Access 2007: Part II

Stephen Moffat, The Mouse Training Company

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Access 2007: Part I

Section 4 Saving in Access

All graphics related to Microsoft in this book is in compliance with Microsoft guidelines and thus permitted by Microsoft.

By the end of this section you will be able to

- Save your objects
- Save objects as different object types
- Save your database as earlier versions
- Set file and object properties

4.1 Saving in Access

Much of the file management functionality of Access takes place in the background and automatically saves most changes you make to a database. When Access does not save something for you automatically, you will be prompted asking if you want to save the changes to a particular object.

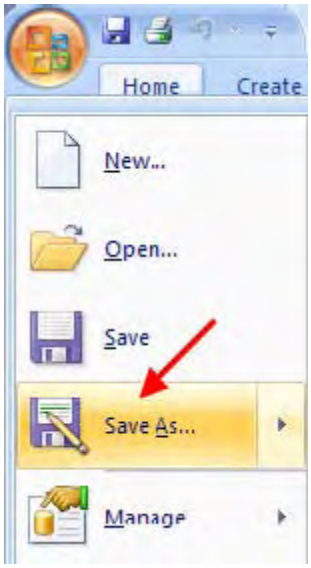
However, Access does give you a bit of flexibility when it comes to saving different objects. We will explore this saving functionality in this lesson.

Using the Save As Dialogue

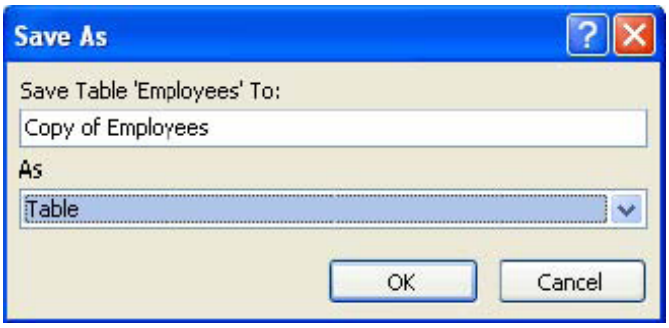
Most things in Access are saved automatically, but you can perform a manual save of a particular database object. For example, consider the Employees table of the Northwind sample database:

	ID	Company	First Name	Last Name
⊞	1	Northwind Traders	Nancy	Freehafer
⊞	2	Northwind Traders	Andrew	Cencini
⊞	3	Northwind Traders	Jan	Kotas
⊞	4	Northwind Traders	Mariya	Sergienko
⊞	5	Northwind Traders	Steven	Thorpe
⊞	6	Northwind Traders	Michael	Neipper
⊞	7	Northwind Traders	Robert	Zare
⊞	8	Northwind Traders	Laura	Giussani
⊞	9	Northwind Traders	Anne	Hellung-Larse
*	#####			

1. Click Office Menu - Save As:



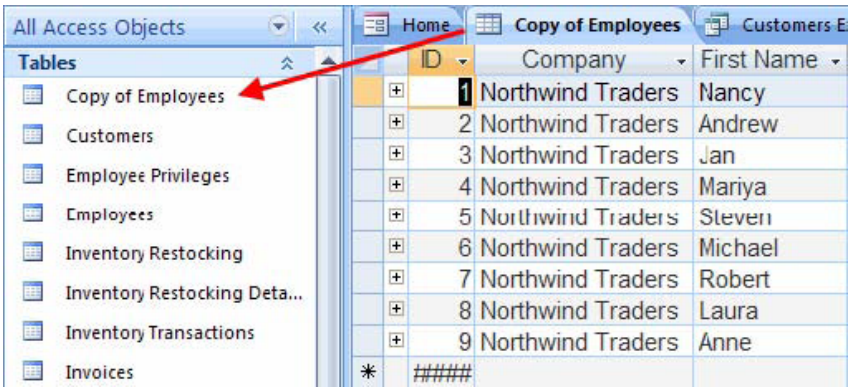
2. The following Save As dialogue box will appear:



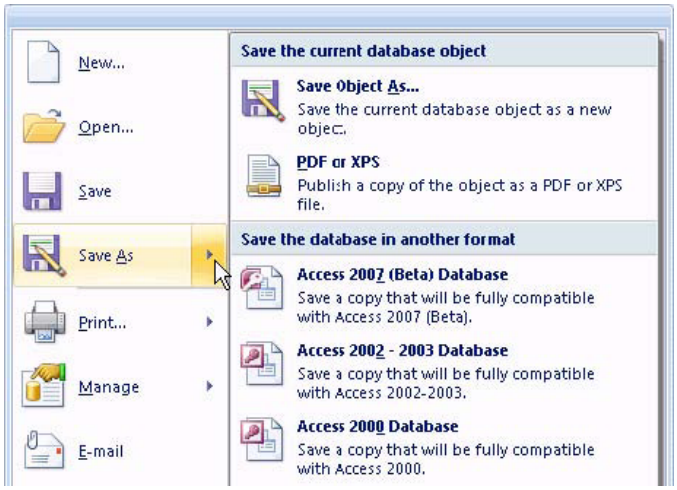
In this example, you have the ability to save the Employees table as another table (which will make a copy), query, form, or report. Give the new object a name and then click the pull-down arrow beside the As combo box to see the choices. Remember, you can always save a copy of the object as the same type of object (table as table, form as form, etc.).

Object	What Objects you can Save As
Tables	Table, Query, Form, Report
Queries	Query, Form, Report
Forms	Form, Report
Reports	Report only

3. Once you have saved the new object you can access it in the Navigation Pane:



Using the Save As Menu



There is more to the Save As command in the Office Menu than simply copying one object to another or making a duplicate. Click the right-facing arrow beside the Save As command to see more options:

Access gives you two sections of commands to choose from: Save the current database object and Save the database in another format.

Let's look at each of the options.

Save Object As

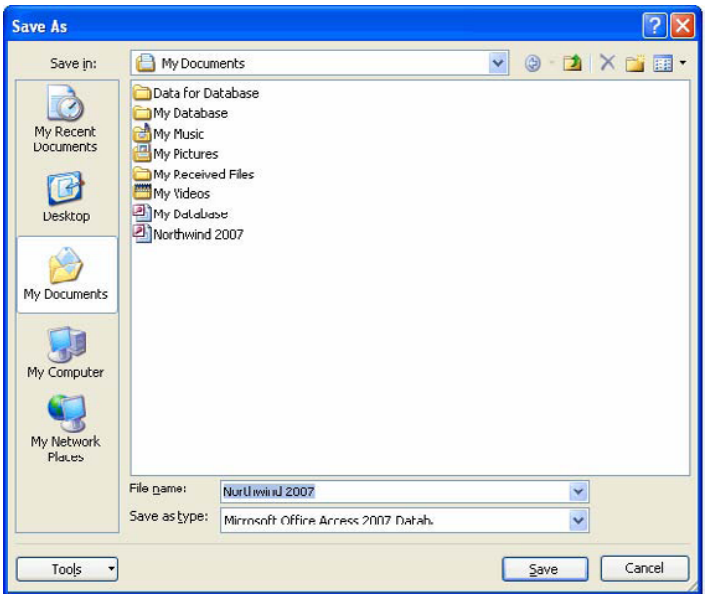
This command is the same as clicking the Save As command in the Office Menu directly. Enter a new name and choose a data type to save the file under.

PDF or XPS

This command gives you the ability to reproduce the current database object as a PDF (Portable Document Format) or XPS (XML Paper Specification). This command is only available if you have installed the appropriate add-in. (See Lesson 1.4 for more information.)

Access 2007 Database

Access will close all currently open database objects and then open the Save As (My Computer) dialogue box. Choose a save location and new file name and click Save.

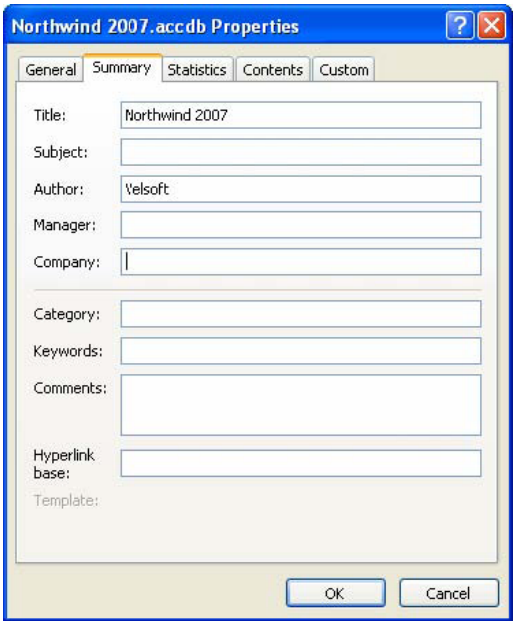


Access 2002-2003 File Format

Access 2000 Database

Access 2007 uses a new file structure to save files. The 2007 file format is not directly backwards compatible with previous versions of Access. However, it can be made to save files in any other version of Access if necessary.

Using File Properties

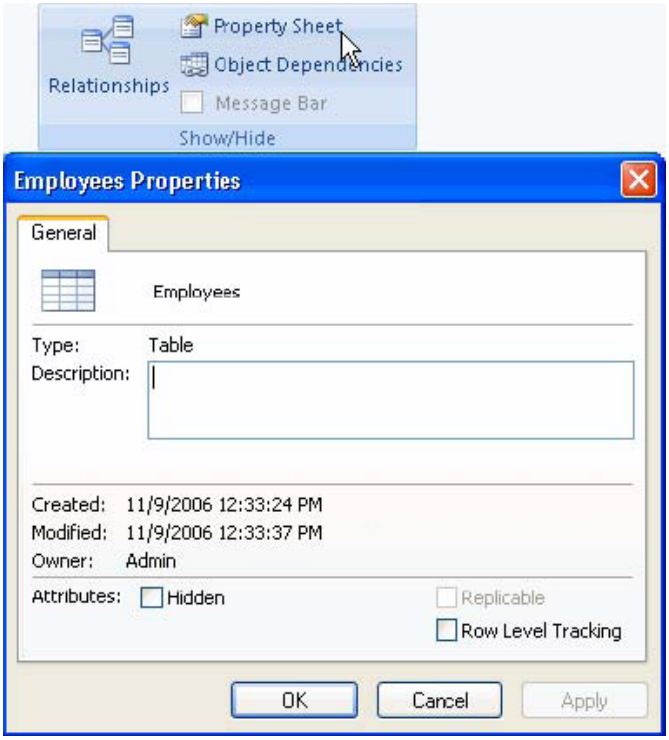


You can view and edit the properties of a file at any time by using the Office Menu.

1. Open a file
2. Click Office Menu - Manage - Database Properties.
3. Click the Summary tab to show the current database properties:
4. Click in any of the fields and enter the information

Database object properties

Access also lets you view the the individual properties of each database object.



1. Select an object in the Navigation pane and then
2. Click the Database Tools command tab.
3. Click the properties sheet button to show the properties of the highlighted object:

Using AutoRecover

Access that makes a backup copy of the database you are currently working on. Access, by default, saves the current working file every ten minutes. If your computer encounters a problem and Access has to close, your database will be restored the next time it is opened.

Section 5 Tables

By the end of this section you will be able to

- Build tables
- Set field properties
- Set primary key
- Create lookup fields
- Relate tables
- Manage data within tables
- Format and set defaults for tables

5.1 Working with records

About Records

So far we have come a long way in our exploration of Access. By now you should be comfortable with the basics of navigating the interface and the use of the Navigation Pane. We are now ready to explore the real stuff databases are made of, as well as begin to build one of our own.

What is a Record?

We defined a record in Section 1 of this manual as a collected group of fields. More formally, a record is defined as one or more fields of data that create a single entry in a table. We have also learned that each record should have a primary key; that is, some unique identifier that sets it apart from every other record in a table.

Navigation Tips

Imagine you are working on this simple table in Datasheet view:

Table1

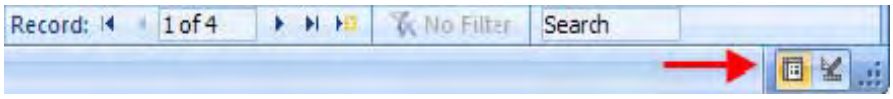
	ID	Field1	Field2	Add New Field
	2	North	10	
	3	South	20	
	4	East	30	
	5	West	40	
*	(New)			

Before discussing how to move around inside a table, let's take a quick look at the features Access 2007 has automatically added. The ID field was automatically inserted to use as a primary key. Every table should have a primary key of some sort, but it is not necessary.

Field1 and Field2 are column headers that identify a column of data. The last field, Add New Field, is also an automatic placement by Access. This is not a column of data like the others, but can easily become one should you need it.

The field in the upper left-hand corner is currently highlighted in orange. To move the cursor to a different field you can use the mouse and click inside any other field. You can also use the arrow keys on your keyboard to move the selection to a different field.

Using the mouse and keyboard is fine for tables of data that can fit on your screen; however the majority of tables in databases are usually quite long. It becomes impractical to scroll up and down or press and hold the arrow keys to reach your destination. There is a small toolbar at the bottom of Datasheet view available to deal with this exact problem:



To browse through the various records, use the small arrow icons:

	First	Moves to the first record in the table.
	Previous	Moves to the previous record.
	Next	Moves to the next record.
	Last	Moves to the last record in the table.
	New	Creates a new record at the end of the table.

You can also apply a custom filter to the table by clicking the filter button. Access also lets you search for a particular entry by using the Search text box. Simply type in the keyword or number you are looking for and press Enter.

At the very bottom of the Access window, in the status bar on the right-hand side of the screen, you will see a few small icons. These icons denote which view you are currently using to work with the current object. In the diagram above, the available views of a table are listed (Datasheet view which is currently highlighted, and Design view).

Adding Records

There are a few different ways to create a new record. Try using all of them; depending on your level of experience with using computers you will likely find one that is easy for you to use.

The first method is likely the easiest if you are very comfortable using a keyboard. If you are entering data using the keyboard, enter the data you need into a field and press Enter on your keyboard. If you have reached the Add New Field column of data and press Enter again, you can now type in that column. Pressing Enter once more will bump the Add New Field down one column, and so on until you have added as many fields as you like to a record.

Method 1

1. If you are entering data using the keyboard, pressing Tab will also advance you to the next field in the row. However if you have reached the end of the record and press Tab again, you will move to a new record.

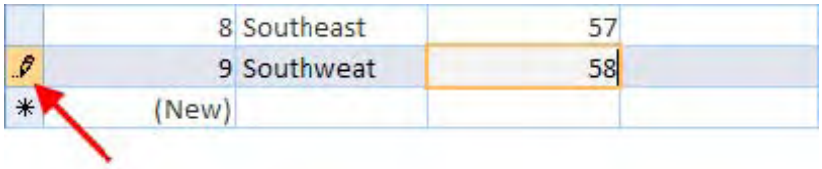
Method 2

1. Go to the the Home ribbon. The Records section of the ribbon contains a New record command (New); click this to make a new record at the end of the table.

Method 3

1. Use the navigation bar located at the bottom of Datasheet view:
2. This will create a new record at the end of the table.

Editing Records



If you made an error, or need to change the information in a record manually, simply open the table containing the data, scroll to or search for the data field you need to change, click inside the field and enter the new information. As you are entering data into a table, a small pencil icon will appear to the left of the record you are currently writing:

It is important to note that Access provides a little peace of mind by saving data automatically after every change to a data field. It is not necessary to manually save the database after every change. The only field you cannot modify in this way is the primary key. If there is some reason to modify the primary key, it is best to simply delete the record (described below) and make a new one with a new primary key.

Deleting Records

1. Consider the following table:

1. If you want to delete a single record, click any of the boxes to the left of a record. This will select the entire row of data:

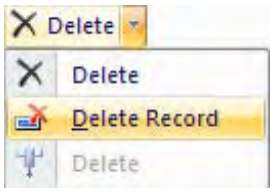
Table1

ID	Field1	Field2	Add New Field
2	North	10	
3	South	20	
4	East	30	
5	West	40	
6	Northeast	55	
7	Northwest	56	
8	Southeast	57	
9	Southweat	58	
(New)			

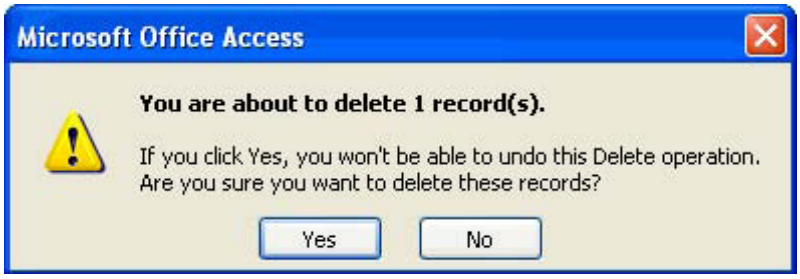
2. If you want to delete a single record, click any of the boxes to the left of a record. This will select the entire row of data:

6	Northeast	55	
7	Northwest	56	
8	Southeast	57	

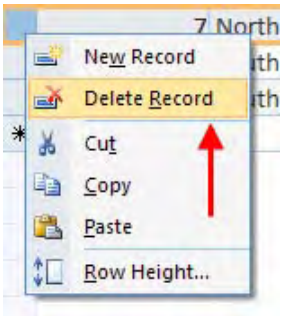
3. Click the small pull down arrow beside the Delete command in the Home ribbon and click Delete Record:



4. Access warns you that you are about to delete a record:



5. Click -Yes- to confirm the deletion. Alternately, you can right-click the box to the left of the record and select Delete Record from the pop-up menu:



Deleting records in this manner is fine for a few, but impractical if you need to purge a lot of data from a table. Luckily, Access allows you to delete multiple records at once. However, as a safety feature, you can only delete groups of adjacent records. That is, you can't merely pick and choose which records you want to delete and delete them all at once.

To delete a group of records

1. To select a group of records, click the box to the left of the first record you want to delete in order to highlight that row:

	5	West	40
	6	Northeast	55
	7	Northwest	56
	8	Southeast	57
	9	Southweat	58
*	(New)		

2. While holding the Shift key down, click the box beside the last record you want to delete. This will highlight a block of records:

	5	West	40
	6	Northeast	55
	7	Northwest	56
	8	Southeast	57
	9	Southweat	58
*	(New)		

3. Now click the Delete command on the Home ribbon and click Delete Record. You will be warned this operation cannot be undone; click Yes to confirm the deletion.

   If you prefer to use the right-mouse button, make sure you are still holding the Shift key and then right-click any of the boxes to the left of the selected records. Click Delete Record and then Yes to confirm the deletion.

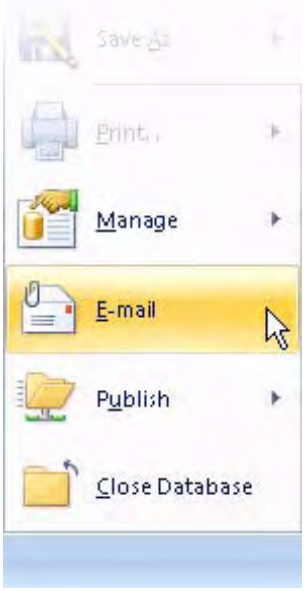
E-Mailing Records

Access allows you to e-mail records from a table in many different file formats. To perform this operation, first select a record by clicking the box to the left of the record and highlighting the row, or hold the Shift key and then select a group of records.

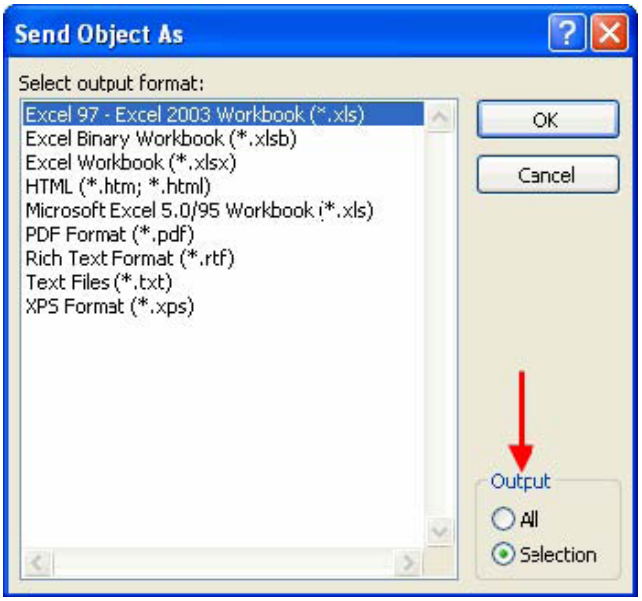
Table1

	ID	Field1	Field2	Add New Field
	2	North	10	
	3	South	20	
	4	East	30	
	5	West	40	
*	(New)			

1. For example, if you wanted to send records 3 and 4 from the table below, first highlight both records:
2. Click Office Menu - E-mail:

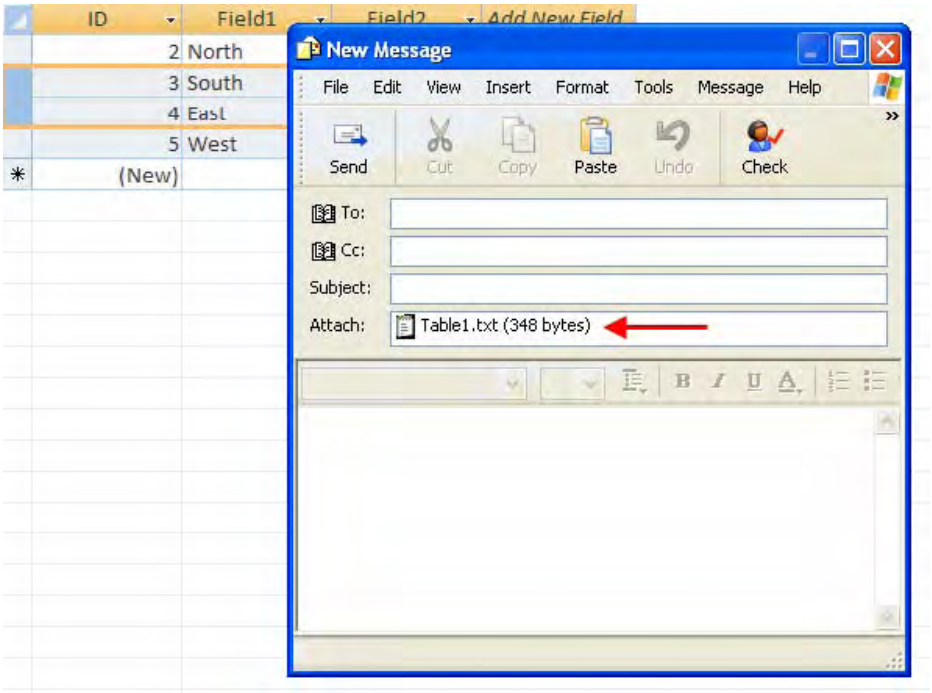


3. This will open the Send Object As dialogue box:
4. Here you can choose which type of file format you want Access to convert your data into before sending. If you are not sure which file format to use, selecting PDF Format (if you have installed the add-in) or Text Files will likely be your best option. These two file types can be read by virtually every computer platform.



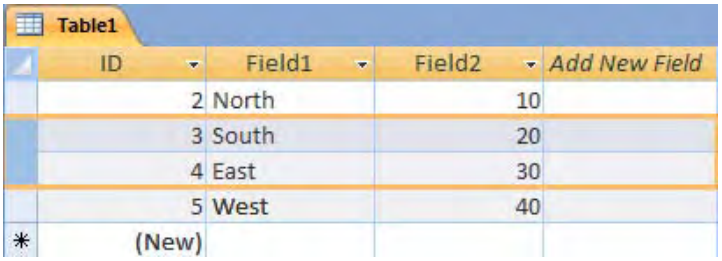
5. Make sure the Selection radio button is selected in the Output section of the dialogue box. Click OK. This will open a new message in your default mail program (like Microsoft Outlook or Outlook Express) with a special attachment in the file format you have specified.

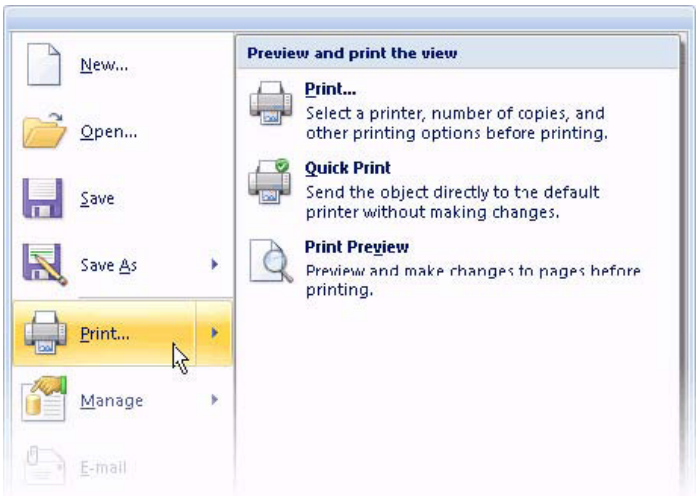
6. Enter the recipient's e-mail address and click Send:
7. If you click the -All- radio button in the Send Object As dialogue box, Access will package the entire database object in the file format you specify and then attach it to a new e-mail message.

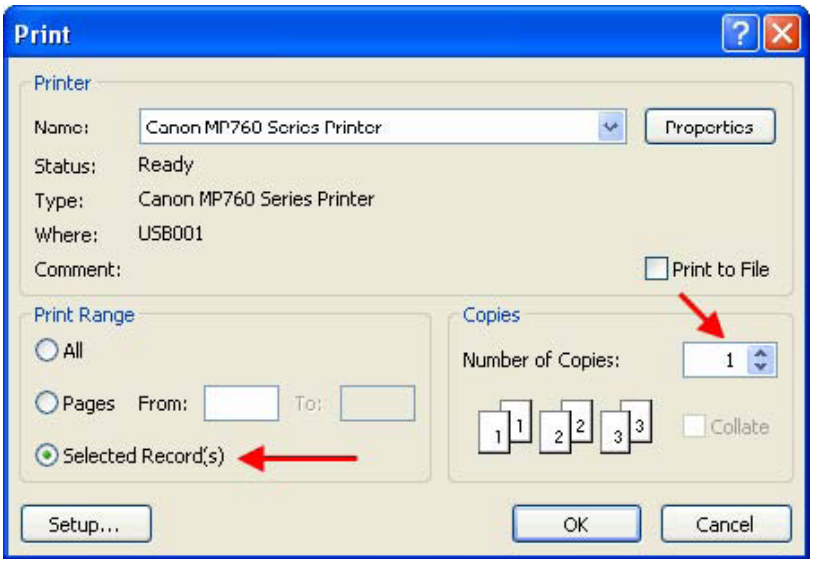


Printing Records

1. Office gives you the ability to print a selection of records. First, highlight the record(s) you would like to print:
2. Click Office Menu - Print:
3. When the Print dialogue box appears, specify the Print Range you would like to use and the number of copies:







4. Click OK to print the records. You can also select to print the entire object or only certain pages of the object; we will cover more advanced print topics later in this manual.

5.2 Creating a Table

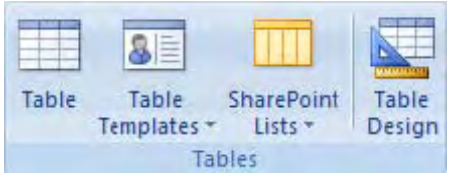
In this lesson we will learn more about the usage of tables, including how to build them from scratch.

About Tables

You should be very familiar with the components of tables by now. We know a table is made up of several records each containing fields with data. Access also makes it easy to build and modify any component of a table using Design view, which we will cover later in this manual.

