

# Section 3

## Tables

By the end of this Section you should be able to:

Move Around a Table  
Preview and Print a Table

## Exercise 10 - Tables

### Guidelines:

A **Table** is one of the **Objects** contained in a **Database**. It is the main building block on which every other function depends.

Each different item of data in a table is called a **Field**. Many fields are needed to describe what the data represents. In the following picture, the field names **Country, Region, Capital, etc.** have been created. Data that represents these fields will be seen below the appropriate field name, in a column. Data can now be entered in rows. Each row is called a **Record**. Each record is made up of the same number of fields, but not all fields in a record may contain data.

When data is entered into a table, it is automatically saved. Only when the design or layout of a table is changed, will it be necessary to save the changes.

The following diagram shows a table that has had its field names defined and has had data entered in rows. Each row represents a different record in the database.

The screenshot shows a Microsoft Access window titled "Microsoft Access - [Country : Table]". The window displays a table with the following data:

Country	Region	Capital	Population	Currency	Language
AFGHANISTAN	ASIA	KABUL	14.8	ALGHANI	PASHTU
ARGENTINA	SOUTH AMERICA	BUENOS AIRES	31.9	AUSTRAL	SPANISH
AUSTRALIA	AUSTRALASIA	CANBERRA	16.4	DOLLAR	ENGLISH
AUSTRIA	EUROPE	VIENNA	7.6	SCHILLING	GERMAN
BULGARIA	EUROPE	SOFIA	8.9	LEV	BULGARIAN
CANADA	NORTH AMERICA	OTTAWA	26.3	DOLLAR	ENGLISH
DENMARK	EUROPE	COPENHAGEN	5.1	KRONE	DANISH
MEXICO	CENTRAL AMERICA	MEXICO CITY	85.2	PESO	SPANISH
MOROCCO	AFRICA	RABAT	25.6	DIRHAM	ARABIC
NEW ZEALAND	AUSTRALASIA	WELLINGTON	3.4	DOLLAR	ENGLISH
IRELAND	EUROPE	DUBLIN	3.5	POUND	IRISH
ISRAEL	MIDDLE EAST	JERUSALEM	4.4	SHEKEL	HEBREW
KUWAIT	MIDDLE EAST	KUWAIT CITY	2	DINAR	ARABIC
PERU	SOUTH AMERICA	LIMA	21.8	INTI	SPANISH
SOUTH AFRICA	AFRICA	PRETORIA	35.8	RAND	AFRIKAANS
TURKEY	MIDDLE EAST	ANKARA	55.3	LIRA	TURKISH
UK	EUROPE	LONDON	57	POUND	ENGLISH
USA	NORTH AMERICA	WASHINGTON	248.2	DOLLAR	ENGLISH
RUSSIA	ASIA	MOSCOW	288.7	RUBLE	RUSSIAN
FRANCE	EUROPE	PARIS	55.9	FRANC	FRENCH
ITALY	EUROPE	ROME	57.5	LIRE	ITALIAN
*					

Annotations in the image:


- Column labels or Field names:** Points to the header row of the table.
- Record:** Points to a single row of data.
- Field:** Points to a single cell within a row.
- Record Navigation Buttons:** Points to the navigation bar at the bottom of the window, which includes buttons for first, previous, next, last, and a search field.

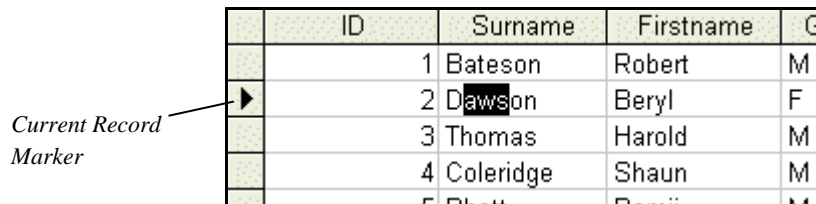
## Exercise 11 - Using the Mouse within a Table

### Guidelines:


When a table is opened in **Datasheet View**, whole records or fields in the table can be navigated using the mouse.

