You have changed the Field Size and Caption properties of the State field.

12. On the **Design** tab, in the **Views** group, click the **View** button to switch to Datasheet view.

    Access tells you that you must save the table before leaving Design view.

13. In the message box, click **Yes** to save the table.

    Access saves the table and displays it in Datasheet view.



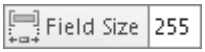
14. With the table displayed in Datasheet view, click the **LastName** field name. Then on the **Fields** contextual tab, in the **Add & Delete** group, click the **Text** button.

    A new field called *Field1* that has the Text data type is inserted to the right of the LastName field.

    Tip You can also create a new field with a specific data type by clicking the Click To Add label to the right of the last field in the field name row. Then in the list that appears, you can click the data type you want.

15. With **Field1** selected, type **Title**, and press Enter.

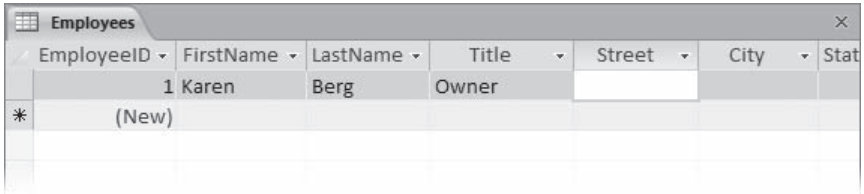
16. Click the **Title** field name. Then in the **Properties** group, in the **Field Size** box, click **255** to select it, type **50**, and press Enter.



17. Type the following information in the first record:

FirstName	**Karen**
LastName	**Berg**
Title	**Owner**

The Employees table is now ready for you to start entering data.



The first record of the Employees table.

CLEAN UP Close the Employees table. Retain the MyTables database for use in the last exercise.

Creating Relationships Between Tables

In Access, a relationship is an association between common fields in two tables. You can use this association to link the primary key field in one table to a field that contains the same information in another table. The field in the other table is called the *foreign key*. For example, if customer accounts are assigned to specific sales employees, you can establish a relationship by linking the primary key EmployeeID field in the Employees table with the foreign key EmployeeID field in the Customers table. Each customer account is assigned to only one employee, but each employee can manage many customer accounts, so this type of relationship—the most common—is known as a *one-to-many relationship*.

Similarly, if every order is associated with a customer, you can establish a relationship by linking the primary key CustomerID field in the Customers table and foreign key CustomerID field in the Orders table. Each order is placed by only one customer, but each customer can place many orders. So again, this is a one-to-many relationship.

Less common relationships include:

- **One-to-one** In this type of relationship, each record in one table can have one and only one related record in the other table. This type of relationship isn't commonly used because it is easier to put all the fields in one table. However, you might use two related tables instead of one to break up a table with many fields, or to track information that applies to only some of the records in the first table.
- **Many-to-many** This type of relationship is really two one-to-many relationships tied together through a third table. You might see this relationship in a database that contains Products, Orders, and Order Details tables. The Products table has one record for each product, and each product has a unique ProductID. The Orders table has one record for each order placed, and each record in it has a unique OrderID. However, the Orders table doesn't specify which products were included in each order; that information is in the Order Details table—the table in the middle that ties the other two tables together. Products and Orders each have a one-to-many relationship with Order Details. Products and Orders therefore have a many-to-many relationship with each other. In plain language, this means that every product can appear in many orders, and every order can include many products.

The most common way of creating a relationship between two tables is to add the tables to the Relationships page displayed when you click the Relationships button in the Relationships group on the Database Tools tab. You then drag a field in one table to the common field in the other table and complete the relationship definition in the Edit Relationships dialog box. In this dialog box, you are given the opportunity to impose a restriction called *referential integrity* on the data, which means that an entry will not be allowed in one table unless it already exists in the other table.

After you have created a relationship, you can delete it by deleting the line connecting the tables on the Relationships page. You can clear all the boxes from the page by clicking the Clear Layout button in the Tools group on the Relationship Tools Design contextual tab.

Tip The coverage of relationships in this topic is deliberately simple. However, relationships are what make relational databases tick, and Access provides a number of fairly complex mechanisms to ensure the integrity of the data on either end of the relationship. Some of these mechanisms are covered in Chapter 6, "Maintain Data Integrity." For a good overview, search for *Guide to table relationships* in Access Help.

In this exercise, you'll create relationships between one table and two other tables. Then you'll test the referential integrity of one of the relationships.

SET UP You need the MyTables database you worked with in the preceding exercise to complete this exercise. Open the MyTables database, and then follow the steps.

1. On the **Create** tab, in the **Tables** group, click the **Table** button to create a new table.

   Before we add fields to this table, let's save it.

2. On the Quick Access Toolbar, click the **Save** button, name the table **Orders**, and click **OK**.

3. To the right of **Click to Add**, click the arrow, and in the data type list, click **Number**. Repeat this step to create a second field with the **Number** data type.

4. Double-click **Field1**, and type **CustomerID**. Then double-click **Field2**, and type **EmployeeID**.

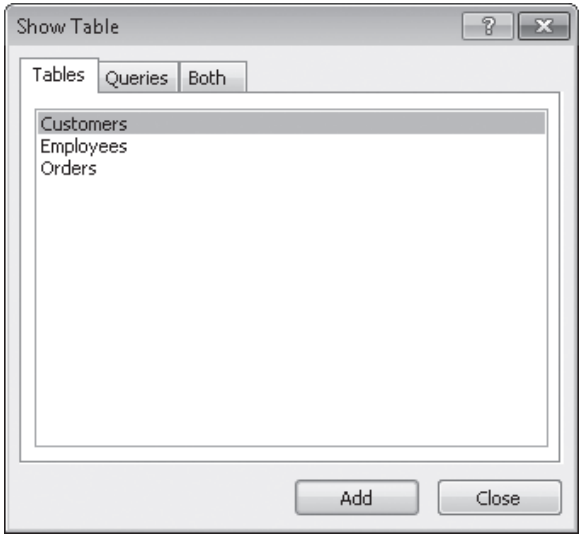
   Each order in the Orders table will be placed by one customer and will be handled by one employee. Let's create relationships between the Orders table and the Customers and Employees tables so that we don't create records for orders from customers who don't exist or that seem to have been handled by employees who don't exist.

5. Close the **Orders** table.

   Tip You cannot create a relationship for an open table.

6. On the **Database Tools** tab, in the **Relationships** group, click the **Relationships** button.

   The Show Table dialog box opens so that you can indicate the tables for which you want to create a relationship.

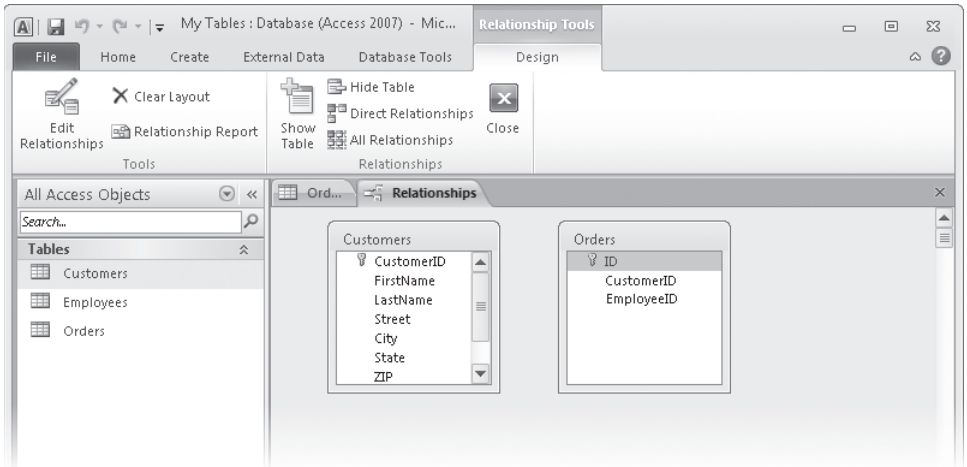


The Tables page of the Show Table dialog box.