When designing a database, it is critical that you take the time to design your database carefully. Although it is not a difficult job to make some adjustments to a field, adding or removing fields in a large established database can be a real headache. It is important to communicate with everyone who will be using the database to make sure that everyone has the information they will need. Don't be afraid to build a database a little bigger than you think it needs to be; if you end up with unused fields they are much easier to take out than to put new fields in.

Creating a Table

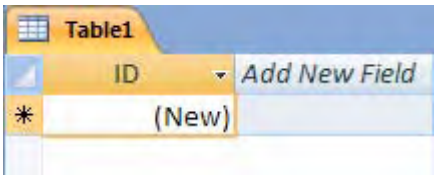


Access gives you the ability to create a table in a few different ways: opening an empty table and inputting values, using a template, or using Design view to construct your table by hand.

Use the Tables section of the Create ribbon to make a table:

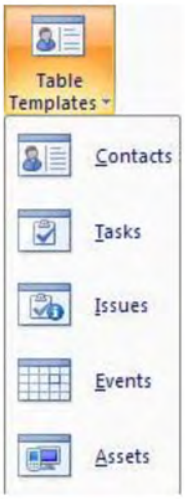
Empty Table

1. Click the Table command to open a new empty table A new tab will open, containing an empty table in Datasheet view:

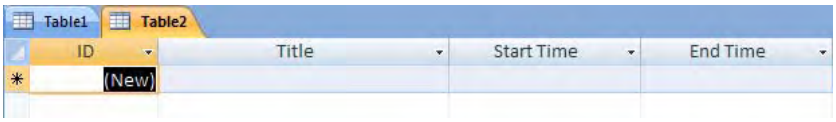


2. Click inside the Add New Field column and start entering data. Press Enter to keep adding fields to the record, then press Tab or click the command to make a new record.

Table from Template



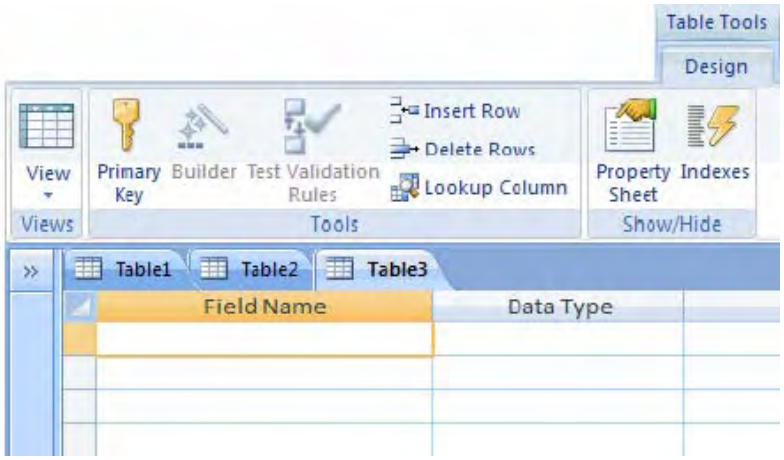
1. Click the small pull-down arrow beside the Table Templates command to see a short list of available templates:
2. Click a template from the list; it will open a new empty table in the main part of the Access window:



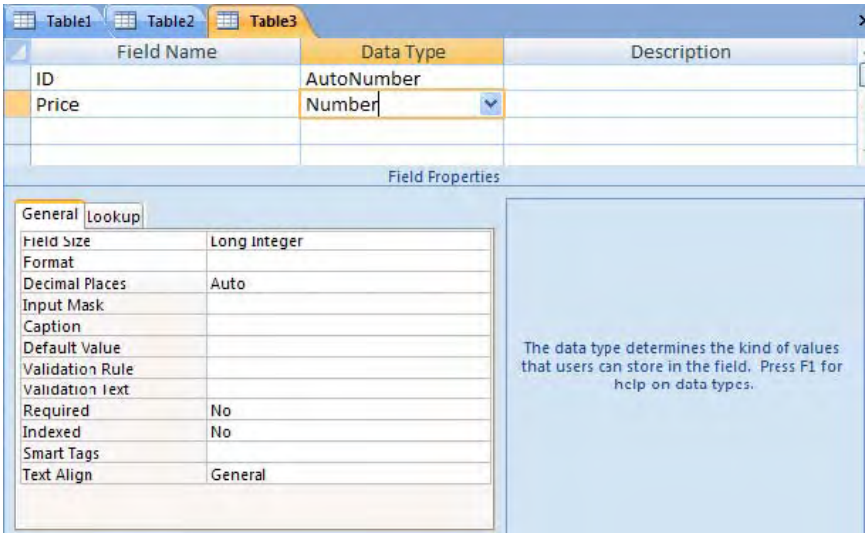
3. Press Enter on the keyboard to advance to the next field, then press Tab once you have reached the last field or to make a new record.

Table Design View

1. Click the Table Design command to open a new blank table. A new section of Access we have yet to explore will appear: Design view for a table:



2. Design view includes its own Design ribbon in a contextual tab. You have the ability to add a primary key, construct custom formulas, insert or delete different fields, and more.
3. Using Design view is more in-depth than simply entering data into fields. You can specify the field name, its data type, and give the field some sort of description if you like.
4. At the bottom of Design view is the Field Properties section. Here you can modify all of the properties of a particular field.
   For example, if you want to have a Price field in your database:



5. Give the field a name, choose a data type for the field.
6. A data type can be a word, number, currency, date, time, etc.
7. The properties of the Price field (once defined as a number) include how large a price it can be, the number of decimal places, if the field should contain a default value (like $5.99), and more. As we use tables more we will explore more of the details regarding Field Properties.

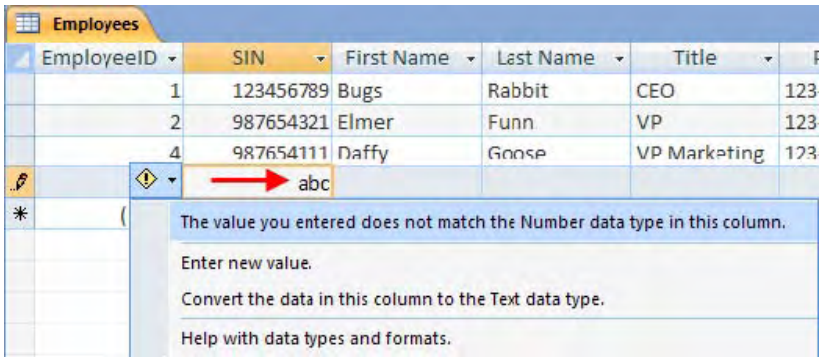
5.3 Entering Data

Using a table

Access 2007 provides you with a few ways of entering data. You can enter in the data manually, use a form, or use the Import commands in the External Data ribbon.

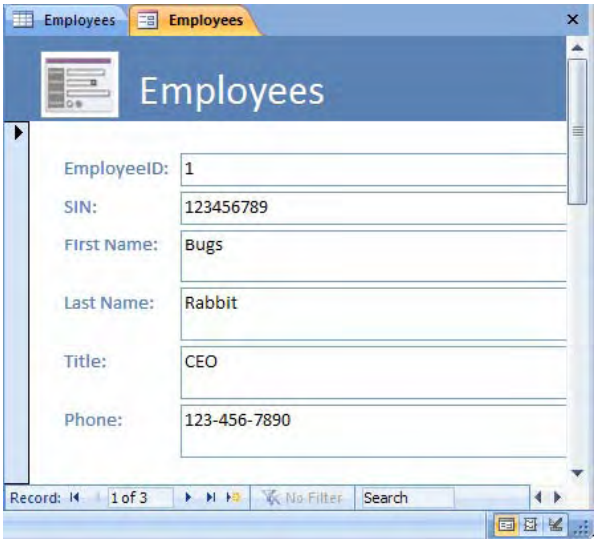
To enter data manually

1. Open a table in Datasheet view by double-clicking its name in the Navigation Pane. If you make an error while entering data, like accidentally entering a word into a number field, Access will prompt you with an error stating so.
2. if you try to enter non-numeric characters into the SIN field of the Warner Cousins database, you will see the following appear:



3. There may be an instance where it is necessary to have both letters and numbers in the same data field (such as the Phone field). Luckily, the Text data type allows you type in any characters you like.

Using a form



1. The next method of entering data is by the use of a form. We defined a form earlier as a way of entering data into a table one record at a time. In the picture below, Access constructed a simple form based on the Employees table when the Form command was clicked in the Create ribbon:
2. You may recognize the navigation buttons at the bottom of the form. You can use these buttons to move back and forth through the records in a table as well as create a new record:

 First Moves to the first record in the table.

 Previous Moves to the previous record.

 Next Moves to the next record.

 Last Moves to the last record in the table.

 New Creates a new record in the table.

Using the form views

In the very bottom right-hand corner of the careen are the icons to switch (from left to right) between Form View, Layout View, and Design View. The picture above is in Form view, the 'highest level' view. Layout view is new to Access 2007; it acts as a bridge between Form and Design view. Essentially, it allows you to view records as you would in Form view while still being able to move and modify the pieces of the form.

1. If you enter Layout view and click a piece of the form (called a control), you can move the piece up and down through the order of the existing controls:

2. If you click the small four-way orange arrow at the top of your screen, you will select all of the controls in the form at once:
3. Click and drag your mouse to move the controls as a group. We will explore more of the functionality relating to forms and form design later in this manual.

Formatting a Table

Access has always given you a great amount of flexibility when it comes to modifying the look and feel of the objects in your database. Access 2007 is no different, letting you modify just about everything you can think of.

Entering Text

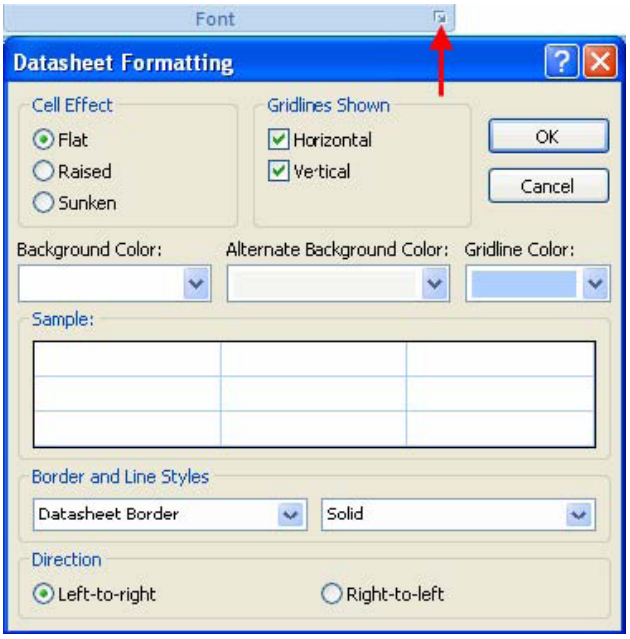
1. If you create a new table and enter some data, the result is straightforward and clean:

Employees

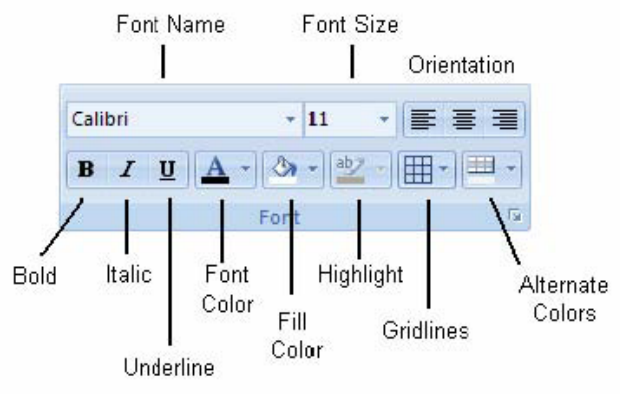
EmployeeID	SIN	First Name	Last Name
1	123456789	Bugs	Rabbit
2	987654321	Elmer	Funn
4	987654111	Daffy	Goose
5			
(New)			

2. If you have ever used Access before, chances are you noticed one of the new enhancements right away – the alternating background colours in the different rows of the table. You can modify the background colour by clicking the Font button in the Home ribbon:

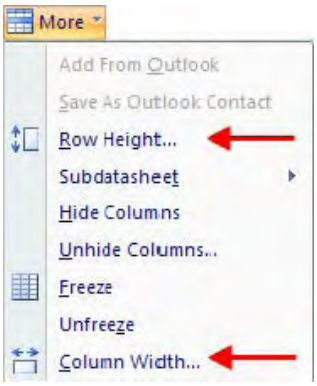
Font Options



The other commands in the Font section of the Home ribbon let you modify the font, font size, text style, orientation, gridlines, fill colour, and more, for the entire table. Any modifications you perform will be applied to the entire table.



Row Height / Column Width



Occasionally you may have very large (or very small) amounts of data to put into a table. For example, Access features a Memo data type that can hold a total of 65,535 characters – that's about 40 pages of solid text! You can expand the dimensions of rows and columns in order to be able to view the contents of a table.

1. To do this, click the More command in the Records section of the Home ribbon. In the pop-up menu you will see entries for Row Height and Column Width:
2. With Row Height, you can specify a unit of measurement or leave it at Standard height:

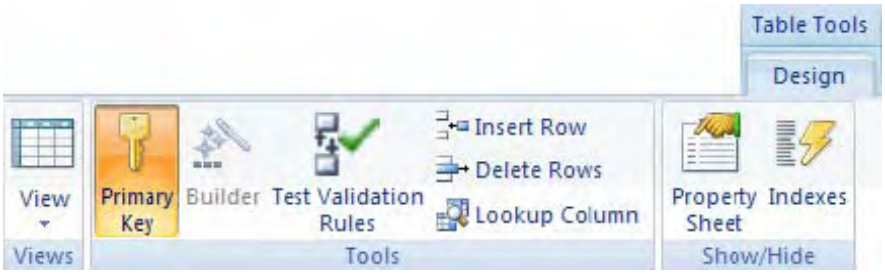
3. With Column Width, you can specify a unit of measurement for width or choose Best Fit, which will automatically adjust the column to the width of the widest field's entry: ,
4. You can also adjust the row height and column width manually. Place your mouse on the lines dividing the rows and columns from each other. Your mouse will turn into a double-headed arrow (for rows, for columns). Click and drag in the dimension displayed by the arrow to drag the height or width.

5.4 Managing Table Data Entry

In the final lesson of this section, we will explore some more advanced table data entry techniques. These methods, combined with all of the controls that can be enforced from previous sections, help protect your database from bad data entry.

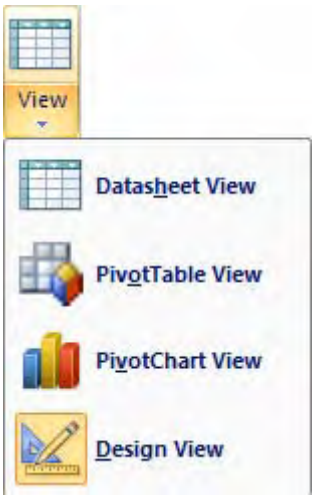
Using the Table Design Ribbon

Access 2007 features a special contextual tab that deals with Table Design:



Views

1. This command switches back and forth between the different views of a table:



Primary Key

1. This command toggles the primary key property for a field on and off. Although relatively rare, it is possible for a table to have more than one primary key.

Builder

1. Use this command to activate the expression builder. The expression builder is used to create logical expressions used to help ensure data is properly entered into a table. We will explore the use of this command in this lesson.

Test Validation Rules

1. This command will check any logical expressions built with the expression builder as well as other properties of a table to ensure there are no inconsistencies.

Insert Row

1. Use this command to insert a new field above the currently selected row in Design view.

Delete Rows

1. This will remove the currently selected field from Design view.

Lookup Column

1. A lookup column is a special type of combo box used to enter data into a table. You can fill the lookup column with your own data, or use data from another table. Lookup columns are very useful in using information contained in a different table. We will explore lookup columns in this lesson.

Property Sheet

1. In addition to having field properties, each field has another set of properties you can modify that deal with more advanced properties. Though some are duplicates of the field properties, most of these properties are beyond the scope of this manual.

Indexes

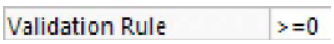
1. This command is used to modify the background properties of an index you can apply to a field.

How to Validate Data

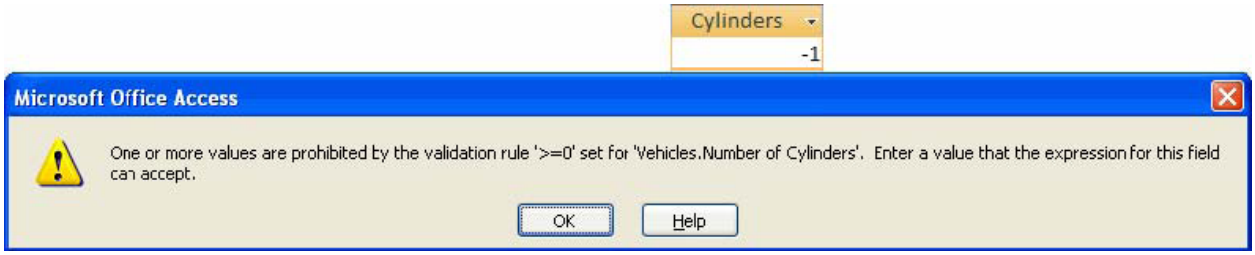
In addition to adding protection like required values and input masks, you can also add validation rules to your database to ensure that data entered makes sense.

For example, consider the Vehicles table used in the last Step-By-Step. The Number of Cylinders field has a default value of 6 and the Field Size is defined as Integer, which prevents decimal numbers from being entered. The field Description states that if a vehicle is equipped with a rotary engine (one that has no cylinders) that 0 should be the value. Therefore, a data entry is valid if it is a whole number greater than or equal to zero. However, no precautions are in place to prevent someone from entering a negative number of cylinders, a data entry that does not make sense.

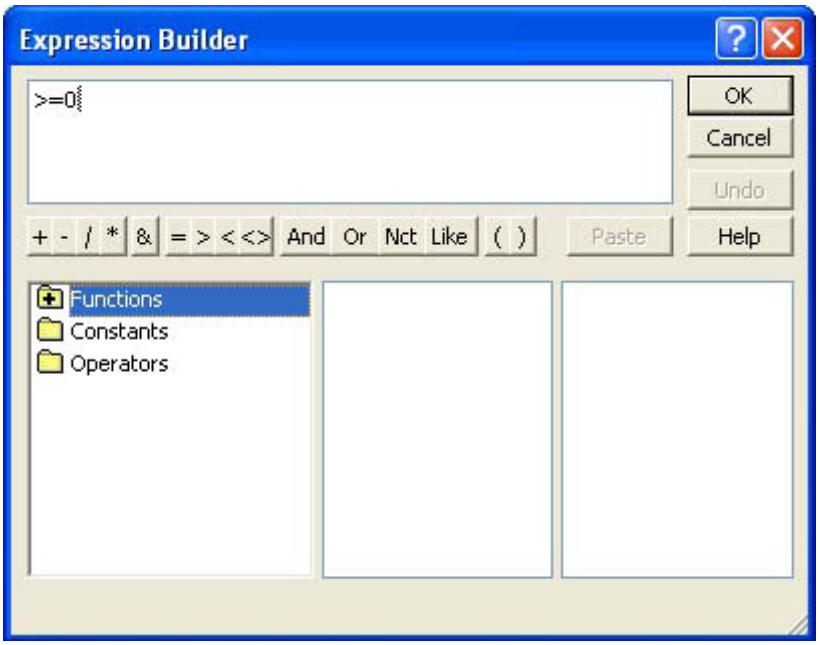
1. By clicking in the Validation Rule box, you can enter a simple expression, >=0.



2. This will prevent someone from entering a negative number of cylinders:



3. Back in Design view, you can click the button beside the Validation Rule field to launch the Expression Builder:



4. The Expression Builder lets you create customized validation rules, expressions, logical functions, and much more. We will explore the basic functionality of the expression builder later in this manual.

Creating a Lookup Field

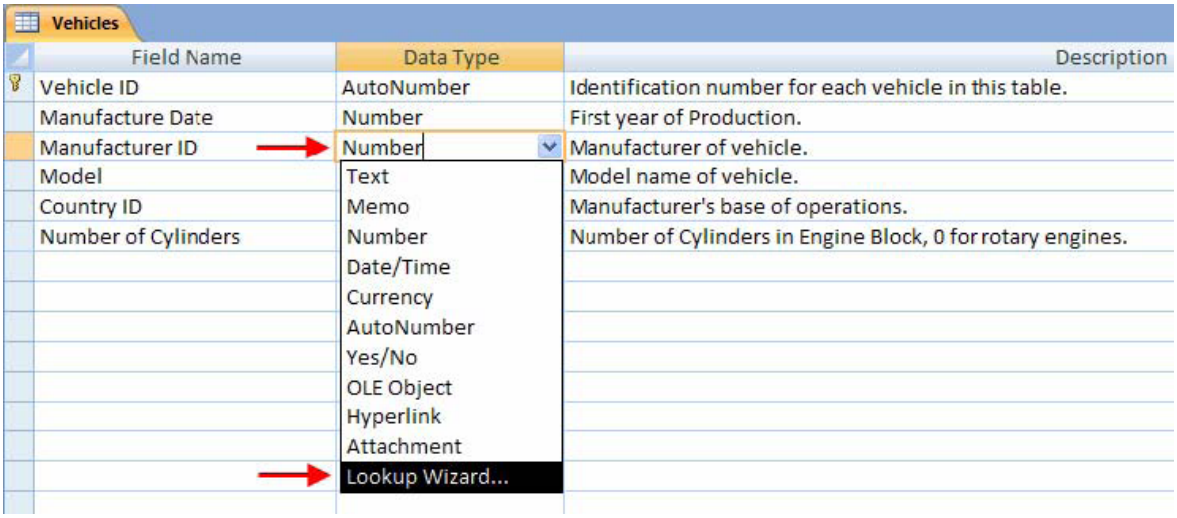
The current Vehicles table has been populated with some information. We already established the relationships with the Countries and Manufacturers tables. However, having a Manufacturer ID of 6 and a Country ID of 3 is not very meaningful when looking just at the Vehicles Table:

Vehicles

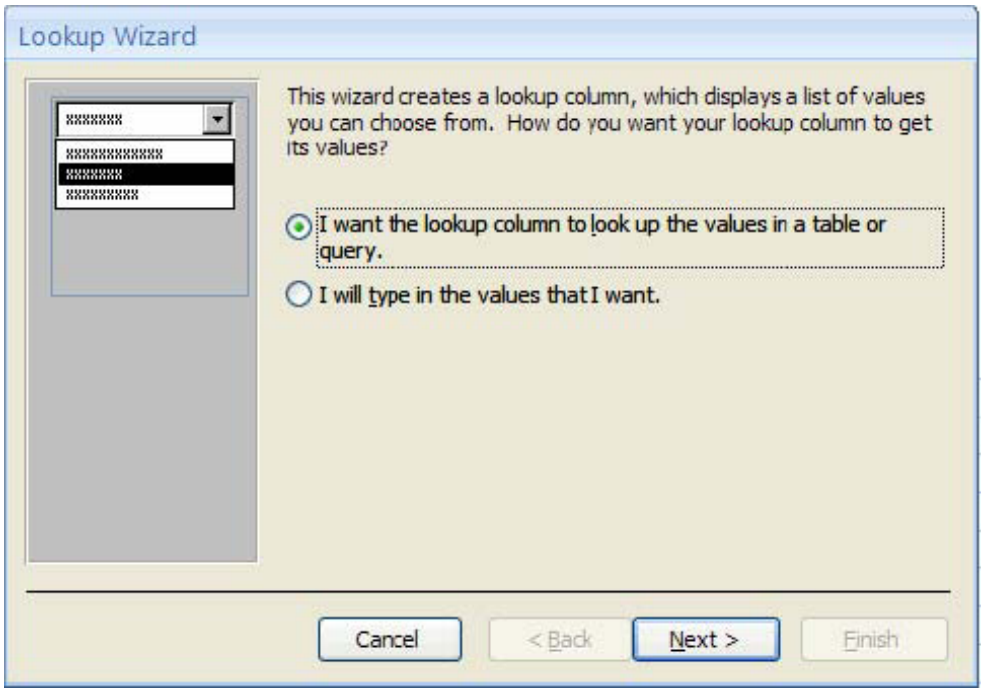
Vehicle ID #	Manufacture Date	Manufacturer ID	Model	Country ID	Cylinders
1	1982	1	Corvette	1	8
2	2003	2	V12 Vanquish	2	12
3	2000	3	S2000	4	4
4	2003	4	Tiburon	5	4
5	2002	5	575 Marinello	3	12
6	1979	6	Spider	3	4
7	1965	7	Falcon	1	8

Fortunately, Access features something called a lookup field. It allows you to use the actual Manufacturer name and Country name to enter data in the field. Creating a lookup field is easy; however you must first delete the relationship(s) that exist in the field.

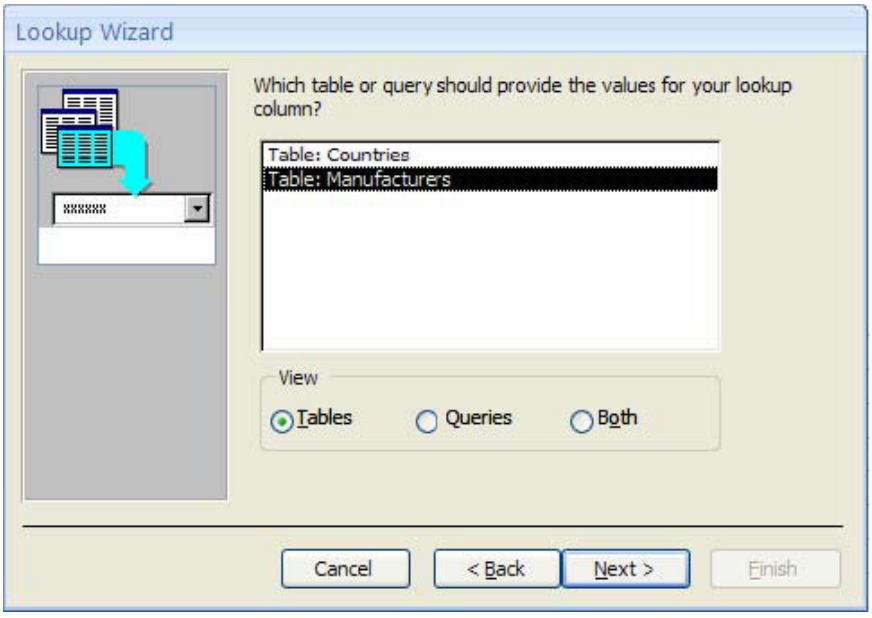
1. First, open the Vehicles table in Design view. Click in the Data Type cell of the field you want to turn into a lookup table and click Lookup Wizard.