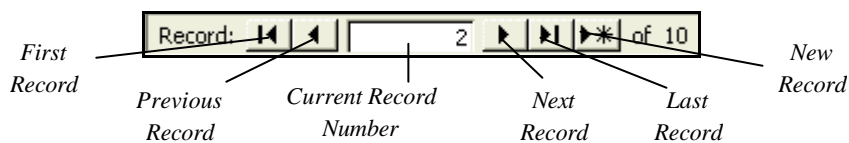
### Actions:

1. Open the **Records** database and the **Patients** table in **Datasheet View** (maximise  the table if necessary).
2. To select text ready for editing, move the mouse over the **Surname** field **Dawson**. Click and drag over part of the field contents. The letters will be highlighted, ready for editing.






	ID	Surname	Firstname	G
	1	Bateson	Robert	M
<i>Current Record Marker</i> →	2	Dawson	Beryl	F
	3	Thomas	Harold	M
	4	Coleridge	Shaun	M
	5	...	...	...

3. The **Current Record Marker**, , is now shown next to the first field and the number of the record is shown in the **Status Bar**. This is record number **2**. The total number of records in the database is also shown here. It is **10**, as in **2 of 10**.
4. The **Record Navigation** buttons above the **Status Bar** allow movement by one record, or directly to the first or last record.



5. Click the **Next Record**  button to move down individual records.

*Note: The record following the last complete record in a table is always blank. This record is shown with a , to the left of the blank record.*

6. Click the **First Record** button, , to move to the top of the table.
7. Move the mouse pointer to the **Firstname** column, move down so that the cursor is over the word **Ramji** and double click. Ramji is selected.
8. The mouse can also be used to select all the contents of a field. Move the cursor to the left edge of **Bateson**.
9. The pointer should change to . Click the mouse to select the field.
10. Leave the **Patients** table open for the next exercise.

## Exercise 12 - Using the Keyboard within a Table

### **Guidelines:**

The keyboard may be used to move about the table instead of the mouse. The following keys are used to move from field to field and record to record.

→	- moves one field to the right
←	- moves one field to the left
↓	- moves one record down
↑	- moves one record up
<b>End key</b>	- moves to end of record
<b>Home key</b>	- moves to start of record
<b>Tab key</b>	- moves one field to the right
<b>&lt;Shift Tab&gt; key</b>	- moves one field to the left
<b>&lt;Ctrl Home&gt; key</b>	- moves to the top left of the table
<b>&lt;Ctrl End&gt; key</b>	- moves to the bottom right of the table

*Note: When two keys are mentioned such as **Ctrl** and **End**, the first key (**Ctrl**) should be held down while the other key (**End**) is pressed and released.*

### **Actions:**

1. Select the field **Philips** from the third record and press **<Ctrl Home>** to move to the top of the table, first record and first field.
2. Press → to move to the next field, the **Surname** field.
3. Keep pressing → to move right to the last field, **Contact No.** Press → again and the cursor moves to the first field on the next record.
4. Press **<End>** to move to the end of a record, i.e. the last field in the record.
5. Move to the top left of the table by pressing **<Ctrl Home>**.
6. Practise moving about the table using the keyboard, but be careful not to make any changes to the data.
7. Close the **Patients** table and the **Records** database.

## Exercise 13 - Database Views

### Guidelines:

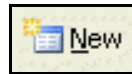
The different view options available for each database object, in this case a table, are:



