



## Using Microsoft Access

Microsoft Access is a computer application used to create and work with databases. In computer jargon that means it's a **Database Management System** or **DBMS**.

So what is a database? A database is basically a collection of **data** or pieces of information. Whether you know it or not, you use databases all of the time. Some examples of commonly used databases might be:

- Address book
- Library catalogue
- Telephone directory
- Stock list

A database isn't necessarily contained on a computer. A telephone directory is still a database even if it's in the form of a huge book sitting next to your phone. However, for the purpose of these exercises, we will assume that the term database refers to an organised collection of information stored on a computer.

Databases are intended for storing and maintaining large amounts of information. The following are examples of the sort of information that can be kept in a database:

- Inventory control
- Payroll systems
- Personnel records
- Music collection catalogue
- Phone and address lists



In the exercises that will follow you will create a simple database while you learn the basic features of Access. Later on, you will create a more complex database as you learn more advanced features in addition to some of the principles of database theory. In these exercises it is assumed that you are familiar with Windows use and have experience in using other applications such as Word or Excel.

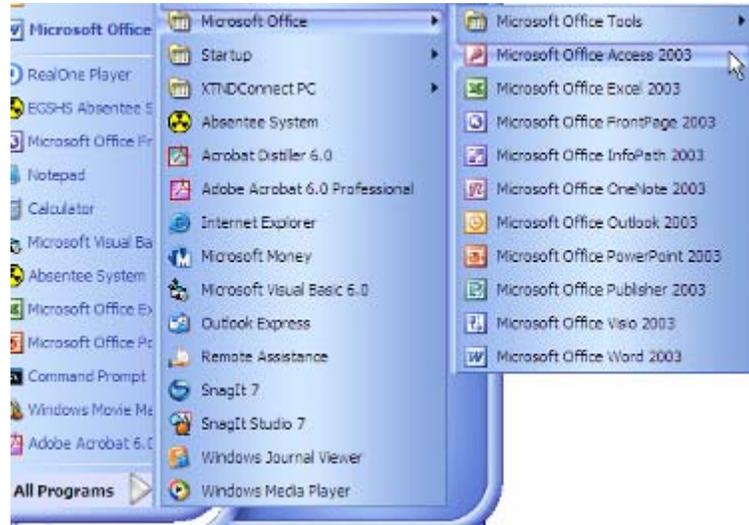
**Note** Most of what is taught in these exercises will work fine in most versions of Access up to Access 2003. However, some features may be missing or slightly different in older versions. Also, databases created in newer versions of Access won't work in some older versions. Screen shots in these exercises are from version 2003 though there is little difference in the 2002 (XP) version.

## Getting to Know the Program

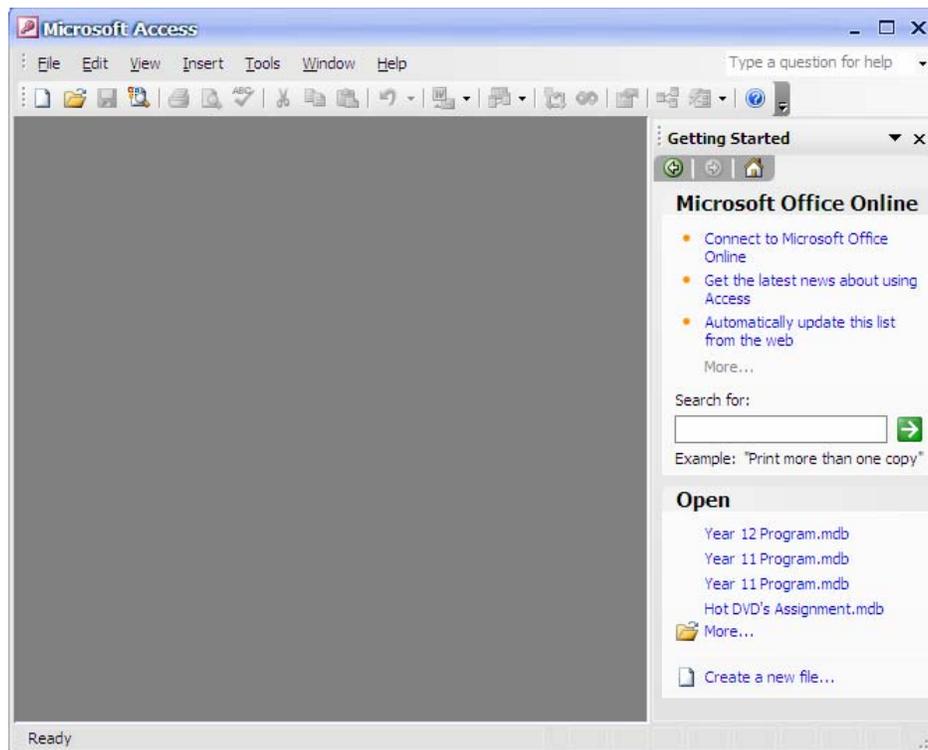
### Exercise 1. Starting Microsoft Access

