

ECDL Module 5

Databases

Windows Vista / Microsoft Office 2007 Edition – Syllabus Five



ECDL Foundation
Approved Courseware



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Tutor Setup Information

- Copy the sample files folder to the **Documents** folder on the PC.
- At the end of the course, remove all files modified or created during the course, prior to re-running the course.
- At the end of the course, reset all program and operating system defaults that may have been modified during the course, prior to re-running the course.

Database Concepts

What is a database?

- A database is defined as an organized collection of data (information). In raw form, a sheet of paper divided into columns and rows or a table in Microsoft Word or Excel would previously have been considered a simple database. Single table databases are very limited in their uses and would not be considered as a business solution.
- These days, a database is defined as a collection of objects, such as tables, forms, queries and reports. A database will be able to store data in a structured manner across multiple tables, use queries to locate specific information according to given criteria, produce detailed (on-screen or printed) reports, perform calculations and much more.

What are databases used for?

- Databases are used to group and format data and then extract information from that data. Examples of databases usages include:
 - A phone directory
 - Criminal databases used by the police to keep track of known criminals
 - Patient records are kept on a database within the health system
 - Tax details are kept on a government database

What is a relational database?

- Unlike a single table database, a relational database is able to store and manipulate data across multiple tables.
- By utilising multiple tables, a relational database reduces unnecessary duplication of data. For example, when using a large database to store customer information, including addresses, it is likely many individuals will live in the same street and share other common parts of the address. Rather than storing the same **street name, county, state, etc**, over and over, this information can be stored in a separate table. As each new customer is added to the database, only the unique **house number** needs to be recorded.

What is a table?

- Tables are used to store the data in a structured and organised format. As previously mentioned, tables are similar to those of Word and Excel, in that they contain rows (*records*) and columns (*fields*).

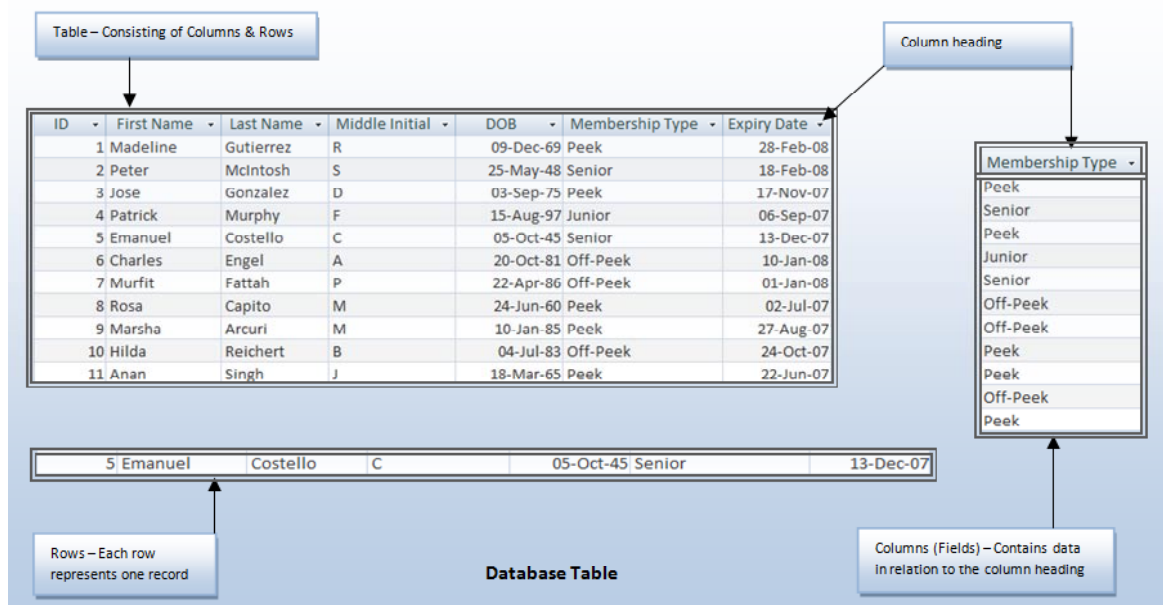
ID	First Name	Last Name	Middle Initial	DOB	Membership Type	Expiry Date
1	Madeline	Gutierrez	R	09-Dec-69	Peek	28-Feb-08
2	Peter	McIntosh	S	25-May-48	Senior	18-Feb-08
3	Jose	Gonzalez	D	03-Sep-75	Peek	17-Nov-07
4	Patrick	Murphy	F	15-Aug-97	Junior	06-Sep-07
5	Emanuel	Costello	C	05-Oct-45	Senior	13-Dec-07
6	Charles	Engel	A	20-Oct-81	Off-Peek	10-Jan-08
7	Murfit	Fattah	P	22-Apr-86	Off-Peek	01-Jan-08
8	Rosa	Capito	M	24-Jun-60	Peek	02-Jul-07
9	Marsha	Arcuri	M	10-Jan-85	Peek	27-Aug-07
10	Hilda	Reichert	B	04-Jul-83	Off-Peek	24-Oct-07
11	Anan	Singh	J	18-Mar-65	Peek	22-Jun-07

What is a record (row)?

- A record applies to data entered into a single row of a table. All data in that row would belong to an individual or item. A record would normally include a unique ID number, Name, Description, plus other relevant information. With each new record, a new row is created.

What is a field (column)?

Each column (previously known as a 'field') is used to define what specific information is to be entered into that particular column. A column titled 'Street' for example would signify this to be the point in a record to enter in the Street name when creating each new record.



What is data?

- Data is the information entered into tables within the database. Databases are used daily by large corporations, small businesses and individuals, often without people realising they are using a database. Even something as simple as entering contact details into the 'Contact' or 'Address Book' section of an email client such as Microsoft Outlook / Outlook Express, involves

entering *data* into a database.

- Data entered will generally be alphabetical (names / addresses) or numerical (Dates / Currency), however Access is also able to store other forms of data, such as links to websites, documents created in other packages (OLE) as well as file attachments (files & images).
- Data can be entered into the database manually, via the keyboard, imported from or linked to external sources or even collected through email.

The difference between data and information

- Data:
 - Facts, statistics used for reference or analysis.
 - Numbers, characters, symbols, images etc., which can be processed by a computer
 - Data must be interpreted, by a human or machine, to derive meaning
- Information:
 - Information is interpreted data
 - Data that has been processed to produce meaning.

Data types

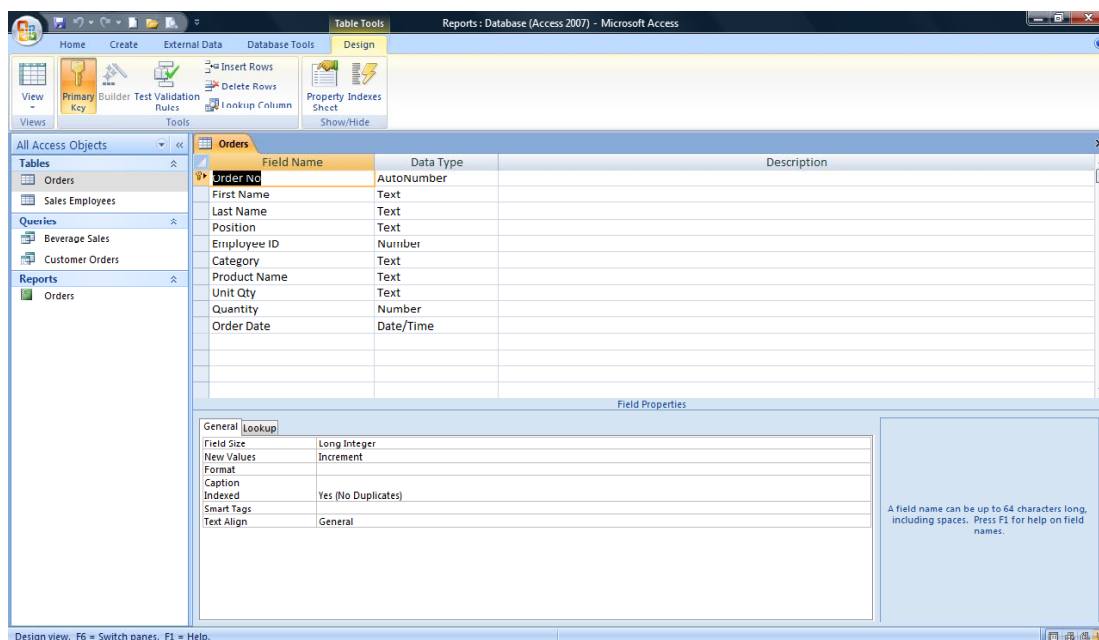
- Data types define what type of data will be entered into each 'field' (column) in a table. If for example the date '**12June2007**' or **Price 1.59** is entered into a field, which by default is set as 'Text' the input characters will remain unchanged.

Date of Manufacture	Price
12June2007	1.59

- If however the data type is set to a currency or date 'Data Type', numeric data entered will automatically format to the appropriate currency or data/time format.

Date of Manufacture	Price
12-Jun-07	1.59

There are a number of specific reasons for selecting the correct data types when creating Tables within a database. Setting a 'Date' Data Type for example will format and store all entries in the manner configured. This in turn means that queries created to locate information according to a 'Date' criteria will have consistent data to work with. In the same way, Numeric data must be of a numeric type, otherwise query searches, reports and calculations will fail to provide the desired information.



NOTE: Field Properties must also be configured to format the appropriate currency symbol, date format and to limit the data entry to specific characters, symbols and spacing.

Common uses of large-scale databases

- These include:

Airline booking systems:

These systems maintain a database of all the seats on all the available flight, allowing passengers to be quickly booked onto flights to their destination.

Government records:

Governments all over the world rely on multiple large databases in order to function. Tax records, criminal records and social security all require sophisticated database systems.

Bank account records:

Banks require extremely reliable databases in order to keep track of all their customer account & log transactions.

Hospital patient details:

Medical records are being moved onto a database system. This system should allow your medical history to be instantly available wherever you require treatment.

Each table in a database should contain data related to a single subject

- A database can have many tables. A table should only contain records related to a particular subject. For example you may have a table called customers containing information about your customers with a separate table

called orders. You can then link the tables by creating a relationship, connecting each customer with their associated orders.

Each field in a table should contain only one element of data

- Each field should contain the smallest data element. For instance if you are storing a person's name, use one field for the first name and another field for the second name. This means that at a later date you could manipulate the data to sort by the second name. For the same reason split the details of an address into as many smaller parts as possible so that later you could search by state/region , by post code/zip code or even by country if you are maintaining an international list.

Database designers, database administrators and database users

- Different groups of people design, maintain and use large scale databases.

Database designers:

These are highly skilled database professionals with an in-depth knowledge of exactly how the database works, including its overall function and details programming.

Database administrators:

This group administer the day to day operation of the database and make sure that the data is kept secure. These provide technical backup to users of the database. They provide access to specific data for appropriate users. In the event of a computer crash the database administrator will be responsible for restoring normal computer operations.

Database Users:

The users are responsible for routine, day to day data entry, data maintenance and information retrieval.

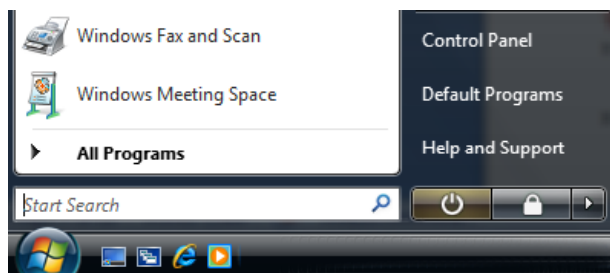
A First Look at Access 2007

Opening Access 2007

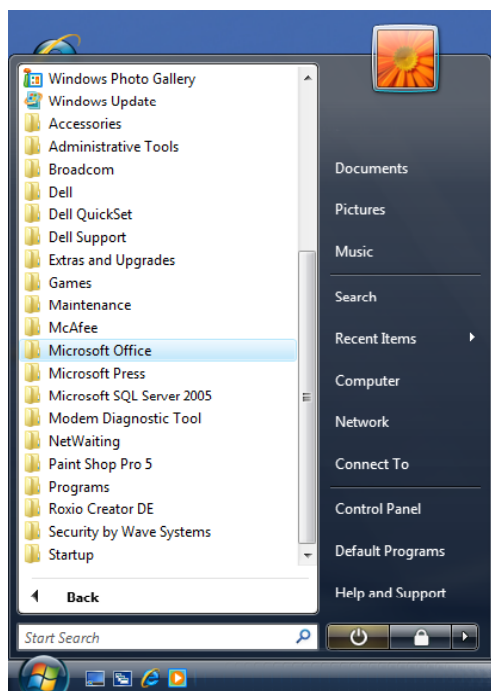
- Opening Access 2007 installed on Windows XP or Vista will visually look different, however the steps required to open Access are identical in both operating systems.

NOTE: These instructions use Windows Vista.

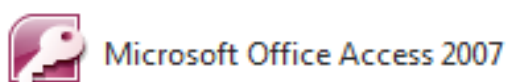
- Click on the **Start** button (bottom left of screen) and then select **All Programs**.



- Scroll up until you locate the **Microsoft Office** folder button and click to select.

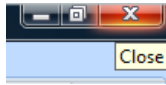


- Finally click on the **Microsoft Office Access 2007** icon.



Closing Access 2007

- To close the Access program click on the **Close** icon at the top-right corner of the program window. This icon contains a small **X** shape.



TIP: The keyboard shortcut for closing Access is **Alt+F4**.

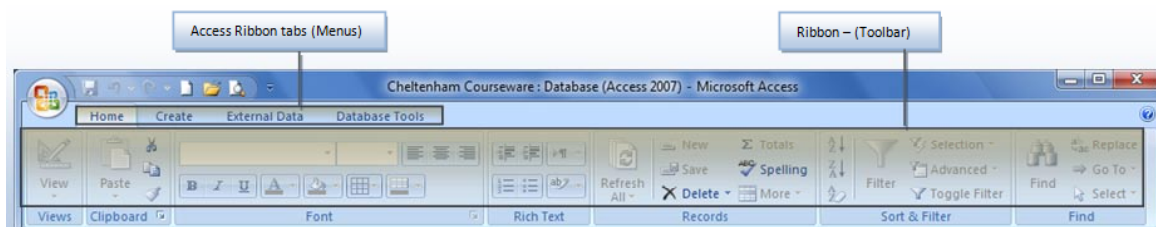
- Reopen the Access program before continuing.

Exploring the Access 2007 window

- Similar to other Microsoft Office applications, Access 2007 shares a common theme when it comes to the window layout, however there are also many changes to the layout in comparison to earlier versions of Microsoft Office, Microsoft, Office 2007 applications now use a Ribbon instead of the toolbars seen in earlier version and menus are now replaced by Ribbon tabs.
- Other new features include the new Office Button, Quick Access Toolbar and Groups.

The Ribbon (Toolbar)

- The Ribbon has been designed to offer a standardised layout across all Microsoft Office applications and help users quickly locate frequently used functions.
- The Ribbon is designed to display the most appropriate tools / functions according to the task at hand and each is divided into **Groups**. As you work with various objects and views within Access, the Ribbon will change accordingly, displaying the options considered most useable at that point.



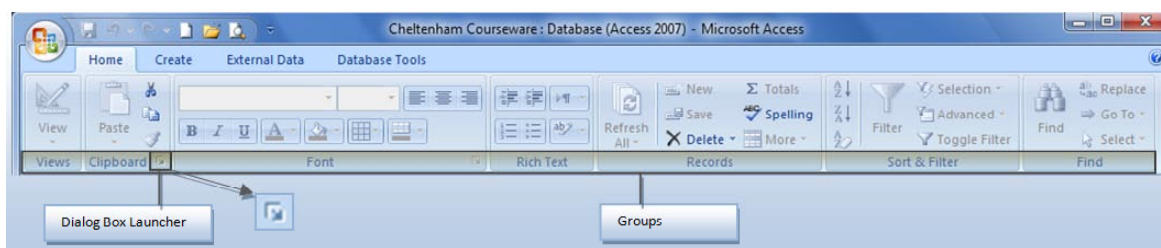
Ribbon tabs

- Ribbon tabs similar to menus (see above) separate functions across different Ribbons according to the Object or View you are working in. Undertaking different tasks within the database, i.e. editing an Object or switching between Datasheet / Design views (covered later) generally causes the

Ribbon tabs and consequently Ribbons to auto select or display additional options (Contextual tabs). Ribbon tabs can also be selected manually, however only active items will function.

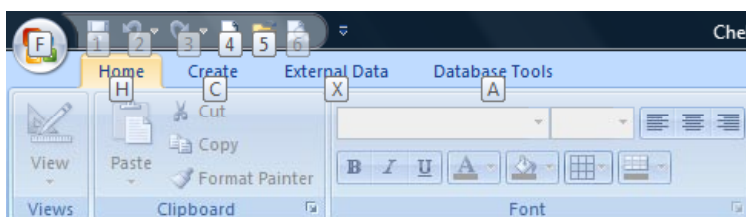
Groups & Dialog Box Launcher

- All functions are clustered into groups and set out across the Ribbon. Groups have been designed to help identify tools quickly.
- A Dialog Box launcher is available in the **Clipboard** and **Font** groups on the **Home** tab. When clicked the **Dialog Box Launcher** displays additional features.



Navigating - Quick keys (shortcut keys)

- Shortcut or quick keys provide an alternative means of navigating the Ribbon, Ribbon tabs and Quick Access Tool Bar. By pressing the **'Alt'** once Office will display the shortcut characters associated with the various Ribbon tabs or 'Quick Access Toolbar' functions.



- Having identified the number / letter, selecting it on the keyboard will activate the functions or tab associated with the quick key. In certain circumstances, Quick key characters continue to display until another Quick key is selected, the **'Alt'** key is pressed again or the **'Esc'** key is used.

Navigating – Pointer keys & quick keys

- Pressing the **'ALT'** once displays the shortcut letters associated with the various Ribbon tabs or 'Quick Access Toolbar' functions. This operation also engages a select zone and by using the 'left' and 'right' pointer keys, you will be able to navigate through the Ribbon tabs. Use the 'up' pointer key to jump to the Quick Access Toolbar and use the 'down' pointer key to return to the Ribbon tabs again.

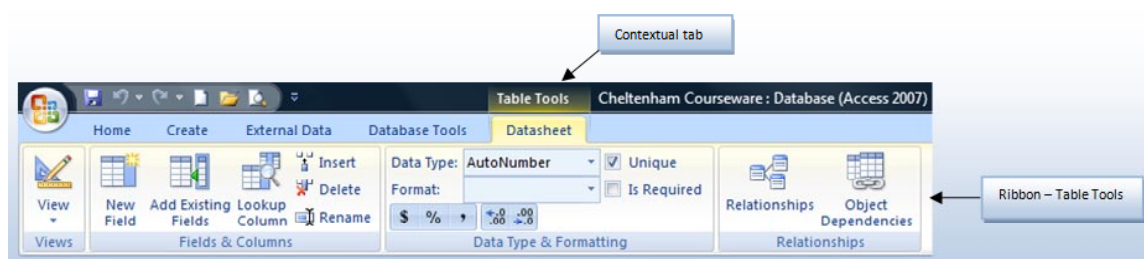
Navigating – Mouse wheel

- If you have a mouse with a scroll wheel, you will be able to place the pointer into the area of the Ribbon, move the scroll wheel back or forth to scroll through the Ribbon tabs.



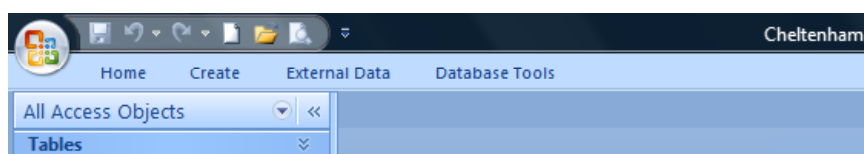
Contextual tabs

- Contextual tabs provide additional functionality and will only be displayed when required. When working on tables for example, the Contextual tab 'Datasheet - Table Tools' appears to the right of the 'Database Tools' Ribbon tab.



Minimising the Ribbon

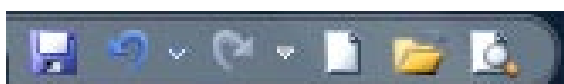
- Double clicking on a Ribbon tab minimises the Ribbon, offering a greater work area. To make selections from a minimised ribbon, click on a ribbon tab. The ribbon expands for you to make your selection, then minimises again.

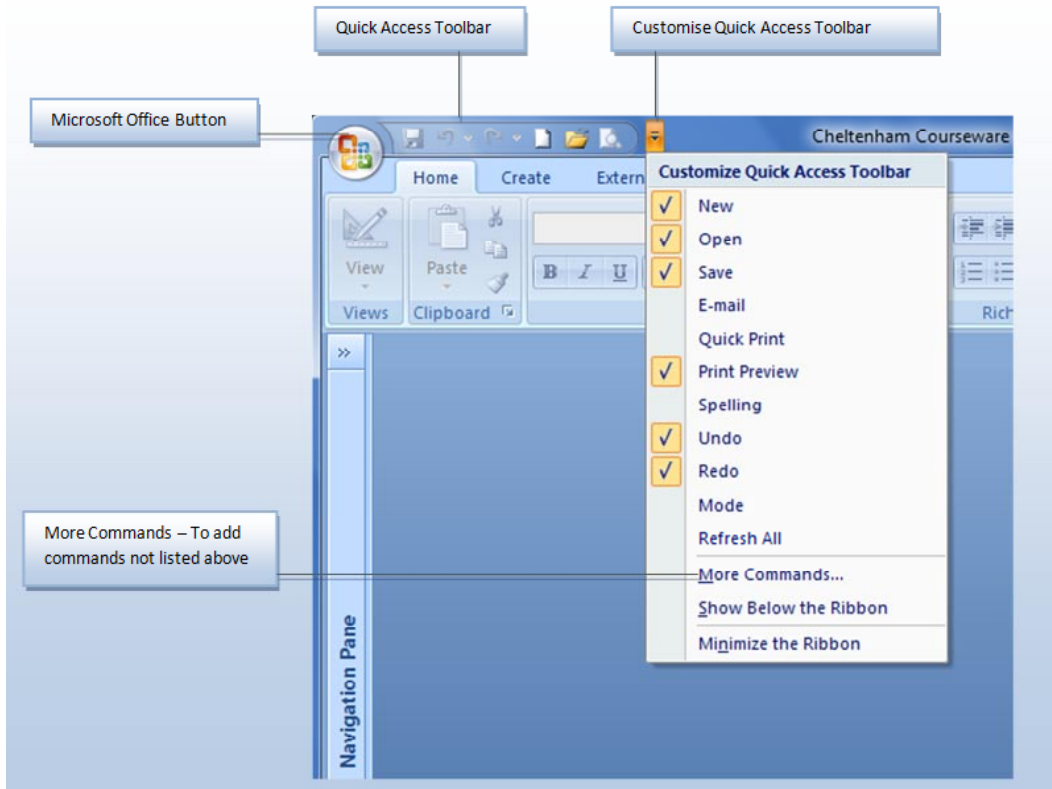


- To restore the ribbon to a fixed state, double click on any of the ribbon tabs.

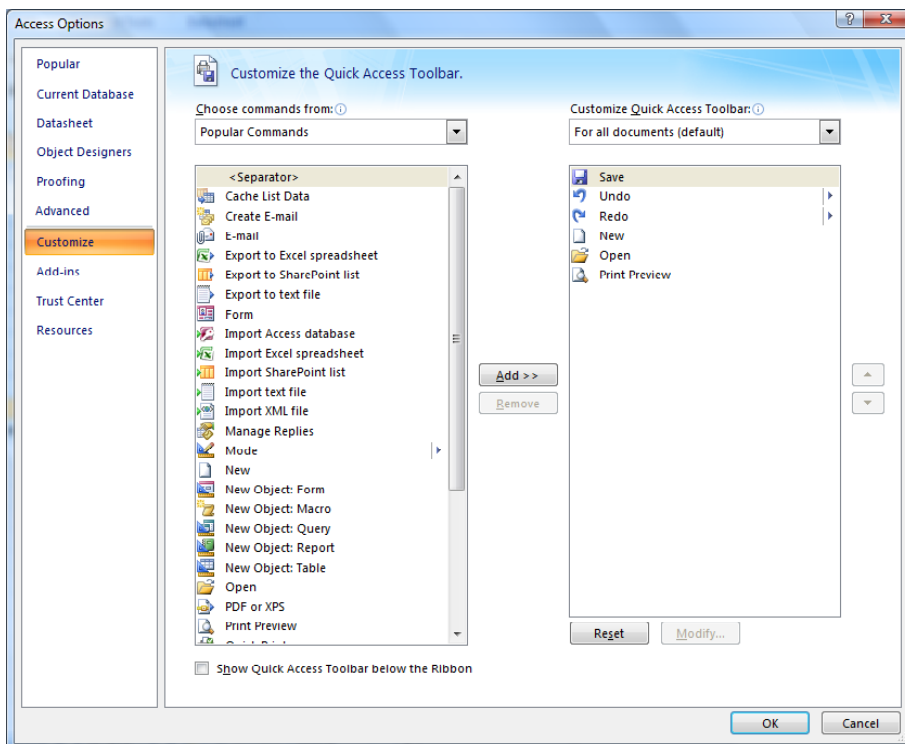
Quick Access Toolbar

The Quick Access Toolbar offers an 'easy to click' location for frequently used command buttons, such as Save, Undo and Redo, etc.



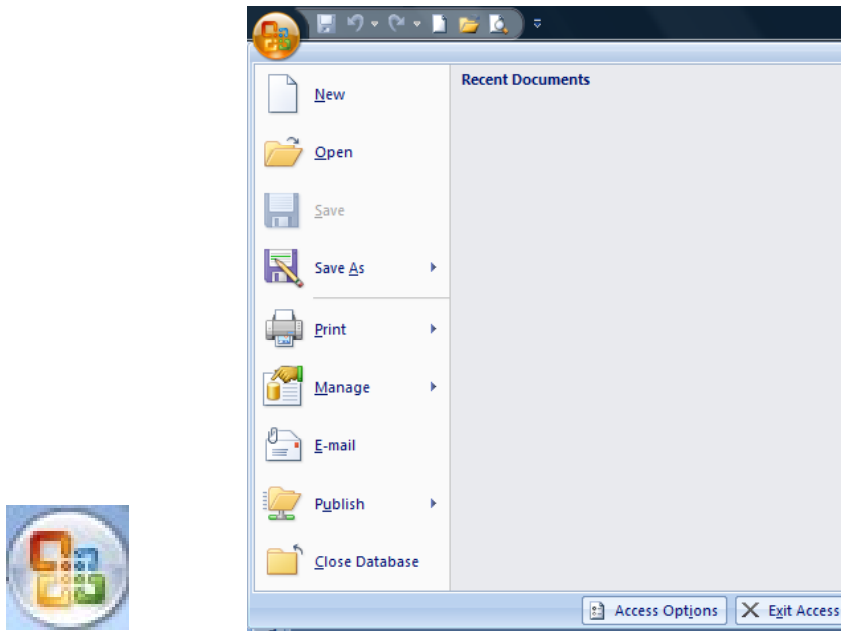


- Other functions may be added to the toolbar by selecting them from the Customise Quick Access Toolbar drop down list.



The Office Button

- The **Office Button** (new to Office 2007 products) provides many of the options previously found under the **File** drop down menu in earlier versions of Microsoft Office.

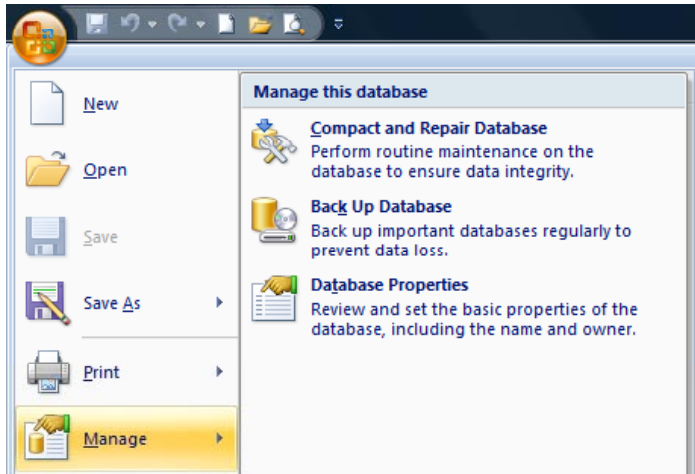


- Commands include:

Command	Description
New	Create a Blank Database or select a Template to work with
Open	Open an existing database file
Save	Save the open database
Print	Print from Tables, Reports and other Objects
Close	Closes the open database (not the Access application)
Exit	Closes the database and quits Access

NOTE: The **Save As** command is used to save copies of Objects (Tables, Forms, etc) within the database, not the database itself. If you need to rename the database filename or create a copy of the file, this needs to be done using other methods.

- Although not part of this course, Access has built-in functionality to compact and backup databases. Consider looking at the **Manage** options, under the **Office Button**.

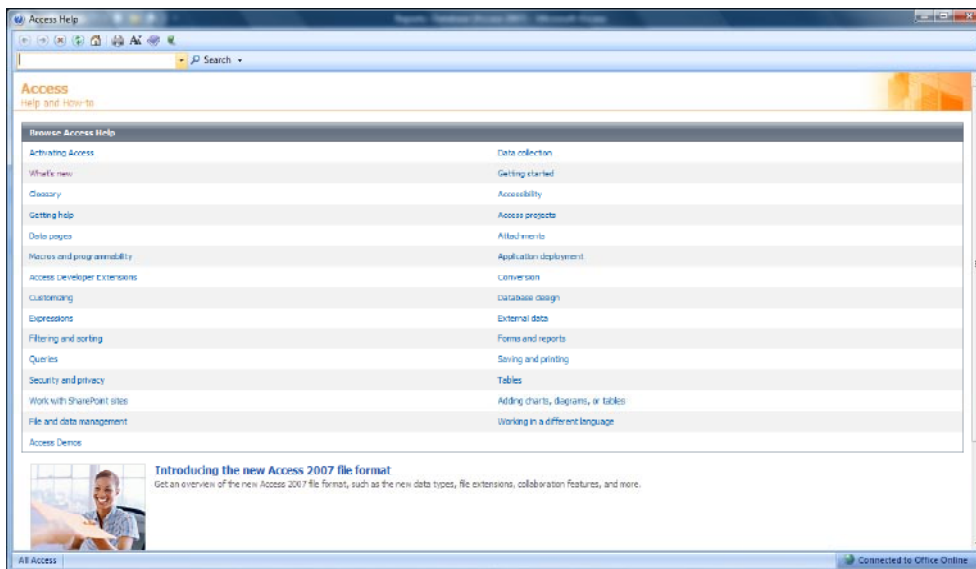


Microsoft Access Help

- As with all Microsoft applications, Help is always available. In the upper right-hand corner of the application window, is a **Help** button.



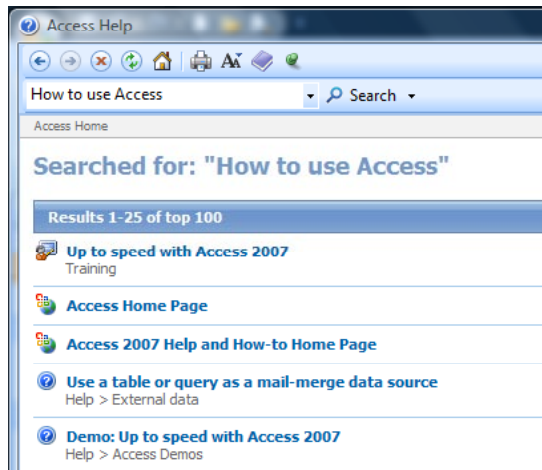
When clicked, it will open the Access Help window. Alternatively, pressing the **F1** function key, normally located in the top row of the keyboard, will also activate the help window.



- From the help window, you will be able to select and click on the topics listed or type in a word or words into the **Search** box and have Access Help search the files for all matching help topics.

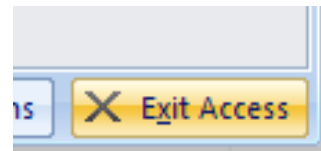
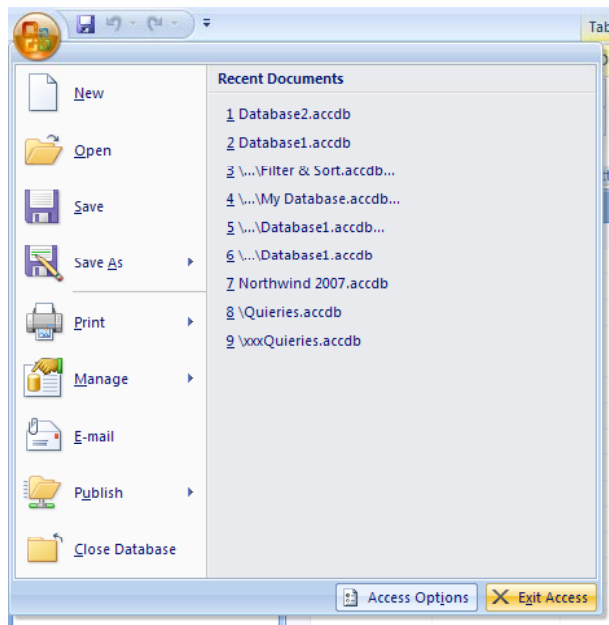


- As an example of using Help, type in the subject you need help with and then press the **Enter** key on the keyboard or click on the **Search** button.



Closing Microsoft Access

- When you have finished experimenting, close the Access program. To do this click on the **Office Button** and then click on the **Exit Access** button (displayed at the bottom-right of the dialog box).

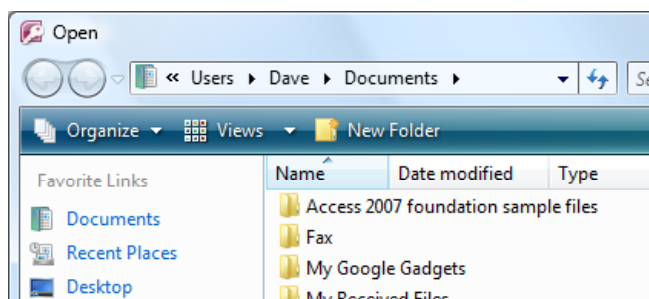


Opening a Database & Security Issues

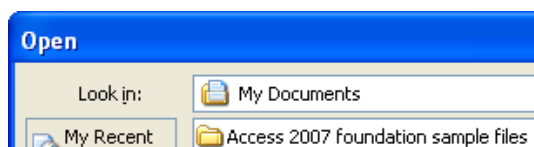
Opening a database

- Open the Access Program.
- Click on the **Office Button** and from the menu displayed click on the **Open** command. This will display the **Open** dialog box.

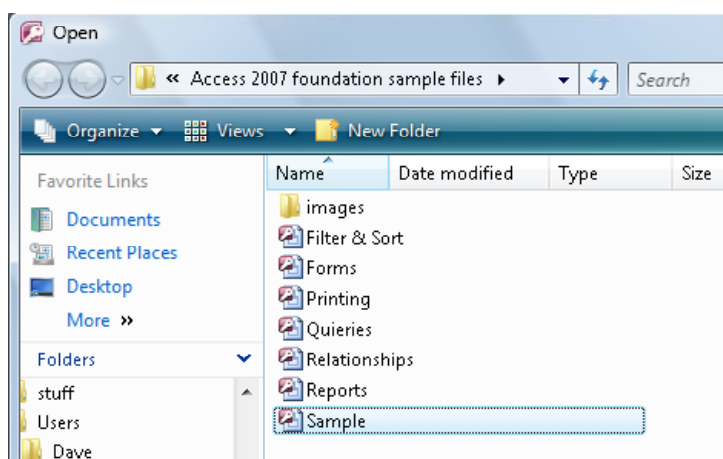
By default the contents of the **Documents** folder will be displayed



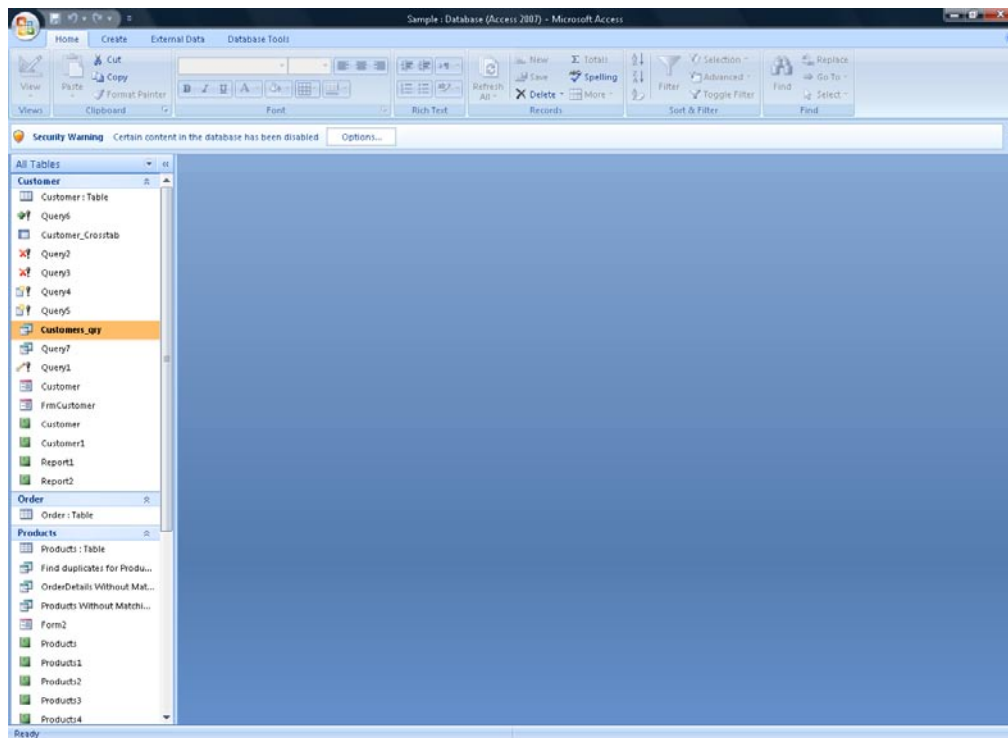
NOTE: If you are using **Windows XP**, then by default the contents of the **My Documents** folder will be displayed, as illustrated.



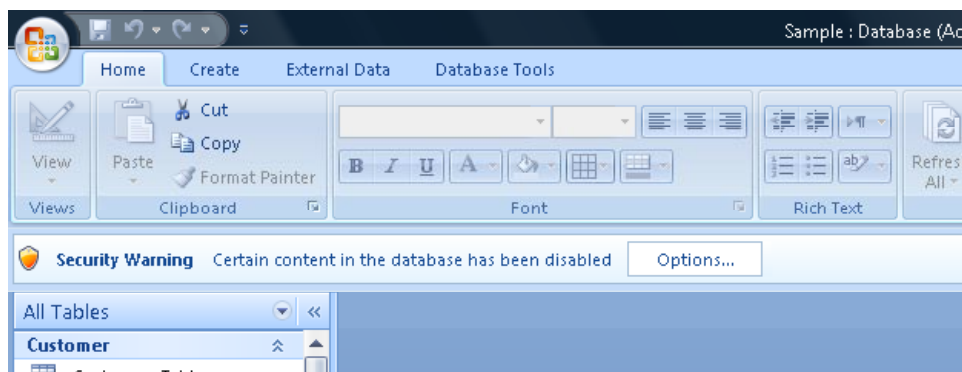
- You should see a folder displayed containing the Access 2007 foundation sample files.
- Double click on this sample folder to display the contents of the folder.
- Select a database file called **Sample** and double click on it to open it.



- The database will look like this when opened.



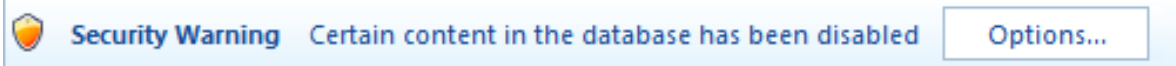
- If you look carefully at the screen, you will see a warning dialog message displayed.



- The next section deals with the implications of this warning.

Security warnings

- Similar to other Microsoft Office applications, Access 2007 warns users of potential security threats when they arise and relate to macros within the application. Macros contain code written to perform a task within the application and are used widely in Excel, Word as well as Access. Because macros use code designed to allow advanced users the opportunity to create their own functions to enhance the functionality of a database, others can also write malicious code intended to have the opposite effect.
- For this reason, Microsoft Office applications prevent macros from running and displays a warning instead, which is displayed towards the top of your screen.



- Users must choose to enable macros or leave them disabled by clicking on the **Options** button within the warning.



- If you trust the source of this database file and the content, you can select **Enable this content**, to allow the macro to run. Then click on the **OK** button.



NOTE: Selecting **Enable this content** is a temporary enabling of macros and warnings will be displayed again the next time this database is opened.

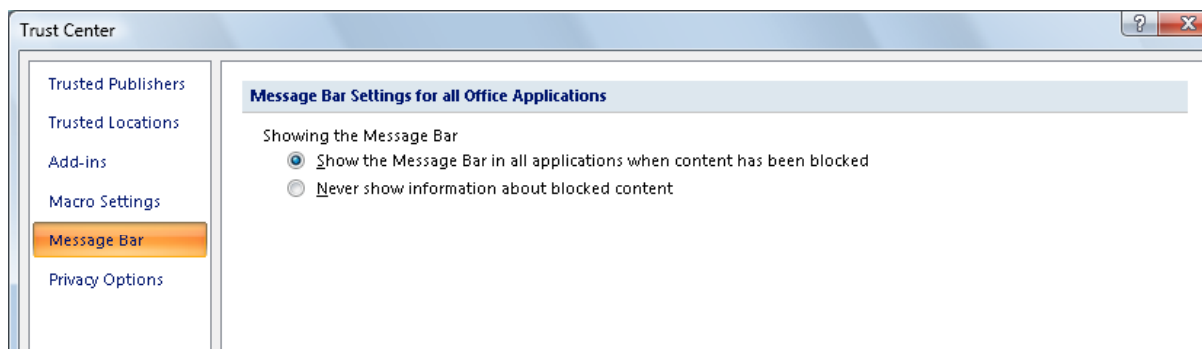
- An alternative to enabling macros every time a database is open is to select and add a trusted folder within the Trust Centre. We shall do this in the next section. Close the database and close Access.

Trusted Locations - Trust Centre

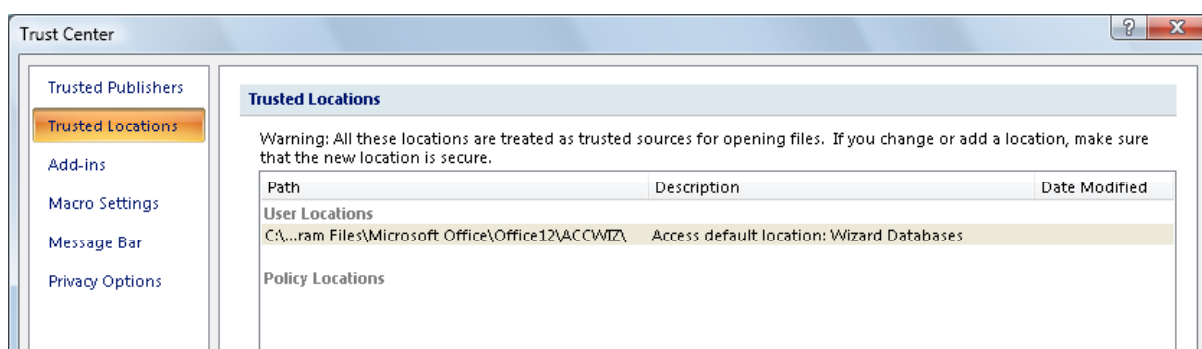
- Re-open Access and reopen the **Sample** database file (using the techniques described above). As you can see the warning message is again displayed. Now we will make the sample folder a trusted location, permanently!
- Click on the **Options** button to the right of the warning. The **Microsoft Office Security Option** dialog box is displayed. At the bottom-left of the dialog box is a link to **Open the Trust Centre**.



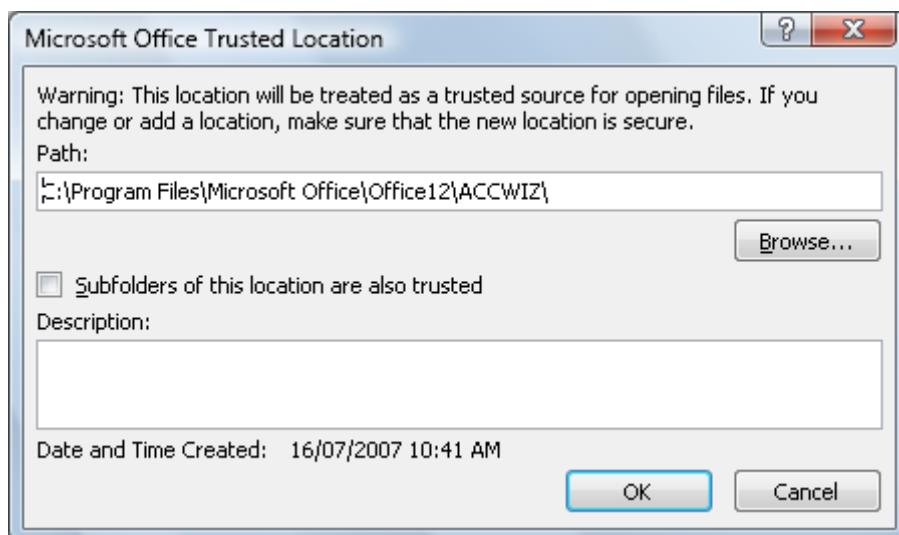
- Click on the **Open the Trust Centre** link to open the **Trust Centre**.



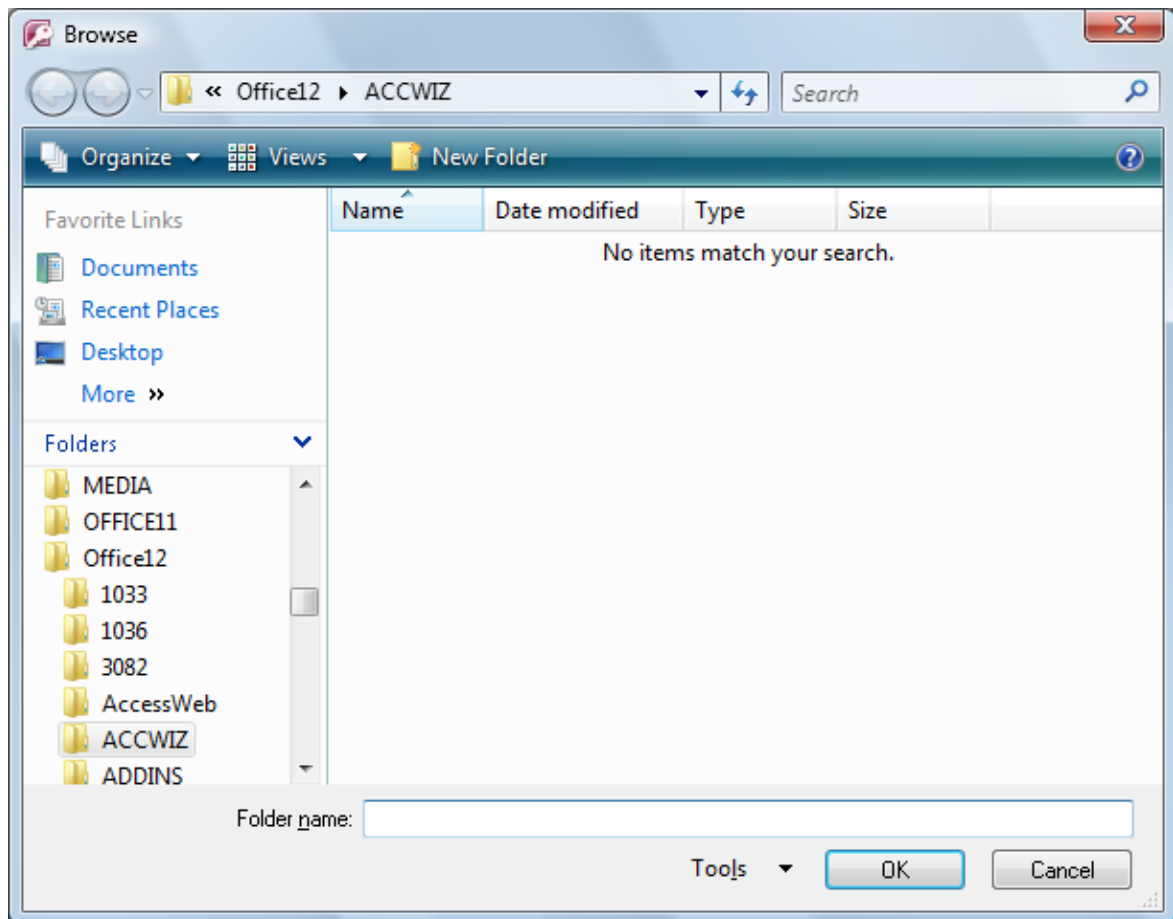
- Select the **Trusted Locations** button from the left pane of the window.



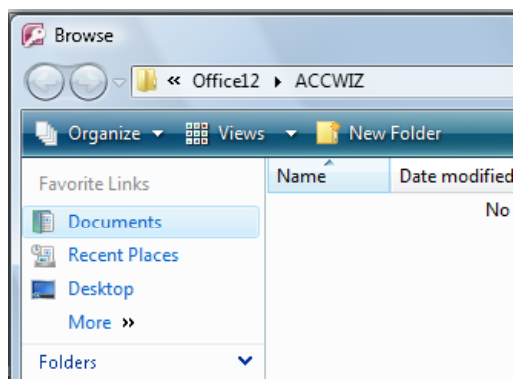
- Click on the **Add New Location** button and you will see a dialog box displayed.



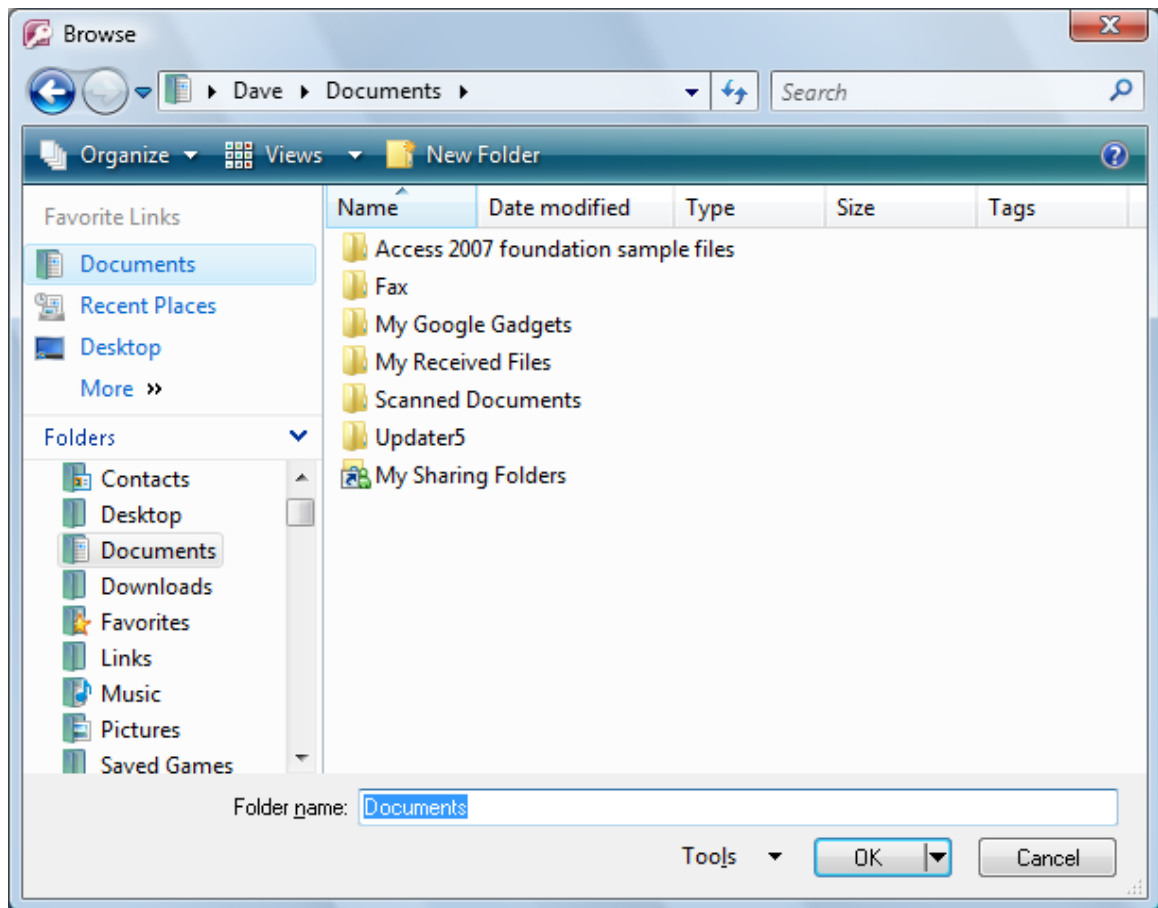
- Click on the **Browse** button and you will see a dialog box displayed.



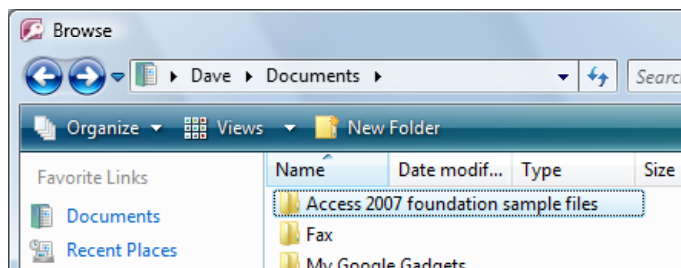
- You need to click on the **Documents** (or **My Documents**) folder, which should be listed down the left side of the dialog box, as illustrated.



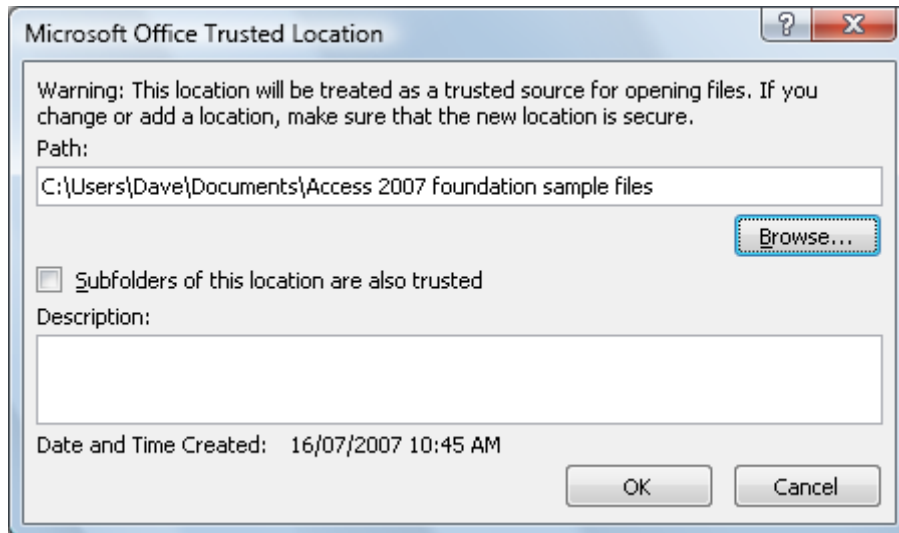
- Once you have clicked in this folder you should see the Access 2007 samples folder displayed.



- Select the Access 2007 samples folder, as illustrated.



- Click on the **OK** button and you will see the following.



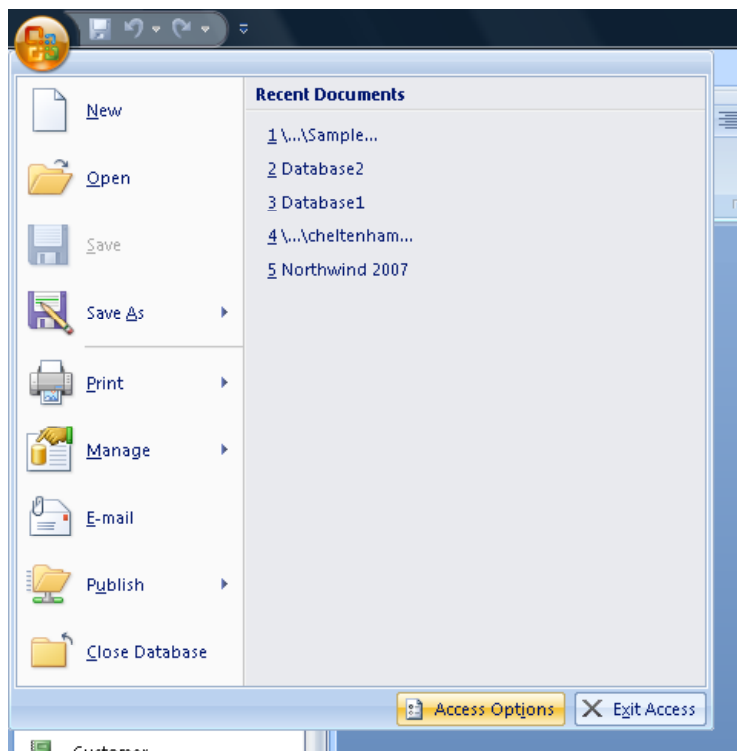
- Click on the **OK** button and the Access 2007 samples folder will now be permanently trusted.
- Click on the **OK** button on any remaining dialog boxes to close them.
- Close the Access program and then reopen it. Reopen the Sample Access database. You should no longer see the warning displayed.

NOTE: If other database files are stored in different directories, these will need to be added to Trusted Locations. Alternatively it may be worth considering centralising database files.

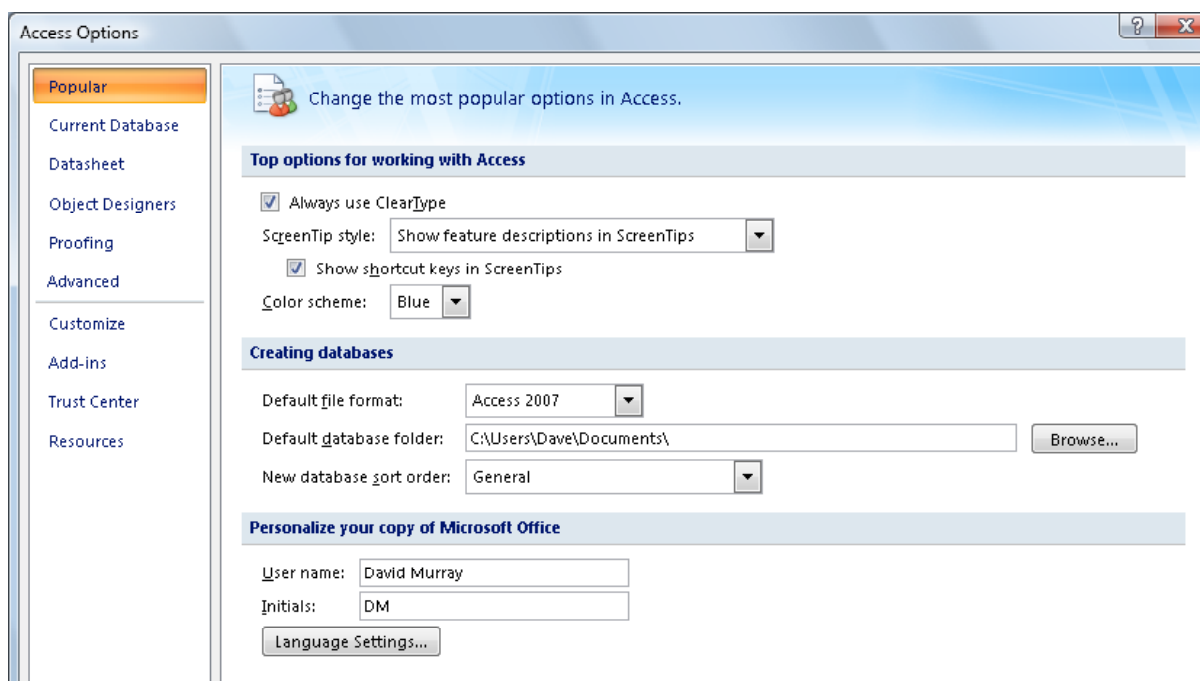
- Close the Access program

Setting the default folder location within Access

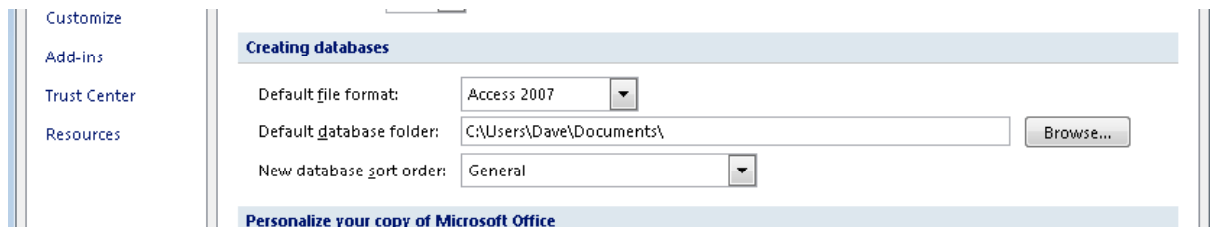
- We can set a default folder for opening files within Access. This means that when you display the **Open** dialog box, it always displays files in the folder that you set as default.
- To set a default folder, re-open the Access program and then click on the **Office Button** (top-left). You will see the following.



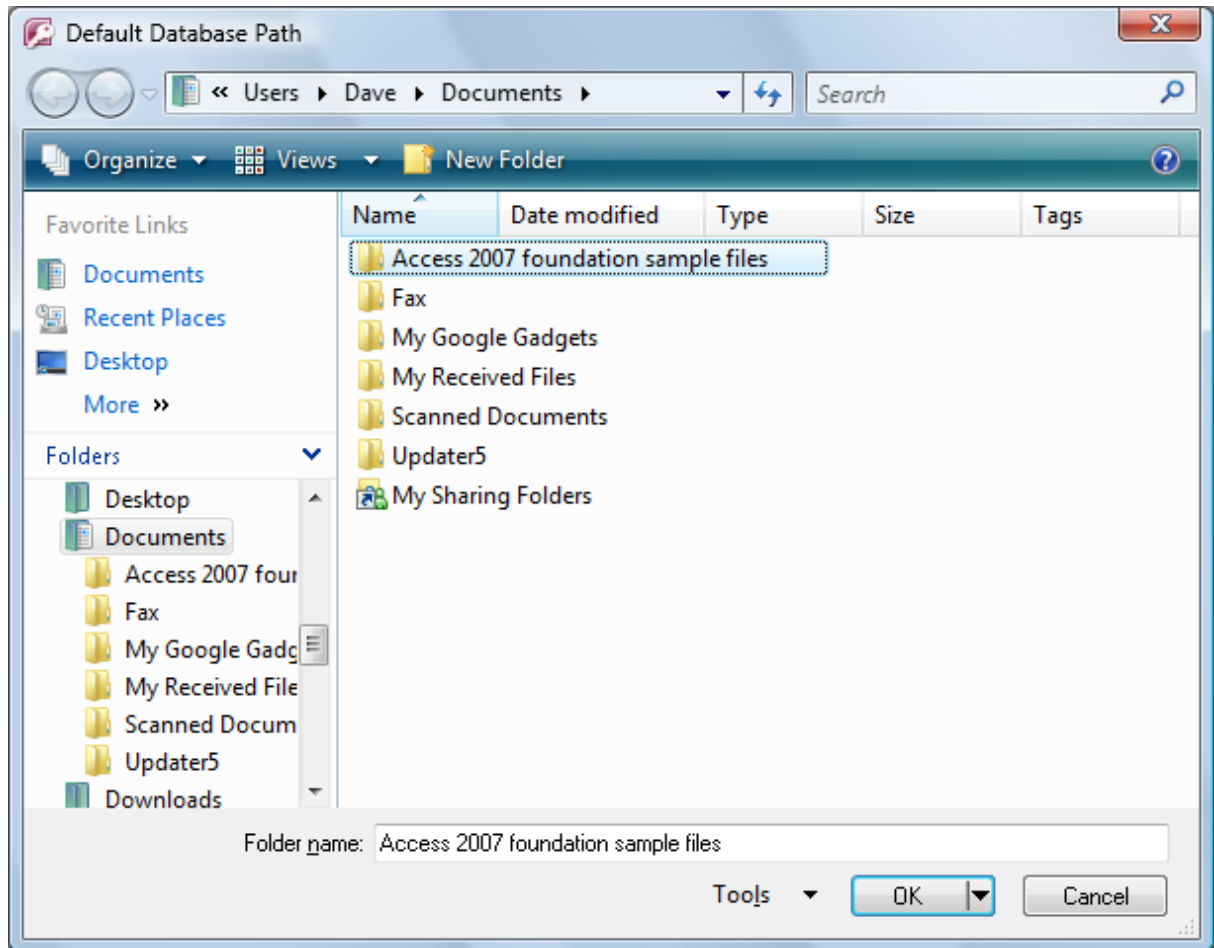
- Click on the **Access Options** button (displayed at the bottom-right of the dialog box). This will display the **Access Options** dialog box.



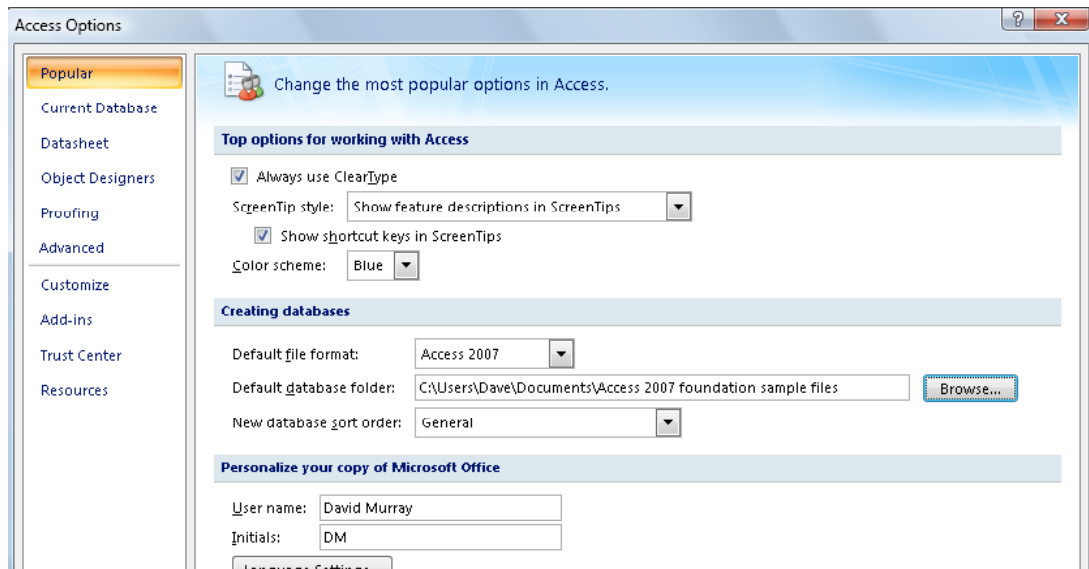
- Within the **Creating databases** section of the dialog box, click on the **Browse** button to the right of the **Default database folder**.



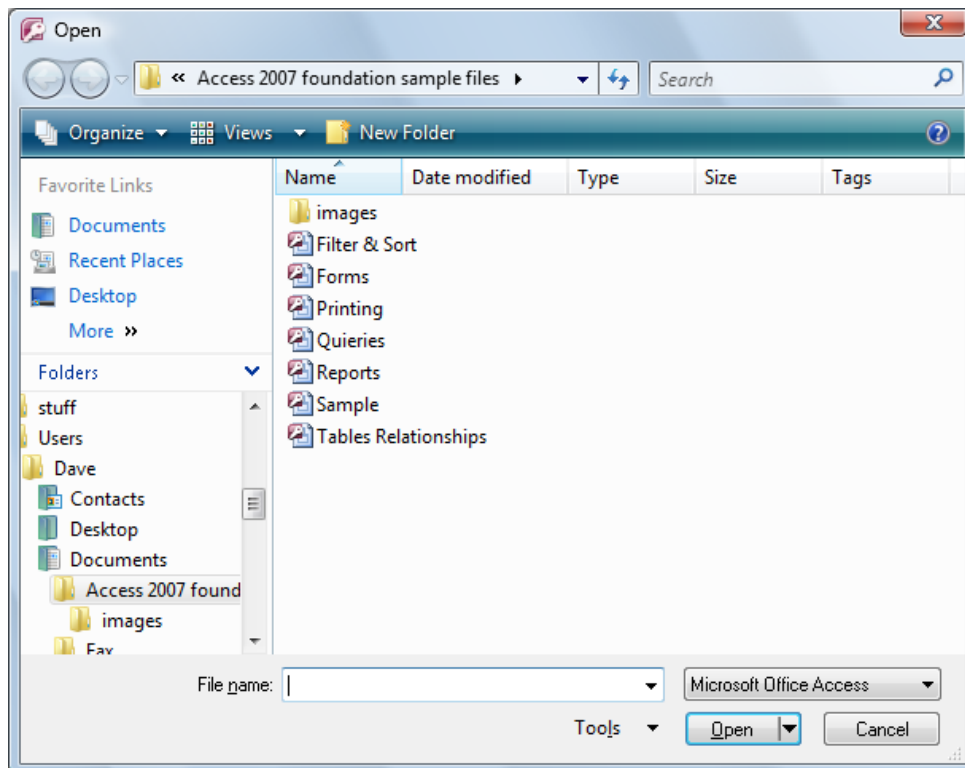
This will display a dialog box. Within the dialog box, navigate to the Access 2007 samples folder and then select the folder, as illustrated.



- Click on the **OK** button and you will see the Access 2007 samples folder listed as the default folder, as illustrated.



- Click on the **OK** button to close the dialog box.
- Close Access.
- Reopen the Access program and click on the **Office Button**. Then select the **Open** command. You should see that the contents of your samples folder is displayed automatically for you, as illustrated.

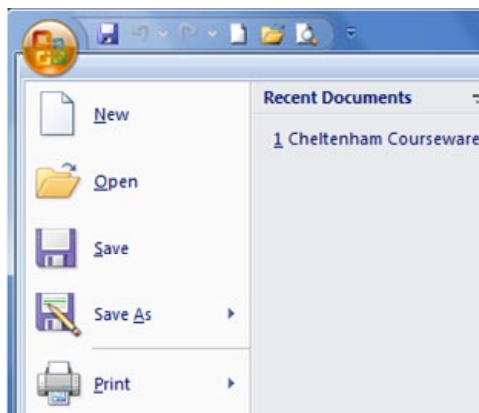


- Close the dialog box and close Access.

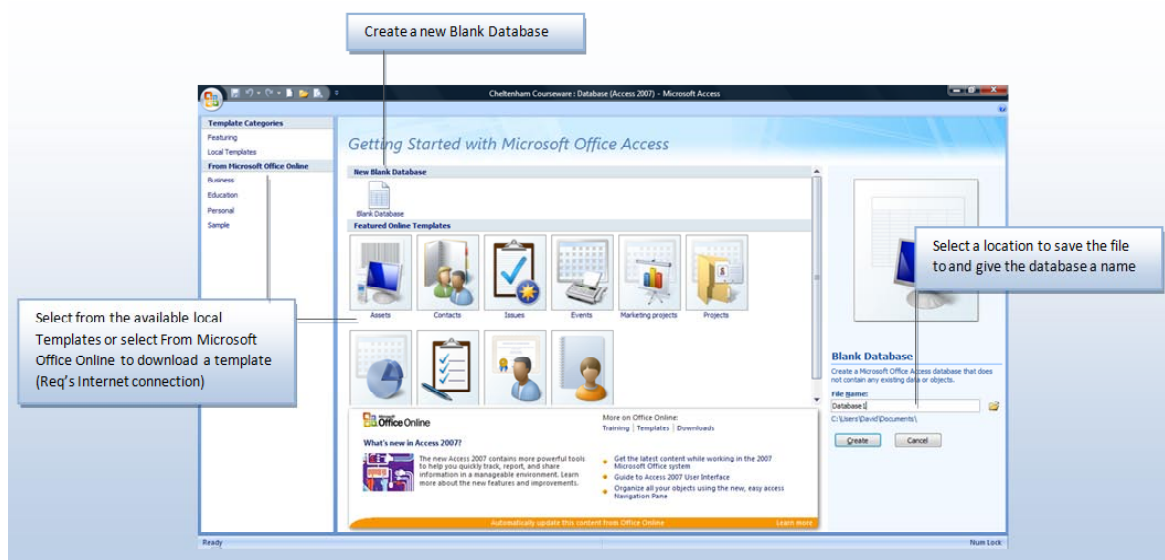
Creating a Database & Using Views

Creating a new database

- Start Access.
- Click on the **Office Button** to view and then click on the **New** button.



- The **Getting Started with Microsoft Office Access** window is displayed.