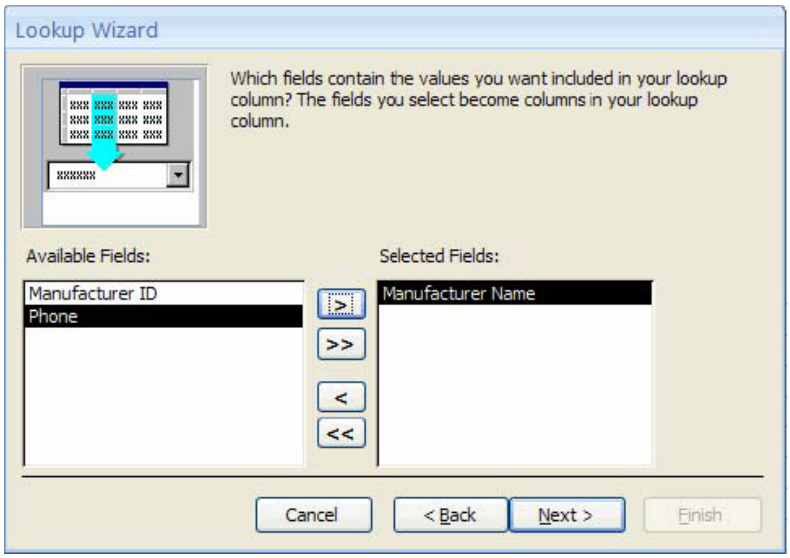
2. The Lookup Wizard will appear. In the first step, select the data source you will use for your lookup field. In our case, we want to use the data contained in the Manufacturers table:



3. The next step allows you to choose which table (or query) contains the lookup values; in our case the Manufacturers table:



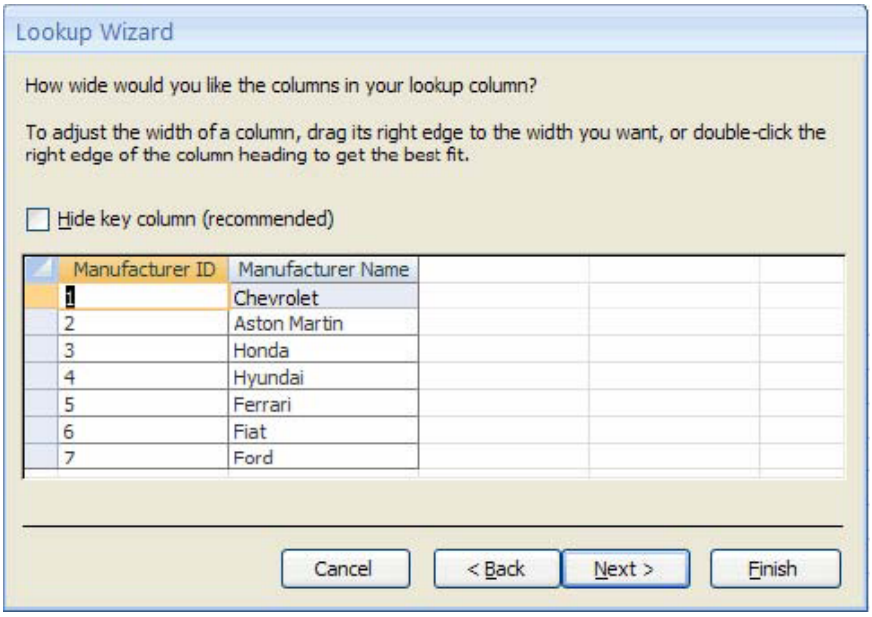
4. The next step lets you choose which field or fields in the source table you want to use for your lookup field. In our case, we want to show the Manufacturer name instead of just the ID:



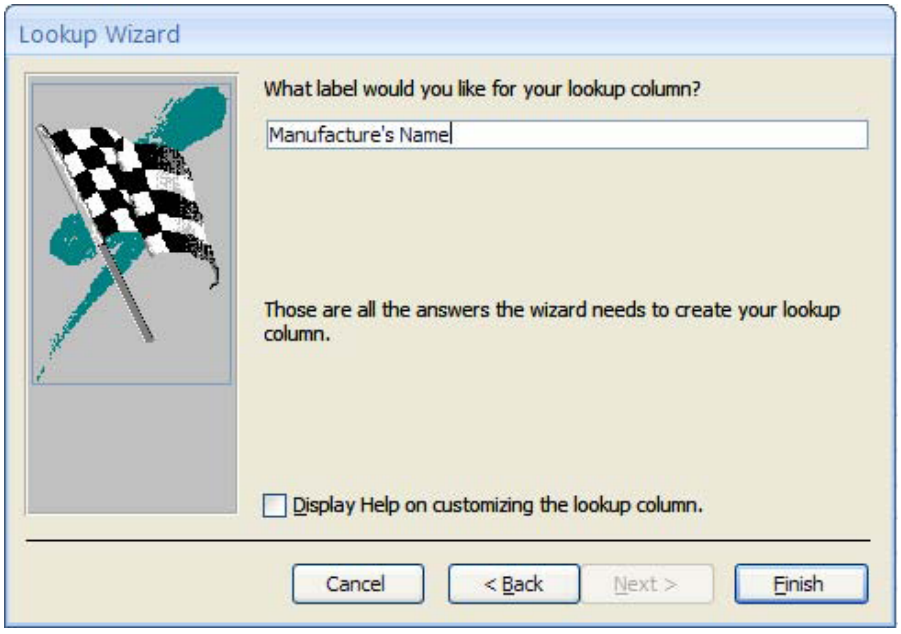
z

5. In the next step you have the option to sort the values that will appear in the field in ascending or descending order. If you do not specify anything in this step, Access will automatically apply an ascending order on the field that was used to create the filter:

6. The next step allows you to move your mouse to the edges of the column and click and drag to adjust the size. You can also opt to show the primary key column, which will show the corresponding primary key for each value in the lookup field:

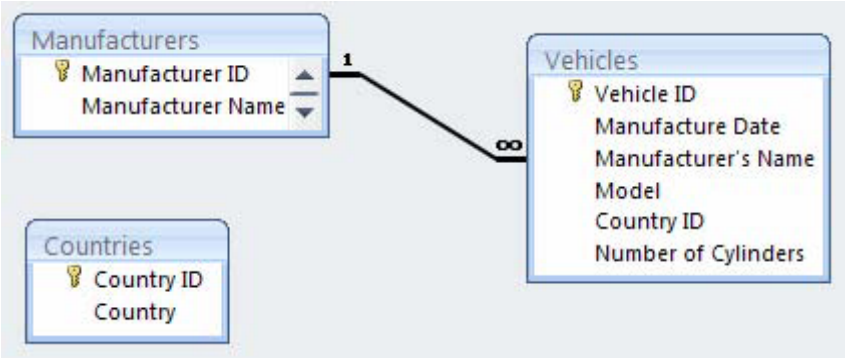


7. The final step of the Wizard will give the lookup field a name. This will replace the column name of Manufacturer ID. Click Finish:

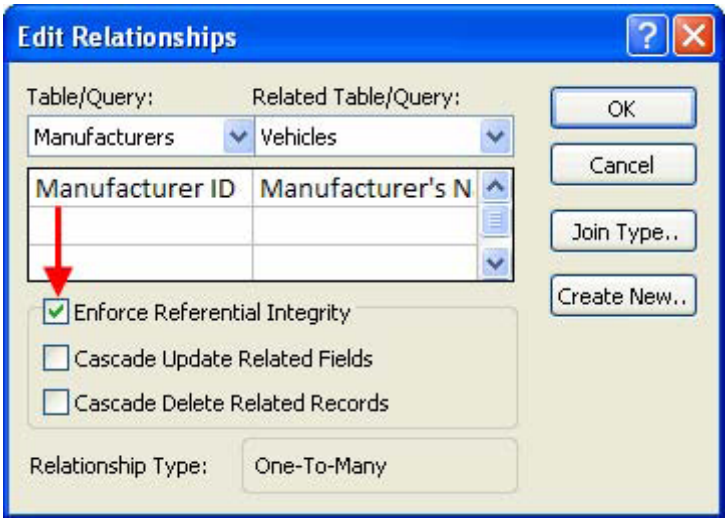


8. Return to Datasheet view once the Wizard completes. If you click in the Manufacturer's Name column of data, the field becomes a combo box. If you need to change the value to something else, click the pull-down arrow to see a list of available values:

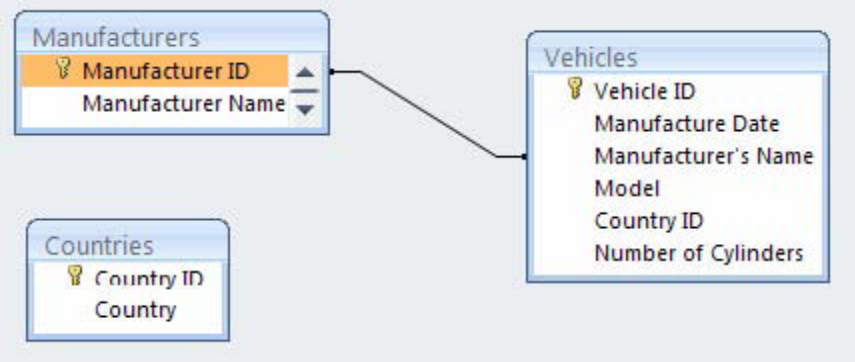
9. As part of the lookup field creation process, Access created a basic relationship between the Vehicles and Manufacturers table:



10. However, the relationship is not a strong one. Right-click the black line joining the two tables and click Edit Relationships:

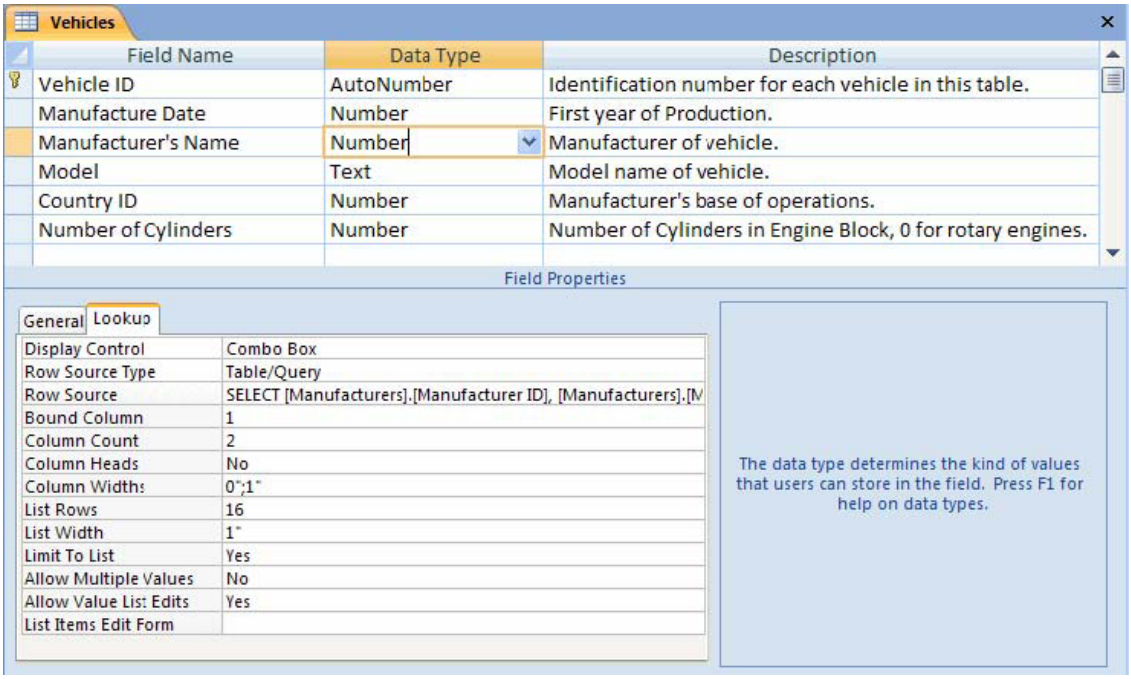


11. Click the Enforce Referential Integrity check box and click OK. The full relationship will be restored:



Modifying a Lookup Field

Now that you know how to establish a lookup field, you can modify certain characteristics of the field to suit your database's needs. If you open a table in Design view, you can view the lookup field properties by clicking the Lookup tab at the bottom of the window:



- The following properties are available to adjust:

Display Control

You can choose between a Text Box, List Box, or Combo box for the lookup field.

Row Source Type

You can specify between Table/Query, Value List, or Field List.

Row Source

The query or data that the lookup field uses.

Bound Column

Lists how many columns that currently constitute the lookup field.

Column Count

Number of columns that are available to use as a lookup field.

Column Heads

Can specify Yes/No if a field label, caption, or first row of data used to construct the lookup field values will be used.

Column Widths

Lists the dimensions of the columns used in the lookup field. The number of columns in the Column Count field, are the same number of dimensions listed here.

List Rows

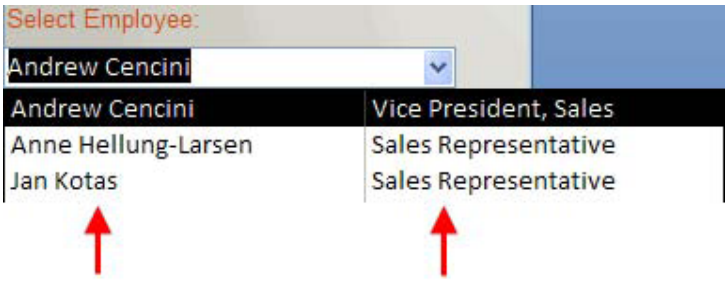
Maximum number of rows that are displayed if combo box is the specified Display Control.

List Width

Width of the combo box if specified as Display Control.

Limit to List

Forces user to use only the values in the lookup field; that is they cannot enter any data not specified by the query.



Allow Multiple Values

Access 2007 allows you to view multiple items in the lookup column at once, just like the login screen for the Northwind sample database:

Allow Value List Edits

Lets you edit the values that are contained in the lookup column.

List Items Edit Form

If the above property is set to Yes, specify which form you wish to use in order to modify the lookup values.

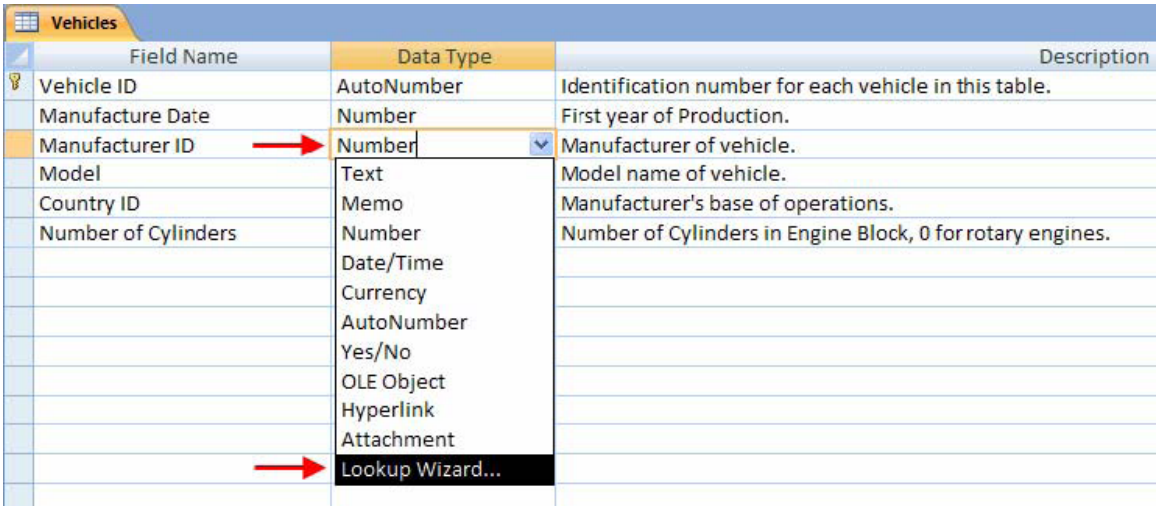
Creating a Value List

We have seen in the last section of this lesson that you can use a table to retrieve lookup field values. However, Access gives you the ability to specify the values that can be used in a lookup field yourself.

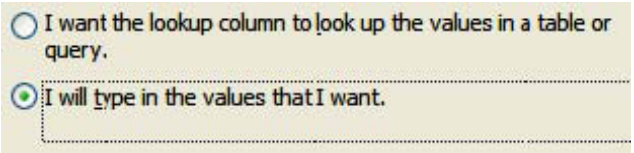
In this example, we will help prevent improper data from being entered into the Number of Cylinders field of the Vehicles table. We will create a value list that will let a user pick how many cylinders a car has from a list of options.

To create this value list,

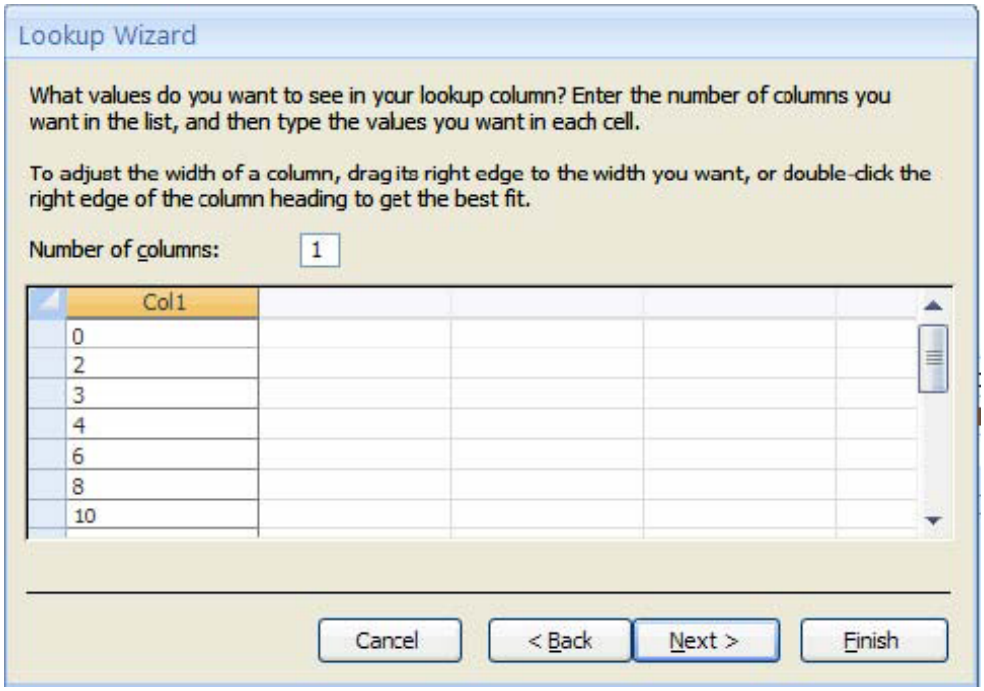
1. open the Vehicles table and enter Design view.
2. In the Data Type field of Number of Cylinders, select Lookup Wizard.

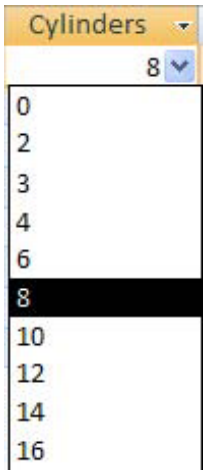


3. The Lookup Wizard window will appear. Select the second radio button and click -Next-:



4. The next page of the Wizard is where you enter the values you want to use for the value list.



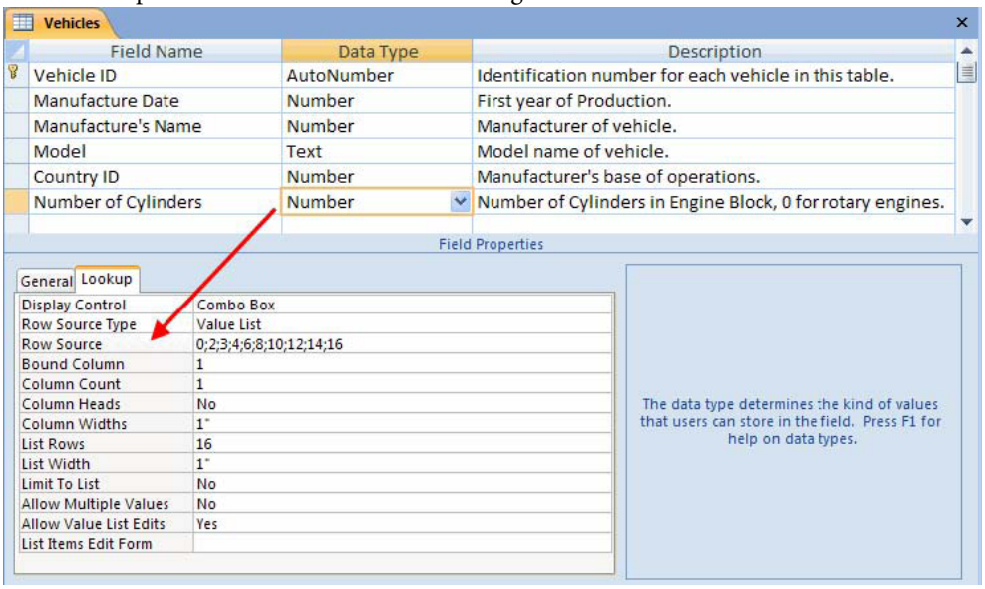


5. In this page of the Wizard you can specify the number of columns for the value list and which values you want to include in the list. (The majority of lookup fields/value lists you will use will only be a single field at a time.) Click your mouse inside the first cell, type a value, and press Tab on your keyboard to move to the next cell. When you have entered the list of values you want to use, click -Next-.
6. The final step of the Wizard asks you to name the lookup column (value list). The default name is the same name as the field, but you can name it whatever you like. Click Finish to complete the Wizard. If you open Datasheet view for the table you will be able to use the combo box to fill in a value for the field.

Modifying a Value List

Modifying the properties of a value list is essentially the same as those for a lookup field.

1. Click the Lookup tab located at the bottom of Design view:



2. The only difference between this value list and any lookup field is the ability to see and modify all of the values currently assigned in the Row Source field. You can add or delete as many as you like, but make sure that each value is separated by the delimiting semicolon.

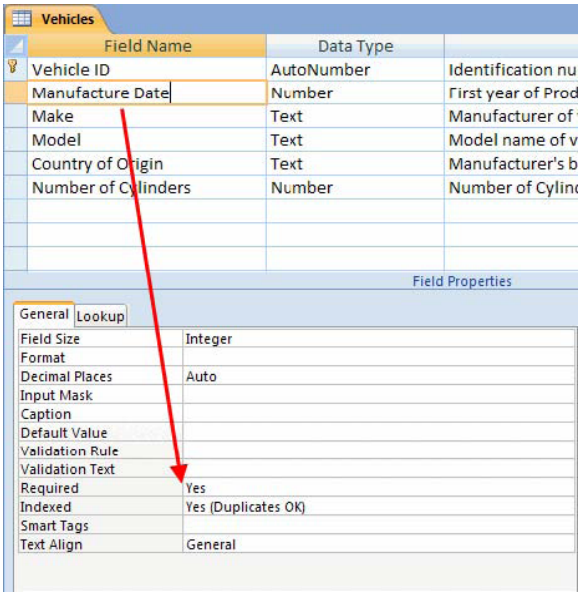
5.5 Controlling Table Data Entry (field Properties)

We will continue our examination of tables in this lesson by learning how to make table entry even more precise, further eliminating the risk of having bad or incorrect data entered into the database.

Setting a Default Value

A default value is something that is always present in a particular field whenever a new record is made. For example, if you own a company with its base of operations in New York, you can assign a default value of 'New York' in all of the address fields you might use in a database. Every time you go to enter a new employee's information or customer invoice, the city field will always be 'New York' until you change it to something else.

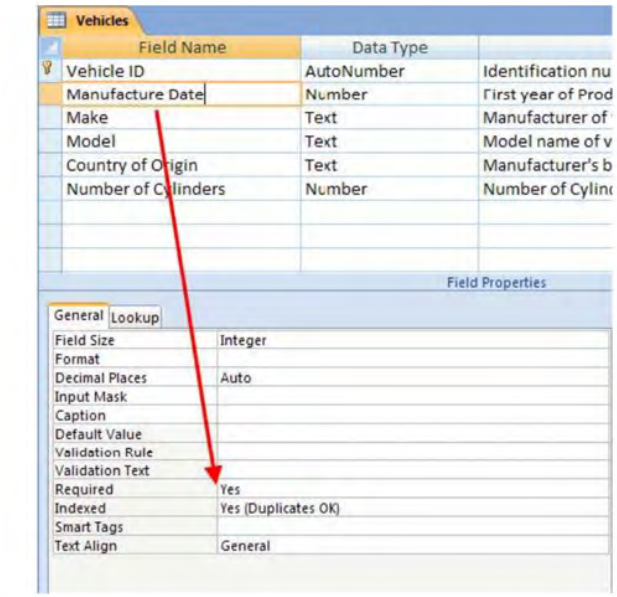
Adding a default value is easy, simply open a table in Design view, click the field you want to give a default value, and type a new default value in its corresponding field property. In our example, we will make the default number of cylinders 6:



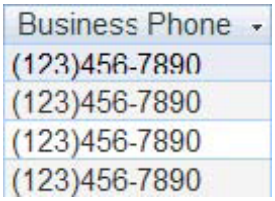
Setting a Required Value

A required value is a value that must be entered into a record in order for the database to be considered complete. If you have ever filled out a form on the Internet, you usually see an asterisk (*) beside fields that must be entered in order for a data entry to be valid:

1. Making a value a required value is as simple as clicking yes or no in the -Required- combo box:

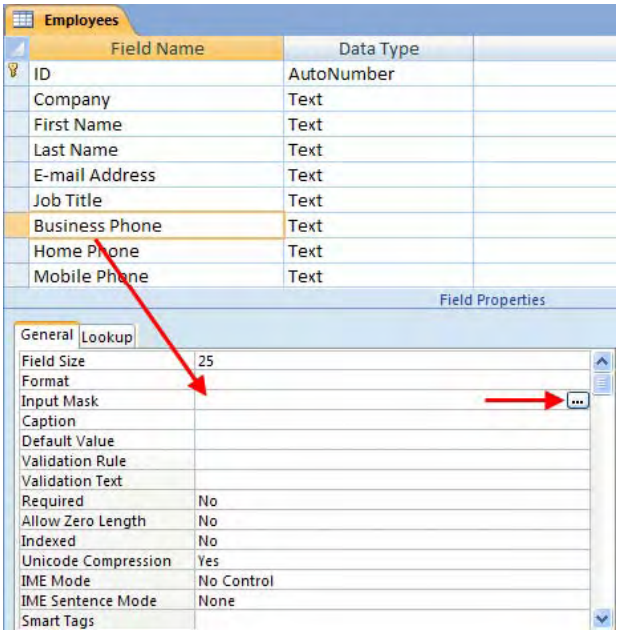


Creating and Using Input Masks

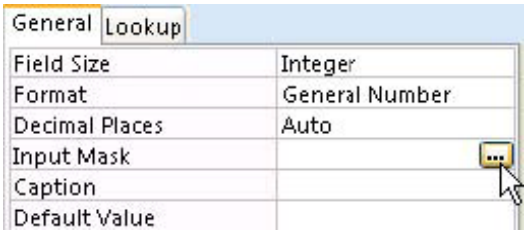


An input mask is defined as a type of template that is used when entering data into a field that follows some sort of format. For example, the phone number 4827482234 is much harder to read than (482) 748-2234. Access can set up input masks to make sure data is entered completely and correctly. The Employees table in the Northwind sample database makes use of such an input mask:

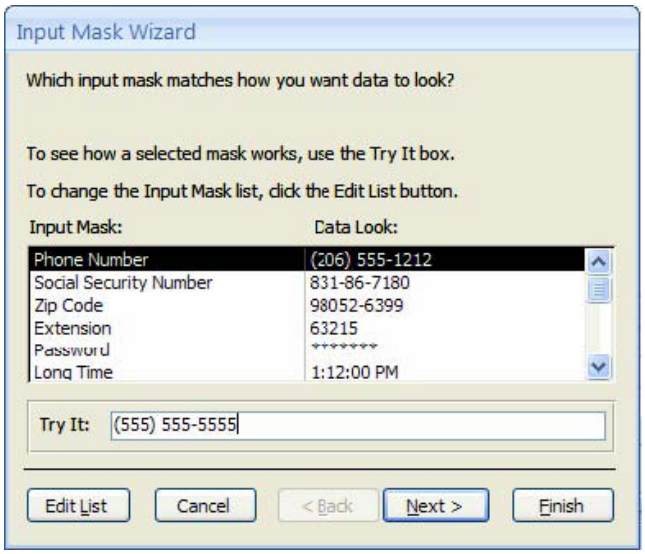
1. Different data types have different input masks. To setup or modify an input mask, open a table in Design view:



2. Then, open the field's properties and find a field that does not offer the option to type or choose from a combo box. Click it and a small symbol will appear ( ) on the right-hand side.

