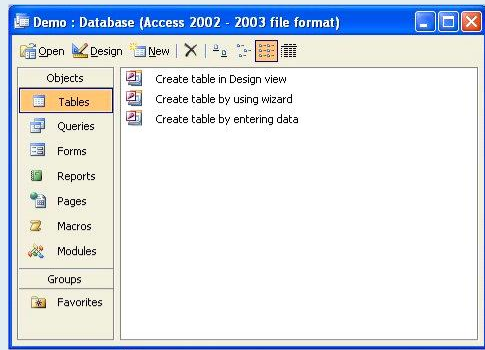


# Creating Tables

To create a new table, select Tables on the left of the database window. There are three links shown which may be double clicked to activate. Alternatively, the New button at the top of the database window opens the New Table dialog box, offering the same three options as well as the ability to import an existing table (or other object) from another database or create a link from the current database to a table in another database.



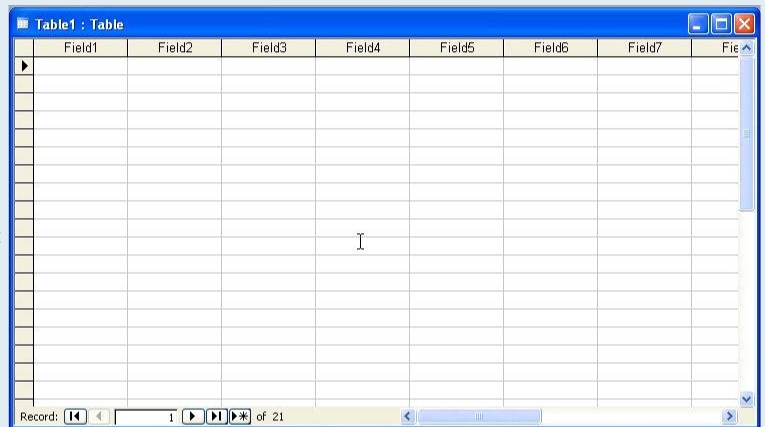
# Datasheet View

If you opt to use the link "Create table by entering data" or select "Datasheet View" from the New Table dialog box, a new blank table consisting of 10 columns and 21 rows will be produced into which you may immediately start to enter data. The snag with this method is that you are not controlling the data types, sizes and other properties of each field and will not be prevented from mixing dates, text and numbers together to create a totally unstructured table.



# The Table Wizard

Using the Table Wizard is a little better than a blank datasheet. If you choose this option, the wizard lets you choose predefined fields from a range of popular table types of a business or personal nature. Select business or personal using the option buttons on the left of the wizard. When you have selected an option, you can select from a list of sample tables. From the chosen sample table you can select sample fields and gradually build your own table using a mixture of sample tables and fields. The buttons to the right of the list of sample fields are as follows:



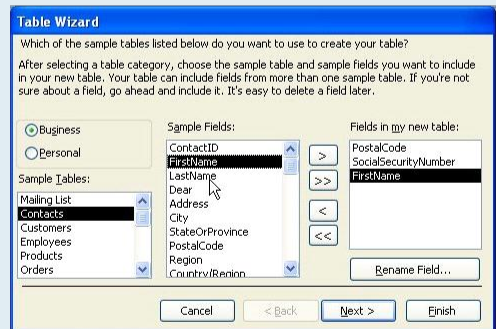
> moves the currently selected field to the new table

>> moves all the fields in the sample to the new table

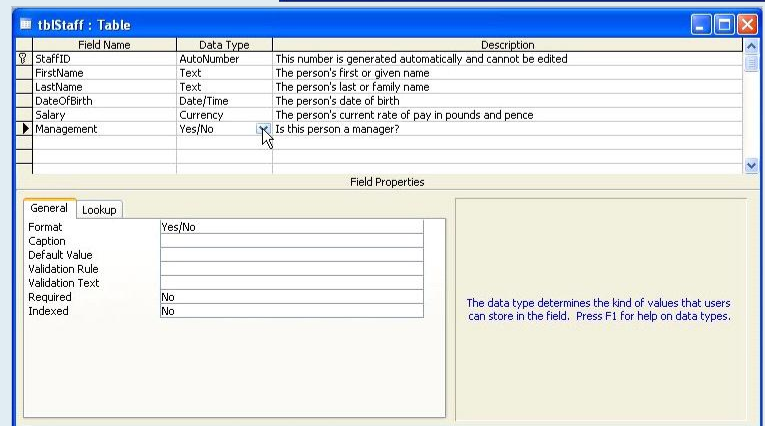
< removes the currently selected field from the new table

<< removes all the fields from the new table

In this way, you can build a table with the fields constructed as you want them. One problem with this method is that the fields produced by the wizard tend to be designed for the American market. Postal codes assume you are referring to American zip codes rather than UK post codes, Social Security Number does not refer to the UK National Insurance number, Telephone numbers do not necessarily go with UK style numbers and so on.



By the time you have corrected all the Americanisms it is probably the simplest method to create your table using Design View.



# Design View

The Design View is split into two halves. The top half allows you to enter a name, data type and description for each field. Traditionally the field name is a single word. DateOfBirth would be used for a Date of Birth field—you can put the spaces into a field name but it is advisable not to for reasons that won't become apparent until you get to a more advanced level. The data type may be chosen from a drop down list. Once you are familiar with all the data types, it is sufficient to simply type the first letter of the data type to display it. The description will be displayed on the status bar at the bottom of the Access window when the field in question is active and can act as a reminder to yourself or others as to what should be entered. A list of data types is shown later in these notes.