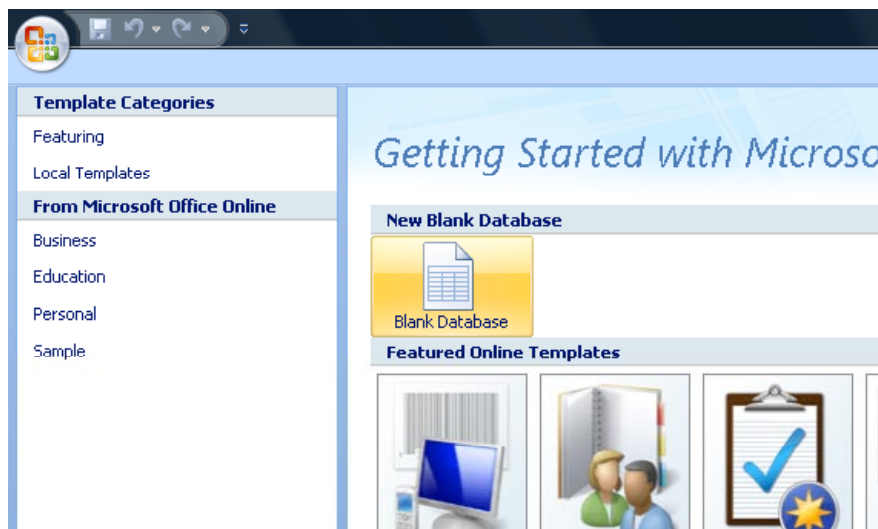


- At this point, the options are to choose a **New Blank Database** or select a template from **Local Templates** or from one of the categories below in the **Microsoft Office Online** section.

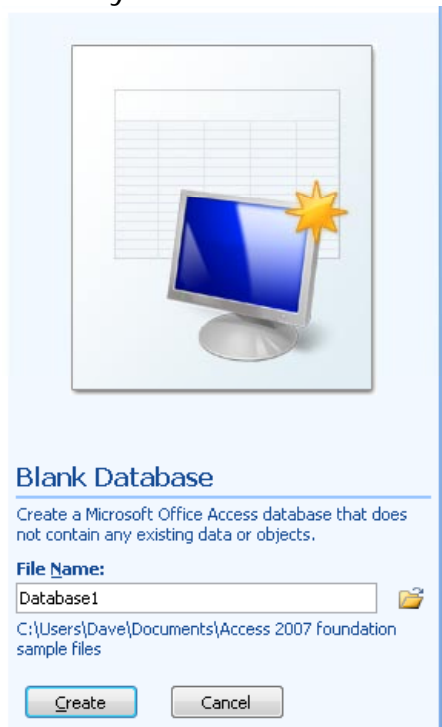
Templates are useful if you need a head start and one closely matches your requirements, as it may be worth taking the time to modify the template rather than starting from scratch. If however none of the templates are close to offering you the configuration and functionality you need, starting from scratch may be less time consuming in the long run.

Creating a new blank database

- Select the **Blank Database** icon.

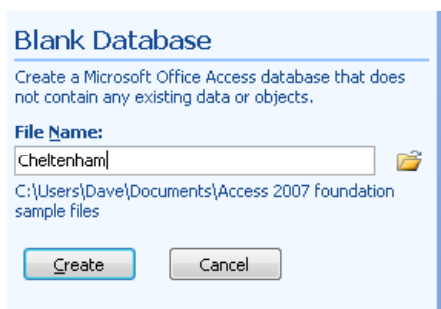


- You need to give the new database a name and also set a folder location to store it in. In this case we previously set the default folder to point to our Access 2007 samples folder, and if you look carefully at the right side of the screen you will notice that this default folder has been used.



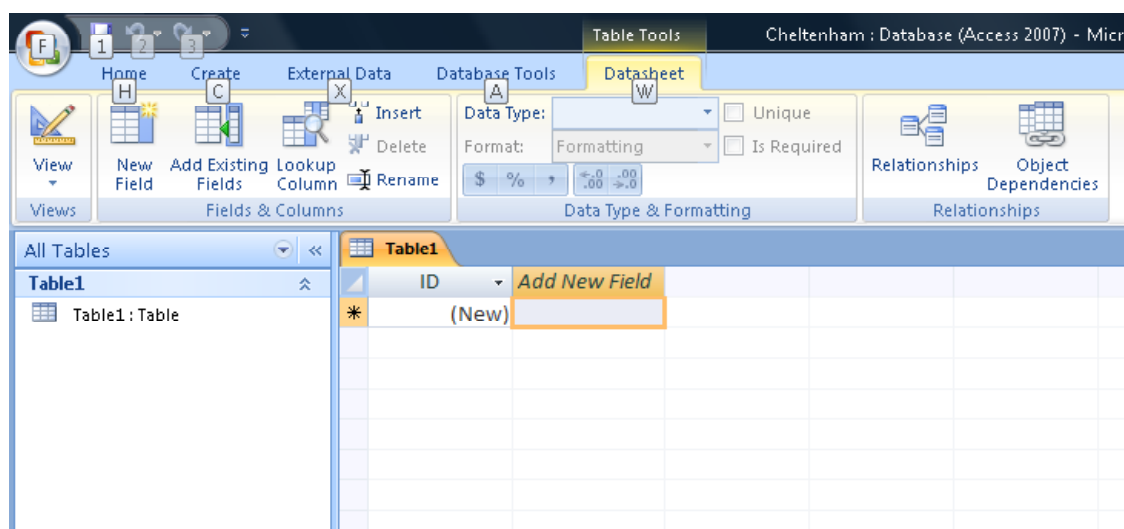
NOTE: If you had wanted to create a new database in a different folder, then you would have clicked on the small folder icon to the right of the **File Name** section and navigated to the desired folder. In this case however we will be using the default folder location.

- Replace the default database file name with the name **Cheltenham**, and then click on the **Create** button.



NOTE: Access 2007 saves database files with an **.accdb** file name extension, unlike earlier versions of Access which used an **.mdb** file name extension.

- The Access window opens and displays a new table, as this is the next step to creating the new database. Until one or more tables have been created, given fields and properties set, Access can do little at this stage.



- This view of the table, is referred to as the **Datasheet View**, which means the **Object**, in this case the **Table** is displayed in its normal (default) view.
- The **Design View** is used to configure the properties of an object. Think of the Design View as looking behind the Object at its inner workings.

Saving a table

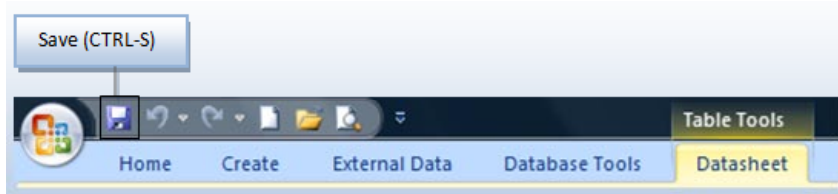
- Before a table can be used to store information, fields must be added to a table, named, given the correct Data Type and formatted appropriately.

Fields are used to separate and organise data into specific fields (columns), for example a **First Name** field would store the first name for every individual record entered, as would **Surname**, **Birth Date** fields, etc.

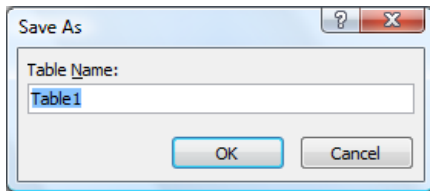
NOTE: A software issue has affects the start number in the ID field. For example, if 5 fields are added to a new table, rather than the ID number starting a with '1', the first record will actually be record '5'. This issue can

be avoided easily by saving the table **before** any fields are added.

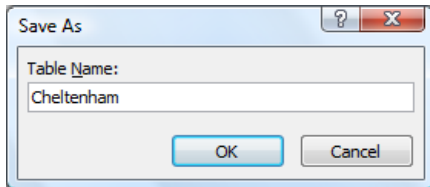
- Click on the **Save** button on the Quick Access Toolbar or press the **Ctrl+S** keys to save the table.



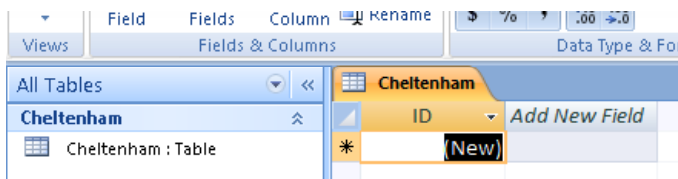
- The **Save As** dialog box is displayed with a default name.



- Replace the default table name. Type in **Cheltenham**.



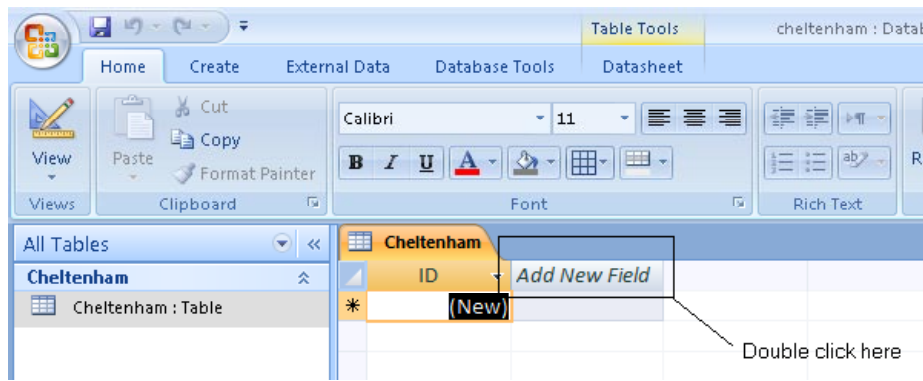
- Click on the **OK** button and your screen will now look like this.



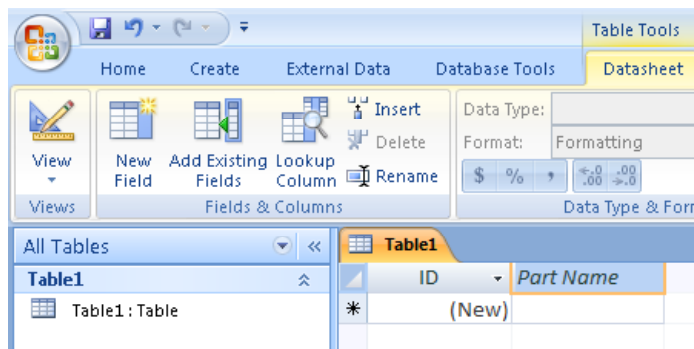
Adding and renaming fields

- Double click into the **Add New Field** cell (to the right of the **ID** field).

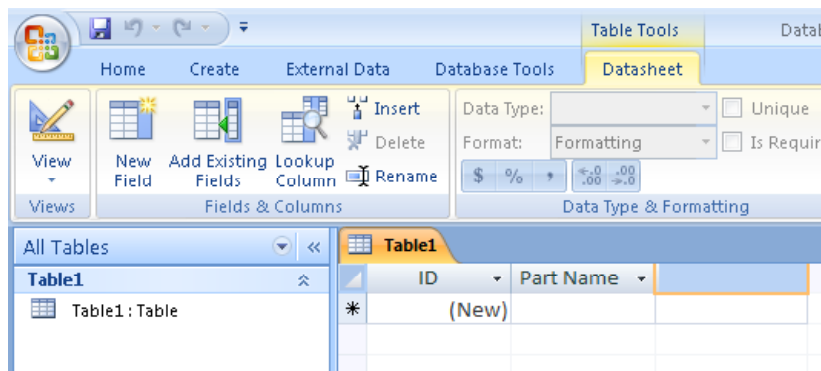
NOTE: Be sure to click on the top cell within the column, NOT the second cell down.



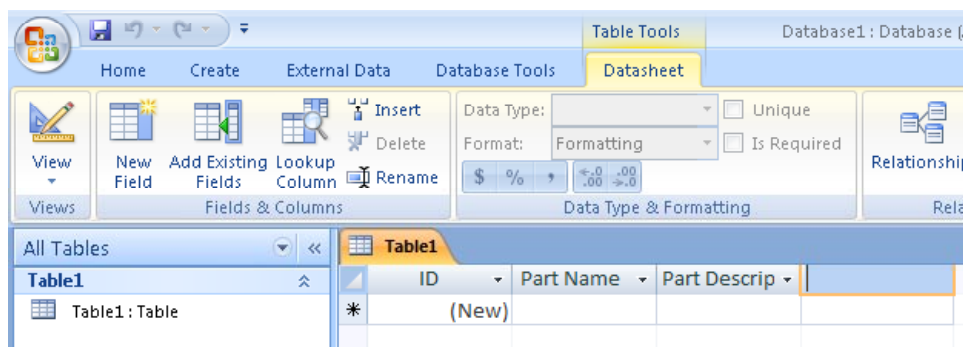
- Type in **Part Name** and the screen will look like this.



- Press the **Enter** key. The pointer moves to the right, to the next cell ready to accept another field name input.



- Use the same technique to type in **Part Description** in the next cell along, as illustrated. Press the **Enter** key.



NOTE: You can add as many fields as you want to a table, however it is often considered best practice to create additional tables, linking them together, rather than using a large single table.

- Adding fields using the **Datasheet View** is straight forwarded enough, however only part of the setup is done in this view. Fields need to be formatted according to the data type, input masks need to be set and other properties need to be configured.

Using Datasheet View

- Every object (Table, Form, Query, Report, etc) in an Access database will have at least two main views, Datasheet View and Design View. Datasheet View displays the object as it would be seen in daily use, its working mode so to speak.

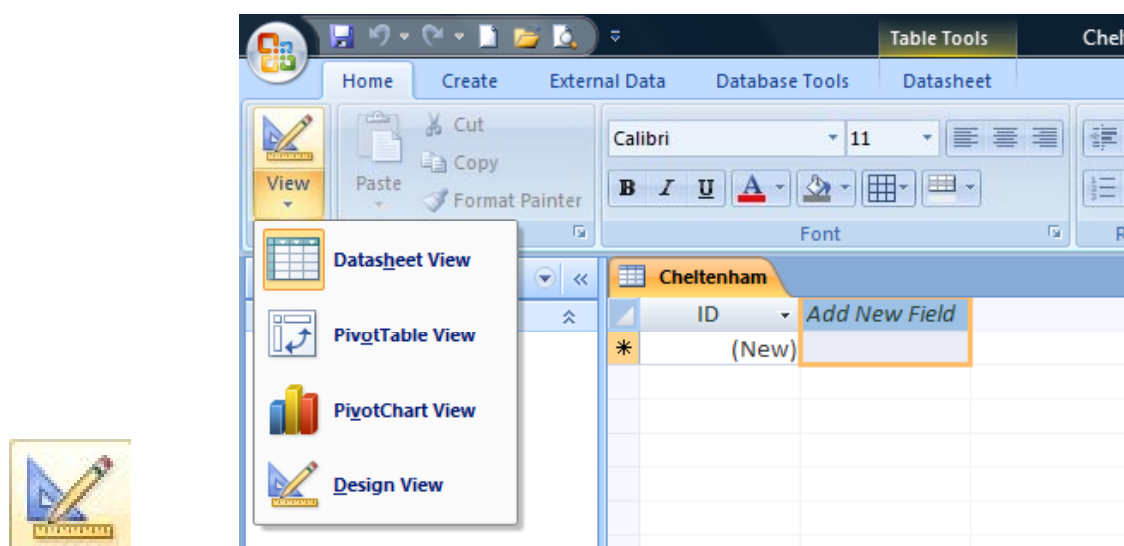
Using Design View

- Design View displays the workings behind the object, as seen by the database designer. The efficiency of the database and the way it handles data input / output are controlled by the properties configured in Design View.

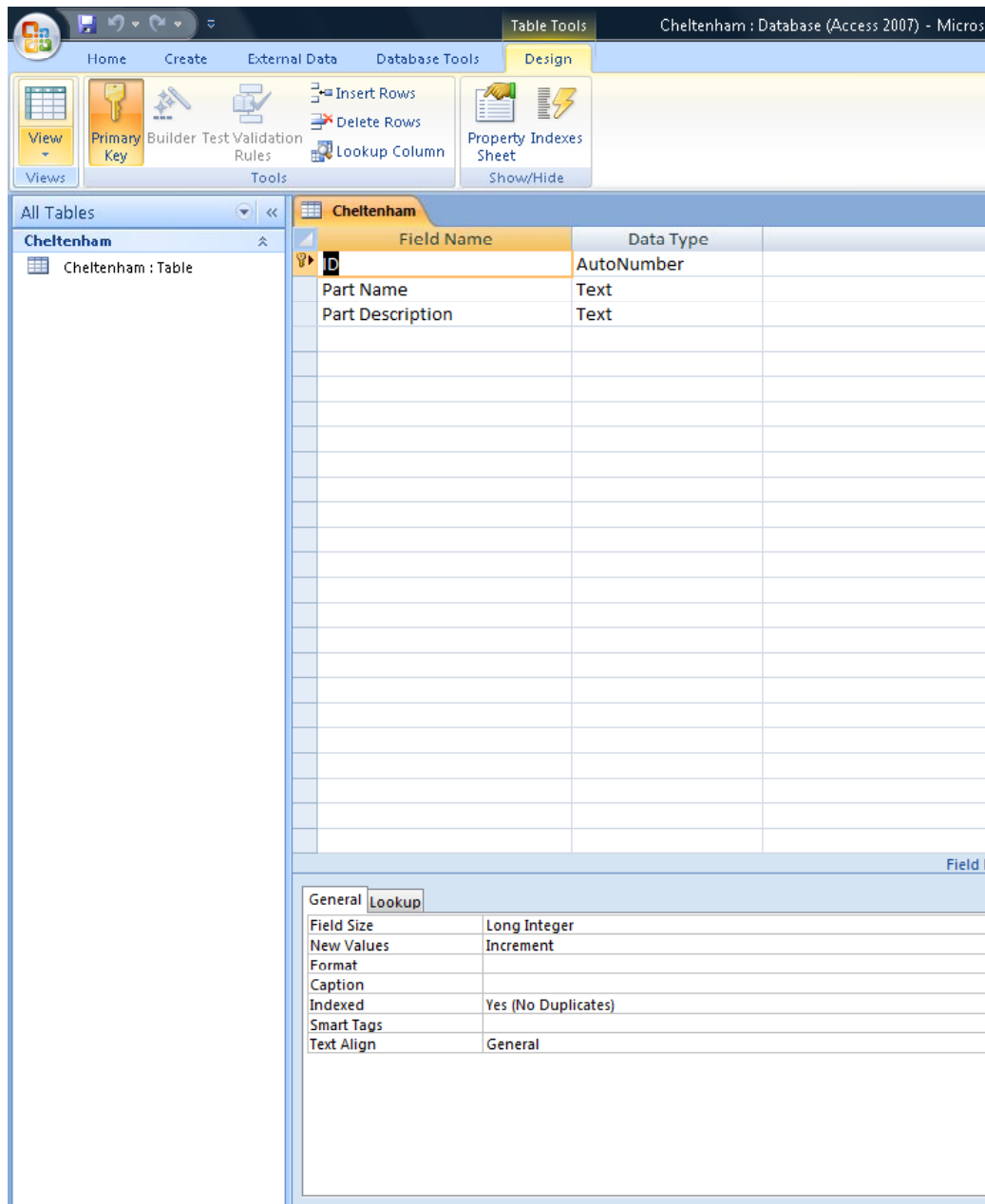
NOTE: The **View** button image displays the opposite view button to the current view, i.e. if in Datasheet View, the Design View button is displayed.

Changing the view

- To change from **Datasheet View** to **Design View** click on the **View** button (displayed within the **Views** section of the **Datasheet** tab)



- The table will now be displayed in **Design View**.



- Leave the database open and carry on directly to the next section.

Table Modification and Navigation

Adding Fields - Design View

- Adding fields to a table in Design View offers the ability to add additional field names, select the appropriate data types and configure properties for each field.
- In the **Field Name** column, move to the next available row below **Part Description**.

Field Name	Data Type
ID	AutoNumber
Part Name	Text
Part Description	Text

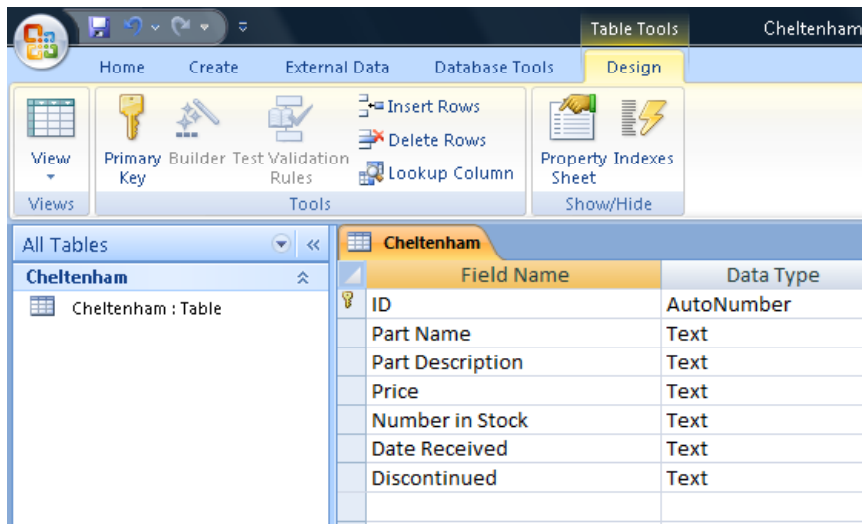
- Type in **Price** and this time, instead of using the **Enter** key to move to the next cell, try using the '**down arrow**' pointer key.

Field Name	Data Type
ID	AutoNumber
Part Name	Text
Part Description	Text
Price	

NOTE: Using the **Enter** key when working in (Table) Design View moves the pointer (right) to the **Data Type** column, at which point, a Data Type would normally be selected. Pressing **Enter** again would move the pointer (right) to the **Description** column, where a brief description as to the purpose of the field would be entered. A final **Enter** would then move the pointer to the next available row, ready to input a new field name, repeating the process.

For the purposes of this course however, we will approach this in a different manner, entering all the **Field Names** first before moving on to discuss data types.

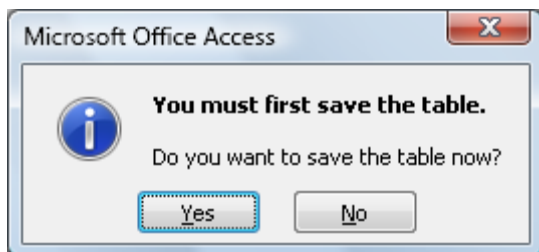
- Having used the keyboard pointer key to move down into the next available row, use the information contained in the image below to add the remaining field names.



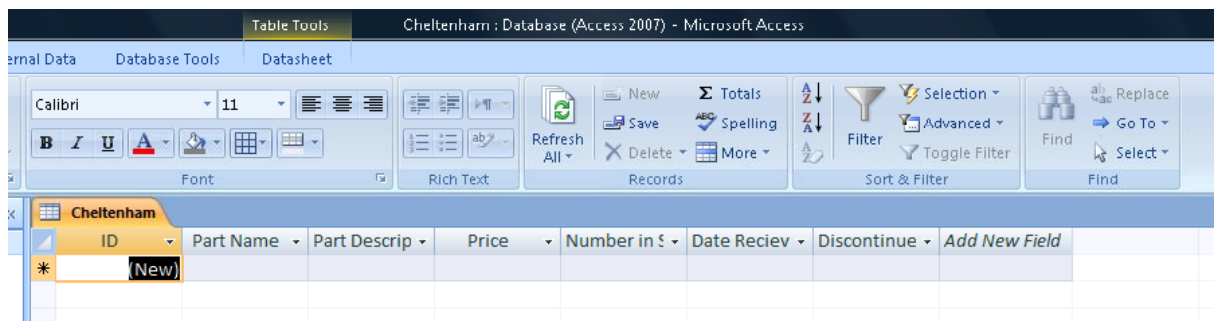
- Once all these field names have been entered click on the **View** button.



- You may be prompted to save the changes to the table, in which case click on the **Yes** button.



- The new fields are now displayed across the top of the table, as illustrated.



REMEMBER: When necessary, Access will prompt for objects to be saved when switching views.

Data Type - Overview

- A Data Type determines the values that can be accepted and stored within a particular field, the operations that can be performed, i.e. searching,

querying and sorting of data, etc, as well as setting storage limits on the space to set aside for each value

- Although Access has the ability to automatically select data types based on the information entered into fields, there are occasions when the information entered may mislead Access, resulting in the wrong Data Type being selected

TIP: When adding field names to a table, it would be prudent to do so in Design View and configure data types manually, alleviating the need for Access 2007 to automatically select an option

Data Type - Descriptions

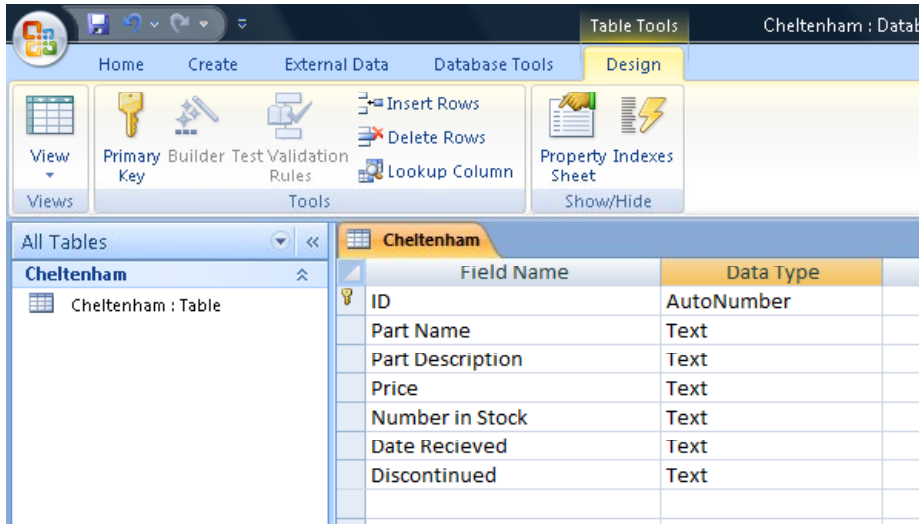
- There are several data types to choose from and one or two, i.e. **Text** has the ability to accept and store most data input, however data output, searching, producing reports, calculating value, etc, will present a problem.

The following Data Type table provides a description of the types of data each Data Type can store, format and perform searches and calculations on.

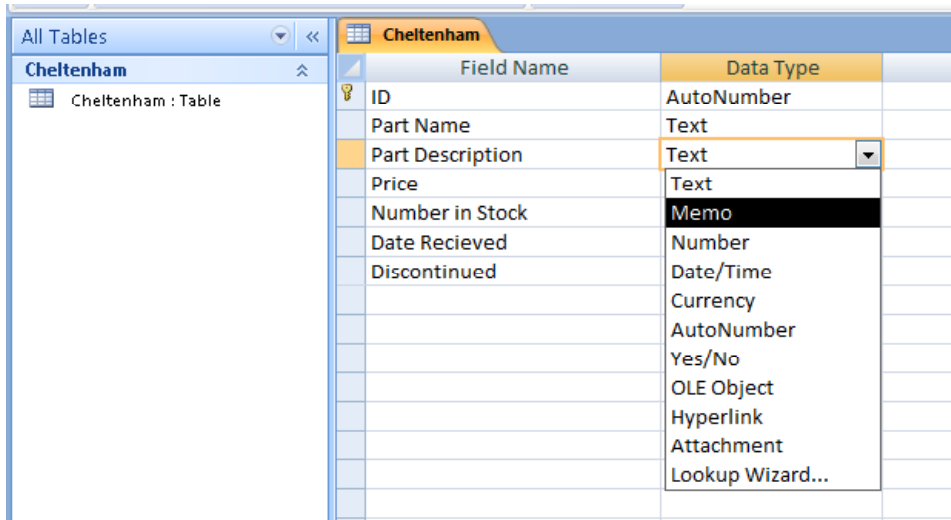
Data Type	Description
Text	Alphanumeric characters up to 255 characters in length. Can be used for text, or text and numbers that are not used in calculations
Memo	Alphanumeric characters (maximum of 65,535 characters) and can store text with rich text formatting (.rft)
Number	Numeric values including fractional or integers. Used for numbers likely to be used in calculations but should not be used in place of the Currency Data Type
Date/Time	Dates and times values. Stores both a date component and a time component even when only displaying one or the other.
Currency	Monetary values, (with or without a currency symbol)
AutoNumber	A unique and sequential number inserted automatically each time a new record is added
Yes/No	Yes/No, True/False value (ticked is Yes, un-ticked equals No)
OLE Object	Used for storing OLE objects from other Microsoft Windows applications
Hyperlink	Used for storing hyperlinks to provide access to Web pages or files using a single-click
Attachment	Pictures, Images, Binary files, Office files. Storage size limited to 700kb
Lookup Wizard...	Starts a Lookup Wizard to create a Combo box to look up values

- Click on the **View** button to switch to **Design View**.





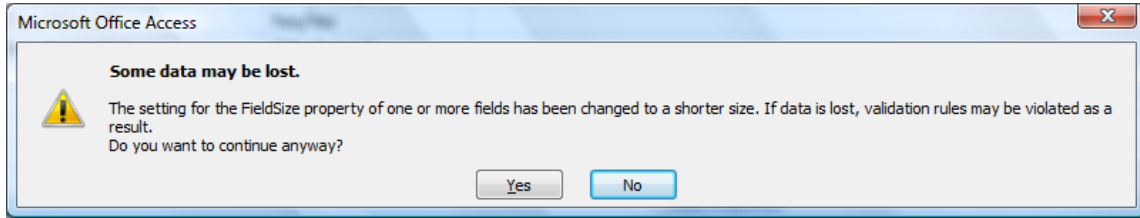
- Move the pointer to the **Data Type** column and click on the **down arrow** to expand the drop down list for the **Part Description** row.



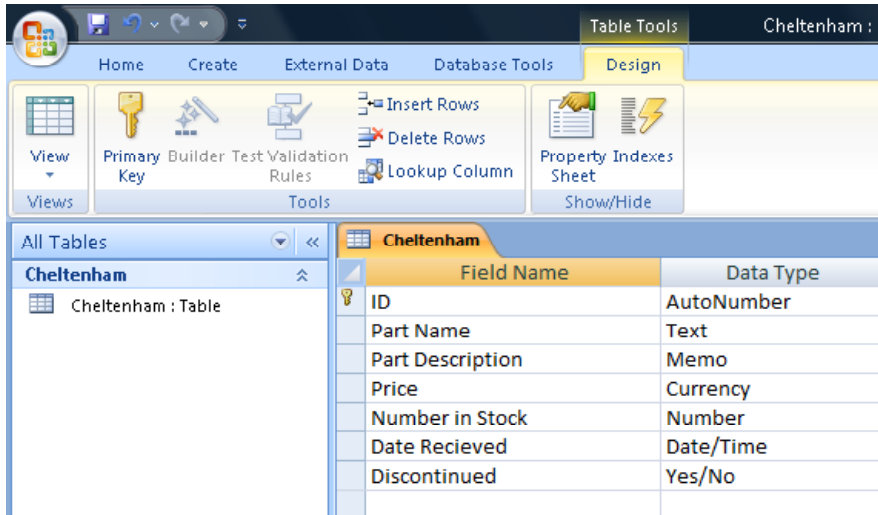
- Assuming that some descriptions will be greater than 255 characters in length, the **Text** data type will not be sufficient, therefore select the **Memo** data type from the list, so that your screen will now look like this.

Part Name	Text
Part Description	Memo
Price	Text
Number in stock	Text

NOTE: Reducing the character length of a field after data has been entered can result in loss of data.

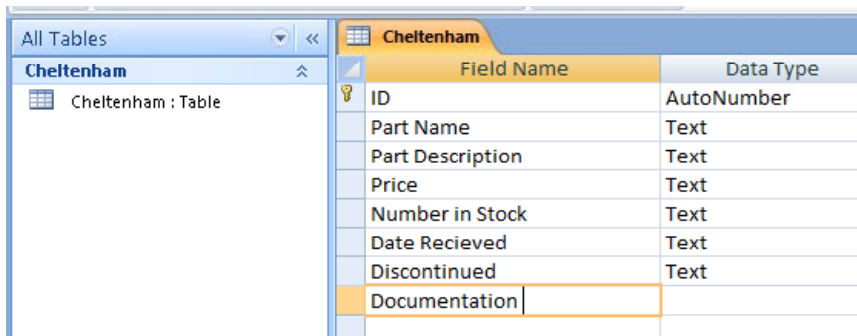


- Work through the other field names, selecting the appropriate data type as illustrated below.



Using the Attachment data type

- Create a new field name (at the bottom of the existing column of field names), called **Documentation**, as illustrated below.



We need to set the data type for **Documentation** to **Attachment** as this can only be done when you create the field. Don't worry why we are doing this at the moment just following through these next few instructions.

When you have typed the word **Documentation** into the **Field Name** cell, click on the right arrow key and then click on the **down arrow** to display a list as illustrated.

Field Name	Data Type
ID	AutoNumber
Part Name	Text
Part Description	Memo
Price	Currency
Number in stock	Number
Date Received	Date/Time
Discontinued	Yes/No
Documentation	Text

The screen will now look like this.

Field Name	Data Type
ID	AutoNumber
Part Name	Text
Part Description	Memo
Price	Currency
Number in stock	Number
Date Received	Date/Time
Discontinued	Yes/No
Documentation	Attachment

- When you have finished selecting all the data types, save the changes, either by clicking on the **Save** button (Quick Access Toolbar) or using the (CTRL-S) keys.
- Click on the **View** button.



- Your screen will now look like this.

Adjusting column width

- If you have used Microsoft Excel then the same basic techniques can be used for adjusting column width. In the Datasheet View, the new fields are now displayed across the top of the table, however not all the field names are clearly visible.

ID	Part Name	Part Descrip	Price	Number in S	Date Receiv	Discontinue	Add New Field
*	(New)					<input type="checkbox"/>	U(0)

- Columns can be adjusted by placing the pointer over the thin dividing line between two field names until the pointer changes to an arrow shape, as illustrated.



- Once the pointer has changed to the arrow shape, click and drag the field left to decrease or right to increase the size. This process only alters the width of one field at a time.
- To increase / decrease the width of all fields at the same time, place the pointer over the left most (1st) field name cell. The pointer will change to a down arrow.



- In one movement, click and drag (without releasing the mouse button) across all the fields, highlighting each one.

ID	Part Name	Part Descrip	Price	Number in S	Date Receiv	Discontinue	Add New Field
*	(New)					<input type="checkbox"/>	U(0)

- Release the mouse button and place the pointer over the thin dividing line between any two field names until the pointer changes to a double arrow.



- Next, in one motion, click and drag slowly to the right. Note how all fields expand to be of equal width. Release the mouse button when the fields are of a size to display all field names. Click in the row below the field names to deselect the field names.
- To automatically resize field widths, highlight all field names again. Position the pointer over the thin dividing line, until the double arrow is displayed, and then double click to see the fields automatically resize to fit the (largest) line of text within each field.



NOTE: When auto sizing the 'largest' text refers to either the field name length or data entered into the fields below. If the data is longer than the field name, the auto size method will size fields according to the length of the data.

Moving a column to rearrange the column order

- Make a note of the order of the columns, **BEFORE** you start experimenting with rearranging the order of the columns.
- Move the mouse pointer to a column field name, such as **Price**. When the pointer changes to a down arrow, click once to highlight the column.



Part Description	Price	Number in Stock

- Click and hold the **Field Name**. Use the thick dark line (left of the highlighted column) as a guide to the new position.

Part Description	Price	Number in Stock	Date Received

- Drag the column until the guide line is between two columns.

Price	Number in Stock	Date Received

- Release the mouse button.

Number in Stock	Price	Date Received

TIP: To move multiple columns in one go, click in the first column and without releasing the mouse button, drag across to the last column of the group you wish to select. Let go of the mouse button to highlight the selected columns. To move the selected columns, follow the same steps used to move a single column.

- Experiment with re-ordering more columns.
- When you have finished experimenting, reorder the columns back to their original order.

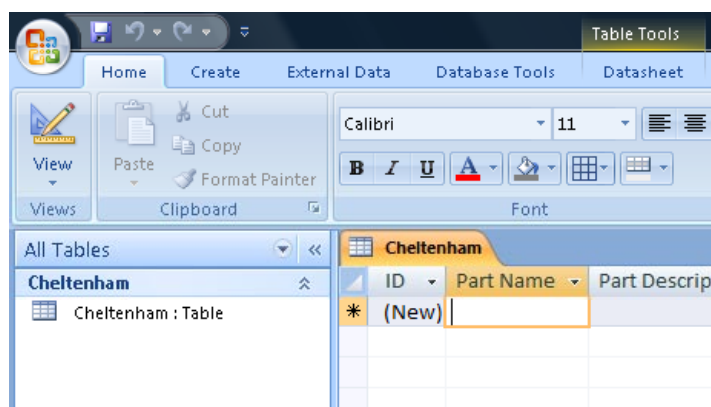
Adding records to a table

- On the left side of the table there is a small * symbol. This symbol represents the record (row) currently selected. As more records are entered into the table or as you navigate through the table, this symbol will provide a confirmation of the exact row you or your pointer is in.

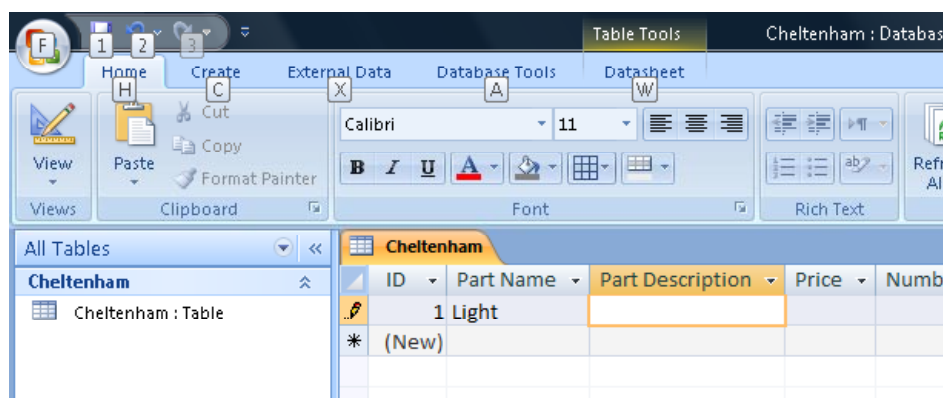
To the right of the * symbol, **New** is displayed just below the **ID** field name, signifying this row represents a new record. Data cannot be typed into this column, as by default this is an **ID** column with an **AutoNumber** Data Type.

NOTE: The **AutoNumber** Data Type automatically generates a unique, sequential number for each new record entered so data entry into this field is restricted.

- Move the pointer to the first cell in the record to the right of **New** and in the **Product Name** column, as illustrated below.



- Type **Light** in the **Part Name** column and then press the **Enter** key to move to the next column (**Part Description**). Your screen will now look like this.



NOTE: You can also use the pointer keys on the keyboard to navigate side to side and up and down within the table.



- Type in **Stop Light** in the **Description** column and press the **Enter** key.

- Type **2.50** into the **Price** column and press the **Enter** key.

NOTE: When selecting the **Currency** data type earlier, Access by default adds a currency symbol. Changing how currency is displayed will be covered under the **Field Properties** section.

- Type in **43** into the **Number in Stock** column and press the **Enter** key to move to the next column.
- Type in **24-01-05** into the **Date Received** column and press the **Enter** key.

The pointer is now in the **Discontinued** field, where there is a check box. Click on the check box (or press the **Spacebar**).

Price ▾	Number in Stock ▾	Date Received ▾	Discontinued ▾		Add New Field
€2.50	43	24/01/2005	<input type="checkbox"/>	 (0)	

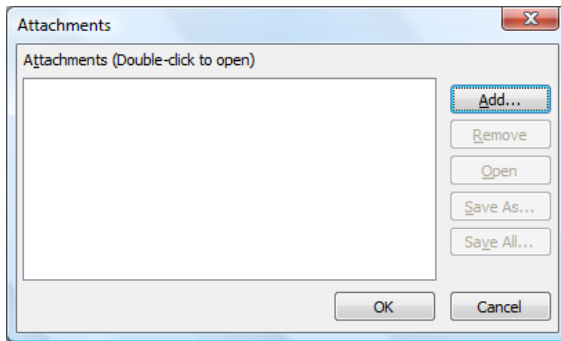
- You should now be within the **Documentation (attachment)** column.
- By now you will have noticed that the **Documentation** column displays a paper clip symbol instead of a field name. By default Access 2007 assumes that the symbol will in itself be enough for users to recognise the purpose of this field. Details on how to have a field name displayed instead are provided in a later section.
- The paperclip features in each new record, this time with a **(0)** beside it.

These symbols inform you of two things:

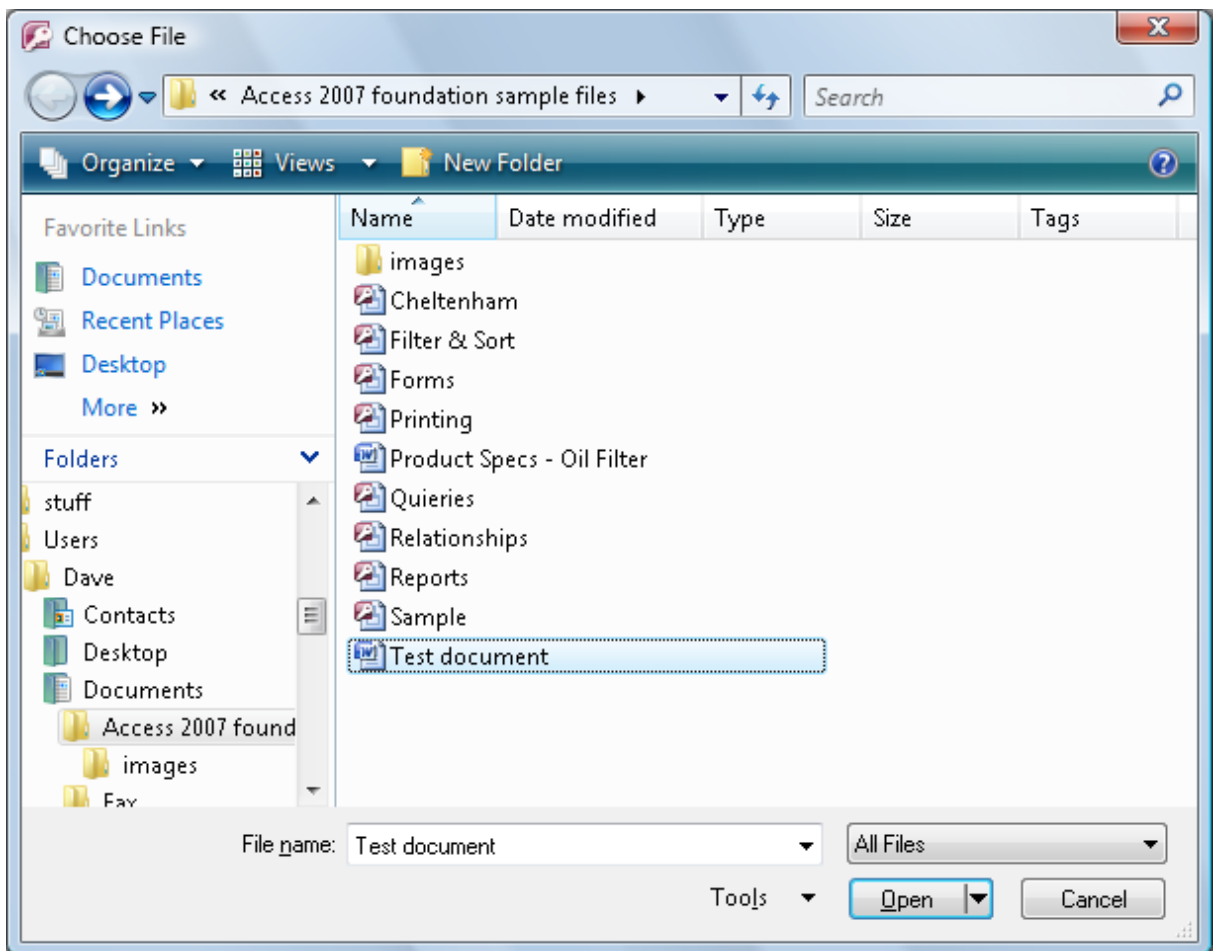
- 1) That data files (images, documents, etc) can be attached to the field.
- 2) The number of attachments currently attached to this record.

The attachment data type is useful for attaching images or for example, creating a library of regulatory information.

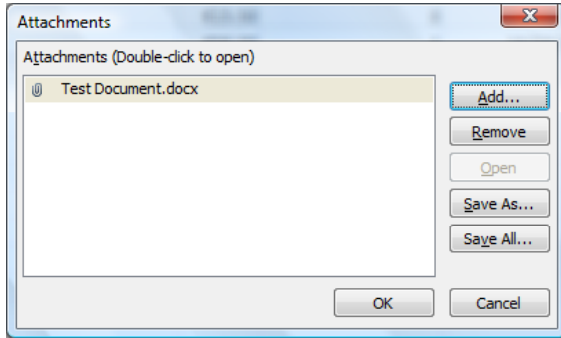
- To attach documents and images, either double click on the cell containing the paper clip image, or with the cell active, press the **Spacebar** once to open the **Attachments** dialog box.
- In this exercise you will need to locate a previously created document, image, text file, or small file on your drive.



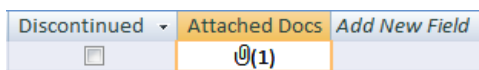
- Click on the **Add** button. You will see the **Choose File** dialog box displayed.



Double click on a file called **Test Document** which is stored in your Access maples folder. The **Attachments** dialog box displays the added file(s).



- Click on the **OK** button to complete the task, close the dialog box and return to the table.



The value beside the paperclip now reflects the number of attachments stored in the record.

NOTE: Just for reference, if you wanted to remove attachments, you would open the **Attachment box** again, select the file from the list and then click on the **Remove** button.

- Use the information illustrated below to enter the remaining records into the table.

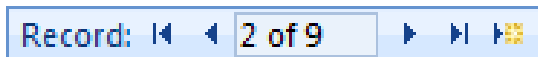
Part Name	Part Description	Price	Number in Stock	Date Received
Light	Stop Light	2.50	43	24/01/2005
Air Filter	Paper Filter	6.70	10	8/10/2006
Spark Plugs	Box of 8 Plugs	45.90	6	11/02/2007
Light	Halogen Light	15.50	8	28/05/2007
Battery	24 V Battery	98.00	1	16/06/2004

- Your table will now look like this

ID	Part Name	Part Description	Price	Number in Stock	Date Received	Discontinued	Attachments	Add New Field
1	Light	Stop Light	\$2.50	43	24/01/2005	<input checked="" type="checkbox"/>	📎(1)	
2	Air Filter	Paper Filter	\$6.70	10	8/10/2006	<input type="checkbox"/>	📎(0)	
3	Spark Plugs	Box of 8 Plugs	\$45.90	6	11/02/2007	<input type="checkbox"/>	📎(0)	
4	Light	Halogen Light	\$15.50	8	28/05/2007	<input type="checkbox"/>	📎(0)	
5	Battery	24 V Battery	\$98.00	1	16/06/2004	<input type="checkbox"/>	📎(0)	
*	(New)					<input type="checkbox"/>	📎(0)	

Navigating through records within a table

- The record navigation bar is located and will only be visible from the bottom of the object window when, for example, a table is open to view.



- As tables grow, navigating records becomes more difficult, therefore Access has the record navigation bar to help locate records more easily.
- There are 5 options for navigating existing records and one for creating a new record. The options for navigating are similar in fashion to the controls in a CD/DVD player. See below.

« **First** - « **Previous** - **Specific** - » **Next** - » **Last**

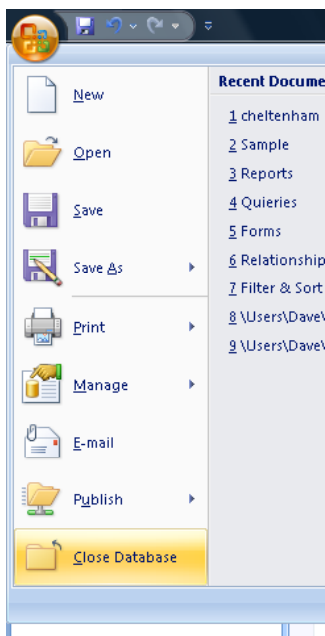
- To use the specific record option, click within the box and enter a record number, then press the **Enter** key.

The last option provides a quick way to create a new record without having to scroll to the last record first.

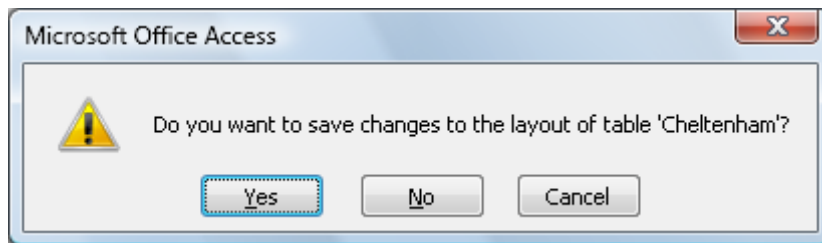


Closing a database

- Click on the **Office Button** to display the drop down menu.



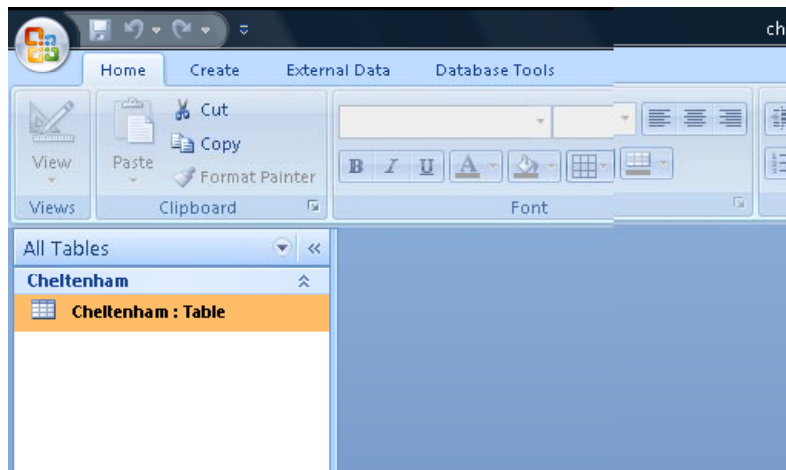
- Select the **Close Database** command. You will see a dialog box displayed.



- Save your changes. The database closes and returns to the **Getting Started with Office Access 2007** screen. The database name is listed to the right of the screen under **Open Recent Databases**.



- Click on the **Cheltenham** database to re-open. The database window opens, however the table does not appear in the object section of the window. In the Navigation Pane to the left, double click on the **Cheltenham** table to open it.



Navigation Pane

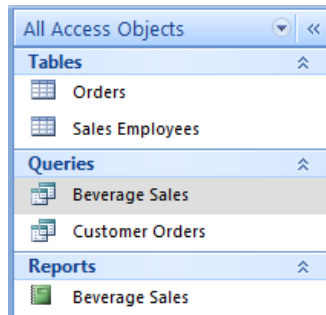
- The Navigation Pane displays all objects contained within the database, including all tables, forms, queries and reports.
- When working on large objects, the Navigation Pane can be minimised by clicking on the (left pointing) arrow button, top right of the pane.



- To restore the pane to normal view click on the right pointing arrow button at the top of the pane.



- Object categories can also be minimised / maximised using the up/downward pointing arrow buttons. An example is shown below to illustrate the typical appearance within the Navigation Pane.



- Close Access.

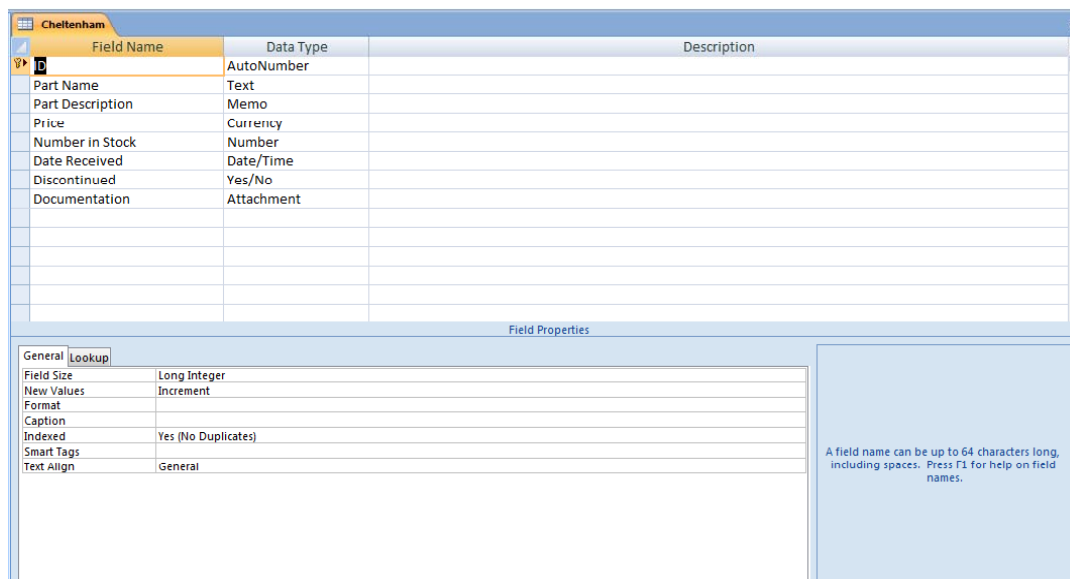
Field Properties, Validation & Input Masks

Field Properties

- Field Properties amongst other things, control how information is displayed, specify default values, prevent incorrect data entry and sorting information. Options available will depend upon the data type of each field.
- Open access and open the **Cheltenham** database.
- Open the table called **Cheltenham**
- With the table now open, click on the **Design View** button and switch to **Design View**.



- The **Field Properties** section occupies the lower half of the screen.



- Click within each of the **Field Names**, paying attention to how the **Field Properties** section (at the bottom of the screen) changes according to the Data Type.

TIP: Note the light blue shaded box, displayed to the right of the **Field Properties** section. As you move through the various properties, this box will provide some useful tips about each property.

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

- Click into the **Price** field name.

Field Name	Data Type
ID	AutoNumber
Part Name	Text
Part Description	Memo
Price	Currency
Number in Stock	Number
Date Received	Date/Time
Discontinued	Yes/No
Documentation	Attachment

- Move to the **Field Properties** section and click in the cell to the right of **Format**, where it says **Currency**.

General	Lookup
Format	Currency
Decimal Places	Auto
Input Mask	

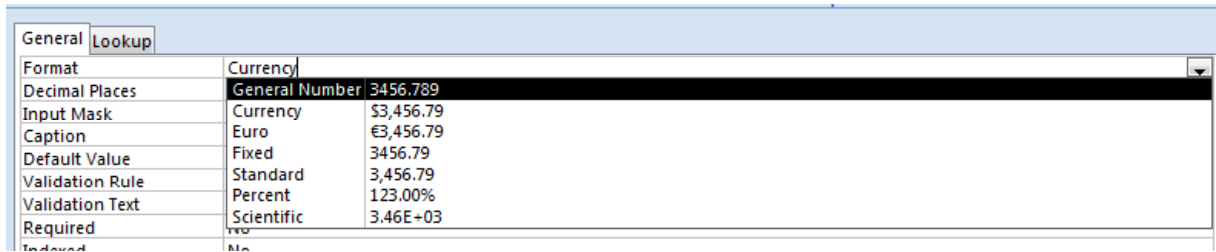
- A small (drop down) arrow is displayed to the right of the box.



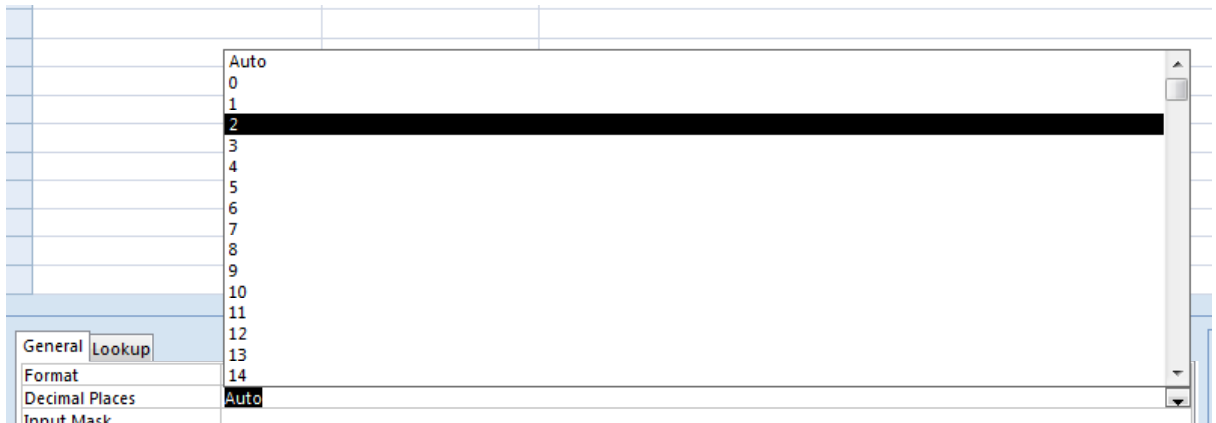
- Click on the **down arrow** to display a drop down list.

Field Properties		
General	Lookup	
Format	Currency	
Decimal Places	General Number	3456.789
Input Mask	Currency	\$3,456.79
Caption	Euro	€3,456.79
Default Value	Fixed	3456.79
Validation Rule	Standard	3,456.79
Validation Text	Percent	123.00%
Required	Scientific	3.46E+03

- The list displays the options available for the **Currency** data type according to the Regional settings of your system.
- Select the **General Number 3456.789** from the list.



- Click on **Decimal Places** and change the setting from **Auto** to **2**.



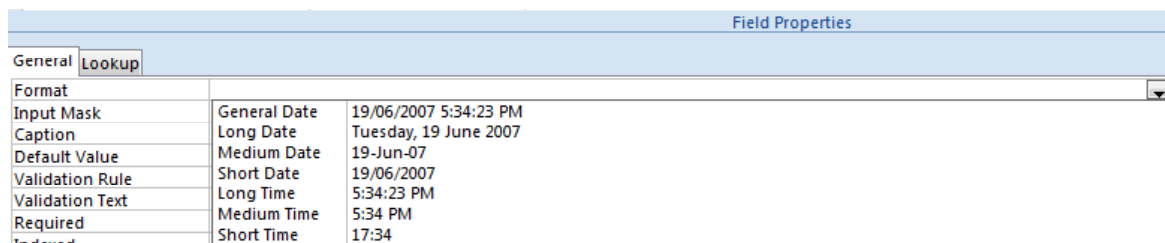
- In the **Field Name** column (displayed in the top section of the dialog box), select **Date Received**.

Cheltenham	
Field Name	Data Type
ID	AutoNumber
Part Name	Text
Part Description	Memo
Price	Currency
Number in Stock	Number
Date Received	Date/Time
Discontinued	Yes/No
Documentation	Attachment

- Move down to the **Field Properties** section.
- Click in the **Format** box and then click on the **down arrow** to view the list of options.

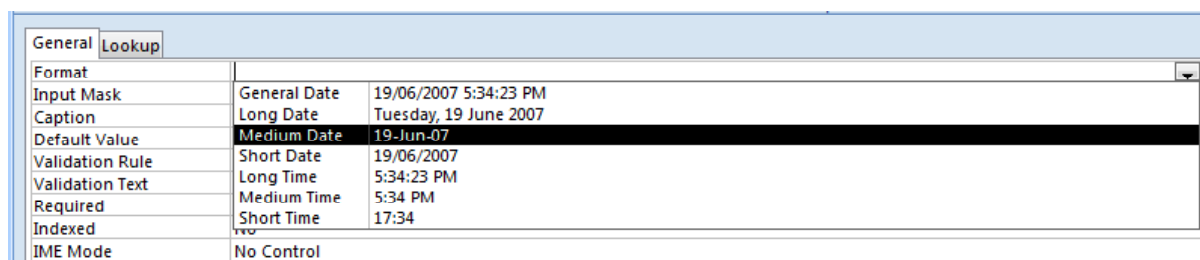


- You will see the following.



NOTE: Access stores full date and time information, even when for example, the format is set to display only **Medium Date** or **Short Time**.

- Select **Medium Date** from the list.



TIP: Rather than using the **down arrow** button to select from the list, you can enter the first letter of the format you wish to choose.

Access displays the corresponding format in the cell. Another option is to double click in the box, repeating the double click to scroll the available options, until the correct option is displayed.

Input Mask

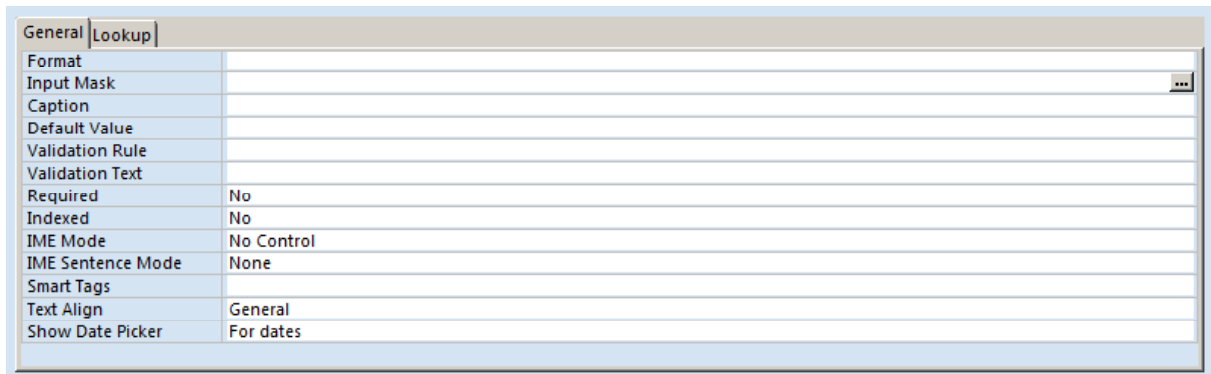
- Input Masks are used to restrict how data is entered. By forcing users of the database to only enter data in a fixed format this greatly reduces the changes of data input errors.

NOTE: Input Masks only work with **Text** and **Date** data types.

- Click on the **Date Received**, Data Type cell, as illustrated below.

Field Name	Data Type
ID	AutoNumber
Part Name	Text
Part Description	Memo
Price	Currency
Number in stock	Number
Date Received	Date/Time
Discontinued	Yes/No
Documentation	Attachment

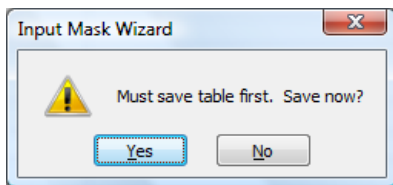
- Look at the bottom of the screen and you will see a table that includes **Input Mask**, as illustrated.



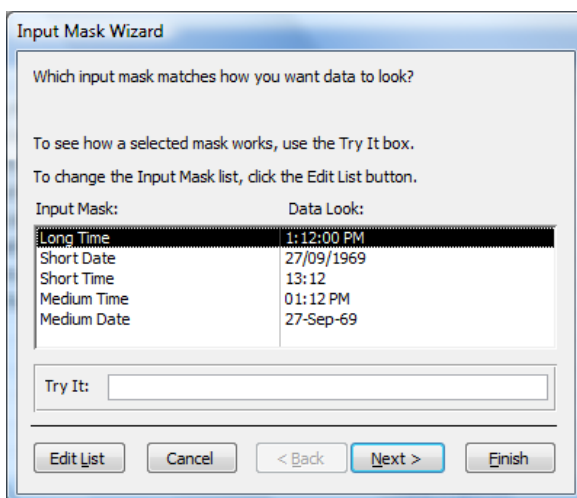
- Click within the **Input Mask** line.
- Click on the small button containing three dots displayed at the right end of this line.



- If prompted to save the table, click on the **Yes** button.

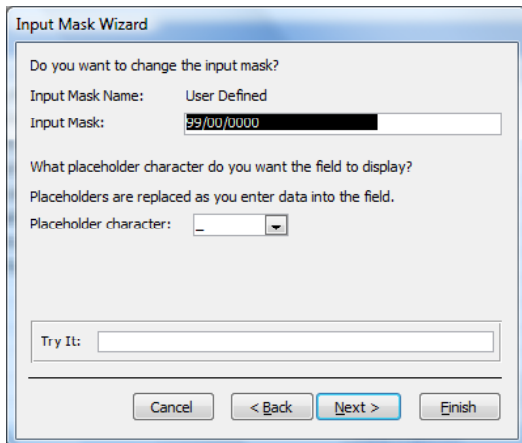


- The **Input Mask Wizard** dialog box is displayed.

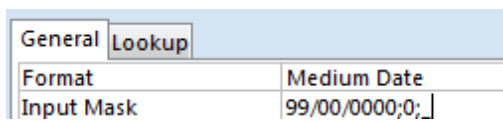


- Select the **Short Date** option, and then click on the **Next** button. Although it is highly unlikely in the case of a date, that you would wish to change the placeholder character, you have the ability to substitute the character, inserting others in their place. Do not make any changes in this case, simply

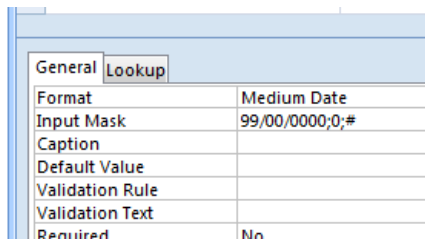
look at what options are available.



- Click on the **Next** button and then the **Finish** button.



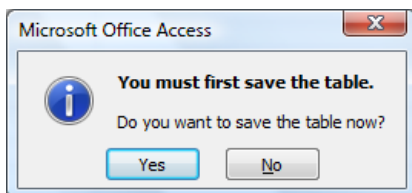
NOTE: The Input Mask now displays



- Click on the **Datasheet View** button to switch to **Datasheet View**.



When prompted, click on the **Yes** button to save the changes.



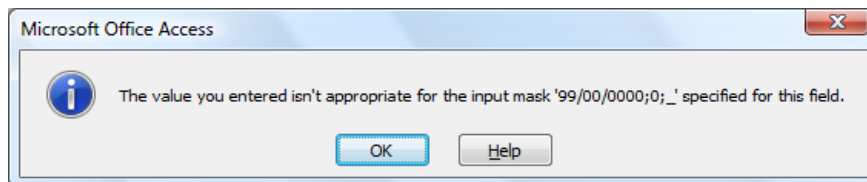
- Using the mouse pointer, select the next blank cell at the bottom of the **Date Received** column.

Stock	Date Received	Dis
43	24-Jan-05	
10	08-Oct-06	
6	11-Feb-07	
8	28-May-07	
1	16-Jun-04	

- Notice the new Input Mask appears. From this point on, each new record added to the database will require the operator to follow the format. No other format will be accepted.

Using Input Masks with **Text** data type for example, is useful when storing phone numbers. As calculation is not needed, phone numbers are entered into fields configured with the **Text** data type. Following the same approach as the Date / Time input mask will ensure data entry operators will enter in phone numbers according to the mask you have set.

NOTE: If at any stage incomplete data has been entered into the field using an input mask, you will not be able to move out of the field or select another function until the data is either removed or completed. Access will display the following message.



- Next take a look at the **Price** column and notice how the values are now displayed.

ID	Part Name	Part Description	Price	Number in Stock
1	Light	Stop Light	2.5	
2	Air Filter	Paper Filter	6.7	
3	Spark Plugs	Box of 8 Plugs	45.9	
4	Light	Halogen Light	15.5	
5	Battery	24 V Battery	98	
6				

- Despite having used the **General** format and selecting **2** decimal places, some values only display the value before the decimal point, i.e. the **24v Battery – Price 98**.

This is because the **General** format only displays information to two decimal points when there are values to display. If the **Battery** price was instead **98.53**, the full price to 2 decimal place would have been displayed.

The **General** format is a good solution for displaying numeric values with a

currency symbol. As a rule when setting a field to contain a currency value, always format the field type as **Currency** not **General**!

- Press **Ctrl-S** to save the changes.
- Click on the **Design View** button to switch to **Design View**.



Validation Rules

- Validation rules help to control and therefore limit the type and amount of data users can enter. By providing conditions (criteria), in the form of expressions in the **Validation** property of a field, data entered must match the given conditions to be accepted.
- If the data fails to meet the conditions specified, **Validation Text**, also specified within **Field Properties** below the validation rule, will be displayed prompting the user of the conditions required to meet data entry requirements.
- Select the **Price** field.

Cheltenham	
Field Name	Data Type
ID	AutoNumber
Part Name	Text
Part Description	Memo
Price	Currency
Number in Stock	Number
Date Received	Date/Time
Discontinued	Yes/No
Documentation	Attachment

- In the **Field Properties** section (bottom part of the screen) change the format to **Fixed**.

Field Properties	
General	Lookup
Format	General Number
Decimal Places	General Number 3456.789
Input Mask	Currency \$3,456.79
Caption	Euro €3,456.79
Default Value	Fixed 3456.79
Validation Rule	Standard 3,456.79
Validation Text	Percent 123.00%
Required	Scientific 3.46E+03
Indexed	No
Smart Tags	
Text Align	General

- Move to the **Validation Rule** and type in **>1**, then press the **Enter** key.

General		Lookup
Format	General Number	
Decimal Places	2	
Input Mask		
Caption		
Default Value		
Validation Rule	>1	
Validation Text		

- Within the **Validation Text** section type in the following line of text and then press the **A price greater than 1.00 must be entered** key.


A price greater than 1.00 must be entered

General		Lookup
Format	General Number	
Decimal Places	2	
Input Mask		
Caption		
Default Value		
Validation Rule	>1	
Validation Text	A price greater than 1.00 must be entered	
Required	No	

- Select the **Date Received**.

Number in Stock	Number
Date Received	Date/Time
Discontinued	Yes/No

- Change the format to **Short Date**,

General		Lookup
Format		Short Date
Input Mask	99/00/0000;0;#	
Caption		

- Within the **Validation Rule** line type in the following and then press the **Enter** key.

>01/01/2007

- The screen will now look like this.

General		Lookup
Format	Short Date	
Input Mask	99/00/0000;0;#	
Caption		
Default Value		
Validation Rule	>01/01/2007	
Validation Text		
Required	No	
Indexed	No	
IME Mode	No Control	
IME Sentence Mode	None	
Smart Tags		
Text Align	General	
Show Date Picker	For dates	

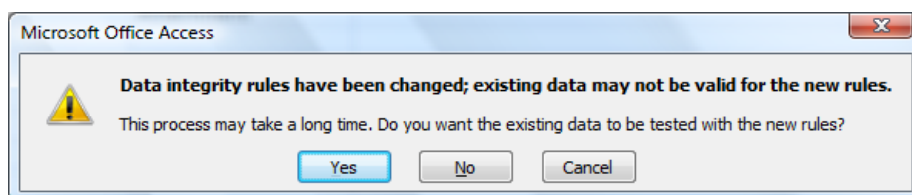
- In **Validation Text**, type in **Records cannot be backdated to last year**, then press the **Enter** key.

Field Properties	
General	Lookup
Format	Short Date
Input Mask	99/00/0000;0;_
Caption	
Default Value	
Validation Rule	>=#1/01/2007#
Validation Text	Records cannot be backdated to last year
Required	No
Indexed	No

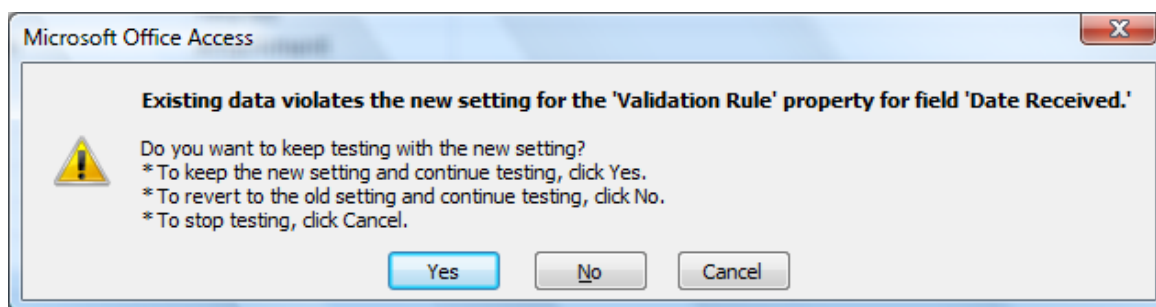
- Click on the **Datasheet View** button to switch to **Datasheet View**.



- When prompted, click on the **Yes** button to save the changes.
- Access notifies you that the Data integrity rules have changed.



- When setting up Validation Rules, data in existing records may not meet the new rules and if that is the case the following will be displayed.



- The warning refers to the field in which data violates the new validation rule, in this case, **Date Received**. This is because some of the dates entered are prior to **01/01/2007**.
- As we are only interested in making certain all new record entries conform to the rule, click on the **Yes** button to keep the new settings and continue testing.

NOTE: Access continues checking any other validation rules you added and will inform you if they contain data that fails to meet the rules.

In the **Price** column, notice how the values now display the two decimal points since changing the format to **Fixed**.