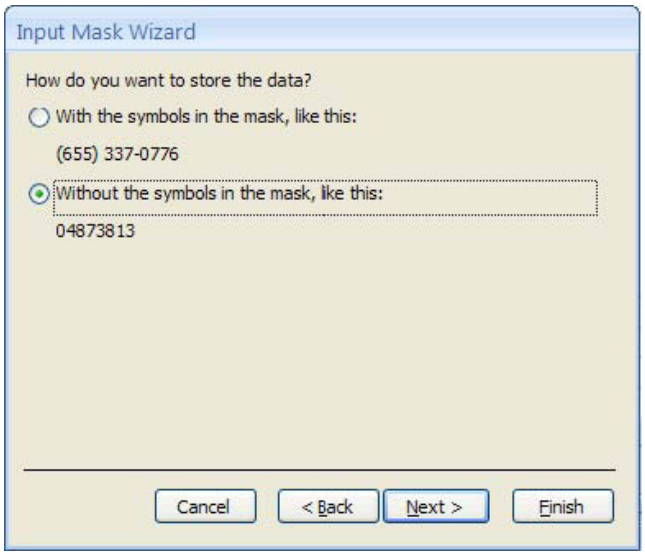


3. Click it to start the Input Mask Wizard:



4. Here you can select from the various input masks that are available. The first option is the phone number mask; give it a try by clicking in the Try It: text box and typing. Click Next.

5. Here you can change the placeholder character to some other symbol than the underscore character. Click Next.



6. You can choose how you would like to store the data in the table, either with the symbols or without the symbols. If you choose to keep the symbols in the database to make the data easier to read, you must make sure the data type for the Phone Number field is Text as non numerical characters are not allowed in a Number field. Click -Next-,
7. Click Finish- to complete the Wizard. If you close the Employees table Design view, and then open the table in Datasheet view, you will see that the Phone field has the input mask applied to it:

Business Phone
(123)456-7890
(123)456-7890
(123)456-7890
(123)456-7890
(123)456-7890
(123)456-7890
(123)456-7890
(123)456-7890
(123)456-7890
(***) ***-****

5.6 Relationships

Creating and Removing Table Relationships

In this section we will explore the staple that really makes a database work: the relationships that are established between the different tables of data. When designing a database, this is the most challenging step and often the place where most of the confusion with databases arises. Fortunately, databases are nothing more than tables of data that are related.

Consider the following simple database:

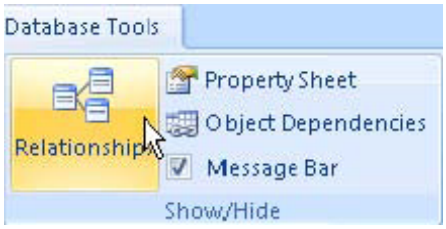
Expenses

Employee ID	Date	Expense Type	Amount
2	5/7/2006	Erasers	10
2	5/25/2006	Lunch	50
1	6/1/2006	Flight	600

Employees

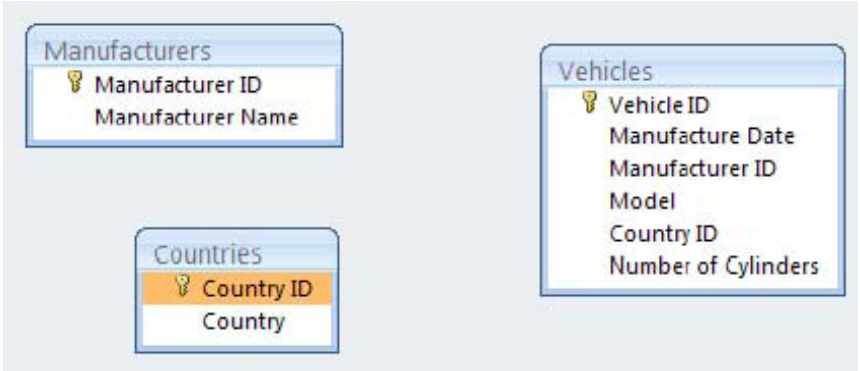
Employee ID	Name	Address	Phone	Title
1	Bugs Rabbit	42 Carrot Dr	555-1212	CEO
2	Elmer Funn	123 Wabbit Way	555-9876	VP

Imagine your database has a table of employees, and a table of expenses that have been made by your employees. As time goes by, the Expenses table will grow to become quite large. You wish to make a query that will find out the phone number of every employee that submitted an expense. It is impractical to place the employee phone number in the same table as the expenses. It will create a lot of extra data that is not really needed if there is another table containing employee data elsewhere. The relationship between the two tables is created because of the two common fields,-EmployeeID-. In particular, the Employees table and the Expenses table are in a "one-to-many" relationship, meaning that one entry in the Employees table can relate to many entries in the Expenses table.



Knowing this, we can add two relationships to our expanded Vehicles Database. You can view the relationships by clicking the Relationships command in the Database Tools ribbon:

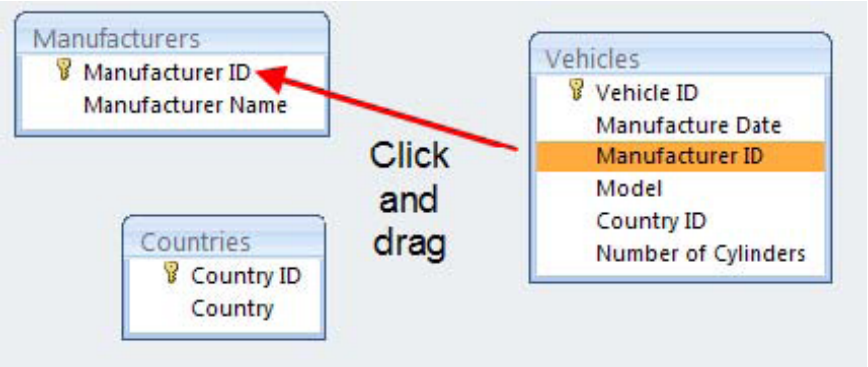
Consider the following tables:



Instead of naming every country and manufacturer in the Vehicles table, we can lighten the size of the Vehicles table by taking those two pieces of information and storing them in a separate location. In a database of this size this may not seem like that big of a deal, but as we proceed through this manual, the reasoning will become clearer.

Make and Country in the previous Vehicles table are replaced by Manufacturer ID and Country ID. The Manufacturers and Countries tables listed above contain only the respective ID and name for each record. However, Access does not automatically recognize the relationships by itself; we must tell it which fields relate in these tables.

1. Click on the database tools ribbon, Show hide group, relationships button to show relationships window.
2. The contextual design ribbon appears click on the show table button in the relationships group.
3. Add tables you wish to relate click on close.
4. To establish a relationship between the Vehicles and Manufacturers tables, simply click and drag the Manufacturer ID field from one table to another:

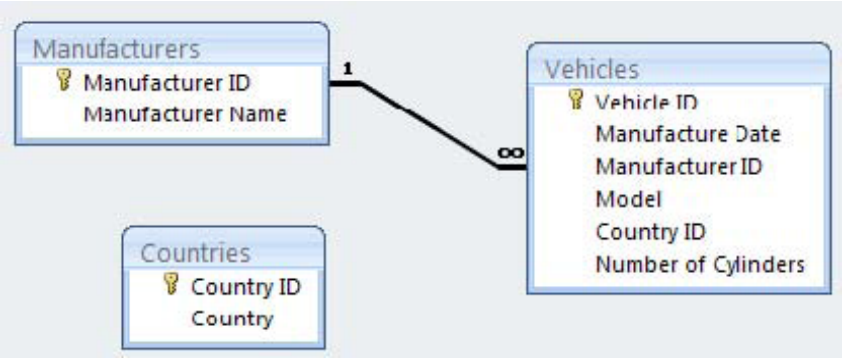


5. When you release the mouse button, you will see the Edit Relationships dialogue box:

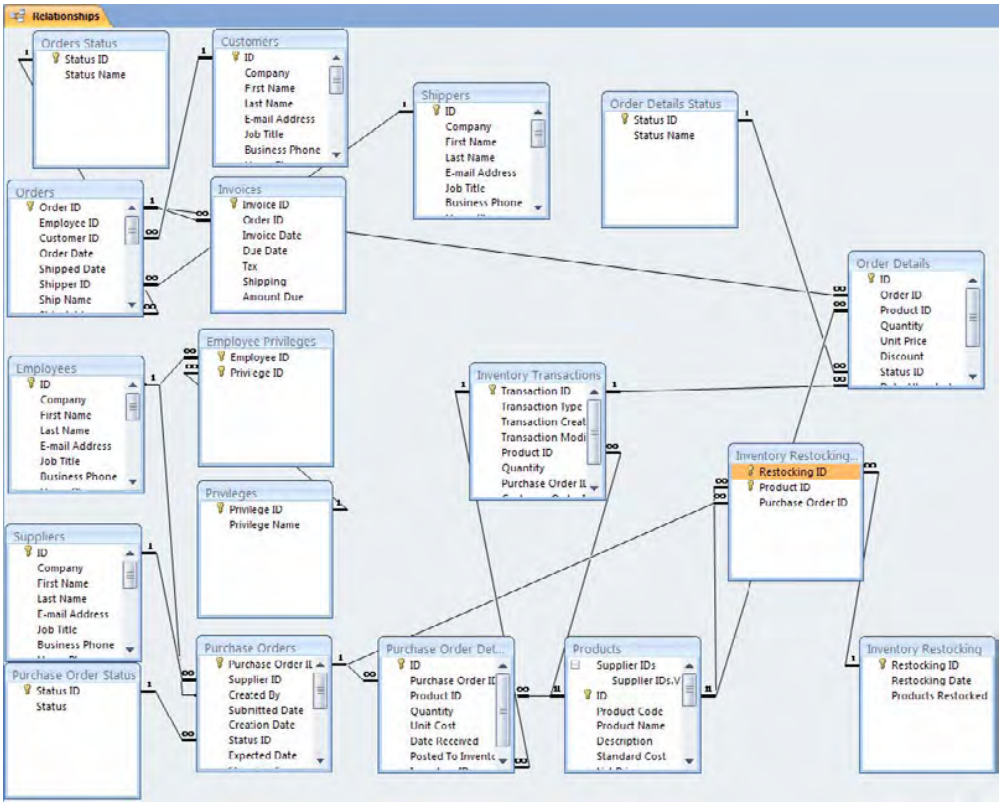
6. Access has determined that the style of this relationship is One-To-Many, based on the data that was collected from the drag and drop operation. Before clicking the Create button, you should click the Enforce Referential Integrity check box.
7. Referential Integrity is a set of rules and conditions that make data entry into databases safer. You should try to enforce referential integrity whenever possible. It insures that all related fields are valid when considered together in a database, and prevents you from accidentally deleting related data. To make referential integrity work, the following three conditions must be satisfied:

- The matching field from one table is a primary key or has a unique index. (True: Manufacturer ID is the primary key)
- The fields in the relationship have the same data type. (True: both fields are numerical)
- Both tables are stored in the same database. (True: both tables are in the same database file, not a linked table.)

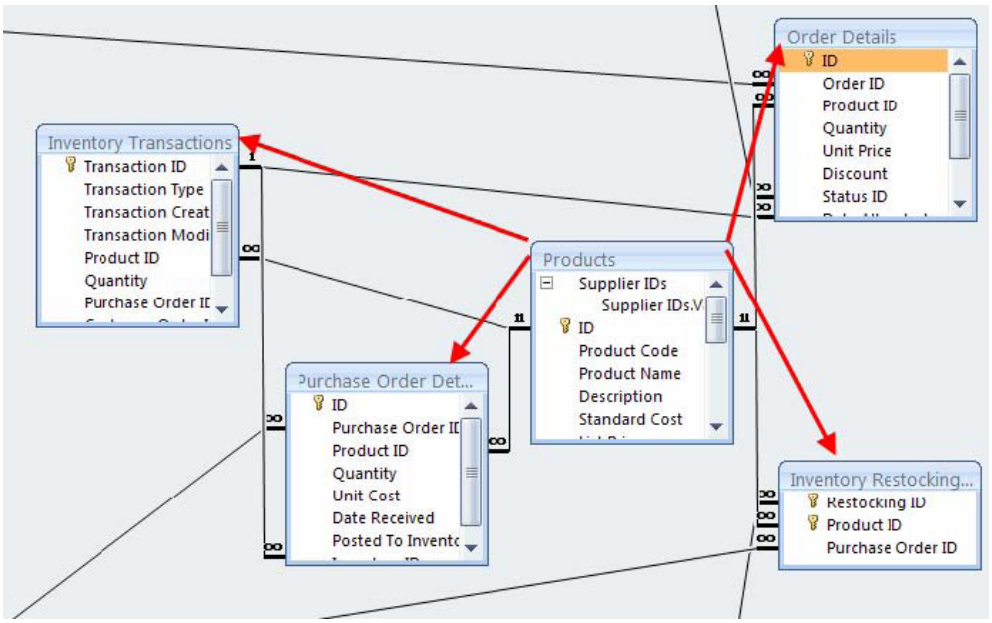
8. Since all of the necessary conditions have been satisfied, click Create to establish the relationship:



9. You can see the one-to-many relationship in the diagram above. One Manufacturer ID from Manufacturers may correspond to many Manufacturer IDs from Vehicles.
10. Now let's examine the relationships in the Northwind sample database. As you can see in the diagram below, there is a lot of action happening in this database!



11. Let's examine the Products table in this database:

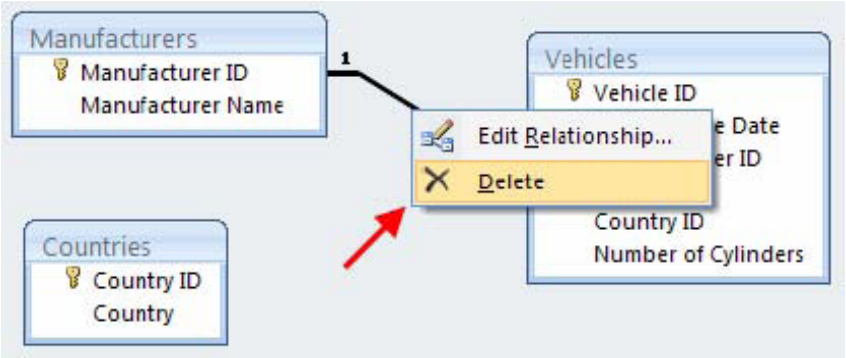


Each product record contains many attributes describing the nature of the product that Northwind sells, one of which is an ID field. In fact, each relationship in the Product table is based on the ID field. There are four relationships denoted by black lines coming from the ID field, relating to Inventory Transactions, Purchase Order Details, Inventory Restocking Details, and Order Details. Consider the relationship with the Order Details table. One product that Northwind sells has the potential to be sold many times, therefore each sale of each product is logged in the Order Details table. The Products table is in a one-to-many relationship with the Order Details table.

Creating the relationships is very simple if the fields in your tables have been well planned; simply drag and drop fields. When deleting a relationship, remember that doing so can have a big impact on how the database works. Make sure you actually do need to remove the relationship!

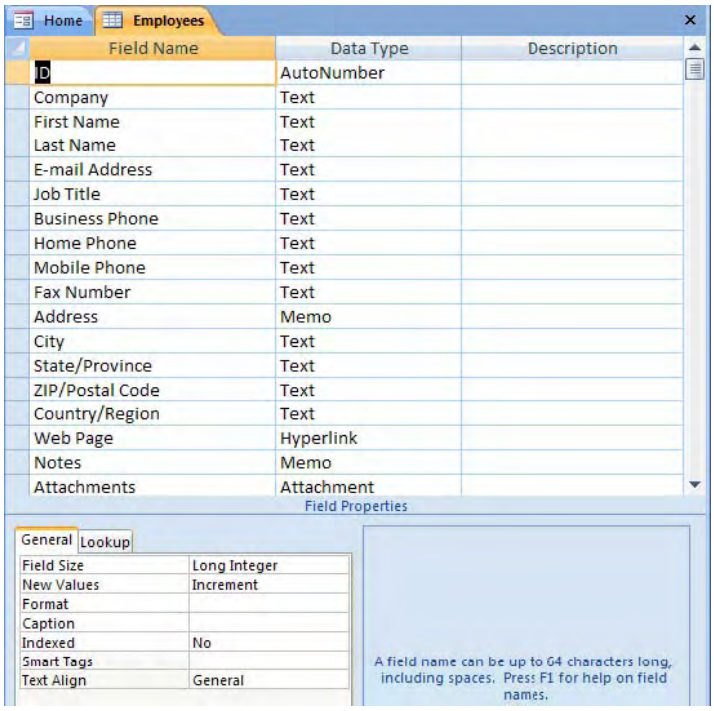
Deleting relationships

1. Deleting a relationship in the Relationships window is easy, just right-click on the relationship you want to remove and click Delete:



2. Access confirms that you want to delete the relationship, click -Yes- to confirm.

5.7 Customizing Tables



You should now be familiar with the basics of tables and understand fields and rows. In this lesson, we will explore tables in more depth and learn about their attributes and how they can be modified.

Understanding Field Properties

Every field in every table in every database has properties. In fact, you will learn that nearly everything in the entire Access program has properties of some type to modify! To see the field properties of a certain field, you must first open a table in Design view. Consider the Employees table from the Northwind sample database:

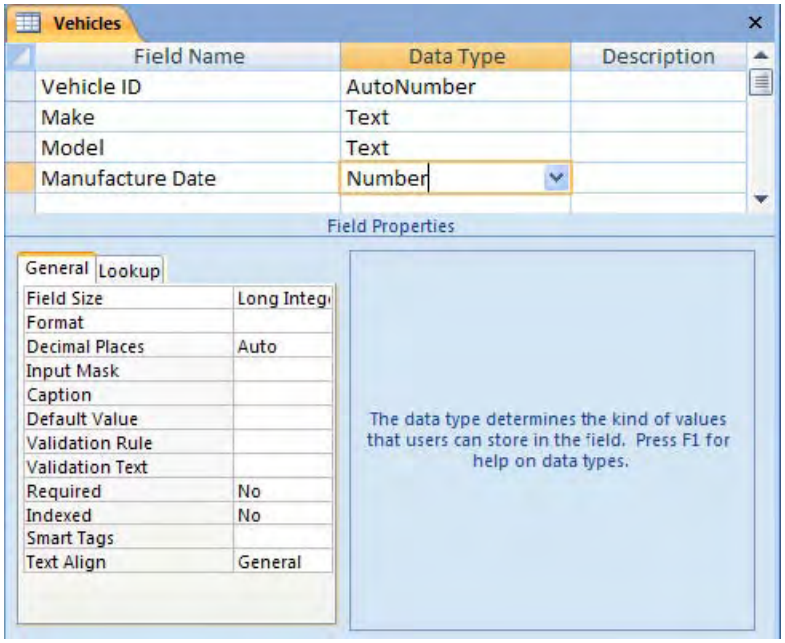
Field properties are visible in the bottom half of Design view. Each field name has an associated data type. Each data type will have different properties that you can define to make the table contain exactly the data you need. We will explore Field Properties in depth later in this manual.

Adding a Primary Key to a Table

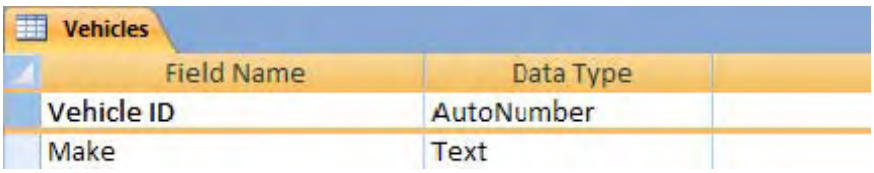
If you are just starting with Access, chances are you have been using the Table Wizard to help construct tables. One of the nice things about the Wizard is that it can automatically define a primary key for you. The Wizard is great for getting going, but once you become more comfortable with databases in general, you will likely build all of your tables using Design view.

In previous versions of Access, a primary key was not automatically defined when creating a table in Design view. You were prompted when you were ready to close and save the table. When constructing a table in Design view using Access 2007, a generic primary key is already assigned:

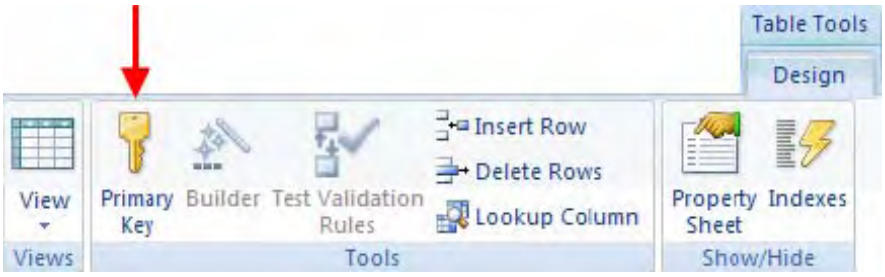
1. However, consider the following table which does not contain a primary key:



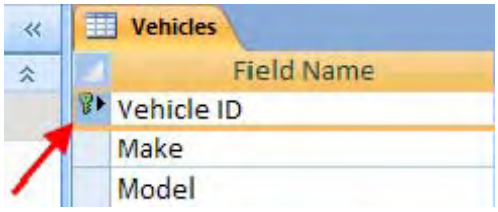
2. Currently this table does not have a primary key. If you recall, a primary key is used as some sort of unique identifier that separates every row in the table from every other. Vehicle ID is a good candidate for a primary key because every one of the IDs is different. To make it the primary key, click the light blue box beside the Vehicle ID cell to select the row:



3. Now click the Primary Key command in the Table Tools - Design ribbon:



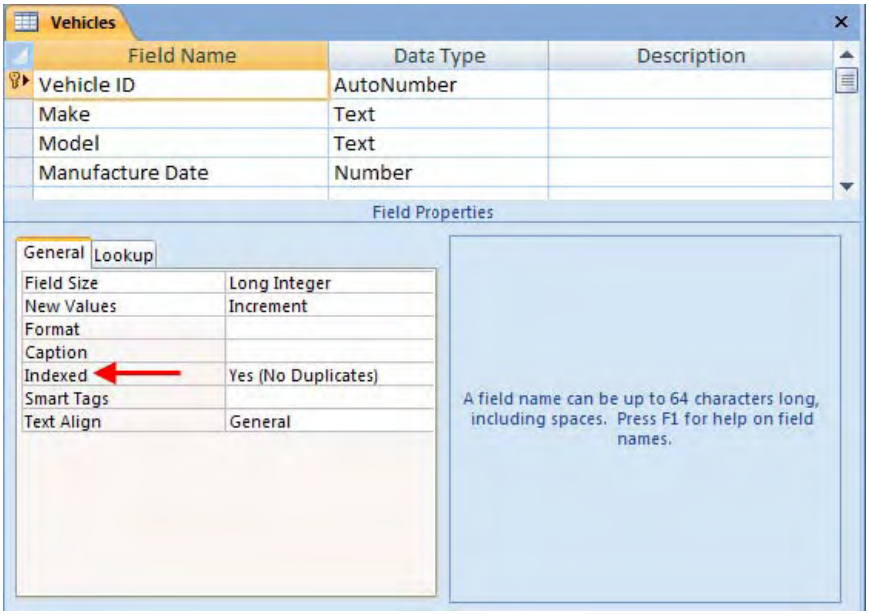
4. Primary keys in tables are denoted by a small key in the blue box beside the cell name:



Indexing a Field

An index is designed to help speed up a search. When you look up something in an encyclopaedia, and the subject starts with the letter Q, you are not going to start looking at A in the index and browse until you reach Q! You will start at Q because you know the value is not in any of the sixteen previous letters.

1. The same principle applies to a database. To index a field, first view the table in Design view:



2. The current field, which also happens to be the primary key, is indexed. There are three options when indexing:

No

No indexing will be performed on this field

Yes (Duplicates OK)

The database will allow for multiple rows that have the same field value. Vehicle ID would not use this feature because it is the primary key. But if you have several rows that have the same model name, and have several different models in your database, this option makes database updates slower, but makes searches faster (in the case of very large databases).

Yes (No Duplicates)

The opposite of the above feature; if you have several rows with the same make, only the first row instance will be indexed. This makes database updates faster but will decrease search time somewhat (in the case of very large databases).

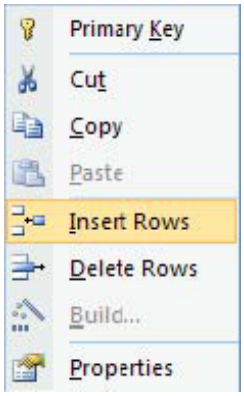
3. The only data types you can't index are Memos and Hyperlinks.

Inserting, Deleting, and Moving Fields

Let's continue with our vehicle database example. Access lets you easily insert new fields, delete useless/unused fields or fields that are not relevant to the data, and move the order of fields in a table. The easiest way to perform these tasks is by using the table Design view.

In this example, we will add two more rows to the vehicle table: Engine type and Colour.

1. To insert a new field, either click in the empty cell beneath the last row in Design view and enter the data or insert a row between two existing rows. To demonstrate this, we will right-click the Manufacture Date field and click Insert Rows:



2. This will create a new row between Model and Manufacture Date:

Vehides

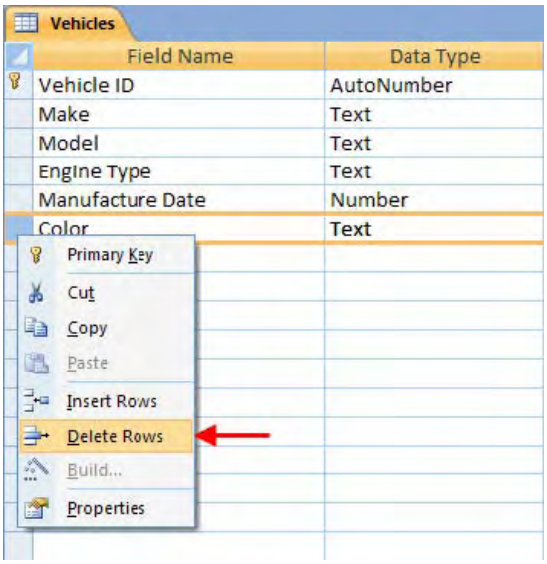
Field Name	Data Type
Vehicle ID	AutoNumber
Make	Text
Model	Text
Manufacture Date	Number

3. Type Engine Type for the field name and Text as the Data Type.
4. To insert the Colour field beneath Manufacture Date, simply click in the next empty cell in the Field Name column and type Colour as the name; and Text as the data type:

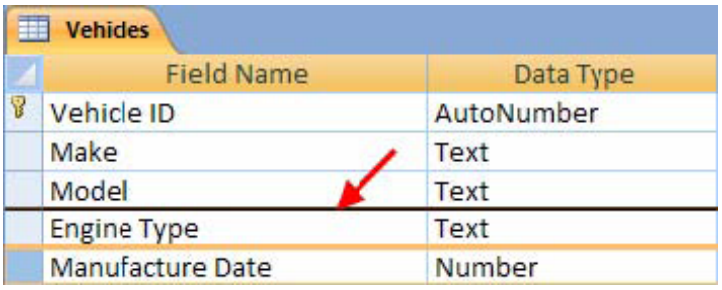
Vehides

Field Name	Data Type
Vehicle ID	AutoNumber
Make	Text
Model	Text
Engine Type	Text
Manufacture Date	Number
Color	Text

5. In order to delete a row, first make sure that you remove any dependencies or relationships that may exist with other database objects. Access can help you with this task, but to be on the safe side, you should first make a backup copy of the database or the table by using the Save As command. Once you're ready, simply right-click on the blue box beside the field name and click Delete Rows:



6. To move a field, click the blue box beside the field you want to move to highlight the row. Click the field again, hold down the left mouse button and then drag the field up or down through the rows of Design view.
7. You will see a bold black line between the various fields as you move:
8. When the black line is in the location you want to move the row, release the mouse button.