Troubleshooting **If the dialog box doesn't open automatically, click the Show Table button in the Relationships group on the Design contextual tab.**

7. With **Customers** selected on the **Tables** page, click **Add**. Then double-click **Orders**, and click **Close**.

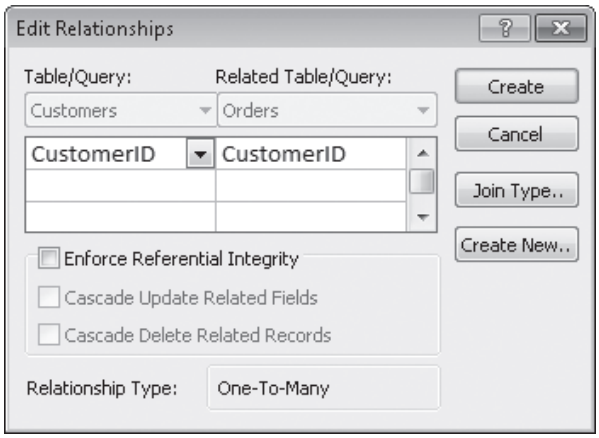
   Access displays the Relationships page and adds a Relationship Tools contextual tab to the ribbon.



The two boxes list all the fields in their respective tables.

8. In the **Customers** field list, click **CustomerID**, and drag it down and over **CustomerID** in the **Orders** field list, releasing the mouse button when two little boxes, one containing a plus sign, appear below the pointer.

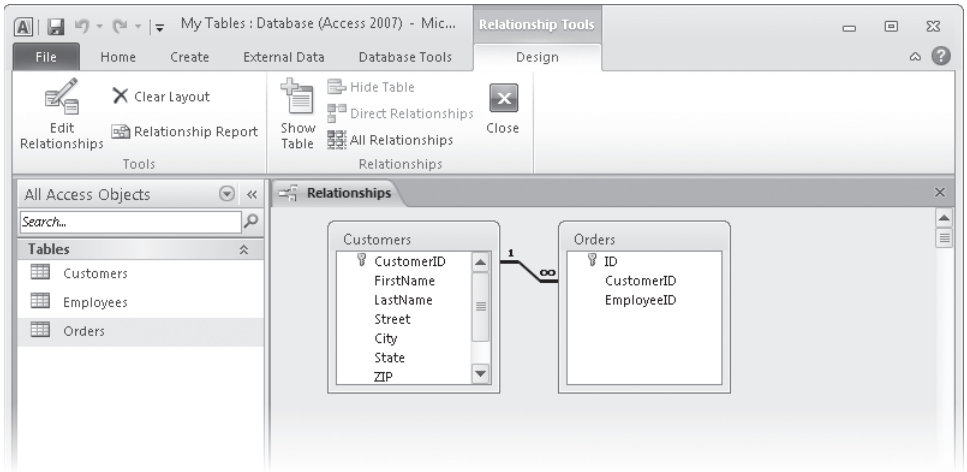
   The Edit Relationships dialog box opens.



At the bottom of the dialog box, Access indicates that this will be a one-to-many relationship.

9. Select the **Enforce Referential Integrity** check box, and then click **Create**.

   Access creates the link between the primary key in the Customers table and the foreign key in the Orders table, and a line now connects the two field lists on the Relationships page.



The symbols at each end of the line indicate that each Customer ID value appears only once in the Customers table but can appear many times in the Orders table.

10. On the **Design** contextual tab, in the **Relationships** group, click the **Show Table** button. Then in the **Show Table** dialog box, double-click the **Employees** table, and click **Close**.

    Access adds a box listing all the fields in the Employees table to the Relationships page.

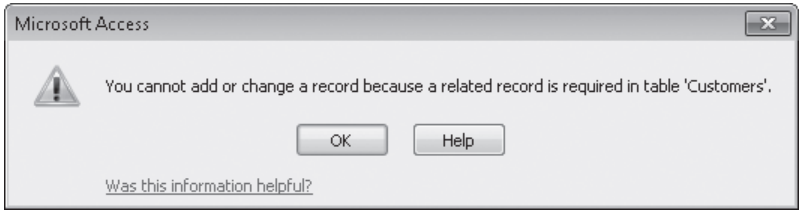
11. On the page, drag the title bars of the three field lists to arrange them so that they are side by side and equidistant.

12. In the **Employees** field list, click the **EmployeeID** field, and drag it down and over the **EmployeeID** field in the **Orders** field list. Then in the **Edit Relationships** dialog box, select the **Enforce Referential Integrity** check box, and click **Create**.

13. After Access draws the relationship line between the primary key and the foreign key, close the Relationships page, clicking **Yes** to save its layout.

14. Open the **Orders** table. Then in the **CustomerID** field of the first record, type **11**, and click below the record to complete it.

    Access displays a message box telling you that you cannot add the new record to the table.



The value in the CustomerID field in the Orders table must match a value in the primary key CustomerID field in the Customer table.

15. Click **OK**. Then change the value to **1**, and click below the record to complete it.

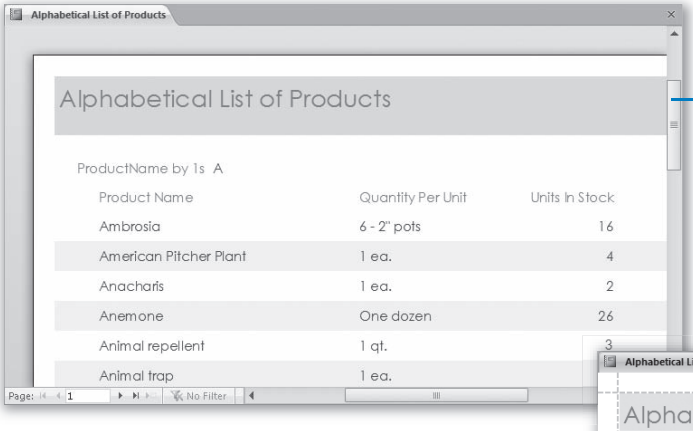
    This time, Access accepts the value because there is a record with the value 1 in the primary key CustomerID field of the Customers table.

CLEAN UP Close the Orders table, and then close the My Tables database.

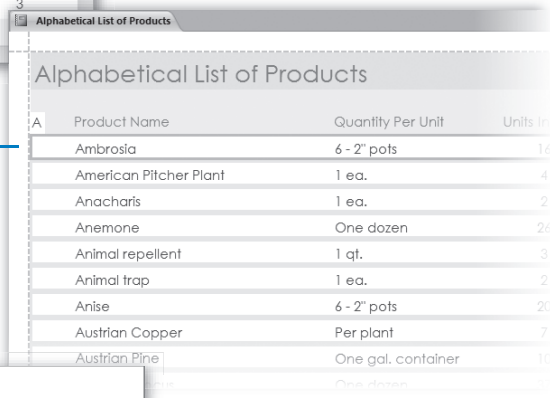
Key Points

- Access 2010 includes templates to help you create databases and application parts to help you add related tables and other database objects.
- Rather than storing all information in one table, you can create different tables for each type of information, such as customers, orders, and suppliers.
- You can create a simple table structure by entering data and naming fields in Datasheet view. You can also set the data type and certain properties.
- You can manipulate or hide columns and rows without affecting the data.
- In Design view, you can modify any table, whether you created it manually or as part of a template.
- Data types and properties determine what data can be entered in a field, and how the data will look on the screen. Caution: changing some properties might affect the data.
- You can create a relationship between the primary key field of one table and the foreign key field of another so that you can combine information from both tables.