ID	Part Name	Part Description	Price	Number in Stock	Date Received	Discontinued	Attached Docs
	Bulb	12v 5w Stop Light Bulb	2.50	43	24/01/2005	<input type="checkbox"/>	📎(0)
2	Airfilter	High Performance Filter - Paper	6.70	10	8/10/2006	<input type="checkbox"/>	📎(0)
3	Spark Plugs	Box of 8 x Tungston Tipped High Performance Spark Plugs	45.90	6	11/02/2007	<input type="checkbox"/>	📎(0)
4	Bulb	12v 20w Halogen Bulb	15.50	8	28/05/2007	<input type="checkbox"/>	📎(0)
5	Battery	24v Truck Battery	98.00	1	16/06/2004	<input checked="" type="checkbox"/>	📎(0)
* (New)						<input type="checkbox"/>	📎(0)

- Start a **New** record. Under **Part Name** type in **Oil Additive**, then press the **Enter** key.
- Under **Part Description** type in **Motor Oil Additive**, then press the **Enter** key.
- In **Number in Stock** type **24**, then press the **Enter** key.
- Press the **Enter** key **4** more **times** to move to the next row (new record).
- Notice how even though you have setup validation rule, you can leave columns (fields) blank.

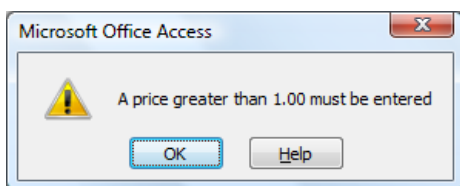
ID	Part Name	Part Description	Price	Number in Stock	Date Received	Discontinued	📎	Add
1	Light	Stop Light	2.50	43	24/01/2005	<input checked="" type="checkbox"/>	📎(1)	
2	Air Filter	Paper Filter	6.70	10	8/10/2006	<input type="checkbox"/>	📎(0)	
3	Spark Plugs	Box of 8 Plugs	45.90	6	11/02/2007	<input type="checkbox"/>	📎(0)	
4	Light	Halogen Light	15.50	8	28/05/2007	<input type="checkbox"/>	📎(0)	
5	Battery	24 V Battery	98.00	1	16/06/2004	<input type="checkbox"/>	📎(0)	
6	Oil Additive	Motor Oil Additive		24	1/01/2007	<input type="checkbox"/>	📎(0)	
* (New)						<input type="checkbox"/>	📎(0)	

NOTE: A validation rule ensures that data entered into a field meets the rules, however it does not require data to be entered into a field.

- Move back to add the **Price** for the **Oil Additive** (Record 6), type **0.98** and then press the **Enter** key.

A message is displayed informing you that you must enter a price greater than 1.00.

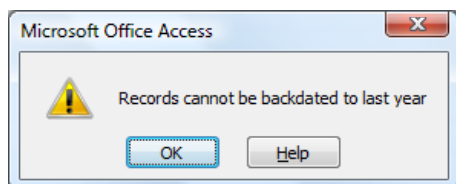
- Click on the **OK** button and try **typing** in **1.00**, then press the **Enter** key.



You get the same message because you must type a value **greater** than

1.00, not equal to it.

- Click on the **OK** button again and this time type in **1.50** and press the **Enter** key.
- Press **Enter** again to move to the **Date Received** column. Try entering in a date ending in **2005**.



- Click on the **OK** button and try entering **01/01/2007**
Even though **01/01/2007** is clearly not a date from last year, the validation rule specified that a date greater (**after**) 01/01/2007 must be entered.
- Click on the **OK** button and type in **02/01/2007** to complete this record.
- Click on the **Design View** button to switch to **Design View**.



- In the **Field Name** section, select the **Price** field.
- In the **Field Properties** section (bottom of the screen) for the **Price** field, click in the **Validation Rule** section and change the entry to the following: "

> = 1

Field Properties	
General Lookup	
Format	Fixed
Decimal Places	2
Input Mask	
Caption	
Default Value	
Validation Rule	> = 1
Validation Text	A price greater than 1.00 must be entered
Required	Yes
Indexed	No
Smart Tags	

- Also within the **Field Properties** section click in the **Required** box and click on the down arrow to the right of this section. From the drop down list displayed select **Yes**.

General		Lookup
Format	Fixed	
Decimal Places	2	
Input Mask		
Caption		
Default Value		
Validation Rule	>=1	
Validation Text	A price greater than 1.00 must be entered	
Required	Yes	
Indexed	Yes	
Smart Tags	No	
Text Align	General	

- The screen will now look like this

General		Lookup
Format	Fixed	
Decimal Places	2	
Input Mask		
Caption		
Default Value		
Validation Rule	>=1	
Validation Text	A price greater than 1.00 must be entered	
Required	Yes	

- Within the **Field Name** section, select the **Date Received** field.

Tools			Show/Hide
Cheltenham			
	Field Name	Data Type	
🔑	ID	AutoNumber	
	Part Name	Text	
	Part Description	Memo	
	Price	Currency	
	Number in Stock	Number	
	Date Received	Date/Time	
	Discontinued	Yes/No	
	Documentation	Attachment	

- In the **Field Properties** section, change the validation rule as illustrated.

Default Value	
Validation Rule	>=#1/01/2007#
Validation Text	Records cannot be

- In the **Field Properties** section, click in the **Required** box and select **Yes**.

		Field Properties
General		Lookup
Format	Short Date	
Input Mask	99/00/0000;0;_	
Caption		
Default Value		
Validation Rule	>=#1/01/2007#	
Validation Text	Records cannot be backdated to last year	
Required	Yes	
Indexed	No	
IME Mode	No Control	

NOTE: When setting **Yes** to the field property **Required** data must be

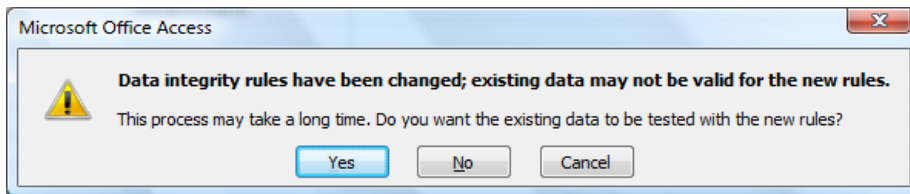
entered into this field every time a new record is created, otherwise the record will not be added to the table.

TIP: By adding the = (equals sign) to the Validation Rule in both fields, Access will now accept values equal or greater than the values specified, i.e. a date of **01/01/2007** is now an acceptable date.

- Click on the **Datasheet View** button to switch to **Datasheet View**.



- When prompted, click on the **Yes** button to save the changes.
- Click on the **Yes** button when notified of the data integrity rule change.

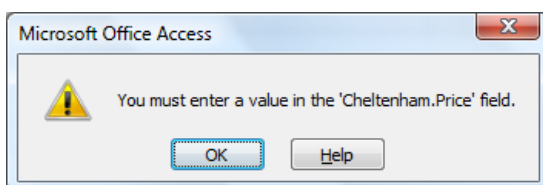


- Click on the **Yes** button again when notified that data in the **Date Received** field violates the new rules.
- In **Datasheet View**, add a new record in the table using the following details:

Part Name **Battery**
 Part Description **12v Heavy Duty Battery**
 Price *Leave Blank*
 Number in Stock **4**
 Date Received *Leave Blank*

ID	Part Name	Part Description	Price	Number in Stock	Date Received	Di
1	Light	Stop Light	2.50	43	24/01/2005	
2	Air Filter	Paper Filter	6.70	10	8/10/2006	
3	Spark Plugs	Box of 8 Plugs	45.90	6	11/02/2007	
4	Light	Halogen Light	15.50	8	28/05/2007	
5	Battery	24 V Battery	98.00	1	16/06/2004	
6	Oil Additive	Motor Oil Additive	1.50	24	2/01/2007	
7	Battery	12v Heavy Duty Batt		4		

- Press the **Enter** key repeatedly until something happens. The following dialog box is displayed.



NOTE: Having set **Required** to **Yes** for both the **Price** and **Date Received** fields, data must be entered into these fields before moving on to create another new record.

- Click on the **OK** button, select **Price** and type in **64.90** and press the **Enter** key.
- Move to the **Date Received** column and type in **02/02/2007** and press the **Enter** key. The table now holds the following records.

ID	Part Name	Part Description	Price	Number in Stock	Date Received	Discontinued		Add New Field
1	Light	Stop Light	2.50	43	24/01/2005	<input checked="" type="checkbox"/>	U(1)	
2	Air Filter	Paper Filter	6.70	10	8/10/2006	<input type="checkbox"/>	U(0)	
3	Spark Plugs	Box of 8 Plugs	45.90	6	11/02/2007	<input type="checkbox"/>	U(0)	
4	Light	Halogen Light	15.50	8	28/05/2007	<input type="checkbox"/>	U(0)	
5	Battery	24 V Battery	98.00	1	16/06/2004	<input type="checkbox"/>	U(0)	
6	Oil Additive	Motor Oil Additive	1.50	24	2/01/2007	<input type="checkbox"/>	U(0)	
7	Battery	12v Heavy Duty Batt	64.90	4	2/02/2007	<input type="checkbox"/>	U(0)	
*	(New)					<input type="checkbox"/>	U(0)	

Field Properties - Guides Tables

- These tables provide a reference guide to some of the most commonly used field properties, along with examples and descriptions.

NOTE: These operators, wildcards, etc, along with the examples will prove useful when learning about and using queries (covered in a later section), therefore it is worth spending some time familiarising yourself with them.

- **Table – Field Properties – Validation Rule Comparison Operators**
The following table contains comparison operators used to **compare** values and return a result that is true, false, or null.

Validation Rule Comparison Operators	Description
>	Greater than
<	Less than
=	Equal to
>=	Greater than or Equal to
<=	Less than or Equal to
<>	Not Equal to

- **Table – Field Properties – Logical Operators**
The following table contains logical operators used to combine two values and return a true, false, or null result.

Operator	Usage	Description
And	Expr1 And Expr2	True when Expr1 and Expr2 are true.
Or	Expr1 Or Expr2	True when either Expr1 or Expr2 is true.
Eqv	Expr1 Eqv Expr2	True when both Expr1 and Expr2 are true or both Expr1 and Expr2 are false.
Not	Not Expr	True when Expr is not true.
Xor	Expr1 Xor Expr2	True when either Expr1 is true, or Expr2 is true, but not both.

- **Table – Field Properties – Validation Rule Examples**

The following table contains Validation Rule examples and description.

Validation Rule Example	Description
<> 0	Entry must be a nonzero value.
> 1000 Or Is Null	Entry must be blank or greater than 1000.
Like "A?????"	Entry must be 5 characters and begin with the letter "A".
>=#1/1/96# And <#1/1/97#	Entry must be a date in 1996.
"<> 8 Or Is Null	Entry must not equal 8 or can be a 'Null' value Note: As Access does not normally allow Null entries when using Validation, the 'Required' property must be set to 'No' on this occasion

- **Table – Field Properties – General**

The following table provides a brief description of the purpose of commonly used field properties.

Use this Field property	To
Field Size	Set the maximum size for data stored as a Text, Number, or AutoNumber data type
Format	Customize the way the field appears when displayed or printed
Decimal Places	Specify the number of decimal places to use when displaying numbers
New Values	Set whether an AutoNumber field is incremented or assigned a random value
Input Mask	Display characters to guide data entry i.e. _/_/_
Caption	Set the text displayed by default in labels for forms, reports, and queries
Default Value	Automatically assign a default value to a field when new records are added
Validation Rule	Supply an expression that must be met when adding a value in this field
Validation Text	Enter text that appears when a value violates the ValidationRule expression
Required	Require that data be entered in a field.
Indexed	Speed up access to data in this field by creating and using an index

- **Table – Field Properties – Format**

The following table provide a description of how each of the formats affect the way information is displayed.

Format Property	Option	Description
Text	User Defined	You can define a custom format. For more information, see Format data in tables, forms, and reports.
Number	General Number	In most cases, displays the number as entered, however this format will not display a decimal point or '00' (zeros) if the zeros fall after a decimal point. I.E. 1234.00 becomes 1234 & 1234.0100 Becomes 1234.01 Does not display or store the last two zeros
	Currency	Displays the number using the thousand separator (,). Currency symbols displayed according to Microsoft Windows Regional and Language settings (Control Panel)
	Euro	Displays the number using the Euro currency symbol, regardless of the symbol specified in the Regional and Language settings.
	Fixed	Stores the whole value entered but only displays the number up to two decimal places, (depending upon Regional & Language settings). No currency symbol displayed.
	Standard	Displays the number using the thousand separator (,) No Currency symbol displayed. 2,345.678 becomes 2,345.67
	Percent	Multiplies the value by 100 and displays the number with a percent sign added to the end. 0.3456 becomes 35%
	Scientific	Displays the value in standard scientific notation. 1234.567 becomes 1.23E+03
Date/Time	Displays Dates and/or Times according to Regional & Language settings (Control Panel)	
	General Date	Displays the value as dd/mm/yyyy hh:mm:ss pm
	Long Date	Displays the value as day date month yyyy
	Medium Date	Displays the value as dd-mmm-yy
	Short Date	Displays the value as dd/mm/yyyy
	Long Time	Displays the value as hh:mm:ss pm
	Medium Time	Displays the value as hh:mm pm
	Short Time	Displays the value as hh:mm (24 hour clock) i.e. 17:30
Yes/No		True/False — Displays the value as either True or False. Yes/No — Displays the value as either Yes or No. On/Off — Displays the value as either On or Off.

• **Table – Field Properties – Input Mask Characters**

The following characters can be used to define an input mask.

Character	Description
0	Digit (0 to 9, entry required, plus [+] and minus [-] signs not allowed)
9	Digit or space (entry not required, plus [+] and minus [-] signs not allowed)
#	Digit or space (entry not required; spaces are displayed as blanks while in Edit mode, but blanks are removed when data is saved; plus [+] and minus [-] signs allowed)
L	Letter (A to Z, entry required)
?	Letter (A to Z, entry optional)
A	Letter or digit (entry required)
a	Letter or digit (entry optional)
&	Any character or a space (entry required)
C	Any character or a space (entry optional)
.,;- /	Decimal placeholder and thousand, date, and time separators. The character used depends on Regional Settings (Control Panel)
<	Causes all characters to be converted to lowercase
>	Causes all characters to be converted to uppercase
!	Causes the input mask to display from right to left, rather than from left to right. Characters typed into the mask always fill it from left to right. You can include the exclamation point anywhere in the input mask
\	Causes the character that follows to be displayed as the literal character (for example, \A is displayed as just A)

• **Table – Field Properties – Input Mask Examples**

The following characters can be used to define an input mask.

Input mask	Sample values
(00) 000-0000	(06) 123-4567
(99) 999-9999	(06) 123-4567 () 123-4567
(00) AAA-AAAA	(06) 123-CALL
#999	-20 2000
>L????L?000L0	REENGR339M3 MAY R 452B7
>L0L 0L0	T2F 8M4
00000-9999	98115- 98115-3007
>L<????????????	Maria Brendan
SSN 000-00-0000	SSN 555-55-5555
>LL00000-0000	DB51392-0493

- Close Access.

Manipulating Records & Tables

Closing an Object - Table

- Open Access and open the **Cheltenham** database.

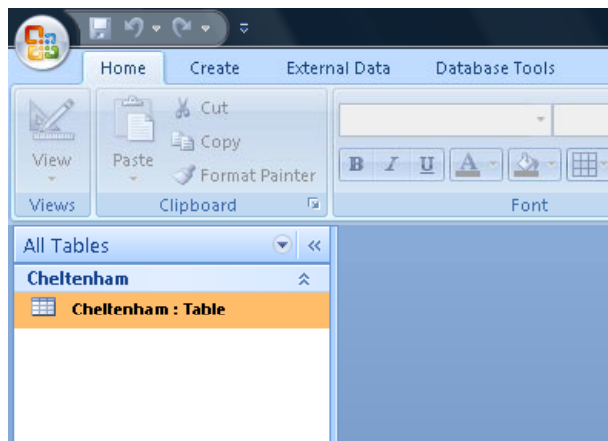
DO NOT open the table called **Cheltenham**.

- We previously saved a table, naming it **Cheltenham**. Although this may be an appropriate name for a database, it is not a name that gives meaning to the actual purpose of the table, therefore now is a good time to rename the table.

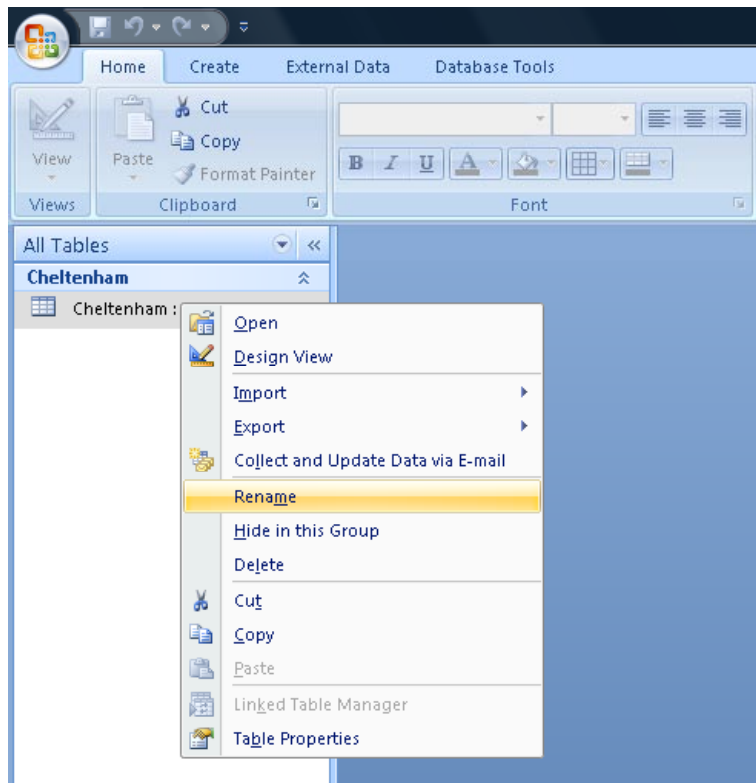
NOTE: Objects cannot be renamed when open.

Renaming an Object - Table

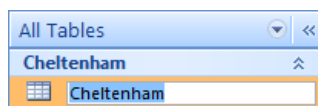
- Select (but do not open) the **Cheltenham** table.



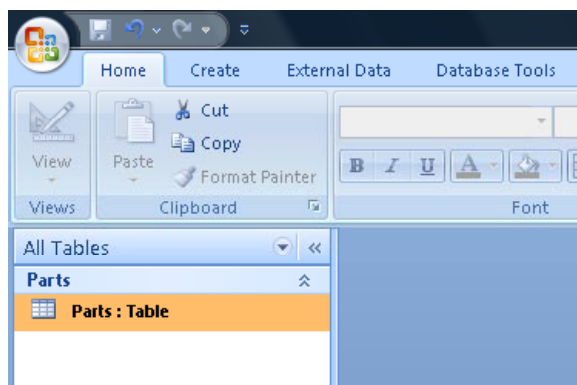
- Right click on the **Cheltenham** table and from the popup list displayed select the **Rename** command.



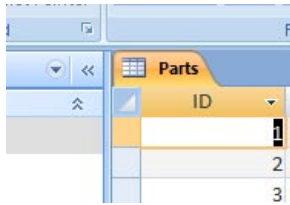
- The name **Cheltenham** is now displayed in Edit mode.



- Type in **Parts** and press the **Enter** key.



- Double click on the **Parts** table to open. The table object tab now displays the new name.



Editing data within a record

- With the table open, click into and select the **Price** value for the **Spark Plugs** record.

ID	Part Name	Part Description	Price	Number in Stock
1	Light	Stop Light	2.50	
2	Air Filter	Paper Filter	6.70	
3	Spark Plugs	Box of 8 Plugs	45.90	
4	Light	Halogen Light	15.50	
5	Battery	24 V Battery	98.00	
6	Oil Additive	Motor Oil Additive	1.50	

- Press the **F2** function key (located at the top of the keyboard). The cell is now in Editing mode and existing values can be overwritten, edited or removed (depending upon field properties).

ID	Part Name	Part Description	Price	Number in Stock
1	Light	Stop Light	2.50	
2	Air Filter	Paper Filter	6.70	
3	Spark Plugs	Box of 8 Plugs	45.90	
4	Light	Halogen Light	15.50	
5	Battery	24 V Battery	98.00	

- Type in **43.50** and press the **Enter** key.

ID	Part Name	Part Description	Price	Number in Stock
1	Light	Stop Light	2.50	
2	Air Filter	Paper Filter	6.70	
3	Spark Plugs	Box of 8 Plugs	43.50	
4	Light	Halogen Light	15.50	
5	Battery	24 V Battery	98.00	

NOTE: By placing the pointer in any cell, then using the pointer keys to move to another cell automatically activates edit mode. Alternatively, you can also click and drag to highlight data within a cell.

Deleting data within a record

- Deleting data in a record is similar to editing data in a record, however there are a number of considerations to take into account.

Data cannot be deleted from fields where the **Required** field property is set

to **Yes**, as this prevents the field from being left blank.

Deleting data from an **Attachment** (Data Type) field is actually not a deletion but the removal of an attachment as mentioned in an early section.

- To remove data from a record, select the **Part Description** for the **24 v Battery** record. Then press the **F2** key to activate editing mode, then use either the **Delete** or the **Backspace** key to delete the entry. Press the **Enter** key to commit the changes.

Parts				
ID	Part Name	Part Description	Price	Number in Stock
1	Light	Stop Light	2.50	
2	Air Filter	Paper Filter	6.70	
3	Spark Plugs	Box of 8 Plugs	43.50	
4	Light	Halogen Light	15.50	
5	Battery		98.00	
6	Oil Additive	Motor Oil Additive	1.50	
7	Battery	12v Heavy Duty Batt	64.90	
*	(New)			

- The pointer moves to the next column, leaving the **Part Description** field empty.

Using the Undo command

- Like other Microsoft Office applications, the **Undo** command (**CTRL-Z**), allows the user to undo previous actions.



Unlike other Office Applications however, when working with tables for example, the **Undo** function will only undo the **last action**. The **Undo** button is located on the Quick Access Toolbar.

- Select the **Number in Stock** value in **Record 5**. Press the **F2** key to highlight the value.
- Press either the **Delete** or **Backspace** key and then press the **Enter** key.

Parts							
ID	Part Name	Part Description	Price	Number in Stock	Date Received	Discontinued	
1	Light	Stop Light	2.50	43	24/01/2005	<input checked="" type="checkbox"/>	
2	Air Filter	Paper Filter	6.70	10	8/10/2006	<input type="checkbox"/>	
3	Spark Plugs	Box of 8 Plugs	43.50	6	11/02/2007	<input type="checkbox"/>	
4	Light	Halogen Light	15.50	8	28/05/2007	<input type="checkbox"/>	
5	Battery		98.00		16/06/2004	<input type="checkbox"/>	
6	Oil Additive	Motor Oil Additive	1.50	24	2/01/2007	<input type="checkbox"/>	
7	Battery	12v Heavy Duty Batt	64.90	4	2/02/2007	<input type="checkbox"/>	
*	(New)					<input type="checkbox"/>	

- From the Quick Access Toolbar, click on the **Undo** button.



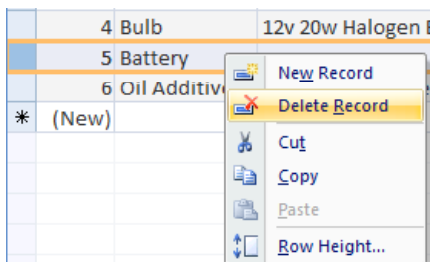
You will see that the last deletion is reversed. Try clicking on the **Undo** button again and you will find that the other deletion you made is not reversed.

Deleting a single record

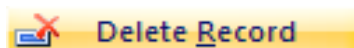
- Occasionally you may need to remove a record from a table.
- Move the pointer to the column, left of the **ID** field. When the pointer changes to a right pointing arrow, click to highlight the whole row (record).



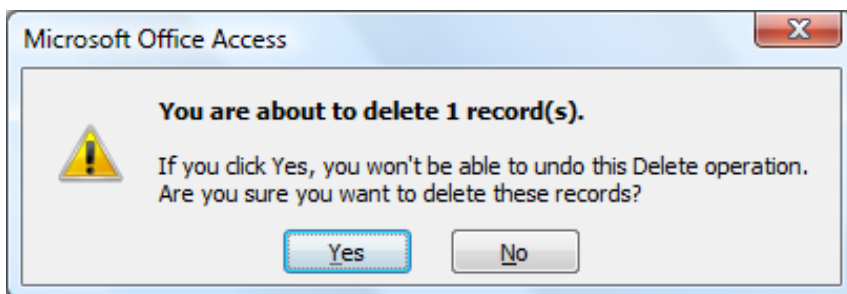
- With the pointer anywhere within the highlighted area, click using the right mouse button to activate the shortcut menu.



- Click on the **Delete Record** option.



A warning is displayed.



NOTE: Undo is not available when deleting records, therefore any deletions will be committed.

- Click on the **Yes** button to confirm the deletion.

ID	Part Name	Part Description	Price	Number in Stock
1	Bulb	12v 5w Stop Light Bulb	2.50	43
2	Airfilter	High Performance Filter - Paper	6.70	10
3	Spark Plugs	Box of 8 x Tungston Tipped High Performance Spark Plugs	43.50	6
4	Bulb	12v 20w Halogen Bulb	15.50	8
5	Oil Additive	1 x Can of High Performance Motor Oil Additive	64.90	24
* (New)				

- Record 5 has been deleted from the table.

NOTE: When deleting records from a table, the unique number in an ID (AutoNumber) field is also deleted and will not be reused.

TIP: Instead of using the shortcut menu and the **Delete Record** option, you could simply highlight the row and press the **Delete** key.

Deleting multiple records

- If a group of records needs to be deleted, the process is similar to deleting a single record. The only difference is in selecting the records.
- Move the pointer left to the row selection column. Locate the first record in the group and with the right pointing arrow displayed, click and drag down to create a highlighted block of records.



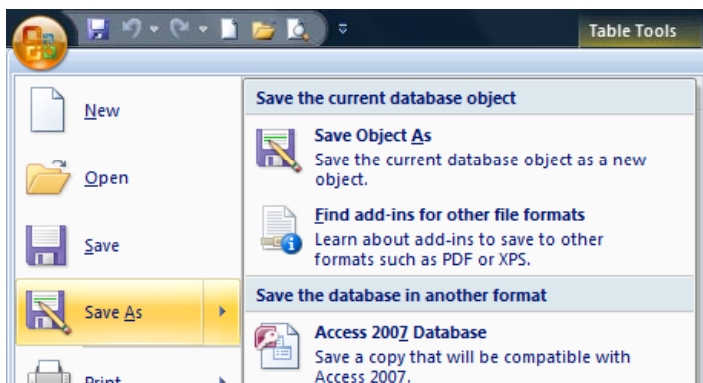
ID	Part Name	Part Description	Price
1	Bulb	12v 5w Stop Light Bulb	2.50
2	Airfilter	High Performance Filter - Paper	6.70
3	Spark Plugs	Box of 8 x Tungston Tipped High Performance Spark Plugs	43.50
4	Bulb	12v 20w Halogen Bulb	15.50
6	Oil Additive	1 x Can of High Performance Motor Oil Additive	64.90

NOTE: Records can also be highlighted by clicking on the first record, moving to the last, then whilst holding down the **Shift** key, select the last record to highlight all records between and including the first and last records.

- Delete all records in the same way as shown in the previous section describing how to delete a single record.

Save As – Database Object

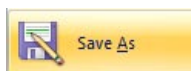
- When using the **Save As** command under the **Office Button** in Access 2007, you can save a copy of an object within a database. The **Save Object As** command is particularly useful.



When undertaking any testing, a copy of an object in its original form can be kept until testing is complete.

When you have a need to create similar objects, a table for example with similar fields but storing different data. Create the first table as a template and retain a copy to use at a later time to create additional tables.

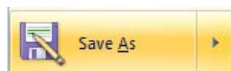
- Click on the **Office Button** and click on the **Save As** button,



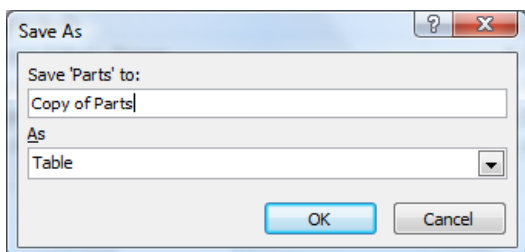
not the arrowed section of the button.



TIP: By clicking on the left part of the **Save As** button, Access by default assumes that you want to save a copy of an object.



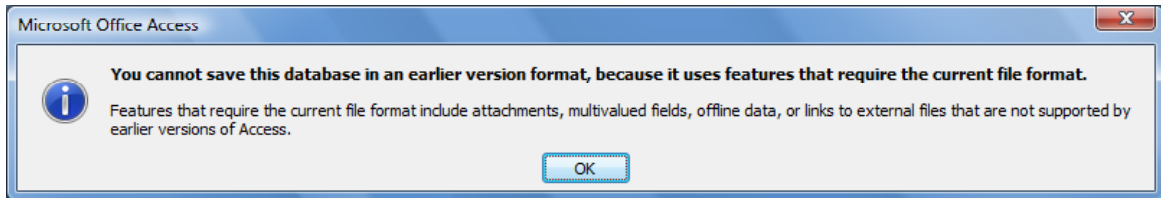
- The **Save As** box is displayed. Click on the **OK** button to accept the default object name and object type.



The **Save As** box closes, as does the original table and a **Copy of Parts** table opens. The table **Copy of Parts** is also displayed in the Navigation Pane

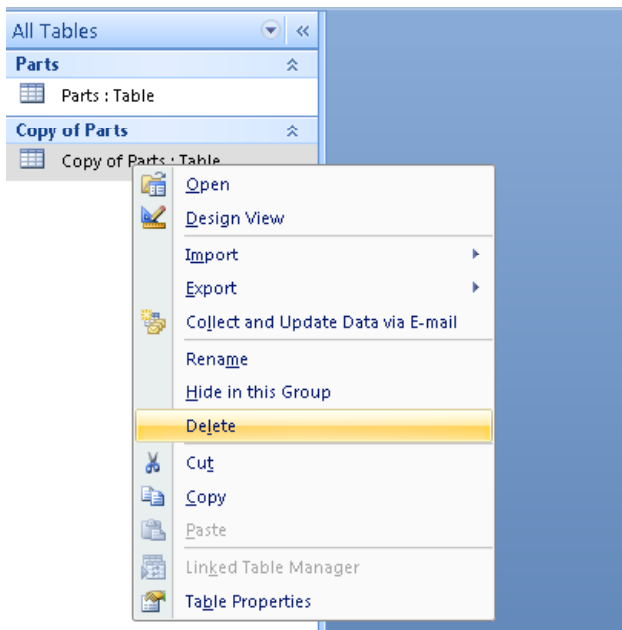
ID	Part Name
1	Bulb
2	Airfilter
3	Spark Plugs
4	Bulb

NOTE: Although the **Save As** command offers options to save a database in another (earlier) format, Access will prevent this when a database includes, attachment fields, multi-valued fields, offline data or links to external sources.

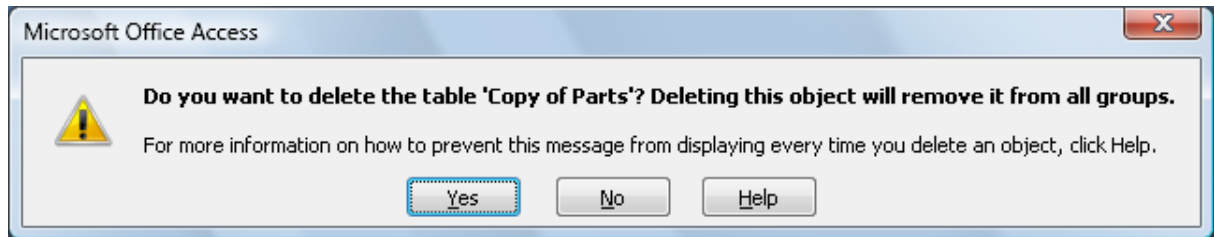


Deleting a table

- To delete an object, i.e. a table from a database, that object must be closed so first close any open tables
- In the Navigation Pane, right click on **Copy of Parts:Table** and from the popup list displayed select the **Delete** command from the list.



- Access displays the following warning.



- Click on the **Yes** button to confirm deletion. The table is deleted from the database and removed from the Navigation Pane.
- Close Access.

Primary Keys and Indexing

Defining a Primary Key

- A primary key is used as a unique identifier for each record in a database table and is essential when working with relational tables.
- To be effective, a primary key cannot have duplicate entries and must be set on a field generating a unique identifier. When creating a new table Access automatically adds the ID field with an AutoNumber data type. By default the ID field is also the primary key.

Other fields suitable to be set as a primary key are for example passport, social security and driving licence numbers, military identification, tax, workplace or personal identification numbers, unique to each individual.

NOTE: A primary key field can never be empty.

- Access also uses primary keys to index tables (discussed in a later section).
- Open Access.
- Open a database called **Keys and indexing**.
- Open the **Parts** table.
- Switch to the Design View, by clicking on the **View** button.

Part Number	Part Name	Part Description	Price	Number in Stock
1	Light	Stop Light	2.50	
2	Air Filter	Paper Filter	6.70	
3	Spark Plugs	Box of 8 Plugs	43.50	
4	Light	Halogen Light	15.50	
6	Oil Additive	Motor Oil Additive	1.50	
7	Battery	12v Heavy Duty Batt	64.90	
*	(New)			

- The **Primary Key** symbol identifies the **Part Number** field as being the primary key.



NOTE: The **Primary Key** button is also shown in the **Tools** group on the Ribbon.

- To use another field as the primary key, select the **Part Name** field, and then click on the **Primary Key** button on the Ribbon. The **Primary Key** symbol is now displayed beside the **Part Name** field.

Field Name	Data Type
Part Number	AutoNumber
Part Name	Text
Part Description	Memo
Price	Currency
Number in Stock	Number
Date Received	Date/Time
Discontinued	Yes/No
Documentation	Attachment

NOTE: The **Part Name** field however is not a suitable data type to become a primary key, as data within this field is unlikely to be unique.

- When working with related tables, the Primary Key field in one table is generally the (foreign key) field used to create the relationship with another table.

NOTE: Depending upon the data type a field is set to, more than one field can be highlighted and set as a primary key, although only one displays the Primary Key symbol.

- **MAKE SURE YOU DO THIS:**

Reset the **Primary Key** back to the **Part Number**, before continuing, as illustrated below.

Field Name	Data Type
Part Number	AutoNumber
Part Name	Text
Part Description	Memo
Price	Currency
Number in Stock	Number
Date Received	Date/Time
Discontinued	Yes/No
Documentation	Attachment

Indexing

- Access uses indexes much like the Table of Contents at the beginning of this course, to help locate and sort information quickly. An index stores the location of records based on the field or fields that you choose to index. After Access obtains the location from the index, it can then retrieve the data by moving directly to the correct location.
- As mentioned earlier, by default, Access set the Primary key as the Index within a table, however indexing can be set on other fields, especially fields used frequently in searches.

NOTE: Although indexing may speed up searches, it can also slow the process of updating data within tables. Also, you **cannot** index OLE objects or attachment fields.

- As a guide, consider indexing a field if all of the following conditions are met:
 - The field's data type is Text, Memo, Number, Date/Time, AutoNumber, Currency, Yes/No or Hyperlink.
 - You anticipate searching for values stored in the field.
 - You anticipate sorting values in the field.

You anticipate storing many different values in the field. If many of the values in the field are the same, the index might not significantly speed up queries.

- Indexing can also be set for multiple fields. If you are likely to perform searches on two or more fields within a single query, it makes sense to create a multiple-field index on both fields.

NOTE: You can include up to 10 and set the order of fields in a multiple-field index.

- When you sort a table using a multiple-field index, Access first sorts by the first field defined for the index. If there are records with duplicate values in the first field, Access then sorts using the second field defined for the multiple-field index.
- Before creating an index, decide whether you want to create a single-field index or a multiple-field index.
- You create an index on a single field by setting the **Indexed** property.

The following table lists the possible settings for the **Indexed** property.

Indexed property setting	Meaning
No	Don't create an index on this field (or delete the existing index)
Yes (Duplicates OK)	Create an index on this field
Yes (No Duplicates)	Create a unique index on this field

NOTE: By setting the Index property to **No Duplicates**, Access prevents any new value which matches an existing value from being entered into the field. For example, indexing the ID field in a table and setting it to Yes (No Duplicates) prevents duplicate numbers being entered and therefore the values in the field remain unique.

Creating a single-field Index

- For the purpose of this exercise, we will assume that the **Part Name** field in the **Parts** table will be subject to many searches, therefore it would be worthwhile indexing this field to speed up searches.
- Click on the **Part Name** field.

Field Name	Data Type
Part Number	AutoNumber
Part Name	Text
Part Description	Memo
Price	Currency
Number in Stock	Number
Date Received	Date/Time
Discontinued	Yes/No
Documentation	Attachment

- Move down to the **General** tab within the **Field Properties** section.
- In the **Indexed** property, click on the down arrow at the right of the line and select **Yes (Duplicates OK)**, as this field is not likely to contain unique data.

Field Properties

General Lookup

Field Size	255
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	Yes
Indexed	No
Unicode Compression	No
IME Mode	Yes (Duplicates OK)
IME Sentence Mode	Yes (No Duplicates)
Smart Tags	

- The **Field Properties** section will now look like this.

Field Properties

General Lookup

Field Size	255
Format	
Input Mask	
Caption	
Default Value	
Validation Rule	
Validation Text	
Required	No
Allow Zero Length	Yes
Indexed	Yes (Duplicates OK)
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Smart Tags	

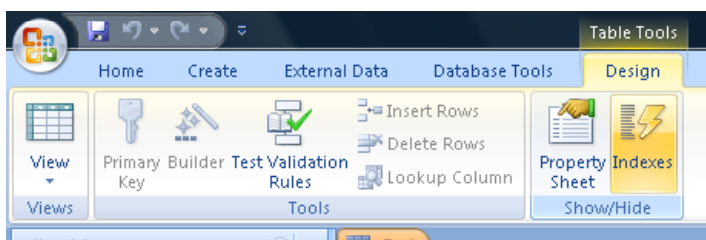
- Press **Ctrl-S** to save your changes.

Creating a multiple-field Index

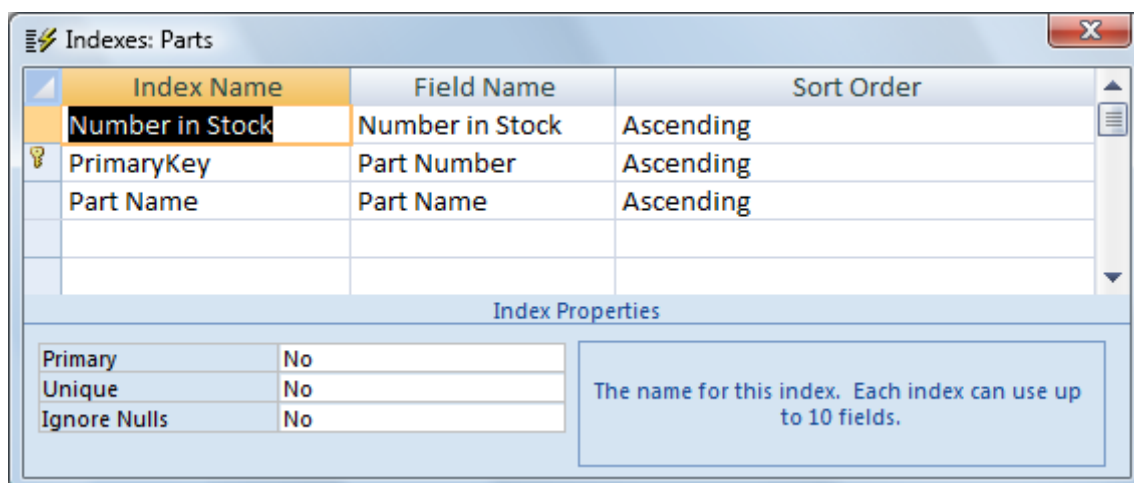
- With the **Parts table** open, make sure you are in Design View. If not, click on the **Design View** button to switch to **Design View**.



- On the **Design** tab, within the **Show/Hide** group, click on the **Indexes** button.

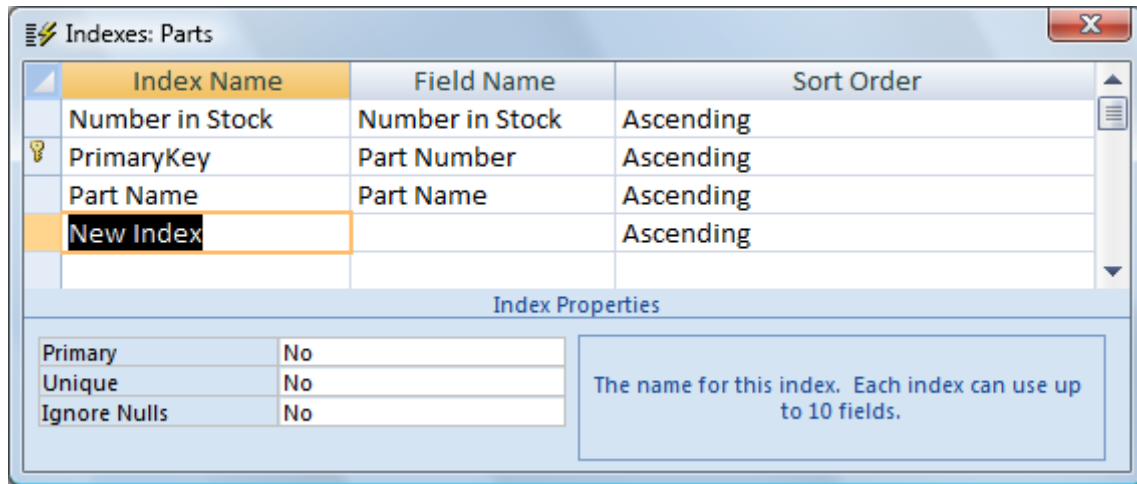


- The **Indexes** window is displayed.

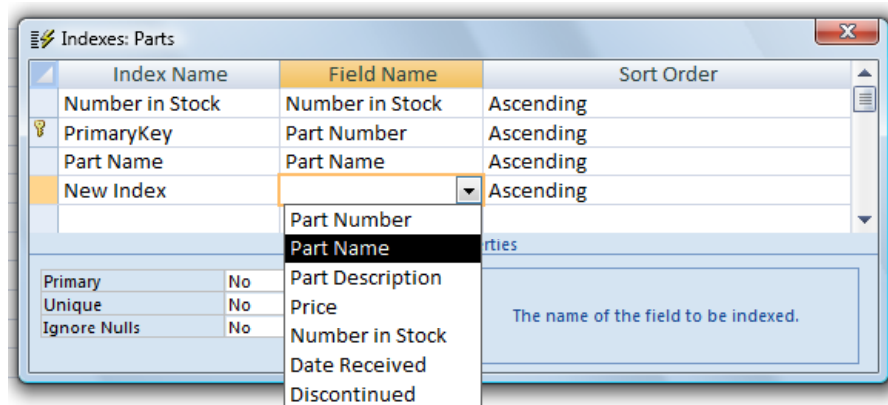


NOTE: By default, Access automatically configures indexes on certain fields as they are added to a table, for example ID fields. In such cases, these indexes will display in the **Indexes** dialog box when opened.

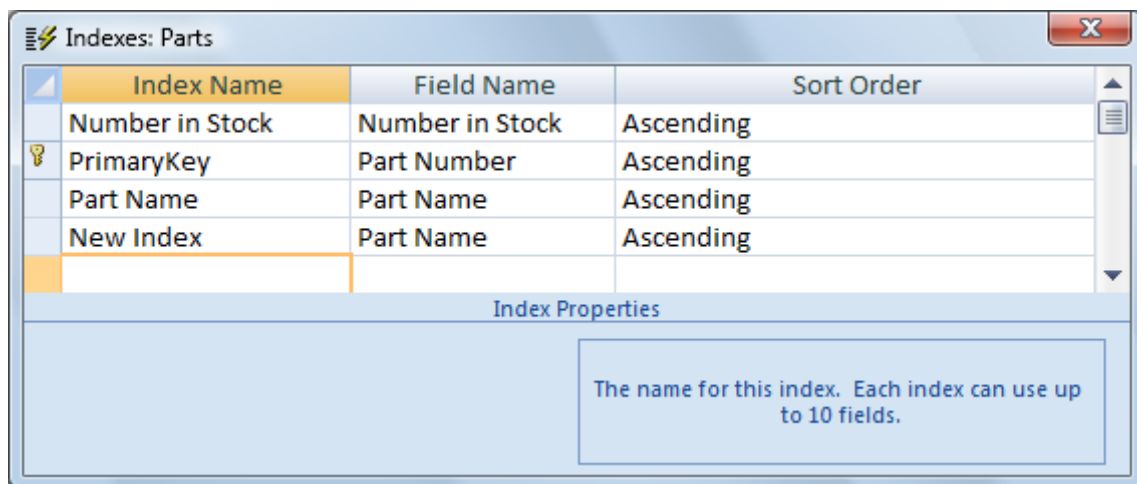
- A name for the index is required in the first blank row in the **Index Name** column. This name is used only to identify the index and can be the name of a field(s) to be indexed or another name.
- In the **Index Name** column, type **New Index** and press the **Enter** key to move to the **Field Name** column, as illustrated.



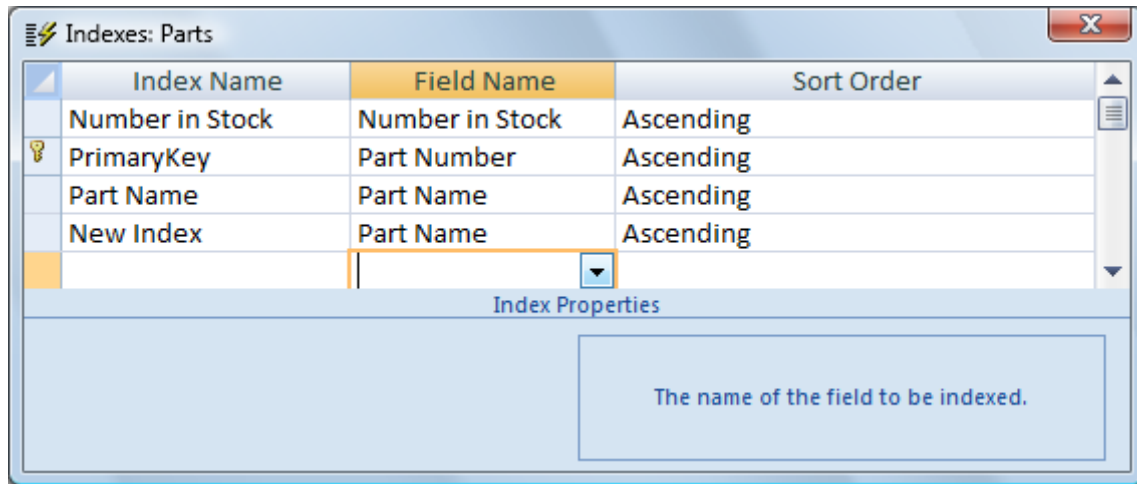
- Click on the **drop arrow** and select **Part Name** and press the **Enter** key to move to the **Sort Order** column.



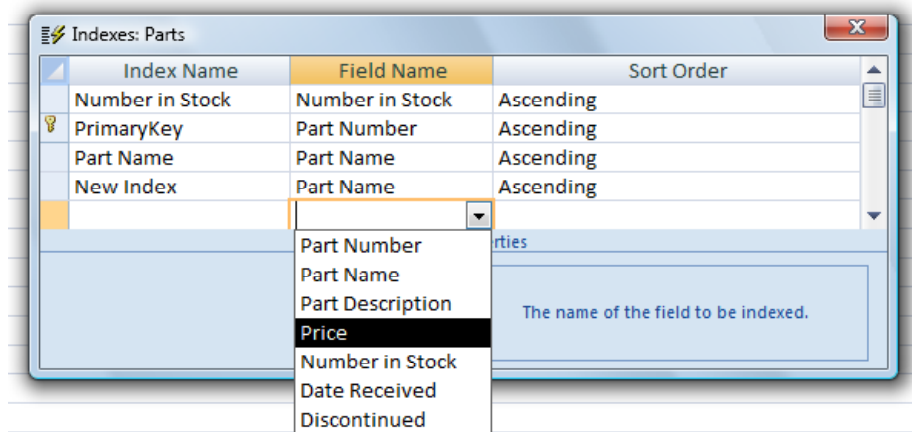
- Leave the sort order set to **Ascending** (default) and press the **Enter** key to move to the new row down.



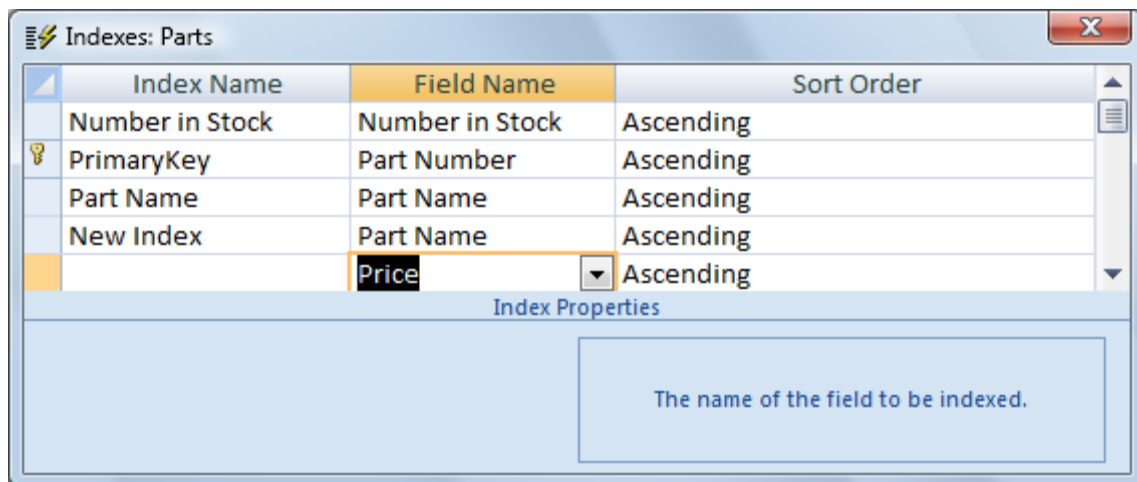
- Press the **Enter** key again to move to the **Field Name** column, as illustrated.



- Click in the **down arrow** and select **Price**.



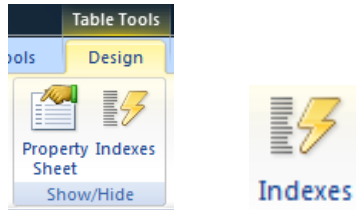
- The screen will now look like this.



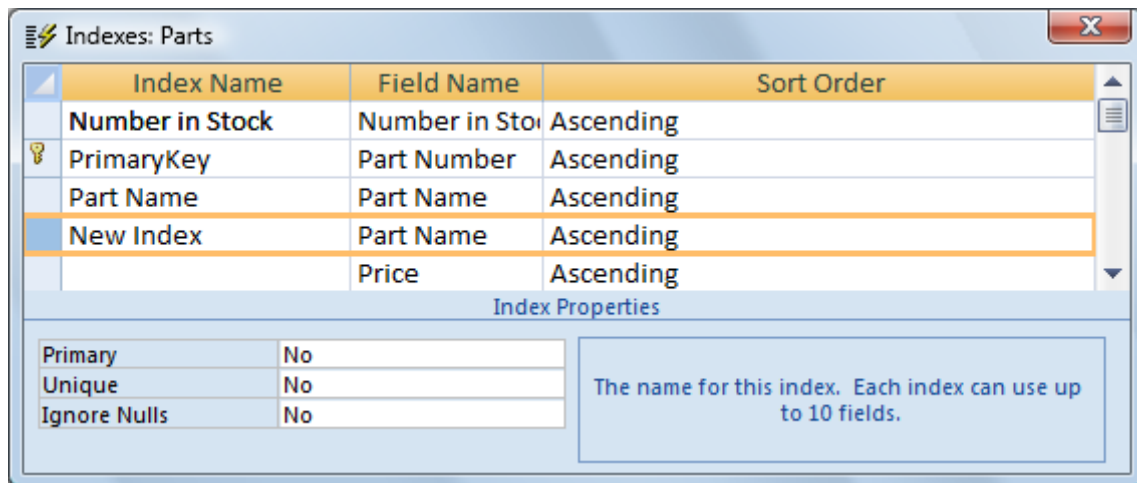
- Press the **Enter** key to move to the **Sort Order** column.
- Close the dialog box.

Deleting multi-field indexes

- On the **Design** tab, in the **Show/Hide** group, click on the **Indexes** button.



- Click in the left most column to highlight the row as shown below.



- Press the **Delete** key on the keyboard.

NOTE: To delete multiple rows in one go, click and drag in the left most column to select the required rows before pressing the **Delete** key.

- Close the dialog box.
- Close Access and save any changes that you have made.

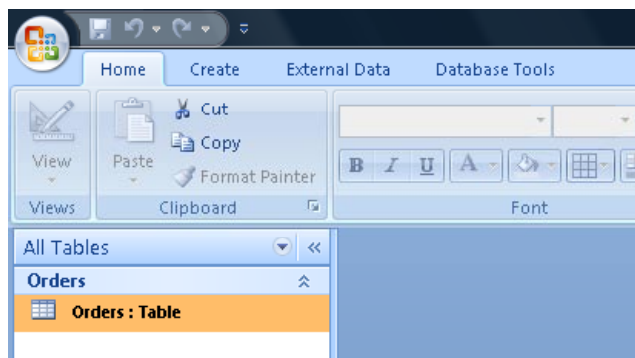
Filtering, Sorting & Searching

Text Filters

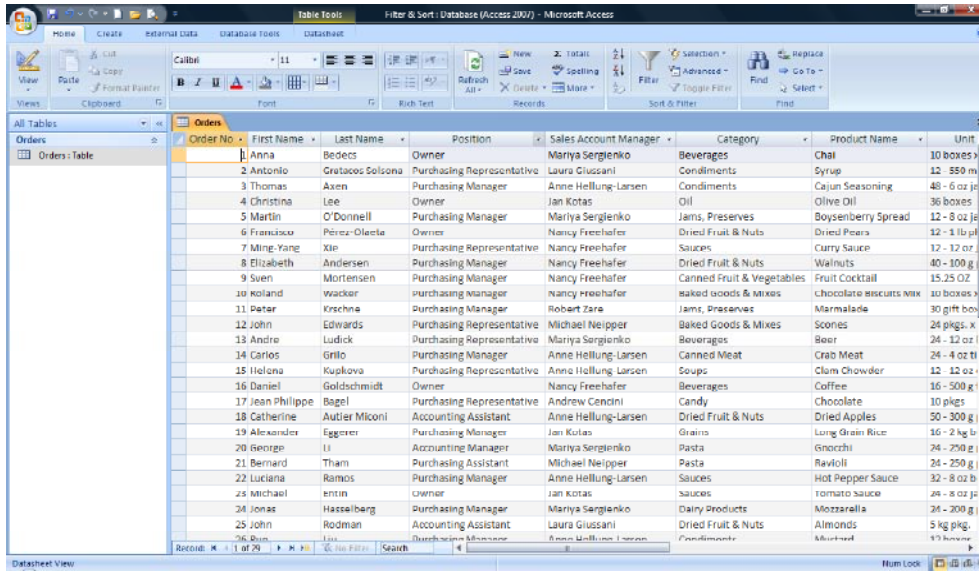
- Text Filters provide a means to find one or more specific records in table or form or print specific records in a report, table, or query.
- By using criteria in a filter, you effectively display only those records matching the criteria. Records not matching the criteria disappear from view, hence the term 'filter'. For example if you only want to display records that fall between the first day of a month and the last day of a month, you can apply a filter, specifying the oldest date and the newest and only records matching the criteria remain visible in the table
- Filters remain in place until they are removed or until the object is closed.
- More than one filter may be active at one time, although only one filter per field is possible. Setting a new filter on a field will effectively remove the previous filter for that field before applying the new filter.

Applying a single filter

- A single filter is one that is applied to a single field, using the quick filter options made available in Access 2007.
- Open the Access program and from within your Access samples folder open a database called **Filter & Sort**. You will see the following.



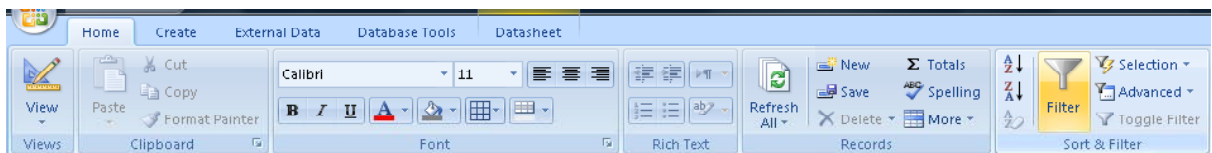
- In the navigation pane, double click to open the **Orders** table.



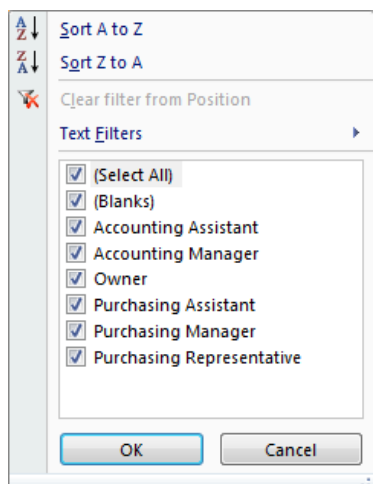
- To apply a single filter, place the pointer in any row below the **Position** column or click on the **Position** field name at the top of the column to **highlight** the whole column.

Last Name	Position	Sales Account Manager
Bedecs	Owner	Mariya Sergienko
Gratacos Solsona	Purchasing Representative	Laura Giussani
Axen	Purchasing Manager	Anne Hellung-Larsen
Lee	Owner	Jan Kotas
O'Donnell	Purchasing Manager	Mariya Sergienko
Pérez-Olaeta	Owner	Nancy Freehafer
Xie	Purchasing Representative	Nancy Freehafer
Andersen	Purchasing Manager	Nancy Freehafer

- Within the **Home** tab, within the **Sort & Filter** group click on the **Filter** button.



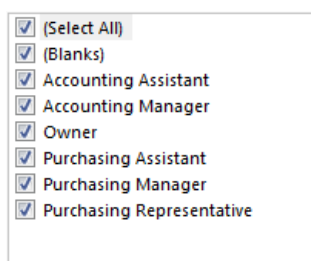
- A **Filter** dialog box is displayed.



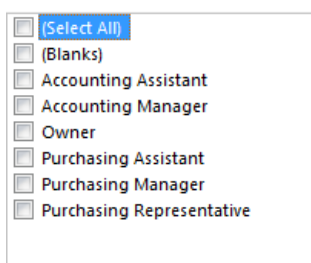
- The dialog box is divided by lines, into three sections, however only the second and third areas of the dialog box apply to filtering.

For now, ignore the **A-Z sort** section as this will be covered in a subsequent section.

- In the lower section of the dialog, you will notice a group of tick boxes. These tick boxes represent all the available (unique) job titles entered into the **Positions** field.



- At the top of the tick box group is a tick box labelled **(Select All)**.
- Click on the **(Select All)** tick box to un-tick all boxes.



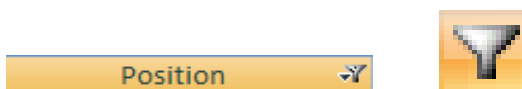
- To locate all records for those who are an **Owner**, click on the **Owner** tick box.

- (Select All)
- (Blanks)
- Accounting Assistant
- Accounting Manager
- Owner
- Purchasing Assistant
- Purchasing Manager
- Purchasing Representative

- Click on the **OK** button. Six records are displayed with **Owner** in the **Positions** field.

Order No	First Name	Last Name	Position	Sales Account Manager	Category	Product Name	Unit Q
1	Anna	Bedece	Owner	Mariya Sergienko	Beverages	Chai	10 boxes x 2
4	Christina	Lee	Owner	Jan Kotas	Oil	Olive Oil	36 boxes
6	Francisco	Pérez-Olaeta	Owner	Nancy Freehafer	Dried Fruit & Nuts	Dried Pears	12 - 1 lb pkg:
16	Daniel	Goldschmidt	Owner	Nancy Freehafer	Beverages	Coffee	16 - 500 g tin
23	Michael	Entin	Owner	Ian Kotas	Sauces	Tomato Sauce	24 - 8 oz jars
29	Soo Jung	Lee	Owner	Nancy Freehafer	Cereal	Granola	10 per box

- A button is displayed to the right of the field name **Position** of any field which has a filter applied.



- Within the Ribbon **Sort & Filter** group, the **Toggle Filter** button is now active.



Toggle Filter effectively turns the filter on and off, switching between the filtered view and normal view (unfiltered).

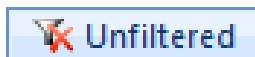
- The **Filtered** button, previously greyed out is now active in the record navigation bar at the bottom of the table.



- The **Filtered** button works in exactly the same way as a **Toggle Filter** button in the **Sort & Filter** group in the ribbon.
- Click on the **Filtered** button once. The table is temporarily unfiltered and all records are visible.



- Click on **Unfiltered** to revert back to the filtered view.

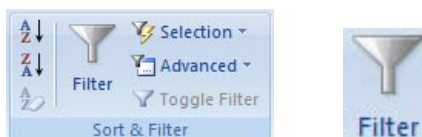


Clearing a single filter

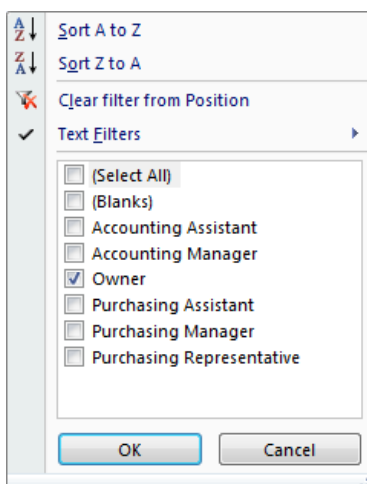
- To clear a single filter, you will need to either place the pointer in any row of the appropriate column or click on the field name at the top of the column to highlight the whole column.
- Select and highlight the **Position** column by clicking on the field name.

Last Name	Position	Sales Account Manager
Bedecs	Owner	Mariya Sergienko
Lee	Owner	Jan Kotas
Pérez-Olaeta	Owner	Nancy Freehafer
Goldschmidt	Owner	Nancy Freehafer
Entin	Owner	Jan Kotas
Lee	Owner	Nancy Freehafer

- In the **Sort & Filter** group, click on the **Filter** button.

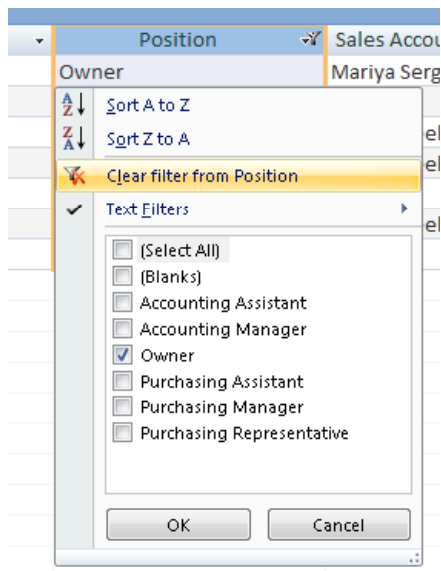


The **Filter** dialog box is displayed.



NOTE: Only when a filter is in use, will the **clear filter from position** option be available in the list, otherwise the option will be greyed out.

- Select the **Clear filter from Position** option from the list to remove the filter. The table again displays all records.

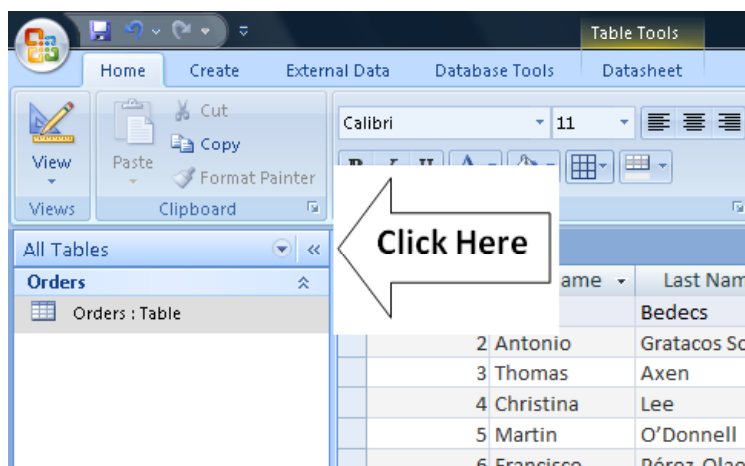


Creating multiple filters

- Using a filter on one field helps reduce the list of records to those that meet the criteria set, however there may be occasions when you want to be even more specific about the records you wish to display. This can be accomplished by setting different filters across multiple fields.

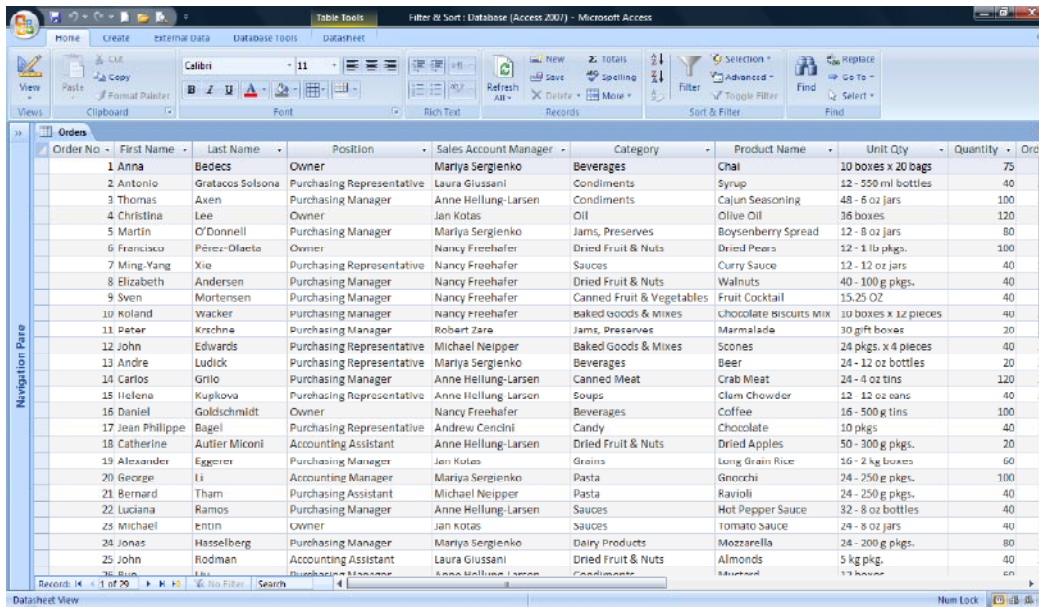
NOTE: Only one filter can be specified per field, however multiple criteria can be included in one filter.

- To set filters on multiple fields, you simply follow the steps used for creating a simple filter and repeat the process across additional fields. The only subtle difference is in the process of clearing multiple field filters, covered later in this section.
- With the **Orders** table open, click on the double left pointing arrow button, top right of the Navigation Pane to minimise the pane.



NOTE: Minimising the navigation pane provide more viewing space when

working with database object.



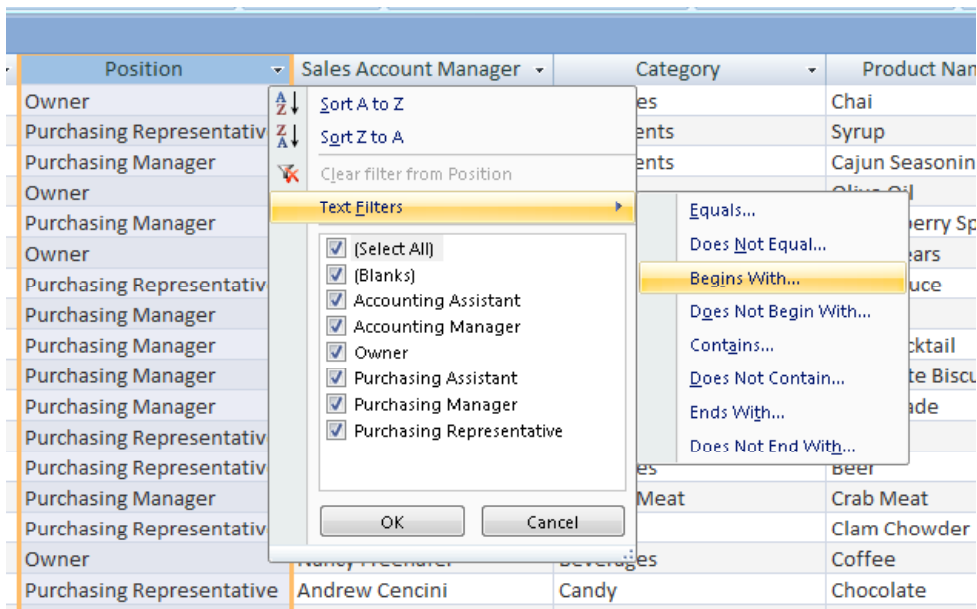
- Click on the **Position** field name to **highlight** the column.

Order No	First Name	Last Name	Position	Sales Account Manager
1	Anna	Bedecs	Owner	Mariya Sergienko
2	Antonio	Gratacos Solsona	Purchasing Representative	Laura Giussani
3	Thomas	Axen	Purchasing Manager	Anne Hellung-Lar
4	Christina	Lee	Owner	Jan Kotas
5	Martin	O'Donnell	Purchasing Manager	Mariya Sergienko
6	Francisco	Pérez-Olaeta	Owner	Nancy Freehafer
7	Ming-Yang	Xie	Purchasing Representative	Nancy Freehafer
8	Elizabeth	Andersen	Purchasing Manager	Nancy Freehafer
9	Sven	Mortensen	Purchasing Manager	Nancy Freehafer
10	Roland	Wacker	Purchasing Manager	Nancy Freehafer
11	Peter	Krschne	Purchasing Manager	Robert Zare
12	John	Edwards	Purchasing Representative	Michael Neipper
13	Andre	Ludick	Purchasing Representative	Mariya Sergienko
14	Carlos	Grilo	Purchasing Manager	Anne Hellung-Lar
15	Helena	Kupkova	Purchasing Representative	Anne Hellung-Lar
16	Daniel	Goldschmidt	Owner	Nancy Freehafer
17	Jean Philippe	Bagel	Purchasing Representative	Andrew Cencini
18	Catherine	Autier Miconi	Accounting Assistant	Anne Hellung-Lar
19	Alexander	Eggerer	Purchasing Manager	Jan Kotas
20	George	Li	Accounting Manager	Mariya Sergienko
21	Bernard	Tham	Purchasing Assistant	Michael Neipper
22	Luciana	Ramos	Purchasing Manager	Anne Hellung-Lar
23	Michael	Entin	Owner	Jan Kotas
24	Jonas	Hasselberg	Purchasing Manager	Mariya Sergienko
25	John	Rodman	Accounting Assistant	Laura Giussani
26	Run	Liu	Purchasing Manager	Anne Hellung-Lar
27	Karen	Toh	Purchasing Manager	Jan Kotas
28	Amritansh	Raghav	Purchasing Manager	Mariya Sergienko
29	Soo Jung	Lee	Owner	Nancy Freehafer
*	(New)			

- Click on the **down arrow** button to the right of the **Position** field name.

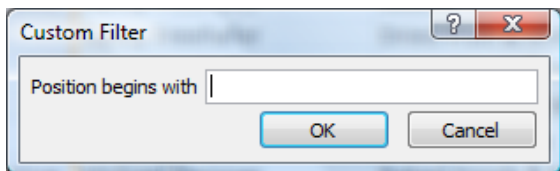


- In the dialog box click on the **Text Filters** command.
- From the submenu displayed, click on **Begins With**.

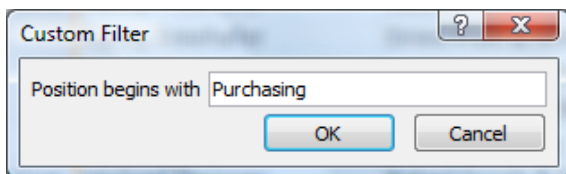


NOTE: Text Filters are custom filters that allow you to specify criteria without having to use operators such as <, >, =, etc

- The **Custom Filter** dialog box is displayed.



- Click into the box and type in **Purchasing**.



- Click on the **OK** button.

Only records matching the criteria, begin with the word '**Purchasing**' in the **Position** field remain displayed.