Like most applications, Access can be started in several ways, such as clicking the **Microsoft Access** shortcut in the **Windows Start Menu** as shown. The location on the start menu will vary on different computers.

- 1) Start Microsoft Access by clicking its icon on the start menu (or by any other method you prefer).



When Microsoft Access begins, you will see a window similar to the one shown below.



On the top of the window you will see **menus** and **toolbars** similar to the ones found in most applications. On the right, you will usually see the **task pane** which provides shortcuts to common tasks, such as opening or creating a database (the task pane is also a feature of recent versions of Word, Excel and other Microsoft Office applications).

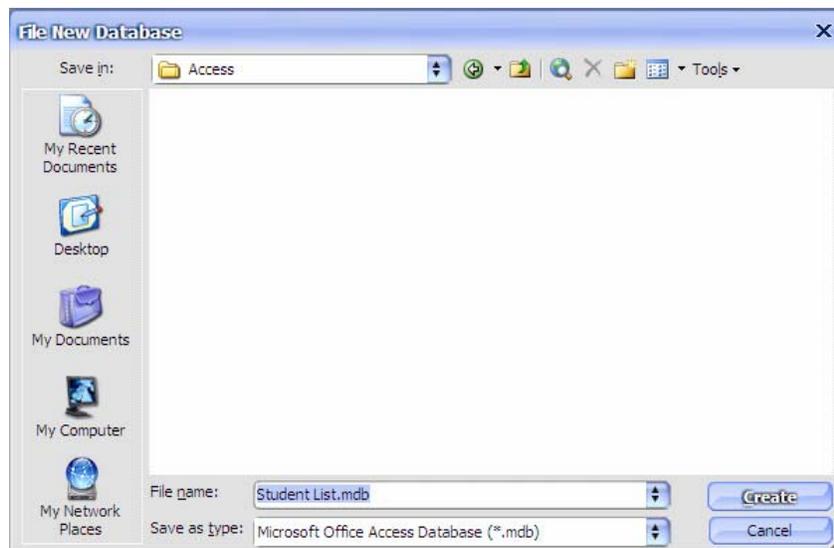
## Creating a new Database

You will notice that the first time you open Access the screen is rather empty and unfriendly. This is very different from other programs such as Word or Excel where you are presented with a new, ready to use document each time you start the program. This is because you can't begin using a database without setting one up first, which takes a fair amount of effort. That is why you don't get a blank, ready to use database when you begin the program. The first thing we will need to do is create a database to use.

The first step is to create and save a blank database file. In other programs, you usually don't save a file until you've done something with it but in Access, saving the file is the first step. This is because in Access, many things are automatically saved as you work so Access needs to know where to save it all right at the start.