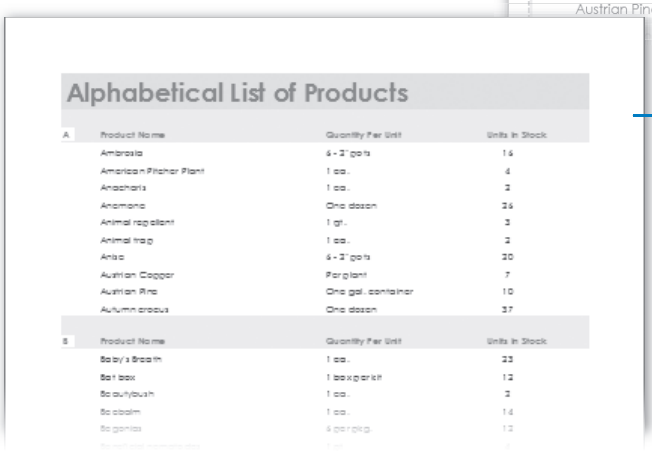
Chapter at a Glance



Create reports by using a wizard, **page 122**



Modify report design, **page 129**



Preview and print reports, **page 136**

5 Create Simple Reports

In this chapter, you will learn how to

- ✔ Create reports by using a wizard.
- ✔ Modify report design.
- ✔ Preview and print reports.

Like forms, reports give people easy access to the information stored in a database. However, there are several differences between forms and reports, including the following:

- Forms are used to enter, view, and edit information. Reports are used only to view information.
- Forms are usually displayed on-screen. Reports can be previewed on the screen, but they are usually printed.
- Forms generally provide a detailed look at records and are usually for the people who actually work with the database. Reports are often used to group and summarize data, and are often for people who don't work with the database but who use the information stored in the database for other business tasks.

Reports usually present summaries of larger bodies of information. For example, your database might hold detailed information about thousands of orders. If you want to edit those orders or enter new ones, you can do so directly in the table or through a form. If you want to summarize those orders to illustrate the rate of growth of the company's sales, you generate a report.

Like a book report or an annual report of a company's activities, a report created in Microsoft Access 2010 is typically used to summarize and organize information to express a particular point of view to a specific audience. When you are designing a report, it is important to consider the point you are trying to make, the intended audience, and the level of information they will need.

In this chapter, you'll create a report by using a wizard. After modifying the layout and content of the report, you'll see how it will look when printed.

Practice Files Before you can complete the exercises in this chapter, you need to copy the book's practice files to your computer. The practice file you'll use to complete the exercises in this chapter is in the Chapter05 practice file folder. A complete list of practice files is provided in "Using the Practice Files" at the beginning of this book.

Creating Reports by Using a Wizard

You can divide the content of an Access report into two general categories: information derived from records in one or more tables, and everything else. The *everything else* category includes the title, page headers and footers, introductory and explanatory text, and any logos and other graphics.

Just as you can create a form that includes all the fields in a table by using the Form tool, you can create a report that includes all the fields by using the Report tool, which is located in the Reports group on the Create tab. But such a report is merely a prettier version of the table, and it does not summarize the data in any meaningful way. You are more likely to want to create a report based on only some of the fields, and that is a job for the Report wizard.

Tip In addition to basing a report on a table, you can base it on the datasheet created when you run a query. For information about queries, see Chapter 8, "Create Queries."

The Report wizard leads you through a series of questions and then creates a report based on your answers. So the first step in creating a report is to consider the end result you want and what information you need to include in the report to achieve that result. After you provide that information, the wizard creates a simple report layout and adds a text box control and its associated label for each field you specify.

For example, you might want to use a Products table as the basis for a report that groups products by category. When you give the grouping instruction to the wizard, it first sorts the table based on the category, and then sorts the products in each category. In the space at the top of each group (called the group *header*), the wizard inserts the name of the category.

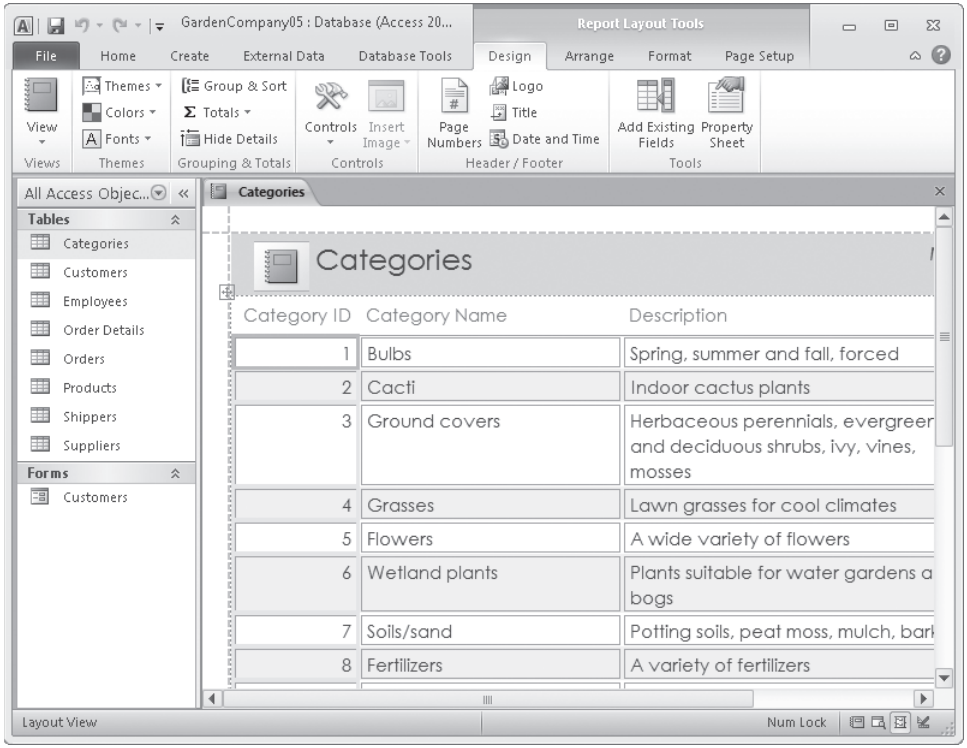
In this exercise, you'll use the Report wizard to create a simple report that displays an alphabetical list of products.

SET UP You need the GardenCompany05_start database located in your Chapter05 practice file folder to complete this exercise. Open the GardenCompany05_start database, and save it as *GardenCompany05*. Then follow the steps.

1. With **All Access Objects** displayed in the **Navigation** pane, under **Tables**, click (don't double-click) **Categories**.

2. On the **Create** tab, in the **Reports** group, click the **Report** button.

   Access creates a report based on all the fields in the Categories table, displays the report in Layout view, and adds four Report Layout Tools contextual tabs to the ribbon.



The default report created by the Report tool.

Troubleshooting The appearance of buttons and groups on the ribbon changes depending on the width of the program window. For information about changing the appearance of the ribbon to match our screen images, see "Modifying the Display of the Ribbon" at the beginning of this book.