Order No	First Name	Last Name	Position	Sales Account Manager	Category	Product Name	Unit Qty	Quantity	Order
2	Antonio	Gratacos Solsona	Purchasing Representative	Laura Giussani	Condiments	Syrup	12 - 550 ml bottles	40	20
3	Thomas	Axen	Purchasing Manager	Anne Hellung-Larsen	Condiments	Cajun Seasoning	48 - 6 oz jars	100	22
5	Martin	O'Donnell	Purchasing Manager	Mariya Sergienko	Jams, Preserves	Boysenberry Spread	12 - 8 oz jars	80	6
7	Ming-Yang	Xie	Purchasing Representative	Nancy Freehafer	Sauces	Curry Sauce	12 - 12 oz jars	40	23
8	Elizabeth	Andersen	Purchasing Manager	Nancy Freehafer	Dried Fruit & Nuts	Walnuts	40 - 100 g pkgs.	40	6
9	Sven	Mortensen	Purchasing Manager	Nancy Freehafer	Canned Fruit & Vegetables	Fruit Cocktail	15.25 OZ	40	10
10	Roland	Wacker	Purchasing Manager	Nancy Freehafer	Baked Goods & Mixes	Chocolate Biscuits Mix	10 boxes x 12 pieces	40	22
11	Peter	Krschne	Purchasing Manager	Robert Zare	Jams, Preserves	Marmalade	30 gift boxes	20	24
12	John	Edwards	Purchasing Representative	Michael Neipper	Baked Goods & Mixes	Scones	24 pkgs. x 4 pieces	40	24
13	Andre	Ludick	Purchasing Representative	Mariya Sergienko	Beverages	Beer	24 - 12 oz bottles	20	24
14	Carlos	Grilo	Purchasing Manager	Anne Hellung-Larsen	Canned Meat	Crab Meat	24 - 4 oz tins	120	24
15	Helena	Kupkova	Purchasing Representative	Anne Hellung-Larsen	Soups	Clam Chowder	12 - 12 oz cans	40	24
17	Jean Philippe	Bagel	Purchasing Representative	Andrew Cencini	Candy	Chocolate	10 pkgs	40	5
19	Alexander	Eggerer	Purchasing Manager	Jan Kotas	Grains	Long Grain Rice	16 - 2 kg boxes	60	5
21	Bernard	Tham	Purchasing Assistant	Michael Neipper	Pasta	Navoli	24 - 250 g pkgs.	40	5
22	Lustiana	Ramos	Purchasing Manager	Anne Hellung-Larsen	Sauces	Hot Pepper Sauce	32 - 8 oz bottles	40	5
24	Jonas	Hasselberg	Purchasing Manager	Mariya Sergienko	Dairy Products	Mozzarella	24 - 200 g pkgs.	80	22
26	Run	Liu	Purchasing Manager	Anne Hellung-Larsen	Condiments	Mustard	12 boxes	60	22
27	Karenen	Toh	Purchasing Manager	Jan Kotas	Dried Fruit & Nuts	Dried Plums	1 lb bag	100	30
28	Amritansh	Raghav	Purchasing Manager	Mariya Sergienko	Beverages	Green Tea	20 bags per box	125	7
	(New)								

- Click within the **Quantity** field column..

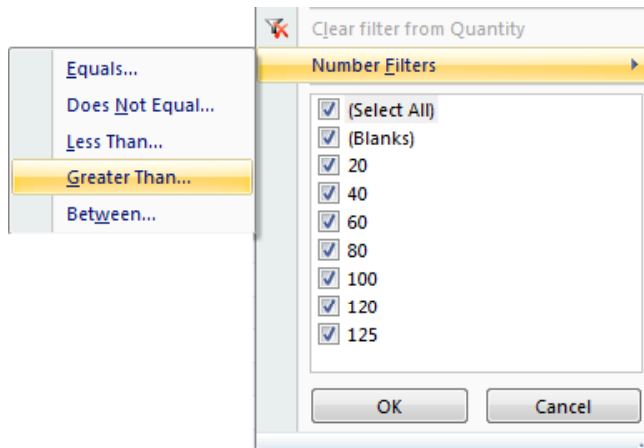
NOTE: If you do not see this field, you may have to scroll to the right.

Last Name	Position	Sales Account Manager	Category	Product Name	Unit Qty	Quantity	Order Date	Add New Field
Gratacos Solsona	Purchasing Representative	Laura Giussani	Condiments	Syrup	12 - 550 ml bottles	40	20/01/2006	
Axen	Purchasing Manager	Anne Hellung-Larsen	Condiments	Cajun Seasoning	48 - 6 oz jars	100	22/01/2006	
O'Donnell	Purchasing Manager	Mariya Sergienko	Jams, Preserves	Boysenberry Spread	12 - 8 oz jars	80	6/02/2006	
Xie	Purchasing Representative	Nancy Freehafer	Sauces	Curry Sauce	12 - 12 oz jars	40	23/02/2006	
Andersen	Purchasing Manager	Nancy Freehafer	Dried Fruit & Nuts	Walnuts	40 - 100 g pkgs.	40	6/03/2006	
Mortensen	Purchasing Manager	Nancy Freehafer	Canned Fruit & Vegetables	Fruit Cocktail	15.25 OZ	40	10/03/2006	
Wacker	Purchasing Manager	Nancy Freehafer	Baked Goods & Mixes	Chocolate Biscuits Mix	10 boxes x 12 pieces	40	22/03/2006	
Krschne	Purchasing Manager	Robert Zare	Jams, Preserves	Marmalade	30 gift boxes	20	24/03/2006	
Edwards	Purchasing Representative	Michael Neipper	Baked Goods & Mixes	Scones	24 pkgs. x 4 pieces	40	24/03/2006	
Ludick	Purchasing Representative	Mariya Sergienko	Beverages	Beer	24 - 12 oz bottles	20	24/03/2006	
Grilo	Purchasing Manager	Anne Hellung-Larsen	Canned Meat	Crab Meat	24 - 4 oz tins	120	24/03/2006	
Kupkova	Purchasing Representative	Anne Hellung-Larsen	Soups	Clam Chowder	12 - 12 oz cans	40	24/03/2006	
Bagel	Purchasing Representative	Andrew Cencini	Candy	Chocolate	10 pkgs	40	5/04/2006	
Eggerer	Purchasing Manager	Jan Kotas	Grains	Long Grain Rice	16 - 2 kg boxes	60	5/04/2006	
Tham	Purchasing Assistant	Michael Neipper	Pasta	Navoli	24 - 250 g pkgs.	40	5/04/2006	
Ramos	Purchasing Manager	Anne Hellung-Larsen	Sauces	Hot Pepper Sauce	32 - 8 oz bottles	40	5/04/2006	
Hasselberg	Purchasing Manager	Mariya Sergienko	Dairy Products	Mozzarella	24 - 200 g pkgs.	80	22/04/2006	
Liu	Purchasing Manager	Anne Hellung-Larsen	Condiments	Mustard	12 boxes	60	22/04/2006	
Toh	Purchasing Manager	Jan Kotas	Dried Fruit & Nuts	Dried Plums	1 lb bag	100	30/04/2006	
Raghav	Purchasing Manager	Mariya Sergienko	Beverages	Green Tea	20 bags per box	125	7/04/2006	

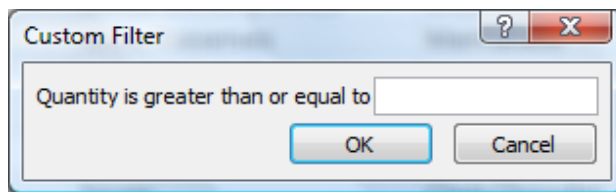
- Click on the **down arrow** button to the right of the **Quantity** field name.



- When the **Filter** dialog box is displayed, click on the **Number Filters** command.
- From the sub menu displayed, click on **Greater Than**.



- The **Custom Filter** dialog box is displayed.

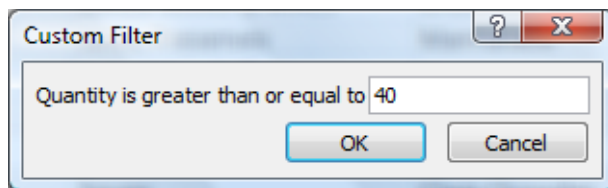


NOTE: Although the title in the **Number** filter list was

'Greater Than'

the dialog box states **'Quantity is greater than or equal to'** therefore when you enter in a value of **40** for example, the filter will display records with values of **40** and above.

- Click into the **box** and type in **40**.



- Click on the **OK** button.
- Only records matching a **Position** beginning with the word **'Purchase'** and a **'Quantity'** greater than or equal to **40** remain displayed.

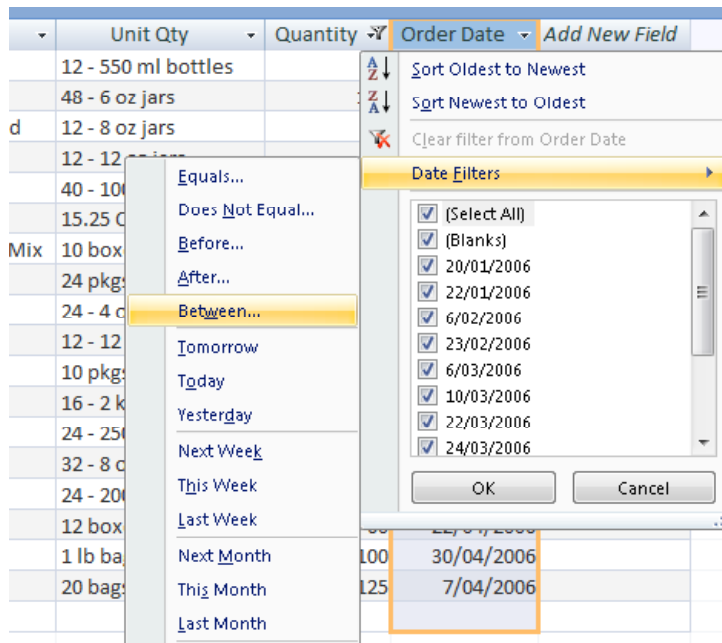
Last Name	Position	Sales Account Manager	Category	Product Name	Unit Qty	Quantity	Order Date	Add New Field
Gratacos Solsona	Purchasing Representative	Laura Giussani	Condiments	Syrup	12 - 550 ml bottles	40	20/01/2006	
Axen	Purchasing Manager	Anne Hellung-Larsen	Condiments	Cajun Seasoning	48 - 6 oz jars	100	22/01/2006	
O'Donnell	Purchasing Manager	Mariya Sergienko	Jams, Preserves	Boysenberry Spread	12 - 8 oz jars	80	6/02/2006	
Xie	Purchasing Representative	Nancy Freehafer	Sauces	Curry Sauce	12 - 12 oz jars	40	23/02/2006	
Andersen	Purchasing Manager	Nancy Freehafer	Dried Fruit & Nuts	Walnuts	40 - 100 g pkgs.	40	6/03/2006	
Mortensen	Purchasing Manager	Nancy Freehafer	Canned Fruit & Vegetables	Fruit Cocktail	15.25 OZ	40	10/03/2006	
Wacker	Purchasing Manager	Nancy Freehafer	Baked Goods & Mixes	Chocolate Riscuits Mix	10 boxes x 12 pieces	40	22/03/2006	
Edwards	Purchasing Representative	Michael Neipper	Baked Goods & Mixes	Scones	24 pkgs. x 4 pieces	40	24/03/2006	
Griolo	Purchasing Manager	Anne Hellung-Larsen	Canned Meat	Crab Meat	24 - 4 oz tins	120	24/03/2006	
kupkova	Purchasing Representative	Anne Hellung-Larsen	soups	clam chowder	12 - 12 oz cans	40	24/03/2006	
Bagel	Purchasing Representative	Andrew Cencini	Candy	Chocolate	10 pkgs	40	5/04/2006	
Eggerer	Purchasing Manager	Jan Kotas	Grains	Long Grain Rice	16 - 2 kg boxes	60	5/04/2006	
Tham	Purchasing Assistant	Michael Neipper	Pasta	Ravioli	24 - 250 g pkgs.	40	5/04/2006	
Ramos	Purchasing Manager	Anne Hellung-Larsen	Sauces	Hot Pepper Sauce	32 - 8 oz bottles	40	5/04/2006	
Hasselberg	Purchasing Manager	Mariya Sergienko	Dairy Products	Mozzarella	24 - 200 g pkgs.	80	22/04/2006	
Liu	Purchasing Manager	Anne Hellung-Larsen	Condiments	Mustard	12 boxes	60	22/04/2006	
Toh	Purchasing Manager	Jan Kotas	Dried Fruit & Nuts	Dried Plums	1 lb bag	100	30/04/2006	
Raghav	Purchasing Manager	Mariya Sergienko	Beverages	Green Tea	20 bags per box	125	7/04/2006	

- Position the pointer in or select and highlight the **Order Date** field.

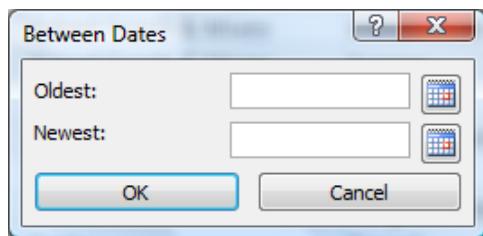
NOTE: You may have to scroll to the right to view this field.

Last Name	Position	Sales Account Manager	Category	Product Name	Unit Qty	Quantity	Order Date	Add New Field
Gratacos Solsona	Purchasing Representative	Laura Giussani	Condiments	Syrup	12 - 550 ml bottles	40	20/01/2006	
Axen	Purchasing Manager	Anne Hellung-Larsen	Condiments	Cajun Seasoning	48 - 6 oz jars	100	22/01/2006	
O'Donnell	Purchasing Manager	Mariya Sergienko	Jams, Preserves	Boysenberry Spread	12 - 8 oz jars	80	6/02/2006	
Xie	Purchasing Representative	Nancy Freehafer	Sauces	Curry Sauce	12 - 12 oz jars	40	23/02/2006	
Andersen	Purchasing Manager	Nancy Freehafer	Dried Fruit & Nuts	Walnuts	40 - 100 g pkgs.	40	6/03/2006	
Mortensen	Purchasing Manager	Nancy Freehafer	Canned Fruit & Vegetables	Fruit Cocktail	15.25 OZ	40	10/03/2006	
Wacker	Purchasing Manager	Nancy Freehafer	Baked Goods & Mixes	Chocolate Riscuits Mix	10 boxes x 12 pieces	40	22/03/2006	
Edwards	Purchasing Representative	Michael Neipper	Baked Goods & Mixes	Scones	24 pkgs. x 4 pieces	40	24/03/2006	
Griolo	Purchasing Manager	Anne Hellung-Larsen	Canned Meat	Crab Meat	24 - 4 oz tins	120	24/03/2006	
kupkova	Purchasing Representative	Anne Hellung-Larsen	soups	clam chowder	12 - 12 oz cans	40	24/03/2006	
Bagel	Purchasing Representative	Andrew Cencini	Candy	Chocolate	10 pkgs	40	5/04/2006	
Eggerer	Purchasing Manager	Jan Kotas	Grains	Long Grain Rice	16 - 2 kg boxes	60	5/04/2006	
Tham	Purchasing Assistant	Michael Neipper	Pasta	Ravioli	24 - 250 g pkgs.	40	5/04/2006	
Ramos	Purchasing Manager	Anne Hellung-Larsen	Sauces	Hot Pepper Sauce	32 - 8 oz bottles	40	5/04/2006	
Hasselberg	Purchasing Manager	Mariya Sergienko	Dairy Products	Mozzarella	24 - 200 g pkgs.	80	22/04/2006	
Liu	Purchasing Manager	Anne Hellung-Larsen	Condiments	Mustard	12 boxes	60	22/04/2006	
Toh	Purchasing Manager	Jan Kotas	Dried Fruit & Nuts	Dried Plums	1 lb bag	100	30/04/2006	
Raghav	Purchasing Manager	Mariya Sergienko	Beverages	Green Tea	20 bags per box	125	7/04/2006	

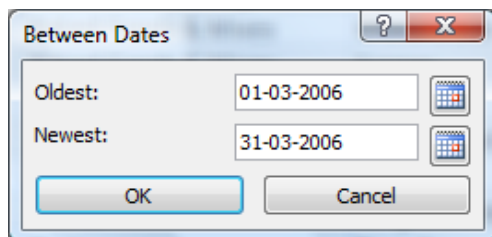
- Click on the **down arrow** button to the right of the **Order Date** field name.
- When the filter dialog box is displayed, select the **Date Filters** command.
- From the submenu displayed, click on **Between ...**



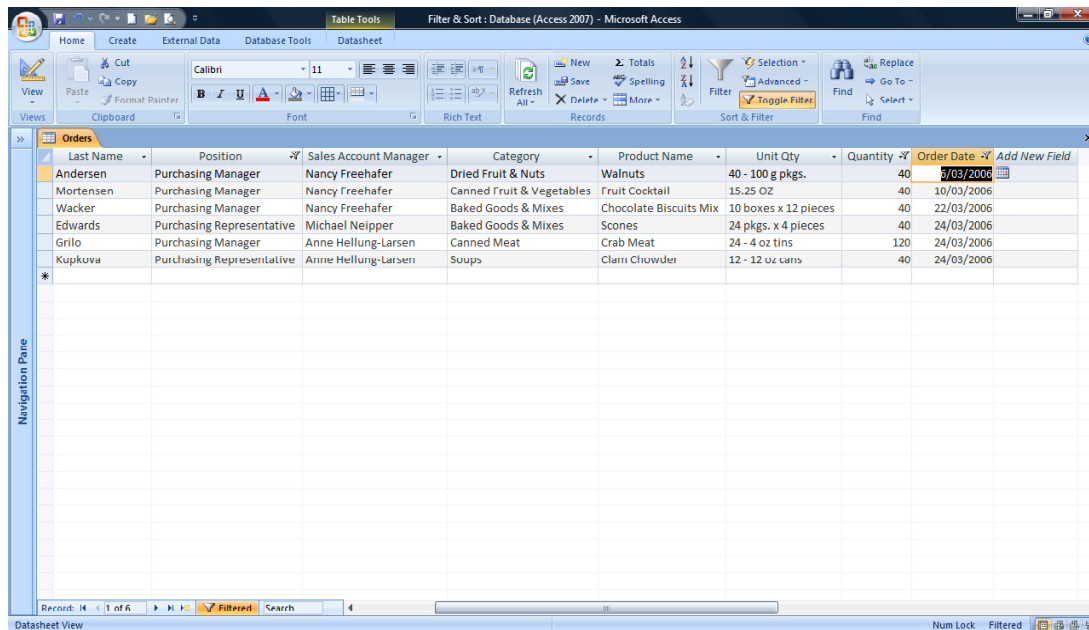
- The **Custom Filter** dialog box is displayed.



- Into the **Oldest** section, type in **01-03-2006**.
- Into the **Newest** section type in **31-03-2006**.

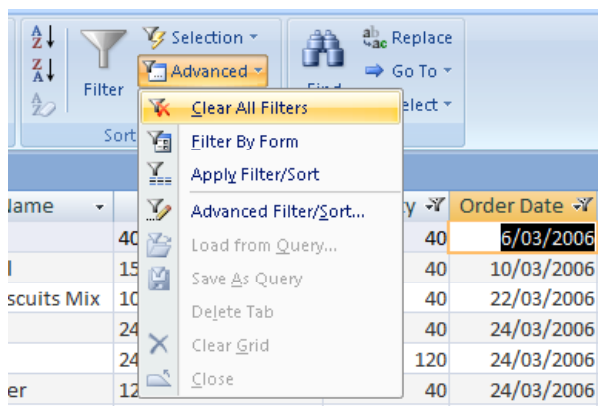


- Click on the **OK** button. Now the number of records matching the three filters is reduced even further.



Clearing multiple filters

- Although it is possible to clear each filter, one at a time by following the steps used to clear a single filter, it is also possible to clear all filters at once.
- Within the **Home** tab and within the **Sort & Filter** group, click on the **Advanced** button. From the list, select **Clear All Filters** option. The filters will be removed and all records will once again be displayed.



- Click on the button, as illustrated below to expand the side pane.

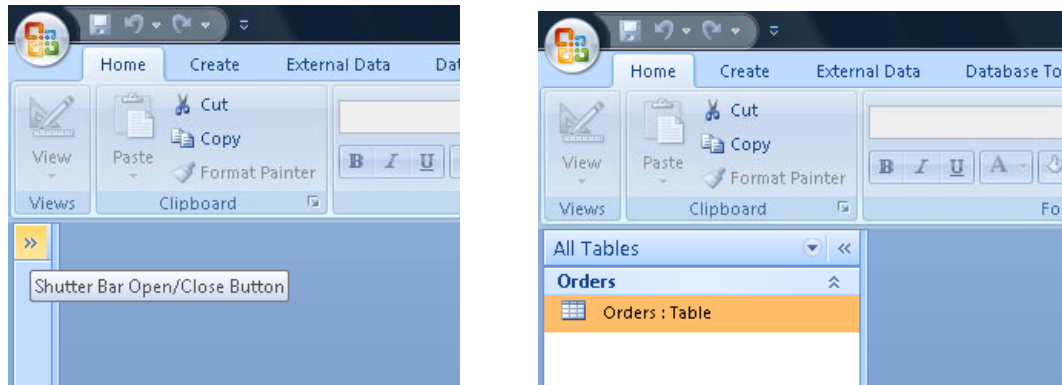


- Close Access and save any changes you have made.

Sorting

- Open Access and then open the **Filter & Sort** database.

NOTE: If your screen looks like the illustration below, then click on the **Shutter Bar Open/Close** button, so that you can see the table contained within this database.



- Sorting arranges the data within a table into alphabetical or numerical order, making it more effective and easier to use. Data is easier to find when we know it is sorted in some order, for example, even a simple computerised address book is sorted alphabetically from A – Z and calendars are sorted by date order.

NOTE: A table, query, form, or report can be sorted on one or more fields, with the exception of attachments or OLE data type fields.

- Double click on the **Orders** table to open the table.
- To sort a single field, first select the field you want to sort. Click on the **Product Name** field name to highlight the column.

Order No.	First Name	Last Name	Position	Sales Account Manager	Category	Product Name	Unit Qty	Quantity
25	John	Rodman	Accounting Assistant	Laura Giussani	Dried Fruit & Nuts	Almonds	5 kg pkg.	40
13	Andre	Ludick	Purchasing Representative	Mariya Sergienko	Beverages	Beer	24 - 12 oz bottles	20
5	Martin	O'Donnell	Purchasing Manager	Mariya Sergienko	Jams, Preserves	Boysenberry Spread	12 - 8 oz jars	80
3	Thomas	Axen	Purchasing Manager	Anne Hellung-Larsen	Condiments	Cajun Seasoning	48 - 6 oz jars	100
1	Anna	Bedecks	Owner	Mariya Sergienko	Condiments	Chai	10 boxes x 20 bags	75
17	Jean Philippe	Bagel	Purchasing Representative	Andrew Cendini	Candy	Chocolate	50 pkgs	40
10	Roland	Wacker	Purchasing Manager	Nancy Freehafer	Baked Goods & Mixes	Chocolate Biscuits Mix	10 boxes x 12 pieces	40
15	Helena	Kupkova	Purchasing Representative	Anne Hellung-Larsen	Soups	Clam Chowder	12 - 12 oz cans	40
16	Daniel	Goldschmidt	Owner	Nancy Freehafer	Beverages	Coffee	16 - 500 g tins	100
24	Carlos	Lito	Purchasing Manager	Anne Hellung-Larsen	Canned Meat	Crab Meat	24 - 4 oz tins	120
7	Ming-Yang	Xie	Purchasing Representative	Nancy Freehafer	Sauces	Curry Sauce	12 - 12 oz jars	40
18	Catherine	Autier Miconi	Accounting Assistant	Anne Hellung-Larsen	Dried Fruit & Nuts	Dried Apples	50 - 300 g pkgs.	20
6	Francisco	Pérez-Olaeta	Owner	Nancy Freehafer	Dried Fruit & Nuts	Dried Pears	12 - 1 lb pkgs.	100
27	Karen	Toh	Purchasing Manager	Jan Kotas	Dried Fruit & Nuts	Dried Plums	1 lb bag	100
9	Sven	Mortensen	Purchasing Manager	Nancy Freehafer	Canned Fruit & Vegetables	Fruit Cocktail	15.25 OZ	40
20	George	Li	Accounting Manager	Mariya Sergienko	Pasta	Gnocchi	24 - 250 g pkgs.	100
29	Soo Jung	Lee	Owner	Nancy Freehafer	Cereal	Granola	10 per box	30
28	Amritansh	Raghav	Purchasing Manager	Mariya Sergienko	Beverages	Green Tea	20 bags per box	125
22	Luciano	Ramos	Purchasing Manager	Anne Hellung-Larsen	Sauces	Hot Pepper Sauce	32 - 8 oz bottles	40
19	Alexander	Eggerer	Purchasing Manager	Jan Kotas	Grains	Long Grain Rice	16 - 2 kg boxes	60
11	Peter	Krschne	Purchasing Manager	Robert Zare	Jams, Preserves	Marmalade	30 gift boxes	20
24	Jonas	Hasselberg	Purchasing Manager	Mariya Sergienko	Dairy Products	Mozzarella	24 - 200 g pkgs.	80
20	Hun	Liu	Purchasing Manager	Anne Hellung-Larsen	Condiments	Mustard	12 boxes	60
4	Christina	Lee	Owner	Jan Kotas	Oil	Olive Oil	36 boxes	120
21	Bernard	Tham	Purchasing Assistant	Michael Neipper	Pasta	Ravioli	24 - 250 g pkgs.	40

- Within the **Home** tab, in the **Sort & Filter** group, click on the **A-Z** button.



The table is now sorted in alphabetical order of **Product Name**.

Order No.	First Name	Last Name	Position	Sales Account Manager	Category	Product Name	Unit Qty	Quantity
25	John	Rodman	Accounting Assistant	Laura Giussani	Dried Fruit & Nuts	Almonds	5 kg pkg.	40
13	Andre	Ludick	Purchasing Representative	Mariya Sergienko	Beverages	Beer	24 - 12 oz bottles	20
5	Martin	O'Donnell	Purchasing Manager	Mariya Sergienko	Jams, Preserves	Boysenberry Spread	12 - 8 oz jars	80
3	Thomas	Axen	Purchasing Manager	Anne Hellung-Larsen	Condiments	Cajun Seasoning	48 - 6 oz jars	100
1	Anna	Bedecks	Owner	Mariya Sergienko	Condiments	Chai	10 boxes x 20 bags	75
17	Jean Philippe	Bagel	Purchasing Representative	Andrew Cendini	Candy	Chocolate	50 pkgs	40
10	Roland	Wacker	Purchasing Manager	Nancy Freehafer	Baked Goods & Mixes	Chocolate Biscuits Mix	10 boxes x 12 pieces	40
15	Helena	Kupkova	Purchasing Representative	Anne Hellung-Larsen	Soups	Clam Chowder	12 - 12 oz cans	40
16	Daniel	Goldschmidt	Owner	Nancy Freehafer	Beverages	Coffee	16 - 500 g tins	100
24	Carlos	Lito	Purchasing Manager	Anne Hellung-Larsen	Canned Meat	Crab Meat	24 - 4 oz tins	120
7	Ming-Yang	Xie	Purchasing Representative	Nancy Freehafer	Sauces	Curry Sauce	12 - 12 oz jars	40
18	Catherine	Autier Miconi	Accounting Assistant	Anne Hellung-Larsen	Dried Fruit & Nuts	Dried Apples	50 - 300 g pkgs.	20
6	Francisco	Pérez-Olaeta	Owner	Nancy Freehafer	Dried Fruit & Nuts	Dried Pears	12 - 1 lb pkgs.	100
27	Karen	Toh	Purchasing Manager	Jan Kotas	Dried Fruit & Nuts	Dried Plums	1 lb bag	100
9	Sven	Mortensen	Purchasing Manager	Nancy Freehafer	Canned Fruit & Vegetables	Fruit Cocktail	15.25 OZ	40
20	George	Li	Accounting Manager	Mariya Sergienko	Pasta	Gnocchi	24 - 250 g pkgs.	100
29	Soo Jung	Lee	Owner	Nancy Freehafer	Cereal	Granola	10 per box	30
28	Amritansh	Raghav	Purchasing Manager	Mariya Sergienko	Beverages	Green Tea	20 bags per box	125
22	Luciano	Ramos	Purchasing Manager	Anne Hellung-Larsen	Sauces	Hot Pepper Sauce	32 - 8 oz bottles	40
19	Alexander	Eggerer	Purchasing Manager	Jan Kotas	Grains	Long Grain Rice	16 - 2 kg boxes	60
11	Peter	Krschne	Purchasing Manager	Robert Zare	Jams, Preserves	Marmalade	30 gift boxes	20
24	Jonas	Hasselberg	Purchasing Manager	Mariya Sergienko	Dairy Products	Mozzarella	24 - 200 g pkgs.	80
20	Hun	Liu	Purchasing Manager	Anne Hellung-Larsen	Condiments	Mustard	12 boxes	60
4	Christina	Lee	Owner	Jan Kotas	Oil	Olive Oil	36 boxes	120
21	Bernard	Tham	Purchasing Assistant	Michael Neipper	Pasta	Ravioli	24 - 250 g pkgs.	40

NOTE: Unlike working with filters, a sort will remain active until removed, even when a table is closed and reopened (the table must be saved prior to closing).

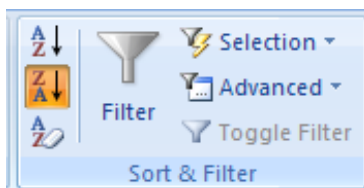
- You can sort in numeric order. To see this click within the **Quantity** column. Then click on the **Ascending** button.



The table is now sorted in ascending numeric order.

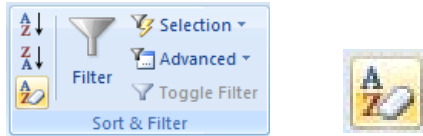
Unit Qty	Quantity	Order Date	Add New Field
30 gift boxes	20	24/03/2006	
24 - 12 oz bottles	20	24/03/2006	
50 - 300 g pkgs.	20	8/04/2006	
10 per box	30	12/04/2006	
12 - 550 ml bottles	40	20/01/2006	
12 - 12 oz jars	40	23/02/2006	
40 - 100 g pkgs.	40	6/03/2006	
15.25 OZ	40	10/03/2006	
10 boxes x 12 pieces	40	22/03/2006	
24 pkgs. x 4 pieces	40	24/03/2006	
12 - 12 oz cans	40	24/03/2006	
10 pkgs	40	5/04/2006	
24 - 250 g pkgs.	40	5/04/2006	
32 - 8 oz bottles	40	5/04/2006	
24 - 8 oz jars	40	3/04/2006	

Clicking on the **Descending** button will reorder in descending numeric order.



Unit Qty	Quantity	Order Date	Add New Field
20 bags per box	125	7/04/2006	
36 boxes	120	30/01/2006	
24 - 4 oz tins	120	24/03/2006	
48 - 6 oz jars	100	22/01/2006	
12 - 1 lb pkgs.	100	10/02/2006	
16 - 500 g tins	100	7/04/2006	
24 - 250 g pkgs.	100	5/04/2006	
1 lb bag	100	30/04/2006	
12 - 8 oz jars	80	6/02/2006	
24 - 200 g pkgs.	80	22/04/2006	

- To remove a sort, click on the **Clear All Sorts** button in the **Sort & Filter** group. The table returns to the default sort order.



- To sort on two or more fields, the steps are similar to those used when sorting a single field however the order in which you set the sort will have an impact on the outcome.

In the table below, the **Sales Account Manager** and the **Category** fields are side by side, with the **Sales Account Manager** field to the left of the **Category** field. This positioning is relevant when using a sort on multiple fields in a table, as the left most field in the select group of fields, takes priority over the fields to the right.

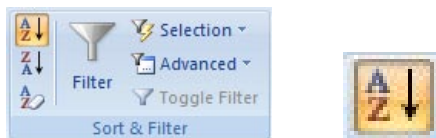
A sort is needed to organise the **Sales Account Managers** into alphabetical order first, then sort the **Category** field so that categories within that field are alphabetical according to each **Sales Account Manager**, as seen in the image below.

Order No	First Name	Last Name	Position	Sales Account Manager	Category	Product Name
17	Jean Philippe	Ragel	Purchasing Representative	Andrew Cencini	Candy	Chocolate
14	Carlos	Grilo	Purchasing Manager	Anne Hellung-Larsen	Canned Meat	Crab Meat
3	Thomas	Axen	Purchasing Manager	Anne Hellung-Larsen	Condiments	Cajun Seasoning
26	Run	Liu	Purchasing Manager	Anne Hellung-Larsen	Condiments	Mustard
18	Catherine	Autier Miconi	Accounting Assistant	Anne Hellung-Larsen	Dried Fruit & Nuts	Dried Apples
22	Luciana	Ramos	Purchasing Manager	Anne Hellung-Larsen	Sauces	Hot Pepper Sauce
15	Helena	Kupkova	Purchasing Representative	Anne Hellung-Larsen	Soups	Clam Chowder
27	Karen	Toh	Purchasing Manager	Jan Kotas	Dried Fruit & Nuts	Dried Plums
19	Alexander	Eggerer	Purchasing Manager	Jan Kotas	Grains	Long Grain Rice
4	Christina	Lee	Owner	Jan Kotas	Oil	Olive Oil
23	Michael	Entin	Owner	Jan Kotas	Sauces	Tomato Sauce

- Place the pointer over the **Sales Account Manager** field name (at the top of the column) **without clicking**. When the pointer changes to the **down arrow** shape, click and drag (right) across to the **Category** field in one movement, to highlight both fields. Release the mouse button to complete this task. The two columns will be highlighted, as illustrated.

Records		Sort & Filter	Find
	Sales Account Manager	Category	Product
	Mariya Sergienko	Beverages	Chai
active	Laura Giussani	Condiments	Syrup
	Anne Hellung-Larsen	Condiments	Cajun
	Jan Kotas	Oil	Olive
	Mariya Sergienko	Jams, Preserves	Boyse
	Nancy Freehafer	Dried Fruit & Nuts	Dried
active	Nancy Freehafer	Sauces	Curry
	Nancy Freehafer	Dried Fruit & Nuts	Walnu
	Nancy Freehafer	Canned Fruit & Vegetables	Fruit C
	Nancy Freehafer	Baked Goods & Mixes	Choco
	Robert Zare	Jams, Preserves	Marm
active	Michael Neipper	Baked Goods & Mixes	Scone
active	Mariya Sergienko	Beverages	Beer
	Anne Hellung-Larsen	Canned Meat	Crab M
active	Anne Hellung-Larsen	Soups	Clam C
	Nancy Freehafer	Beverages	Coffee
active	Andrew Cencini	Candy	Choco
	Anne Hellung-Larsen	Dried Fruit & Nuts	Dried
	Jan Kotas	Grains	Long C
	Mariya Sergienko	Pasta	Gnocc

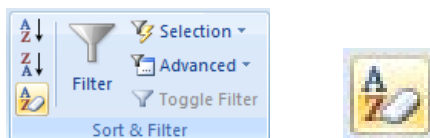
- Within the **Home** tab, in the **Sort & Filter** group, click on the **Ascending** button.



- Click anywhere in the table to clear the highlighting from the two fields. The fields are sorted in the order you expected.

	Sales Account Manager	Category	
ative	Andrew Cencini	Candy	C
	Anne Hellung-Larsen	Canned Meat	C
	Anne Hellung-Larsen	Condiments	C
	Anne Hellung-Larsen	Condiments	M
	Anne Hellung-Larsen	Dried Fruit & Nuts	D
	Anne Hellung-Larsen	Sauces	H
ative	Anne Hellung-Larsen	Soups	C
	Jan Kotas	Dried Fruit & Nuts	D
	Jan Kotas	Grains	L
	Jan Kotas	Oil	C
	Jan Kotas	Sauces	T
ative	Laura Giussani	Condiments	S
	Laura Giussani	Dried Fruit & Nuts	A
	Mariya Sergienko	Beverages	C
ative	Mariya Sergienko	Beverages	B
	Mariya Sergienko	Beverages	G
	Mariya Sergienko	Dairy Products	M
	Mariya Sergienko	Jams, Preserves	B
	Mariya Sergienko	Pasta	G
ative	Michael Neipper	Baked Goods & Mixes	S
	Michael Neipper	Pasta	R
	Nancy Freehafer	Baked Goods & Mixes	C
	Nancy Freehafer	Beverages	C
	Nancy Freehafer	Canned Fruit & Vegetables	F

- To demonstrate how the position of fields can impact the results of a sort, first remove the sort. To remove a sort, click on the **Clear All Sorts** button in the **Sort & Filter** group.



- Move the pointer to the **Category** field name (at the top of the column) and when the pointer changes to the **down arrow** shape click to highlight the column. Release the mouse button to complete this task.
- With the **Category** field highlighted, click on the **Category** field name again and drag the field to the left of the **Sales Account Manager** field.

Order No	First Name	Last Name	Position	Sales Account Manager	Category	Product Name	Unit
1	Anna	Bedecs	Owner	Mariya Sergienko	Beverages	Chai	10 boxes
2	Antonio	Gratacos Solsona	Purchasing Representative	Laura Giussani	Condiments	Syrup	12 - 550 m
3	Thomas	Axen	Purchasing Manager	Anne Hellung-Larsen	Condiments	Cajun Seasoning	48 - 6 oz ja
4	Christina	Lee	Owner	Jan Kotas	Oil	Olive Oil	36 boxes
5	Martin	O'Donnell	Purchasing Manager	Mariya Sergienko	Jams, Preserves	Boysenberry Spread	12 - 8 oz ja
6	Francisco	Pérez-Olaeta	Owner	Nancy Freehafer	Dried Fruit & Nuts	Dried Pears	12 - 1 lb pl
7	Ming-Yang	Xie	Purchasing Representative	Nancy Freehafer	Sauces	Curry Sauce	17 - 17 oz
8	Elizabeth	Andersen	Purchasing Manager	Nancy Freehafer	Dried Fruit & Nuts	Walnuts	40 - 100 g
9	Sven	Mortensen	Purchasing Manager	Nancy Freehafer	Canned Fruit & Vegetables	Fruit Cocktail	15.25 Oz
10	Roland	Wacker	Purchasing Manager	Nancy Freehafer	Baked Goods & Mixes	Chocolate Biscuits Mix	10 boxes
11	Peter	Krschne	Purchasing Manager	Robert Zare	Jams, Preserves	Marmalade	30 gift box
12	John	Edwards	Purchasing Representative	Michael Neipper	Baked Goods & Mixes	Scones	24 pkgs. x
13	Andre	Ludick	Purchasing Representative	Mariya Sergienko	Beverages	Beer	24 - 12 oz l
14	Carlos	Grilo	Purchasing Manager	Anne Hellung-Larsen	Canned Meat	Crab Meat	24 - 4 oz ti
15	Helena	Kupkova	Purchasing Representative	Anne Hellung-Larsen	Soups	Clam Chowder	17 - 17 oz
16	Daniel	Goldschmidt	Owner	Nancy Freehafer	Beverages	Coffee	16 - 500 g
17	Jean Philippe	Bagel	Purchasing Representative	Andrew Cencini	Candy	Chocolate	10 pkgs
18	Catherine	Autier Miconi	Accounting Assistant	Anne Hellung-Larsen	Dried Fruit & Nuts	Dried Apples	50 - 300 g
19	Alexander	Eggerer	Purchasing Manager	Jan Kotas	Grains	Long Grain Rice	16 - 2 kg b
20	George	Li	Accounting Manager	Mariya Sergienko	Pasta	Gnocchi	24 - 250 g
21	Bernard	Tham	Purchasing Assistant	Michael Neipper	Pasta	Ravioli	24 - 250 g
22	Luciana	Ramos	Purchasing Manager	Anne Hellung-Larsen	Sauces	Hot Pepper Sauce	32 - 8 oz b
23	Michael	Fntin	Owner	Jan Kotas	Sauces	Tomato Sauce	24 - 8 oz ja
24	Jonas	Hasselberg	Purchasing Manager	Mariya Sergienko	Dairy Products	Mozzarella	24 - 200 g
25	John	Rodman	Accounting Assistant	Laura Giussani	Dried Fruit & Nuts	Almonds	5 kg pkg.
26	John	Rodman	Accounting Assistant	Laura Giussani	Condiments	Mustard	17 boxes

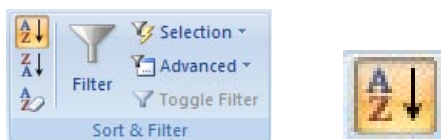
TIP: Remember the **thick black line** indicates the current position of the field as you drag it across the table.

- When the **Category** field is in position, release the mouse button to complete the move.

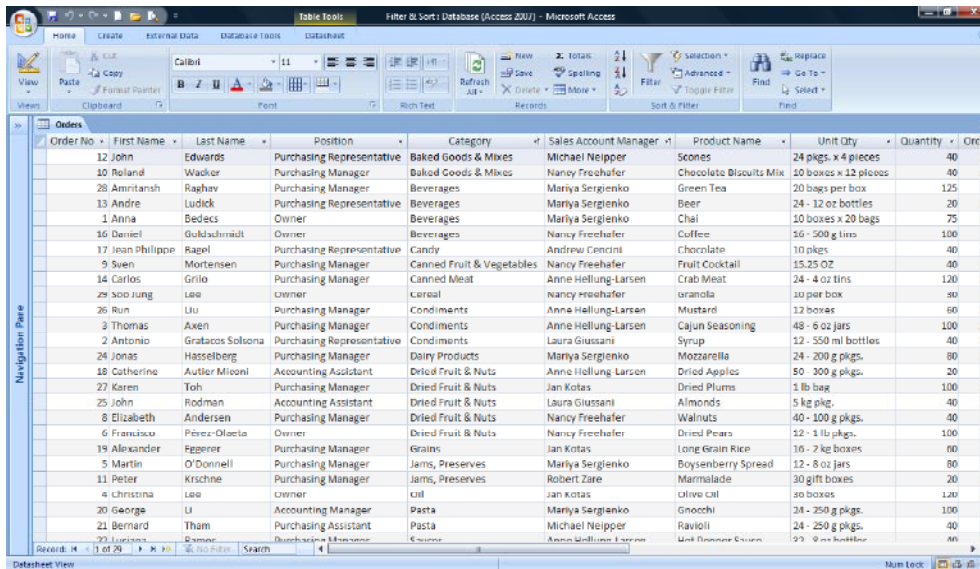
Order No	First Name	Last Name	Position	Category	Sales Account Manager	Product Name	Unit
1	Anna	Bedecs	Owner	Beverages	Mariya Sergienko	Chai	10 boxes
2	Antonio	Gratacos Solsona	Purchasing Representative	Condiments	Laura Giussani	Syrup	12 - 550 m
3	Thomas	Axen	Purchasing Manager	Condiments	Anne Hellung-Larsen	Cajun Seasoning	48 - 6 oz ja
4	Christina	Lee	Owner	Oil	Jan Kotas	Olive Oil	36 boxes
5	Martin	O'Donnell	Purchasing Manager	Jams, Preserves	Mariya Sergienko	Boysenberry Spread	12 - 8 oz ja
6	Francisco	Pérez-Olaeta	Owner	Dried Fruit & Nuts	Nancy Freehafer	Dried Pears	12 - 1 lb pl
7	Ming-Yang	Xie	Purchasing Representative	Sauces	Nancy Freehafer	Curry Sauce	17 - 17 oz
8	Elizabeth	Andersen	Purchasing Manager	Dried Fruit & Nuts	Nancy Freehafer	Walnuts	40 - 100 g
9	Sven	Mortensen	Purchasing Manager	Canned Fruit & Vegetables	Nancy Freehafer	Fruit Cocktail	15.25 Oz
10	Roland	Wacker	Purchasing Manager	Baked Goods & Mixes	Nancy Freehafer	Chocolate Biscuits Mix	10 boxes
11	Peter	Krschne	Purchasing Manager	Jams, Preserves	Robert Zare	Marmalade	30 gift box
12	John	Edwards	Purchasing Representative	Baked Goods & Mixes	Michael Neipper	Scones	24 pkgs. x
13	Andre	Ludick	Purchasing Representative	Beverages	Mariya Sergienko	Beer	24 - 12 oz l
14	Carlos	Grilo	Purchasing Manager	Canned Meat	Anne Hellung-Larsen	Crab Meat	24 - 4 oz ti
15	Helena	Kupkova	Purchasing Representative	Soups	Anne Hellung-Larsen	Clam Chowder	17 - 17 oz
16	Daniel	Goldschmidt	Owner	Beverages	Nancy Freehafer	Coffee	16 - 500 g
17	Jean Philippe	Bagel	Purchasing Representative	Candy	Andrew Cencini	Chocolate	10 pkgs
18	Catherine	Autier Miconi	Accounting Assistant	Dried Fruit & Nuts	Anne Hellung-Larsen	Dried Apples	50 - 300 g
19	Alexander	Eggerer	Purchasing Manager	Grains	Jan Kotas	Long Grain Rice	16 - 2 kg b
20	George	Li	Accounting Manager	Pasta	Mariya Sergienko	Gnocchi	24 - 250 g
21	Bernard	Tham	Purchasing Assistant	Pasta	Michael Neipper	Ravioli	24 - 250 g
22	Luciana	Ramos	Purchasing Manager	Sauces	Anne Hellung-Larsen	Hot Pepper Sauce	32 - 8 oz b
23	Michael	Fntin	Owner	Sauces	Jan Kotas	Tomato Sauce	24 - 8 oz ja
24	Jonas	Hasselberg	Purchasing Manager	Dairy Products	Mariya Sergienko	Mozzarella	24 - 200 g
25	John	Rodman	Accounting Assistant	Dried Fruit & Nuts	Laura Giussani	Almonds	5 kg pkg.
26	John	Rodman	Accounting Assistant	Condiments	Laura Giussani	Mustard	17 boxes

- Place the pointer over the name **Category** field name *without clicking*. When the pointer changes to the **down arrow** shape click and drag right across to the **Sales Account Manager** field in one movement, to highlight both fields. Release the mouse button to complete this task.

- In the **Sort & Filter** group click on the **Ascending** button.



- Click anywhere in the table to clear the highlight from the two fields.



- This time the **Category** field is sorted alphabetically first and the **Sales Account Managers** second.

NOTE: When sorting text fields that contain null or zero-length strings, the null values are listed first (ascending order A-Z) and last (descending order Z-A).

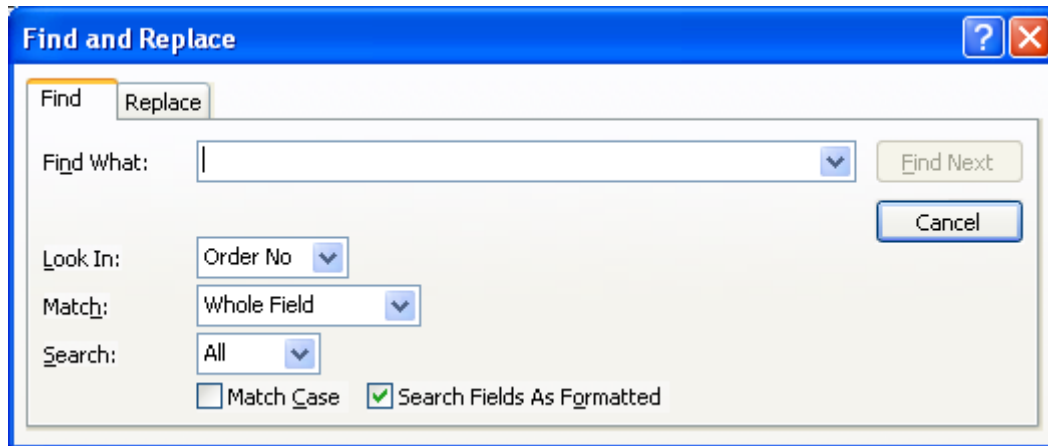
- Save your Access database and then close the database.

Searching

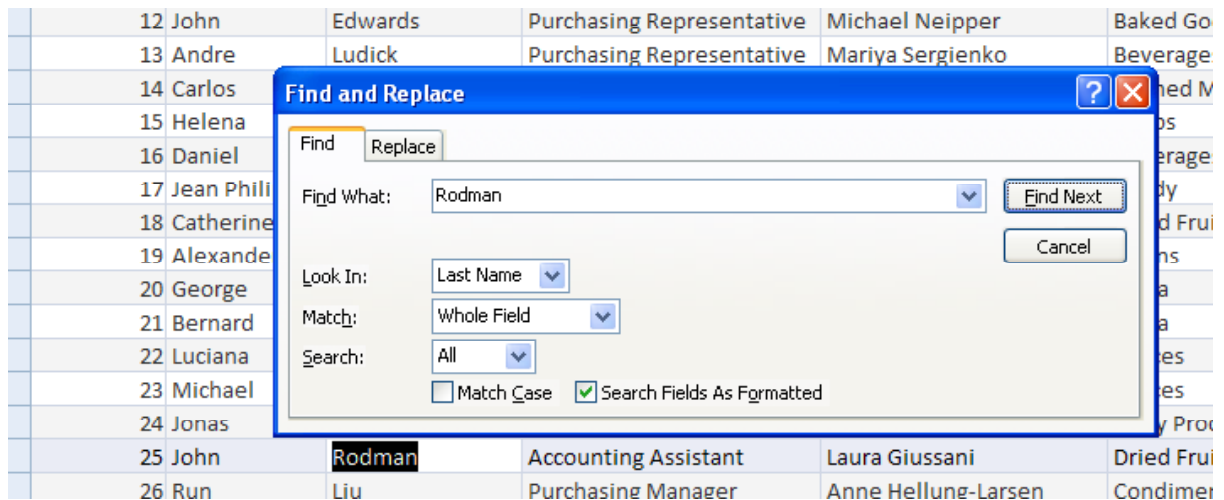
- Open a database called **Searching**.
- Open the **Orders** table, so that your screen looks like this.

Order No	First Name	Last Name	Position	Sales Account Manager	Category
1	Anna	Bedecs	Owner	Mariya Sergienko	Beverages
2	Antonio	Gratacos Solsona	Purchasing Representative	Laura Giussani	Condiments
3	Thomas	Axen	Purchasing Manager	Anne Hellung-Larsen	Condiments
4	Christina	Lee	Owner	Jan Kotas	Oil
5	Martin	O'Donnell	Purchasing Manager	Mariya Sergienko	Jams, Preserves
6	Francisco	Pérez-Olaeta	Owner	Nancy Freehafer	Dried Fruit & Nuts
7	Ming-Yang	Xie	Purchasing Representative	Nancy Freehafer	Sauces
8	Elizabeth	Andersen	Purchasing Manager	Nancy Freehafer	Dried Fruit & Nuts
9	Sven	Mortensen	Purchasing Manager	Nancy Freehafer	Canned Fruit & Vegetabl
10	Roland	Wacker	Purchasing Manager	Nancy Freehafer	Baked Goods & Mixes

- Press **Ctrl+F** to display the **Find** dialog box.



- You can use this dialog box to find a specific word. To do this enter a word into the **Find What** section of the dialog box. In this example, enter **Rodman** and then click on the **Find Next** button. You will see the first instance of the word highlighted, as illustrated below.



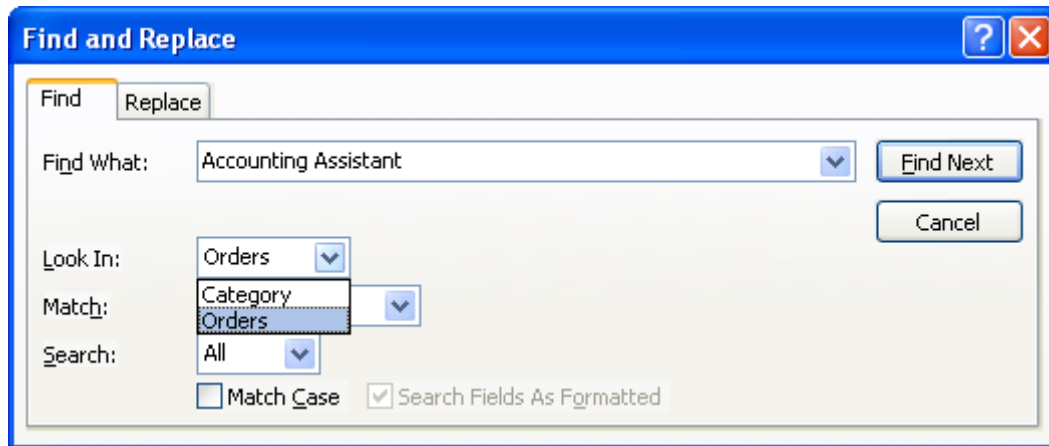
NOTE: Re-clicking on the **Find Next** button will find more instances of the word within the table. In this case the word only occurs once.

- You can also search for a number. Try searching the number **40**. You should find multiple instances of this number within the table.

NOTE: Make sure that the **Look In** section of the dialog box is set to look at the whole table (i.e. **Orders**), not just the active column.

- You can also search for a phrase rather than a single word. Try searching for **Autier Miconi**.

NOTE: Make sure that the **Look In** section of the dialog box is set to look at the whole table (i.e. **Orders**), not just the active column.



- You can also search for a date within a table. Try searching for **7/04/2006**.
- Save your changes and close the Access program.

Relationships

Table relationships

- Good database design suggests data is organised across multiple tables, as to store data in one single table would;
 - 1) Result in vast amounts of duplicated data and
 - 2) Quickly become unmanageable.
- Relationships are used to create a link between two or more tables within a database. When a link is established and with the use of other objects within the database, data can be entered into or viewed from one or more tables at the same time, without the need to close one table and open another.
- The most common relationships between tables are:

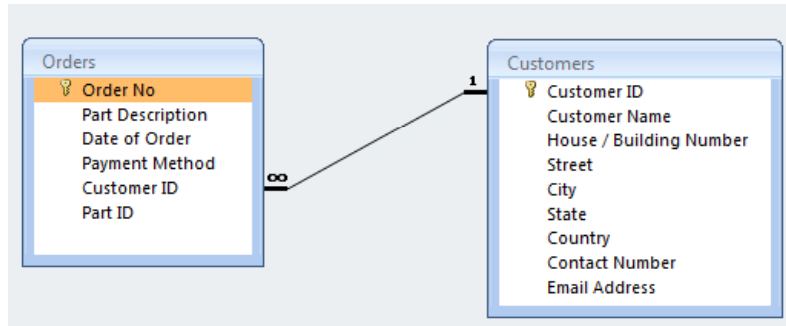
One-Many
Many-Many
One-One

- A relationship is built by matching a unique field within one table with a field within another table.

One-to-many relationship

- Consider a **Parts** sales database that includes a **Customers** table and an **Orders** table. A customer can place any number of orders. It follows that for any customer represented in the **Customers** table, there can be many orders represented in **the Orders** table. The relationship between the **Customers** table and the **Orders** table is therefore a one-to-many relationship.
- To establish a one-to-many relationship between tables, it is necessary to take the Primary Key (normally the **ID** field) of the 'one' side of the relationship, (in this case the **Customer** table) and add it as an additional field within the 'many' side (**Orders**) table.

TIP: This requires you to add a new (**Customers ID**) field to the **Orders** table and set the data type. As the **AutoNumber** field can only be used once in a table, the **Number** data type is used. Notice the **Customer ID** field is included in the **Orders** table, shown in the following image.



NOTE: When using the name of a primary key field to create a field in another table and thereby a link, the new field is often referred to as a **Foreign key**.

Many-to-many relationship

- Consider the relationship between a **Parts (Product)** table and an **Orders** table. A single order might include more than one product. On the other hand, a single product can appear on many orders. For each record in the **Orders** table therefore, there can be many records in the **Products** table.
- In addition, for each record in the **Parts** table, there can be many records in the **Orders** table. This type of relationship is called a many-to-many relationship because, for any product, there can be many orders and, for any order, there can be many products.
- A many-to-many relationship, is actually achieved by creating two one-to-many relationships, using a third table, often referred to as a Junction. The Primary key from both the **Parts** and **Orders** tables are added to the third table (junction) thereby effectively creating two one-to-many relationships.

NOTE: In many circles, a many-to-many relationship between your tables is not considered ideal and consideration should be given to the design, possibly breaking data across additional tables to avoid the necessity for many-to-many relationships.

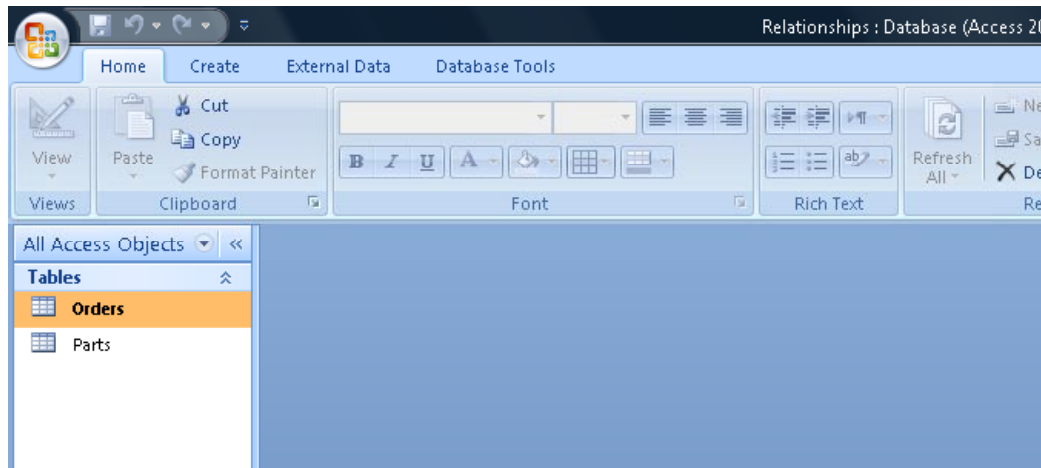
One-to-one relationships

- In a one-to-one relationship, each record in the first table can have only one matching record in the second table, and each record in the second table can have only one matching record in the first table. This type of relationship is not common because, most often, the information related in this way is stored in the same table.
- One example of a one-to-one relationship might be to transfer sensitive data to another table and isolate it for security reasons.

NOTE: Both tables must share a common field but not necessarily a Primary key field.

Creating relationships between tables

- Before a relationship can be created, a database must contain two or more tables upon which a relationship can be formed.
- Start Access and open a database called **Relationships** from your Access 2007 samples folder. You will notice the **Orders** and **Parts** tables in the navigation pane.



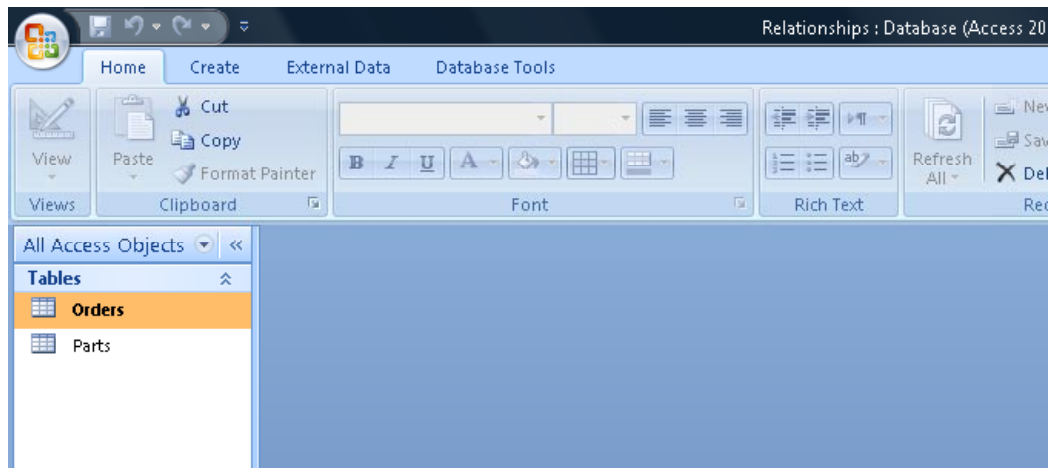
- Double click on the **Orders** table to open it. Take a moment to look at the fields in the table. As you might expect, you will find the **Orders ID** field (primary key) and several others, including a **Part Number** field from the **Parts** table (foreign primary key).

Order No	Part Description	Date of Order	Payment Method	Part Number	Add New Field
* [New]		26/06/2007			

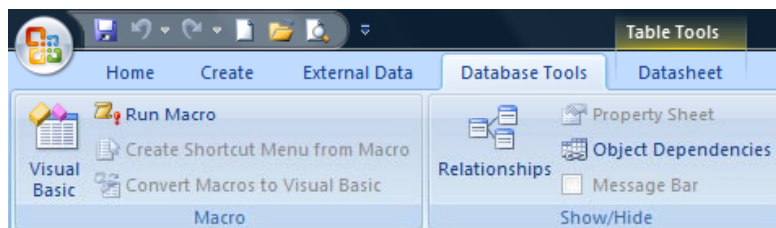
- To create a relationship between tables, the tables must be closed. Click on the **Close** button to close the **Orders** table and if open, the **Parts** table too.



You should now see this.

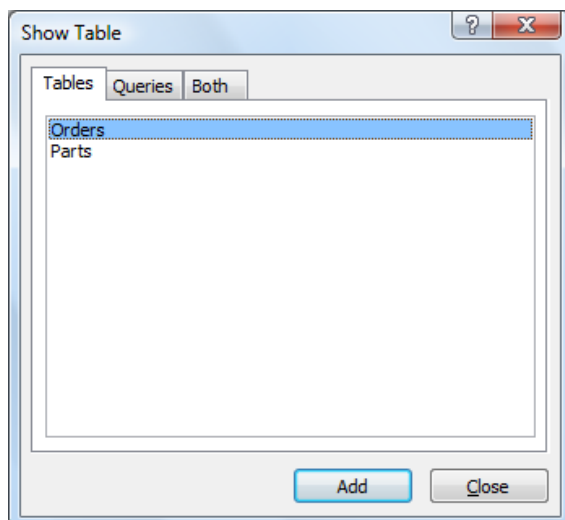


- Click on the **Database Tools** tab and from within the **Show/Hide** group, click on the **Relationships** button.

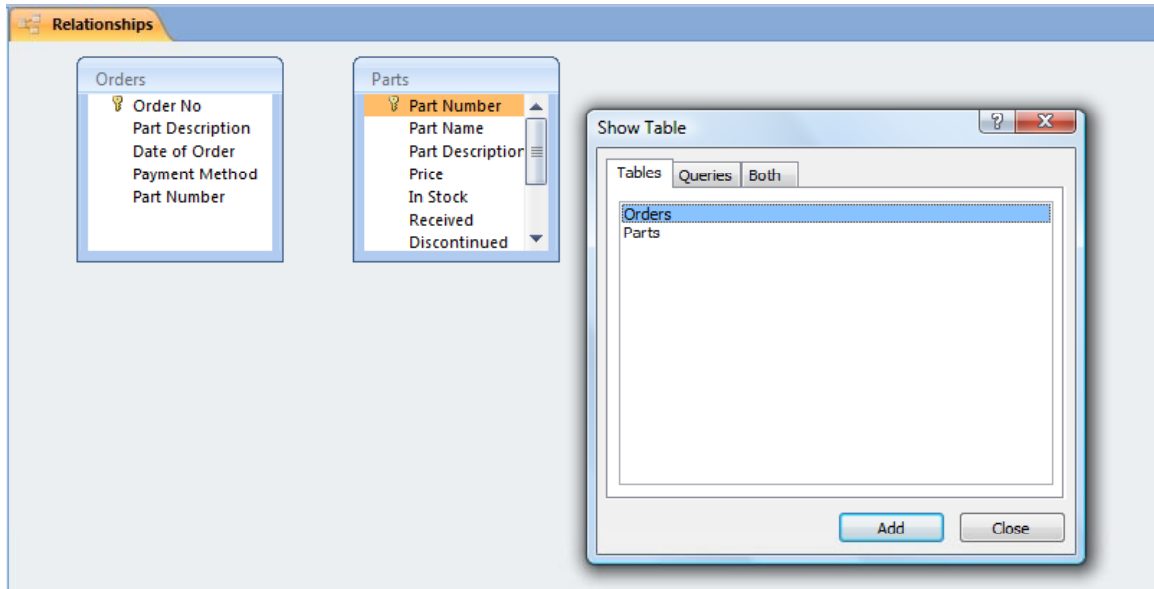


- The first time you use the Relationships screen, the **Show Table** dialog box opens.

IF YOU DO NOT SEE THE 'SHOW TABLE' DIALOG BOX, SKIP THIS SECTION

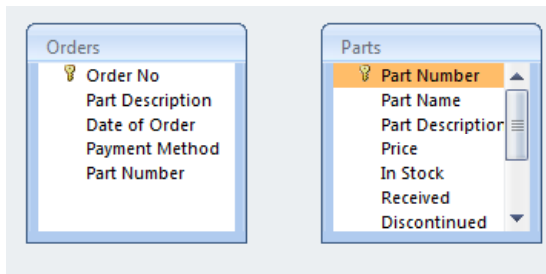


If you see the **Show Table** dialog box then both the **Orders** and **Parts** tables are listed under the **Table** tab. Double click both the **Order** and **Parts** table names to quickly add them to the relationships window area.

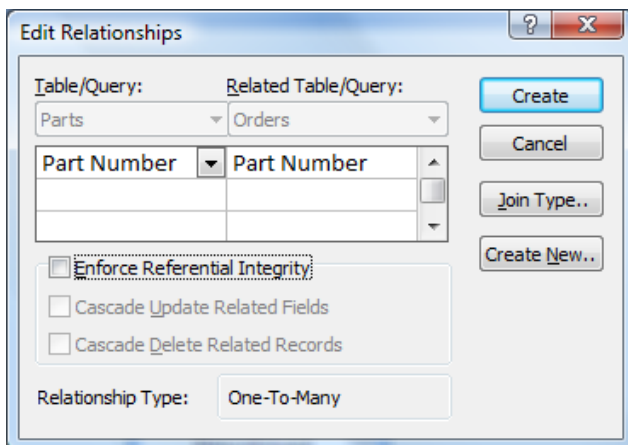


Click on the **Close** button to close the **Show Table** dialog, leaving the two tables open.

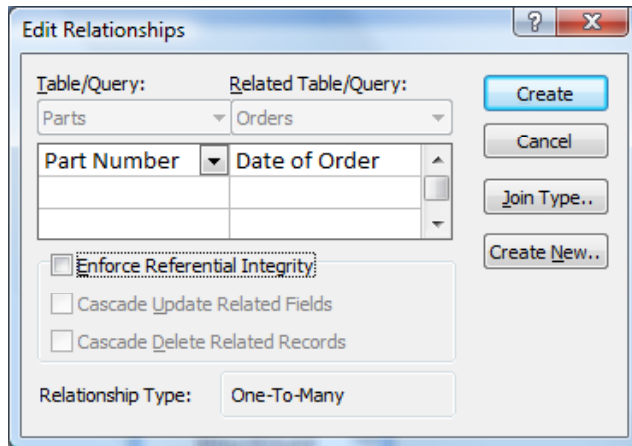
- You will see the following displayed on your screen.



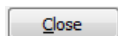
- Using the mouse pointer, select the **Part Number** field from the **Parts** table. Drag across to the corresponding **Part Number** field in the **Orders** table. The **Edit Relationships** options box is displayed.



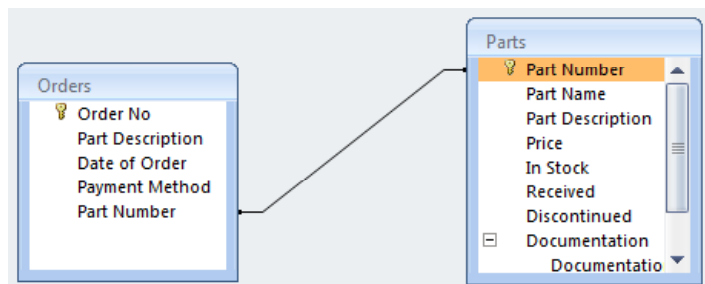
NOTE: If you released the mouse over the wrong field name in the **Orders** table, you will see mismatched fields in the field selection box. See next image. Otherwise the fields should match as shown in the previous image.



- **TIP:** If the field names need to be changed, you can select the correct field from the dropdown lists below the appropriate table.
- Click on the **Create** button to establish the relationship and click on the **Close** button to close the **Edit Relationships** options box.



- There is now a link shown graphically as a line between the two tables.

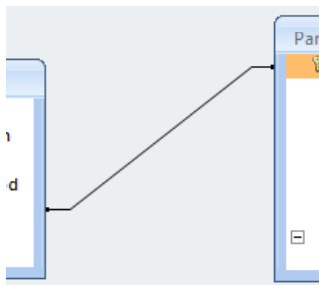


Referential integrity

- Good database design suggests dividing information into many subject-based tables to minimize data redundancy. Relationships are then used to bring the data back together by placing common fields into related tables.
- To bring data back together, Access uses the value in the "many" table to look up the corresponding value in the "one" table.
- Suppose you have a one-to-many relationship between **Parts** and **Orders** and you want to delete a Part (Item). If the Part you want to delete has orders in the **Orders** table, those orders will become "orphans" when you delete the **Parts** record.
- The orders will still contain a **Part ID**, but the record (Parent) that it references no longer exists. Referential integrity is designed to prevent this situation occurring and keep references in sync so that this kind of situation

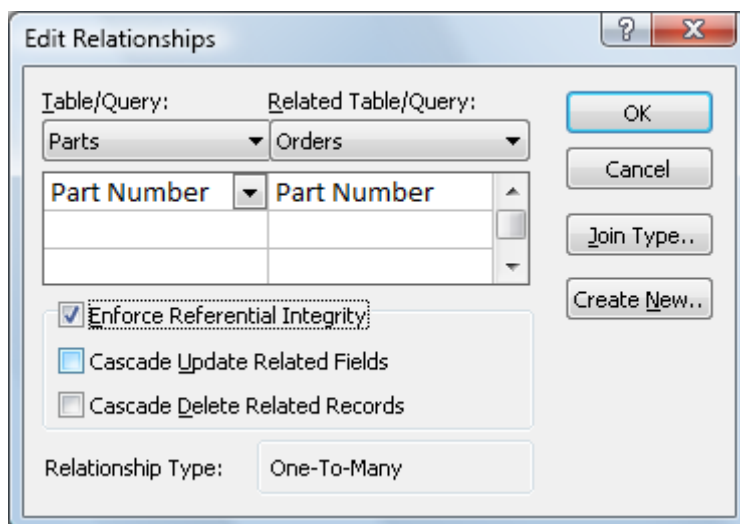
never occurs.

- Referential integrity by default is not enabled and therefore has to be enabled either during the creation of relationships or when editing relationships. When enabled, Access will reject any operation that violates referential integrity for that particular relationship.
- Access rejects updates that change the target of a reference or deletions that remove the target of a reference. In other words, if you attempt to delete an individual part from the **Parts** table that has been referenced in the Orders table (included in an order), Access will prevent this from happening.
- To enable Referential Integrity, double click on the line between the two tables to open the **Edit Relationships** options box again.



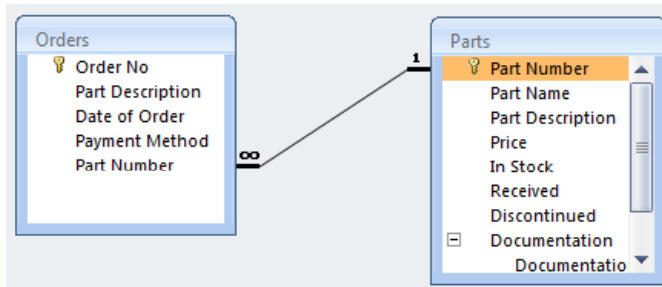
NOTE: If you miss the line when clicking, you will open a **blank Edit Relationships** options box. Close the box and try again.

- Click and check the **Enforce Referential Integrity** check box. Also notice how the cascade options are now available for selection.



Warning: the appropriate cascade option should **only** be checked during maintenance periods when legitimate changes need to be made to the database.

- The **Relationship Type**: section shows this will be a **One-To-Many** relationship.
- Click on the **OK** button to establish the relationship.



- In a One-To-Many relationship, with **Enforce Referential Integrity** enabled, the line changes to display the digit **1** at one end and the infinite symbol at the other.



This graphically displays which table is the **One** and which is the **Many** in a One-To-Many relationship.

Cascade options

- There may be occasions when legitimate changes are necessary and for that reason, there are two options available in Access which when enabled, allow updates to fields and deletion of records (row) whilst maintaining data integrity.

Cascade update related fields

- When updating fields in related tables, with this option enabled, Access automatically updates all affected records as part of a single operation and ensures that the updates are completed, without inconsistencies.

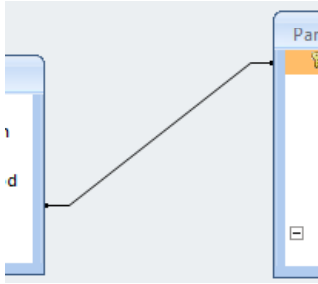
Cascade delete related records

- Equally, you may also have a valid reason for deleting a record in one table and related records in the related table, for example, a record from the **Parts** table and all related orders for that **Part** in the **Orders** table. Again, when enabled, Access will automatically delete all related references, maintaining data integrity.