### Exercise 2. Creating a Database File

- 1) Make sure your task pane is showing. If it isn't, go to the **View** menu and select **Task Pane** (or press **[Ctrl][F1]**).
- 2) From the list of options in the task pane, click  **Create a new file...** (you can also click the  icon on the toolbar).
- 3) From the new list of options which appears, click  **Blank database...**



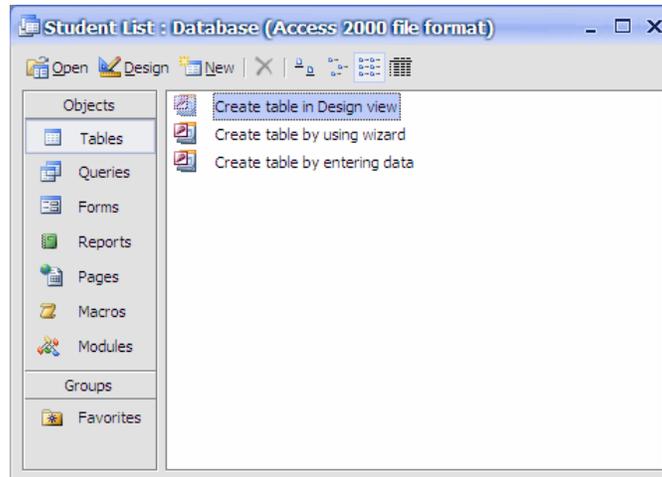
- 4) For the file location, select (or create) and appropriate folder in your student drive. Type *Student List* for the file name and click **Create**.

The file will be saved with a .mdb extension (for Microsoft Database).

**Note** Creating a database should normally only be done after a lot of planning has taken place. In the following exercises it is assumed that the database you will create has already been well planned. Later on we will get in to some procedures for planning a database.

## The Database Window

When you create a new database or an existing database, you will usually see the **Database Window** similar to the one shown below (any time it is hidden or covered by other windows you can press **F11** to make it appear).



Databases are made up of various **objects** such as **tables**, **queries** and **forms**. The options down the left side will take you to the main sections of the database. The options at the top of the database window allow you open existing database objects  **Open**, modify database objects  **Design** or create new database objects  **New**.

Some older database management systems required you to create a separate file for each object in the database. In Access, all of these database objects are contained in the same database file. The first database object we will look at is tables.

## Tables

Tables are the most important component of an Access database because tables are where all of your information is stored. Tables in an access database are similar in many ways to Excel tables. Most Access databases will consist of more than one related table, but the first database we will create will be a simple, single-table database. Each table is made up of columns referred to as **Fields** and rows referred to as **records**.

*Example:* A telephone book is made up of several related tables. There is the main table which contains all of the phone listings. There are also related tables containing information such as area codes and post codes. The following is an example of how a telephone listing may appear in a phone book.

|        |       | Field    |                  |            |          |
|--------|-------|----------|------------------|------------|----------|
|        | Name  | Initials | Address          | Suburb     | Phone    |
|        | Smith | A J      | 12 Smith St      | Kalgoorlie | 90911234 |
| Record | Smith | A L      | 18 Invisible Ave | Kalgoorlie | 90914321 |
|        | Smith | A R      | 4 My Street      | Boulder    | 90910987 |
|        | Smith | B D      | 912 Long Rd      | Kalgoorlie | 90917890 |

Each category of data (Name, Initials, Address etc) is a field.

Each individual item of information (such as the information for A L Smith) is a record.

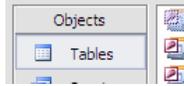
## Fields and Primary Keys

When you create a new table, one of your first tasks is to create the fields that will make up the table. One of the fields should be a **primary key**. A Primary key is a field which is unique to each record. In the example above, **Name** is not unique for each record, since more than one record can contain the same name as shown. The same is true for **Initials** and **Suburb**. It is even possible that there may be more than one phone listing for people at the same **Address**. Therefore the only field which would be unique to each record is **Phone**, since each phone number would only have one listing in the table. This would make **Phone** a good choice for a primary key. The importance of primary keys will be explained more later on.