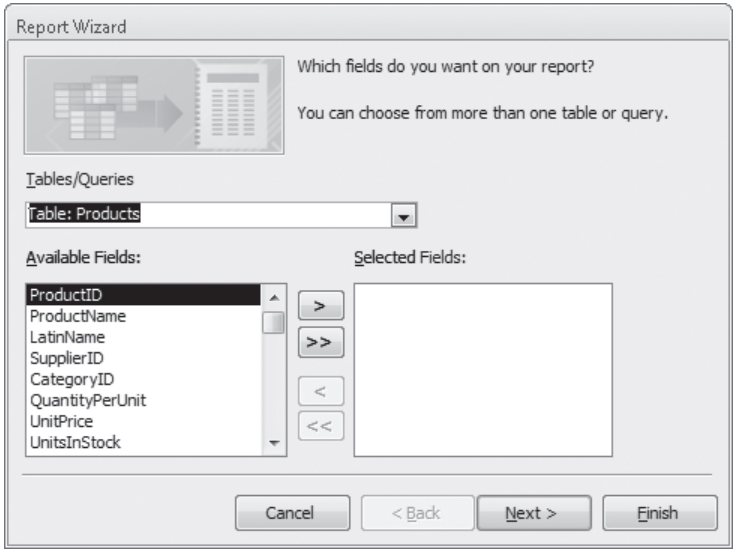
3. This is not the report we want, so close the **Categories** report, clicking **No** when prompted to save it.

4. On the **Create** tab, in the **Reports** group, click the **Report Wizard** button.

   The Report wizard starts. Because the Categories table is still selected in the Navigation pane, that table is specified in the Tables/Queries box and its fields are listed in the Available Fields box.

5. Display the **Tables/Queries** list, and then click **Table: Products**.

   The Available Fields box now lists the fields in the Products table.



The first page of the Report wizard with the correct table selected.

6. In the **Available Fields** list, double-click **ProductName**, **QuantityPerUnit**, and **UnitsInStock** to move them to the **Selected Fields** box.

   Tip Fields appear in a report in the order in which they appear in the Selected Fields list. You can save yourself the effort of rearranging the fields in the report by entering them in the desired order in the wizard.

7. At the bottom of the page, click **Next**.

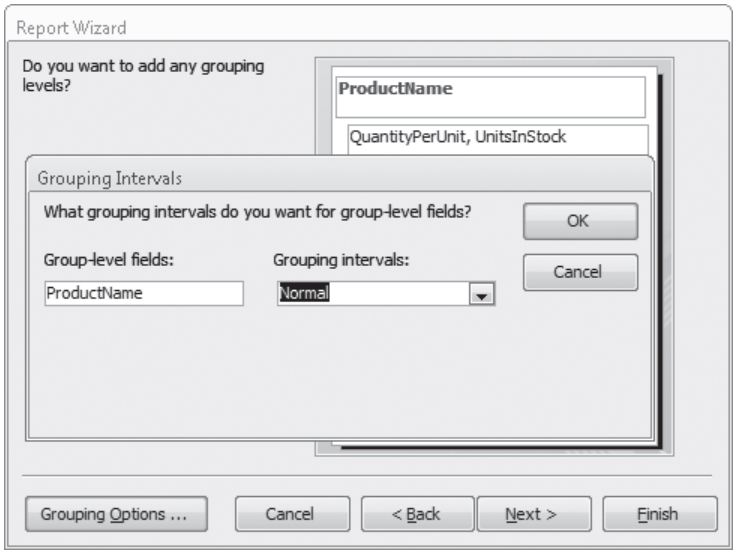
   The wizard asks whether you want to group the records. When you group by a field, the report inserts a group header at the top of each group of records that have the same value in that field.

8. In the field list on the left, double-click **ProductName**.

   In the preview pane on the right, the wizard moves ProductName into the group header area to show that records will be grouped by this field.

9. In the lower-left corner of the page, click **Grouping Options**.

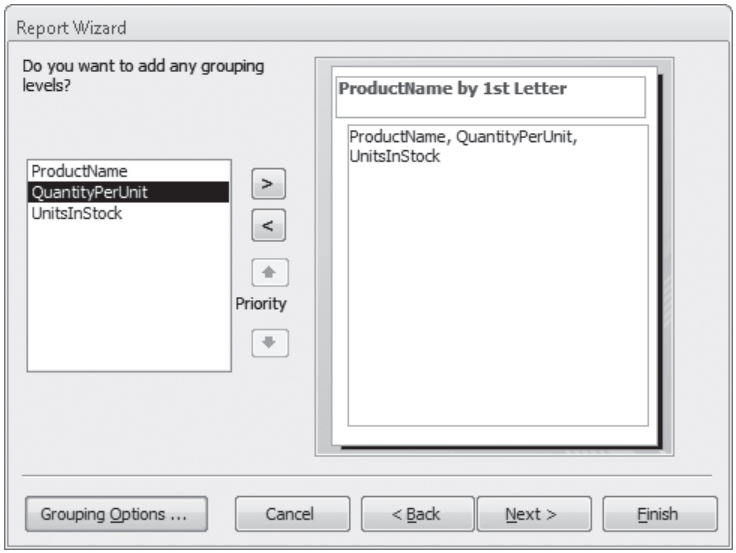
   The Grouping Intervals dialog box opens.



You can refine the grouping specification in this dialog box.

10. Display the **Grouping intervals** list, click **1st Letter**, and then click **OK**.

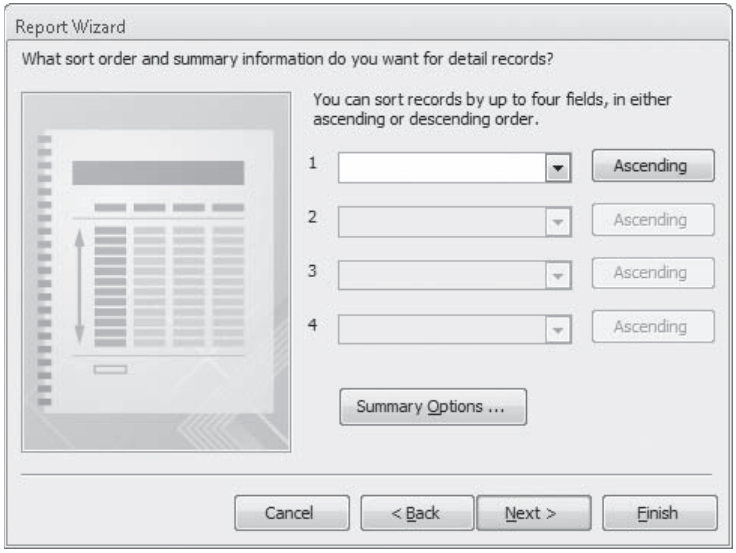
    The group header now indicates the grouping interval you have assigned to the grouping field.



The types of grouping intervals available vary depending on the data type of the field by which you are grouping records.

11. Click **Next**.

The wizard asks how you want to sort and summarize the records.