displays the table content, i.e. the data, like a name and address




displays the design of the table or how that name and address will be displayed

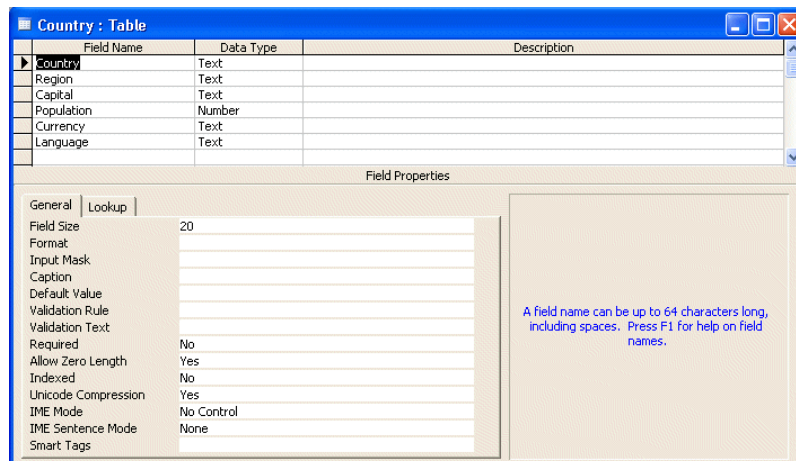



displays a blank table creation template ready to create a new table

The appearance of some buttons will vary depending on the database object.

### Actions:


1. Open **The World** database.
2. If **Tables** is not selected in the **Objects Bar**, click on it, the **Country** table will be highlighted. Click on the  button. The **Country** table is displayed in **Design View** showing the names of the fields or columns and the types of data each contains. You will look at this again later.

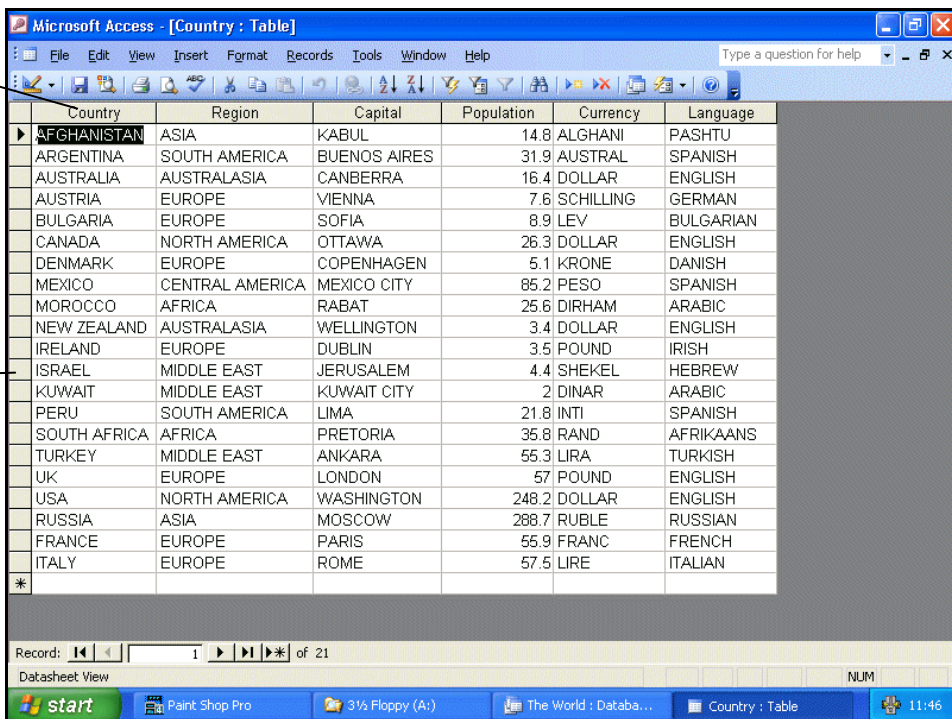


3. Click the **Close** button, , to close **Design View** and return to the **Database Window**.

continued over

### Exercise 13 - Continued

4. Click the **Open** button, , to open the **Country** table in **Datasheet View**.
5. The table is opened. Notice how all of the records are displayed as a table on the screen.