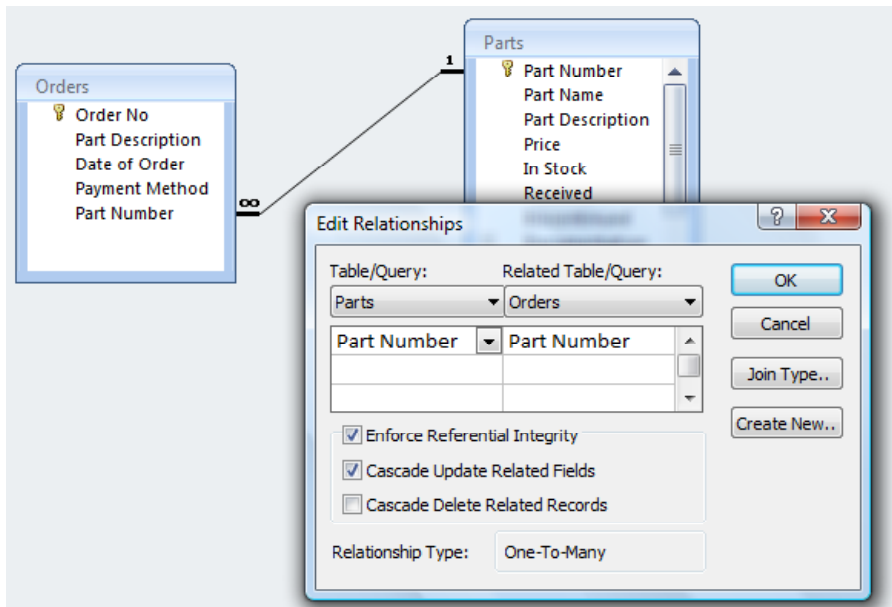
NOTE: Both cascade options are designed for maintenance purposes and should therefore only be enabled during system maintenance.

Enabling cascade options

- To enable Referential Integrity, double click on the line between the two tables to open the **Edit Relationships** options box again.



- Click and check the required **Cascade** option tick box.



- Click on the **OK** button to update the changes.

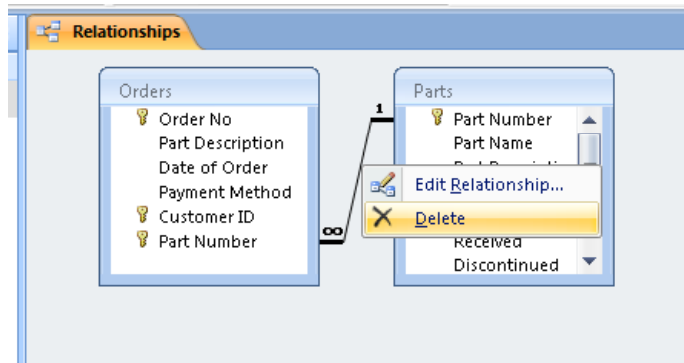
Deleting relationships

- Once relationships have been established, Access behaves very differently and you may find yourself unable to edit tables as you have done in the past, even when referential integrity is disabled. This is because having established a relationship, attempting to delete fields in a related table or editing / changing certain field properties, etc, can have a knock on effect to other related tables, therefore Access prevents the action.

NOTE: It is advisable to design your database well. Make sure your table design and layout works, create and test your tables before you consider establishing relationships.

- Changes to the design, improvements and modification over time may also require removal or changes to relationships between tables.

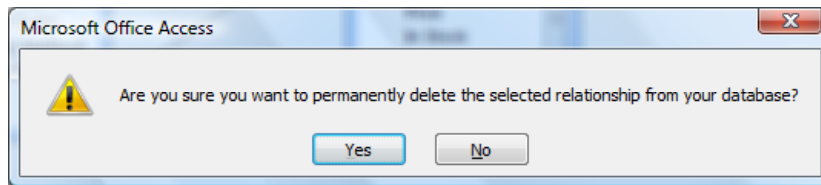
- To delete a relationship, first click once on the line between the two tables. The line appears thicker.



- Right click to activate the shortcut menu and select **Delete**.



- You will be prompted to confirm the deletion.



- Click on the **Yes** button to confirm. The relationship line between the two tables is removed and the tables are no longer related.
- Close Access and save any changes that you have made.

Access 2007 Forms

Forms overview

- Up to this point, you have entered data directly into a table. Rather than having information overload from viewing a screen full of records in a table, forms provide an aesthetically pleasing window to enter and display record information.
- Forms can be used to display and maintain records within your database.
- Forms can be designed to display fields from multiple tables and can also be used to restrict what information users have access to. In addition, buttons can also be added to provide automated functionality.
- Microsoft Office Access 2007 gives you new tools to help you create forms quickly, and provides new form types and features that improve the usability of your database.

Creating forms

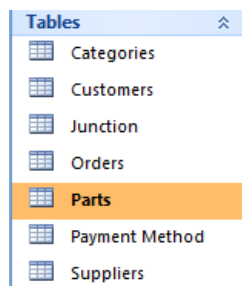
- Forms can be created using the **Form** tool and with a single click of a mouse button. When creating forms this way, Access takes the required information from the underlying table or query and produces a simple form.

NOTE: Forms created using the **Form** tool can be modified at a later stage.

Forms can also be designed from scratch using Form Design. Access provides a blank form and you add the required fields, labels, graphic and functions.

- Open Access and then open a database called **Forms** from your Access samples folder.
- In the **Navigation Pane**, click to highlight the **Parts** table.

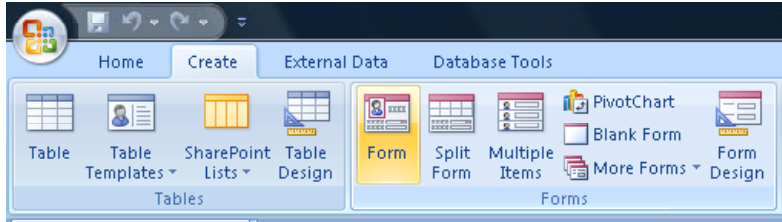
NOTE: It is **VERY** important that you have selected the **Parts** table, **NOT** one of the other tables, as we are going to produce a report based on the **Parts** table.



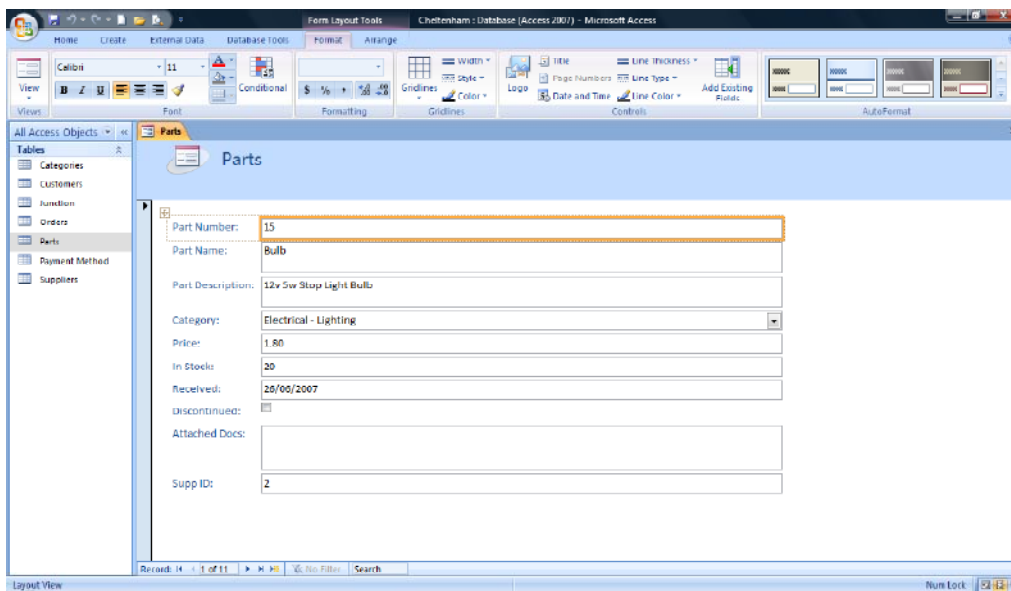
NOTE: There is no need to open a table or query, however if it is open,

make certain it is the, active object in the object window, otherwise Access may base the form on another open object.

- Click on the **Create** tab and from within the **Forms** group, click on the **Form** button.



- You will see the following, which displays all the fields within the **Parts** table.



- **THE REST OF THIS SECTION IS JUST FOR REFERENCE.**
- There are a number of differences to note between working with tables and working with forms before continuing.

When the newly created form is displayed on screen, you will notice the **Form View** button in the **View** group of the Ribbon.



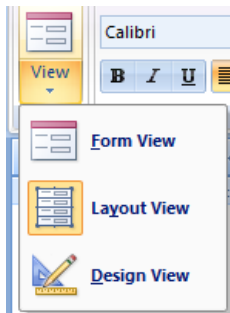
Remember in Access 2007, the **View** button always displays the alternate view to the current view. Forms have three views.

- Form View

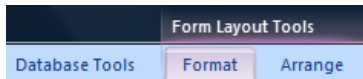
- **Layout View**
- **Design View**

Access creates the form and displays it in Layout View. In Layout View, you can make design changes to the form while it is displaying data. For example, you can adjust, size, reposition or delete field text boxes, change font size, form style, etc, as necessary.

NOTE: If Access finds a single table that has a one-to-many relationship with the table or query that you used to create the form, Access adds a datasheet (table) to the form that is based on the related table or query.



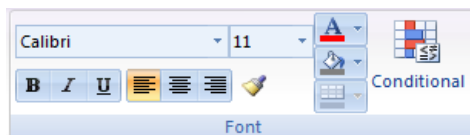
- Layout View allows you to change the appearance and format of the form easily without having to be in Design View (more on this later).
- There is also a new **Format** contextual tab.



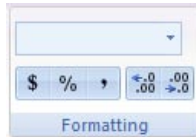
- Below the **Format** tab is a new Ribbon with all the format related functions.



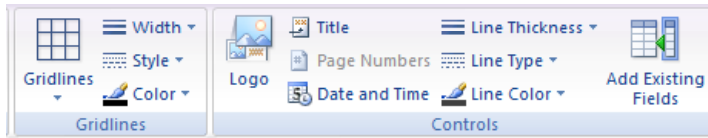
- The **Font** group is there to provide text formatting within the form, changing font, size, alignment, etc.



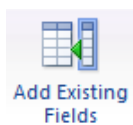
- The **Formatting** group allows you to set the way field data is displayed in the form, regardless of how field properties are configured in the table. For example, although a field may be set to **Fixed** in a table, displaying a value as **23.86**, tools within the **Formatting** group allow you to add a currency symbol to the value displayed in the form. The table properties remain unchanged.



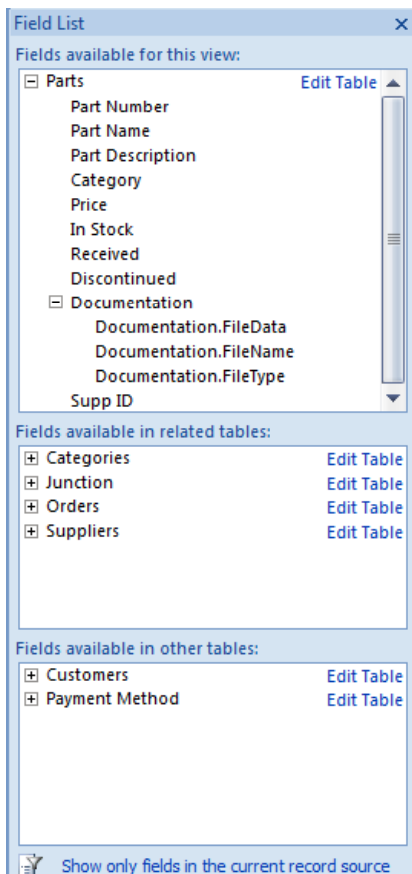
- The **Gridlines** and **Controls** groups provide tools to change the appearance of the form itself, rather than the data within the table.



- Within the **Controls** group is the **Add Existing Fields** tool.

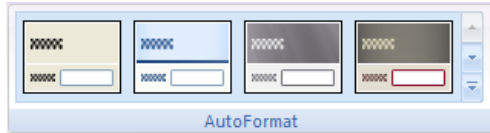


This tool is useful when creating forms from scratch or for replacing or adding additional fields from the underlying table(s). Selecting this tool activates the **Field List** and fields can be dragged across, placed and positioned within the form.



- The field list is broken into three categories.

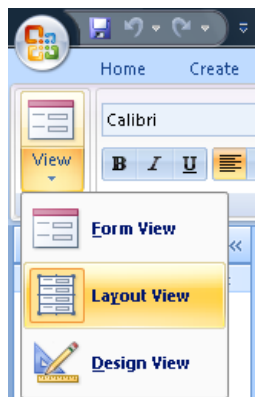
- Fields available for this view (underlying table).
- Fields available in related tables (relationships must already exist).
- Fields available in other (non-related) tables.
- The **AutoFormat** group provides a selection of pre-formatted styles. Selecting one of the styles alters the forms appearance but not the way data is displayed. Currency symbols, field layout, etc, remain unchanged.



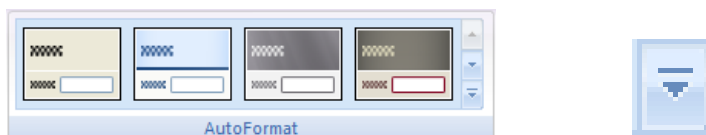
NOTE: Although you are able to view record data in Layout View, you cannot edit or enter data.

Modifying forms

- Make sure the newly created form is still in Layout View.



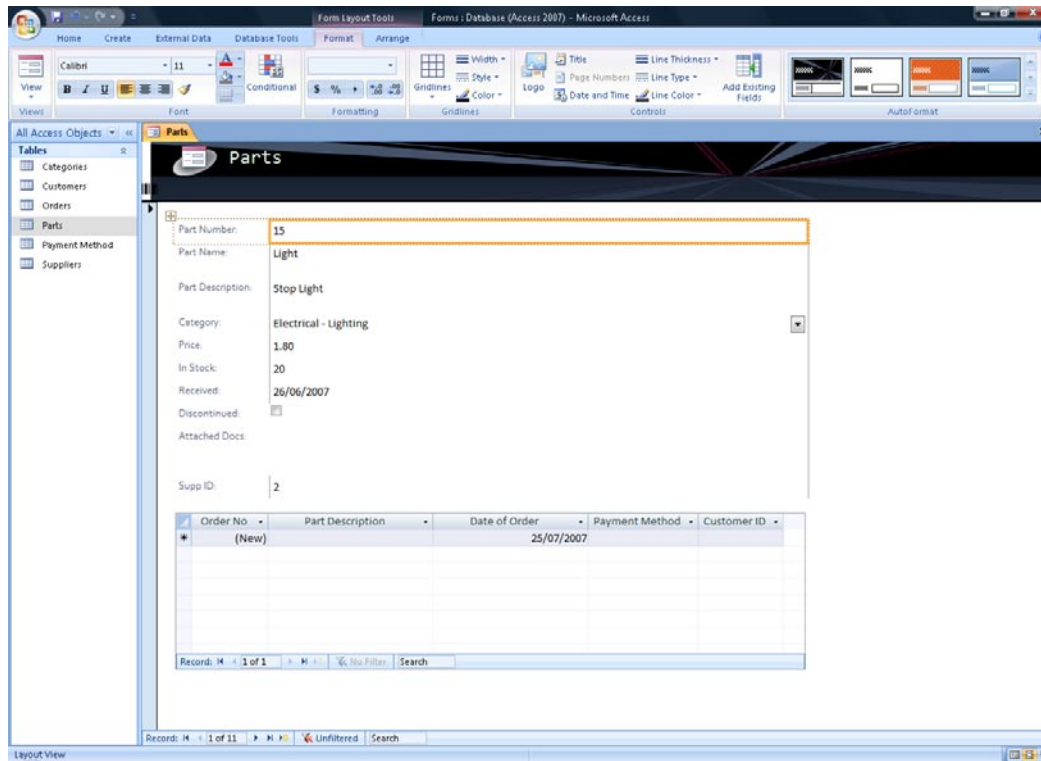
- Within the **Format** tab, in the **AutoFormat** group, click on the **down arrow** to expand the list of available styles.



- Select this style from the middle of the third row from the top.



- The form changes to match the setting of the style chosen.



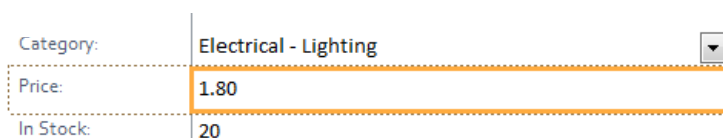
NOTE: You can select different styles until you find one suitable. The final colour is not set until the form is saved and can be modified again at a later time.

- Although the boxes are no longer visible around each data field in the form, they do still exist.
- Click on the **Price** field,, i.e. select the number **1.8**, **not** the text label. Your screen will look like this.

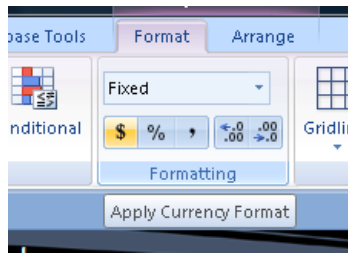


NOTE: Text labels are used to indicate the purpose of the data fields in a Form. Labels are simply text in text boxes and can be modified, for example the **Attached Docs** label could be edited to show **Attachments** instead.

- The **Price** field in the **Parts** table is formatted as **Fixed**, not **Number** and therefore there is no currency symbol.



- Within the **Formatting** group, of the **Format** tab, click on the **Apply Currency Format** button. This button has a currency symbol on it.



- All entries in the **Price** field within the form will now show a currency symbol preceding the value. The underlying table however remains unchanged.

NOTE: The actual currency symbol depends upon the **Region and Language** settings in the Windows **Control Panel**.

Electrical - Lighting
\$1.80
20

- Click on the **Supp ID** field, (i.e. click on the box containing the number 2) as illustrated below.

Supp ID:	2			
Order No	Part Description	Date of Order	Payment Method	Customer ID

- The **Supp ID** field is a foreign key field from another table and used to establish a relationship between the **Supplier** and the **Parts** tables. There is no reason for users to see this field in the table therefore it can be removed from the form.
- With the field box highlighted press the **Delete** key on the keyboard to remove the field. Your screen will now look like this.

Received:	20/00/2007			
Discontinued:	<input type="checkbox"/>			
Attached Docs:				
* Order No	Part Description	Date of Order	Payment Method	Customer ID
	(New)	18/07/2007		

NOTE: Deleting fields in a form has no impact on the table, which remains

unchanged.

- Next the **Part Name** and **Description** fields each occupy double line spacing and these need to be adjusted. The double spacing is illustrated below.

Part Number:	15
Part Name:	Light
Part Description:	Stop Light

- Select the **Part Name** field first (i.e. click to select the box containing the word **Light**), move the pointer to the bottom line of the box, until the pointer changes to a double arrow.



- Click and drag the line up to **reduce** the **box height**, similar to that of the **Category, Price, In Stock**.
- Repeat the same steps, this time selecting the **Part Description** field.

Part Number:	15
Part Name:	Light
Part Description:	Stop Light
Category:	Electrical - Lighting
Price:	\$1.80
In Stock:	20

- Now, select the **Part Number** field.

Part Number:	15
Part Name:	Light
Part Description:	Stop Light

- We can easily move fields within a form. To try this, place the pointer in the middle of the highlighted field (i.e. the **Part Number** field), until the pointer changes to a (crosshair) pointer.



- Click and drag the **Part Number** field down the form and position below the **Attached Docs** field.

Part Name:	Light
Part Description:	Stop Light
Category:	Electrical - Lighting
Price:	\$1.80
In Stock:	20
Received:	26/06/2007
Discontinued:	<input type="checkbox"/>
Attached Docs:	

Part Number:	15
--------------	----

- Click on the **Undo** button on the Quick Access Toolbar to undo the move and return the **Part Number** field back to its original position.

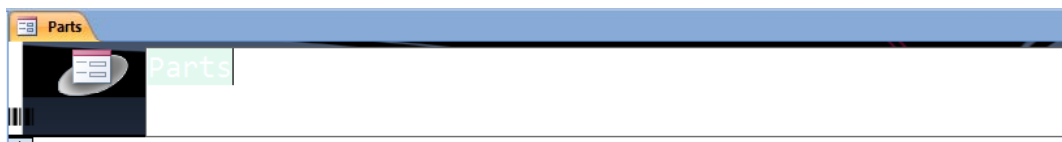


Modifying a form title

- When created, Access added a text label to the top of the form using the name of the table (**Parts**) the form was based on.
- Click on the **Parts** label. A box outline appears around **Parts** as illustrated below.



- Double click on the **Parts** label again to select and highlight it.

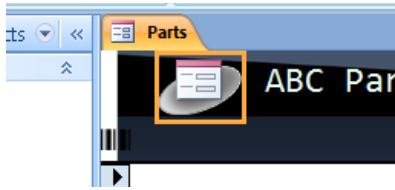


- The box changes to a white background with the label slightly shaded.
- Type in **ABC Parts Inventory** and press the **Enter** key.

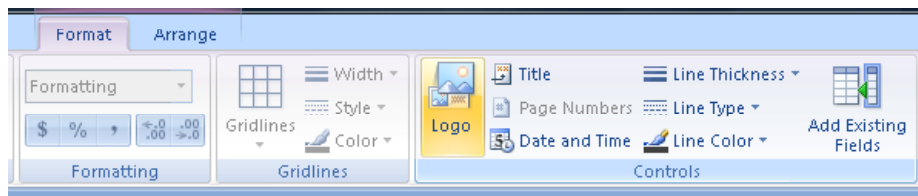


Modifying a form logo

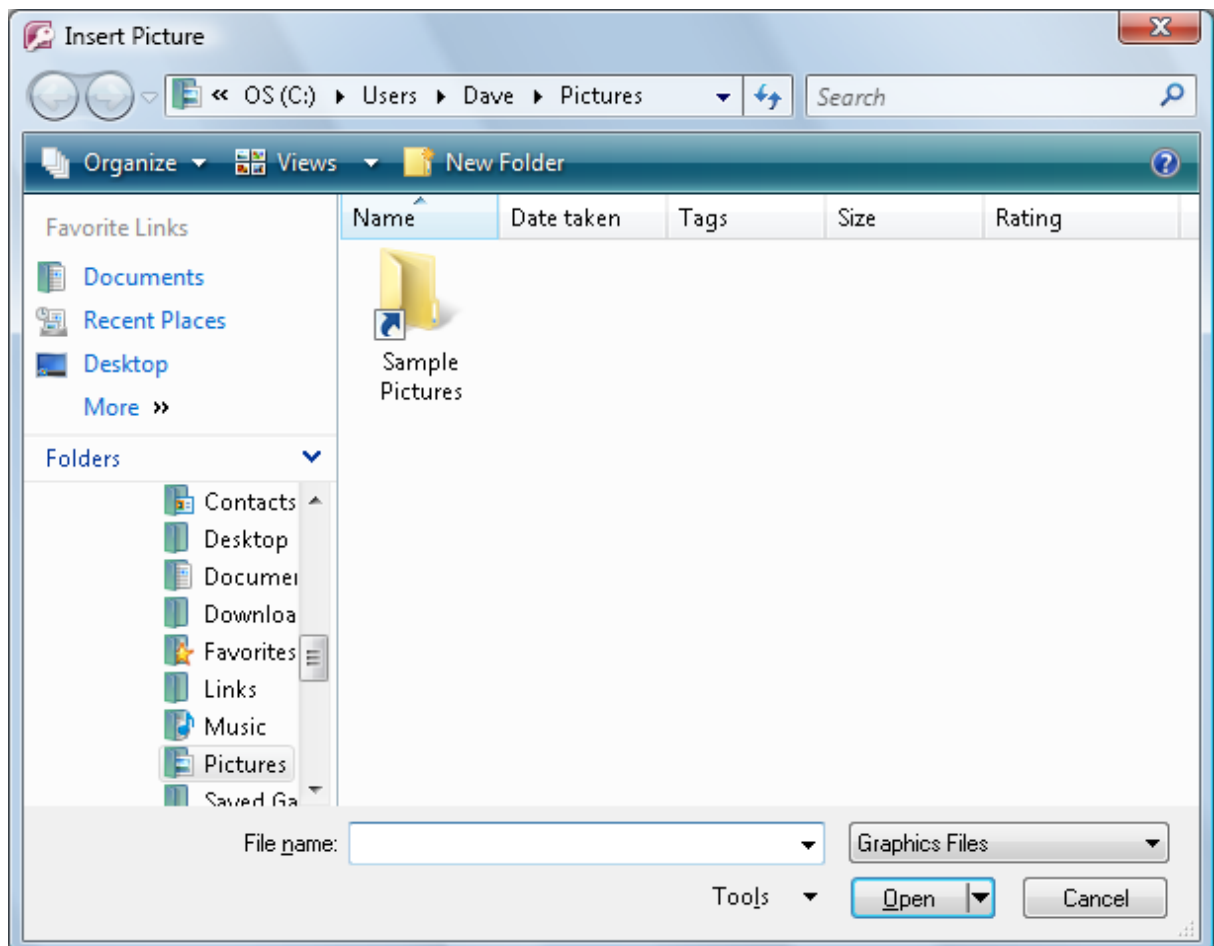
- Next, click once on the logo to select it. An outline box appears around the logo.



- Click on the **Format** tab and from within the **Controls** group click on the **Logo** button.

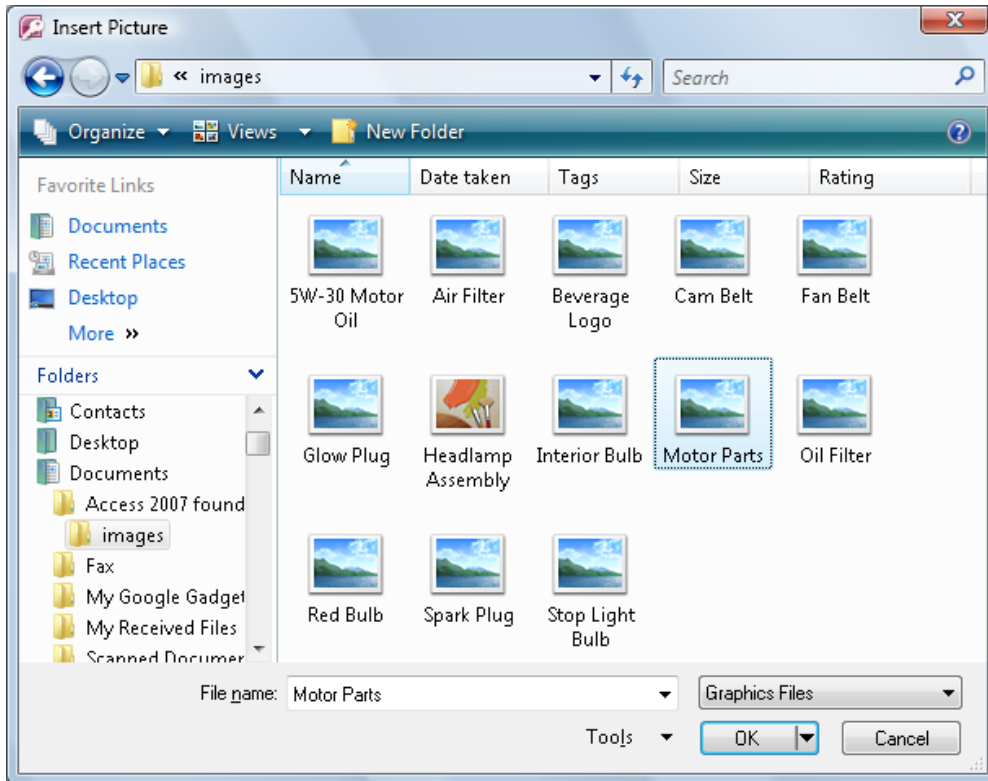


- The **Insert Picture** dialog box is displayed.

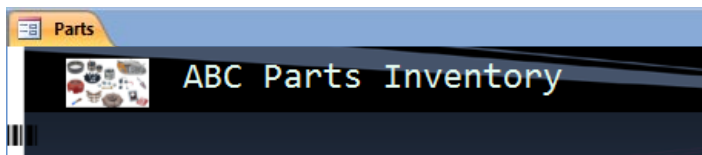


- Select an image file called **Motor Parts** contained in the **Sample Pictures** subfolder under your sample files folder.

NOTE: You will have to navigate to the **My Documents** folder if you are using Windows XP or the **Documents** folder if you are using Windows Vista. Once you have located either of these folders, change to the folder containing your sample files and then change to the images folder stored under the samples folder. The example below illustrates selecting the file using Windows Vista.



- Once you have selected the correct file, click on the **OK** button and the logo will be displayed as illustrated below.



Modifying a form label

- Click on the **Attached Docs** label to select the label.

NOTE: Make sure that you click on the label **NOT** the field which is next to the label. Look closely at the illustration below.

⊕

Part Number:	15
Part Name:	bulb
Part Description:	12v 5w Stop Light Bulb
Category:	Electrical - Lighting
Price:	\$1.80
In Stock:	20
Received:	26/06/2007
Discontinued:	<input type="checkbox"/>
Attached Docs:	

- Click once within the label box outline.

Price:	\$1.80
In Stock:	20
Received:	26/06/2007
Discontinued:	<input type="checkbox"/>
Attached Docs:	

- The outline changes to show a thin outline box which indicates you are now in text edit mode. Place the mouse pointer at one end of the label, then in one motion, click and drag to highlight both words.

In Stock:	20
Received:	26/06/2007
Discontinued:	<input type="checkbox"/>
Attached Docs:	

- Type in the word **Documentation**, then press the **Enter** key to commit the change.

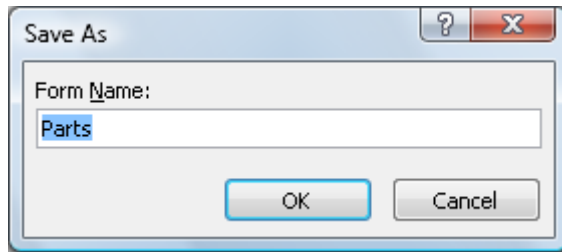
Price:	\$1.80
In Stock:	20
Received:	26/06/2007
Discontinued:	<input type="checkbox"/>
Documentation	

Saving a form

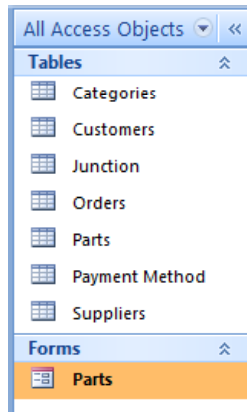
- Press **Ctrl-S** or click on the **Save** icon on the Quick Access Toolbar to save the form.



A **Save As** dialog box is displayed. Click on the **OK** button to save the form



- The new form appears below tables in the Navigation Pane.



Form View

- Click on the **Form View** button to switch to **Form View**.



- Unlike the Layout View, Form View does not allow the form to be modified, however a user will be able to enter and edit data, navigate and create new records in the underlying table.
- Initially, there is little to differentiate between Layout View and Form View. The first noticeable difference will be the ribbon, as the Form Layout contextual tab is no longer available. Clicking into the field text boxes also no longer activates the border around the data input area, instead double clicking will highlight the data.

Part Number:	15
Part Name:	Bulb
Part Description:	12v 5w Stop Light Bulb
Category:	Electrical - Lighting
Price:	\$1.80
In Stock:	20
Received:	26/06/2007
Discontinued:	<input type="checkbox"/>
Attached Docs:	

Adding and formatting attachments

- Use the **record navigation bar** (at the bottom of your screen) to move from one record to the next and see how the data within the form changes with each record.



- Use the record navigation bar to locate and display record **6**.

Part Number:	21
Part Name:	Filter - Oil
Part Description:	Advanced Fully Synthetic Oil Filter
Category:	Lubricants
Price:	\$13.30
In Stock:	15
Received:	18/04/2007
Discontinued:	<input type="checkbox"/>
Attached Docs:	

NOTE: Although this is record number 6, the Part Number is 21. Record navigation relates to the number of record in the table, not to the unique numbers assigned to each record.

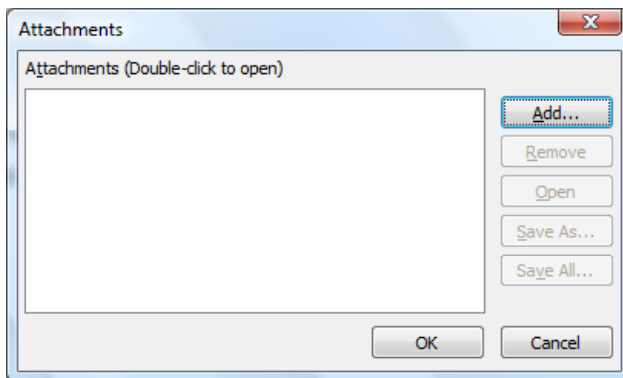
- Click once in the **Documentation** field box. An outline box appears around the **Attachments** box and a control options toolbar appears just above the attachments box.

In Stock:	20
Received:	26/06/2007
Discontinued:	  
Attached Docs:	

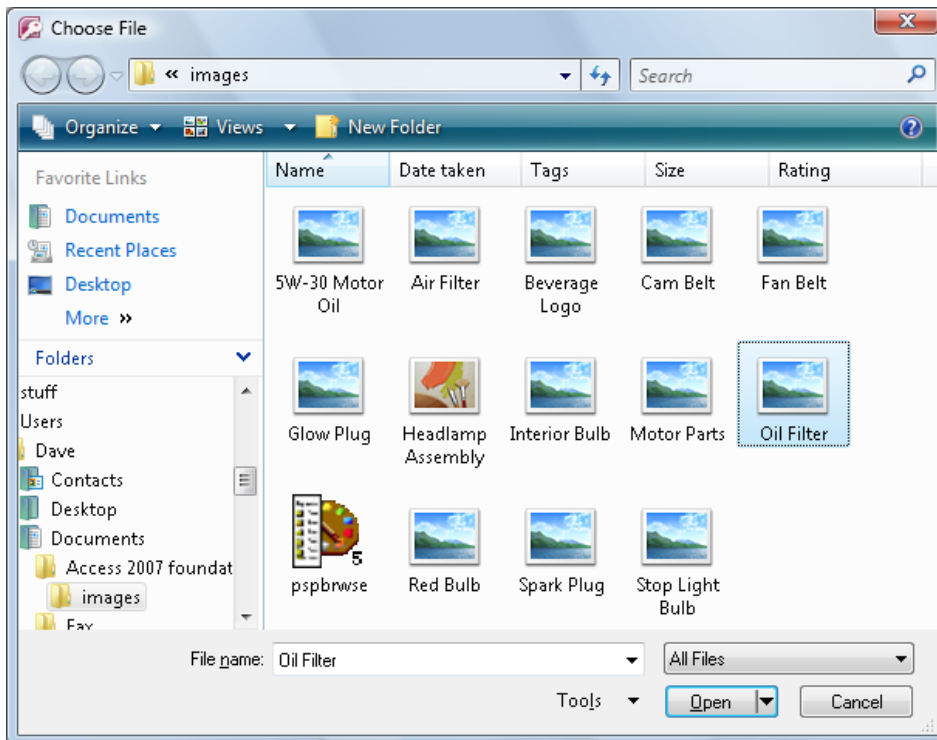
- Click on the **paperclip** button.



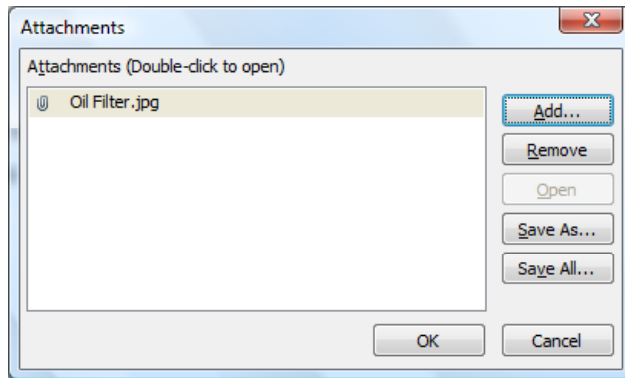
The **Attachments** dialog box is displayed.



- Click on the **Add** button and locate an image file named **Oil Filter**, which is located in the images folder under your sample files folder.



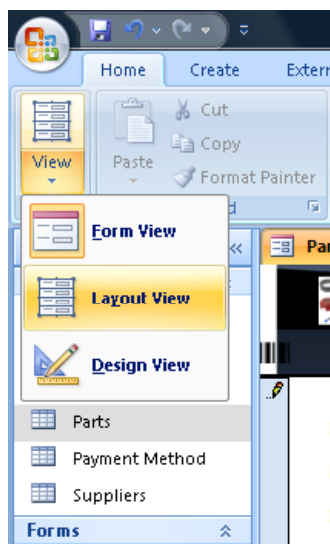
- Double click on the **Oil Filter** image file to add it as an attachment.



- Click on the **OK** button to close the **Attachments** dialog box and return to the form.



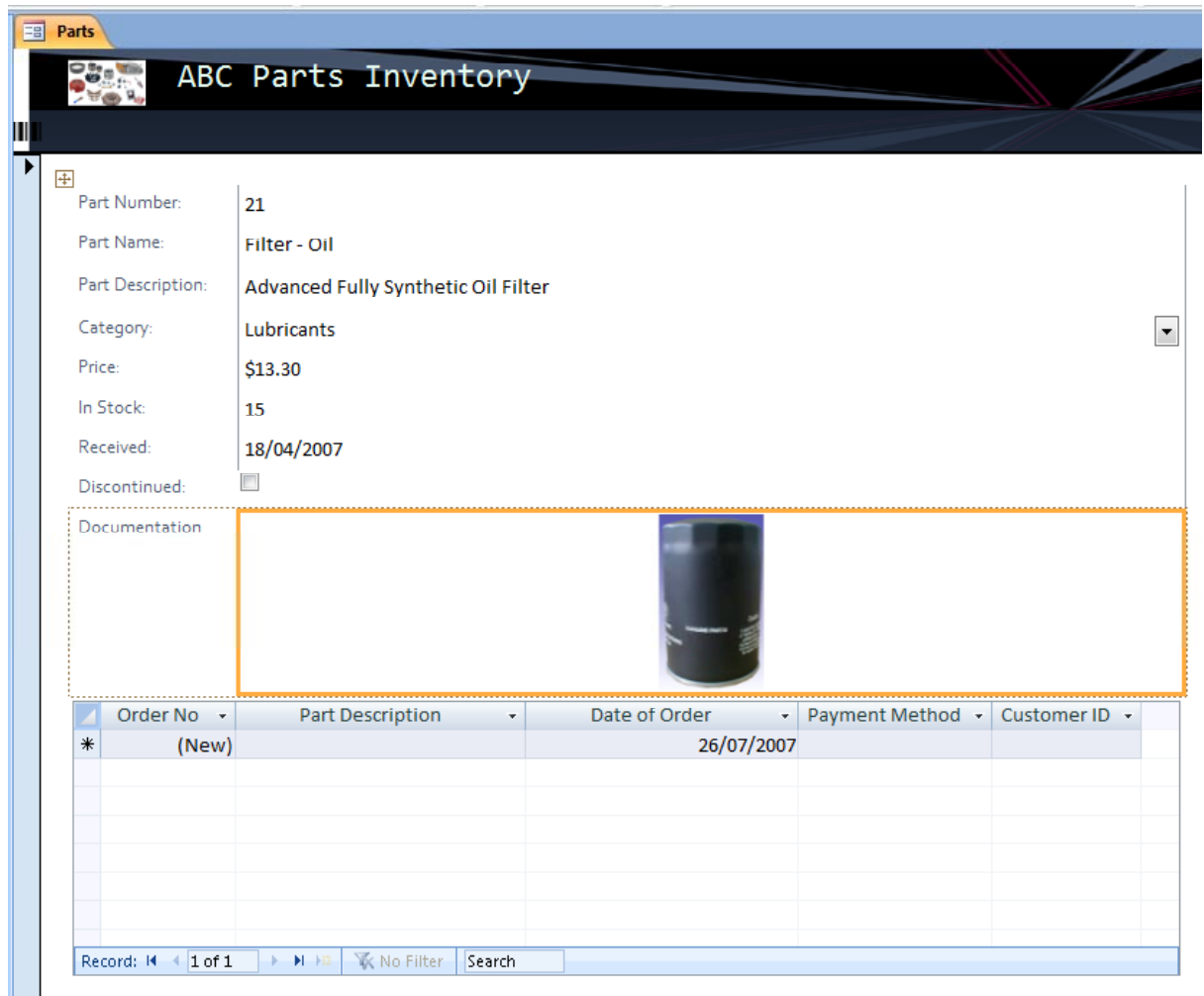
- An image of the oil filter is now displayed in the **Documentation** field, however the image is small and difficult to determine.
- Click on the **Layout View** button to switch to **Layout View**.



- Move the mouse pointer to the bottom edge of the **Documentation** field box and position until the pointer changes to a double headed arrow.



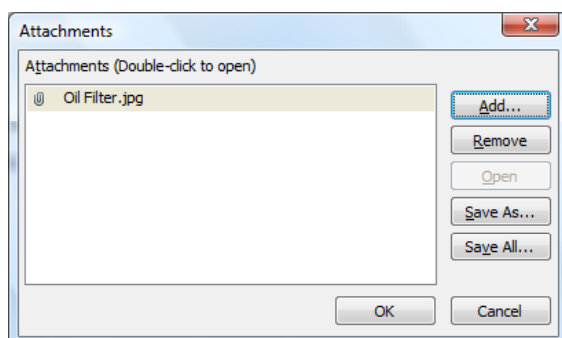
- Using the mouse pointer, click and drag the bottom of the field box downwards so that the screen resembles the illustration below, then release the mouse button.



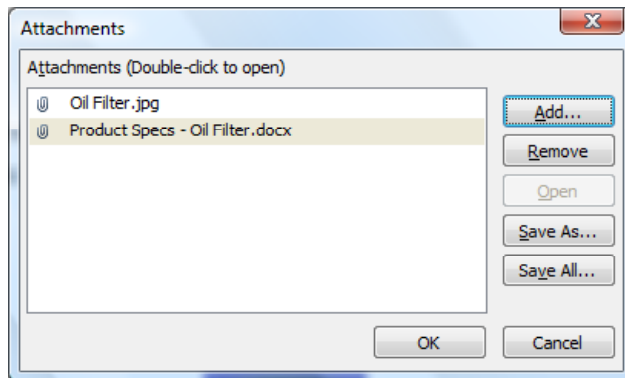
- Click on the **Form View** button to switch back to **Form View**.



- Double click within the **Documentation** field.



- Click on the **Add** button and locate a document file named **Product Specs – Oil Filter**, located in your samples folder. Double click on the file to add it as an attachment.



- Click on the **OK** button to close the **Attachments** dialog box and return to the form.



- The image of the oil filter is still displayed in the **Documentation** field.

NOTE: When file attachments are added to a field, the first image file added will be the image displayed by default for the record. If documents are attached to a field without an image, a button, representing the application used to create or open the document, i.e. Microsoft Word will be displayed.



- When two or more attachments have been added to a field, the arrow controls provide a means of viewing them.



- Click once in the **Documentation** field to activate the control options toolbar.



- Click on the **right arrow** button within the toolbar.



TIP: The attachment navigation arrows are most useful when viewing multiple image attachments.

NOTE: Remember, attachment fields can store up to 700 kb of information, therefore multiple images can quickly occupy the available space.

- When active, click on the **left arrow** button to navigate backwards through the list of available files.

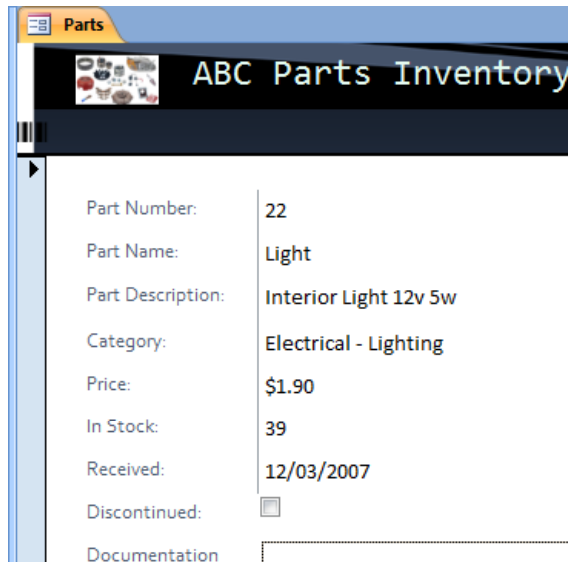


NOTE: If you had wanted to open and view the attached document, you could have double clicked view the document.

Modifying records

- Using the record navigation bar locate record 7.





- Let us assume after checking your stock it emerges that in fact there are only **34** of these lights in stock, not **39**, therefore the record needs to be edited and updated with this new information.
- Double click on the **In Stock** field to highlight the value.

Price:	\$1.90
In Stock:	39
Received:	12/03/2007

Type **34** and press the **Enter** key.

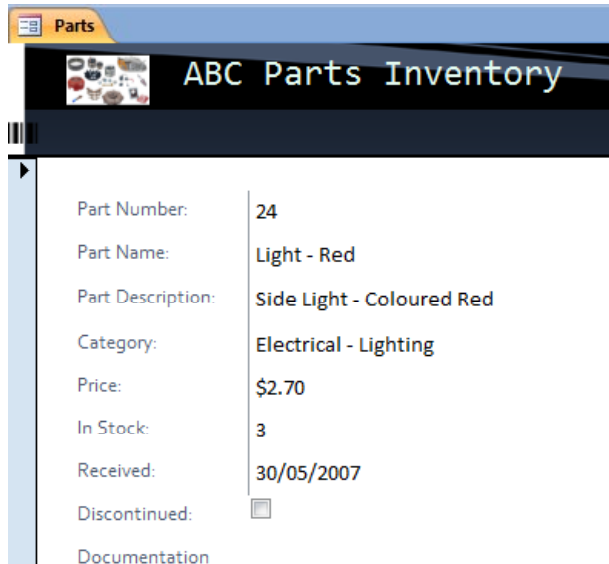
Price:	\$1.90
In Stock:	34
Received:	12/03/2007

NOTE: The value has been updated and committed to the **Parts** table.

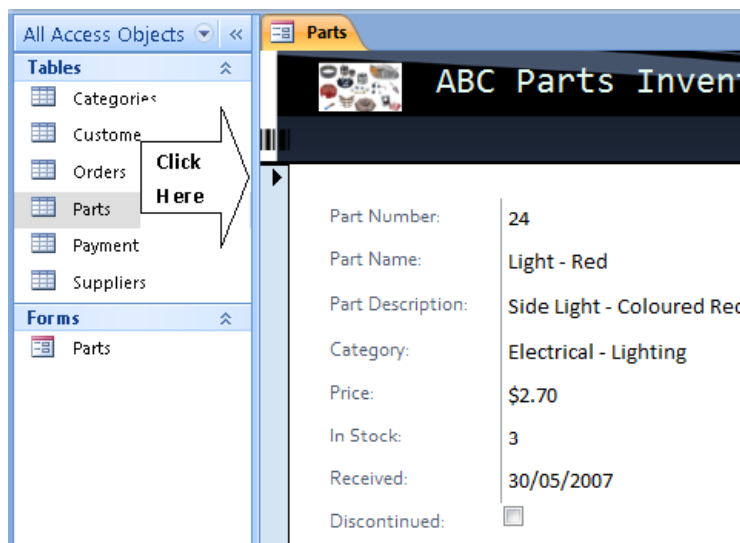
Deleting records

- Using the record navigation bar locate record **9**, which is to be removed from the table.





- At the top-left of each record in a form there is a bar with a single right pointing arrow at the top of the bar.



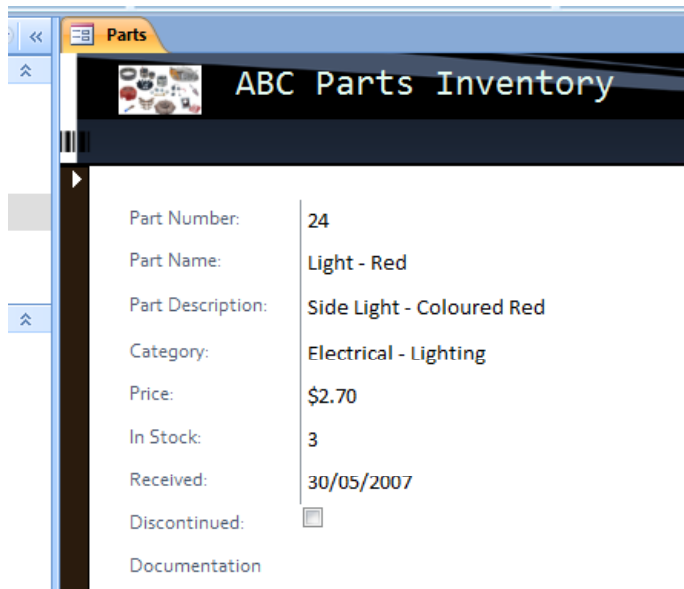
When clicked the bar changes to show the whole record is selected. By doing this, you can delete an entire record in one go.



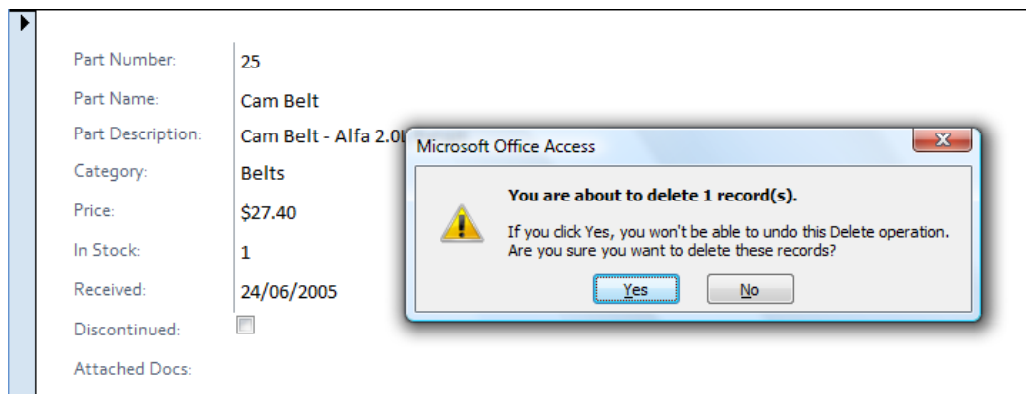
- Click anywhere on the bar to select the record.



The bar changes to look like this.



- Press the **Delete** key on the keyboard.



- Access displays a warning requesting confirmation of deletion.

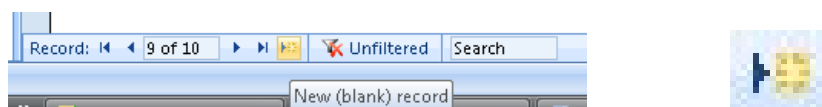
NOTE: The record which is about to be deleted has disappeared from view (see above image) and the Record Navigation bar displays one less record.



- Click on the **Yes** button to confirm deletion.

Adding records using a form

- Click on the **New Record** button on the record navigation bar (displayed at the bottom of your screen).

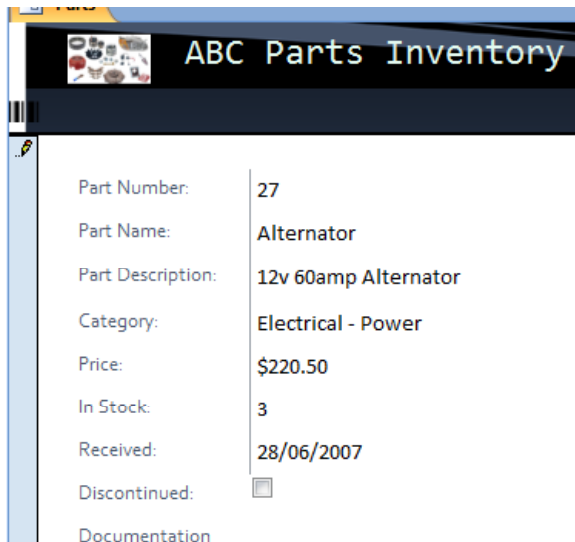


- Enter the following information to complete the new record, pressing the **Tab** or the **Enter** key to move from one field to the next.

NOTE: Leave the last two items blank.

Part Name	Alternator
Part Description	12v 60amp Alternator
Category	Electrical - Power
Price	220.50
In Stock	3
Received	28/06/2007
Discontinued	
Documentation	

- Press **Enter** once more to move to the next new record and save the record you just completed. Your screen will now look like this.



The screenshot shows a software window titled "ABC Parts Inventory". Inside the window, a form displays the following data:

Part Number:	27
Part Name:	Alternator
Part Description:	12v 60amp Alternator
Category:	Electrical - Power
Price:	\$220.50
In Stock:	3
Received:	28/06/2007
Discontinued:	<input type="checkbox"/>
Documentation	

Adding or deleting text in a record using a form

- You can delete any existing data within a record. For instance delete the **12v 60amp** text. Click on the **Undo** button to restore the deleted text.
- You can easily add to existing text. Change the **Part Name** text from **Alternator** to **Power Alternator**. Click on the **Undo** button to remove the additional text.

Closing forms

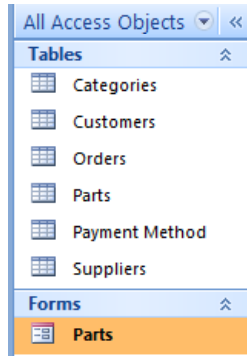
- To close a form, either click on the **Close** button at the top right of the Form Object window



NOTE: The form closes but is displayed in the Navigation Pane for future use.

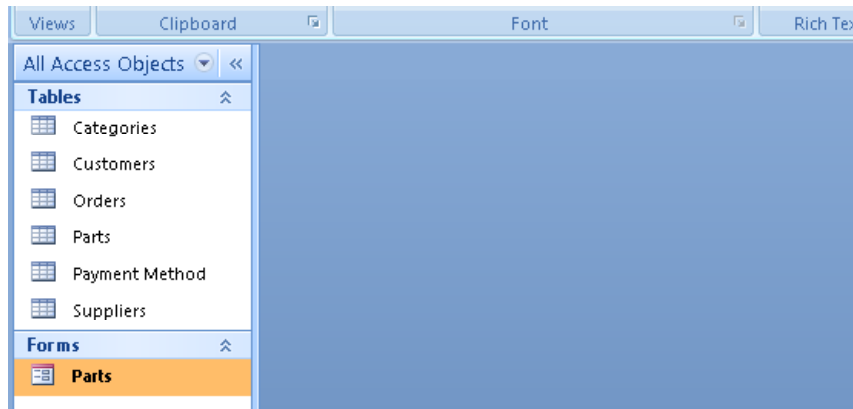
Opening forms

- To open a form, locate and double click on the form name in the Navigation Pane.

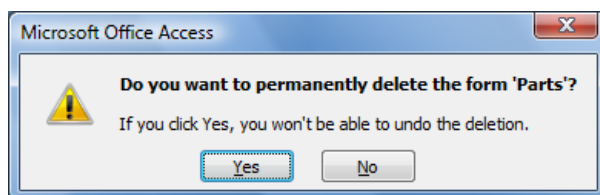


Deleting a form

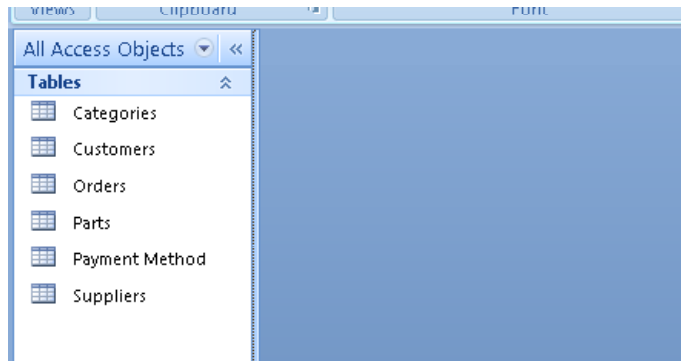
- If you opened the form, close it now. Deleting a form is similar to deleting a table or any other object in the database. Before an object in this case a form can be deleted, the object must be closed.
- Locate the form in the Navigation Pane.



- Click once to highlight the **Parts** form name and then either press the **Delete** key on the keyboard. Access displays a warning dialog box, requesting confirmation of deletion.



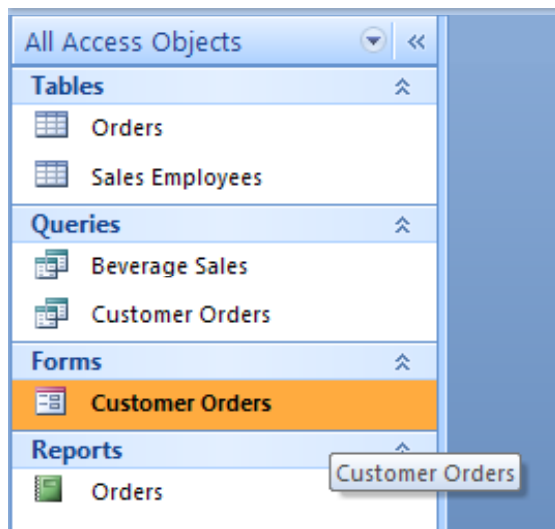
- Click on the **Yes** button to confirm deletion. You will no longer see the form, as illustrated below.



- Close Access and if necessary save any changes you have made.

Filtering a form

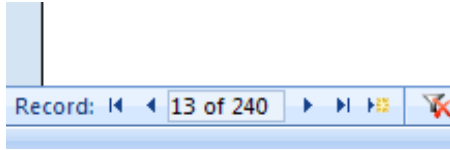
- Open Access and open a database called **Filtering Forms**.
- Open the **Customers Order** form.



- Your screen will look something like this.

First Name:	Anna
Last Name:	Bedecs
Category:	Beverages
Product Name:	Chai
Quantity:	75
Order Date:	15/01/2006

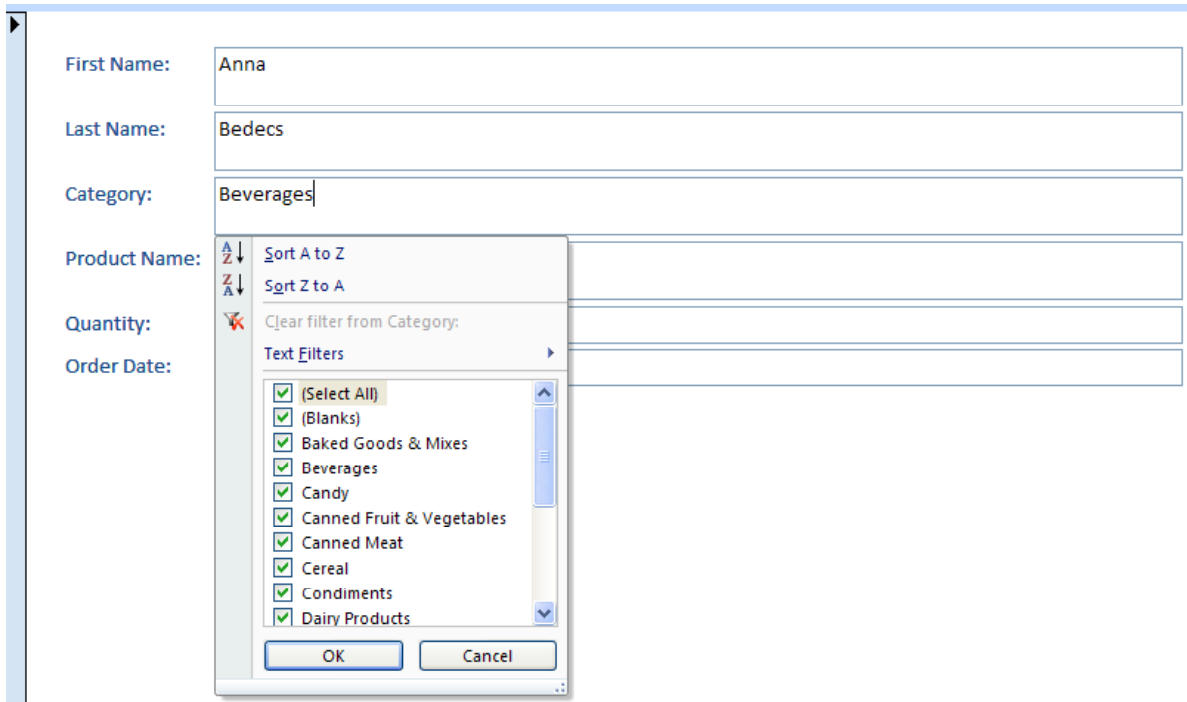
- If you click on the **Next Record** arrow button (towards the bottom-left) a few times you will see that there are a number of records relating to the **Beverages** category.



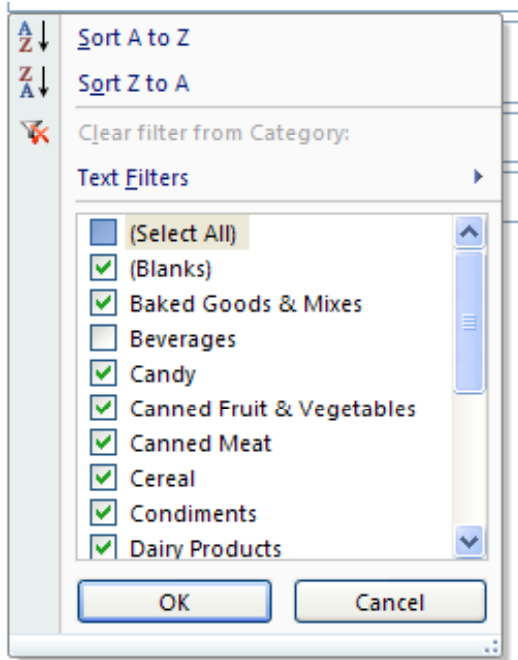
- Click within the **Category** section of the form (i.e. click over **Beverages**).
- Click on the **Filter** button on the **Ribbon**.



- This will display the following.



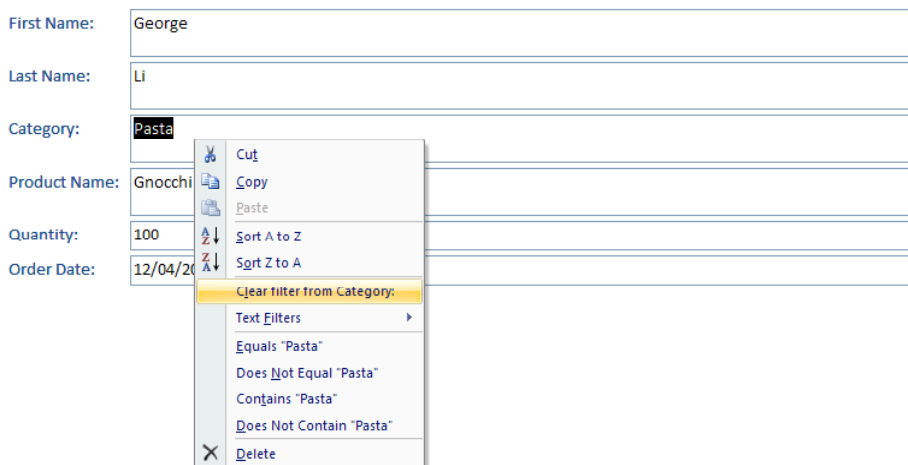
- Click within the **Beverages** check box to remove the tick.



- Click on the **OK** button. If you now click on the **Next Record** button a few times you will not see any items relating to the **Beverages** category, as you have filtered the form to not to show them.

Removing a filter form a form

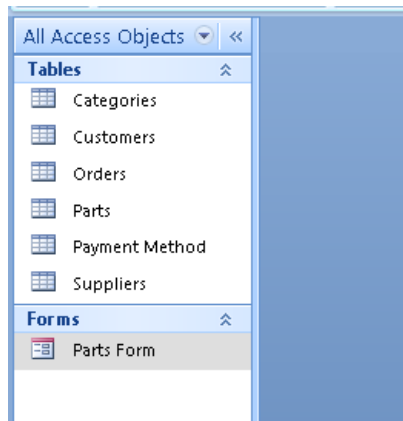
- Right click over the **Category** box (i.e. over **Pasta** in the example shown below). From the popup menu displayed, select the **Clear filter from Category** command.



- The **Beverages** category will now be displayed again.
- Save your changes and close Access.

Inserting and modifying a form header

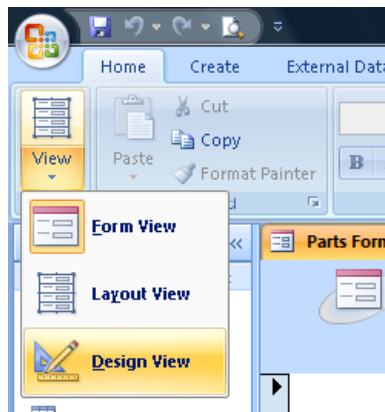
- Open a database called **Forms - Headers and Footers**. You will see the following.



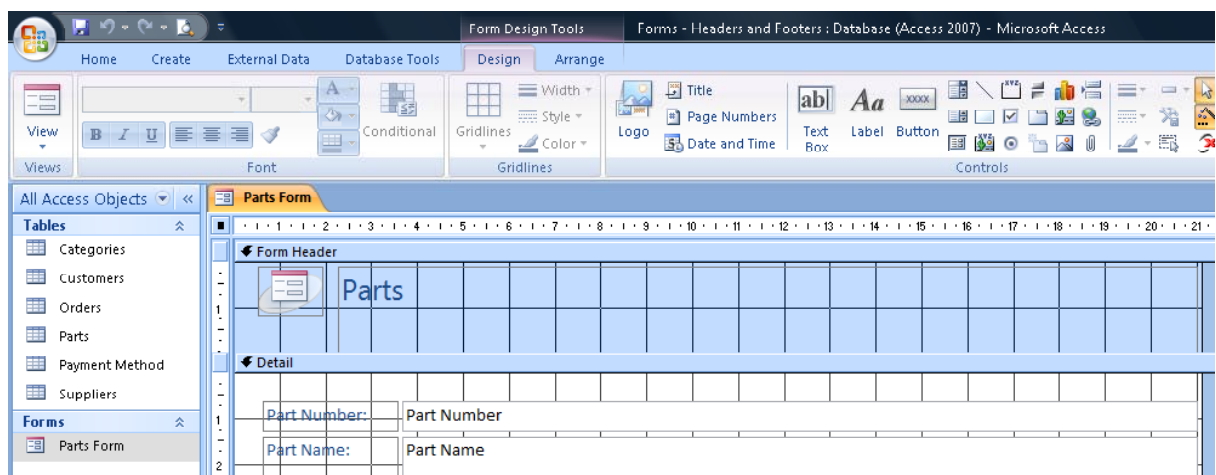
- Double click on the **Parts Form** to open it. Your screen will now look like this.

Order No	Part Description	Date of Order	Payment Method	Customer ID
*	(New)	9/06/2008		

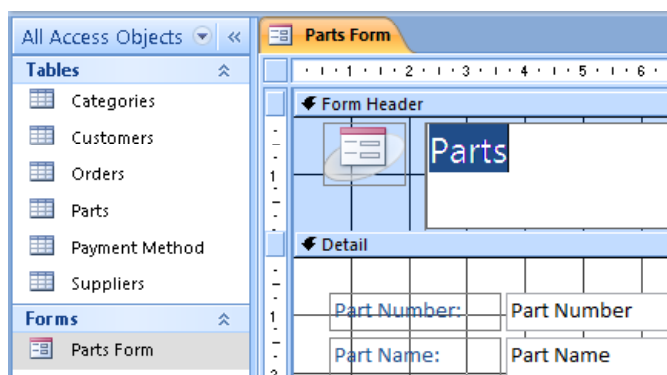
- Switch to **Design View**.



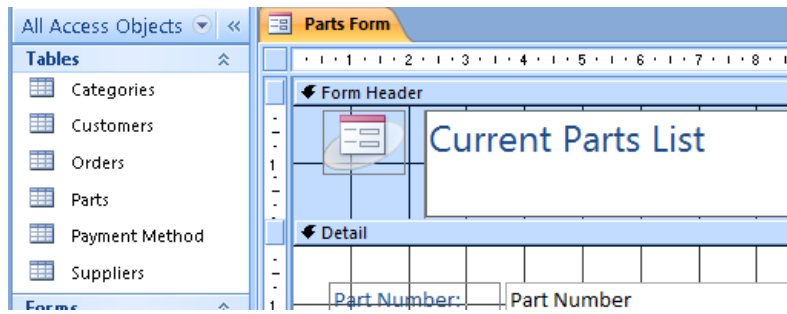
- Your screen will now look like this. Notice there is a **'Form Header'** section at the top of the form.



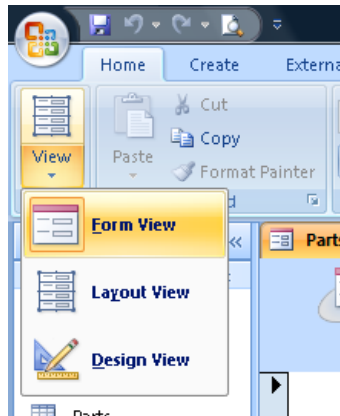
- Double click on the existing form header called **'Parts'** to select it, as illustrated.



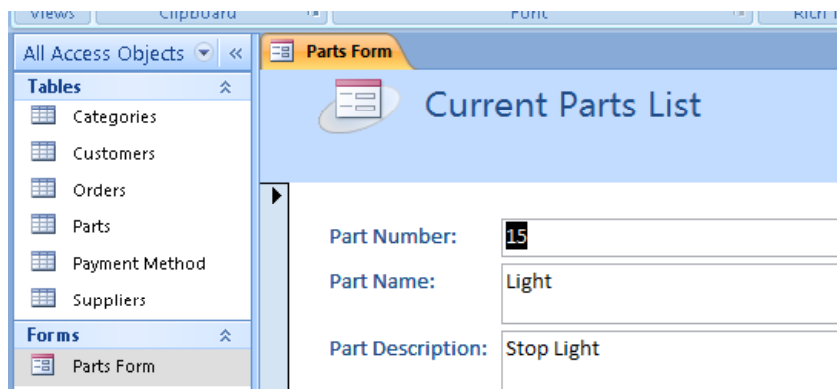
- Enter a new header, in this case **Current Parts List**, as illustrated below.



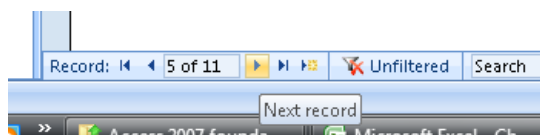
- Switch back to **Form View**.



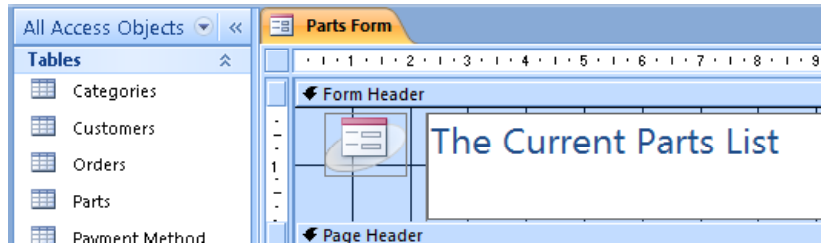
- You will see the following.



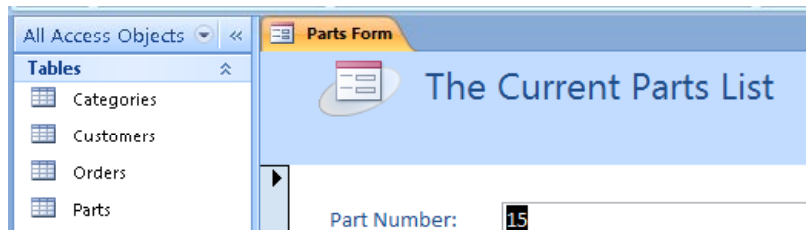
- If you use the **Next Record** control towards the bottom-left of the screen, you will see that the form header is always displayed.



- Switch back to **Design View**.
- Insert the word **'The'** in front of the existing header.

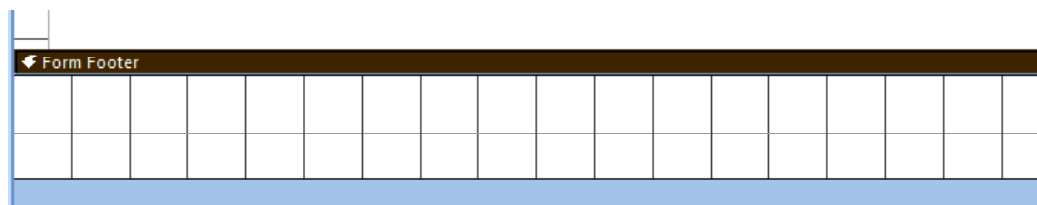


- Switch to **Form View** and you will see the following.

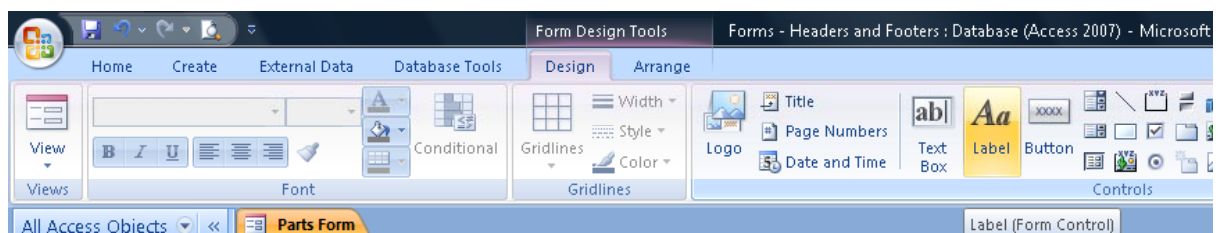


Inserting and modifying a form footer

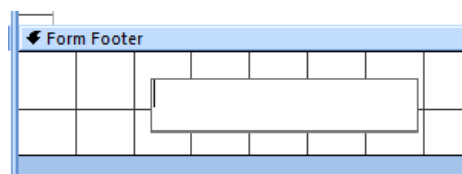
- Switch to Design View. If necessary scroll down until you see the **Form Footer** area



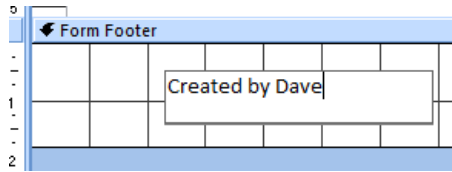
- Click on the **Label** button (within the **Control** section of the **Design** tab).