As each field is activated in the top of the Design View window, the bottom of the window shows the field properties to the left and helpful hints on the right. A list of useful field properties is included later.

## Data Types

These may be selected from a dropdown list:

**Text** – text or numerals may be added up to a maximum of 255 characters.

**Memo** – text and numbers up to 65,535 characters.

**Number** – numeric data only.

**Date/Time** – date and time values for the years 100 to 9999.

**Currency** – a number type accurate to 15 digits to the left of the decimal point and 4 to the right.

**AutoNumber** – a unique number starting at 1 and incremented by 1 at a time used to number items where the number has no intrinsic value other than its uniqueness e.g. an invoice number.

**Yes/No** – used for Yes/No, True/False and On/Off combinations it usually displays as a check box.

**OLE Object** – could be music a spreadsheet, graphics etc. It can be useful for including items such as photos in staff records.

**Hyperlink** – text to be used as a hyperlink.

**Lookup Wizard** – lets you look up values in another table or query. For example it could be used to show a person's name whilst actually storing their staff number.

## Typical Field Properties

**Field Size** – the maximum number of characters in a text field or size of a number – see below.

**Format** – offers a number of numeric and date formats. If Long Date is chosen for a date format field it causes dates to be displayed in full even though they were entered in short form.

**Caption** – the text you want to use to describe the field in forms and reports. It is good practice to give fields single word names such as DateOfBirth but use the Caption property to display the name as "Date Of Birth".

**Default Value** – the value to be used if none is entered by the user.

**Required** – sets whether the field must be filled in or not.

**Indexed** – fields may be indexed for easier sorting. The options are: No, Yes (Duplicates OK) and Yes (No Duplicates). You can sort fields even if they are not indexed but it may take a lot longer.

## Numbers

**Byte** – a whole number between 0 and 255.

**Decimal** – decimal numbers between  $-10^{28}-1$  and  $10^{28}-1$

**Integer** – a whole number between -32,768 and 32,767

**Long Integer** – a whole number between -2,147,483,648 and 2,147,483,647.

**Single** – numbers from  $-3.402823E38$  to  $-1.401298E-45$  for negative values and from  $1.401298E-45$  to  $3.402823E38$  for positive values

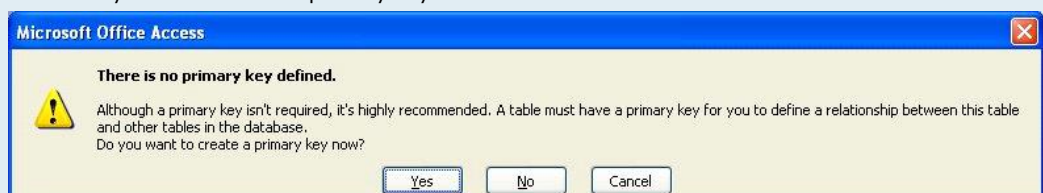
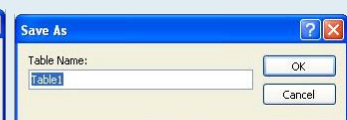
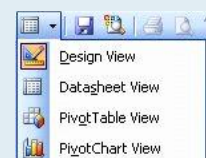
**Double** – numbers from  $-1.79769313486231E308$  to  $-4.94065645841247E-324$  for negative values and from  $4.94065645841247E-324$  to  $1.79769313486231E308$  for positive values

AutoNumbers are long integers.

When you have finished designing your table, you can change to datasheet view but first, you have to save the table. Click the Save button (the second on the toolbar) to show the Save As dialog box if the table has not been previously saved. It is traditional to name tables as a single with no spaces starting with the letters "tbl" e.g. tblFutureClients. As with naming fields, the naming conventions are not compulsory but are a good habit to get into.

If you try to change to datasheet view—the leftmost toolbar button toggles between the two views—without saving, a message box pops up to force you to save or abandon any changes to the table before you can continue.

When you save your table you will also receive a warning if you have neglected to provide a primary key. To create a primary key, select the field or fields that you wish to be the primary key (uniquely identifying each record) and click the golden key button on the toolbar. The field header button(s) will then show a key.



You can return to Design View at any time to fine tune the design of your table using the leftmost toolbar button to toggle between the views. Every time you have made a change in Design View you will be reminded to save the changes if you have not already done so. You can change the order of the fields in either design view or datasheet view by clicking the field header button—the button at the top of the column in Datasheet View or to the left of the row in Design View—having thus selected the field it may be dragged to the desired location. A thick black line will show where the field is to be placed.



If a new field must be added to a table, it is often easier to add it to the bottom and then drag it to the desired location. There is, however, a toolbar button to add a row and one to delete a row. Both appear only in design view. To delete a field, simply select its header button in design view and press the delete key.

The section of Design View toolbar illustrated alongside shows the following six buttons:

Primary key creates a primary key

Indexes displays the Indexes dialog box where the indexes for all the fields can be seen at once

Insert Rows inserts a row or rows above the currently selected row or rows

Delete Rows deletes the selected row or rows

Properties displays the table properties (not dealt with here)

Build displays the Field Builder dialog box (like the previously seen table wizard but for one field at a time)