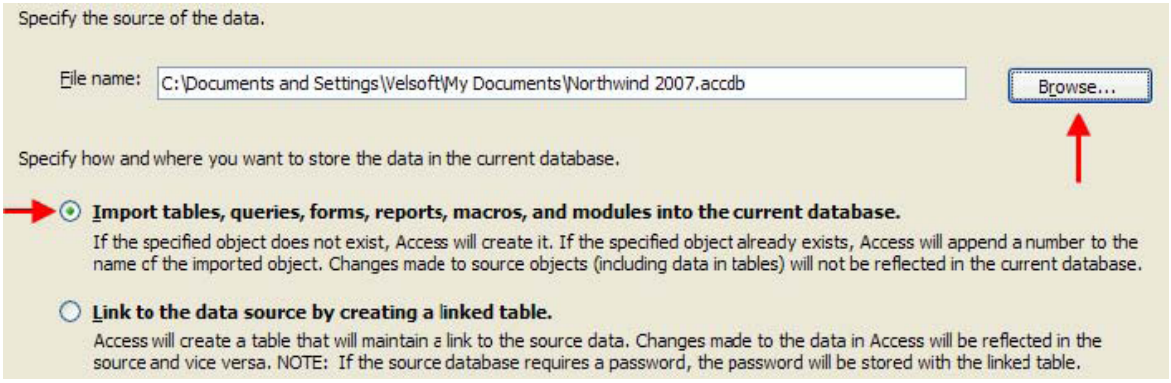


Importing a Table from another Source

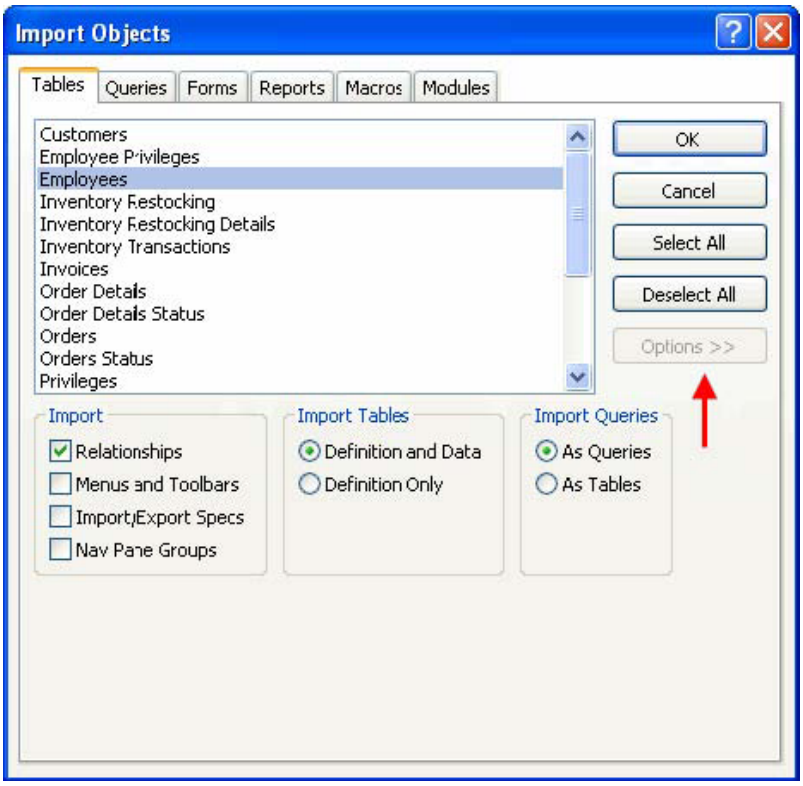
We have already covered how Access can import and export data from an external source in the previous section. Access 2007 features import and linking operations together in the same command group located in the External Data ribbon. In this lesson we will explore how to import an entire table from an external source.

1. In this example, we will import the contents of a table from the Northwind sample database. Open the destination database and click the Access command in the External Data ribbon:

2. The Get External Data – Access Database dialogue box will appear. Click the Browse button to locate the file and make sure the "Import tables, queries, forms…" radio button is selected:



3. The Import Objects dialogue box will appear. Click each object you want to import one at a time from the Tables tabs at the top (or click Select All to highlight all under a single tab). For more advanced options and to change how Access will import objects, click the Options button:



4. Click -OK- and the entire selected table will be imported into your database. Access prompts you to save the import operation if you like. The table will be displayed in the Tables object page of the Database window. Since you have imported the data (as opposed to linking it) you have full access to do whatever you like to the data. The source file will not be touched.

5.8 Sorting and Filtering Data

The databases we have been dealing with so far haven't been very large. Most of the information available we could scroll through in a few minutes. But if you are managing a library or government database, you might spend your entire day looking through just one table and still not make it through.

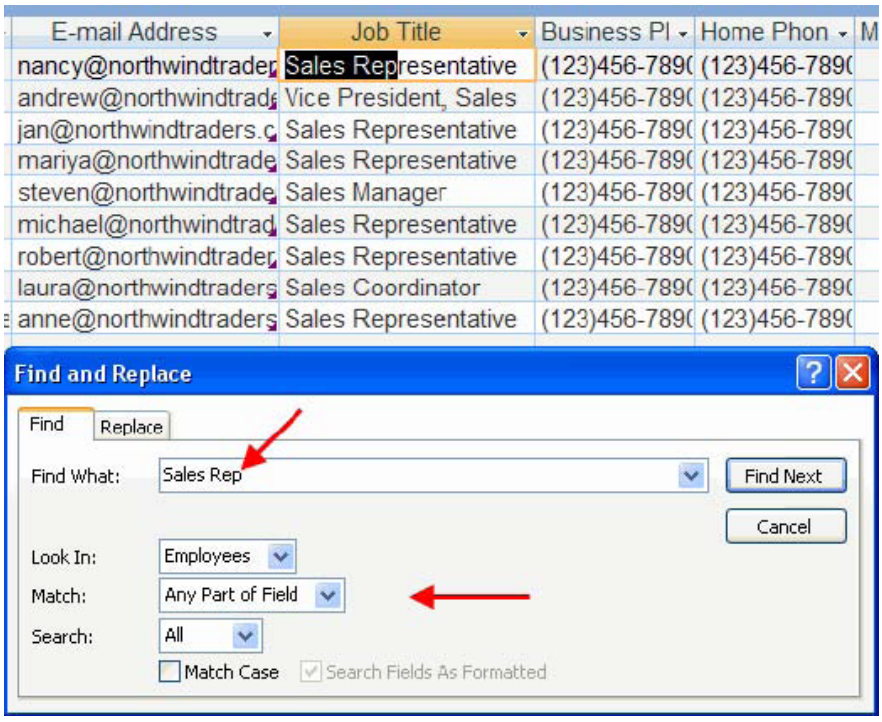
Filters are like small specialized queries that are performed on a single table of information. Fortunately, Access has the ability to sort and filter data in order to narrow down the results you need. In this lesson we will explore how to sort and filter data in your database.

Using Find and Replace

If you are familiar with word processing and spreadsheet programs, you are probably familiar with find and replace commands. Even Internet browsers feature a find command. These commands are designed to search a document of any size quickly to find instances of a certain keyword or value and, if applicable, modify it.

You can use the find and replace commands on every database object except reports (which are really just documents to be printed), macros (a collection of commands, no actual data), and modules (another sequence of commands, again no actual data). You can find both commands on the Home ribbon.

The Find command will search through an object and locate all instances of a keyword. The Find command also gives you the ability to search only specific columns of data and flexibility in how it searches. If you only know part of a word or phrase, you can search based on what you know.



Find What

The Find What field lets you type in a certain word, part of a word, or a number. The keywords of any previous searches you have performed will appear if you click the pull-down arrow.

Look In

The Look In field lets you search just the primary key of the table or the entire current database object.

Match

If you are not 100% sure what you are looking for but at least have an idea, you can use different options in the Match field.

Search

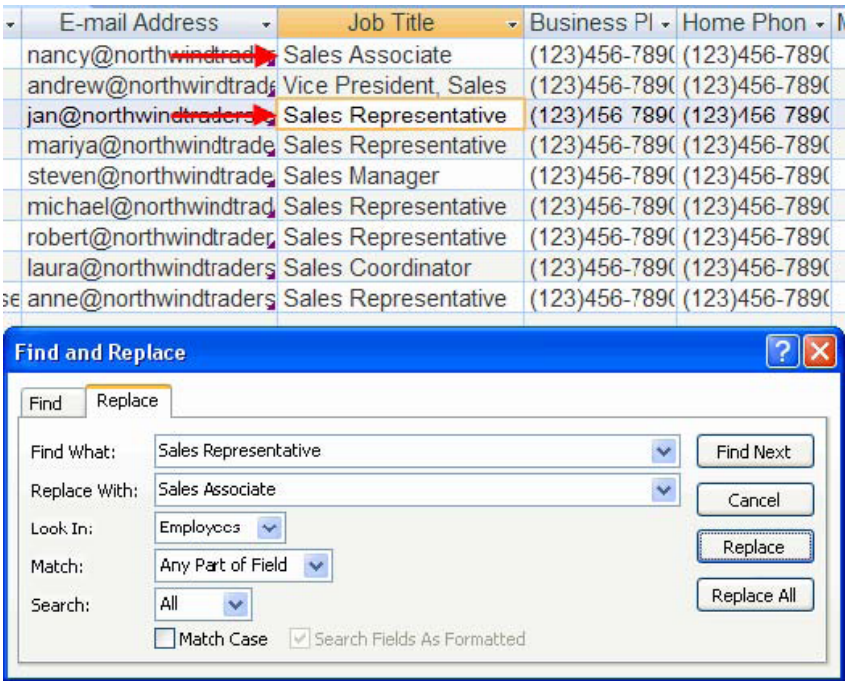
The Search field lets you conduct your search up, down, or all over the current object. For example, if you are looking for a particular name that starts with 'T' in a very large database, you can save a lot of search time by searching at the fields that start with T instead of the whole alphabet.

Match Case

If you are looking for a certain organization name or something that is in all uppercase letter, you can have Access ignore all lower case entries in its search which can increate the speed of searching.

Search Fields as Formatted

Imagine you want to search for a record containing a particular date, and you type April 25, 2004. If this box is checked, Access will search for all formats of this date, like 04/25/2004, 04/25/04, 25/04/04, 2004/25/04 and so on. Searching with this box checked will slow down certain searches, but is more likely to find the data you need.



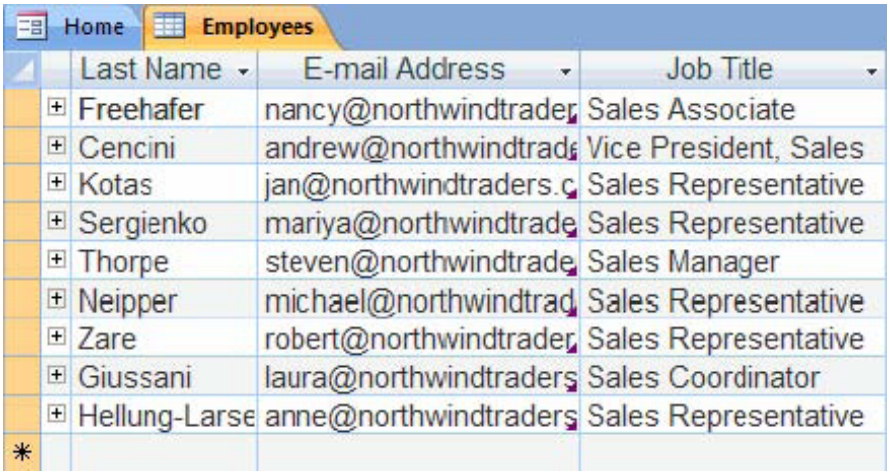
The Replace command is an extension of the Find command. It includes all the functionality of Find but lets you modify all matches it finds to something else:

Enter the new word or phrase you want to replace in the Replace With field of the dialogue box. The Replace button on the right-hand side of the window will find the next instance that matches the search criteria and replace it with the new word or phrase. The Replace All command automatically scans the entire object listed in the Look In combo box and replaces every match with the new word or phrase.

Be cautious; if you perform the Replace All command, you cannot undo the operation. You will have to do another Find and Replace to change the fields back.

Sort Ascending or Descending

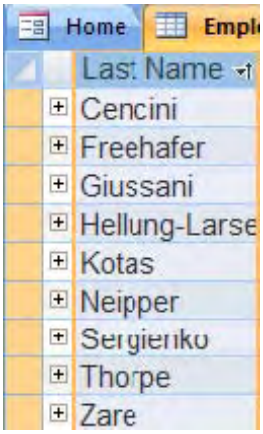
When viewing a table or query results in Datasheet view, you might want to sort through the records by hand if you know what you are looking for. Access 2007 has a very quick way to sort through data listed in columns. Consider the Employees table:



The Sort Ascending and Descending commands can also be found in the Sort & Filter section of the Home ribbon.

1. To sort in this way, click the column header (or headers) of the column(s) you wish to sort and then click either the Sort Ascending or Descending buttons:

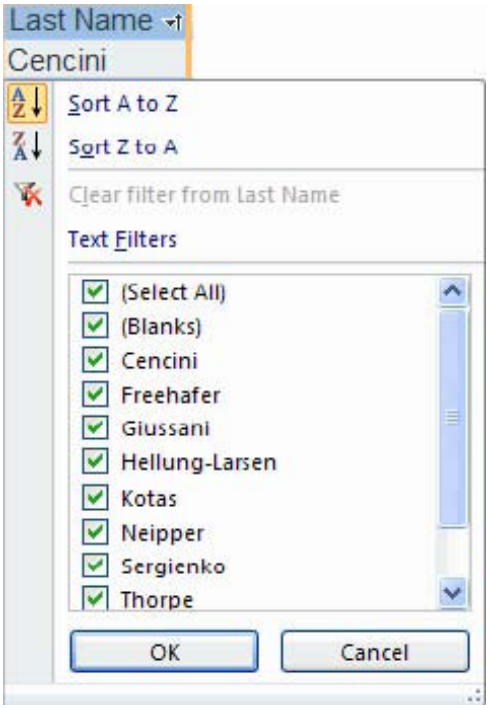
2. The records in the table will sort themselves accordingly:



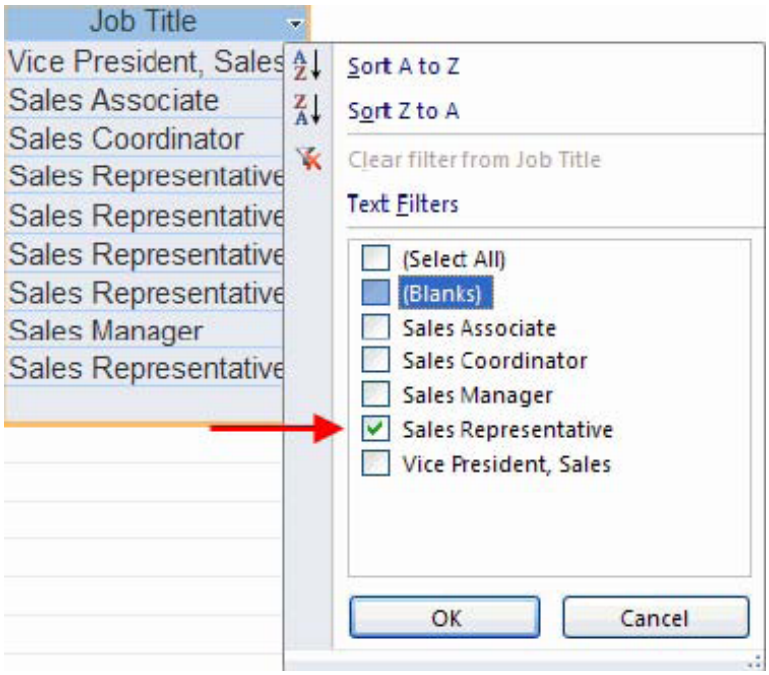
Toggling Filter

To apply different filters, click the column header of any column in Datasheet view. Then click the Filter command in the Sort & Filter section of the Home ribbon:

1. A pop-up window will appear underneath the selected column header:

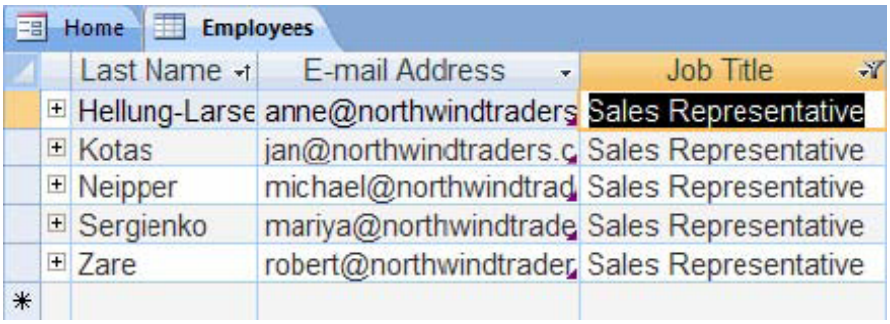


2. As you can see in the diagram, the Sort Ascending and Descending commands are visible in this menu. Access also provides you with the ability to sort and show records based on the values in a column of data.



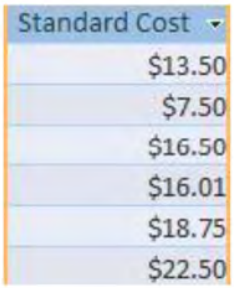
3. For example, if you wanted to show only the Sales Representatives, click the Job Title column header to select the column and then click the Filter command. Uncheck all of the values listed in the pop-up menu except for Sales Representative.

4. Then, click OK to toggle the filter. Only the Sales Representatives will be shown in the table:



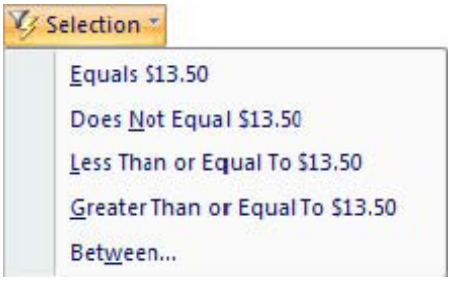
Using Selection Sort

Access makes it easy to sort a table of data quickly based on one criterion. For example, consider the Standard Cost column in the Products table of the



Northwind sample database:

1. Click the first price in the list to highlight that particular field and then click the Selection command () in the Sort & Filter section of the Home ribbon. A small pop-up menu will appear:

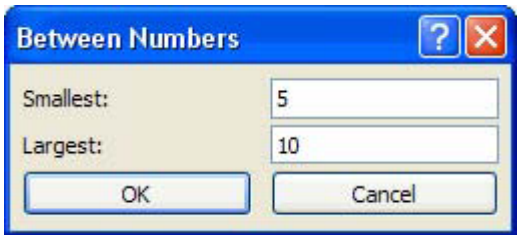


2. Click any of the options to sort the table of data based upon the criteria in the menu. For example, if you click Less Than or Equal to $13.50, the table will sort and show the less expensive products:

Home | Products

Supplier IDs	ID	Product Code	Product Name	Description	Standard Cost
Supplier D	1	NWTB-1	Northwind Traders Chai		$13.50
Supplier J	3	NWTCO-3	Northwind Traders Syrup		$7.50
Supplier A	19	NWTBGM-19	Northwind Traders Chocolate Biscuits Mix		$6.90
Supplier A	21	NWTBGM-21	Northwind Traders Scones		$7.50
Supplier D	34	NWTB-34	Northwind Traders Beer		$10.50
Supplier F	41	NWTSO-41	Northwind Traders Clam Chowder		$7.24
Supplier J	48	NWTCA-48	Northwind Traders Chocolate		$9.56
Supplier A	52	NWTG-52	Northwind Traders Long Grain Rice		$5.25
Supplier H	66	NWTS-66	Northwind Traders Tomato Sauce		$12.75

3. The Between option in the Selection command displays the Between Numbers dialogue box. Enter the criteria for your search (between 5 and 10 for example) and click OK.

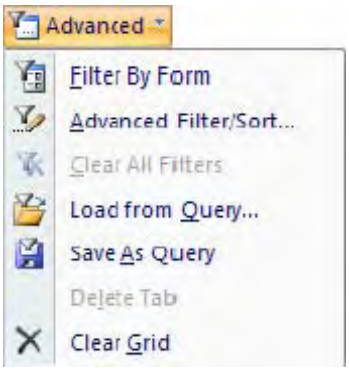


Supplier IDs	ID	Product Code	Product Name	Description	Standard Cost
Supplier J	3	NWTCO-3	Northwind Traders Syrup		$7.50
Supplier A	19	NWTBGM-19	Northwind Traders Chocolate Biscuits Mix		$6.90
Supplier A	21	NWTBGM-21	Northwind Traders Scones		$7.50
Supplier F	41	NWTSO-41	Northwind Traders Clam Chowder		$7.24
Supplier J	48	NWTCA-48	Northwind Traders Chocolate		$9.56
Supplier A	52	NWTG-52	Northwind Traders Long Grain Rice		$5.25
Supplier B, Supplier F	74	NWTDFN-74	Northwind Traders Almonds		$7.50
Supplier J	77	NWTCO-77	Northwind Traders Mustard		$9.75
Supplier A	85	NWTBGM-85	Northwind Traders Brownie Mix		$9.00
	#####				$0.00

Using Advanced Sort

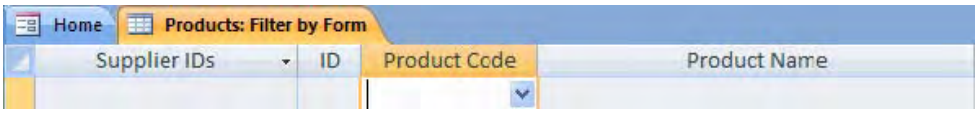
Access offers a few other advanced filtering options that are accessible by clicking the -Advanced- command in the Home ribbon:

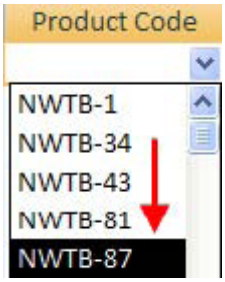
Filter by Form



The Filter by Form command in Access is sort of like a small query. You can specify criteria that will be used to filter the data like a query, but its use is more limited. Using Filter by Form is fast and easy if you have only a single value you are looking for.

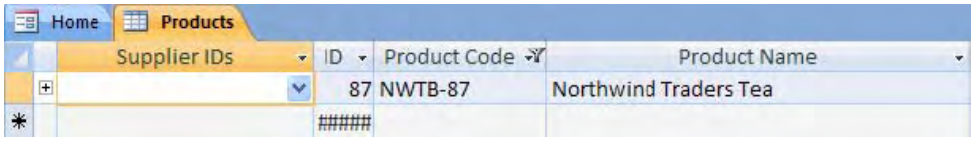
1. For example, if you have a product ID but not a product name, Filter by Form can help. Open the Products table in Datasheet view and select Filter By Form. Datasheet view will change to the following view:





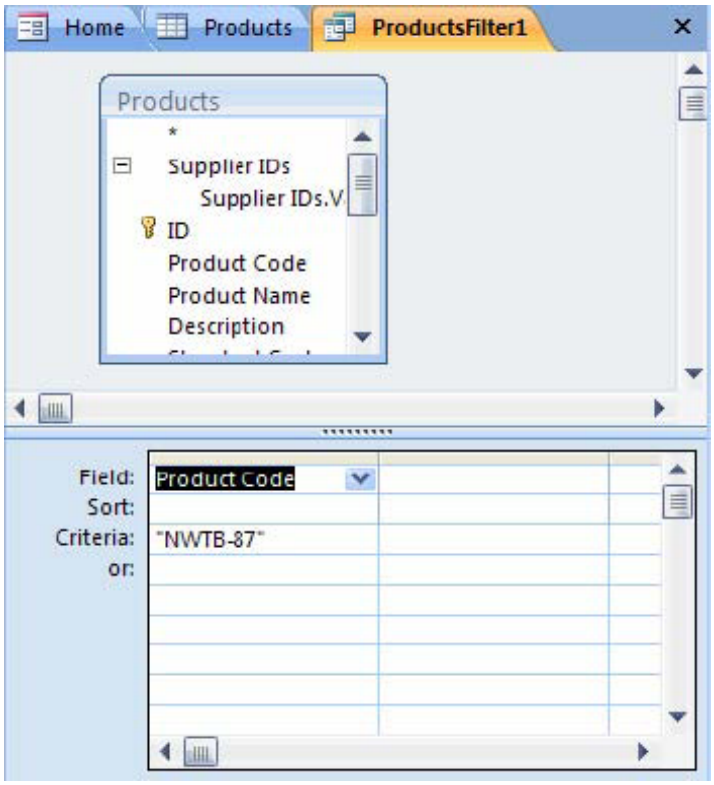
2. Each column you click inside will show a combo box. Select one of the values in the combo box to add it to the Filter by Form operation:

3. When you have chosen the criteria you wish to filter, click the Toggle Filter command in the ribbon.
4. The corresponding record(s) will be displayed:



Advanced Filter/Sort

1. Access uses filters like small queries. Clicking the Advanced Filter/Sort command will open a view very similar to query Design view:



2. Click and drag fields from the Products list to the lower half of the window. You can apply sort criteria (Ascending, Descending) and enter search criteria such as a direct expression like the diagram above. You can also add any sort of criteria you like including logical expressions like greater than (>) and less than (<). Once you have entered the criteria, click Toggle Filter to show the results.

Clear all Filters

This command will remove any filters currently applied to a particular object.

Load from Query

This command lets you load a filter from a query already stored in your database. Loading from a query is beyond the scope of this manual.

Save as Query

This command lets you save certain types of filters you perform as a query to use later on. Saving queries is beyond the scope of this manual.

Delete Tab

As you develop more filters for a particular table, you can use each one individually, like with an advanced sort for example:

Use the Delete tab command to remove the filters you no longer use.

Clear Grid

If you are performing a Filter by Form operation, use the Clear Grid command to reset all of the data columns back to their original empty state. If a particular Filter by Form operation is not giving you the results you wanted or expected, use this command to reset the form.

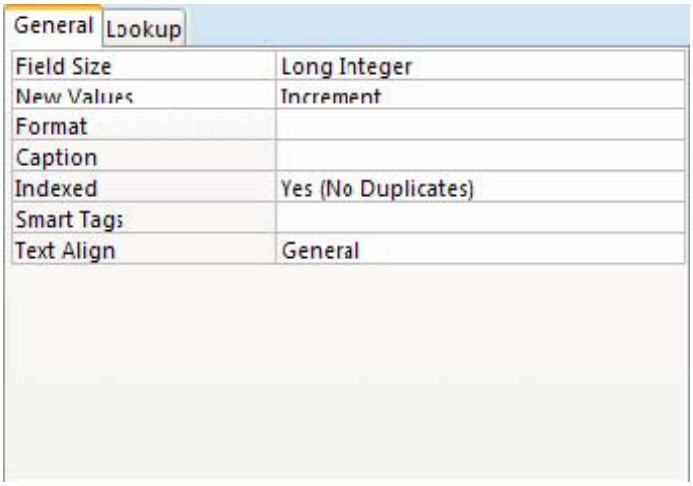
5.9 Formatting Tables

We have entered all kinds of information into a table in Access, but so far we have only typed in raw data. In this lesson we will learn how to make tables in Access easier to use and more robust.

Formatting Number Fields

There are three types of number fields in Access: AutoNumber, Number, and Currency. To apply this new format, first open a table in Design view to adjust its field properties.