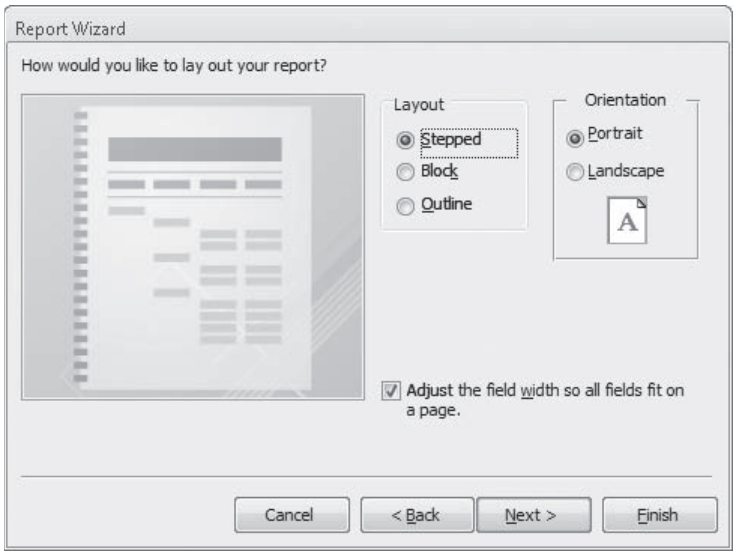


You can sort by up to four fields, each in ascending or descending order.

Tip For any field that contains numeric information, you can click Summary Options near the bottom of the wizard page to display the Summary Options dialog box, where you can instruct Access to insert a group footer in the report and to display the sum, average, minimum, or maximum value for the field. The only numeric field in this report is UnitsInStock, and it is not appropriate to summarize that field.

12. Click the arrow to the right of the **1** box to display a list of fields, and click **ProductName**. Then click **Next**.

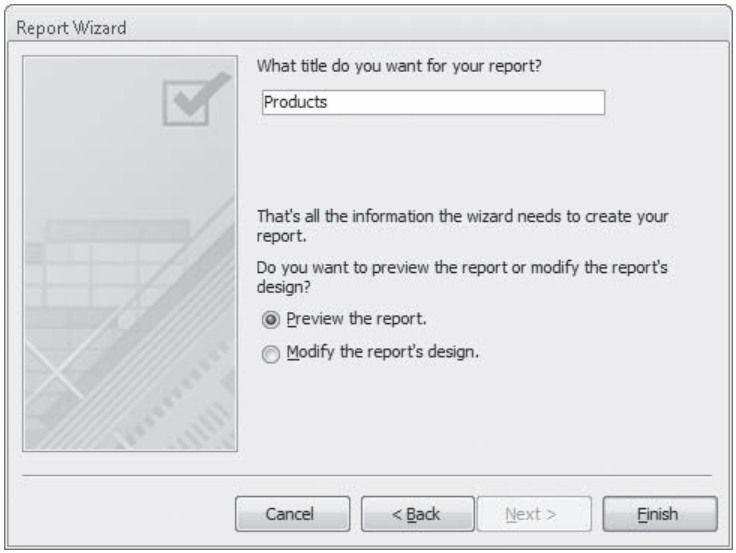
    The wizard asks which of three layouts and which orientation you want for this report.



The preview on the left shows the effect of the options on the right.

13. In the **Layout** area, click each option in turn to see a preview in the report thumbnail to the left.
14. When you have finished exploring, click **Outline**.
15. With **Portrait** selected in the **Orientation** area and the **Adjust the field width so all fields fit on a page** check box selected, click **Next**.

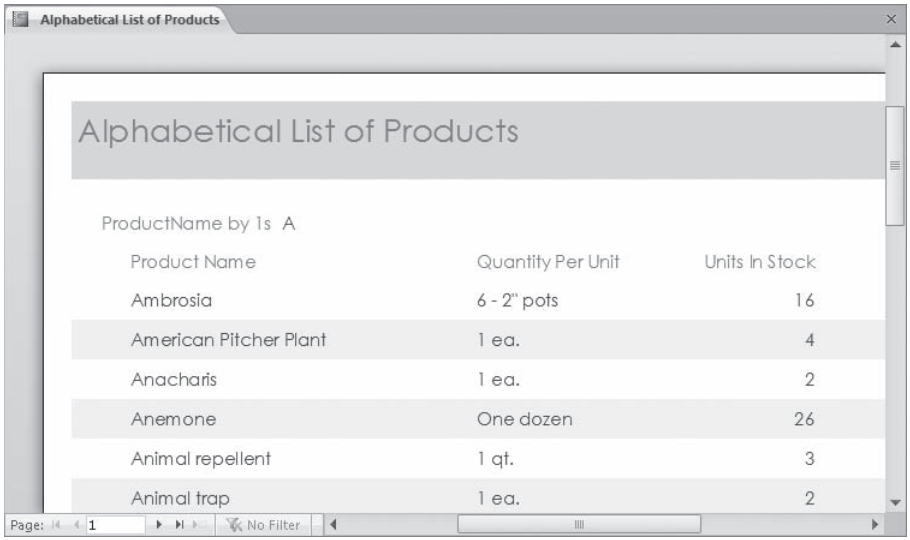
    The wizard prompts you to supply a title for the report.



For ease of use, you should make the title more specific.

16. In the title box, type **Alphabetical List of Products**, and then with **Preview the report** selected, click **Finish**.

    Access creates the report and displays it in Print Preview.



The new report in Print Preview.

17. Page through the nine-page report, noticing how it is arranged. Then close it.

CLEAN UP Retain the GardenCompany05 database for use in later exercises.

Modifying Report Design

You can use the Report wizard to get a quick start on a report, but you will frequently want to modify the report to get the result you need. As with forms, the report consists of text box controls that are bound to the corresponding fields in the underlying table and their associated labels. You can add labels, text boxes, images, and other controls, and you can format them, either by using commands on the ribbon or by setting their properties in the report's Property Sheet.

Tip Property Sheets for reports work the same way as those for forms. For information, see "Changing the Look of Forms" in Chapter 3, "Create Simple Forms."

You can adjust the layout and content of reports in either Layout view or Design view. For simple adjustments, it is easier to work in Layout view, where you can see the layout with live data, making the process more intuitive.

See Also For information about creating and modifying reports in Design view, see Chapter 9, "Create Custom Reports."

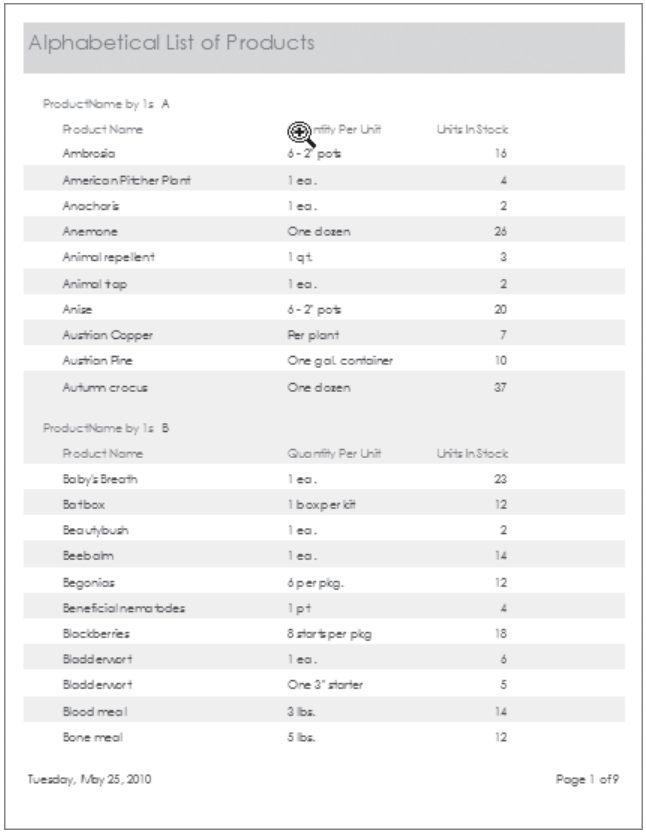
Tip Automatic error checking identifies common errors in forms and reports and gives you a chance to fix them. For example, Access informs you if a report is wider than the page it will be printed on. Error checking is turned on by default. If you want to turn it off, display the Backstage view, and click Options to open the Access Options dialog box. In the left pane, click Object Designers, clear the error-checking check boxes at the bottom of the page, and then click OK.