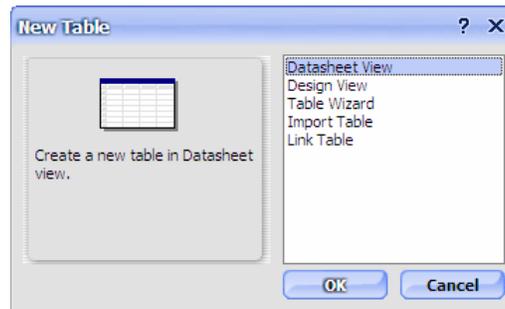


### Exercise 3. Creating a Table

- 1) Begin by making sure you are still in the Tables section of the database window.

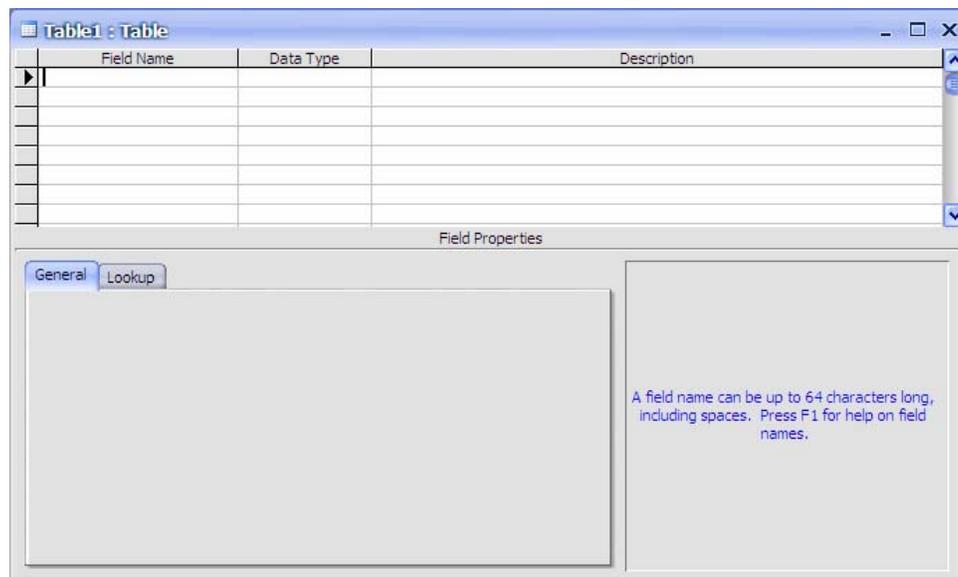


- 2) Click the  **New** button to create a new table.



- 3) The **New Table** dialog will appear. Select *Design View* from the list of options and click **OK**. A new blank table will now appear in the design view (You can also click the  **Create table in Design view** option in the database window to create a new table).

The table design window will look similar to the one below.



The top section of the window is where you enter the names of the fields in your table along with the data type for each field. When you have a field name selected in the top section, the bottom section will display properties which allow you to customise the selected field.

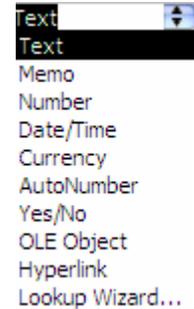
## Field Data Types

Each field in a table can be one of several available field types. When you enter a field name in the design view, the next column will allow you to choose a field type. The following field types are available to choose from. You will use several of these in later exercises.