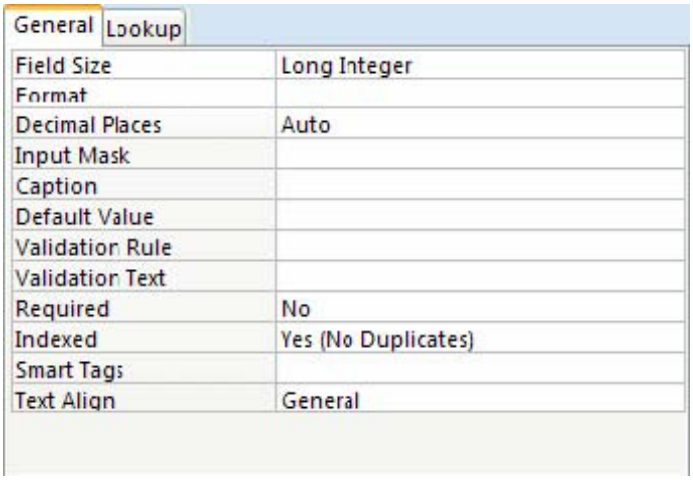
AutoNumber



The AutoNumber data type is used by Access to automatically count up by one or assign a random number each time a new record is added to a table. AutoNumbers are usually used as primary keys to ensure uniqueness in data. If values 1, 2, and 3 were used as an AutoNumber type, and you delete record 2, the number 2 is not reused as an AutoNumber.

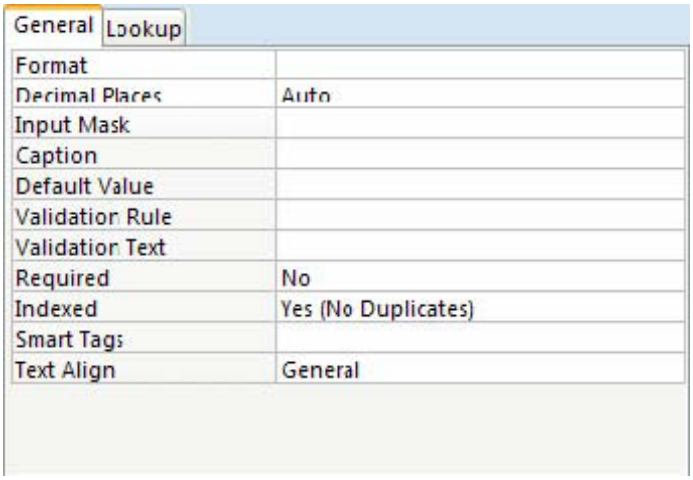
Number

The Number data type is a more general number that can be used and formatted in many ways. Field Size indicates what data type the number itself will be: either Integer for whole numbers, or Double for decimal values or very large positive/ negative values and/or decimal values. You can also assign an input mask, a default value, and validation rules to a number (we will cover these topics later).



The only limitation on a number field is that the values inputted can only be numbers! If you try to enter any letters of the alphabet, Access will warn you that you are attempting to enter an invalid data type into the field.

Currency

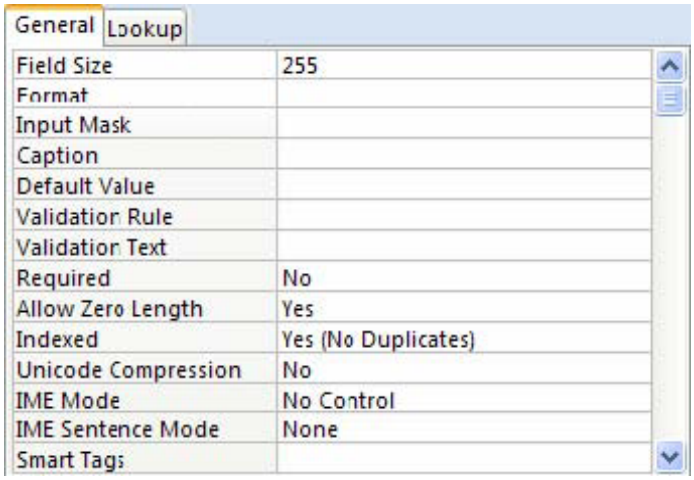


The Currency data type is very similar to the Number data type; the only difference is that a currency is permanently defined as a Double data type.

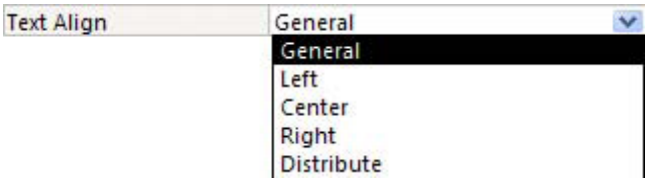
Formatting Text Fields

There are two types of text fields in Access: Text and Memo. Open a table in Design view to adjust its field properties.

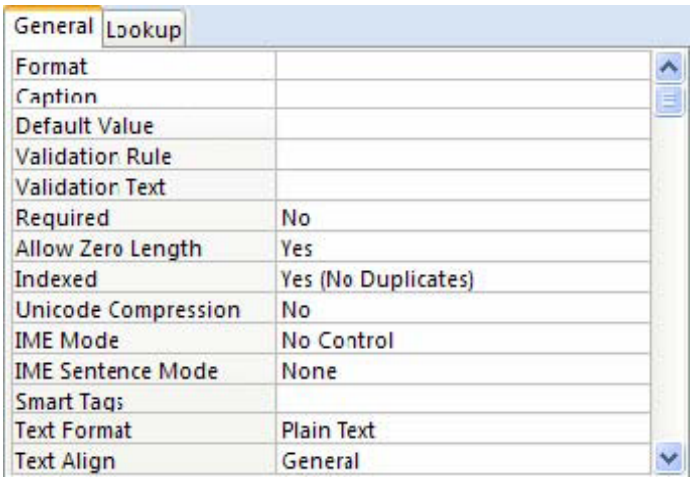
Text



The Text data type is probably the most overall used data type in a database. Its properties are similar in nature to the Number data type, meaning it can have an input mask, validation rules, and a default value. The IME Sentence Mode, IME Mode, and Unicode Compression all deal with translation properties when converting a database in one language to another, like from Japanese to English. (These features are beyond the scope of this manual.) Text fields can contain essentially every letter, character, and number. Text fields can also be set for a certain number of characters; 255 characters is the maximum size. Text fields in Access 2007 feature a new property, the ability to align text inside a field. This field is found at the very bottom of the list:



Memo



The Memo data type is very similar to the Text data type. The only real differences between the two are that a memo field can be much larger, up to 65,636 characters (roughly 35 pages of solid text!) Memo fields in Access 2007 also let you only append data to a memo field. That is, when you attempt to add data to a memo field, it will only be added to the end. You cannot overwrite any previous memo information.

Adding Field Descriptions

The Field Description fields are located on the right side of Table Design view. The fields are optional, though they are useful when several people are involved in constructing a database. You can leave a note explaining a field's function or why a certain field exists. Anything written here is also displayed in the Status Bar of a form (we will explore forms later in this manual):

Vehicles

Field Name	Data Type	Description
Vehicle ID	AutoNumber	Primary key of this table.
Make	Text	Manufacturer of this vehicle.
Model	Text	Model name/number of this vehicle.
Manufacture Date	Number	First year of production.
Engine Type	Text	Engine type of the vehicle.

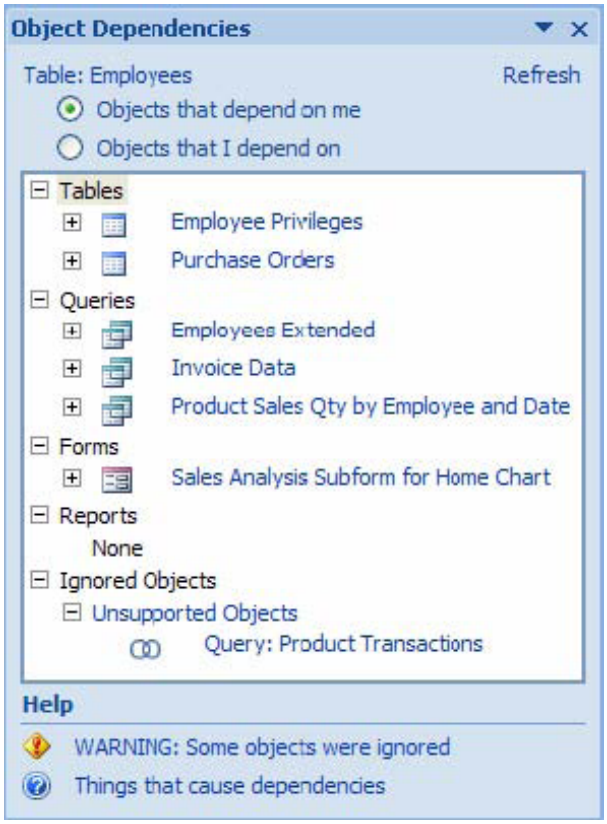
You can type whatever you like in a field description, just as long as the description is less than 255 characters.

Changing Field Data Types

Access makes it very easy to change the data type of a certain field. Simply open the table containing the field you want to change and pick a new Data Type from the appropriate row. However, you must take care when modifying a data type in a table.

If the field is in a relationship with another table, or if the output of several forms and reports depend on the one field, changing the data type can be a major task. You should examine the dependencies of an object before making a change. Though we will explore table relationships more in this manual, relationships are one of the main characteristics of a database.

1. Picture a particular product listing in the Product table of a department store database. The item will contain a department number. The store database will contain another table called Departments. Let's say Department 1 is Women's Wear and Department 2 is Kitchen and Bath. Therefore, the two tables (Product and Department) are related because of common and related information (Department Number).
2. To examine object dependencies, open a database object from the Navigation pane. Then, click the Object Dependencies button in the Database Tools ribbon to see this pane:



3. Objects that depend on a particular object and all objects that a particular object depends on are visible by selecting one of the two radio buttons at the top of the Object Dependencies pane.
4. Some tables may have many dependent objects. Modification of this table could end up being a long and tedious task. It might even be faster in some instances to scrap the particular table altogether and design a new one with the modified data type. If you feel you have to modify a data type, be careful and make sure it is absolutely necessary to do so. Remember that you can always make a backup copy of the data base and/or a copy of the object itself before you make any big changes, just to be safe.

Adding Captions

The Caption field property is available to every data type available to Access. You can specify a caption to be a customized label for a field when the field is used in a form or report. You can name a caption whatever you like, or leave the field name as the default caption name.

General | Lookup

Field Size	Long Integer
New Values	Increment
Format	
Caption	
Indexed	Yes (No Duplicates)
Smart Tags	
Text Align	General

Section 6 Queries

By the end of this section you will be able to

- Understand the use of queries
- Build Basic queries
- Apply criteria
- Use the query wizard
- Format text and controls

6.1 Creating Queries

We now have come far enough to get to the real functionality of a database: using a query. Having large amounts of data is fine, and having nice looking and well-designed forms is great, but if you can't pose a question to the database and find a result, there is not much use for a large list of data. In this lesson we will learn about queries and how they work.

What is a Query?

A query is a question that is asked of a database control program about the data it contains. We specify what particular fields we are interested in finding out, tell the database where to look for those fields, and specify any conditions under which to search.

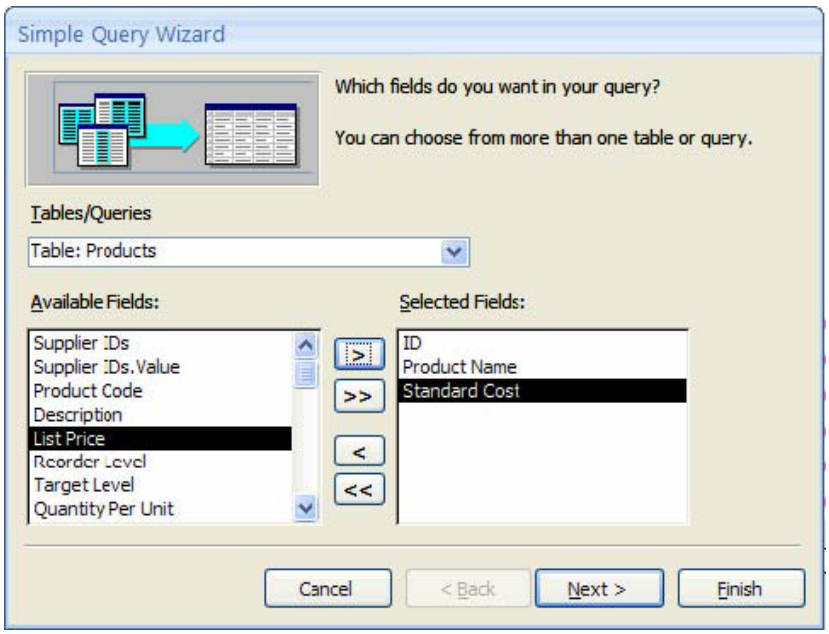
Queries are primarily built from tables, but Access gives you the ability to construct a query based on the results of another query. Such 'nested queries' may require more computer memory and resources in order to execute but if constructed with care, can save a lot of time, especially when dealing with very large databases. For the purposes of this manual, we will keep things simple and stick to small and simple queries. Plus, the great thing about queries is that they are only questions asked about data that is already there. If you get query results that are completely off the mark, no problem! The data is untouched, so provided there is no design flaw in your database, only the query needs to be adjusted.

Creating a Query with the Wizard

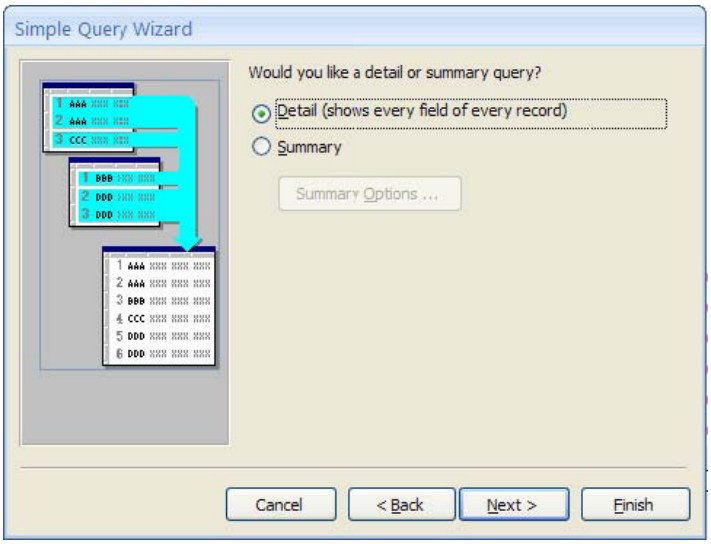
1. To create a query using the Wizard, click the Query Wizard command in the Create ribbon:
2. The Wizard launches, allowing you to select which type of query to build:

3. For the purposes of this manual, we will demonstrate a simply query that will retrieve the product ID, product name, and price of every product in the Northwind sample database. This type of query is defined as a select query, one that is used solely to retrieve information.
4. The next step of the Wizard is selecting which fields you want to use in your query. This step of the Wizard should look familiar: it's just like selecting fields to use in a form.

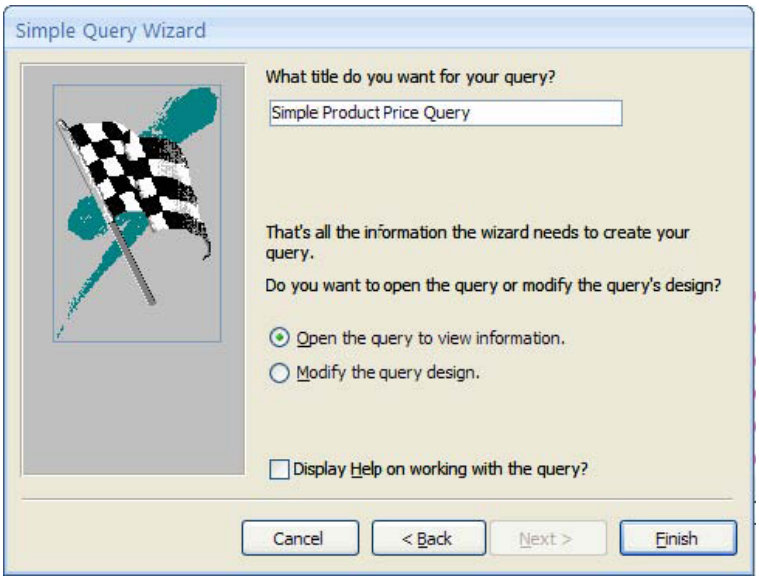
5. In the Tables/Queries combo box, select Table: Products. Highlight ID and click > to move the field to the Selected Fields list. Repeat for Product Name and Standard Cost:



6. The next page of the Wizard gives you the option to apply a few summary calculations to the field like the maximum value, minimum value, and the average. However, we want to see all products, so leave the Detail radio button selected:



7. The final page of the Wizard lets you name the query. A long and meaningful name is recommended. Just like in the creation of a form, you have the option to open the query right away or modify the design in Design view:



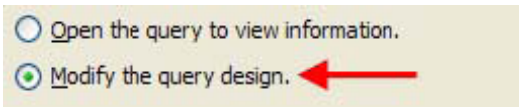
8. Click Finish to view the results of the query:

As you can see by the diagram, the query results are shown in what is essentially Datasheet view. The result of a query is essentially a table complete with its own rows. Though more advanced query functionality is beyond the scope of this manual, you can actually use the results of a query to construct a table.

Using Design View to Modify a Query

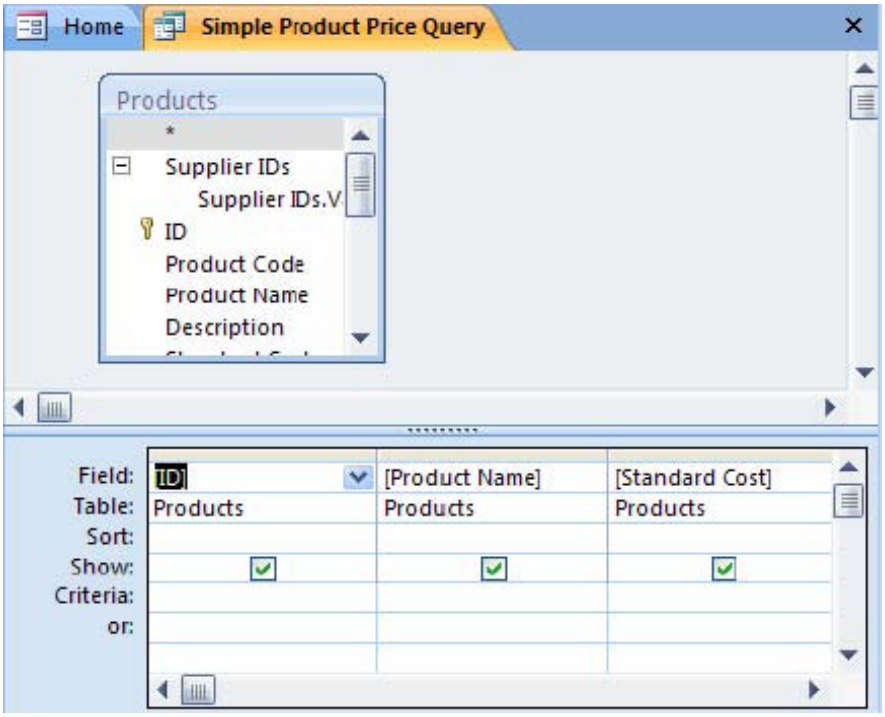
As you gain more proficiency with Access, you will reach a point where using just the Query Wizard will not be sufficient to get the results you are looking for. Therefore, you can use query Design view to modify any attribute of a query you like.

1. To access Design view after using a wizard, select the "Modify the query" design radio button:



2. If you wish to modify a query that already exists, double-click the query object in the Navigation Pane to open it in Datasheet view. Then use the View menu to select query Design view:

3. Either way, you will be shown the following view:



4. The table or tables that were used in the query are present at the top of the window, while the various attributes that were specified during the design of a query are listed at the bottom. Note that the primary key is shown in the table as a small key icon. You will also see six different row listings at the bottom of the window.
5. The Field row will let you will see all of the fields that are available for use in the query (in this case the attributes of the Products table). The second row down is the Table row, where you can specify which table you want to use fields from. The Sort row lets you sort the results of the query in ascending or descending order (or no order at all, but rather the order in which the query happened to find data first).
6. The Show checkbox will determine if the field will actually be shown in the query results. (If an item is present in a query but does not have the Show checkbox marked off, it will still be considered in the query but the data that was used to satisfy the query will not be shown.) The Criteria row lets you enter a logical operator and a condition that any displayed data must satisfy.
7. We have seen the results of finding all products in the Products table. If we want to show only the items that are more than $50 to purchase, we can enter the criteria '> 50.' This expression contains a logical operator (greater than). Other operators include less than (<), equal to (=), and not (!).

Query Design view also contains its own contextual tab. Though much of the functionality is beyond the scope of this manual, let's take a quick look at what each section of commands does:

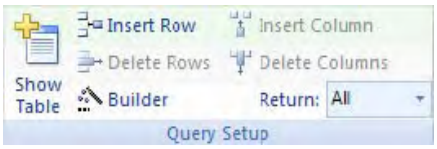
Results

The Results section of the query Design ribbon lets you switch between views using the View menu and execute the query.

Query Type

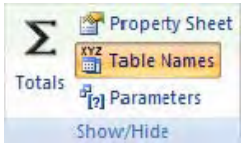
This section of the ribbon allows you to modify properties of the query itself. Use these commands to make action queries that will perform some operation on the data in your database.

Query Setup



Use these commands to modify attributes of a query as well as construct more elaborate search criteria.

Show/Hide



The Show/Hide commands are used to view and modify different background attributes about the query and the data it will display.

Using Queries

To execute a query, you simply have to double-click the query name in the Navigation Pane. The results will be displayed in a new tab in Datasheet view. Since a query is not a bound object, you can delete a query without fear of deleting any data in your tables. But be careful if you do delete a query, because there might be another query, form, or report that uses the query to retrieve data for display to a user. If you eliminate the source query, the dependent object will not function properly.

6.2 Basic Queries

In the last section of this manual we will deal with queries. Queries are really the second most important objects in a database (next to tables) because they have the ability to find information for you.

Review of Queries

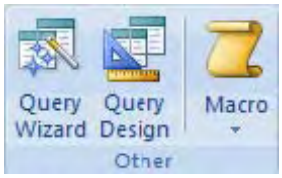
As a quick review, a query is a question that is asked of the data in a database. Although they are a structured piece of computer code, they are no more difficult than merely asking a question like, “How much did salesperson X sell in seafood products last year?” Queries primarily get their data from tables; however, a query can extract information from another query as well.

Most queries are called select queries; they search for information in your database based on criteria you specify. There is another category of query called an action query that is designed to insert new data into a new table, delete old data from a table, or append to data already in a database based on criteria.

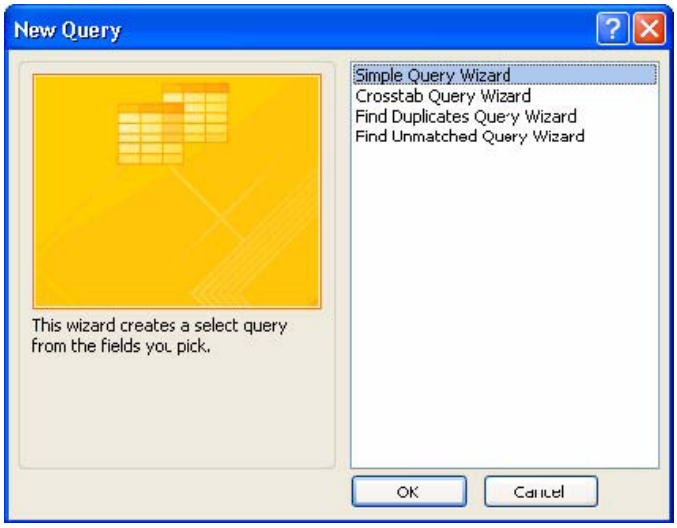
Creating a Query

Access makes creating a query an easy task by using either the Query Wizard or Design view. In this section we will cover the basics of each method.