In this exercise, you'll modify the layout of a report. You'll then apply a theme, change some of the colors, and dress up the text with character formatting. You will also apply a simple rule that formats values differently if they meet a specific criterion.

SET UP You need the GardenCompany05 database you worked with in the preceding exercise to complete this exercise. Open the GardenCompany05 database, and then follow the steps.

1. In the **Navigation** pane, under **Reports**, right-click the **Alphabetical List of Products** report, and then click **Print Preview**.
2. Maximize the program window if it isn't already maximized, and then point to the previewed report page.

   The pointer changes to a magnifying glass with a plus sign in it.



Alphabetical List of Products

ProductName by 1s: A

Product Name	Quantity Per Unit	Units In Stock
Ambrosia	6 - 2" pots	16
American Pitcher Plant	1 ea.	4
Anacharis	1 ea.	2
Anemone	One dozen	26
Animal repellent	1 qt.	3
Animal trap	1 ea.	2
Anise	6 - 2" pots	20
Austrian Copper	Per plant	7
Austrian Pine	One gal. container	10
Autumn crocus	One dozen	37

ProductName by 1s: B

Product Name	Quantity Per Unit	Units In Stock
Baby's Breath	1 ea.	23
Batbox	1 box per kit	12
Beautybush	1 ea.	2
Beebalm	1 ea.	14
Begonias	6 per pkg.	12
Beneficial nematodes	1 pt	4
Blackberries	8 starts per pkg	18
Bladderwort	1 ea.	6
Bladderwort	One 3" starter	5
Blood meal	3 lbs.	14
Bone meal	5 lbs.	12

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In Print Preview, the magnifying glass pointer indicates that you can zoom in on the page.

3. Click the previewed page once to zoom in.

Tip **You can also zoom in and out by dragging the Zoom slider in the lower-right corner of the program window. The current zoom level appears to the left of the slider.**

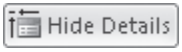
Notice that the report has the following design problems:

- Extraneous text
- Spacey arrangement
- Uninviting formatting

To fix these problems, we need to switch to Layout view.

4. On the **View Shortcuts** toolbar, click the **Layout View** button.

Access adds four Report Layout Tools contextual tabs to the ribbon. First let's work with the group header controls.



5. On the **Design** contextual tab, in the **Grouping & Totals** group, click the **Hide Details** button.

   The controls that are bound to fields in the Products table are hidden so that you can concentrate on the group header controls.

6. Below the title, click **ProductName by 1s**, and press the Delete key.

   The label is removed from all the group headers.

7. Click the control containing **A**, and drag it to the left edge of the header.

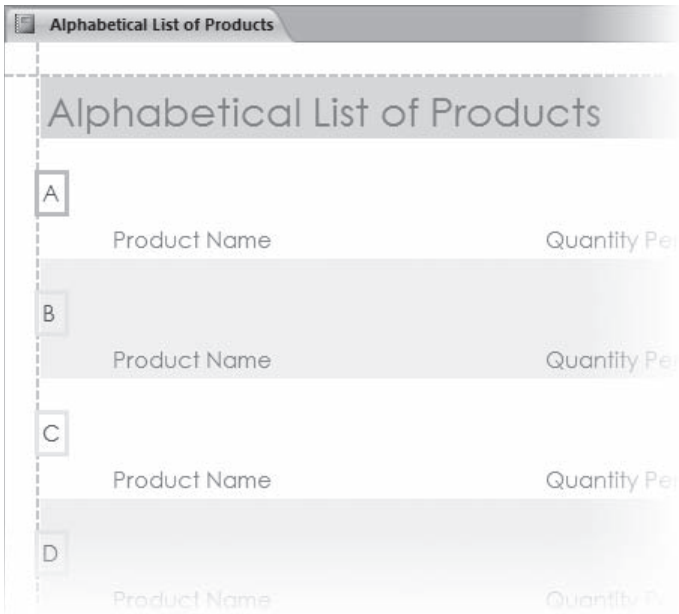
   When you release the mouse button, all the corresponding controls move to the corresponding location in their own group headers.

   Keyboard Shortcut Hold down the Alt key and press the Arrow keys to move the selected control in small increments. When the shadow box is positioned where you want it, click away from the control.

   See Also For more information about keyboard shortcuts, see "Keyboard Shortcuts" at the end of this book.

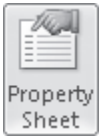
8. Point to the right border of the selected **A** control, and when the pointer changes to a double-headed arrow, drag to the left until the control is just big enough to hold its contents.

   Again, all the corresponding controls assume the new size.



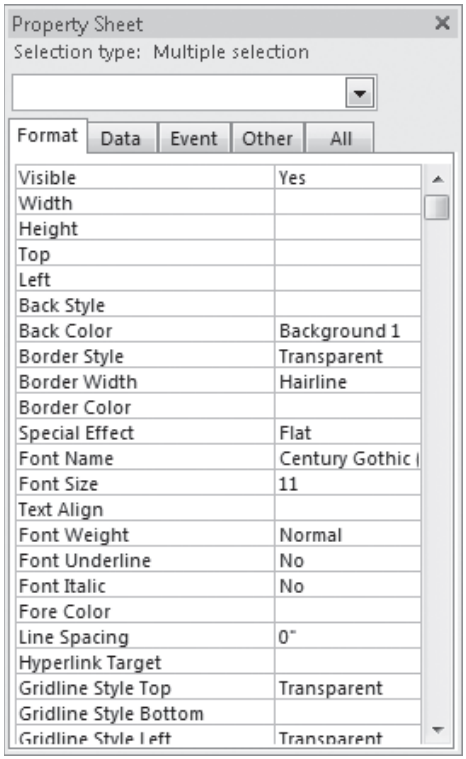
It is easier to work with the controls in the group header when the report details are hidden.

9. With the **A** control still selected, hold down the Shift key, and in turn, click the **Product Name**, **Quantity Per Unit**, and **Units In Stock** label controls to add them to the selection.



10. On the **Design** tab, in the **Tools** group, click the **Property Sheet** button.

    The Property Sheet opens.



Because more than one control is selected, the Selection Type of this Property Sheet is Multiple Selection.

11. On the **Format** page of the **Property Sheet**, in the **Top** property box, type **0.25"**, and press Enter. Then close the **Property Sheet**.

    In the group header, the letter control and label controls are now aligned 0.25 inch from the top of the header, and the height of the header has decreased because less space is needed to accommodate the controls.

Now let's see how the group header looks with its data.

12. In the **Grouping & Totals** group, click the **Hide Details** button to turn it off and display the data from the table.

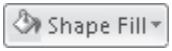
The numbers in the Units In Stock column are right-aligned. Let's center them.

13. Click the first text box control under the **Units In Stock** label, and on the **Format** contextual tab, in the **Font** group, click the **Center** button.

Now we'll add some color and format the text.

14. On the **Design** contextual tab, in the **Themes** group, click the **Themes** button, and in the gallery, click the **Austin** thumbnail.

Although nothing much appears to change, the report takes on the color scheme and font scheme assigned to the selected theme.



15. Inside the shaded area of the report header, but away from the title, click a blank area. On the **Format** contextual tab, in the **Control Formatting** group, click the **Shape Fill** button. Then under **Theme Colors** in the palette, click the third box (**Light Green, Background 2**).