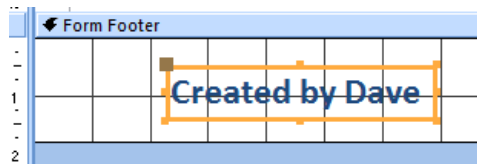
- Move the mouse pointer down to the area under the words 'Form Footer'. Press the mouse button and while keeping it pressed move diagonally to create a text box as illustrated below.



- Release the mouse button and type the words **Created by <your name>**, as illustrated below.



- Click on the **Home** tab and use the text formatting controls to make the text more visible, as illustrated below.



- Switch to **Form View**. Move between different records to verify that the form footer is visible for different records.

NOTE: If you wanted to modify the form footer, you would use the same technique used for modifying form headers.

- Save your changes and close the database.

Access 2007 Queries

What are queries?

- Using a query is similar to filtering and sorting tables but much more powerful. Unlike filters, multiple criteria can be used in one or more fields to be highly specific about the information you wish to extract from a table.
- Queries are used to extract and analyse data within one or more tables.
- Queries can be saved, edited and reused. They provide output for use by other database objects, such as forms and reports.
- Queries are also capable of working with data across multiple tables.
- Different queries are designed to perform different functions, for example an update query searches for and updates field information in one or more tables, whilst a delete query searches for and deletes records from one or more tables.
- **An update query** is similar to the Find & Replace function found in most Microsoft applications, only more advanced. For example, if telephone area codes change to accommodate an increasing population, an update query might be created to find all existing area codes affected by the change and at the same time, replace the old area code with a new area code.

NOTE: Update queries cannot create new records, only update existing records.

- **A select query is** used to search for and display data according to the specified criterion. This data can then be viewed as a table, in a form created specifically on the query or as a report.
- **A delete query** is used when you need to remove entire records (rows) from a table. Delete queries, by default, remove all of the data in each field, along with the unique key field, (normally the primary key field) When the query is run, it removes the entire record (row) from the table.

Before creating a delete query, you would create a select query first to ensure it returns the records that you want to delete. This way you are able to test the query first, rather than inadvertently deleting the wrong records. Only when the select query is tested and returns the correct results, would you convert the query to a delete query.

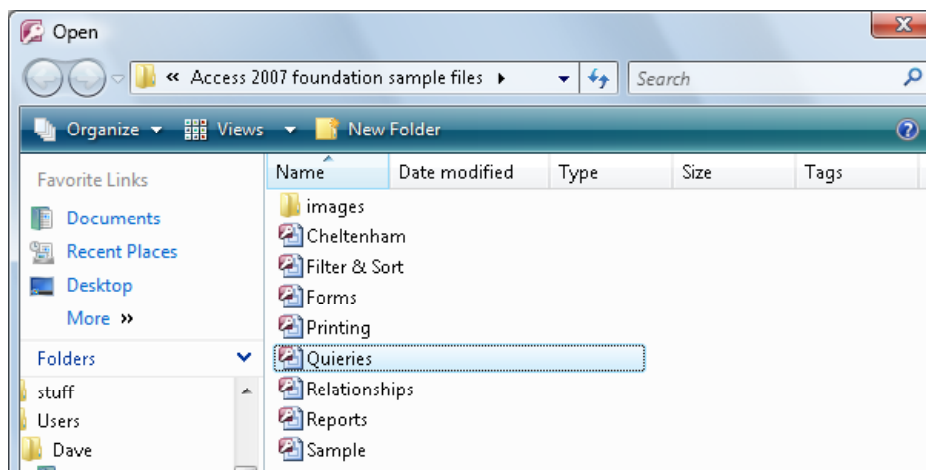
- **An append query**, is used when you want to extract information (records) from one or more tables and append (add) it to one or more tables. Normally the tables would reside in the same database however other database can also be used.

- A **make table query** retrieves data from one or more tables, and then loads the result set into a new table. That new table can reside in the database that you have open, or you can create it in another database.
- As with all objects, Access provides a Wizard tool to help create different types of queries or blank queries that can be configured from scratch.

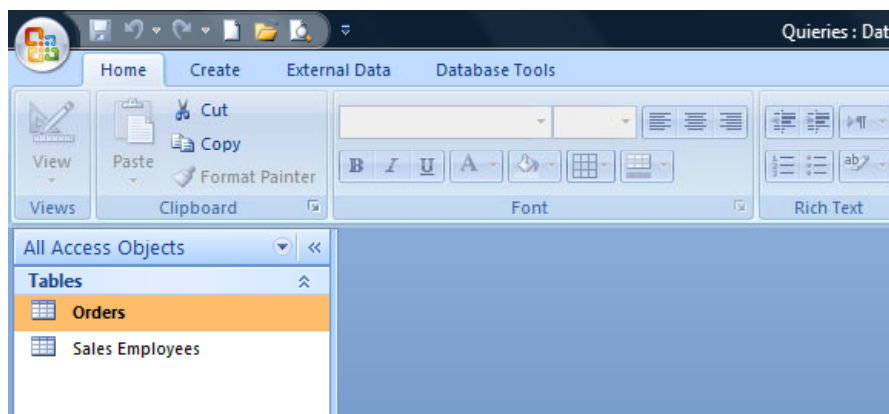
NOTE: Tables do not have to be open or selected to create a query.

Creating a simple query

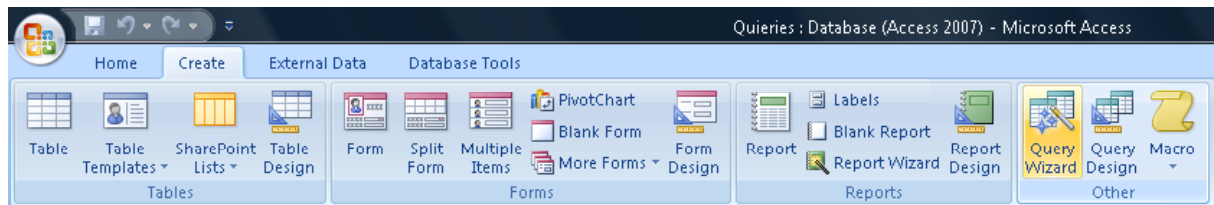
- Start Access and open a file called **Queries** contained in your Access samples folder.



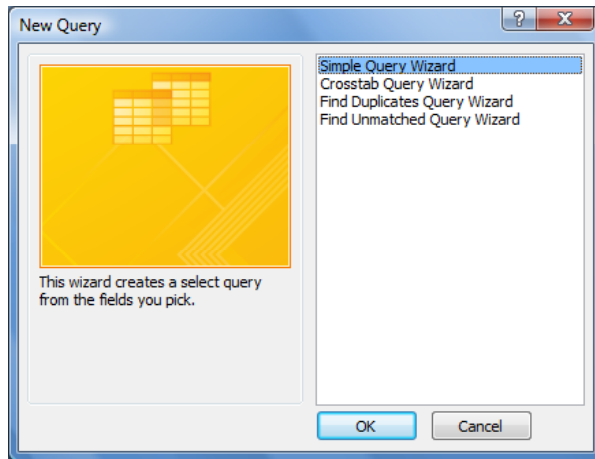
- The database opens with two tables (**Orders** and **Sales Employees**) displayed in the Navigation Pane.



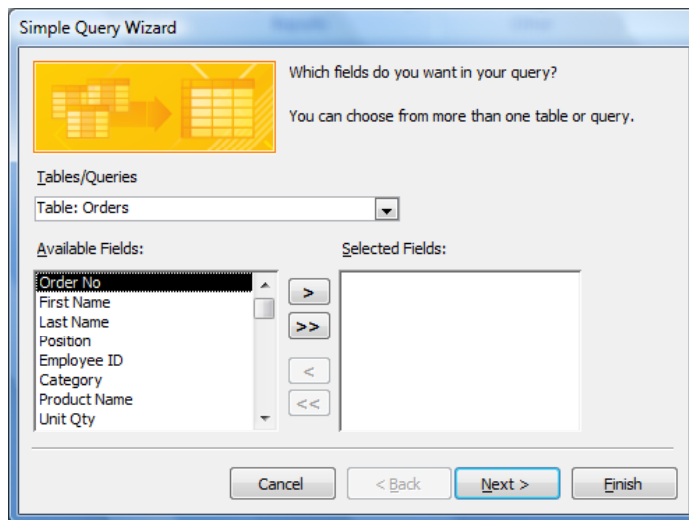
- Click on the **Create tab** and from within the **Other** group click on the **Query Wizard** button.



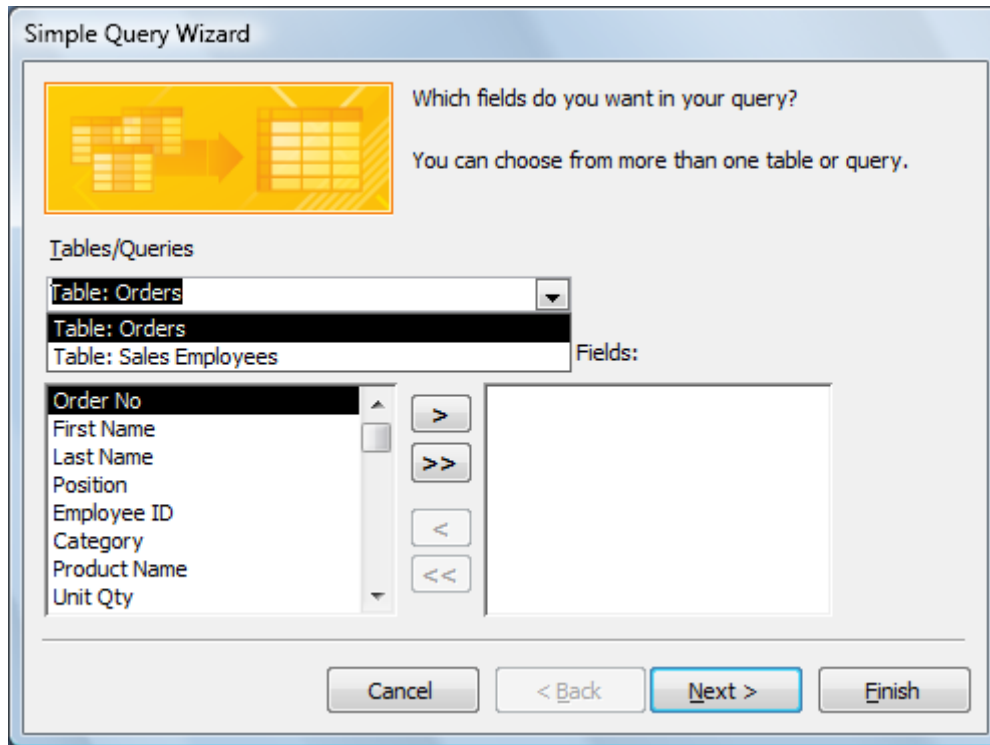
- The **New Query** dialog box is displayed.



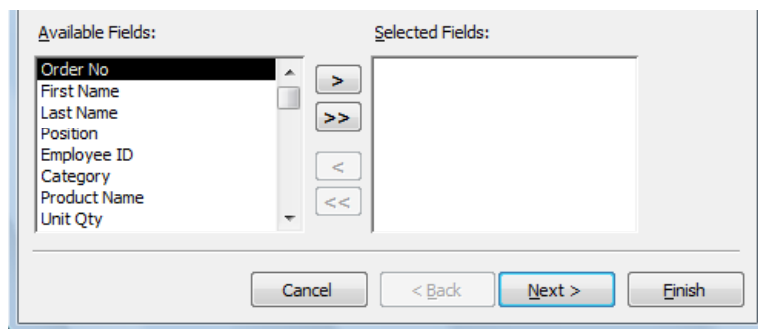
- With the **Simple Query Wizard** selected, click on the **OK** button. The **Simple Query Wizard** dialog opens.



- Use the **down arrow** in the upper part of the dialog box to select the table or query you intend working with, in this case select **Table: Orders**.



- In the lower part of the dialog box are two field selection boxes, **Available Fields** and **Selected Fields**.



- **Available Fields** can be added to the **Selected Fields** box by first highlighting the field and then clicking on the right pointing arrow button.



Or you could double click on a field within the **Available Fields** list.

Alternatively, clicking on the button below adds all fields to the **Selected Fields** box.



NOTE: When fields are displayed in the **Selected Fields** box, this button will remove all fields.

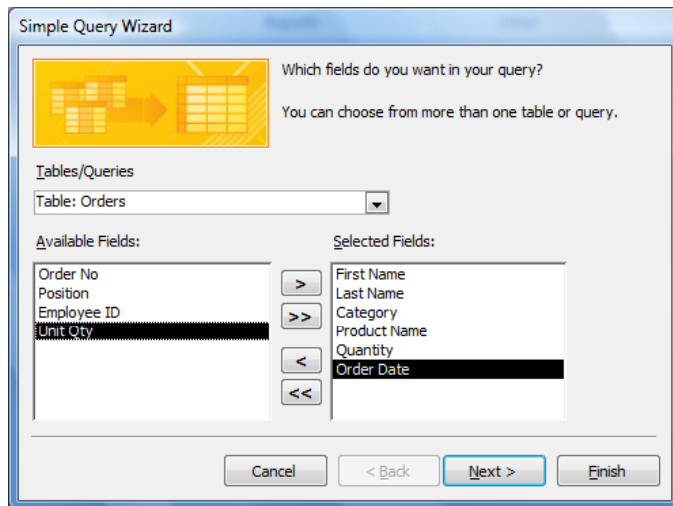


This button removes a single highlighted field.

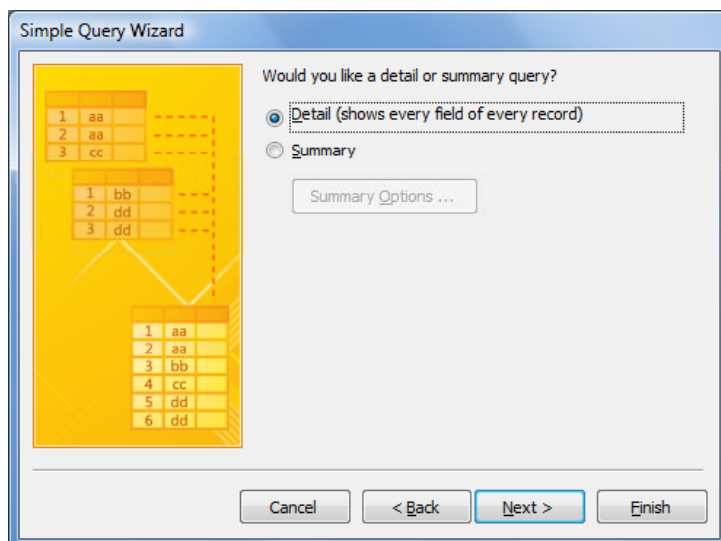


- Add the following fields:

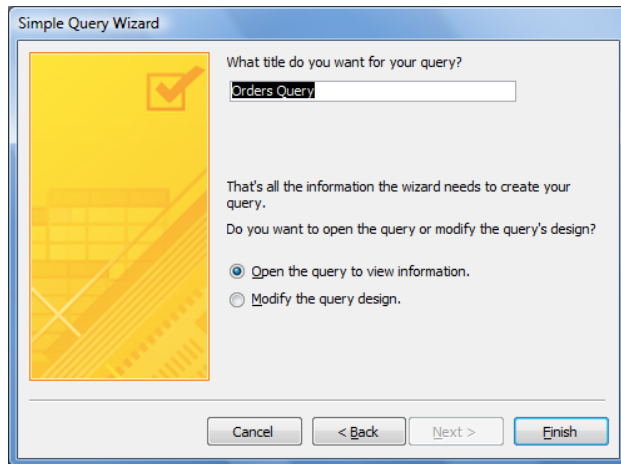
First Name
Last Name
Category
Product Name
Quantity
Order Date.



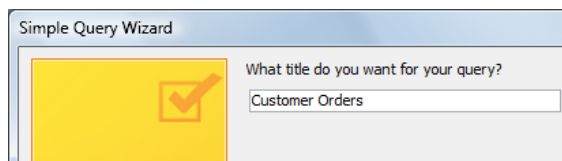
- Click on the **Next** button.



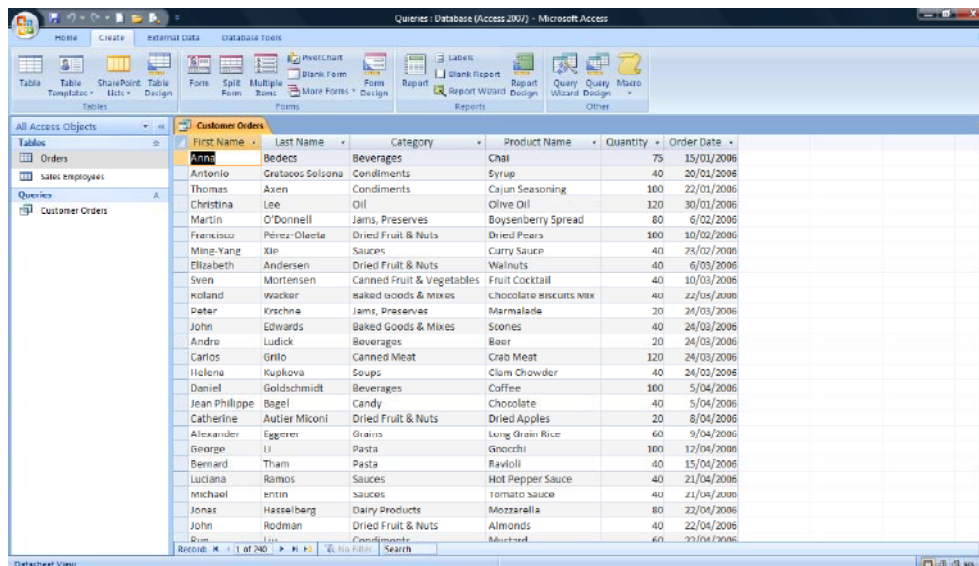
- Click on the **Next** button.



- At this point you can accept the default name provided by Access or type your own. Highlight the **Query Name** and type in **Customer Orders**, as illustrated.



- Click on the **Finish** button. The **Customer Orders** query displays the result in table form and the new query can be seen as a new object in the Navigation Pane.



- Currently all this query has done is to display information from the **Orders** table using only the fields chosen as you worked through the wizard.

NOTE: By default, Access has already saved the query using the name provided during the wizard process.

Adding (and removing) criteria to a query

- To utilise the power of a query and locate specific records, criteria must be entered to give the query something to work with.

For example, if there is a need to locate orders placed between certain dates, we would use the AND operator with the following type of criteria entered into the date field of the query.

>=01/01/2006 AND <=01/06/2006

Using the OR operator you could enter the following criteria into the date field.

22/01/2006 OR 9/04/2006

This criteria would locate records with either of those two dates.

The NOT operator could be used to exclude records with certain dates from the query results. For example:

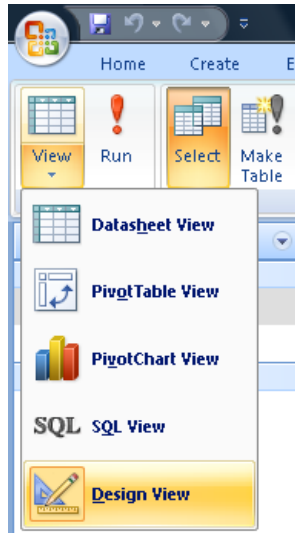
NOT 22/01/2006

This criteria would exclude all records dated 22/01/2006 from the query results.

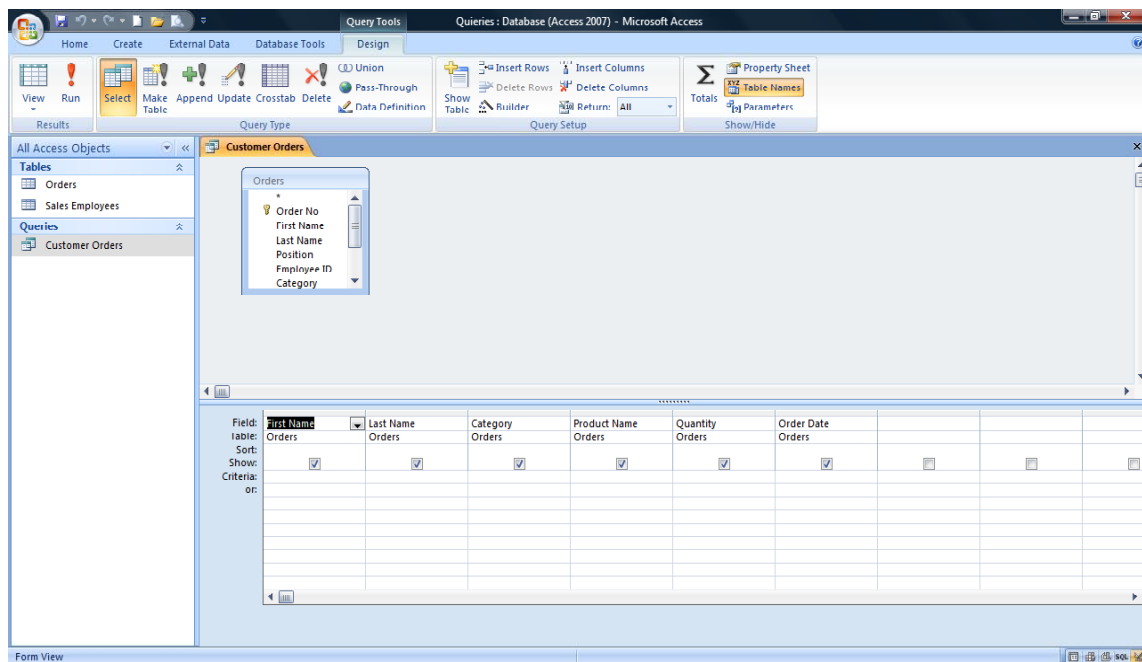
TIP: Operators use to create criteria in queries are the same operators used to create validation rules.

Validation Rule Comparison Operators	Description
>	Greater than
<	Less than
=	Equal to
>=	Greater than or Equal to
<=	Less than or Equal to
<>	Not Equal to

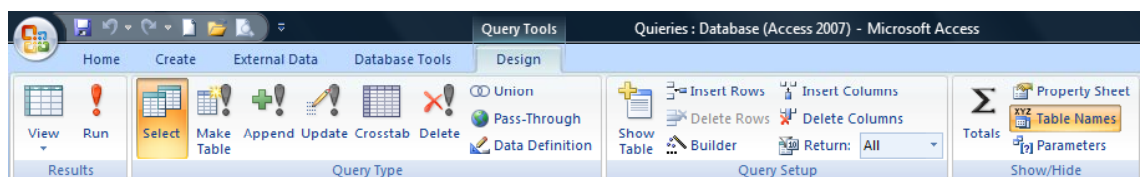
- To add criteria to a query, the query must first be in Design View. Click on the **Home** tab. Click on the **Design View** button to switch to **Design View**.



- Your screen will now look like this.



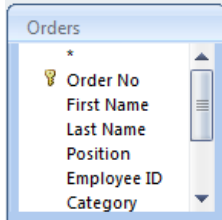
- Similar to other objects when in Design View, queries have their own specific ribbon, functions and tools.



NOTE: Although this is currently a Select query, this query can be modified at any stage to become a different type of query and therefore perform a different function.

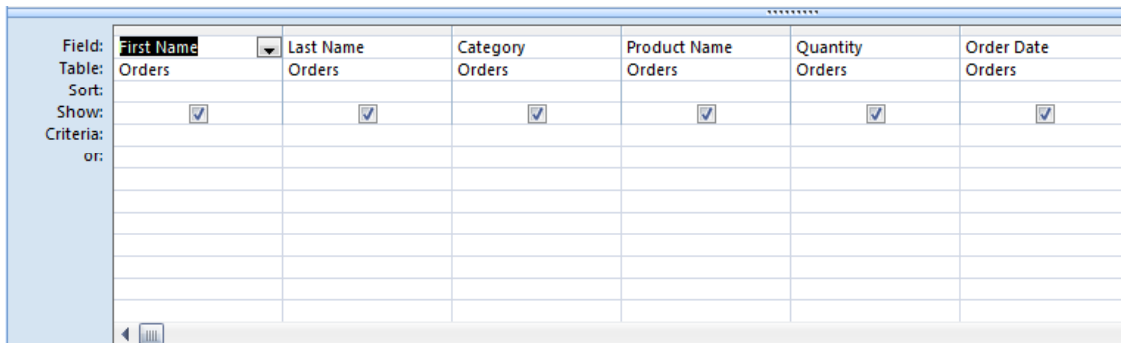


- When working with existing queries, the table field list, located in the Query Design window, is similar to that used when creating relationships between tables. The underlying table can be identified by the name at the top of the list, in this case **Orders**.



NOTE: One difference with this table field list is the * symbol above the Primary Key. When used, the * represents **All** fields in the table and is used to save time.

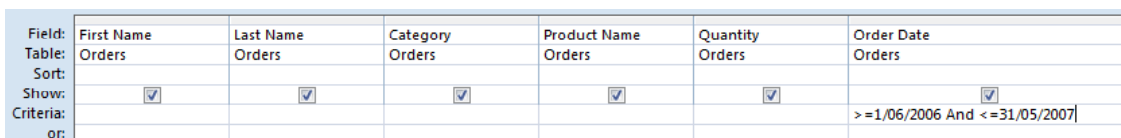
- The Query Design Grid is where selected fields from one or more tables are added, criteria entered, the sort order set and fields set to display or not when the query is run.



NOTE: Fields can be included in the query design grid for criteria (record search) purposes only and they do not have to be displayed when the query is run.

- Place the mouse pointer in the **Criteria** row under the **Order Date** field in the query design grid and type the following.

>=1/06/2006 AND <=31/05/2007



- Press the **Enter** key or use the keyboard cursor key to move to another cell in the grid.

- Notice how the criteria entered changes. Access places hash symbols either side of the dates to signify this value as a date.



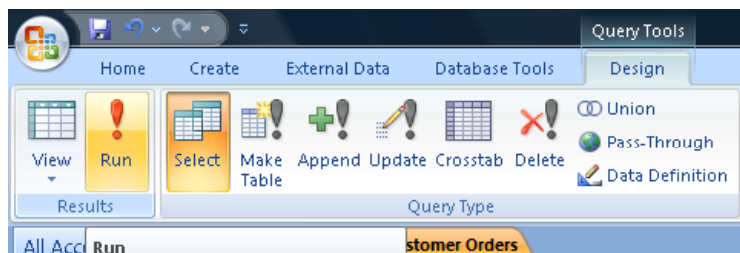
NOTE: You may have to widen the column to see this clearly.

Field:	First Name	Last Name	Category	Product Name	Quantity	Order Date
Table:	Orders	Orders	Orders	Orders	Orders	Orders
Sort:						
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:						>=#1/06/2006# And <=#31/05/2007#
or:						

NOTE: Don't do this now, but if you wanted to remove this criteria, you would simply select it in **Design View** and then press the **Del** key to delete it.

Running a query

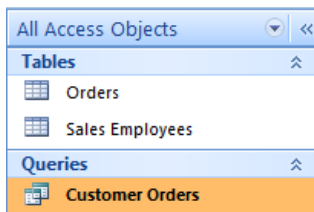
- When all the necessary fields, criteria, sort parameters, etc, have been entered into a query and it is ready to be tested or used, you will need to 'run' the query.
- As an example, when you run a select query, you are giving the query a command to look at its parameters, go and search the table or tables for records matching the criteria and produce a list of those records.
- Click on the **Design** tab and from within the **Results** group click on the **Run** button.



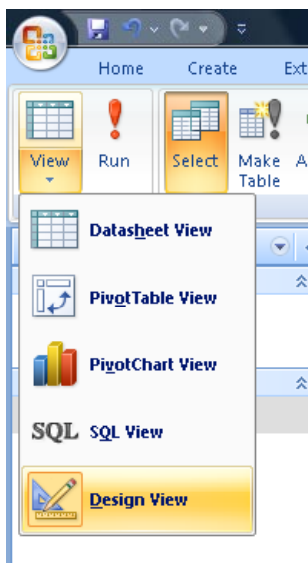
- The results of the query are displayed in table form, as illustrated.

First Name	Last Name	Category	Product Name	Quantity	Order Date
Jean-Philippe		Cereal	Granola	40	2/06/2006
Catharine	Autiler Miconi	Beverages	Green Tea	20	4/06/2006
Alexander	Eggerer	Sauces	Hot Pepper Sauce	60	6/06/2006
George	Li	Grains	Long Grain Rice	100	8/06/2006
Bernard	Tham	Jams, Preserves	Marmalade	40	10/06/2006
Luciano	Ramos	Dairy Products	Mozzarella	40	12/06/2006
Michael	Erwin	Condiments	Mustard	40	14/06/2006
Jonas	Hasselberg	Oil	Olive Oil	80	16/06/2006
John	Rodman	Pasta	Ravioli	40	18/06/2006
Kun	Liu	Baked Goods & Mixes	Scones	80	20/06/2006
Karen	Toh	Condiments	Syrup	100	22/06/2006
Amritansh	Raghav	Sauces	Tomato Sauce	125	24/06/2006
Soo Jung	Lee	Dried Fruit & Nuts	Walnuts	30	26/06/2006
Anna	Bedeck	Dried Fruit & Nuts	Almonds	75	28/06/2006
Antonio	Grotacos Solsona	Beverages	Beer	40	30/06/2006
Thomas	Aken	Jams, Preserves	Boysenberry Spread	100	2/07/2006
Christina	Lee	Condiments	Cajun Seasoning	120	4/07/2006
Martin	O'Donnell	Beverages	Chai	80	6/07/2006
Francisco	Pérez-Oleata	Candy	Chocolate	100	8/07/2006
Ming-Yang	Xie	Baked Goods & Mixes	Chocolate Biscuits Mix	40	10/07/2006
Elizabeth	Andersen	Soups	Clam Chowder	40	12/07/2006
Sven	Mortensen	Beverages	Coffee	40	14/07/2006
Koland	Wacker	Canned Meat	Crab Meat	40	16/07/2006
Peter	Krishna	Sauces	Curry Sauce	20	18/07/2006
John	Edwards	Dried Fruit & Nuts	Dried Apples	40	20/07/2006
Jennifer	Lundberg	Dried Fruit & Nuts	Dried Dates	70	22/07/2006

- Look at the data within the **Order Date** column and you should see that all the dates displayed are within the range specified by the query criteria.
- In the **Navigation Pane**, click once on the query to select it.



- Click on the **Design View** button to return to **Design View**.



- Next we want to narrow down the search to purchases made for products which fall under the **Dried Fruit & Nuts** and **Grains** categories, between the

date criteria previously set.

- Place the mouse pointer into the **Criteria** row of the query design grid in the **Category** field. Type in the following.

Dried Fruit & Nuts.

- Use the keyboard **down arrow** pointer key or mouse to move down to the row below (the 'or' row) in the same field (**Category**).

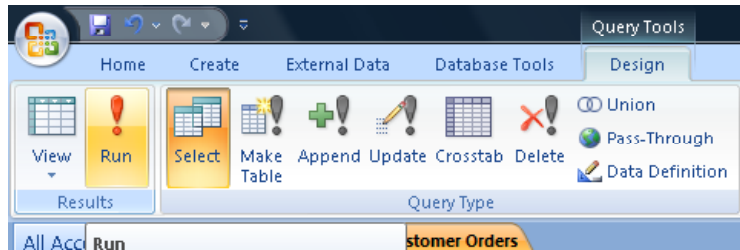
Field:	First Name	Last Name	Category	Product Name	Quantity	Order Date
Table:	Orders	Orders	Orders	Orders	Orders	Orders
Sort:						
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:			"Dried Fruit" & "Nuts"			>=#1/06/2006# And <=#31/05/2007#
or:			"Grains"			

- Type in the following and press the **Enter** key.

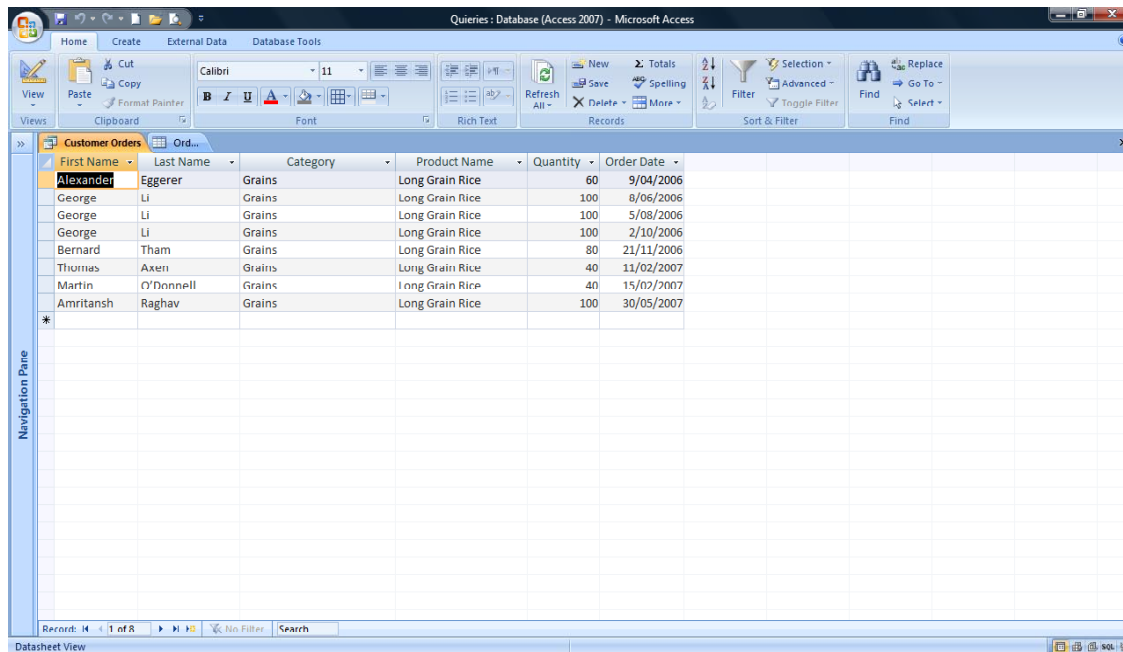
Grains

NOTE: This time Access encloses the text with "Speech" marks to set the data type to search for as text.

- When run, the query will now search for any records between the date range specified which contain either **Dried Fruit & Nuts** or **Grains**.
- Click on the **Design** tab and from within the **Results** group click on the **Run** button.



- When the results are displayed however they are not what we might have expected. There are no records listing **Dried Fruit & Nuts**.



- It is possible that none of the sales of **Dried Fruit & Nuts** took place between the dates specified but this is unlikely. Either way, it is worth checking the query design to make sure the criteria is correct.

TIP: The easiest way to check the results is to take a look at the table or tables the query is working with. If records matching the criteria are available in the table but not the query, there must be an issue with the query design.

Editing criteria in a query

- Switch back to Design View (using the **View** button).
- As we know the data range works, having run the query prior to adding the **Category** criteria, the problem must be elsewhere. Look at the criteria in the **Category** field.

Field:	First Name	Last Name	Category
Table:	Orders	Orders	Orders
Sort:			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:			"Dried Fruit" & "Nuts"
or:			"Grains"

- When you entered the criteria and moved to the next row, Access added "speech" marks. The criteria went from **Dried Fruit & Nuts** to **"Dried Fruit" & "Nuts"**.
- Despite all good intentions, Access does not always interpret entries in the way there were intended. Access has seen the **&** between **Dried Fruit** and **Nuts** and interpreted this to be two statements;

1) Dried Fruit

2) **Nuts.**

- As no such entries exist in the table, nothing was displayed.
- Place the pointer into the **Criteria** row of the **Category** field and remove the two **“speech” marks** either side of the **&** symbol.

The result should be **"Dried Fruit & Nuts"**.

- Press **Enter** to commit the changes.

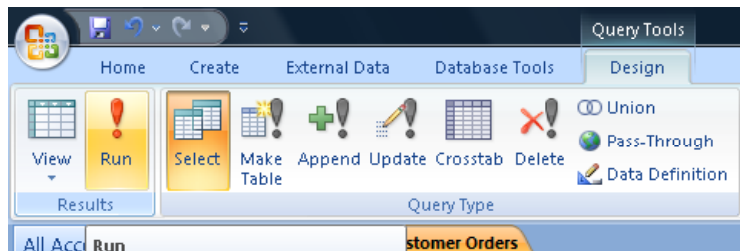
Incorrect criteria

Category
Orders
<input checked="" type="checkbox"/>
"Dried Fruit" & "Nuts"
"Grains"

Correct criteria

Category
Orders
<input checked="" type="checkbox"/>
"Dried Fruit & Nuts"
"Grains"

- Click on the **Design** tab and from within the **Results** group click on the **Run** button.



- The results are displayed and this time includes records which contain the category **Dried Fruit & Nuts** according to the criteria set.

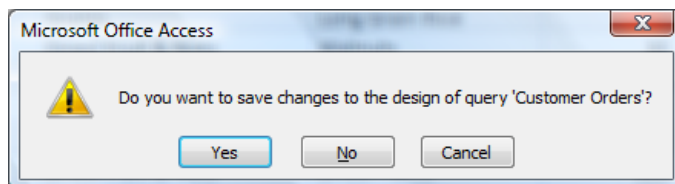
First Name	Last Name	Category	Product Name	Quantity	Order Date
Alexander	Eggerer	Grains	Long Grain Rice	60	9/04/2006
George	Li	Grains	Long Grain Rice	100	8/06/2006
Soo Jung	Lee	Dried Fruit & Nuts	Walnuts	30	26/06/2006
Anna	Bedecs	Dried Fruit & Nuts	Almonds	75	28/06/2006
John	Edwards	Dried Fruit & Nuts	Dried Apples	40	20/07/2006
Andre	Ludick	Dried Fruit & Nuts	Dried Pears	20	22/07/2006
Carlos	Grilo	Dried Fruit & Nuts	Dried Plums	120	24/07/2006
George	Li	Grains	Long Grain Rice	100	5/08/2006
Soo Jung	Lee	Dried Fruit & Nuts	Walnuts	30	23/08/2006
Anna	Bedecs	Dried Fruit & Nuts	Almonds	75	25/08/2006
John	Edwards	Dried Fruit & Nuts	Dried Apples	40	16/09/2006
Andre	Ludick	Dried Fruit & Nuts	Dried Pears	20	18/09/2006
Carlos	Grilo	Dried Fruit & Nuts	Dried Plums	120	20/09/2006
George	Li	Grains	Long Grain Rice	100	2/10/2006
Soo Jung	Lee	Dried Fruit & Nuts	Walnuts	30	20/10/2006
Elizabeth	Andersen	Dried Fruit & Nuts	Dried Pears	20	26/10/2006
Roland	Wacker	Dried Fruit & Nuts	Walnuts	20	30/10/2006
George	Li	Dried Fruit & Nuts	Dried Apples	40	19/11/2006

Saving a query

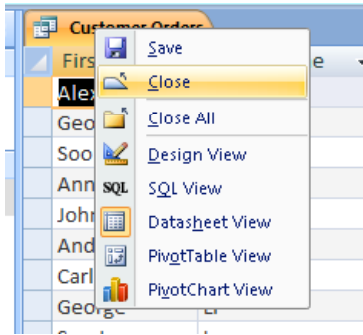
- When first created using the Access wizard, a query is saved automatically. If the query is then modified at a later stage or you create a blank query, you will need to save using the **Save** button in the Quick Access toolbar.



- If you make changes to a query and then run the query, then when you exit the query without saving, you will be prompted to save the query.

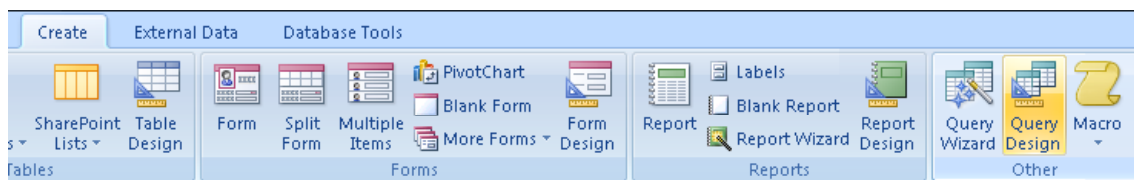


- Click on the **Yes** button to save any changes, otherwise they will be lost and you will have to start afresh.
- Right click on the **Customers Orders** query tab to display a popup menu and select the **Close** command. If prompted, click on the **Yes** button to save the query.

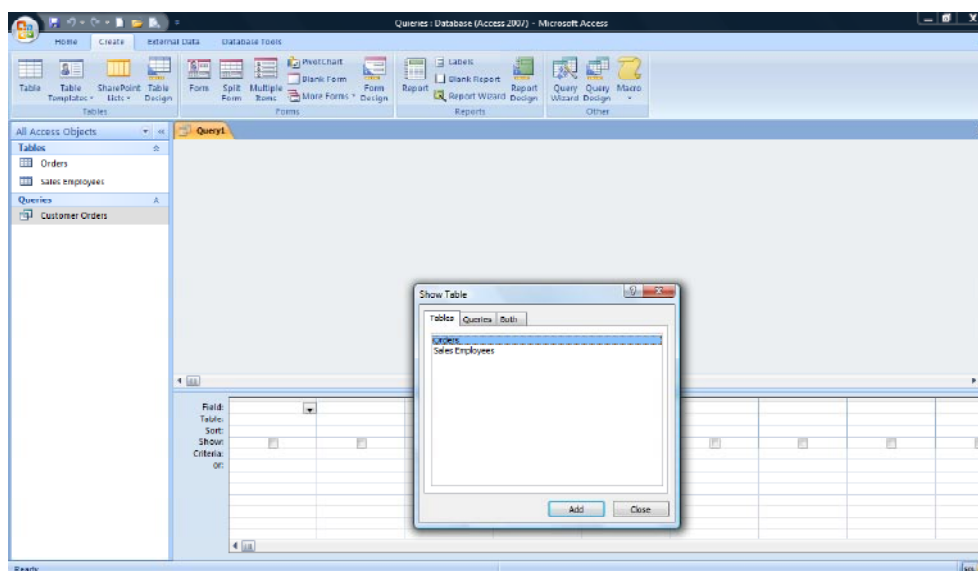


Creating a two table query and sorting the results

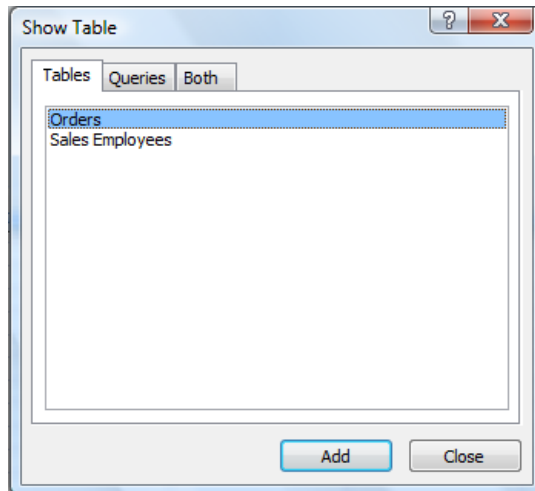
- More often than not, the information in a database will be split across multiple tables. For a query to work with multiple tables, a relationship between the tables must be established.
- Continuing with the **Queries** database and the **Customer Orders** query, the next objective is to search for records matching a given criteria, using both the **Orders** and **Sales Employees** table.
- Click on the **Create** tab and from within the **Other** group, click on the **Query Design** button.



- The Query Design window is displayed.



- The **Show Table** dialog box is also displayed, similar to the one used to add tables when creating table relationships.

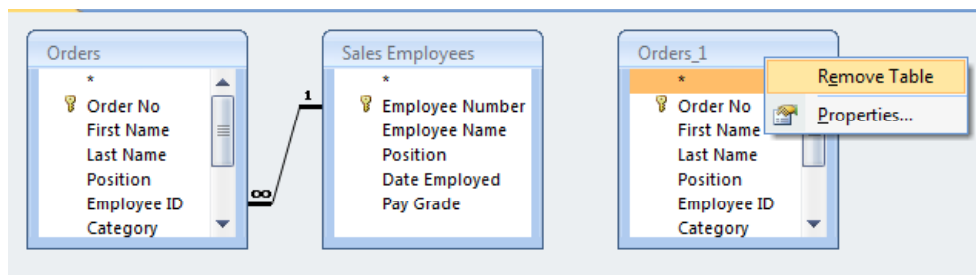


- Click on the **Add** button to add the **Orders** table, and then select to highlight the **Sales Employees** table and click on the **Add** button again.

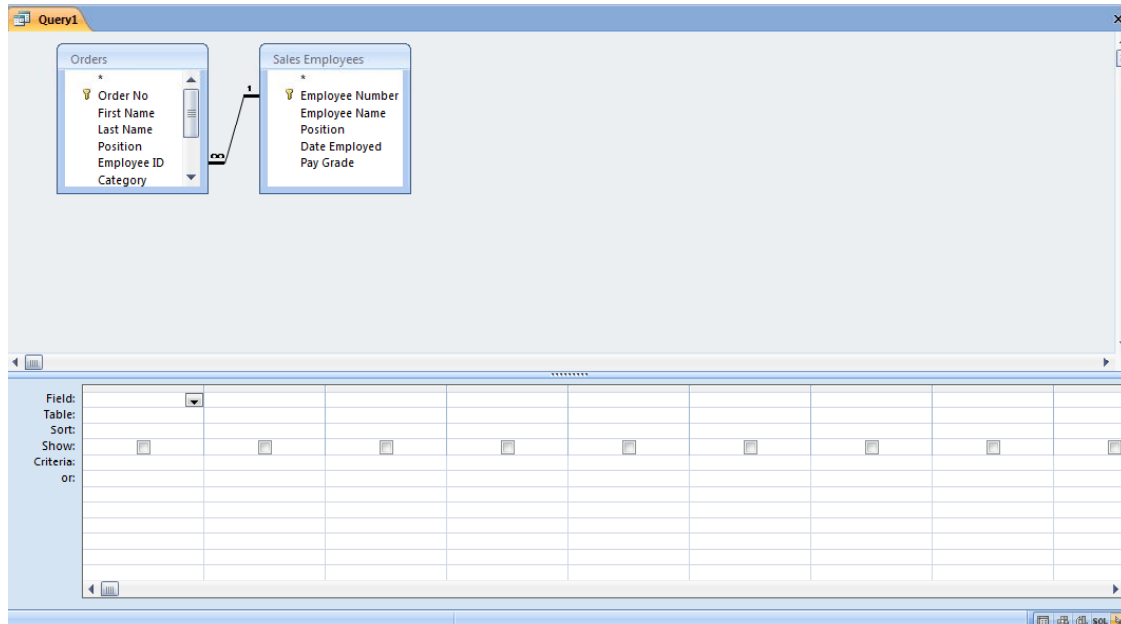
TIP: Double clicking on both table names quickly adds them to the query design window.

- When both tables have been added to the query design window, click on the **Close** button to close the **Show Table** dialog box.

NOTE: If you inadvertently add a table twice to the query design window, with the pointer in the name area at the top of the additional table, (normally identified by the Original Table name with a **_1** after the name), click using the right mouse button and from the shortcut menu, select **Remove**. See next image.



- When the **Show Table** dialog box is closed, the design window should be left with two linked tables.

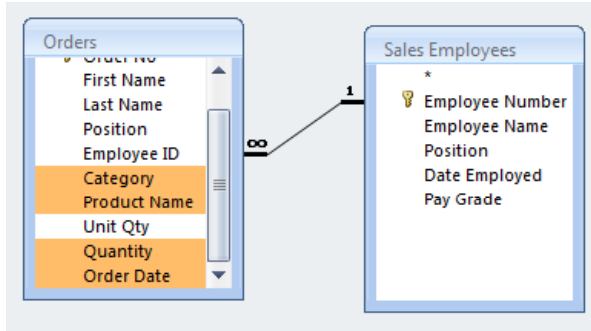


- The purpose of this query is to check the sales performance of staff. The **Sales Employees** table contains the names of each of the sales teams and other staff information. The **Orders** table contains information about products sold, quantities, dates, etc.
- A relationship between the two tables has already been established with the **Employee Number** (Primary key) field in the **Sales Employees** table linked to the **Employees ID** (Foreign key) field in the **Orders** table.
- **Employee names** are not listed in the **Orders** table. To have the query display the names of staff against the orders they have processed, a query will have to include fields from both tables.
- In the **Orders** table, click once to select the **Category** field. Now hold down the **Ctrl** key and click once on each of the following fields.

NOTE: You may need to scroll down the list to see all these items.

Product Name
Quantity
Order Date.

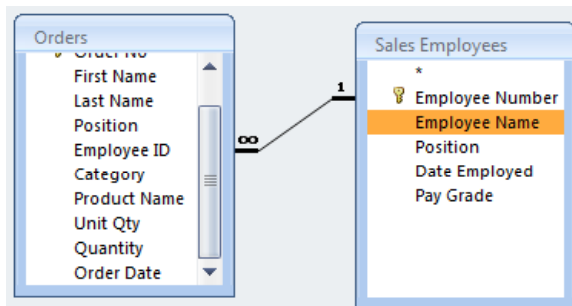
- Release the **Ctrl** key and the four fields should now be highlighted within the **Orders** table.



- In one movement, place the pointer over one of the highlighted fields, click and drag to the design grid below. When the pointer is in the grid, release the mouse button. The fields are added to the design grid and are ordered from left to right as they would be in the table.

Field:	Category	Product Name	Quantity	Order Date	
Table:	Orders	Orders	Orders	Orders	
Sort:					
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:					
or:					

- Next click to select the **Employee Name** field in the **Sales Employee** table.



- Click and drag the **Employee Name** field down and to the next blank column to the right of the **Order Date** field.
- With the pointer correctly positioned, release the mouse button to add the field.

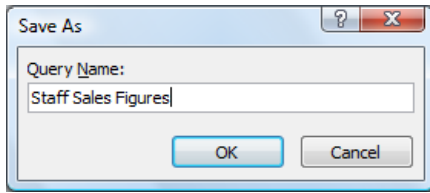
Field:	Category	Product Name	Quantity	Order Date	Employee Name
Table:	Orders	Orders	Orders	Orders	Sales Employees
Sort:					
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:					
or:					

NOTE: The table row of the query design grid displays the names of the tables used in this query.

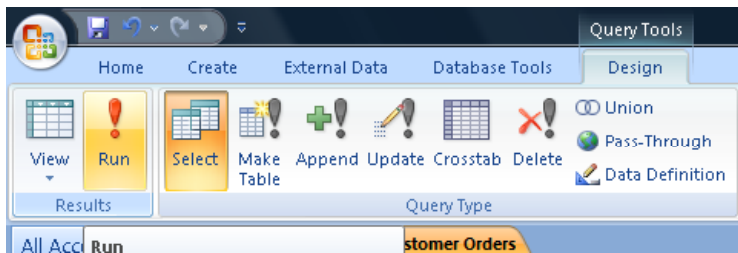
- Click on the **Save** button in the **Quick Access toolbar**.



- When prompted to name the query, type in **Staff Sales Figures**.



- Click on the **OK** button to name and save the query.
- Click on the **Design** tab and within the **Results** group click on the **Run** button.



- The query displays a table containing a list of all the sales staff and the orders placed with each member of staff. At this time the table is arranged in order of **Employee ID**, the primary key field, even though this field was not included in the query design.

Category	Product Name	Quantity	Order Date	Employee N
Canned Meat	Crab Meat	120	24/03/2006	1
Jams, Preserves	Boysenberry Spread	100	5/05/2006	1
Candy	Chocolate	100	11/05/2006	1
Condiments	Mustard	40	14/06/2006	1
Baked Goods & Mixes	Scones	60	20/06/2006	1
Baked Goods & Mixes	Chocolate Biscuits Mix	40	10/07/2006	1
Oil	Olive Oil	80	13/08/2006	1
Condiments	Syrup	100	19/08/2006	1
Soups	Clam Chowder	40	8/09/2006	1
Pasta	Ravioli	40	12/10/2006	1
Sauces	Tomato Sauce	125	18/10/2006	1
Beverages	Coffee	40	15/11/2006	1
Dried Fruit & Nuts	Dried Apples	40	19/11/2006	1
Pasta	Gnocchi	40	23/11/2006	1
Sauces	Tomato Sauce	125	29/11/2006	1
Condiments	Mustard	120	5/12/2006	1
Dried Fruit & Nuts	Walnuts	20	2/01/2007	1
Beverages	Beer	100	6/01/2007	1

- Switch to Design View by clicking on the **View** button.

- Move the mouse pointer to just above the **Employee Name** field name where there is a thin grey line and until the pointer changes to a **down arrow** shape.
- With the **down arrow** shape as the pointer, click to highlight the **Employee Name** field.

Quantity	Order Date	Employee Name	
Orders	Orders	Sales Employees	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- Move the **pointer** once more to just above the **Employee Name** field name where there is a thin line and until the pointer this time changes to an arrow shape.

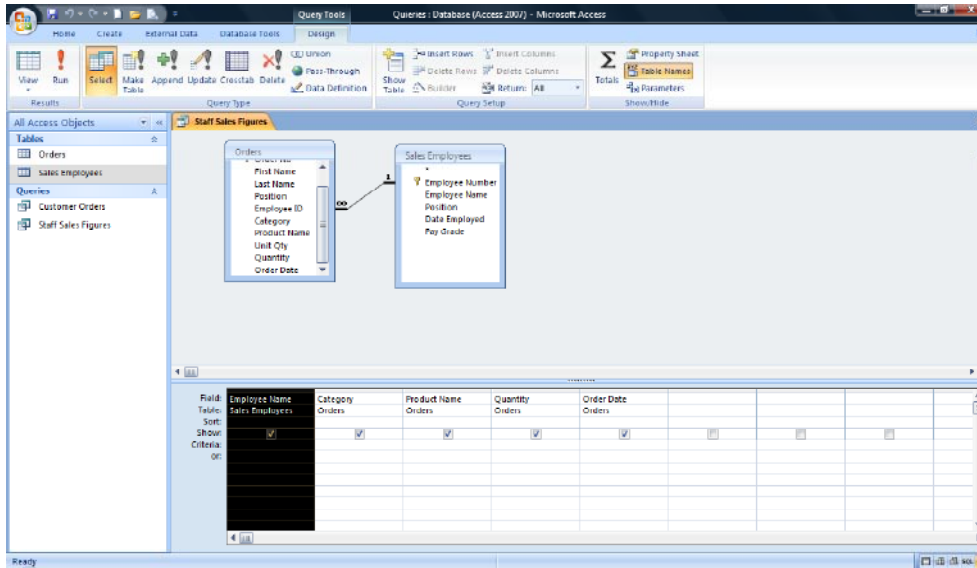


- In one movement, click and drag the field to the left of the **Category** field, then release the mouse button.

NOTE: As always, Access provides a thick black guideline to highlight the current position of the moving field before release.

Field:	Category	Product Name	Quantity	Order Date	Employee Name
Table:	Orders	Orders	Orders	Orders	Sales Employees
Sort:					
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:					
or:					

- The **Employee Name** field should now be on the left side of the query design grid.



- Using the pointer, click in the **Sort** row under the **Sales Employees** field. Then click on the **down arrow** displayed in this cell.

Field:	Employee Name	Category	Product Name	Quantity	Order Date
Table:	Sales Employees	Orders	Orders	Orders	Orders
Sort:	Ascending				
Show:	Ascending	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:	Descending				
or:	(not sorted)				

- Select **Ascending** from the drop down option box. When run, this query will display the results in alphabetical order of **Employee Names**, rather than order of **Employee ID**.
- Click into the **Criteria** row of the **Category** field, type in the following word and then press the **Enter** key.

Beverages

When run, this query will return only records which match **Beverages** in the **Category** field.

Field:	Employee Name	Category	Product Name
Table:	Sales Employees	Orders	Orders
Sort:	Ascending		
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:		"Beverages"	
or:			

- Click on the tick box above the criteria you just entered in the **Category** field. This will remove the tick.

Although the **Category** field is used by the query to specify search criteria, the field does not have to be displayed in the final results.

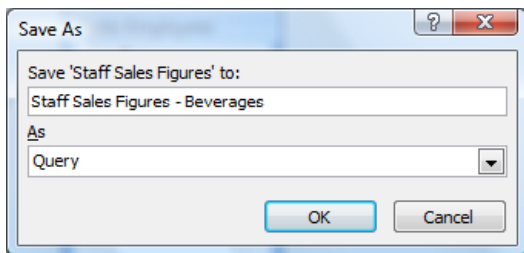
Field:	Employee Name	Category	Product Name
Table:	Sales Employees	Orders	Orders
Sort:	Ascending		
Show:	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
Criteria:		"Beverages"	
or:			

- Click on the **Office Button** and click on the **Save As** button, (*not* on the arrow to the side of button).

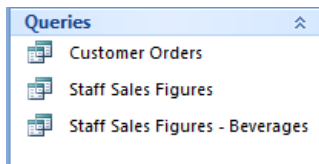
NOTE: By clicking on the **Save As**, Access automatically assumes you want to save a copy of an open object.

- In the **Save As** dialog box, replace the default name with:

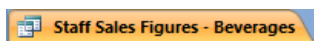
Staff Sales Figures – Beverages.



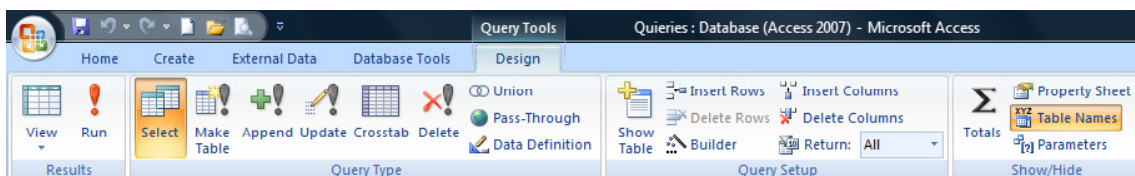
- Click on the **OK** button. The Navigation Pane displays the newly saved query.



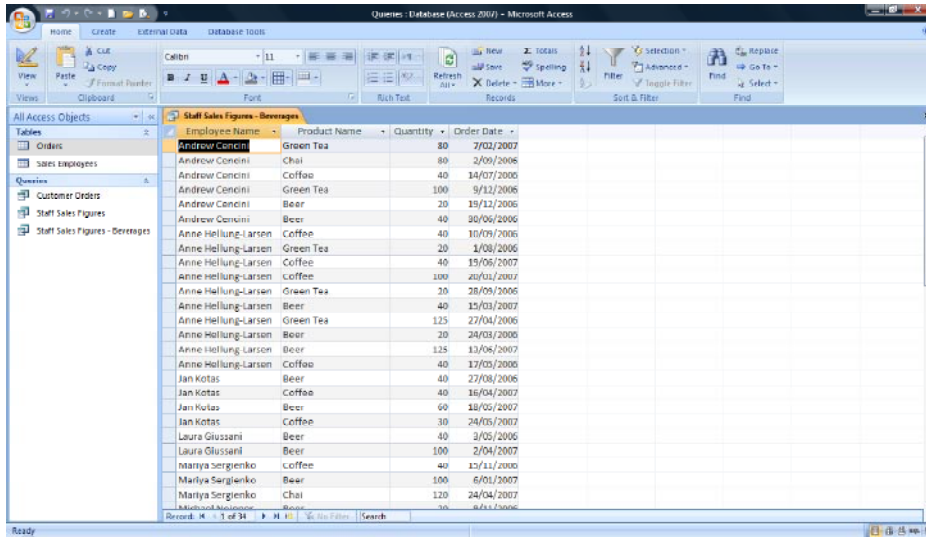
- The query tab also changes to display the new name, as illustrated



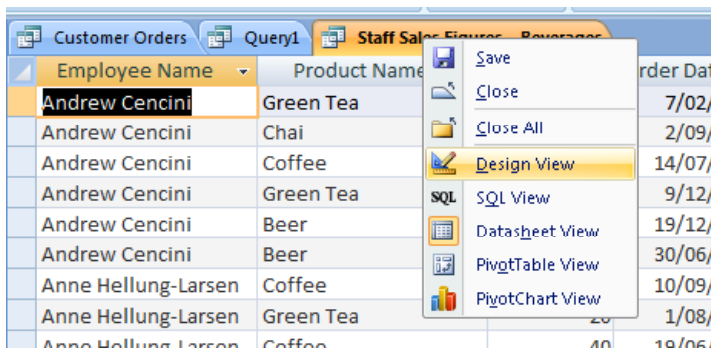
- Click on the **Design** tab and from within the **Results** group click on the **Run** button.



- The results of the modified query are displayed. Only records matching the search criteria **Beverages** in the **Category** field are displayed and the **Category** field is hidden.



- Switch to Design View (using the **View** button).



NOTE: In Design View, you may notice that Access has changed the layout of fields within the design grid, placing the hidden **Category** field to the far right of the unhidden fields in the grid.

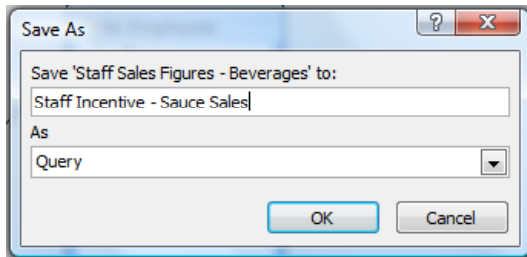
Field:	Employee Name	Product Name	Quantity	Order Date	Category
Table:	Sales Employees	Orders	Orders	Orders	Orders
Sort:	Ascending				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:					"Beverages"
or:					

- What if there was a bonus incentive for staff who sold more than **40** items of any **Sauce** products since **01/01/2007**. Also **Nancy Freehafer** has left the company, therefore we want to exclude her from the search.
- You can use and modify an existing query, however the query should be given a new name and saved before changes go ahead.
- Click on the **Office button** and click on the **Save As** button, (*not* on the right pointing button).

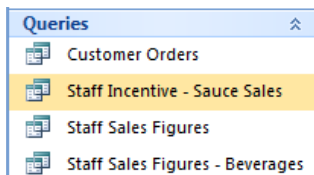
NOTE: By clicking on the **Save As**, Access automatically assumes you want to save a copy of an open object.

- In the **Save As** dialog box, replace the default name with:

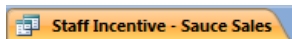
Staff Incentive – Sauce Sales.



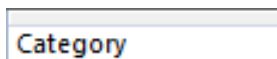
- Click on the **OK** button. The Navigation Pane displays the newly saved query.



- The query tab also changes to display the new name.



- Move the pointer to just above the **Category** field name where there is a thin grey line and until the pointer changes to a **down arrow** shape.



- With the **down arrow** shape as the pointer, click to highlight the **Category** field.

Field:	Employee Name	Product Name	Quantity	Order Date	Category	
Table:	Sales Employees	Orders	Orders	Orders	Orders	
Sort:	Ascending					
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:						
or:						

- With the field highlighted, press the **Delete** key on the keyboard to delete the field from the grid.

Field:	Employee Name	Product Name	Quantity	Order Date	
Table:	Sales Employees	Orders	Orders	Orders	
Sort:	Ascending				
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:					
or:					

- Click into the **Criteria** row of the **Employee Name** field and type:

<>Nancy Freehafer

Then press the **Enter** key.

Field:	Employee Name	Product Name	Quantity	Order Date
Table:	Sales Employees	Orders	Orders	Orders
Sort:	Ascending			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:	<>"Nancy Freehafer"			
or:				

- Click into the **Criteria** row of the **Product Name** field and type:

Like *Sauce*

Then press the **Enter** key.

Field:	Employee Name	Product Name	Quantity	Order Date
Table:	Sales Employees	Orders	Orders	Orders
Sort:	Ascending			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:	<>"Nancy Freehafer"	Like "**Sauce**"		
or:				

NOTE: Wildcards such as the ***** can be used to signify, in this case for example, that the word **Sauce** can appear anywhere in the **Product Name** description.

- Click into the **Criteria** row of the **Quantity** field and type the following and press the **Enter** key.

>40

Field:	Employee Name	Product Name	Quantity	Order Date
Table:	Sales Employees	Orders	Orders	Orders
Sort:	Ascending			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:	<>"Nancy Freehafer"	Like "**Sauce**"	>40	
or:				

- Click into the **Criteria** row of the **Order Date** field and type

>=01/01/2007

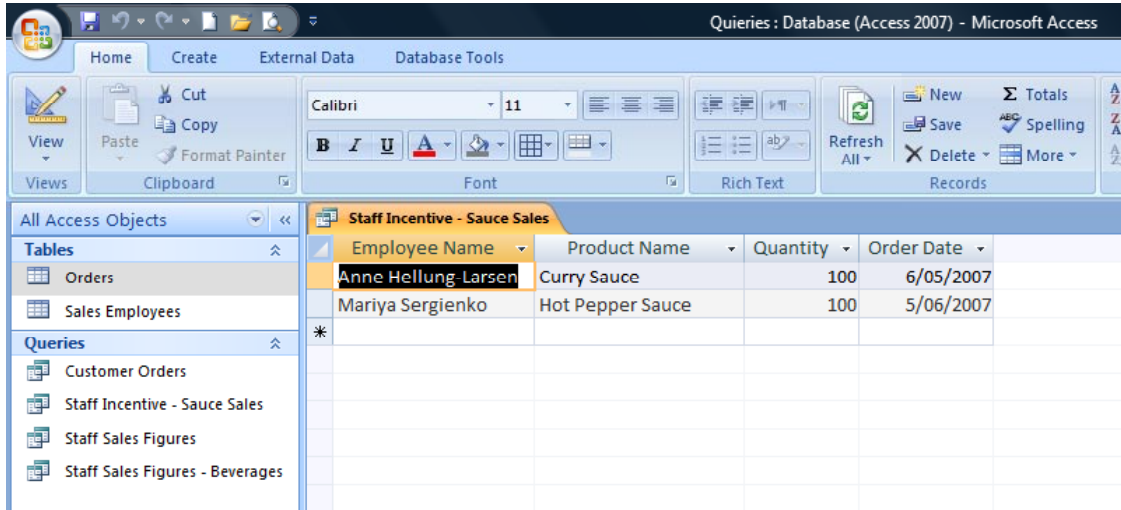
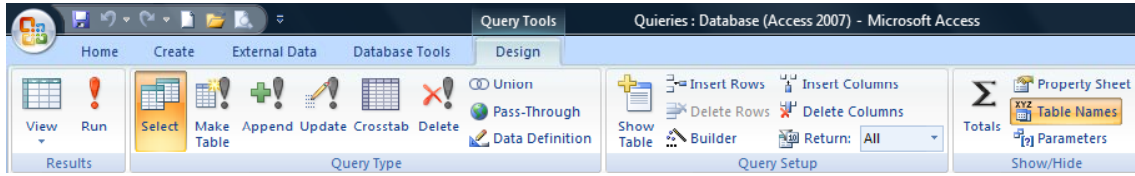
and press the **Enter** key.

Field:	Employee Name	Product Name	Quantity	Order Date
Table:	Sales Employees	Orders	Orders	Orders
Sort:	Ascending			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:	<>"Nancy Freehafer"	Like "**Sauce**"	>40	>=#1/01/2007#
or:				

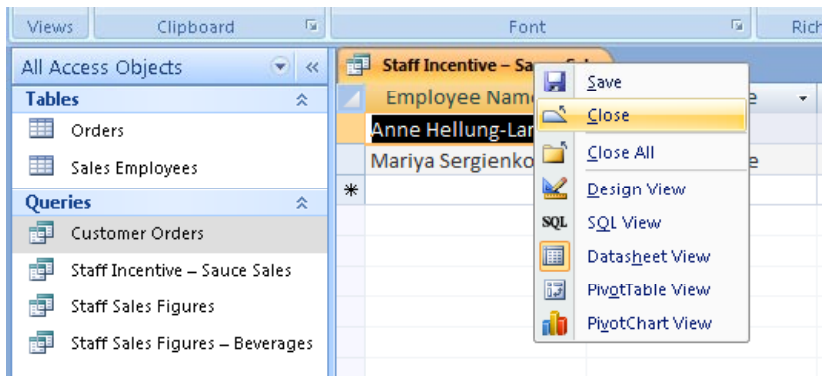
- Click on the **Save** button in the Quick Access toolbar to save the changes to the new query.



- Click on the **Design** tab and from within the **Results** group click on the **Run** button.



- Right click on the **Staff Incentive – Sauce Sales** query tab and from the popup menu displayed select the **Close** command.



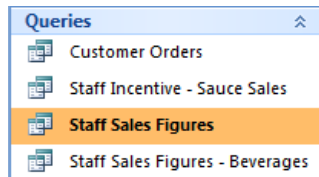
What are Wildcards?

- Wildcards are special characters that you can use within a query to specify or exclude certain characters. If you examine the charts below, they should become more understandable.

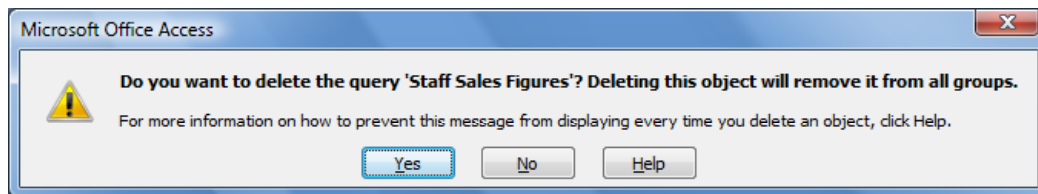
Wildcard	Function	Examples
%	Matches multiple characters within a string at the start or finish of a character string.	wh% would find: when what which It would not find: awhile watch water
_	Matches a single alphabetic character within a string	B_II would find: bull ball bell It would not find: Bail
[]	Matches any single character defined within the brackets.	B[ae]II would find: ball bell It would not find: bill
^	Matches any character not defined within the brackets.	b[^ae]II would find: bill bull It would not find: ball bell
-	Matches any one of a range of characters defined within the brackets, which must be defined in ascending order, i.e. A to Z and not Z to A.	z[a-c]z would find: xaz xbz xcz

Deleting a query

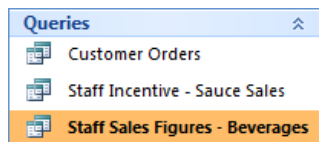
- In the **Navigation Pane**, click once to highlight the **Staff Sales Figures** query.



- Press the **Delete** key on the keyboard. Access displays a warning dialog box.



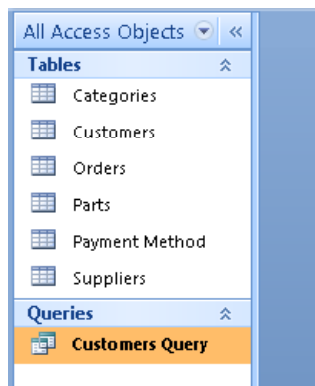
- Click on the **Yes** button to continue and delete the query.



- Close Access.

Hiding and un-hiding fields (columns) within a query

- Open a database called **Hiding**. Your screen will look like this.



- Double click on the query called **Customers Query** and you will see the following.

Cust	Customer Name	House / Building	Street	City	State	Zip Code or	
	J Smith	8	Bent St	Highgate	London	GL50 2LD	U
2	P Harris	22	McCormick Drive	Joondalup	WA	6005	A
3	G Singh	Block 121 #35	East Avenue	Madison	AL	35758	U
*	(New)						

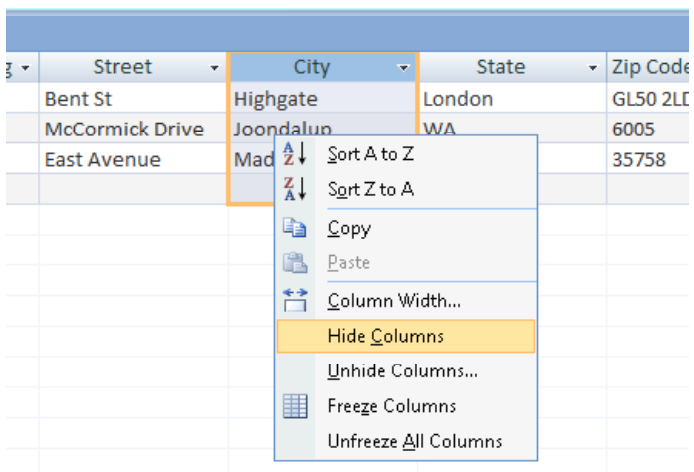
- To hide the **City** field, we need to select the **City** column. To select this column click at the top of the City column, as illustrated below.



- The selected column will look like this.

ing	Street	City	State	Zip Code
	Bent St	Highgate	London	GL50 2LD
	McCormick Drive	Joondalup	WA	6005
	East Avenue	Madison	AL	35758

- Right click over the selected column and from the popup menu displayed select the **Hide Columns** command.



- The screen will change as illustrated below. The **City** column has been hidden.