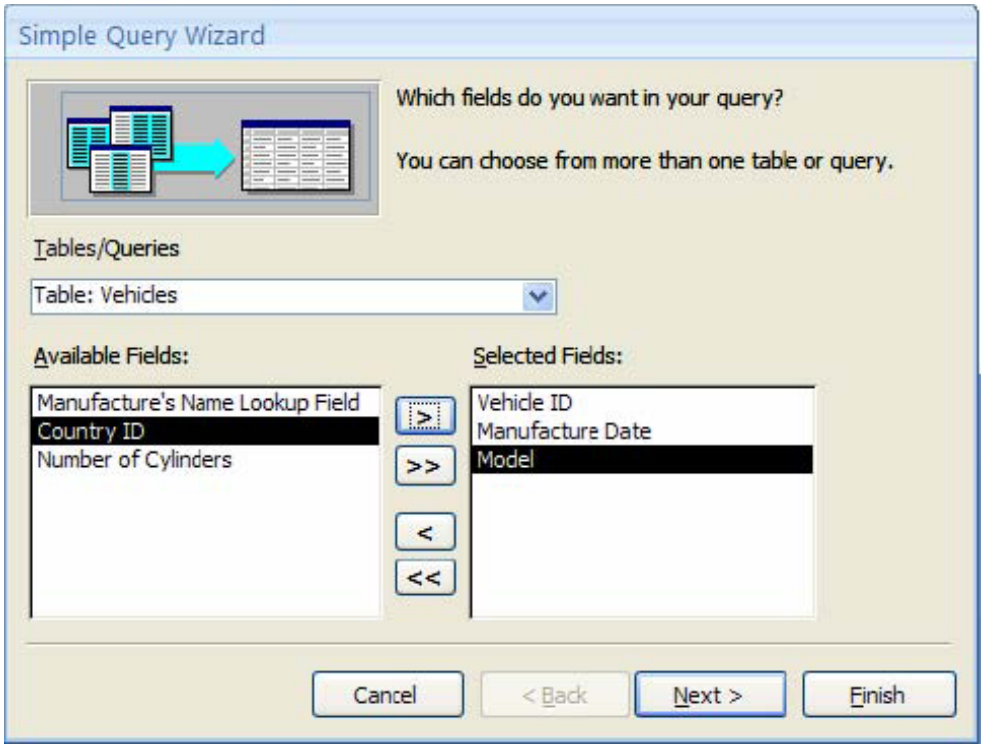
1. To use the Wizard, click the Query Wizard command in the -Other- section of the Create ribbon:



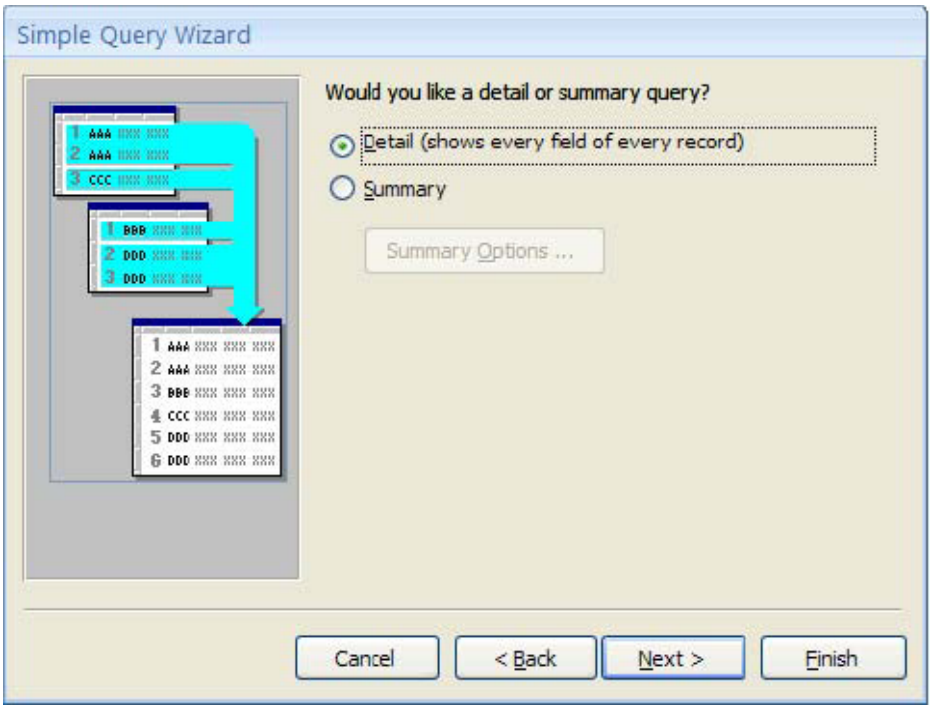
2. You will be prompted to choose a new type of query. In this example, we will explore the Simple Query Wizard:



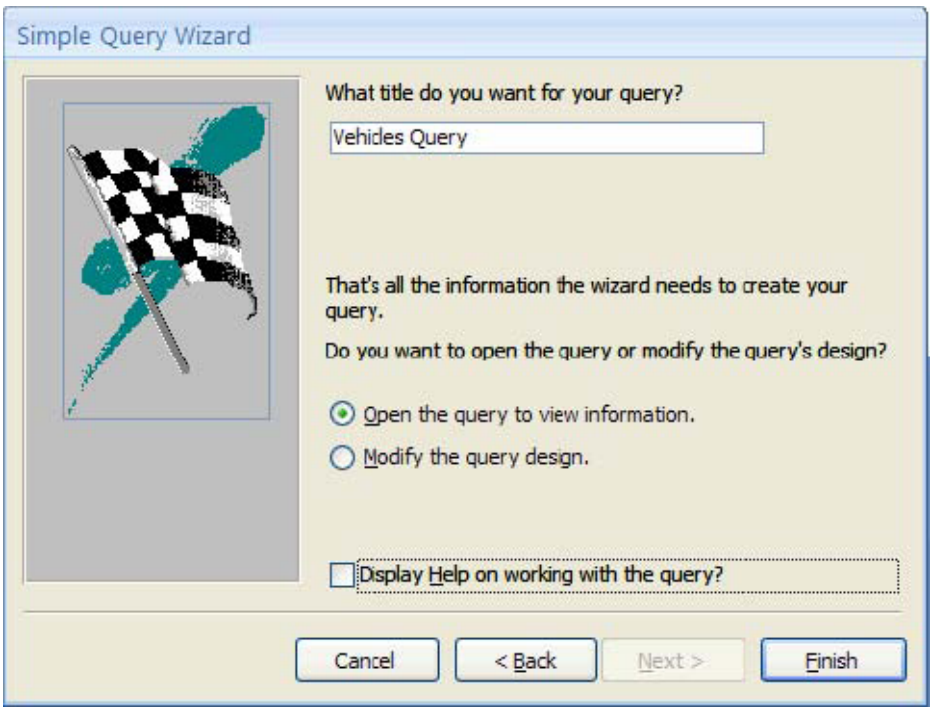
3. Access prompts you to select the table or query that contains the source information, choose the fields you want to show in the query (> moves a single field, >> moves all fields), and then click Next:



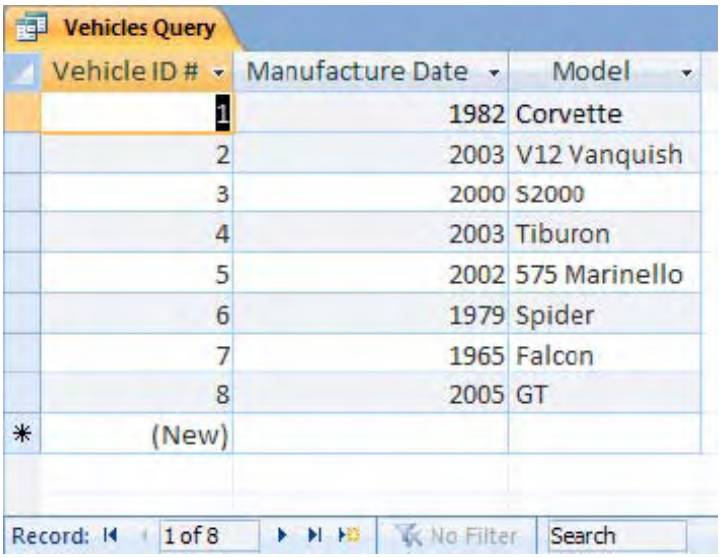
4. The next page of the Wizard gives you the option to apply summary calculations (like the maximum, minimum, or average value) to a field:



5. The final page of the Wizard lets you name the query (feel free to use a meaningful name is recommended; you have lots of space). You also have the option to open the query right away or modify the design in Design view:



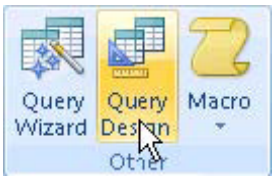
6. Clicking Finish will display the query results in what is essentially Datasheet view:



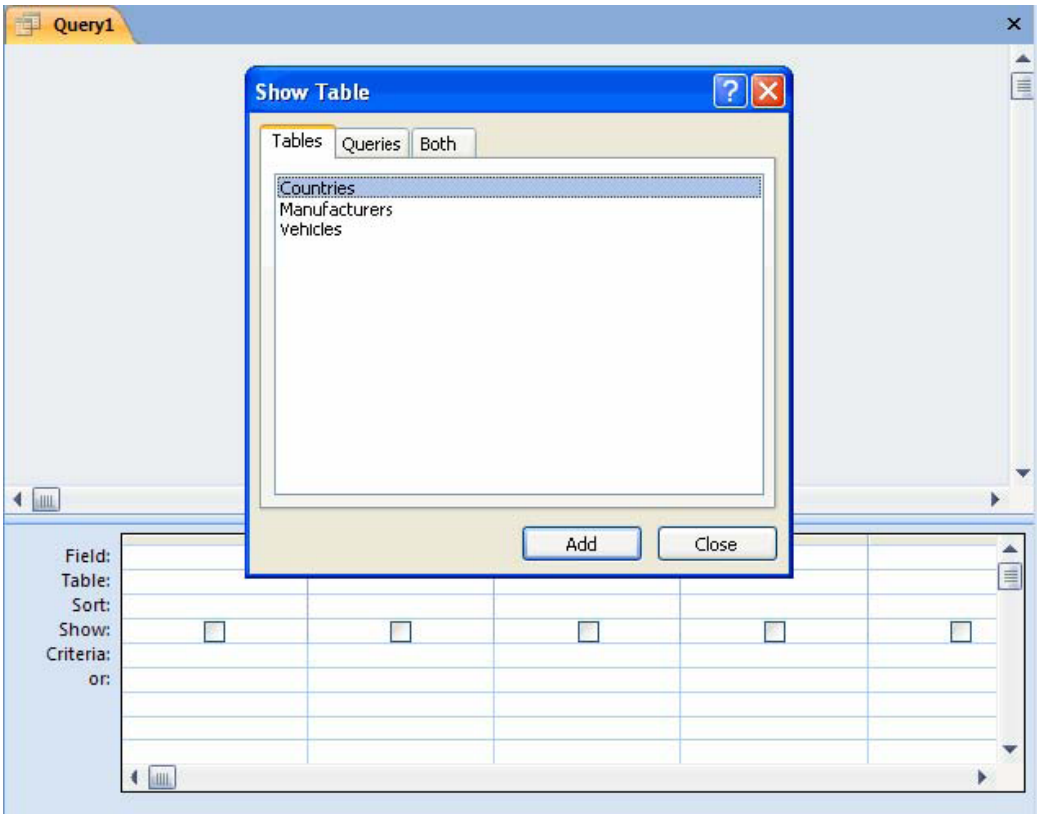
7. Use the navigation buttons at the bottom of the window to browse through the results.

Using design view

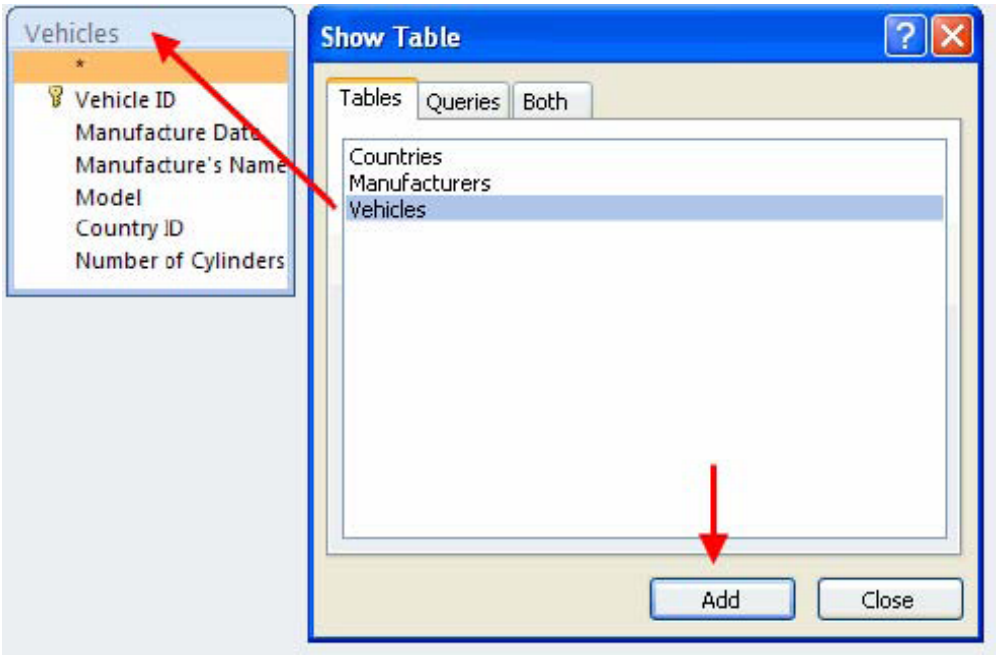
1. Let's create the same query using Design view. To start working with a new blank query, click the Query Design command:



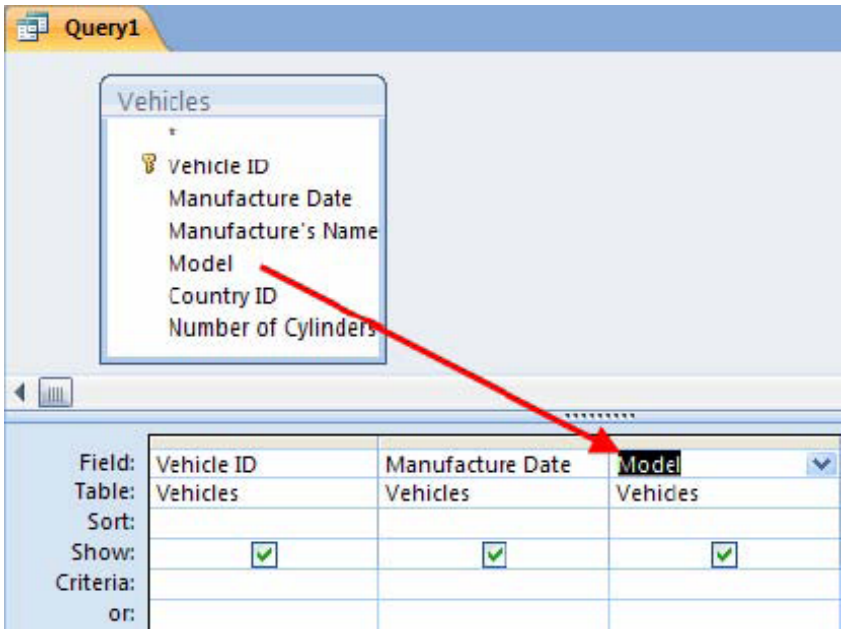
2. Query Design view will open with the Show Table dialogue box.



3. Using this box, add as many tables and/or queries as you need to get the information relevant to your query. Select each necessary object and click Add.



4. The source table will be added to the working space, with each field in the table listed. The primary key of the table contains a small key icon beside it. When you have finished adding the objects relevant to your table, click -Close-.
5. To add fields to your query, simply click and drag the fields from the tables to the areas provided in Design view:



6. You also have the ability to add certain search criteria, choose whether a field will be shown in the query results, add additional search criteria, and more. We will explore more of Design view's functionality later in this section.

7. To execute the query, click the Run command in the Results section of the Query Tools - Design ribbon:
8. The results will be displayed in Datasheet view:

Query1

Vehicle ID #	Manufacture Date	Model
1	1982	Corvette
2	2003	V12 Vanquish
3	2000	S2000
4	2003	Tiburon
5	2002	575 Marinello
6	1979	Spider
7	1965	Falcon
8	2005	GT
(New)		

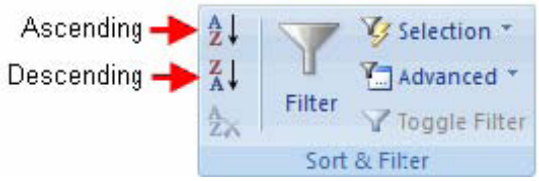
Sorting a Query

Once you have designed and executed a query, you will be shown results in Datasheet view. You can easily apply a sorting scheme to query results. Consider the following query that was used to create a basic list of the products that Northwind Traders sell:

Products Query

ID	Product Name	Standard Cost
1	Northwind Traders Chai	$13.50
3	Northwind Traders Syrup	$7.50
4	Northwind Traders Cajun Seasoning	$16.50
5	Northwind Traders Olive Oil	$16.01
6	Northwind Traders Boysenberry Spread	$18.75
7	Northwind Traders Dried Pears	$22.50
8	Northwind Traders Curry Sauce	$30.00
14	Northwind Traders Walnuts	$17.44
17	Northwind Traders Fruit Cocktail	$29.25
19	Northwind Traders Chocolate Biscuits Mix	$6.90
20	Northwind Traders Marmalade	$60.75

1. There are two ways to easily sort a query. First, select a column of data by clicking on the name of the column (such as Product Name column header). You can use the Sort & Filter section of the Home ribbon and click either the Sort Ascending or Sort Descending commands:

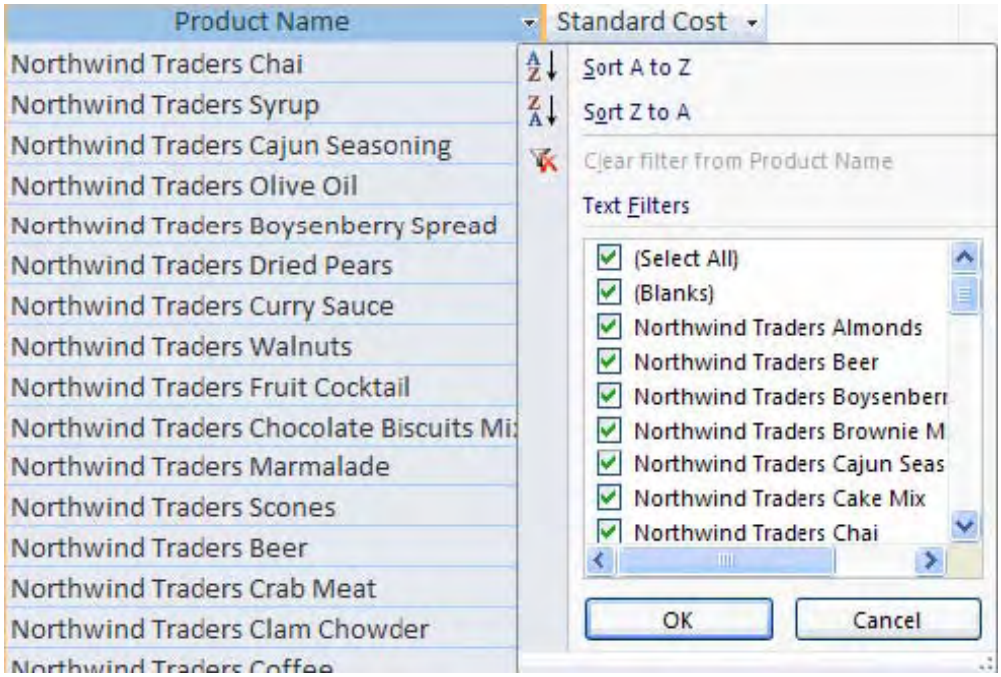


2. The data in the column and the respective row will sort itself, for example, in Ascending order:

Products Query

ID	Product Name	Standard Cost
74	Northwind Traders Almonds	$7.50
34	Northwind Traders Beer	$10.50
6	Northwind Traders Boysenberry Spread	$18.75
85	Northwind Traders Brownie Mix	$9.00
4	Northwind Traders Cajun Seasoning	$16.50
86	Northwind Traders Cake Mix	$10.50
1	Northwind Traders Chai	$13.50
91	Northwind Traders Cherry Pie Filling	$0.00
99	Northwind Traders Chicken Soup	$0.00
48	Northwind Traders Chocolate	$9.56

3. Notice that a very small 'up' arrow is visible on the far right-hand end of the header. The second method of sorting the data involves using the column header itself. Click the small pull-down arrow on the right-hand side of the column header:



4. This pull-down menu provides much of the functionality that the Sort & Filter section provides. Simply click the type of sort you want to apply. Access also gives you the ability to sort multiple columns of data at a time. To select multiple columns, first select a single column as above. Then press and hold the Shift key, and click the column headers of any adjacent column.

6.3 Filtering a Query

Applying a filter to a query is a bit like querying a query, where you apply extra criteria to search results in order to narrow down the results you need (or find that the query does not give you the results you thought you were going to get).

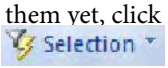
There are a few different ways to filter a query, so let's talk about each.

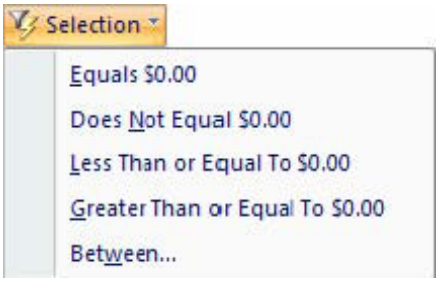
Filter by selection

Filtering by Selection is one of the easiest methods of filtering. Filter by Selection lets you select any field that was returned by a query and filtering the query results based on that one field. For example, consider the following product query that has already been filtered in alphabetical order:

Products Query

ID	Product Name	Standard Cost
74	Northwind Traders Almonds	$7.50
34	Northwind Traders Beer	$10.50
6	Northwind Traders Boysenberry Spread	$18.75
85	Northwind Traders Brownie Mix	$9.00
4	Northwind Traders Cajun Seasoning	$16.50
86	Northwind Traders Cake Mix	$10.50
1	Northwind Traders Chai	$13.50
91	Northwind Traders Cherry Pie Filling	$0.00
99	Northwind Traders Chicken Soup	$0.00
48	Northwind Traders Chocolate	$9.56
19	Northwind Traders Chocolate Biscuits Mix	$6.90
41	Northwind Traders Clam Chowder	$7.24
43	Northwind Traders Coffee	$34.50
93	Northwind Traders Corn	$0.00

Notice how a few of the records returned have a Standard Cost of $0.00. If we want to find out how many other products have not had a price assigned to them yet, click any instance of a $0.00 price to select the cell. Click the pull-down arrow beside the Selection command () in the Sort & Filter section:



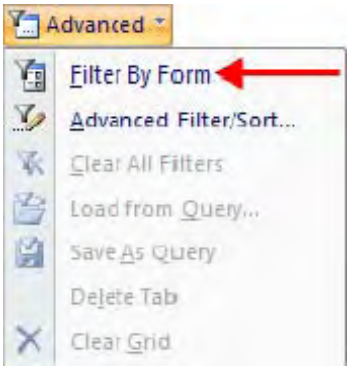
The options listed in the pull-down menu allow you to apply logical filtering to the current selection. Since we wish to find all of the items with the same price, select the first option. This will display all items meeting the search criteria:

Products Query

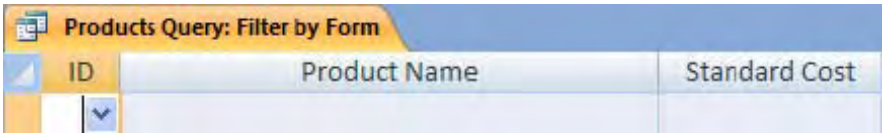
ID	Product Name	Standard Cost
91	Northwind Traders Cherry Pie Filling	$0.00
99	Northwind Traders Chicken Soup	$0.00
93	Northwind Traders Corn	$0.00
82	Northwind Traders Granola	$0.00
92	Northwind Traders Green Beans	$0.00
97	Northwind Traders Hot Cereal	$0.00
89	Northwind Traders Peaches	$0.00
88	Northwind Traders Pears	$0.00
94	Northwind Traders Peas	$0.00
90	Northwind Traders Pineapple	$0.00
83	Northwind Traders Potato Chips	$0.00
96	Northwind Traders Smoked Salmon	$0.00
95	Northwind Traders Tuna Fish	$0.00
98	Northwind Traders Vegetable Soup	$0.00
*	#####	$0.00

Filter by form

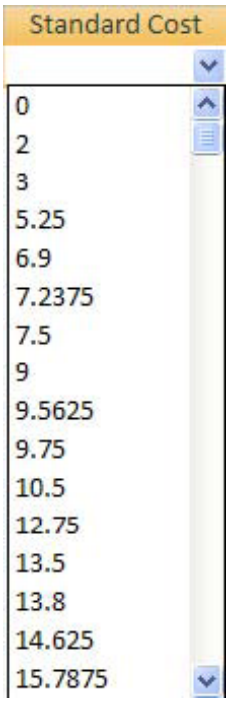
1. The next method of filtering is Filter by Form. Click the Filter by Form option found in the Advanced command:



2) Each column of data is replaced by a combo box, and each value in the combo box represents one instance of every unique value in the column of data.



3. For example, click the combo box in the Standard Cost column:



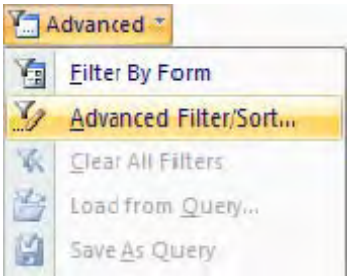
4. Select one of the options in the list to only display the records which have the same standard cost as the value you selected from the combo box. Pick a price from the column, such as 7.5, and then click the Toggle Filter command (Toggle Filter) in the Sort & Filter section of the Home ribbon:

Products Query

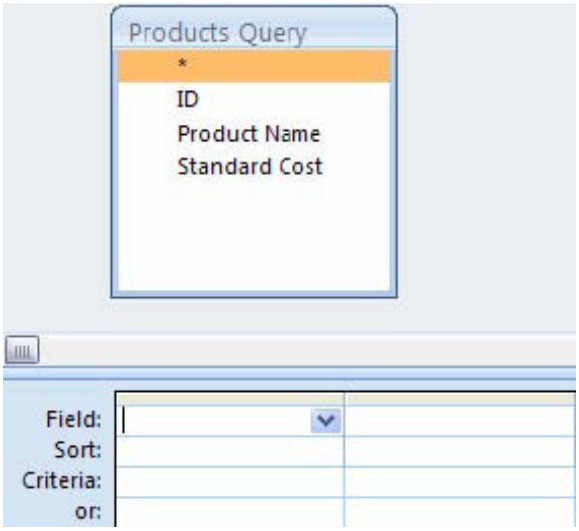
ID	Product Name	Standard Cost
3	Northwind Traders Syrup	$7.50
21	Northwind Traders Scones	$7.50
74	Northwind Traders Almonds	$7.50
#####		$0.00

Advanced Filter

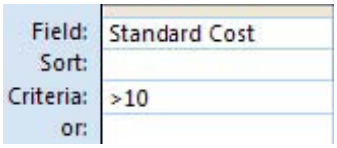
1. The final type of filter that Access can perform is an Advanced Filter; a manual filter using Design view. To use an advanced filter, click the Advanced Filter/Sort option in the Advanced command:



2. To perform an advanced filter operation, drag and drop the fields you want to consider from the table listing to the Field cells below.



3. Once you have added a field, you can specify how you want to sort the results (either ascending or descending) and what sort of criteria you want to use to filter with. For example, if you want to find all products over $10.00 in price, drag the Standard Cost field into the Field cell, and then enter >10 into the Criteria cell:



4. Then, click the Toggle Filter command to filter the results:

Products Query | Products QueryFilter1

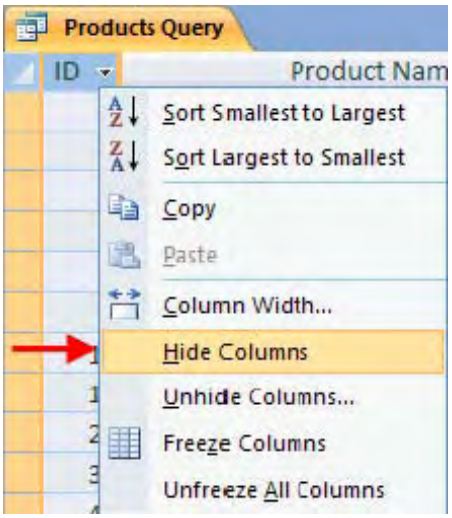
ID	Product Name	Standard Cost
1	Northwind Traders Chai	$13.50
4	Northwind Traders Cajun Seasoning	$16.50
5	Northwind Traders Olive Oil	$16.01
6	Northwind Traders Boysenberry Spread	$18.75
7	Northwind Traders Dried Pears	$22.50
8	Northwind Traders Curry Sauce	$30.00
14	Northwind Traders Walnuts	$17.44
17	Northwind Traders Fruit Cocktail	$29.25
20	Northwind Traders Marmalade	$60.75
34	Northwind Traders Beer	$10.50
40	Northwind Traders Crab Meat	$13.80
43	Northwind Traders Coffee	$34.50
51	Northwind Traders Dried Apples	$39.75
56	Northwind Traders Gnocchi	$28.50
57	Northwind Traders Ravioli	$14.63
65	Northwind Traders Hot Pepper Sauce	$15.79
66	Northwind Traders Tomato Sauce	$12.75
72	Northwind Traders Mozzarella	$26.10
86	Northwind Traders Cake Mix	$10.50
*	#####	$0.00

Hiding Fields

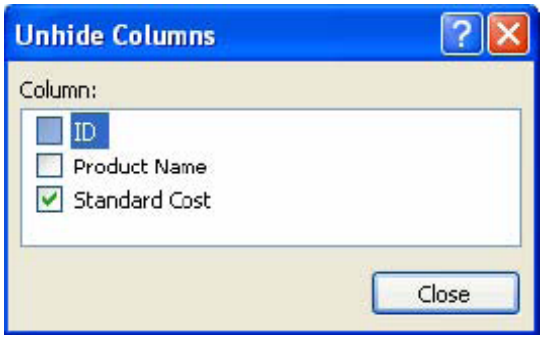
Access gives you the ability to hide and show different columns of data that may be necessary for filtering to work properly, but are not necessary to see at all times.

To hide a column.

1. right-click the column name and click Hide Columns:



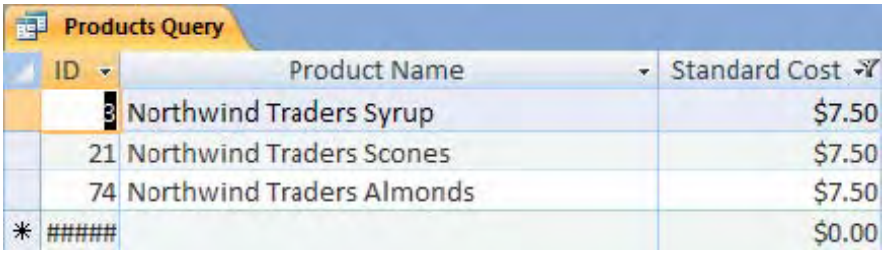
2. To hide multiple columns, first click one column header to highlight it. Press and hold the Shift key, then click other adjacent columns to select them. Right-click on any of the columns and click Hide Columns to make them disappear from view.
3. To show any hidden columns, right click the header of any column still visible and click Unhide Columns:



4. The Unhide Columns dialogue box will appear. Any hidden column or columns are indicated by the absence of a checkmark. Check or uncheck to show or hide columns.