Column labels or Field names



Record

Country	Region	Capital	Population	Currency	Language
AFGHANISTAN	ASIA	KABUL	14.8	ALGHANI	PASHTU
ARGENTINA	SOUTH AMERICA	BUENOS AIRES	31.9	AUSTRAL	SPANISH
AUSTRALIA	AUSTRALASIA	CANBERRA	16.4	DOLLAR	ENGLISH
AUSTRIA	EUROPE	VIENNA	7.6	SCHILLING	GERMAN
BULGARIA	EUROPE	SOFIA	8.9	LEV	BULGARIAN
CANADA	NORTH AMERICA	OTTAWA	26.3	DOLLAR	ENGLISH
DENMARK	EUROPE	COPENHAGEN	5.1	KRONE	DANISH
MEXICO	CENTRAL AMERICA	MEXICO CITY	85.2	PESO	SPANISH
MOROCCO	AFRICA	RABAT	25.6	DIRHAM	ARABIC
NEW ZEALAND	AUSTRALASIA	WELLINGTON	3.4	DOLLAR	ENGLISH
IRELAND	EUROPE	DUBLIN	3.5	POUND	IRISH
ISRAEL	MIDDLE EAST	JERUSALEM	4.4	SHEKEL	HEBREW
KUWAIT	MIDDLE EAST	KUWAIT CITY	2	DINAR	ARABIC
PERU	SOUTH AMERICA	LIMA	21.8	INTI	SPANISH
SOUTH AFRICA	AFRICA	PRETORIA	35.8	RAND	AFRIKAANS
TURKEY	MIDDLE EAST	ANKARA	55.3	LIRA	TURKISH
UK	EUROPE	LONDON	57	POUND	ENGLISH
USA	NORTH AMERICA	WASHINGTON	248.2	DOLLAR	ENGLISH
RUSSIA	ASIA	MOSCOW	268.7	RUBLE	RUSSIAN
FRANCE	EUROPE	PARIS	55.9	FRANC	FRENCH
ITALY	EUROPE	ROME	57.5	LIRE	ITALIAN
*					

Record: 1 of 21

Datasheet View

*Note: **Datasheet View** shows all of the information held in a table and is the view most commonly used for data entry.*

6. Click on the **Design View** button, , in the top left corner of the toolbar, to change to **Design View**. Notice the field names at the left are the same as those in the table. Also notice the data types available in this table - **Text** and **Number**.
7. Click on the **Datasheet View** button, , in the top left corner of the toolbar, to change back to **Datasheet View**.
8. Close the **Country** table and **The World** database.

*Note: Any changes made in **Design View** would need to be saved.*

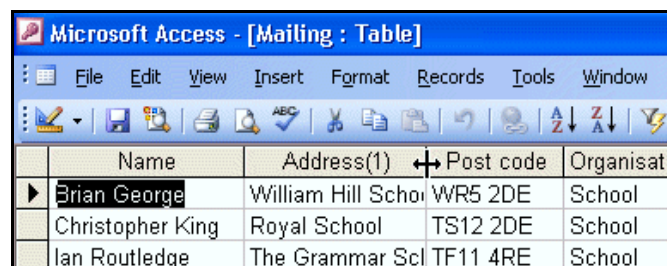
## Exercise 14 - Checking Column Width

### Guidelines:

Sometimes, when **Field Names** are long and the data contained in the field is short, the database will **truncate** or cut off some of the field name. When data is longer than the default column width, the data will be truncated. In either case it is an easy matter to display all of the words by changing the column width.

### Actions:

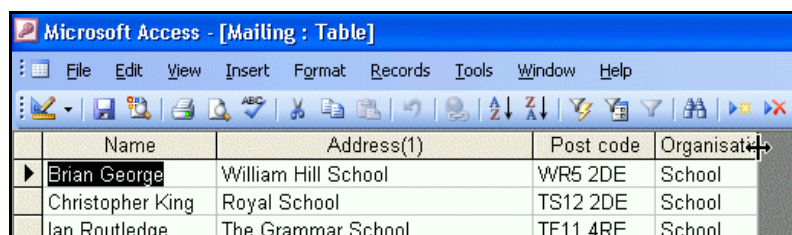
1. Open the database **Address Book** and the table **Mailing**. As you can see, the **Address(1)** column has data cut off or truncated. Look especially at the last record - the address line is clearly not complete.
2. Now look at the last column. The field name or column heading has been truncated. It should read **Organisation**.
3. There are two ways to deal with this problem. First, place the cursor in the column heading just after the **Address(1)** field, as shown below.