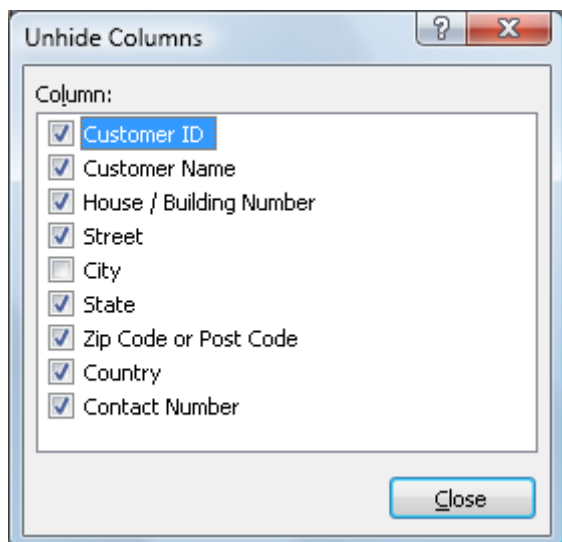
ng	Street	State	Zip Code or
	Bent St	London	GL50 2LD
	McCormick Drive	WA	6005
	East Avenue	AL	35758

- To unhide the hidden column you need to select the columns either side of the hidden column, as illustrated below. Now when you right click over the selected columns you will now see the **Unhide Columns** command.

House / Building	Street	State	Zip Code or	Country	Contact
	Bent St	London	GL50 2LD	UK	01242 2
2	McCormick Drive	WA	6005	Australia	9300 15
Block 121 #35	East Avenue	AL	35758	USA	256 461

- Sort A to Z
- Sort Z to A
- Copy
- Paste
- Column Width...
- Hide Columns
- Unhide Columns...
- Freeze Columns
- Unfreeze All Columns

- Clicking on this command will display the **Unhide Columns** dialog box.



- Click on the column that is hidden, **City** in this case and then click on the **Close** button. The column will then become visible, as illustrated below.

House / Building ▾	Street ▾	City ▾	State ▾	Zip Code or
8	Bent St	Highgate	London	GL50 2LD
22	McCormick Drive	Joondalup	WA	6005
Block 121 #35	East Avenue	Madison	AL	35758

- Save your changes and close the database.

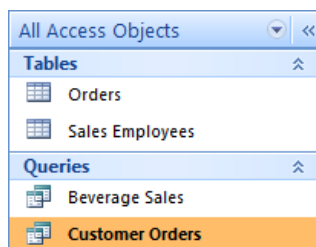
Access 2007 Reports

What are reports?

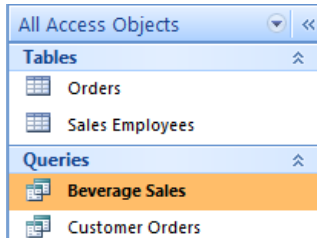
- In Access, a report is a summary generated from information in a table or query. Access provides you with a number of tools that help you to quickly build reports that present the data in an organised, meaningful and easy-to-read layout. These reports can then be printed.
- You can use the commands on the **Create** tab to create a simple report with a single click, use the **Report Wizard** to create a more complicated report or create a report from scratch by adding all the data and formatting elements.
- Whichever method you choose, you will probably need to make at a few changes to the design, for example, adjusting column positions and widths to fine tune the final output of the report (how it displays on the screen or printed).

Creating a simple report

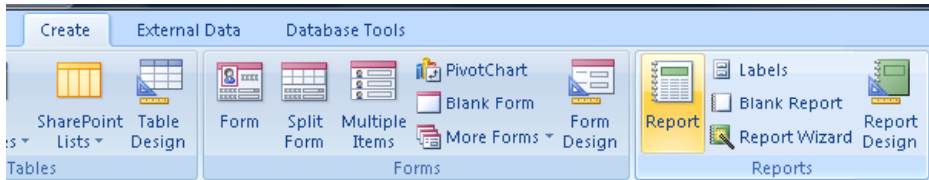
- Reports are based on information in tables or queries. If the report is to be based on information contained in more than one table, a relationship must exist, however it is far more likely that a query has already been created to produce the information required for the report.
- Click on the **Office Button** and click on **Open** and open a file called **Reports** contained within your samples folder.
- The database opens with two tables (**Orders** and **Sales Employees**) and two queries (**Beverage Sales** and **Customer Orders**) displayed in the Navigation Pane.



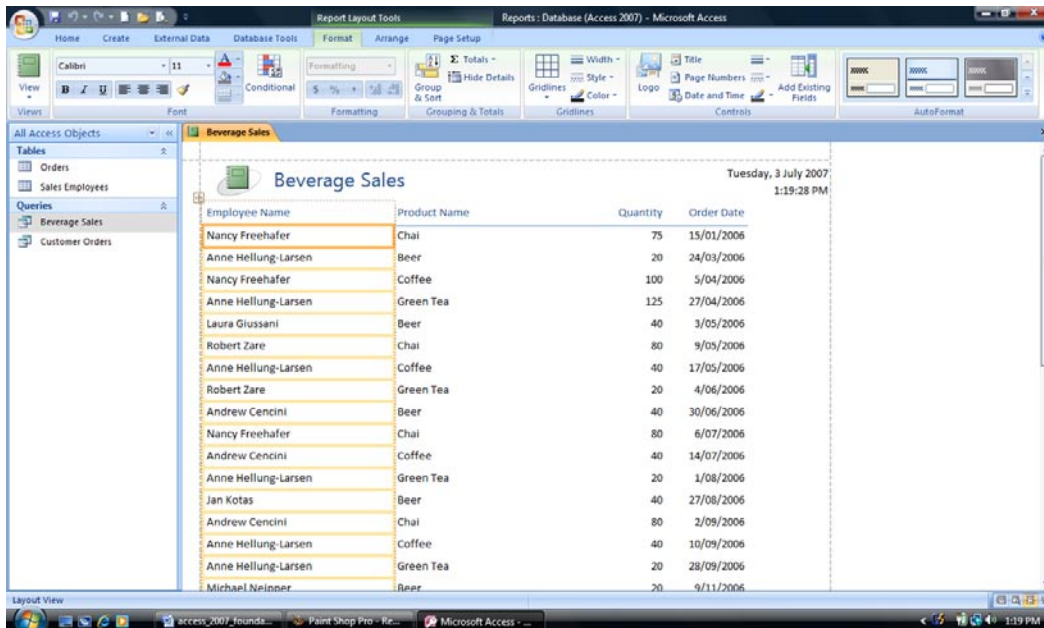
- In the Navigation Pane, click once on the **Beverage Sales** query to highlight the query, but do not open it.



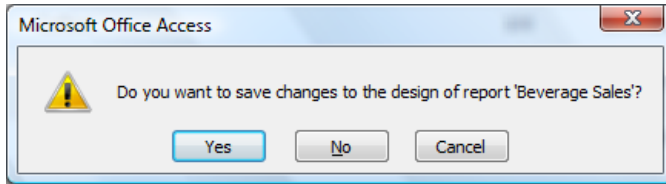
- Click on the **Create** tab and from within the **Reports** group, click on the **Report** button.



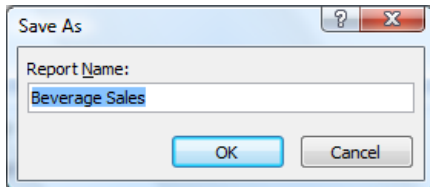
- A report based on the **Beverage Sales** query is displayed on your screen.



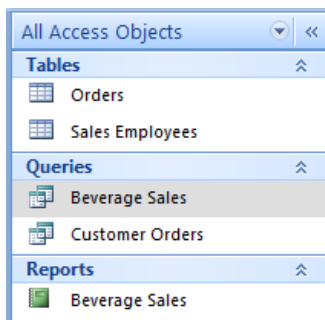
- The simple report is displayed in Layout View ready for any modifications that may be required.
- Editing and modifying a report is similar to editing a form. The title, field text labels and logo images can all be resized, moved or deleted as necessary. Even the style can be altered at the click of a button using the preset styles in the **AutoFormat** group.
- Simple reports are not saved until you either click on the **Save** button in the **Quick Access** toolbar or attempt to close the report, at which point Access will prompt you to save the report.



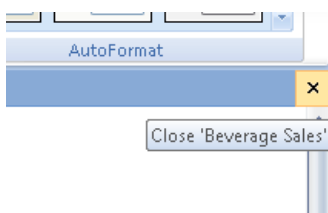
- Click on the **Save** button in the Quick Access toolbar. The **Save As** dialog box is displayed.



- Click on the **OK** button. The new report is displayed in the Navigation Pane.

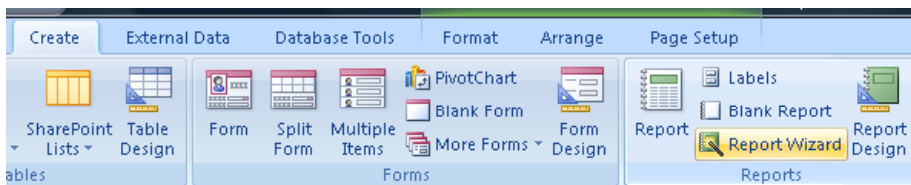


- Click on the **Close** button towards the top right of the report window, to close the report.

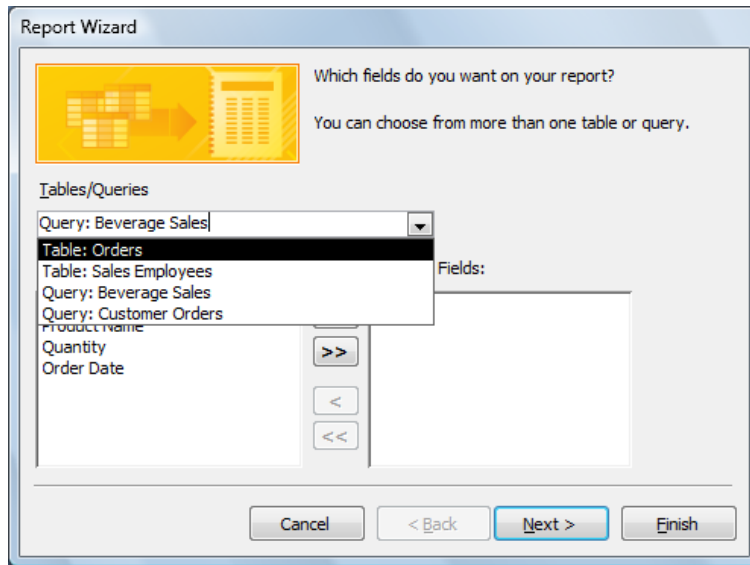


Using the Report Wizard

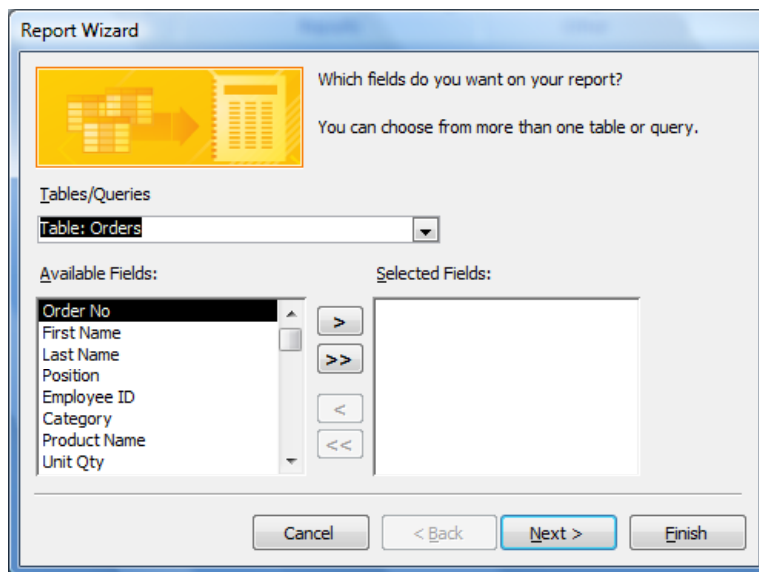
- Click on the **Create** tab and from within the **Reports** group click on the **Report Wizard** button.



- First fields from one or more table must be selected. Click on the **Tables/Queries** dropdown list and select the **Table: Orders**.

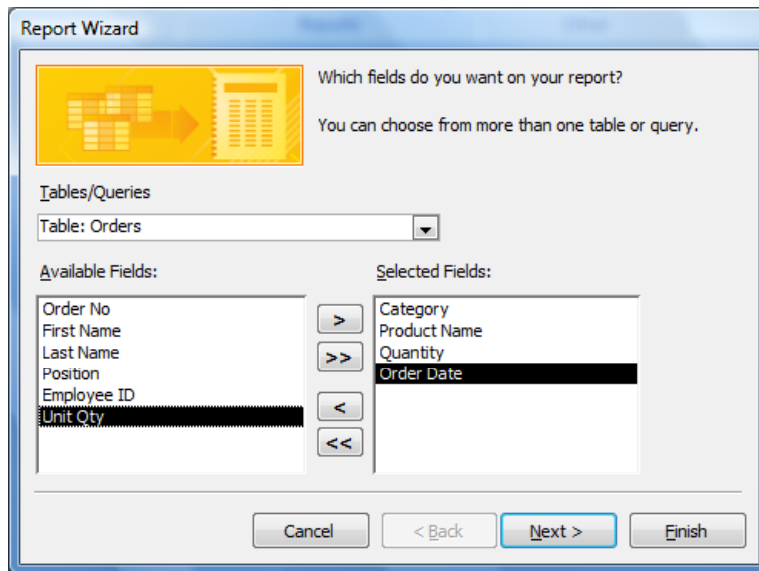


- The dialog box will now look like this.

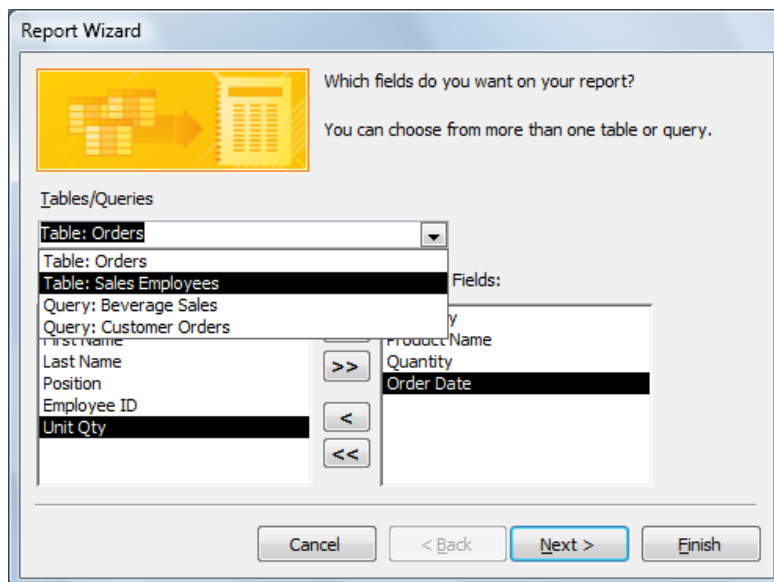


- From the **Available Fields**, double click each of the follow fields:

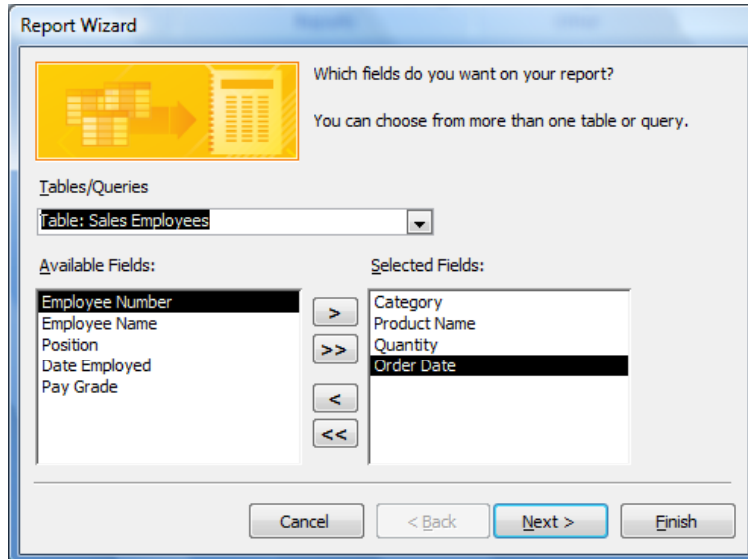
Category
Product Name
Quantity
Order Date.



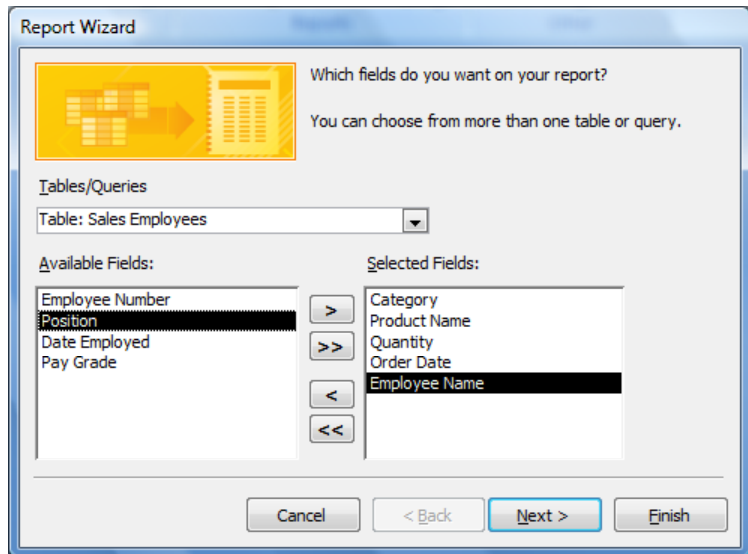
- Click on the **Tables/Queries** drop down list and select the **Table: Sales Employees**.



- The dialog box will now look like this.

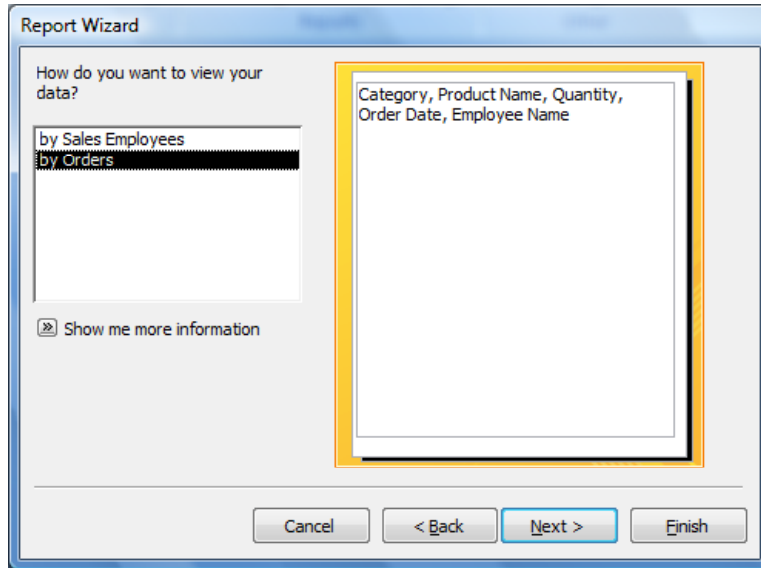


- From the **Available Fields**, double click on the **Employee Name** field.



NOTE: The report will now use information from the **Orders** table and also from the **Sales Employees** table.

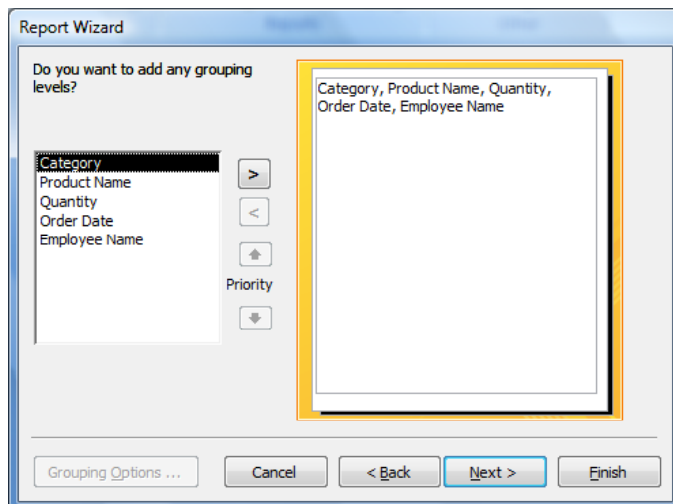
- Click on the **Next** button.



- Leave the default **by Orders** selected.

NOTE: When the report is complete, because by **Orders** is selected, information will be grouped according to a field or fields in the **Orders** table. This field or fields will be selected in the next section of the wizard. For example, the ideal field to use to group information in the report is the **Category** field. If **by Sales Employees** was selected instead, the employees names would take priority in the report and products would be grouped under each employee.

- Click on the **Next** button.

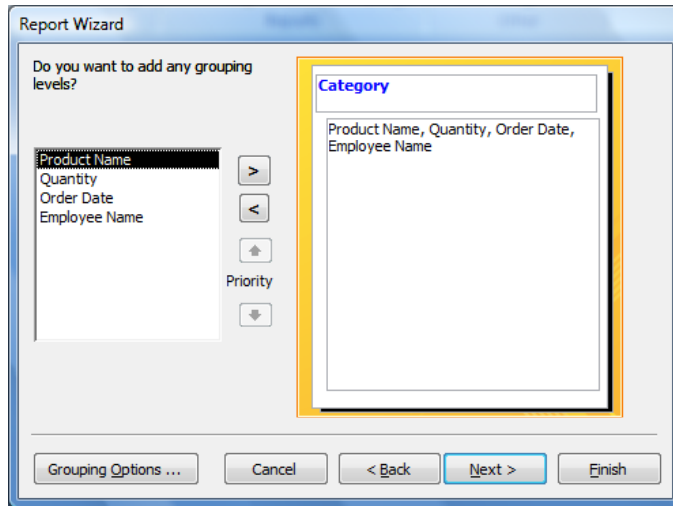


NOTE: When the report is complete, you will see that the report is broken down into **Categories** first, then **Products**, **Quantities**, **Dates** and finally **Employees**.

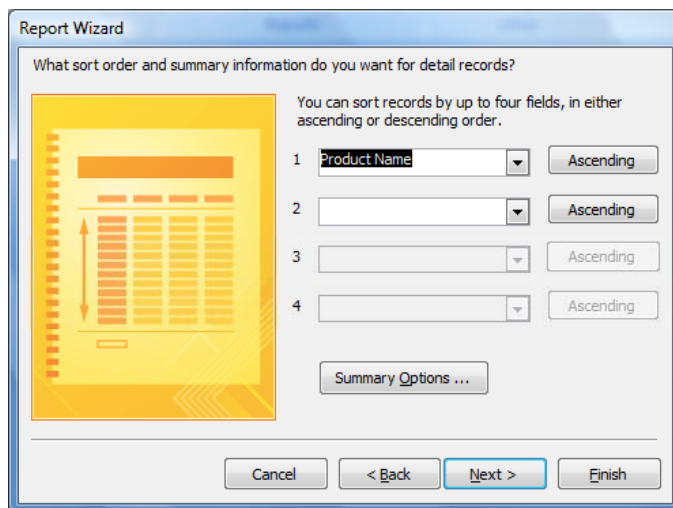
- Select **Category**, and then click on the right arrowed button to add the grouping level.



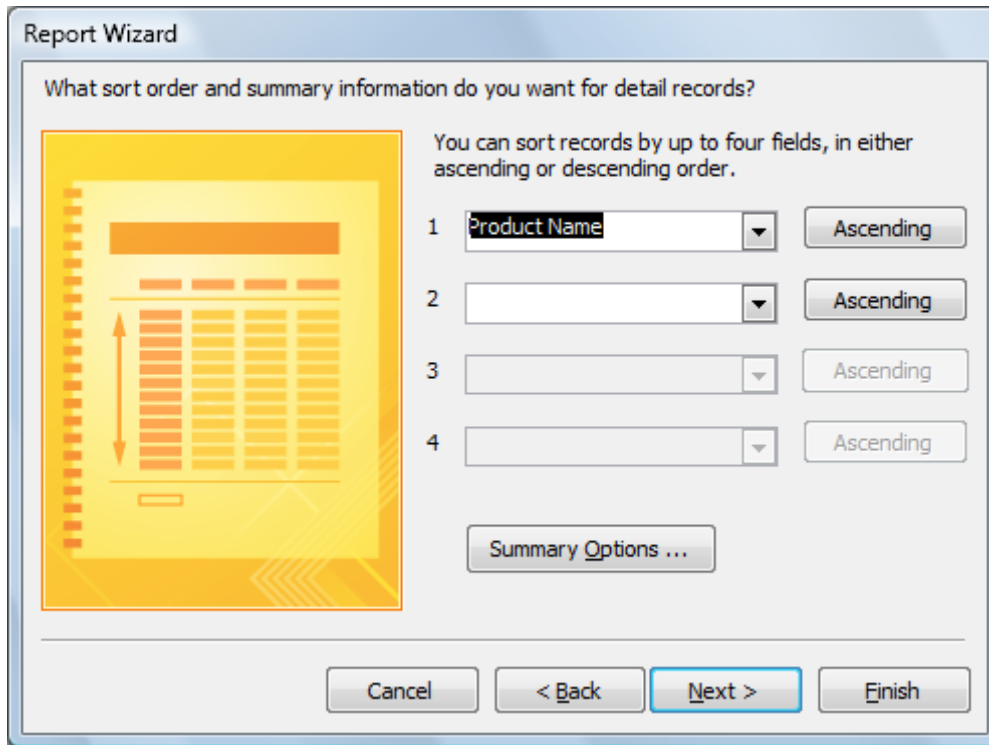
- The dialog box will now look like this.



- Click on the **Next** button.

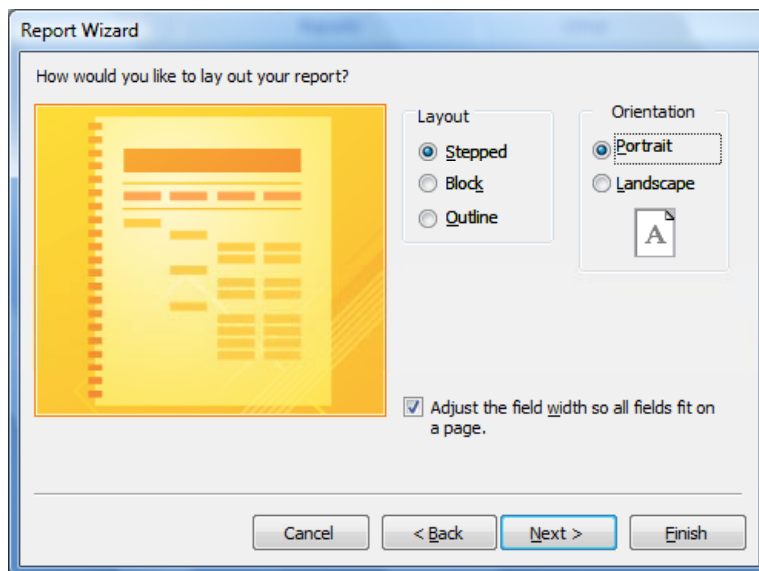


- In the **Sort Order** dialog box, click on the drop **down arrow** and select **Product Name**.



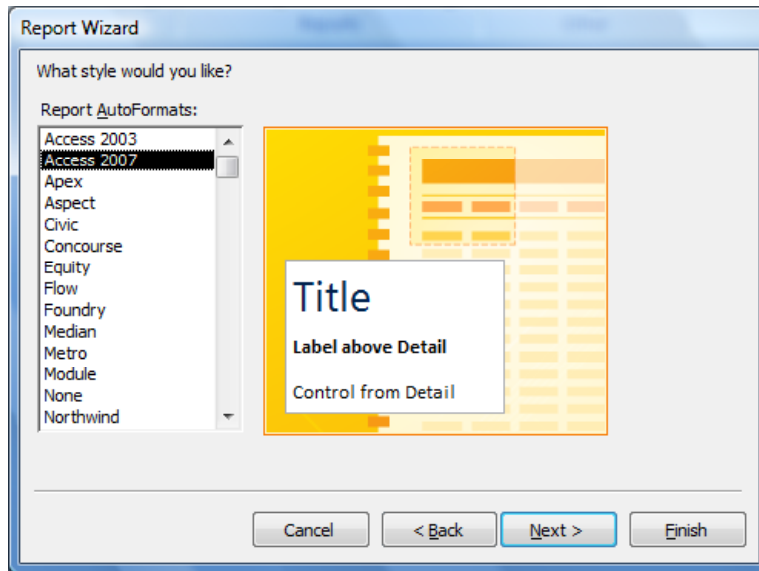
Next: By selecting a field, in this case the **Product Name** field, when the report is complete, information will be organised in **Ascending** order of **Product Name**, within each category.

- Click on the **Next** button. Leave the **Layout** as the default setting.



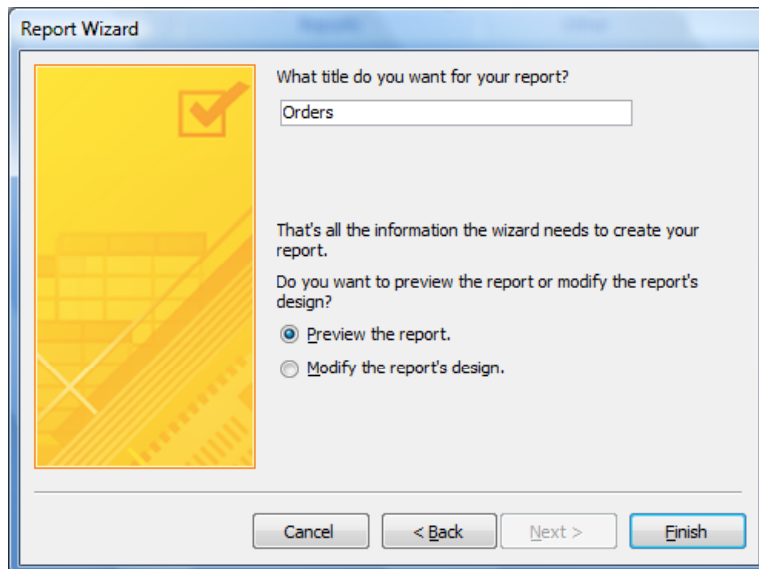
NOTE: The three **Layout** options control how the report will be laid out when finished. Depending upon the number of fields included in a report, consideration should be given to the report **Orientation**. If there are too many fields for a single page width, select **Landscape**, otherwise (in this case) **Portrait** will be sufficient. Orientation can be changed at any stage before printing.

- Click on the **Next** button. Leave **Access 2007** AutoFormat as the default.

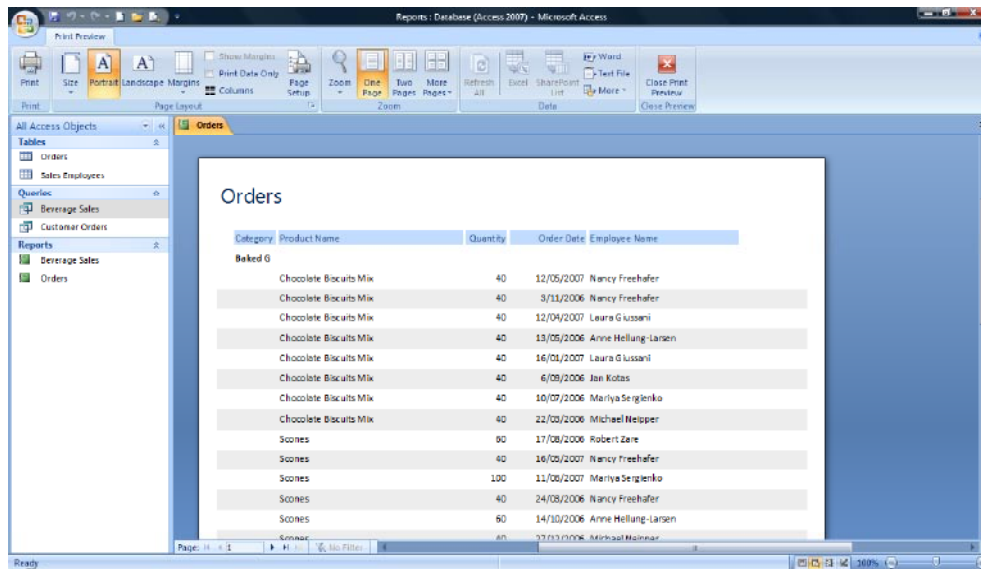


NOTE: These styles are similar to those used in Layout View and are preset styles used to enhance forms and reports.

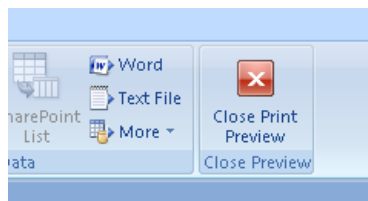
- Click on the **Next** button.



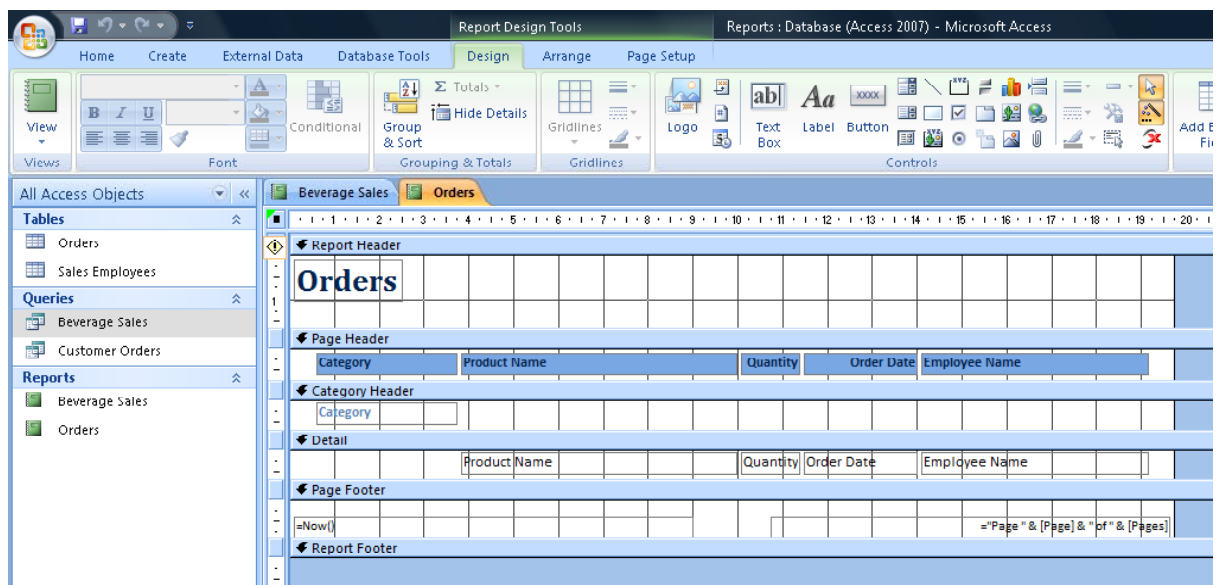
- Access has given the report the name **Orders**. Click on the **Finish** button to accept the name and complete the wizard. The report is now displayed in Print Preview view. Take a while to see what has been produced.



- Click on the **Close Print Preview** button.

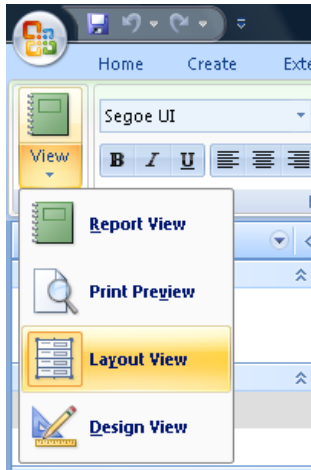


The report will be displayed in Design View.



Modifying the layout of a report

- Click on the **down arrow** under the **View** button and then click on the **Layout View**.



- The report will be displayed as illustrated below.

The image shows a screenshot of an Access report titled 'Orders'. The report is displayed in a table format with the following columns: Category, Product Name, Quantity, Order Date, and Employee Name. The data is as follows:

Category	Product Name	Quantity	Order Date	Employee Name
Baked Goods & Mixes	Chocolate Biscuits Mix	40	12/05/2007	Nancy Freehafer
	Chocolate Biscuits Mix	40	3/11/2006	Nancy Freehafer
	Chocolate Biscuits Mix	40	12/04/2007	Laura Giussani
	Chocolate Biscuits Mix	40	13/05/2006	Anne Hellung-Larsen
	Chocolate Biscuits Mix	40	16/01/2007	Laura Giussani
	Chocolate Biscuits Mix	40	6/09/2006	Jan Kotas
	Chocolate Biscuits Mix	40	10/07/2006	Mariya Sergienko
	Chocolate Biscuits Mix	40	22/03/2006	Michael Neipper
	Scones	60	17/08/2006	Robert Zare
	Scones	40	16/05/2007	Nancy Freehafer
	Scones	100	11/06/2007	Mariya Sergienko
	Scones	40	24/03/2006	Nancy Freehafer
	Scones	60	14/10/2006	Anne Hellung-Larsen
	Scones	40	27/12/2006	Michael Neipper
	Scones	40	7/11/2006	Laura Giussani
	Scones	100	12/03/2007	Andrew Corina

Widening a report column

- We need to widen the **Category** column as some of the items within the column are wider than the column. To do this click on the **Category** field name to first select the column.



- Move the pointer to the dotted line running down the right side of the column.

Category	Product Name	Quantity	Order Date	Employee Name
Baked Goods				
	Chocolate Biscuits Mix	40	12/05/2007	Nancy Freehafer
	Chocolate Biscuits Mix	40	3/11/2006	Nancy Freehafer
	Chocolate Biscuits Mix	40	12/04/2007	Laura Giussani
	Chocolate Biscuits Mix	40	13/05/2006	Anne Hellung-Larsen
	Chocolate Biscuits Mix	40	16/01/2007	Laura Giussani
	Chocolate Biscuits Mix	40	6/09/2006	Jan Kotas
	Chocolate Biscuits Mix	40	10/07/2006	Mariya Sergienko
	Chocolate Biscuits Mix	40	22/03/2006	Michael Neipper
	Scones	60	17/08/2006	Robert Zare
	Scones	40	16/05/2007	Nancy Freehafer
	Scones	100	11/06/2007	Mariya Sergienko
	Scones	40	24/03/2006	Nancy Freehafer
	Scones	60	14/10/2006	Anne Hellung-Larsen
	Scones	40	27/12/2006	Michael Neipper
	Scones	40	7/11/2006	Laura Giussani
	Scones	100	23/03/2007	Andrew Cencini
	Scones	60	20/06/2006	Mariya Sergienko
Beverages				
	Beer	40	15/03/2007	Anne Hellung-Larsen
	Beer	20	9/11/2006	Michael Neipper

- When the pointer changes to a horizontal line with arrows on each end, click and drag the line to the right, increasing the width of the column until it is wide enough to display all categories.



TIP: Use the scroll bar or cursor keys to scroll down the report and check the width is adequate. Adjust again if necessary.

Orders				
Category	Product Name	Quantity	Order Date	Employee Name
Baked Goods & Mixes				
	Chocolate Biscuits Mix	40	12/05/2007	Nancy Freehafer
	Chocolate Biscuits Mix	40	3/11/2006	Nancy Freehafer
	Chocolate Biscuits Mix	40	12/04/2007	Laura Giussani
	Chocolate Biscuits Mix	40	13/05/2006	Anne Hellung-Larsen
	Chocolate Biscuits Mix	40	16/01/2007	Laura Giussani
	Chocolate Biscuits Mix	40	6/09/2006	Jan Kotas
	Chocolate Biscuits Mix	40	10/07/2006	Mariya Sergienko
	Chocolate Biscuits Mix	40	22/03/2006	Michael Neipper
	Scones	60	17/08/2006	Robert Zare
	Scones	40	16/05/2007	Nancy Freehafer
	Scones	100	11/06/2007	Mariya Sergienko
	Scones	40	24/03/2006	Nancy Freehafer
	Scones	60	14/10/2006	Anne Hellung-Larsen
	Scones	40	27/12/2006	Michael Neipper
	Scones	40	7/11/2006	Laura Giussani
	Scones	100	23/03/2007	Andrew Cencini
	Scones	60	20/06/2006	Mariya Sergienko
Beverages				
	Beer	40	15/03/2007	Anne Hellung-Larsen
	Beer	20	9/11/2006	Michael Neipper

Modifying the report title

- Click once on the report title (**Orders**).

Orders				
Category	Product Name	Quantity	Order Date	Employee Name
Baked Goods & Mixes				
	Chocolate Biscuits Mix	40	12/05/2007	Nancy Freehafer
	Chocolate Biscuits Mix	40	3/11/2006	Nancy Freehafer

- Click once again within the label box, at one end of the label.

Orders				
Category	Product Name	Quantity	Order Date	Employee Name
Baked Goods & Mixes				
	Chocolate Biscuits Mix	40	12/05/2007	Nancy Freehafer
	Chocolate Biscuits Mix	40	3/11/2006	Nancy Freehafer

- With the pointer blinking inside the label box, in one movement, click and drag to the opposite end of the label to highlight the text.



- Type in the following to replace the existing label and press the **Enter** key to complete the modification.

Product Orders by Category

Product Orders by Category

Category	Product Name	Quantity	Order Date	Employee Name
Baked Goods & Mixes				
	Chocolate Biscuits Mix	40	12/05/2007	Nancy Freehafer
	Chocolate Biscuits Mix	40	3/11/2006	Nancy Freehafer

- Position the pointer over the report title box again, this time until the pointer changes to crosshair.



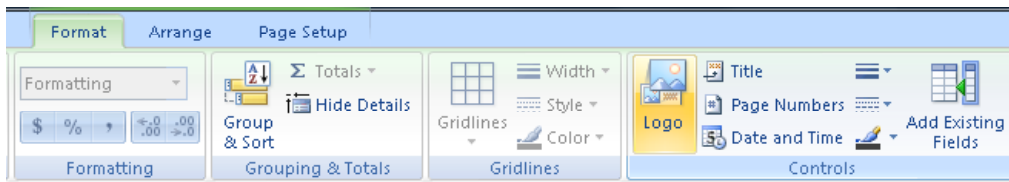
- Click and drag the report title box to the right as illustrated below.

Product Orders by Category

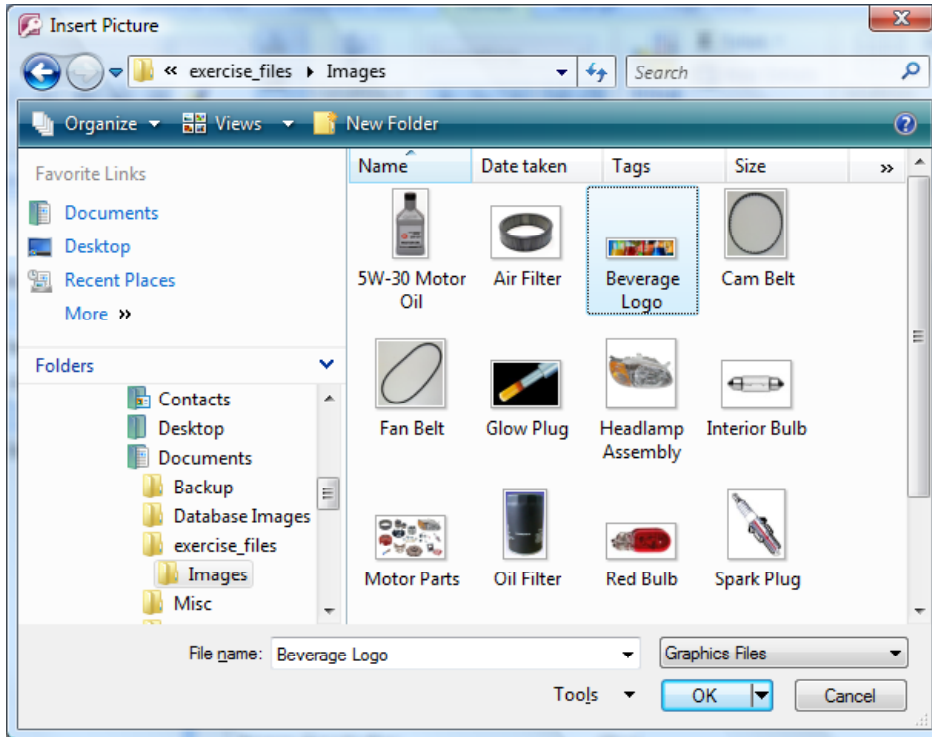
Category	Product Name	Quantity	Order Date	Employee Name
Baked Goods & Mixes				
	Chocolate Biscuits Mix	40	12/05/2007	Nancy Freehafer
	Chocolate Biscuits Mix	40	3/11/2006	Nancy Freehafer
	Chocolate Biscuits Mix	40	12/04/2007	Laura Giussani

Adding logos to a report

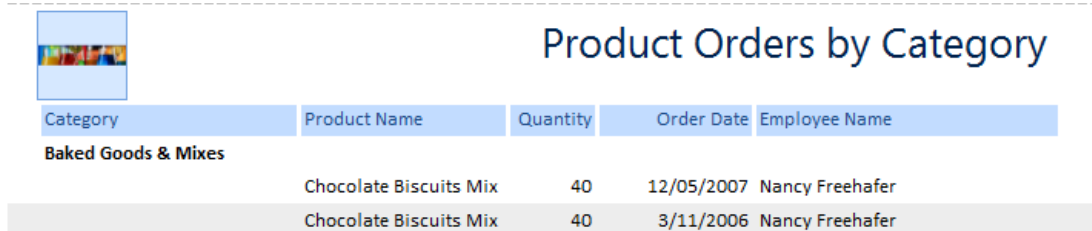
- Click on the **Format** tab and from within the **Controls** group click on the **Logo** button.



- The **Insert Picture** dialog window is displayed. Locate the **images** folder, displayed under your Access sample files folder.



- Double click on the **Beverage Logo** file to add the image to the report.



- The new image is too small. Position the pointer over the right edge of the logo box until the pointer displays an arrow.



- Click and drag the right side of the box to the right (expand size). Expand the box a small amount and let go of the mouse button.
- As the box expands, the image increases in size. Keep expanding the box until the image fits in the box from top to bottom.



- With the logo resized, position the pointer over the report title box again, this time until the pointer changes to crosshair.

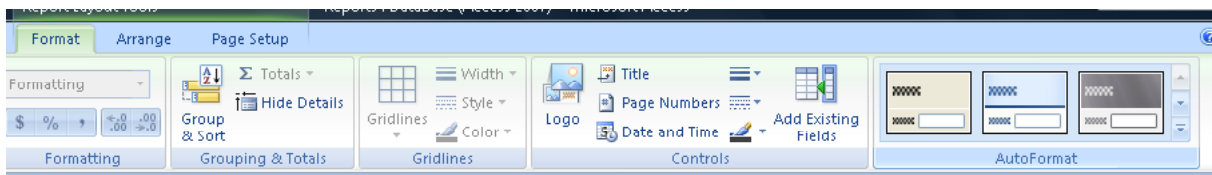


- Click and drag the title box to the left until there is a small gap between the title and the new logo, as illustrated below.

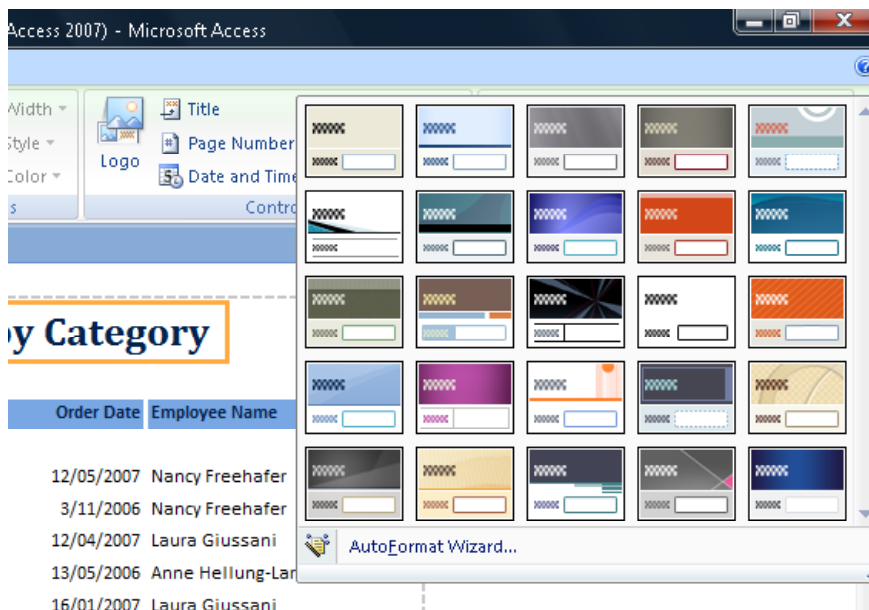


AutoFormatting a report

- Click on the **Format** tab and you will see the **AutoFormat** group displayed to the left, on the Ribbon.

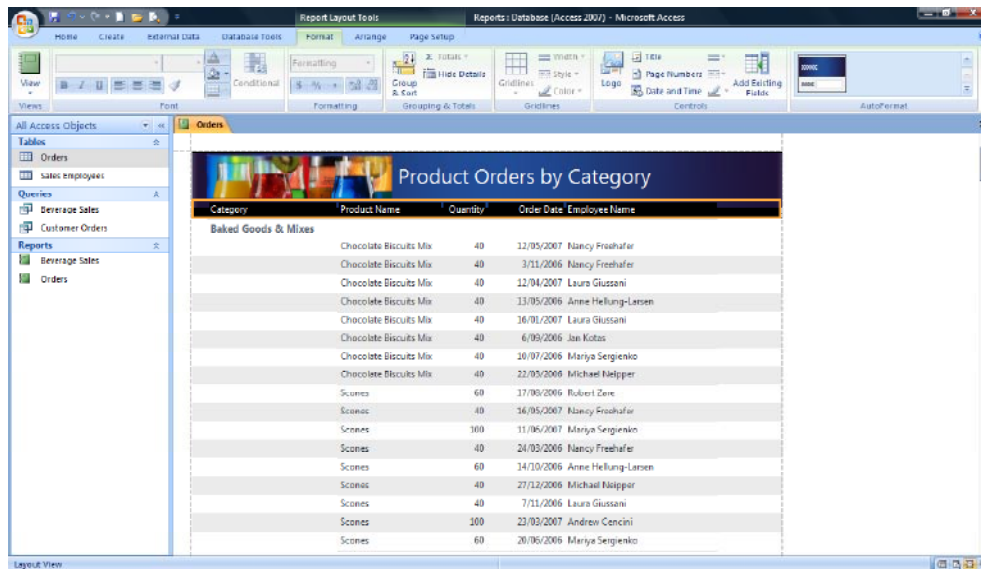


- Click on the **down arrow** to view the available styles.



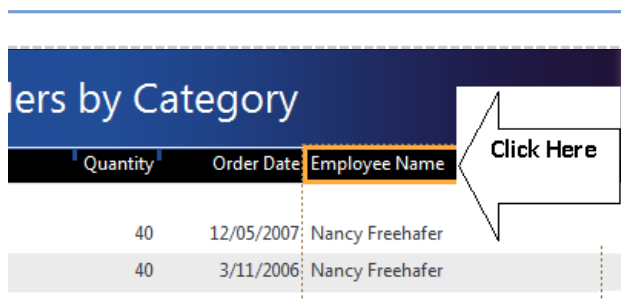
- Select the style illustrated from the bottom right of the list.





Modifying field names within a report

- Click on the **Employee Name** field title.

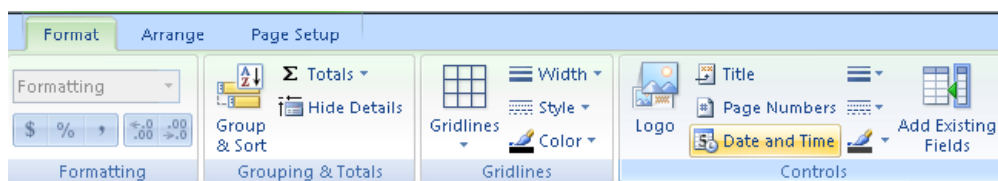


- Click again to place the box into text edit mode. Remove the '**Name**' part of the label, leaving only **Employee** and press the **Enter** key.

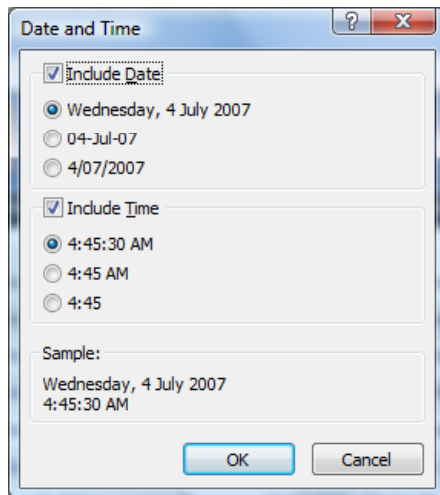


Inserting and formatting the date & time

- Within the **Format** tab you will see the **Controls** group. Click on the **Date and Time** button.



- The **Date and Time** dialog box is displayed.



- Click on the **OK** button.



- The date and time are inserted into the top (header) section of the report to the right of the report title but are **very** hard to read as they are displayed using a dark coloured font, on a dark background.

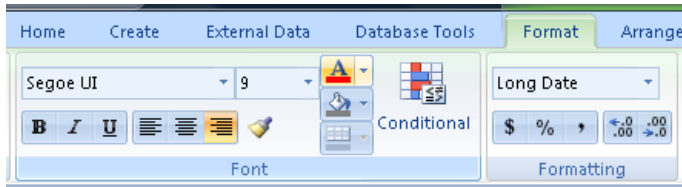
NOTE: The date and time are inserted separately, therefore each will require individual modification.

- Click once on the **date** to select it.

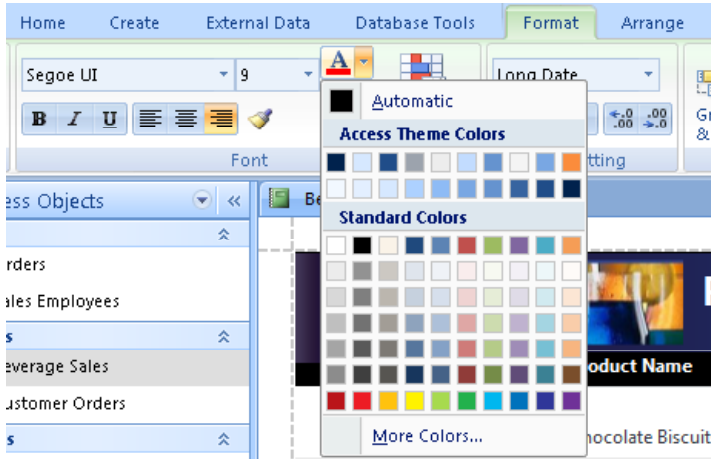
NOTE: You may not be able to see it at all in which case click on the top-right of the report until you see a box highlighted, as illustrated



- Within the **Format** tab you will see the **Font** group.



- Click on the **down arrow** to the right of the **Font Color** button.



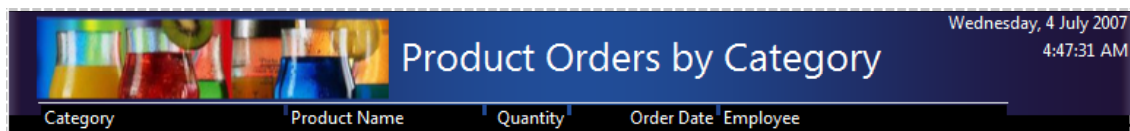
- Within the **Standard Colors** section of the list, click on the **White** box in the first row.



- Repeat the steps to modify the time.

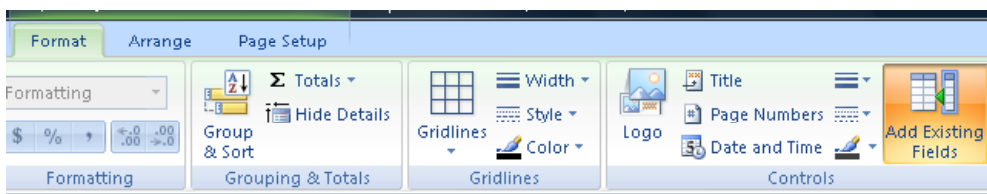


- You will now see the date and time displayed at the top-right of the report, as illustrated.

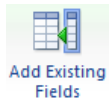


Adding available fields to a report

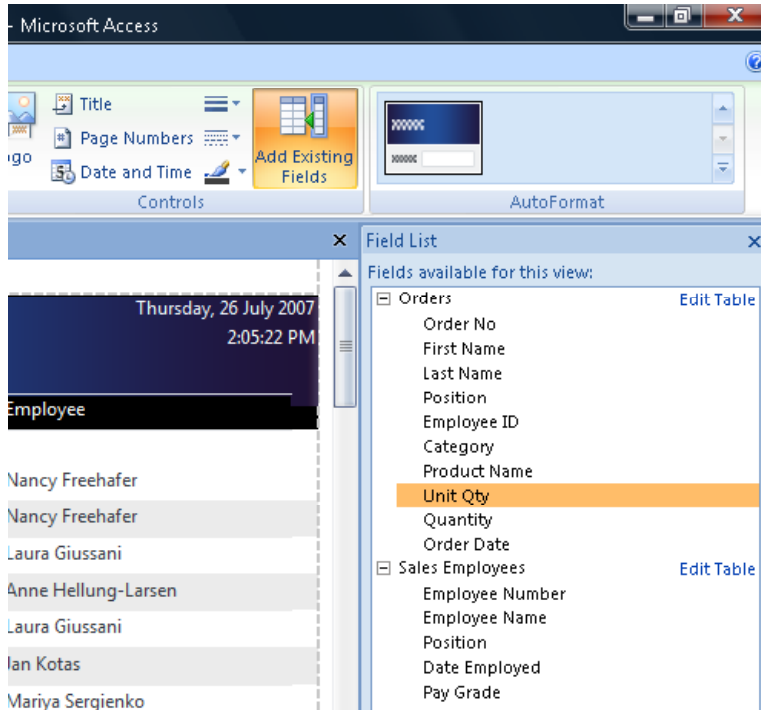
- Within the **Format** tab and you will see the **Controls** group.



- Click on the **Add Existing Fields** button.

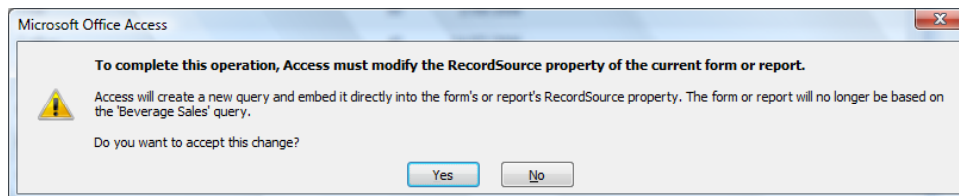


- The **Fields List** opens (to the right of your form) and displays the tables within the database and the available fields.

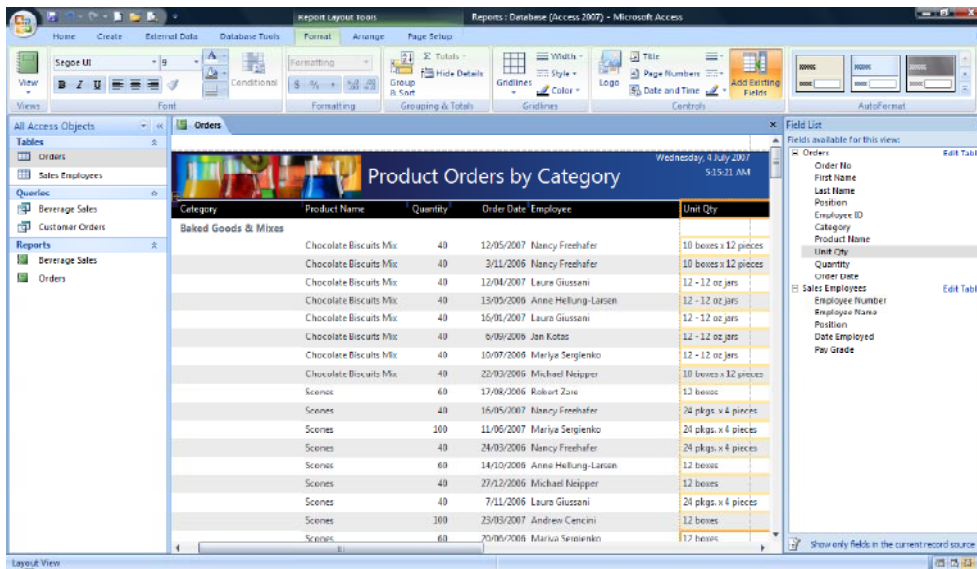


In the **Fields List**, double click on the **Unit Qty** field to add it to the report.

NOTE: If this was a simple report, Access might display a warning, requesting confirmation to changes it needs to make. If this occurs, click on the **Yes** button.



- When using the **Report Wizard** to create a report, the field is added to the report without the need for Access to make changes or issue a warning.



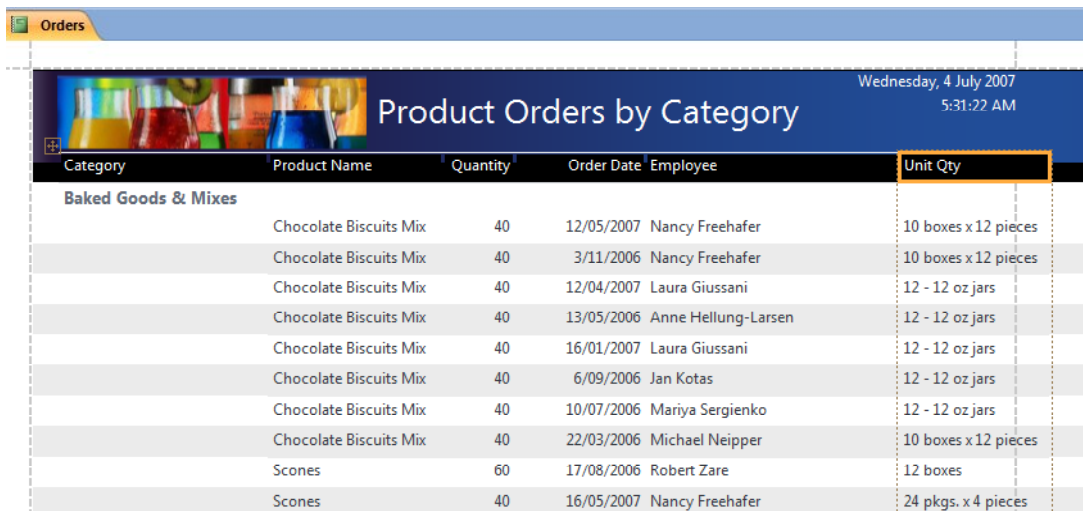
NOTE: When adding field to an existing report, the new field is added to the right of whichever field (column) is selected. For example, if the **Product Name** was selected, the **Unit Qty** field would have been inserted to the right of **Product Name**.

- Click on the **Add Existing Fields** button to close the **Field List**.



Resizing reports for printing

- With the field list closed and the **Unit Qty** field added to the report, it is possible that you may see a dotted line running down and through the field displayed at the extreme left of the report.



NOTE: This line represents print guidelines (margins) and in this case, indicates that part of the field will fall outside of the printing area. If printed,

the report would be two pages wide, instead of one.

NOTE: To preview a report, click on the **Print Preview** button on the Quick Access toolbar.



- The fields need to be resized to fit within the dotted line (print border) but first the **Unit Qty** fields needs to be moved to a new position.
- Click on the **Unit Qty** field title. Click and drag the **Unit Qty** field left and position it between the **Product Name** and **Quantity** fields.

Category	Product Name	Unit Qty	Quantity	Order Date	Employee
Baked Goods & Mixes					
	Chocolate Biscuits Mix	10 boxes x 12 pieces	40	12/05/2007	Nancy Freehafer
	Chocolate Biscuits Mix	10 boxes x 12 pieces	40	3/11/2006	Nancy Freehafer
	Chocolate Biscuits Mix	12 - 12 oz jars	40	12/04/2007	Laura Giussani
	Chocolate Biscuits Mix	12 - 12 oz jars	40	13/05/2006	Anne Hellung-Larsen
	Chocolate Biscuits Mix	12 - 12 oz jars	40	16/01/2007	Laura Giussani

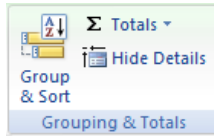
- Click on the **Employee** field title. Position the pointer over the dotted line to the right of the **Employee** column until the pointer displays an arrow shape.



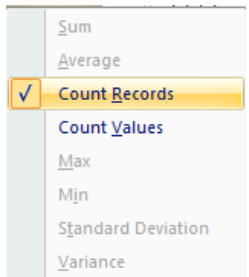
- Click and drag the dotted line slowly to the left, decreasing the width until the column falls just inside the dashed print guideline.

Category	Product Name	Unit Qty	Quantity	Order Date	Employee
Baked Goods & Mixes					
	Chocolate Biscuits Mix	10 boxes x 12 pieces	40	12/05/2007	Nancy Freehafer
	Chocolate Biscuits Mix	10 boxes x 12 pieces	40	3/11/2006	Nancy Freehafer
	Chocolate Biscuits Mix	12 - 12 oz jars	40	12/04/2007	Laura Giussani
	Chocolate Biscuits Mix	12 - 12 oz jars	40	13/05/2006	Anne Hellung-Larsen
	Chocolate Biscuits Mix	12 - 12 oz jars	40	16/01/2007	Laura Giussani
	Chocolate Biscuits Mix	12 - 12 oz jars	40	6/09/2006	Jan Kobas
	Chocolate Biscuits Mix	12 - 12 oz jars	40	30/07/2006	Mariya Sergienko
	Chocolate Biscuits Mix	10 boxes x 12 pieces	40	22/05/2006	Michael Halppner
	Scones	12 boxes	60	17/03/2006	Robert Zere
	Scones	24 pkgs. x 4 pieces	40	16/05/2007	Nancy Freehafer
	Scones	24 pkgs. x 4 pieces	100	11/06/2007	Mariya Sergienko
	Scones	24 pkgs. x 4 pieces	40	24/03/2006	Nancy Freehafer
	Scones	12 boxes	60	14/10/2006	Anne Hellung-Larsen
	Scones	12 boxes	40	27/12/2006	Michael Halppner
	Scones	24 pkgs. x 4 pieces	40	7/11/2006	Laura Giussani
	Scones	12 boxes	100	23/03/2007	Andrew Cencini
	Scones	17 boxes	60	20/06/2006	Merica Samankin

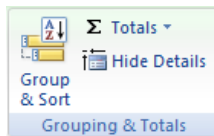
- Finally, the report is to include the **total number of items sold** and the **number of sales in each category**.
- Click on the **Product Name** field name to highlight the column.
- Locate the **Grouping & Tools** group and click on the **Totals** button.



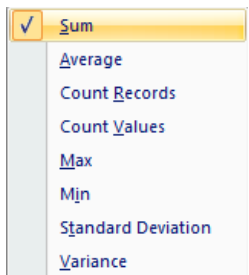
- From the drop down list displayed, select **Count Records**.



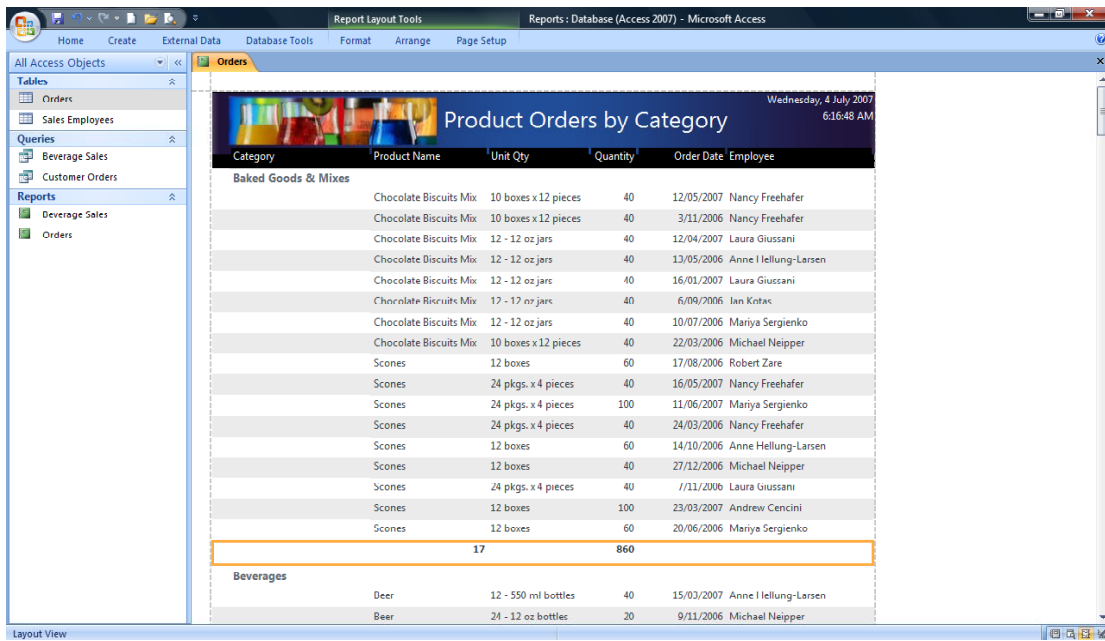
- Click on the **Quantity** field name to highlight the column.
- Locate the **Grouping & Tools** group and click on the **Totals** button.



- From the list displayed select the **Sum** command.



- Below each group (category) a value is displayed in both the **Product Name** and **Quantity** columns.



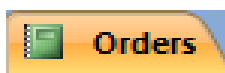
- On the last page of the report, grand totals of all groups are also displayed.

	Clam Chowder	40 - 100 g pkgs.	40	12/07/2006	Anne Hellung-Larsen
	Clam Chowder	40 - 100 g pkgs.	60	18/01/2007	Mariya Sergienko
	Clam Chowder	40 - 100 g pkgs.	40	8/09/2006	Mariya Sergienko
			9		560
			240		14905

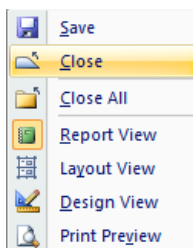
NOTE: The format of the totals can be modified by selecting them first, then from the **Font** group in the **Home** ribbon tab, selecting a different size, font or simply making them bold.

Closing a report

- Right click on the **Orders** report tab.

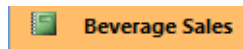


- Select the **Close** command from the list displayed, to close the report.

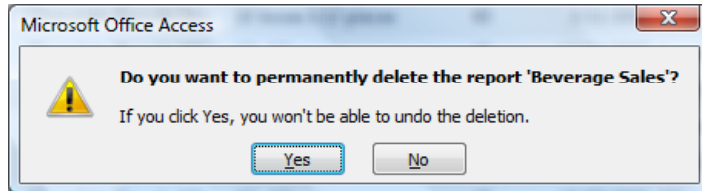


Deleting a report

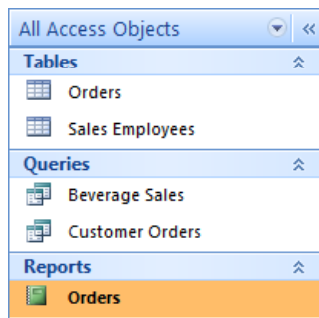
- In the Navigation Pane, click once on the **Beverage Sales** report to highlight.



- Press the **Delete** key to delete the report. Access prompts for confirmation.



- Click on the **Yes** button. The report is deleted from the database.



Access 2007 Printing & Exporting Issues

What does exporting data mean?

- When you save data you save it to disk in the same file format used by the application, in this case Microsoft Access. Exporting data means saving the data in a different format. For instance we could save our database in a spreadsheet format (such as Microsoft Excel format), or as text or in XML format.

It is important to note that you cannot use the Access **Save As** command to save the database in an alternative format such as an Excel workbook, text file or XML file. You need to export the file.

What is a spreadsheet format?

- The file is actually stored as a workbook and each workbook can contain many worksheets (which contains the tables of data). A typical example is Microsoft Excel.

What is text only and CSV format?

- As the name implies, if you export a database in text only format, then only text will be saved. You will lose all formatting and other non-text information.

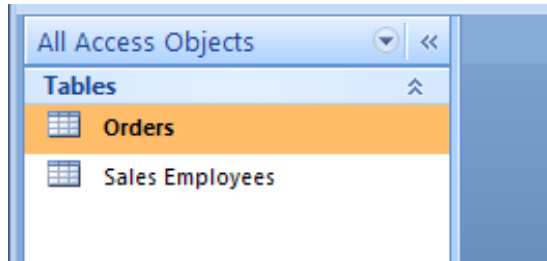
A common text format is called a CSV format. This is short for Comma Separated Vales. A CSV file maintains the record and field database structure by inserting a comma after each field within the file. You could then import the CSV formatted files into a database or spreadsheet and it would be able to delimit, i.e. separate, the rows and columns to correctly display the basic data. CSV files will not retain any formatting or other non-text related information.

What is an XML file?