Using AND OR Operators

If you recall the Filter by Form section of this lesson, we went searching for all products costing $7.50.



Products Query

ID	Product Name	Standard Cost
3	Northwind Traders Syrup	$7.50
21	Northwind Traders Scones	$7.50
74	Northwind Traders Almonds	$7.50
#####		$0.00

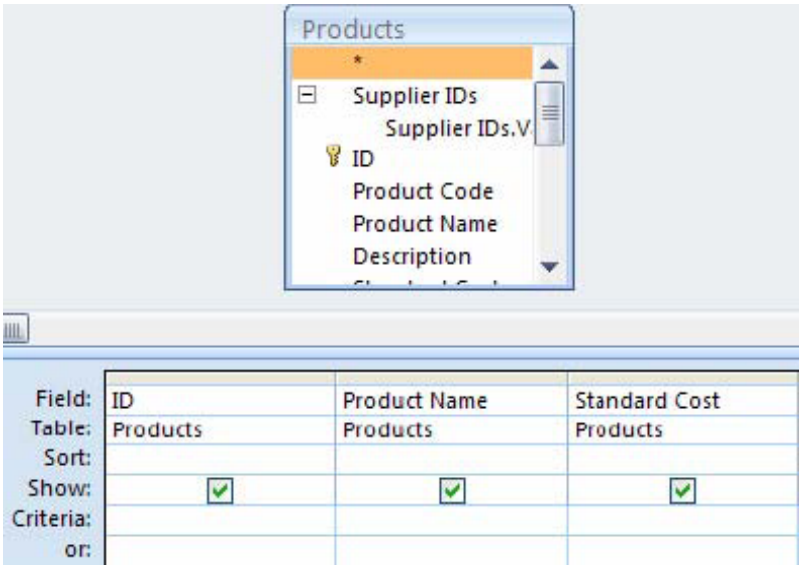
Before you entered the $7.50 filter criteria, you might have noticed at the bottom of the Filter by Form window that there are two tabs active: Look For and Or. If we wanted to search for products that cost $7.50 and products costing more than $12.75 (or both), simply click the OR tab and enter more search criteria. As you add more OR searches, more OR tabs will appear to make your search as specific or vague as you require.

When dealing with AND and OR operations, it is important to understand how they work on a logical level. These operators require two pieces of input and produce one output, either true or false.

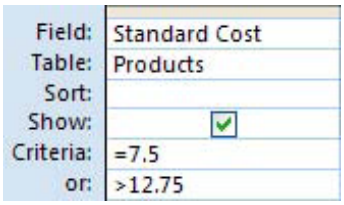
The AND operation is perhaps the easier to understand. Both conditions of AND must be satisfied in order to produce a true result. For example, if you are making a cake, you need to have wet and dry ingredients mixed together. If you have wet and no dry, or dry and no wet, or neither, you cannot make a cake.

The OR operation is true as long as one condition is true. Let's say you want to go and see a movie, but you will only go if you have at least one friend to go with. You ask Alice and Bob if they want to come. If Alice and Bob can both come, then you will go to the movies. If Alice can make it but Bob can't, you will go, and vice versa. If neither Alice nor Bob can go to the movies, you are not going to go either.

The best place to apply AND/OR operators directly is using Design view of a query (or query results). Let's take a look at the Design view for the simple products query we have been using:



We would like to see the products that cost either $7.50 or greater than $12.75. To calculate this, specify the criteria in the Standard Cost field of the Products Query:



Each successive condition you enter in the column is called a where clause; you can add several where clauses to help find more specific values. For example, if you own a company and lost the paper copy of an invoice, and you knew that the total was $960, entering the =960 criteria will consider only those records that match. When designing queries or filtering criteria that use AND operations, you essentially add more fields to a query and give each one a specific criteria. For example, if you know that the missing invoice was $960 and sold by Salesperson A; enter the exact criteria into Design view.

Should you not get the results you were looking for, don't resort to merely trying different criteria that don't make sense to your situation. Think it out and ask why it isn't working or giving you the results you thought you should be getting. Another option for troubleshooting queries is to clear all of the criteria in your query and add it back one condition at a time. Make sure that before adding another field, the results of the previous query are accurate for your purposes.

Use of IIF Functions

The IIF function is used in the background of Access with VBA (Visual Basic for Applications, a programming language). Though we will not directly cover its use in this manual, its use should be familiar to you, as it works like the OR operation. If you recall the example of the OR operator, you know that you will go to the movies as long as you have someone to go with. The IIF function takes this a step further by saying if you have no friends available to come to the movies with you, you instead will go to the gym. If you get more involved with database work in the future, this is a very commonly used function.

The syntax of the IIF function is IIF(expression, doThisIfTrue, doThisIfFalse). The trick with this function is that no matter which value is returned by the function, the true and false portions of the equation are always evaluated. Care should be taken when making the true and false portions of an IIF function such that the database code won't reach an error like dividing a number by zero.

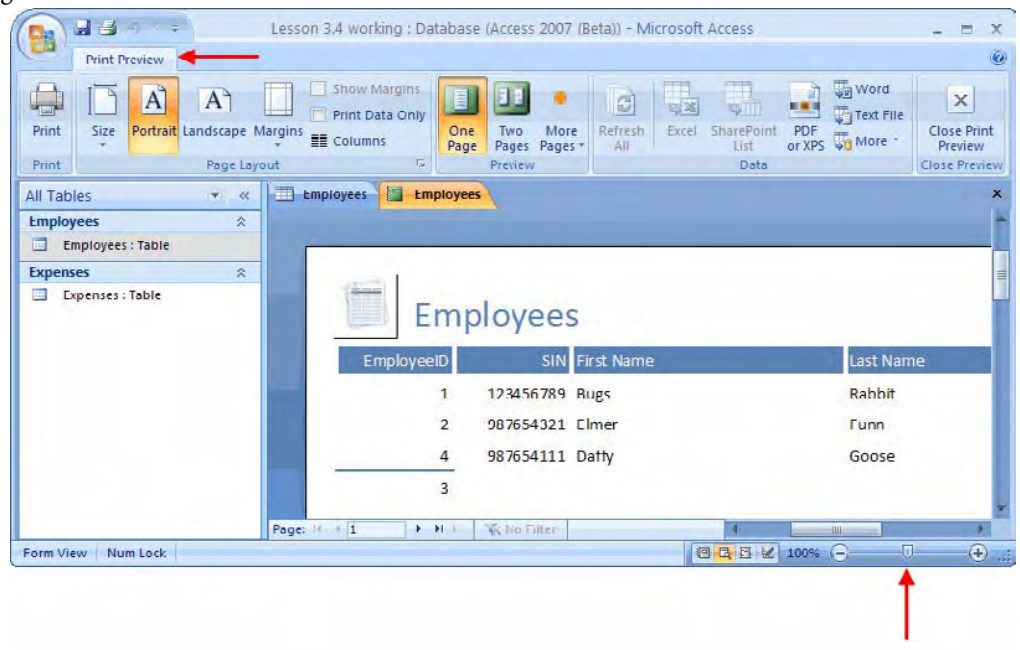
6.4 Formatting Text

To a computer, any data you enter into a database is stored in a certain way for Access can easily retrieve it later on. However, people may like to have the data presented in a nice way that is easily readable or in a colour scheme that matches their particular company. In this lesson, we will explore how to you can easily change the look of text in tables, forms, and reports.

Using the Zoom Box

The Zoom Box is a special part of the Print Preview command. It is used to quickly zoom in and out to confirm the look of your document before you print it. For example, if you create a report based on the Employees table of the Warner Cousins database, the report will be shown in Layout view. To switch to Print Preview, click the icon located in the bottom right-hand corner of the window:

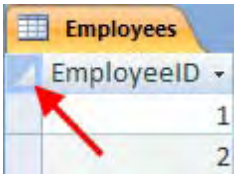
1. The Print Preview mode of Access 2007 features its own ribbon. The zoom box is located in the bottom right-hand corner of the Access window:



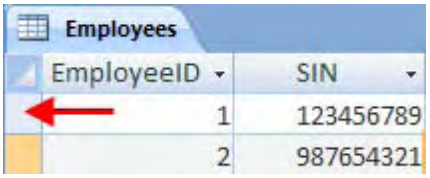
2. Click the + or – buttons to increase or decrease the level of zoom. You can also click and hold the small slider control in the zoom box and click and drag a custom level of zoom. Use the zoom box in combination with the Preview commands in the ribbon to see as many as twelve pages of report at once. At any time you can click the number beside the minus button to jump between 100% zoom and a custom level of zoom you may have picked previously.

Selecting Data

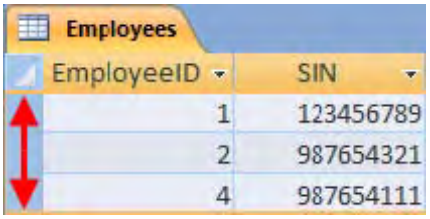
You can select any or all adjacent fields/columns/records in a table at once.



1. To select an entire table of data, open a table in Datasheet view and press Ctrl + A on your keyboard. Or, click the Table Selector button (located in the upper left-hand corner or Datasheet view) to perform the same action:



2. To select two or more adjacent records, click the box to the immediate left of a record to highlight it:



3. Press and hold the Shift key on your keyboard and click the box beside another record in the table. All records in between will be selected, including the record you clicked:
4. To select two or more adjacent columns, move your mouse over a column header. Your cursor will become a small down arrow; click and hold the left mouse button and drag left or right to highlight as many columns as you want:

	First Name	Last Name	Title	Phor
56789	Bugs	Rabbit	CEO	123-456
54321	Elmer	Funn	VP	123-456
54111	Daffy	Goose	VP Marketing	123-888

5. Finally, you can also select any range of adjacent cells inside a column of data. For example, if we want to highlight all the fields from the Product ID of Northwind Traders Chai to the Standard Cost of Northwind Traders Beer:

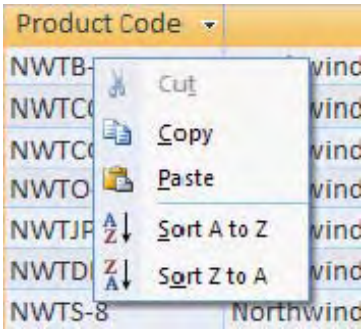
Product Code	Product Name	Description	Standard Cost
NWTB-1	Northwind Traders Chai		$13.50
NWTCO-3	Northwind Traders Syrup		$7.50
NWTCO-4	Northwind Traders Cajun Seasoning		$16.50
NWTO-5	Northwind Traders Olive Oil		$16.01
NWTJP-6	Northwind Traders Boysenberry Spread		$18.75
NWTDFN-7	Northwind Traders Dried Pears		$22.50
NWTS-8	Northwind Traders Curry Sauce		$30.00
NWTDFN-14	Northwind Traders Walnuts		$17.44
NWTCFV-17	Northwind Traders Fruit Cocktail		$29.25
NWTBGM-19	Northwind Traders Chocolate Biscuits Mix		$6.90
NWTJP-6	Northwind Traders Marmalade		$60.75
NWTBGM-21	Northwind Traders Scones		$7.50
NWTB-34	Northwind Traders Beer		$10.50

6. First, click inside the field for the Chai Product Code, as shown above. Move your mouse to the bottom or right border of the highlighted field; your mouse cursor will turn into a thick cross. Then, click and drag from the highlighted field to the last field you want to select:

ID	Product Code	Product Name	Description	Standard Cost	List Price
1	NWTB-1	Northwind Traders Chai		$13.50	$18.00
3	NWTCO-3	Northwind Traders Syrup		$7.50	$10.00
4	NWTCO-4	Northwind Traders Cajun Seasoning		$16.50	$22.00
5	NWTO-5	Northwind Traders Olive Oil		$16.01	$21.35
6	NWTJP-6	Northwind Traders Boysenberry Spread		$18.75	$25.00
7	NWTDFN-7	Northwind Traders Dried Pears		$22.50	$30.00
8	NWTS-8	Northwind Traders Curry Sauce		$30.00	$40.00
14	NWTDFN-14	Northwind Traders Walnuts		$17.44	$23.25
17	NWTCFV-17	Northwind Traders Fruit Cocktail		$29.25	$39.00
19	NWTBGM-19	Northwind Traders Chocolate Biscuits Mix		$6.90	$9.20
20	NWTJP-6	Northwind Traders Marmalade		$60.75	$81.00
21	NWTBGM-21	Northwind Traders Scones		$7.50	$10.00
34	NWTB-34	Northwind Traders Beer		$10.50	$14.00

Cutting, Copying, and Pasting

Once you have selected the data you want, you can easily copy data for use elsewhere and paste data into the table. To copy highlighted data from a table, right-click the data you have selected and click Copy:



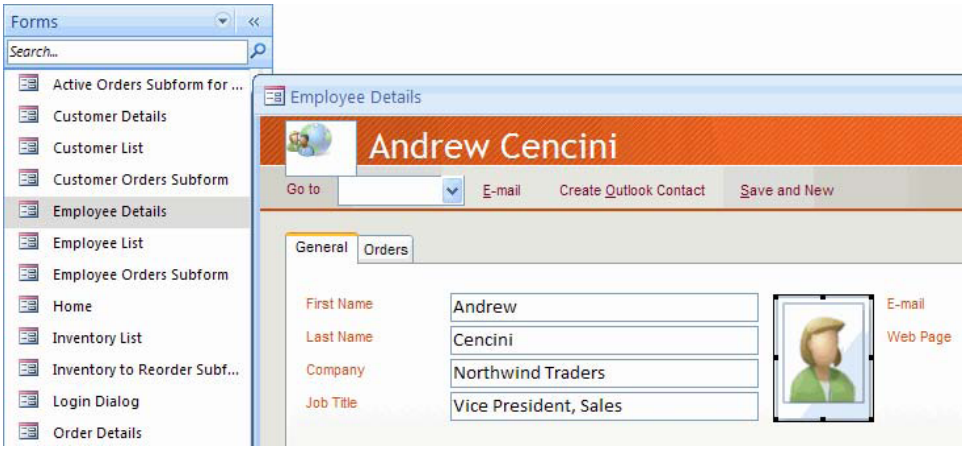
This saves a copy of the highlighted data in the clipboard of your PC. Once data has been copied, it can be used in a word processor, a spreadsheet, or some other program that uses text and numerical data. To paste the data in the clipboard to another program, you can click Edit -Paste- or Data -Paste- using the menu of the other program. Most programs also feature some sort of right-click functionality; right-click your mouse where you want to the data to go and click Paste.

To paste data into a table is a bit more complicated. You will need to make sure that your source data does not have the same primary key as any record currently in your table. If you do, Access will prompt you with an error saying that a duplicate primary key has been detected in the table. You must assign a new primary key to the pasted record(s) in order to continue. To perform the paste operation, copy the data from the source program and paste it into the Datasheet view of a table by right-clicking inside the upper-leftmost cell you want to place the data Paste.

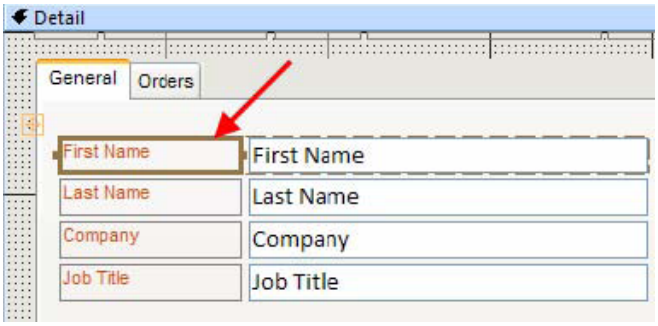
Cutting data in Access requires care if the table you are cutting the data from is related to many other tables in the database. Cutting data from a table has the same effect as deleting data; that is, it no longer exists in the source table. Therefore, if there are other tables in the database that rely on the information you are potentially removing, you will need to remove the relationship between the two tables first. Cutting data has the same sort of effect as copying data; it is stored on the clipboard of your PC until you paste it into another program.

Using the Format Painter

The Format Painter is used to remember the formatting style of one control and 'paint' each subsequent control so all of them look the same. This tool is very useful if you are doing some renovating to the look and feel of a database or if you need to apply a lot of changes quickly. The use of the Format Painter is best shown by example.

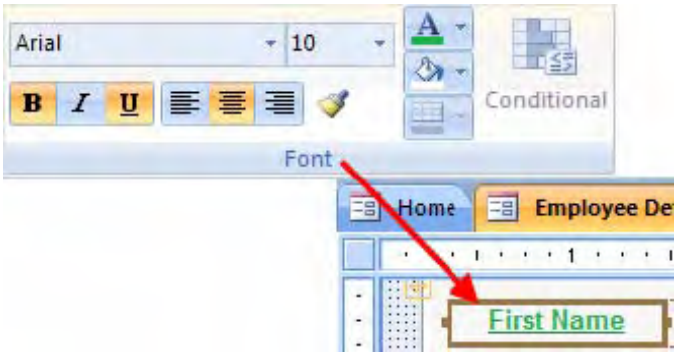


The diagram above shows the Employee Details form found in the Northwind sample database.

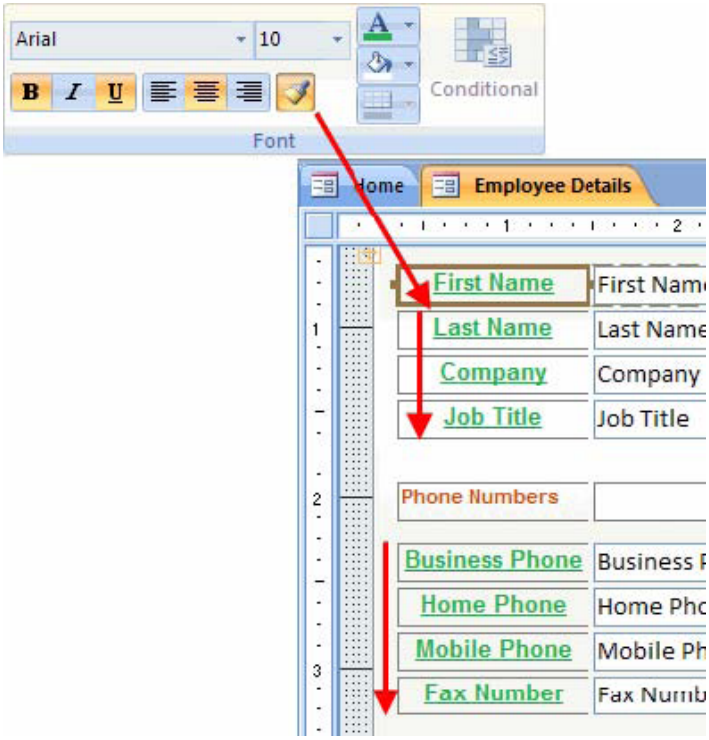


1. Enter Design view by using the View command. This will show you where each command lies in the form:
2. Click any object in the form, like the text box label shown in the diagram above. The current formatting for the label appears in the Font section of the Design contextual ribbon:

3. The small paint brush icon ( ) located in the Font section is the Format Painter. To see it in action, let's first change the look and feel of some labels. First, select the label that contains formatting that you want to use:



4. Double-click the Format Painter. Now every control you click on will have that formatting applied to it:



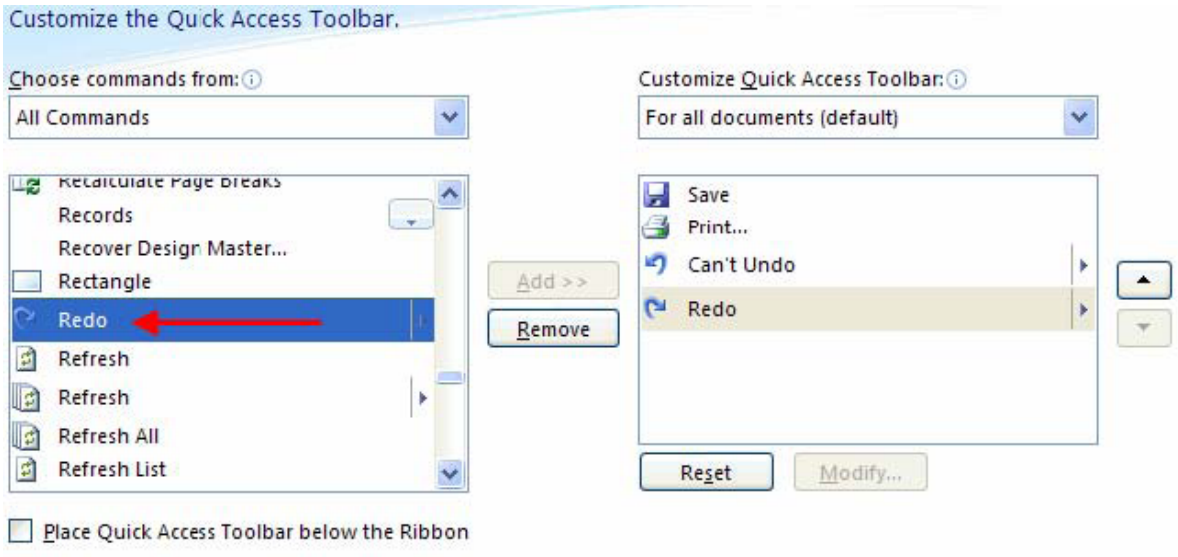
5. To stop using the Format Painter, click the Format Painter icon once more to turn it off.
6. The Format Painter is most commonly used in this manner in order to format the look of many controls at once. However, if you want to make only once command look like another, click the command you want to copy, and then click the Format Painter icon. After you use the Format Painter, it becomes deselected.

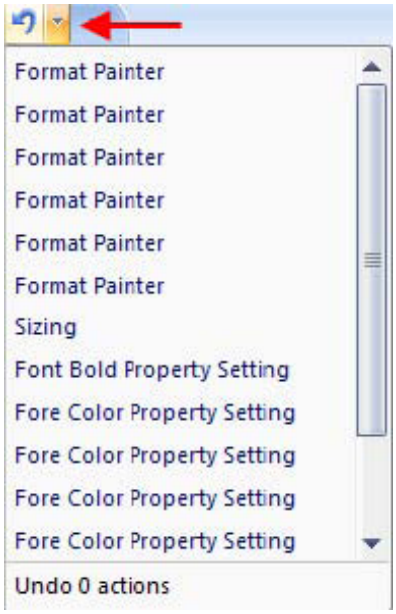
Using Undo and Redo

Undo and Redo are used as a way to recover or reinstate changes you have made to an object or file. Like Cut, Copy, and Paste, you can perform the Undo and Redo command in many different situations using Access (and many other programs). And like Cut, Copy, and Paste, Undo and Redo have their own keyboard shortcuts. (Ctrl + Z and Ctrl + Y respectively)

The Undo command is a standard control in the Quick Access toolbar:

1. The Redo command is used by pressing Ctrl + Y or by adding the control to the Quick Access toolbar:



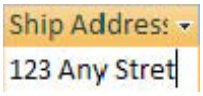


2. If you accidentally changed the font used in a control, use the Undo command to erase the changes and use the old font again. Access gives you the option to 'step back' through the last twenty operations you performed.
3. To see the operations that were performed before, click the small pull-down arrow beside the Undo or Redo command:

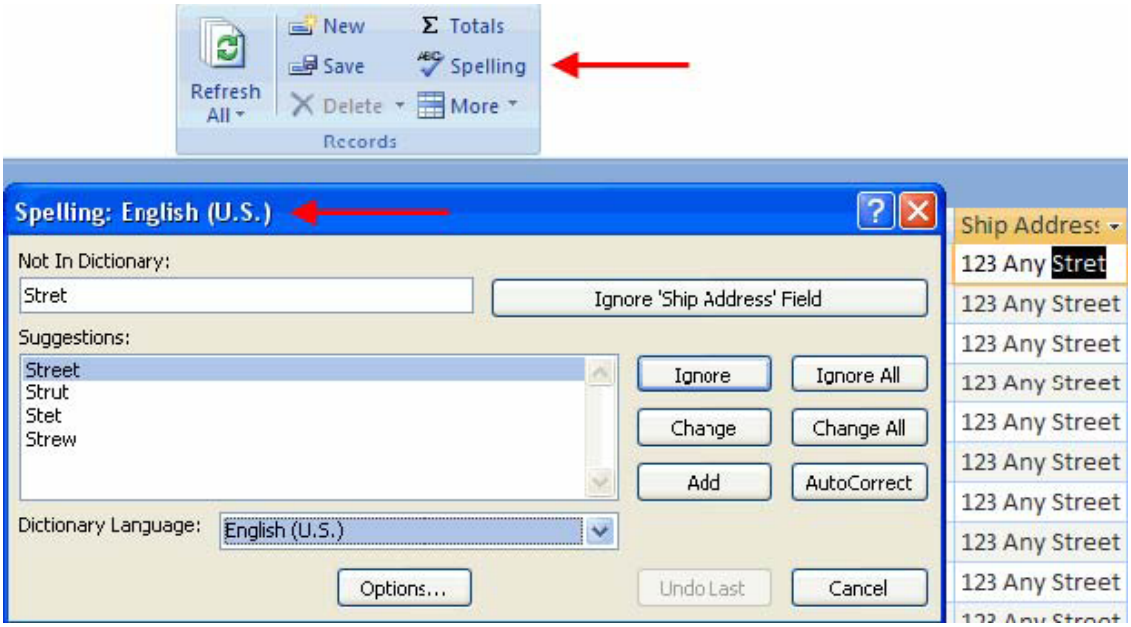
4. Pick the option in the list you want to -Undo-; Access will revert the actions in the reverse order in which they were performed.
5. The only exception to the Undo and Redo command is one that involves the deletion of data. If you are not 100% sure that a certain piece of data can safely be removed, you should back up the database first. Should records be deleted because of an Undo or Redo command, their deletion cannot be reversed.

Checking your Spelling

In the case of a database, you probably won't have too many spelling errors as most of the data is going to be in abbreviated form, in number form, or proper names that won't be in a dictionary. Nonetheless, Access lets you take advantage of a spell checker to check the records of a table for misspelled words. For example, if you misspelled the word Street:



1. Access' Check Spelling command will find and report an error like the one above if you activate the command in the Records section of the Home ribbon:



2. The Spelling dialogue box will appear with the word it couldn't find in the Not in Dictionary field. The dialogue box has several features to make spell checking easy. It offers possible spelling matches in the Suggestions list. You can also specify which language you would like the spell checker to use in the Dictionary Language combo box. (Be warned that changing dictionary languages may require the Office 2007 install media or a connection to the Internet to download a language package.)
3. The buttons on the right-hand side of the dialogue allow you to:

Ignore

Skip over this instance of the misspelled word.

Ignore All

Skip over all instances of this misspelled word.

Change

Change this misspelled word to the highlighted suggestion in the Suggestions box.

Change All

Change all instances of this misspelled word to the highlighted suggestion in the Suggestions box.

Add

Add this 'misspelled' word to the dictionary so any further instances will be considered correct.

AutoCorrect

AutoCorrect is a special function of the Microsoft Office Package that is designed to always change a misspelled word to the first suggestion. For example, if you had to type 'Street' many times for different addresses but you always forget to add the extra 'e,' Access will automatically correct every instance of 'Stret' to 'Street'.

To see Section 7-10 download

Access 2007: Part III