Notice that by default, a row color has been applied to alternate group headers and that this coloring confuses rather than clarifies the report structure. Let's turn off this alternate row color.

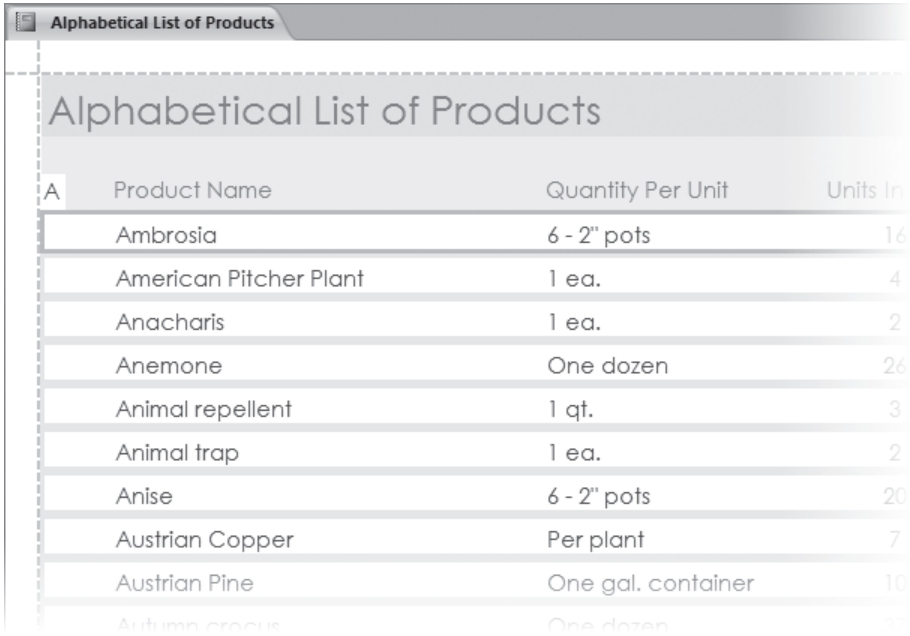
16. Click outside the dotted border to the left of the first group header. In the **Background** group, click the **Alternate Row Color** arrow, and at the bottom of the palette, click **No Color**.

17. In the **Control Formatting** group, click the **Shape Fill** button, and in the palette, click a light brown color.

The entire group header is shaded except the alphabet controls (A, B, C, and so on) that you moved earlier. If you wanted to shade them as well, you could select one of them and repeat step 17 to apply the light brown fill.

18. Click outside the dotted border to the left of the first row of data in the report, and remove the alternate row color of the data rows. Then click the white space above the report header to see the result.

Only the backgrounds of the report header and group headers are now colored.



Removing the alternate row color makes the structure of this report more obvious.

Tip Above the first object and below the last object of a report in Layout view are the only places you can click that don't select at least one object on the report.

19. Click any control, and then in the **Selection** group, click the **Select All** button.

    Keyboard Shortcut Press Ctrl+A to select all the controls.

20. In the **Font** group, click the **Font Size** arrow, and then click **9**.

    Tip It is usually most efficient to change the character formatting of all the controls and then adjust the ones you want to be different.

21. Click the report's title control, and then use the commands in the **Font** group to make the text 24 points, bold, and dark green.

22. Select the controls in the group header, and make them bold and dark green.

23. Scroll down the report, noticing that a few of the values in the **Units In Stock** column are 0.

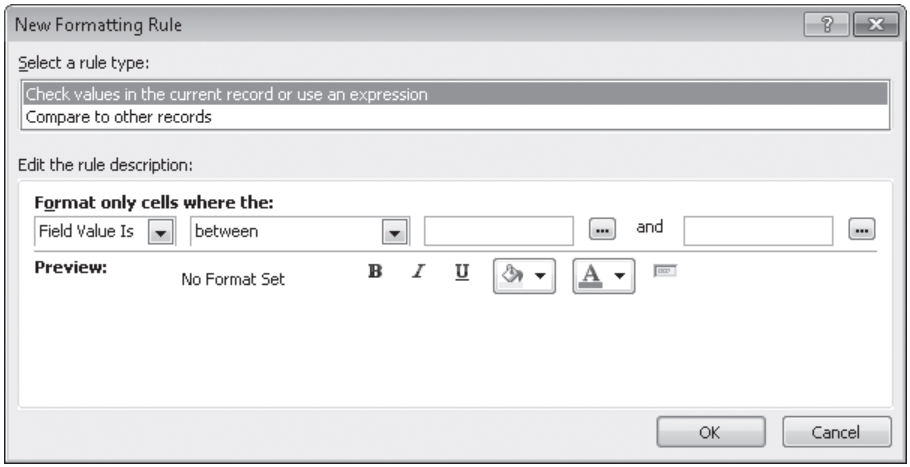
    We want these values to stand out in the report to remind buyers that it is time to order more of these products.

24. Click any control in the **Units In Stock** column. Then in the **Control Formatting** group, click the **Conditional Formatting** button.

    The Conditional Formatting Rules Manager dialog box opens.

25. Click **New Rule**.

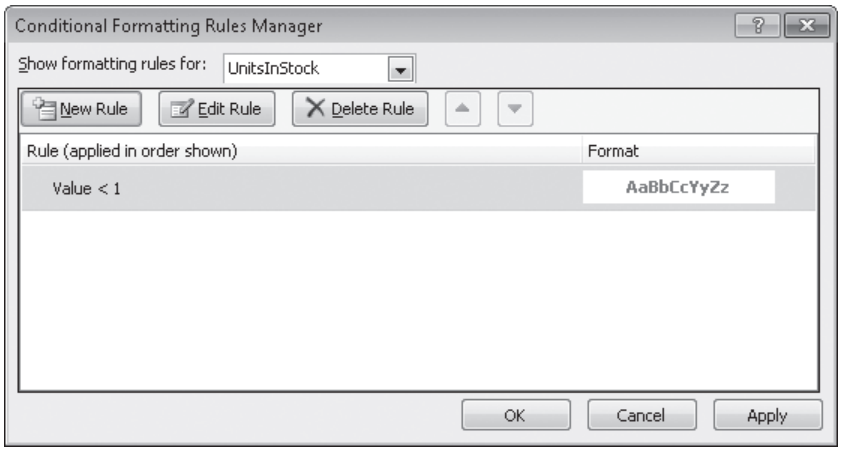
The New Formatting Rule dialog box opens.



You can create rules that compare the current field value to a specific value or to other values in the same field.

26. With **Check values in the current record or use an expression** selected as the rule type, in the **Format only cells where the** area, click the arrow for the second box, and click **less than**. Then in the third box, type **1**.
27. In the bottom area, click the **Bold** button, and change the **Font color** setting to red. Then click **OK**.

    In the Conditional Formatting Rules Manager dialog box, the rule is listed in the Rule column with the formatting that will be applied to values that meet the rule's criteria in the Format column.



Values that are less than 1 will be bold and red.

28. Click **OK**. Then scroll down the report again, noticing that all the 0 values are now bold and red.
29. Close the report, clicking **Yes** to save your changes to its design.

CLEAN UP Retain the GardenCompany05 database for use in the last exercise.

Previewing and Printing Reports

Using Print Preview to preview Access reports is very similar to using this view in other Microsoft Office 2010 programs. If you preview your reports carefully, you won't have any major surprises when you print them.

When previewing reports, you will want to pay special attention to how the pages break. In a grouped report, you can control whether group headings are allowed to appear at the bottom of a page with no data and whether groups are allowed to break across pages.