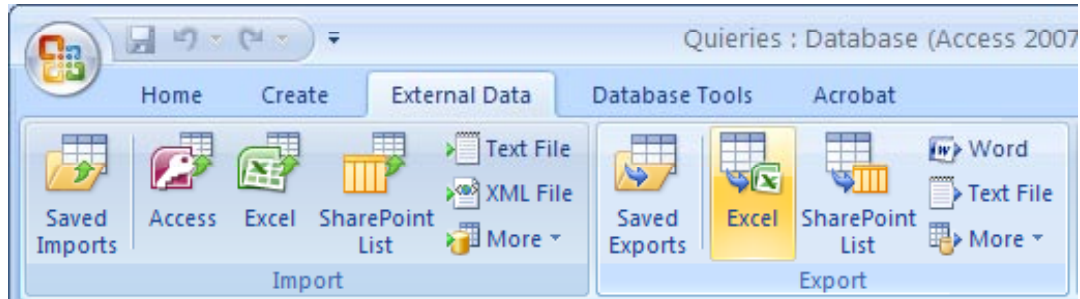
- XML is short for 'Extensible Mark-up Language'. It is a general-purpose mark-up language that allows you to share data created by different hardware and software via the Internet.

Exporting a table or query output as an Excel spreadsheet using the Export Wizard

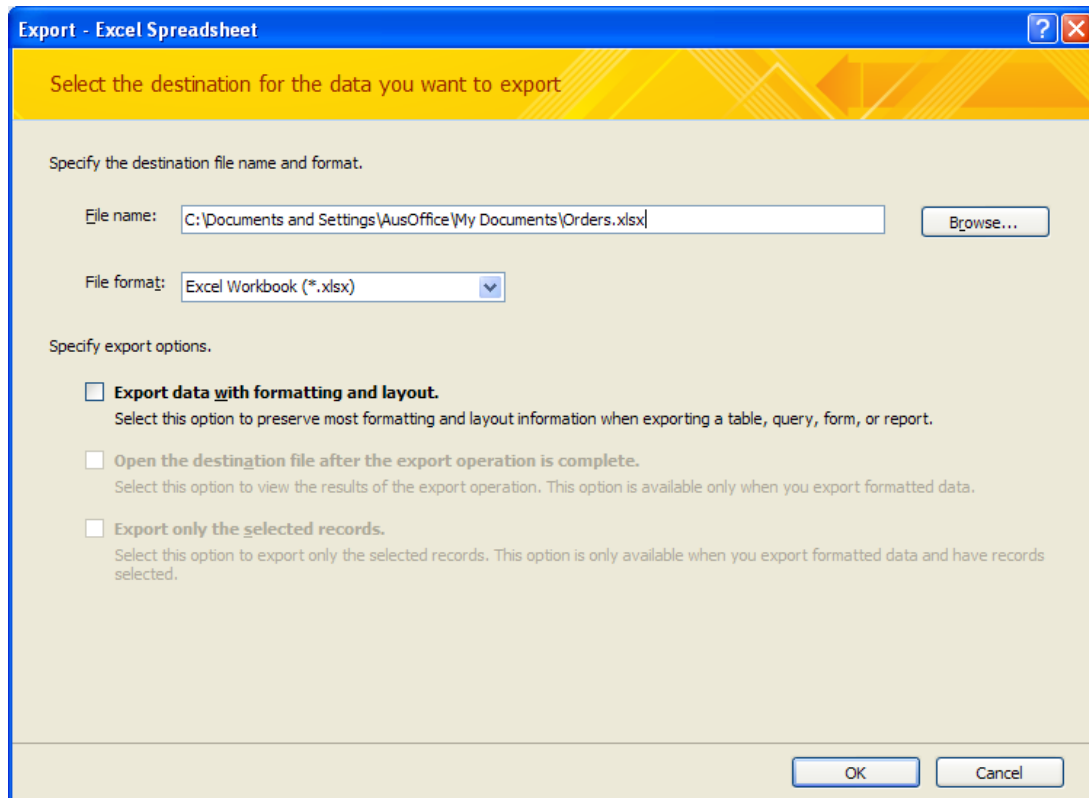
- First we need to open an Access database. In this case open the file called **Queries**. Select, but do not open the **Orders** table, as illustrated.



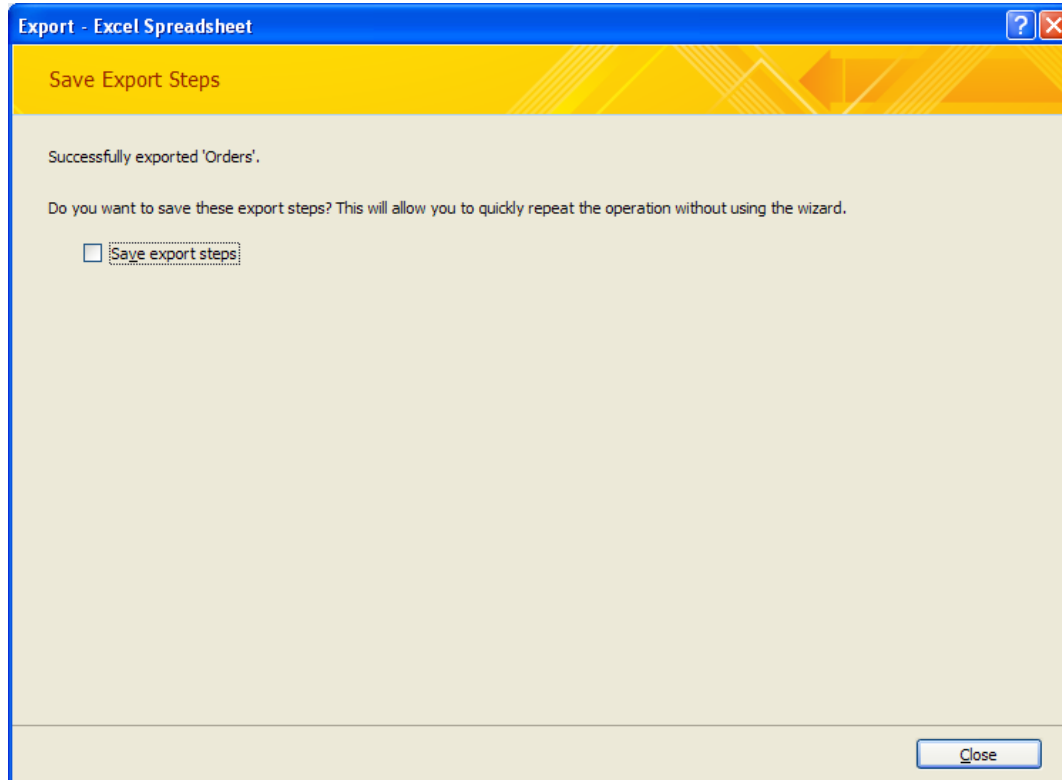
- Click on the **External Data** tab and from within the **Export** group, click on the **Export to Excel Spreadsheet** icon.



- You will see the following dialog box.



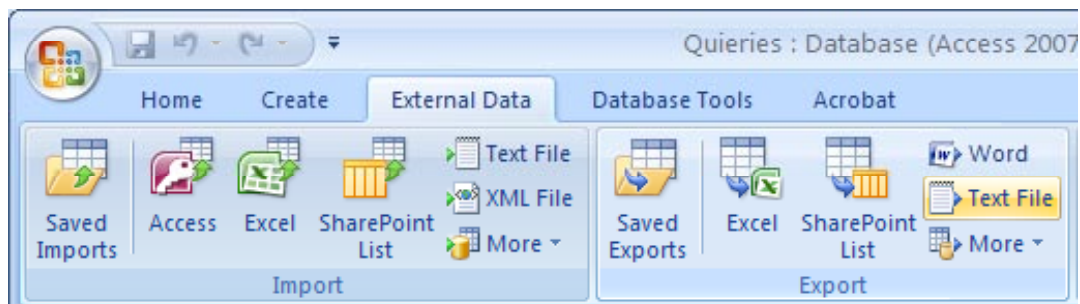
- Use the **Browse** button to navigate to the folder containing your sample files.
- Keep the suggested Excel workbook name of **Orders.xlsx**.
- Keep the native Excel 2007 file format.
- Click on the **OK** button to export the table to an Excel Workbook. You will see the following dialog box.



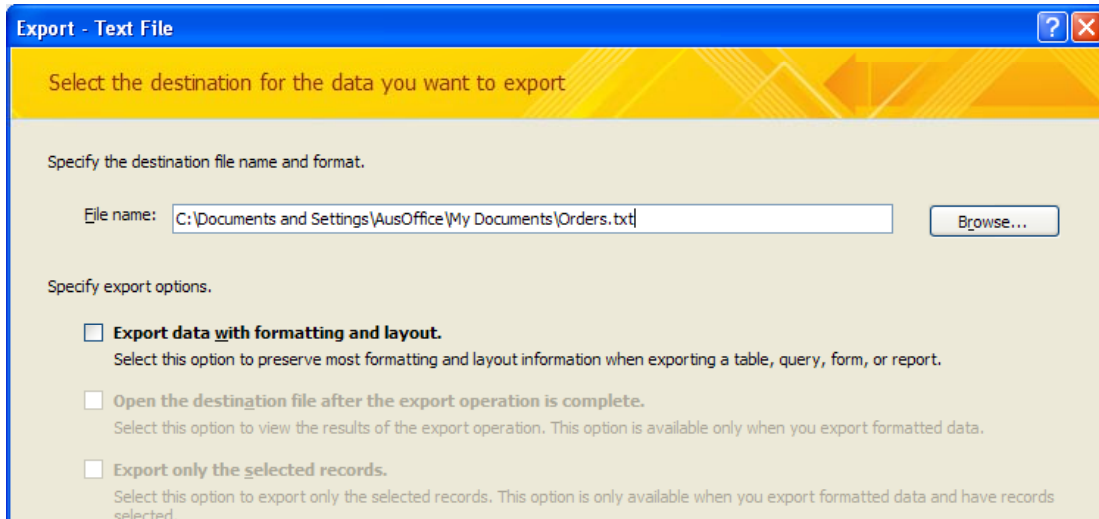
- Click on the **Close** button to close this dialog box.
- Close all open files and close Access.

Exporting a table or query output as a text file using the Export Wizard

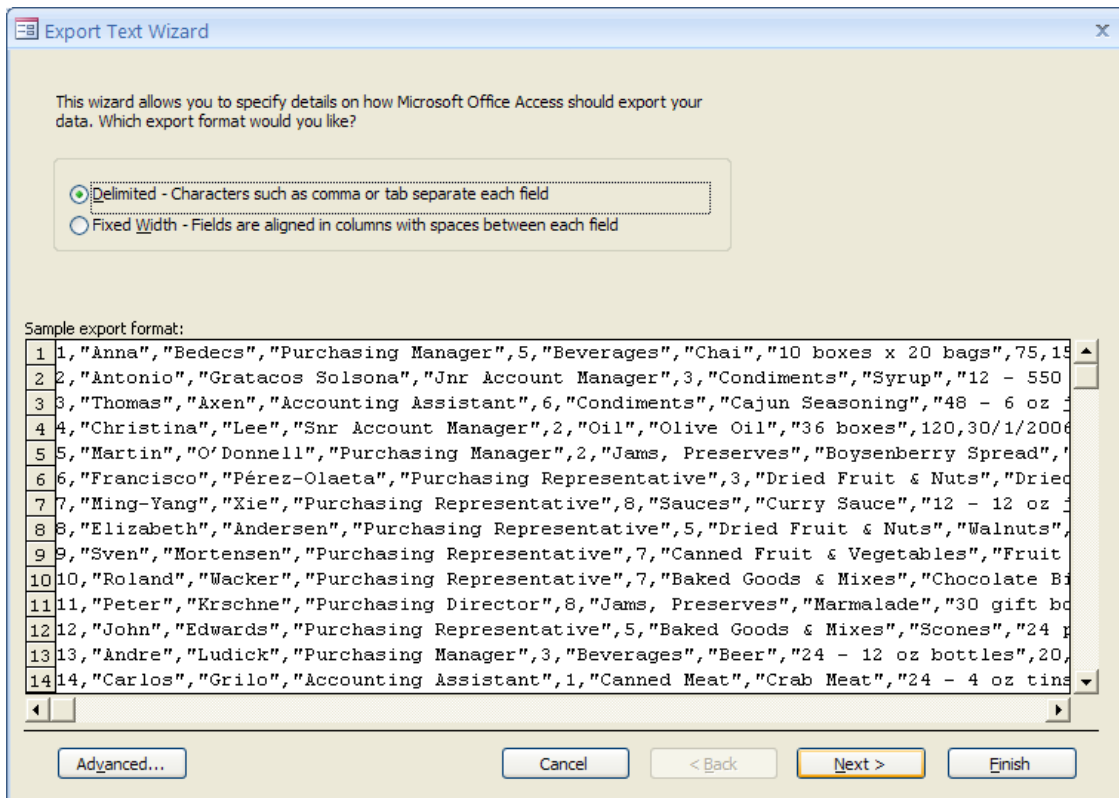
- First we need to open an Access database. In this case open the file called **Queries**. Select, but do not open the **Orders** table.
- Click on the **External Data** tab and from within the **Export** group, click on the **Text File** icon.



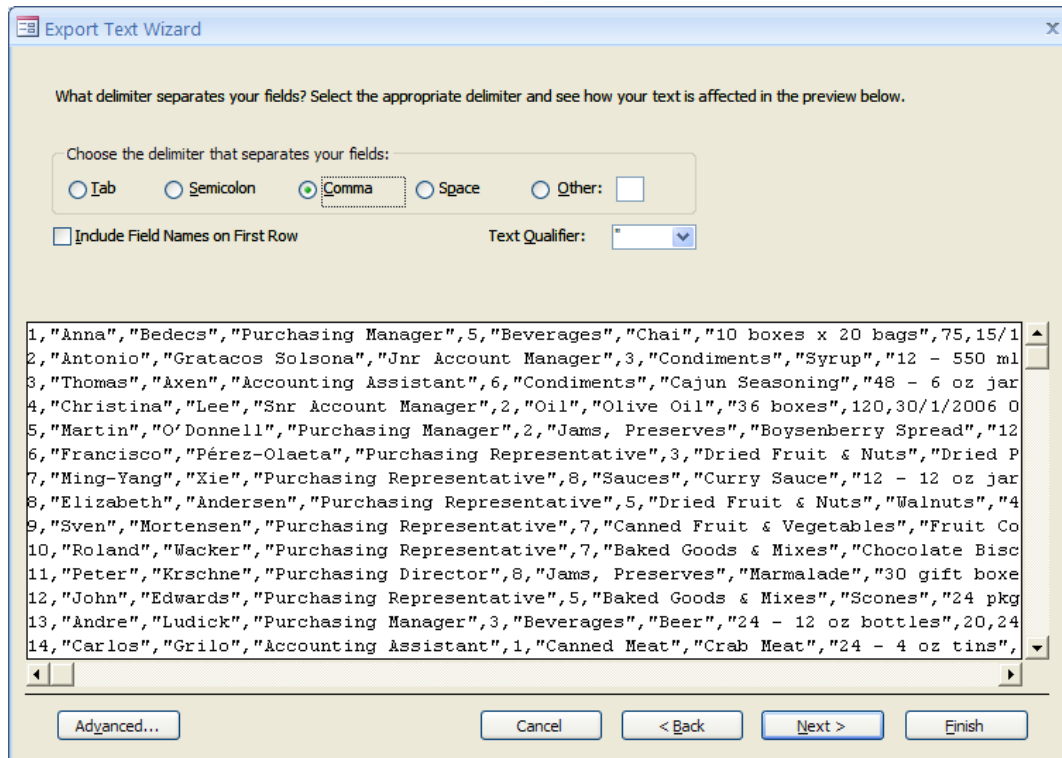
- You will see the following dialog box.



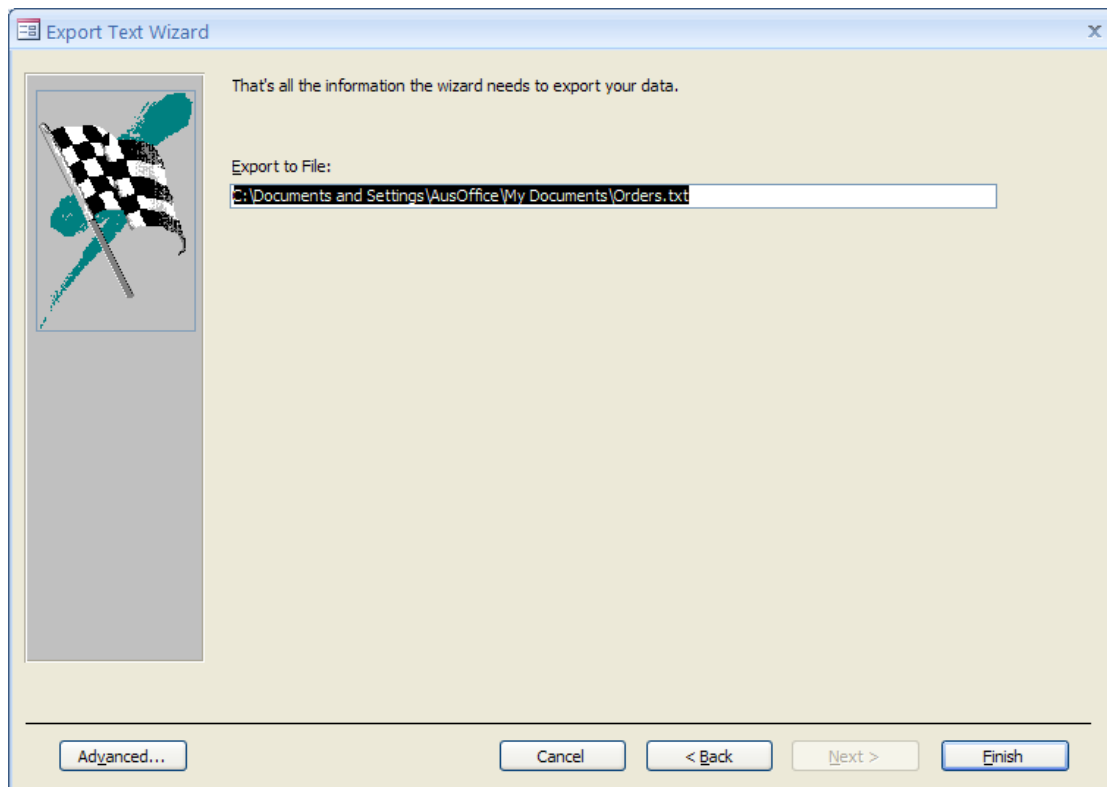
- Use the **Browse** button to navigate to the folder containing your sample files.
- Keep the suggested workbook name of **Orders.txt**.
- Click on the **OK** button to export the table to a text file. You will see the following dialog box.



- Accept the default option offered which is **Delimited**. This means that a specified character is inserted to separate each field.
- Click on the **Next** button and you will see the following dialog box.



- Accept the default value for separating the fields, which is **Comma**. Click on the **Next** button. You will see the following dialog box.



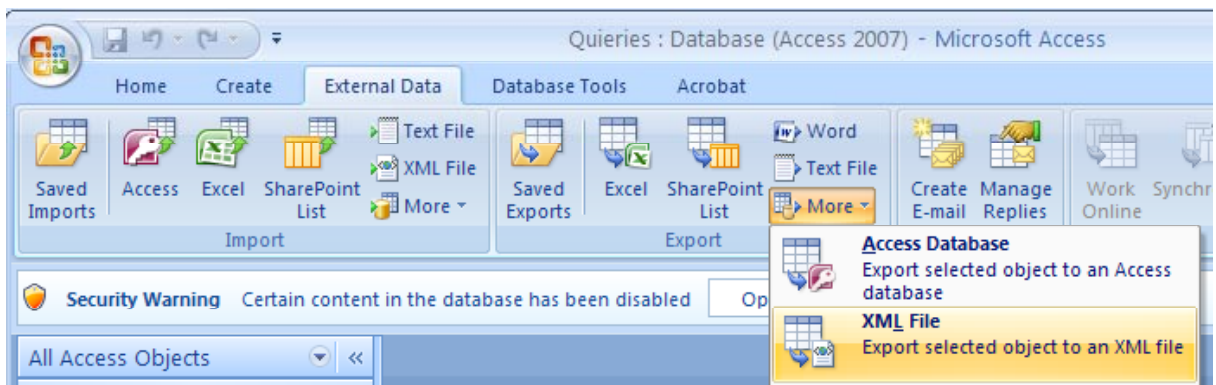
- Click on the **Finish** button to save the table in delimited file format, as a file called **Orders.txt**.
- When the export is finished click on the **Close** button to close this dialog box.

- Close all open files and close Access.

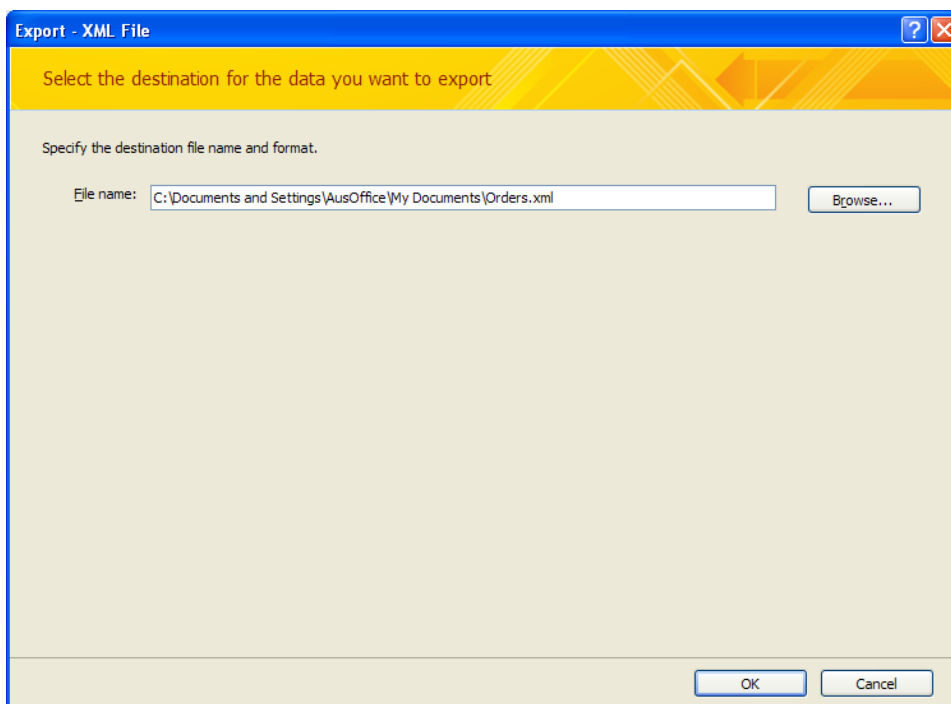
NOTE: In this example we saved the file in text delimited format using the file name extension of .TXT. If you wished in Export Text Wizard, you could have change the file name extension to .CSV. Changing the name in this way will not affect the file format, just the file name extension.

Exporting a table or query output as an XML formatted file using the Export Wizard

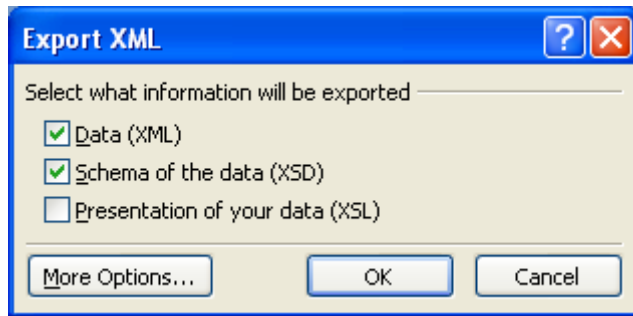
- First we need to open an Access database. In this case open the file called **Queries**. Select, but do not open the **Orders** table.
- Click on the **External Data** tab and from within the **Export** group, click on the **More** icon. From the drop down menu displayed, select **XML File**.



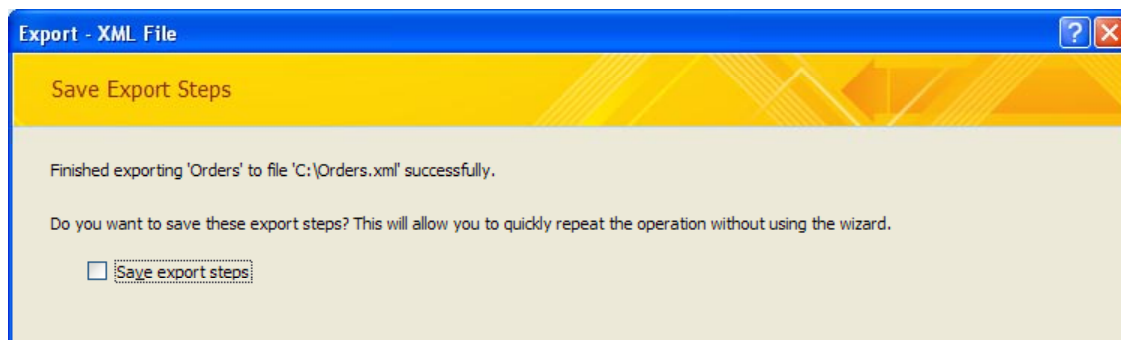
- You will see the following dialog box.



- Use the **Browse** button to navigate to the folder containing your sample files.
- Click on the **OK** button to export the table. You will see the following dialog box.



- Click on the **OK** button to accept the default options displayed. You will see the following dialog box displayed.



- Click on the **Close** button to close this dialog box.
- Close all open files and close Access.
- If you have time open the **Windows Explorer** program and examine the various files with the name **Orders** that are now stored in your sample file folder.

Considerations before printing

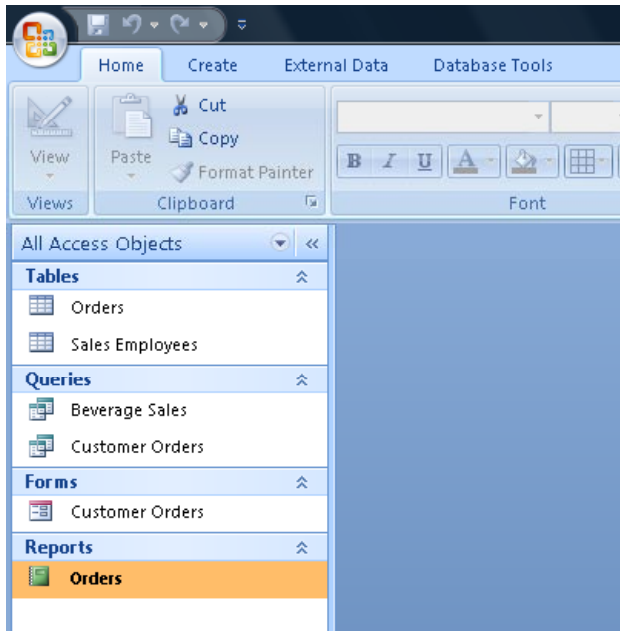
- Tables, queries and reports all use a grid layout which includes columns and rows. It is therefore important to consider the number and width of columns when it comes to printing.
- If the number of fields can be kept to a single sheet (width), either portrait or landscape, it will save on the number of pages you need to print.
- Although information can be printed directly from a table, consider using a query to extract only the fields and records that are actually required.

Print previewing

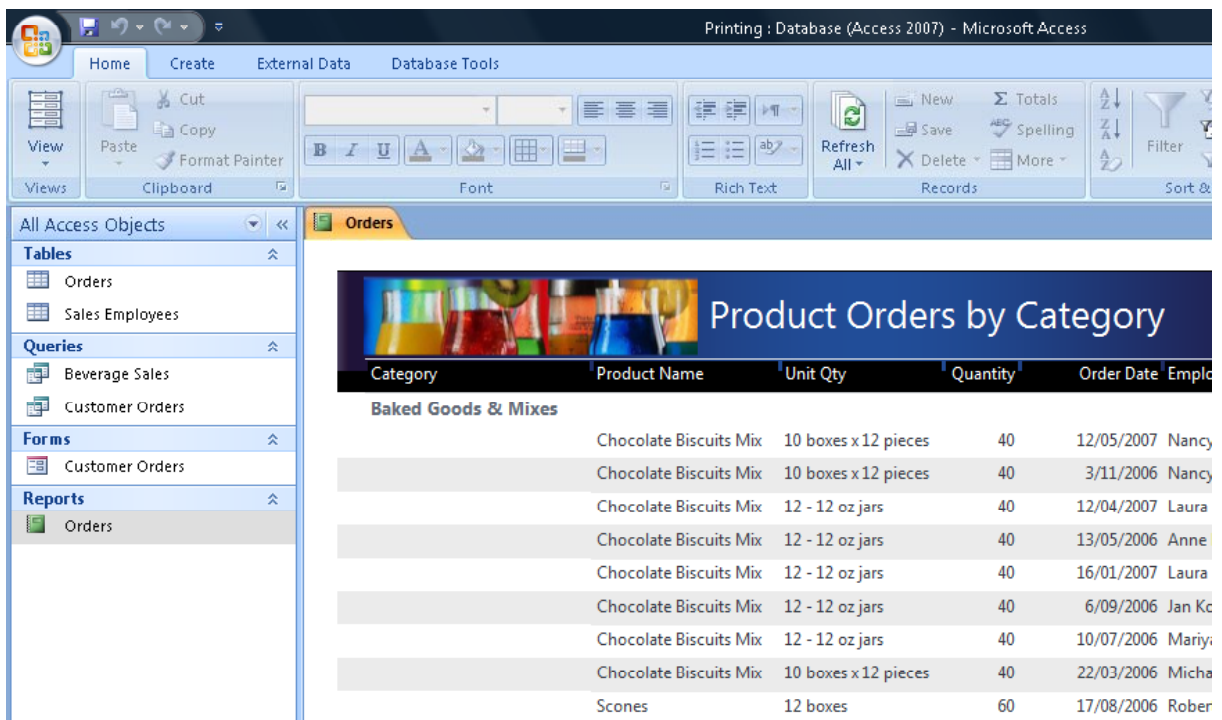
- Print Preview view shows how the report, table, etc will look when printed. This includes the layout of columns (fields) on the page(s), how many pages

are required to print the information, the margin sizes, titles, page numbers, etc.

- Before you can preview your print job, the object must either be either selected within the Navigation Pane or open in the object window. To print only selected records from a table, the table would have to be open first to select the records.
- Open Access and open a file called **Printing**. You will see the following.



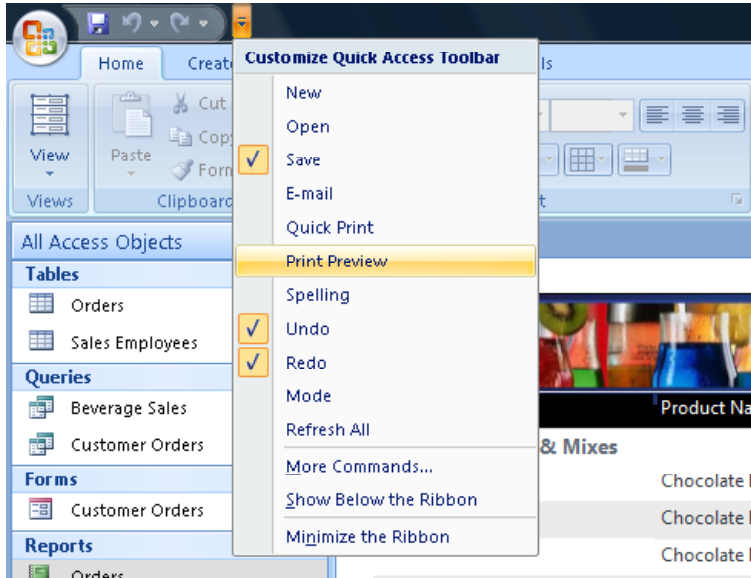
- Double click on the **Orders** report to open it, as illustrated.



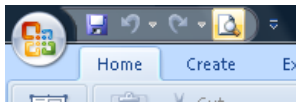
- To use Print Preview, click on the **Print Preview** button.



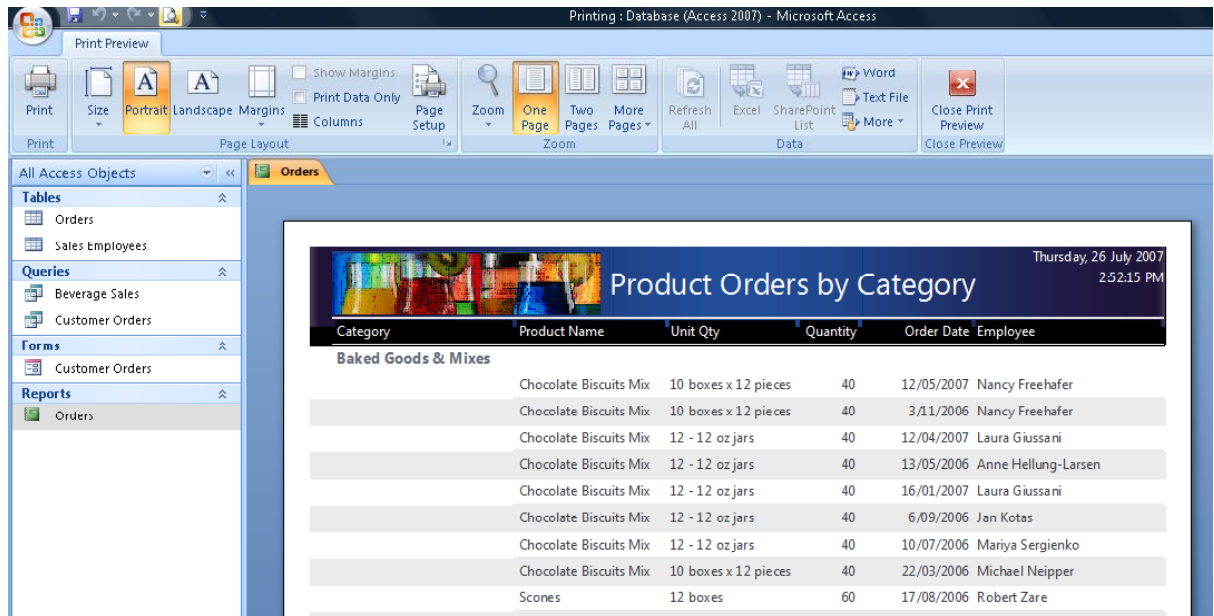
NOTE: If the **Print Preview** button is not displayed within the Quick Access Toolbar, click on the button to the right of the toolbar and from the list displayed, select **Print Preview**.



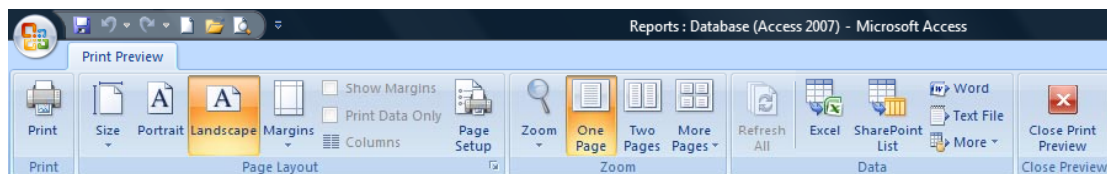
You will now see the **Print Preview** icon displayed within the Quick Access Toolbar, as illustrated.



- After clicking on the **Print Preview** button, a preview of the object, as it would look when printed, is displayed in the object window.



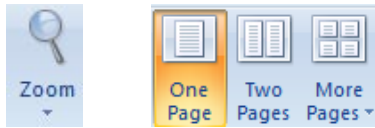
- A previously unseen **Print Preview** ribbon appears, offering you the most common tools required to adjust and modify the layout of you object to achieve the best printing results.



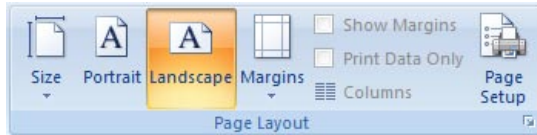
- A **Page Navigation Bar**, similar to the **Record Navigation Bar** used in tables, queries and forms can be seen at the bottom of the object window.



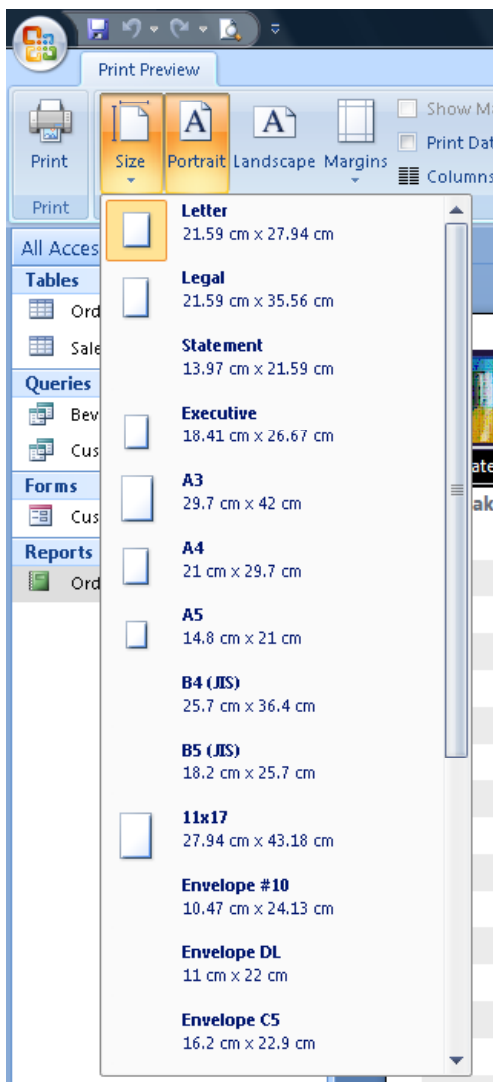
- When you first run Print Preview, the document displayed may appear unreadable. By placing the pointer over the document, the pointer changes to a magnifying glass. One click will zoom in to make the document readable and another click zooms out again.
- The **Zoom** group also offers further tools to enhance the focus and view of the document when working within Print Preview.
- The **Zoom** button offers zoom presets in percentages and the three pages per view options offer the chance to preview multiple pages at once. This is useful when you are more interested in the layout than the actual data content.



- In the **Page Layout** group the buttons control page size and page orientation, as well as margin sizes.

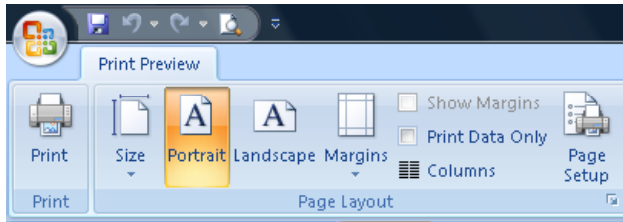


- Clicking on the **Size** button activates a drop down list of common International pages sizes.

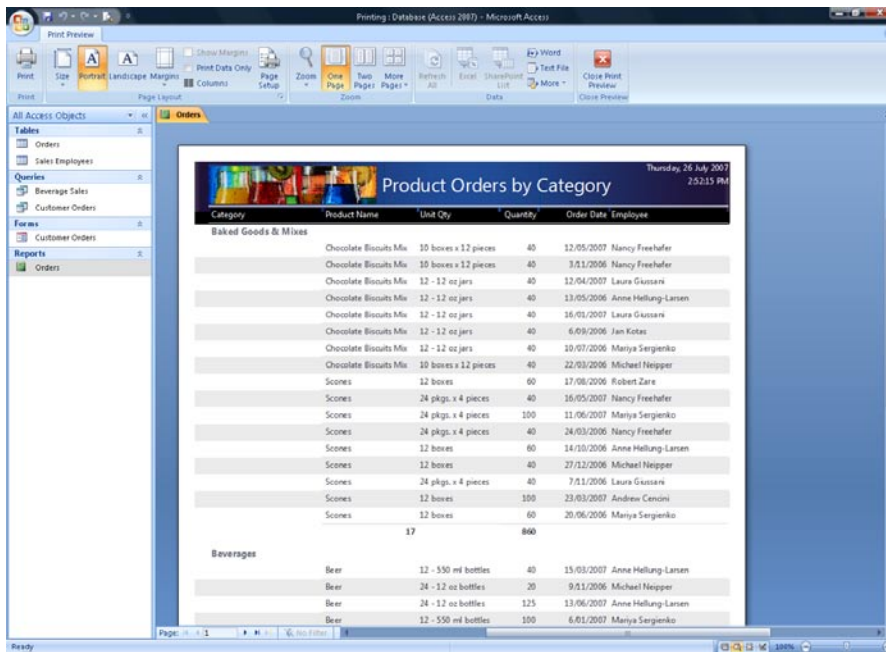


- By default, Access previews pages in portrait orientation. If you are unsure which orientation you are viewing, look at the **Layout** group in the ribbon. Whichever of the two orientation buttons is active, i.e. brightly shaded, indicates the current page orientation.

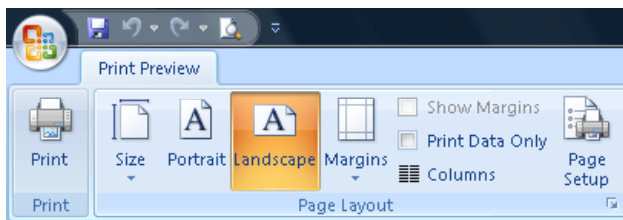
- When the **Portrait** button is selected and active, the page orientation is Portrait



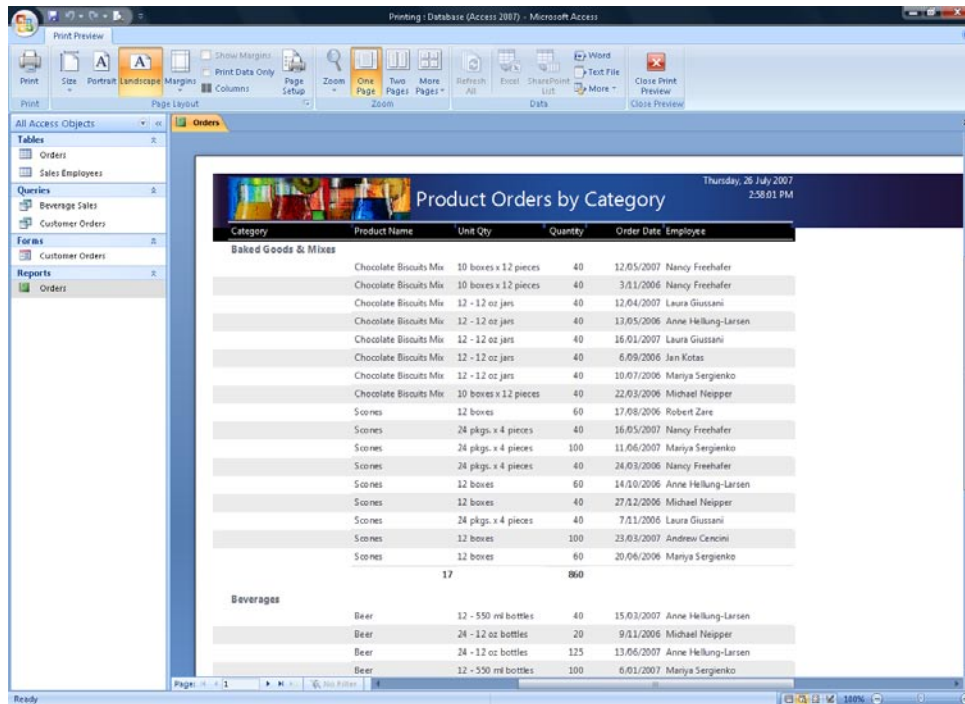
The page will look like this.



When the **Landscape** button is selected and active. The page orientation is Landscape.



The screen will look like this.



Which orientation, portrait or landscape?

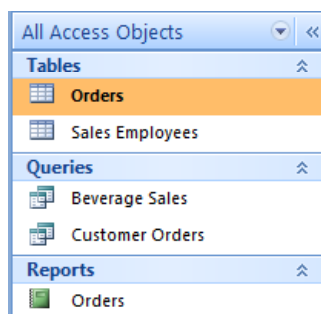
- When printing portrait pages, the advantage, assuming the report is only one page wide, is that more records can be printed per page, resulting in less pages being printed.

Landscape orientation on the other hand is useful when the table, report, etc has more fields (columns) than a portrait page can accommodate.

NOTE: When columns overflow the first page, a second page is used, in effect creating a two page wide printout. If those who the printouts are intended for are to make good use of the printouts, reports, etc, it is recommended that the printouts be kept to a manageable size.

Adjusting layout in Print Preview

- Double click on **Orders** in the Navigation Pane to open the **Orders** table.



- To use Print Preview, click on the **Print Preview** button.



The displayed is illustrated below.

Order No	First Name	Last Name	Position	Employee ID
1	Anna	Bedets	Purchasing Manager	5
2	Antonio	Gratacos Solsona	Jnr Account Manager	3
3	Thomas	Axen	Accounting Assistant	6
4	Christina	Lee	Snr Account Manager	2
5	Martin	O'Donnell	Purchasing Manager	2
6	Francisco	Pérez-Olaeta	Purchasing Representative	3
7	Ming-Yang	Xie	Purchasing Representative	8
8	Elizabeth	Andersen	Purchasing Representative	5
9	Sven	Mortensen	Purchasing Representative	7
10	Roland	Wacker	Purchasing Representative	7
11	Peter	Krschne	Purchasing Director	8
12	John	Edwards	Purchasing Representative	5
13	Andre	Ludick	Purchasing Manager	3
14	Carlos	Grilo	Accounting Assistant	1
15	Helena	Kupkova	Accounting Assistant	7
16	Daniel	Goldschmidt	Purchasing Representative	5
17	Jean Philippe	Bagel	Purchasing Representative	2
18	Catherine	Autier Miconi	Accounting Assistant	3
19	Alexander	Eggerer	Snr Account Manager	5
20	George	Li	Purchasing Manager	2
21	Bernard	Tham	Purchasing Representative	7
22	Ludiana	Ramos	Accounting Assistant	2
23	Michael	Ertin	Snr Account Manager	5
24	Jonas	Hasselberg	Purchasing Manager	3
25	John	Rodman	Jnr Account Manager	6
26	Run	Liu	Accounting Assistant	3
27	Karen	Toh	Snr Account Manager	3
28	Amritarsh	Raghav	Purchasing Manager	3
29	Soo Jung	Lee	Purchasing Representative	6
30	Anna	Bedets	Purchasing Manager	4
31	Michael	Eain	Snr Account Manager	7
32	Anna	Bedets	Purchasing Manager	8
33	Antonio	Gratacos Solsona	Jnr Account Manager	2
34	Thomas	Axen	Accounting Assistant	1
35	Christina	Lee	Snr Account Manager	3
36	Martin	O'Donnell	Purchasing Manager	6
37	Francisco	Pérez-Olaeta	Purchasing Representative	1
38	Ming-Yang	Xie	Purchasing Representative	3
39	Elizabeth	Andersen	Purchasing Representative	8
40	Sven	Mortensen	Purchasing Representative	3

- The **Page Navigation** Bar is displayed below the table preview.



- Click on the right arrowed button once.

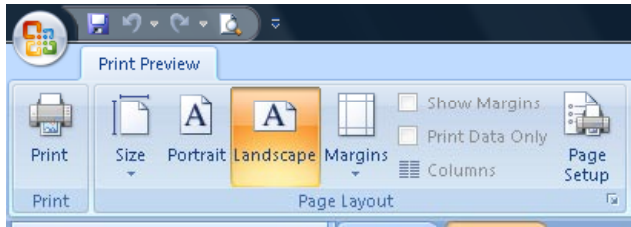


Make a note of the fields in **page 2** and then click on the right arrowed button again and note which fields are in **page 3**.



Currently, a print of this table would be 3 pages wide, multiplied by the number of pages require to print all or selected records.

- Click on the **Landscape** button.

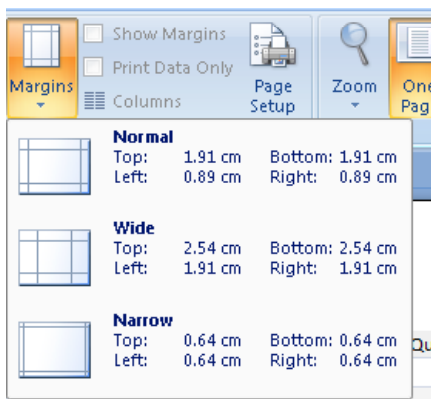


- In Landscape orientation, the printout only requires two pages (width), again multiplied by the number of pages require to print all or selected records.

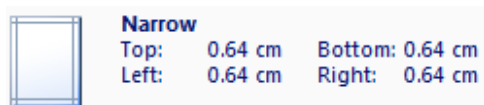
NOTE: You use the same page orientation techniques for tables, forms, query output and reports.

Setting margins

- Next, click on the **Margins** button which will display some preset options.



- Select the **Narrow** option from the list:



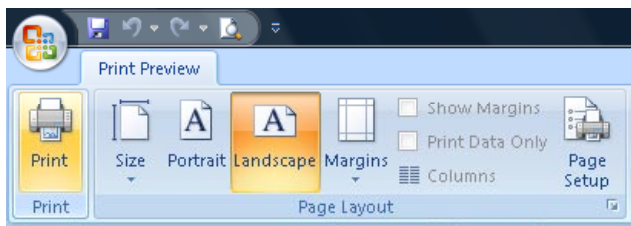
- More records are visible in the preview and this could result in fewer pages being printed.

Order No	First Name	Last Name	Position	Employee ID	Category	Product Name
1	Anna	Bedeas	Purchasing Manager		5 Beverages	Chai
2	Antonio	Gratacos Solsona	Jnr Account Manager		3 Condiments	Syrup
3	Thomas	Axen	Accounting Assistant		6 Condiments	Cajun Seasoning
4	Christina	Lee	Snr Account Manager		2 Oil	Olive Oil
5	Martin	O'Donnell	Purchasing Manager		2 Jams, Preserves	Boysenberry Spread
6	Francisco	Pérez-Olaeta	Purchasing Representative		3 Dried Fruit & Nuts	Dried Pears
7	Ming-Yang	Xie	Purchasing Representative		8 Sauces	Curry Sauce
8	Elizabeth	Andersen	Purchasing Representative		5 Dried Fruit & Nuts	Walnuts
9	Sven	Mortensen	Purchasing Representative		7 Canned Fruit & Vegetables	Fruit Cocktail
10	Roland	Wacker	Purchasing Representative		7 Baked Goods & Mixes	Chocolate Biscuits Mix
11	Peter	Krachne	Purchasing Director		8 Jams, Preserves	Marmalade
12	John	Edwards	Purchasing Representative		5 Baked Goods & Mixes	Scones
13	Andre	Ludick	Purchasing Manager		3 Beverages	Beer
14	Carlos	Grilo	Accounting Assistant		1 Canned Meat	Crab Meat
15	Helena	Kupkova	Accounting Assistant		7 Soups	Clam Chowder
16	Daniel	Goldszmidt	Purchasing Representative		5 Beverages	Coffee
17	Jean Philippe	Bagel	Purchasing Representative		2 Candy	Chocolate
18	Catherine	Autier Miconi	Accounting Assistant		3 Dried Fruit & Nuts	Dried Apples
19	Alexander	Eggerer	Snr Account Manager		5 Grains	Long Grain Rice
20	George	Li	Purchasing Manager		2 Pasta	Gnocchi
21	Bernard	Tham	Purchasing Representative		7 Pasta	Ravioli
22	Luciana	Ramos	Accounting Assistant		2 Sauces	Hot Pepper Sauce
23	Michael	Entin	Snr Account Manager		5 Sauces	Tomato Sauce
24	Jonas	Hasselberg	Purchasing Manager		3 Dairy Products	Mozzarella
25	John	Rodman	Jnr Account Manager		6 Dried Fruit & Nuts	Almonds
26	Run	Liu	Accounting Assistant		3 Condiments	Mustard
27	Karen	Toh	Snr Account Manager		3 Dried Fruit & Nuts	Dried Plums
28	Amritansh	Raghav	Purchasing Manager		3 Beverages	Green Tea
29	Soo Jung	Lee	Purchasing Representative		6 Cereal	Granola
30	Anna	Bedeas	Purchasing Manager		4 Dried Fruit & Nuts	Almonds
31	Michael	Entin	Snr Account Manager		7 Sauces	Tomato Sauce
32	Anna	Bedeas	Purchasing Manager		8 Dried Fruit & Nuts	Almonds
33	Antonio	Gratacos Solsona	Jnr Account Manager		2 Beverages	Beer
34	Thomas	Axen	Accounting Assistant		1 Jams, Preserves	Boysenberry Spread
35	Christina	Lee	Snr Account Manager		3 Condiments	Cajun Seasoning
36	Martin	O'Donnell	Purchasing Manager		6 Beverages	Chai
37	Francisco	Pérez-Olaeta	Purchasing Representative		1 Candy	Chocolate

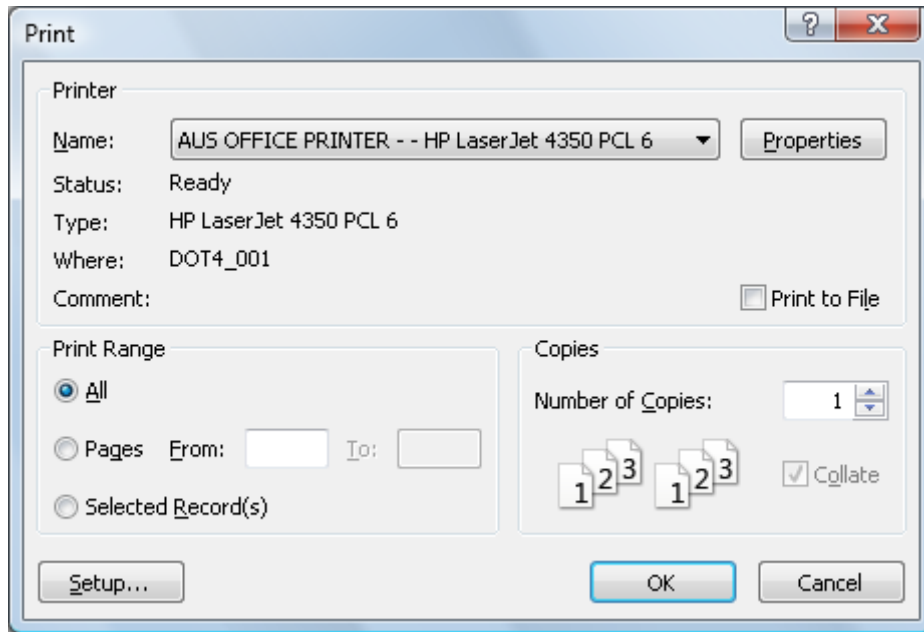
NOTE: Another option to help further reducing the number of pages required to print a table, is to resize and reduce column widths or even hide columns not necessary to the printout.

Printing a complete table

- When the layout has been optimised in Print Preview and the table is ready to be printed, click on the **Print** button.



This displays the **Print** dialog box.



- In the **Print** dialog box, make sure the correct printer name is selected. To print the whole table, leave the **Print Range** set to **All** and click on the **OK** button to print.

Printing selected records

- Instead of printing the whole table, Access is able to print selected records. The records must be selected (highlighted) in the table first, before attempting to print from within Print Preview.

NOTE: Even though records have been selected, Print Preview continues to preview the whole table, rather than just those selected.

- Specific records can be selected in two ways. Select and highlight a block of rows (records).

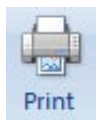
Order No	First Name	Last Name	Position	Employee ID	Category	Product Name	Unit Qty	Quantity	Order Date
1	Anna	Bedace	Purchasing Manager	5	Beverages	Chai	10 boxes x 30 bags	75	15/03/2006
2	Antonio	Grabacos Solsosa	Jr Account Manager	3	Condiments	Syrup	12 - 550 ml bottles	40	20/01/2006
3	Thomas	Axen	Accounting Assistant	6	Condiments	Cajun Seasoning	48 - 6 oz jars	100	22/01/2006
4	Christina	Lee	Sr Account Manager	2	Oil	Olive Oil	90 boxes	120	30/01/2006
5	Martin	O'Donnell	Purchasing Manager	3	Jams, Preserves	Boysenberry Spread	12 - 8 oz jars	50	6/02/2006
6	Francisco	Pérez-Claeta	Purchasing Representative	3	Dried Fruit & Nuts	Dried Peas	12 - 1 lb pkgs.	100	10/02/2006
7	Ming-Yang	Xie	Purchasing Representative	8	Sauces	Curry Sauce	12 - 12 oz jars	40	23/02/2006
8	Elizabeth	Andersen	Purchasing Representative	3	Dried Fruit & Nuts	Walnuts	40 - 100 g pkgs.	40	6/03/2006
9	Sven	Mortensen	Purchasing Representative	7	Canned Fruit & Vegetables	Fruit Cocktail	15.25 OZ	40	10/03/2006
10	Roland	Wacker	Purchasing Representative	7	Baked Goods & Mixes	Chocolate Biscuits Mix	10 boxes x 12 pieces	40	22/03/2006
11	Peter	Krschne	Purchasing Director	8	Jams, Preserves	Marmalade	30 gift boxes	20	24/03/2006
12	John	Edwards	Purchasing Representative	5	Baked Goods & Mixes	Scones	24 pkgs. x 4 pieces	40	24/03/2006
13	Andre	Ludick	Purchasing Manager	3	Beverages	Beer	24 - 12 oz bottles	20	24/03/2006
14	Carlos	Grijo	Accounting Assistant	1	Canned Meat	Crab Meat	24 - 4 oz tins	120	24/03/2006
15	Helena	Kupkova	Accounting Assistant	7	Soups	Clam Chowder	12 - 12 oz cans	40	24/03/2006
16	Daniel	Goldschmidt	Purchasing Representative	5	Beverages	Coffee	16 - 500 g tins	100	5/04/2006
17	Jean Philippe	Bagel	Purchasing Representative	2	Candy	Chocolate	10 pkgs	40	5/04/2006
18	Catherine	Autier Milconi	Accounting Assistant	3	Dried Fruit & Nuts	Dried Apples	50 - 300 g pkgs.	20	8/04/2006
19	Alexander	Eggerer	Sr Account Manager	5	Grains	Long Grain Rice	16 - 2 kg boxes	60	9/04/2006
20	George	Li	Purchasing Manager	2	Pasta	Gnocchi	24 - 250 g pkgs.	100	12/04/2006
21	Bernard	Tham	Purchasing Representative	7	Pasta	Ravioli	24 - 250 g pkgs.	40	13/04/2006
22	Luciana	Ramos	Accounting Assistant	2	Sauces	Hot Pepper Sauce	32 - 8 oz bottles	40	21/04/2006
23	Michael	Erwin	Sr Account Manager	5	Sauces	Tomato Sauce	24 - 8 oz jars	60	21/04/2006
24	Janet	Hasselberg	Purchasing Manager	3	Dairy Products	Mozzarella	24 - 300 g pkgs.	50	22/04/2006
25	John	Rodman	Jr Account Manager	6	Dried Fruit & Nuts	Almonds	5 kg pkg.	40	22/04/2006
26	Ron	Lin	Accounting Assistant	2	Condiments	Mustard	12 - 12 oz jars	60	22/04/2006

- Highlight a block of columns (fields).

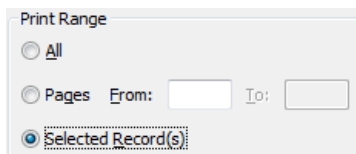
Order No	First Name	Last Name	Position	Employee ID	Category	Product Name	Unit Qty	Quantity	Order Date
1	Anna	Beddes	Purchasing Manager	5	Beverages	Chai	10 boxes x 20 bags	75	15/01/2004
2	Antonio	Gratacos Solsona	Jnr Account Manager	3	Condiments	Syrup	12 - 350 ml bottles	40	20/01/2004
3	Thomas	Aken	Accounting Assistant	6	Condiments	Cajun Seasoning	48 - 6 oz jars	100	22/01/2004
4	Christina	Lee	Snr Account Manager	2	Oil	Olive Oil	36 boxes	120	30/01/2004
5	Martin	O'Donnell	Purchasing Manager	2	Jams, Preserves	Rosyborberry Spread	12 - 8 oz jars	80	6/02/2004
6	Francisco	Pérez-Olaeta	Purchasing Representative	3	Dried Fruit & Nuts	Dried Pears	12 - 1 lb pkgs.	100	10/02/2004
7	Ming-Yang	Xie	Purchasing Representative	8	Sauces	Curry Sauce	12 - 12 oz jars	40	23/02/2004
8	Elizabeth	Andersen	Purchasing Representative	5	Dried Fruit & Nuts	Walnuts	40 - 300 g pkgs.	40	6/03/2004
9	Sven	Mortensen	Purchasing Representative	7	Canned Fruit & Vegetables	Fruit Cocktail	15.25 oz	40	10/03/2004
10	Roland	Wacker	Purchasing Representative	7	Baked Goods & Mixes	Chocolate Biscuits Mix	10 boxes x 12 pieces	40	22/03/2004
11	Peter	Kirschne	Purchasing Director	8	Jams, Preserves	Marmalade	30 gift boxes	20	24/03/2004
12	John	edwards	Purchasing Representative	8	Baked Goods & Mixes	Scones	24 pkgs. x 4 pieces	40	24/03/2004
13	Andrie	Tutlik	Purchasing Manager	3	Beverages	Rice	24 - 19 oz bottles	20	24/03/2004
14	Carlos	Grijo	Accounting Assistant	1	Canned Meat	Crab Meat	24 - 4 oz tins	120	24/03/2004
15	Helena	Kupkova	Accounting Assistant	7	Soups	Clam Chowder	12 - 12 oz cans	40	24/03/2004
16	Daniel	Goldschmidt	Purchasing Representative	3	Beverages	Coffee	16 - 500 g tins	100	5/04/2004
17	Jean Philippe	Rapel	Purchasing Representative	2	Candy	Chocolate	10 pkgs	40	5/04/2004
18	Catherine	Autier Miconi	Accounting Assistant	3	Dried Fruit & Nuts	Dried Apples	50 - 300 g pkgs.	20	8/04/2004
19	Alexander	Eggerer	Snr Account Manager	5	Grains	Long Grain Rice	16 - 2 kg boxes	60	9/04/2004
20	George	Li	Purchasing Manager	2	Pasta	Gnocchi	24 - 250 g pkgs.	100	12/04/2004
21	Bernard	Tham	Purchasing Representative	7	Pasta	Ravioli	24 - 250 g pkgs.	40	15/04/2004
22	Luciana	Ramos	Accounting Assistant	2	Sauces	Hot Peppor Sauce	32 - 8 oz bottles	40	21/04/2004
23	Michael	Enlin	Snr Account Manager	5	Sauces	Tomato Sauce	24 - 8 oz jars	40	21/04/2004
24	Jones	Hasselberg	Purchasing Manager	3	Dairy Products	Mozzarella	24 - 200 g pkgs.	60	22/04/2004
25	John	Rodman	Jnr Account Manager	6	Dried Fruit & Nuts	Almonds	5 kg pkg.	40	22/04/2004
26	Rita	Blau	Accounting Assistant	3	Condiments	Mustard	12 - 100 g pkgs.	40	22/04/2004

NOTE: Although the printing of rows is reliable enough, printing columns does appear to have a number of issues. Consider creating a query first to extract the necessary information and print from that instead.

With the records selected, click on the **Print Preview** button. When the layout has been optimised, click on the **Print** button.



- This will display the **Print** dialog box. In the **Print Range** setting, click on the **Selected Record(s)** option.



- Access will print only those record selected prior to printing.

NOTE: You can also print a range of pages using the **From** and **To** items within the **Print Range** dialog box.

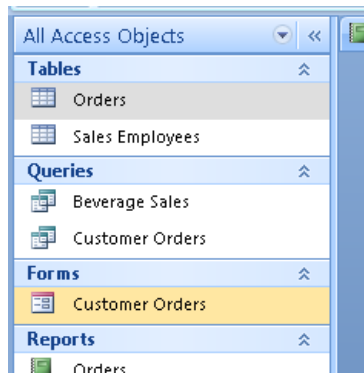
Printing a query or reports

- Follow the same steps used when printing tables. Reports have the obvious advantage over tables and queries, in that reports are specifically designed to be printed, therefore a report layout can be modified even before previewing.

Printing forms

- In Access, it is possible to print from a form, in the same way as you would from a table. The only difference is in the layout of the data.

- Open the **Customer Orders** form, by double clicking on **Customer Orders** as illustrated below.



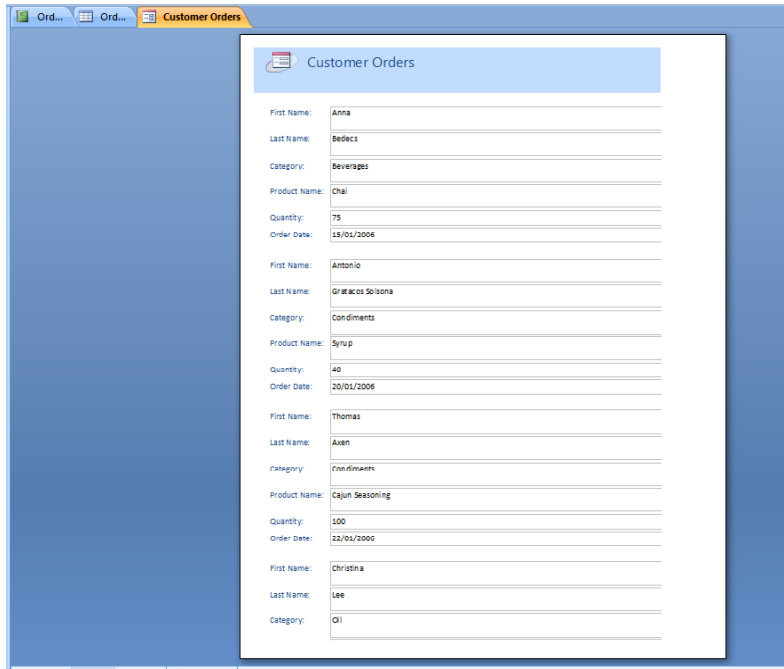
This will display the **Customers Order** form as illustrated below.

The image shows the 'Customer Orders' form. The form has a blue header with the title 'Customer Orders'. Below the header, there are several text boxes with labels and values: 'First Name: Anna', 'Last Name: Bedecs', 'Category: Beverages', 'Product Name: Chai', 'Quantity: 75', and 'Order Date: 15/01/2006'.

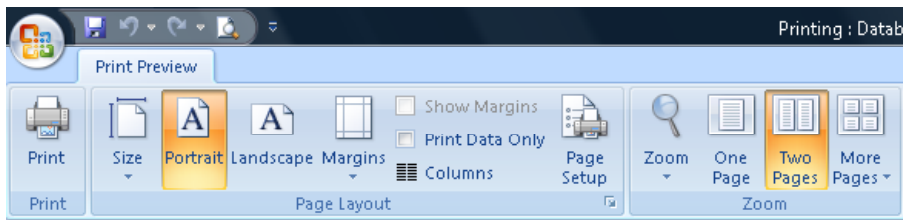
- With the form open, click on the **Print Preview** button.



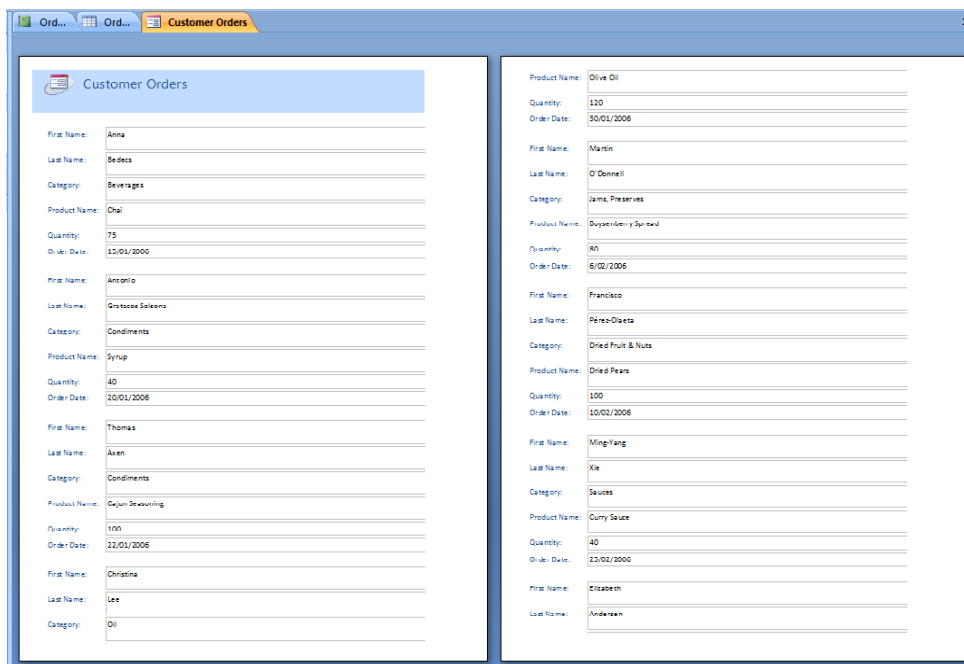
- In Print Preview, the layout of data on the page is similar to that of the form itself.



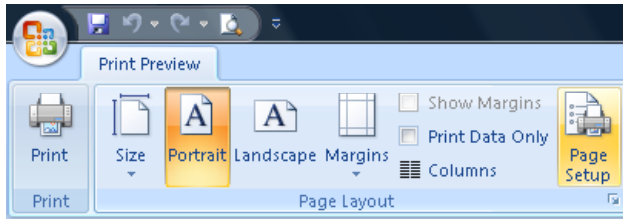
- If the form column spills over into a second page, click on the **Columns** button in the **Page Layout** group.



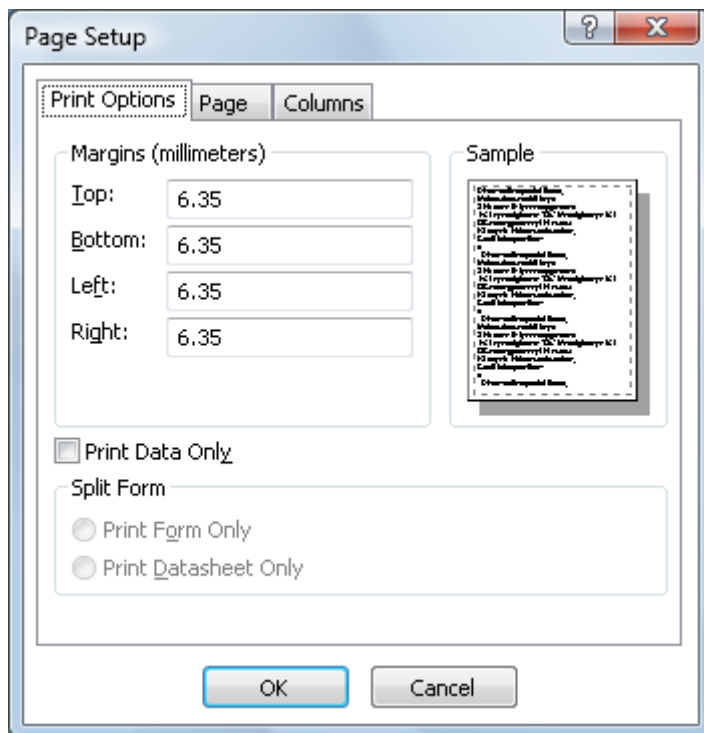
You will now see two pages displayed.



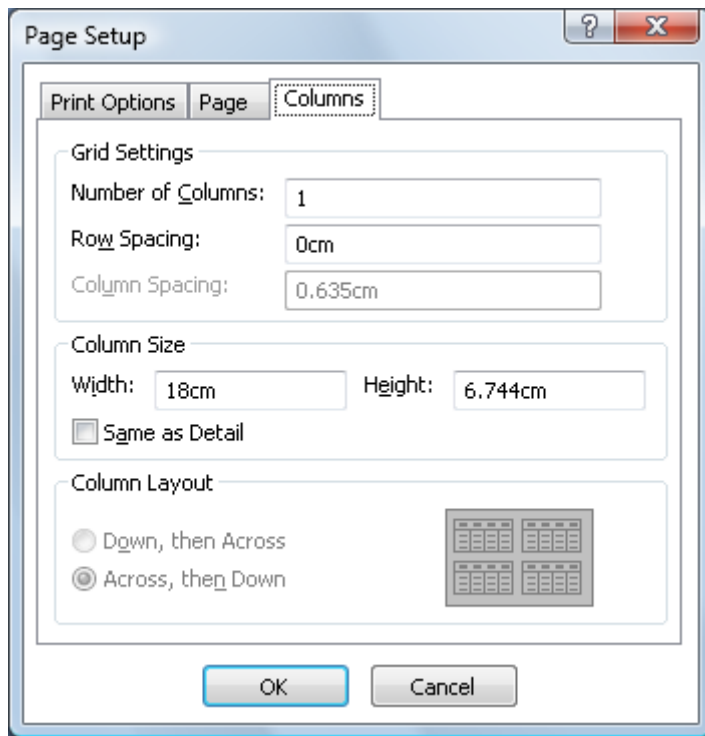
- Within the **Print Preview** Tab, in the **Page Layout** section click on the **Page Setup** button.



This will display the **Page Setup** dialog.



- You can adjust margins as required using this dialog box. Experiment.
- Click on the **Columns** tab within the **Page Setup** dialog box and you can also experiment with setting column sizes.



- When you have finished experimenting close the dialog box.
- Save any changes you have made and close Access.