The screenshot shows the Microsoft Access interface for the 'Mailing' table. The column headers are 'Name', 'Address(1)', 'Post code', and 'Organisati'. The data rows are:

Name	Address(1)	Post code	Organisati
Brian George	William Hill Scho	WR5 2DE	School
Christopher King	Royal School	TS12 2DE	School
Ian Routledge	The Grammar Scl	TF11 4RE	School

4. The cursor changes to a double-headed arrow. Click and drag the arrow to the right. This will increase the size of the column. Drag it until all of the text can be seen.
5. The second way of handling this problem is to place the cursor again at the right side of the column to be altered, wait until the cursor changes and double click. This has the effect of increasing the size of the column to fit the data within it.
6. Place the cursor to the right edge of the field name **Organisation**, as shown in the picture below. Double click and the column will increase in size to accommodate the entire field name.



The screenshot shows the Microsoft Access interface for the 'Mailing' table after adjustments. The column headers are 'Name', 'Address(1)', 'Post code', and 'Organisati'. The data rows are:

Name	Address(1)	Post code	Organisati
Brian George	William Hill School	WR5 2DE	School
Christopher King	Royal School	TS12 2DE	School
Ian Routledge	The Grammar School	TF11 4RE	School

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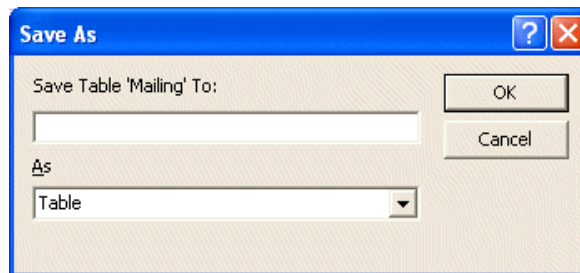
## Exercise 15 - Saving Layout and Design Changes

### Guidelines:

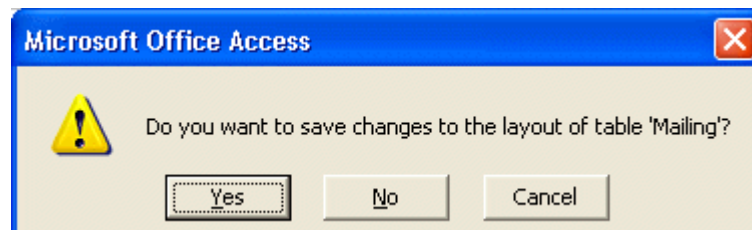
As already mentioned, any changes in data are automatically saved. However, changing column widths is regarded as a layout change. A change made in **Design View** is a design change. Both of these must be saved manually.

### Actions:


1. Use the **Mailing** table from the previous exercise and change to **Design View**. Column width changes have been made. This is a layout change and so has to be saved manually.
2. The table could be saved with a new name, producing another version of the original. Select **File | Save As** and delete the suggested name.



3. A name for the new table could be entered here, but for this exercise click **Cancel** to abandon the save process.
4. Access will give a warning if you try and close a table without saving the changes. Select **File | Close**. A prompt appears on screen as below.



5. Select **Yes** to save the changes and close the table. Selecting **No** would not save the changes, would leave the table with the columns truncated, but would close the table. Selecting **Cancel** would return to the table without saving.
6. Leave the **Address Book** database open for the next exercise.

*Note:* You may also use the **Save** button,  to save the table under the original name. No prompt will then be given when the table is closed.



## Exercise 17 - Revision

1. Open the database **Estate Agent**.
2. Double click on the **Premises** table to open it in **Datasheet View**.
3. Maximise the table.
4. Use the **Navigation Buttons** to move to the last record.
5. Use a key press to move the first record. What did you use?
6. Place the cursor in the first record that has **Sunderland** as its **Town/City**. What number record is it?
7. Use a key press to move to the next column. What did you use?
8. Move to the **Offers** column of the first record. Select the contents of the field. How did you do it?
9. The **Address** field is truncated. Change the column width to show all of the text. There are two ways to do this. One is to click and drag the column width to the correct size, what is the other?
10. Preview the table ready for printing. Will all of the table fit on one page?
11. Print the table and write your name on the printout.
12. Close the table. You are prompted to save the table. Why is this? Click **Yes** to save the changes.
13. Close the database.

*Note: The answers are listed in the **Answer Section** at the end of the guide.*