You can make changes to the setup of your report pages from the Page Setup contextual tab in Layout view or from the tab displayed when you switch to Print Preview. For example, you can specify the following:

- Paper size
- Margins
- Orientation
- Number of columns
- Whether Access should print the report's structural elements or only its data

You can also click the Page Setup button to display the Page Setup dialog box, where you can change all these settings in one place, as well as make additional refinements.

When you are ready to print, you click the Print button on the Print Preview tab of the ribbon to display the Print dialog box. You can also display the Print page of the Backstage view and then print one copy of the report with the default print settings by clicking the Quick Print button.

In this exercise, you'll preview a report, and you'll specify that groups should not break across pages. Then you'll explore the available page setup and printing options.

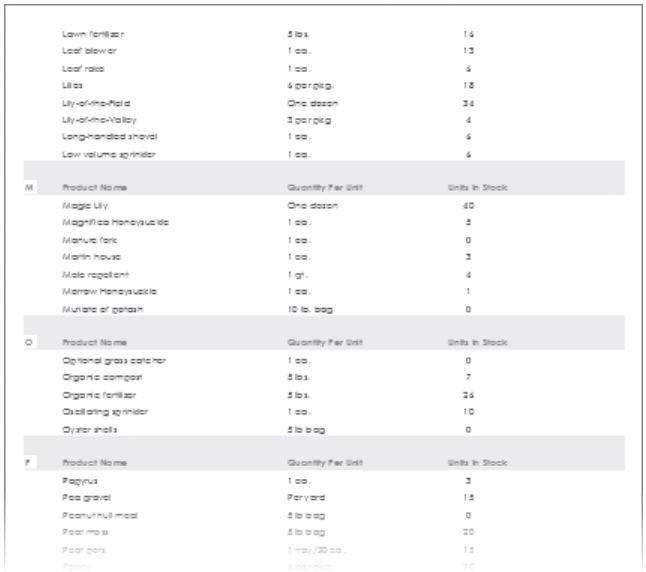
SET UP You need the GardenCompany05 database you worked with in the preceding exercise to complete this exercise. Open the GardenCompany05 database, and then follow the steps.

1. In the **Navigation** pane, right click the **Alphabetical List of Products** report, and then click **Print Preview.**

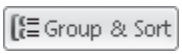
Only the Print Preview tab appears on the ribbon.

2. On the page navigation bar at the bottom of the window, click the **Next Page** button repeatedly to view each page of this report.

   Because of the changes you made to the report in the previous exercise, the report is now six pages. Several of the groups start on one page and continue on the next page. For readability, let's fix this layout problem.

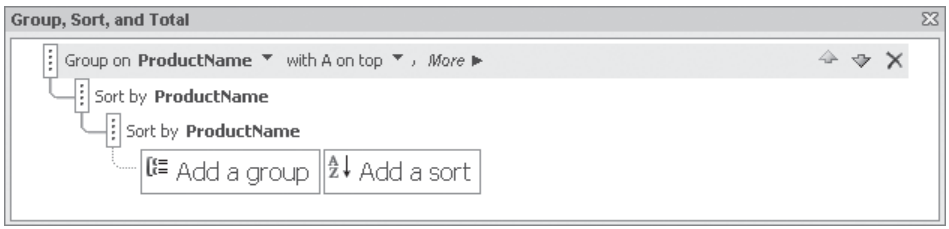


The group at the top of this page is a continuation of one that started on the previous page.



3. Switch to Layout view, and then on the **Design** tab, in the **Grouping & Totals** group, click the **Group & Sort** button.

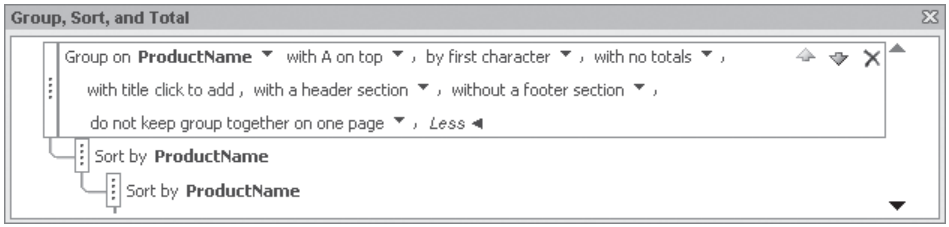
   The Group, Sort, And Total pane opens at the bottom of the report page.



You can use this pane to quickly add grouping and sorting levels and set related properties.

4. In the **Group, Sort, and Total** pane, in the **Group on ProductName** bar, click **More**.

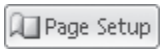
Access displays additional options.



These are the current grouping settings.

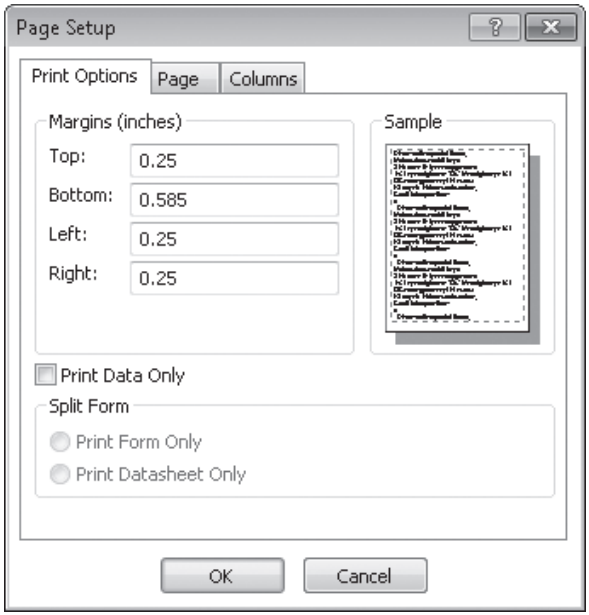
5. Click the **do not keep group together on one page** arrow, and in the list, click **keep whole group together on one page**. Then close the **Group, Sort, and Total** pane by clicking the **Group & Sort** button again.
6. Switch to Print Preview, and page through the report.

   Now none of the groups is broken across pages. However, the report would look better with wider top, left, and right margins.



7. On the **Print Preview** tab, in the **Page Layout** group, click the **Page Setup** button.

   The Page Setup dialog box opens.



The Print Options page of the Page Setup dialog box.

8. Click the **Page** tab, and verify that the paper size is **Letter**.
9. Return to the **Print Options** page, and change the **Top**, **Left**, and **Right** margins to **0.75**. Then click **OK**.
10. Scroll through the report to see the results.

    Although all the data in the report fits on the page, the page number in the footer is set too far to the right and is producing extra pages.
11. Switch to Layout view, scroll down to the bottom of the report, and then scroll to the right until you can see the page number.
12. Click the page number control, and move and resize it so that it aligns approximately with the **Units In Stock** column heading.
13. Switch to Print Preview, and page through the report.

    The report now fits neatly on seven pages.
14. If you want, print the report by using the same techniques you would use to print any database object.
15. Close the report, clicking **Yes** to save your changes.

CLEAN UP Close the GardenCompany05 database.

Key Points

- When designing a report, consider the point you are trying to make, the intended audience, and the level of detail needed.
- You can create a report that displays only some of the fields in a table by using the Report wizard. The report can be sorted and grouped to summarize the data in a table in a meaningful way.
- You can refine a report in Layout view by manipulating its controls and setting its properties. You can also format the controls to structure and highlight data.
- In Print Preview, you can see how the report will look when printed and make adjustments before you print.