|                         |  |
|-------------------------|--|
| <b>Text</b>             | This is the default field type since it is the most commonly used. Text fields can store any kind of text/numeric characters with a maximum of 255 characters. This field is best suited for text or numbers that don't require calculations (such as phone numbers) |
| <b>Memo</b>             | Stores large amounts of text or numbers – up to 65,535 characters. Uses more memory on your computer than a text field.  |
| <b>Number</b>           | Stores only numbers. Useful for fields that may require calculations. For numbers that don't require calculations (such as phone numbers) you are better off sticking with Text fields which use less space.   |
| <b>Date/Time</b>        | For date and time information.   |
| <b>Currency</b>         | Used for dollar amounts.   |
| <b>AutoNumber</b>       | Automatically generates a unique number for each new record. Useful for primary key fields.  |
| <b>Yes/No</b>           | Fields that contain only one of two values (such as yes/no, true/false, on/off).   |
| <b>OLE Object</b>       | For fields that need to contain an external object, such as a picture or document.   |
| <b>Hyperlink</b>        | For links such as email and web page addresses.  |
| <b>Lookup Wizard...</b> | Allows the user of the table to choose a value from another related table.   |

### Exercise 4. Creating Fields

- 1) Make sure the first row in the **Field Name** column is selected.
- 2) Type *Last Name* and press **[Tab]** or **[Enter]**. This will move you to the **Data Type** column.
- 3) Leave the **Data Type** as *Text* and press **[Tab]** or **[Enter]** to move to the **Description** column.
- 4) In the **Description** column type *Last name of the student* and press **[Tab]** or **[Enter]** to move on to the next line.
- 5) For the next field enter *First Name* as **Field Name**, *Text* as **Data Type** and *First name of the student* as the **Description**.
- 6) For the next field enter *Date of Birth* as **Field Name**.
- 7) In the **Data Type** column we want to change it to *Date/Time*. An easy way of selecting Data Types is to press the first letter of the one you want. Press the letter *D* and *Date/Time* will become selected. Enter *Birth date of the student* for the **Description** and move to the next line.
- 8) Complete the remainder of the fields so that they are the same as the ones shown below.



|               |           |  |
|---------------|-----------|--|
| Last Name     | Text      | Last name of the student                 |
| First Name    | Text      | First name of the student                |
| Date of Birth | Date/Time | Birth date of the student                |
| Address       | Text      | Student's street address                 |
| Suburb        | Text      | Suburb the student lives in              |
| Postcode      | Text      | Postcode of the student's address        |
| State         | Text      | State the student lives in               |
| Phone         | Text      | Student's telephone number               |
| Gender        | Text      | Is the student Male or Female            |
| Mark          | Number    | Mark the student got on the test         |
| Comment       | Memo      | Additional information about the student |

**Note** it is not essential to provide a description for each field but it is a good idea. These descriptions can be used to provide information for people using the database.

### Exercise 5. Creating a Primary Key

At the moment the table has no primary key specified. None of the fields would contain information that would be unique to each student. For instance, the same last name could be shared by more than one student so last name could not be used to identify a specific student record. The same is true for each other field. In cases like this where there is no field unique to each record, a new field can be created and used as a primary key.

- 1) Click on the first record (*Last Name*).
- 2) From the **Insert** menu choose **Rows** to insert a new row.

You can also insert a new row by right-clicking on a row and choosing **Insert Rows** or by clicking the  icon on the toolbar.

- 3) Enter *Student No* as the new **Field Name**.
- 4) Choose *AutoNumber* as the **Data Type**.
- 5) For the new field **Description** enter - *Unique identification number*.

An AutoNumber field is the only one where you don't need to type anything in to a record. For each new record entered, Access will automatically place a new number in the AutoNumber field. It is useful as a primary key field as it ensures that each record will have a unique number.

- 6) Make sure the *Student No* field is still selected
- 7) From the **Edit** menu select **Primary Key**. A key symbol will appear next to that field.

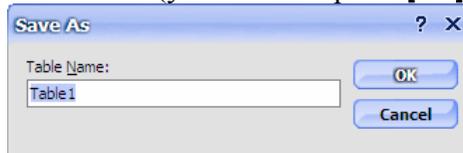
|  |            |                              |
|--|------------|------------------------------|
|  Student Number | AutoNumber | Unique identification number |
|--|------------|------------------------------|

You can also set a field as a primary key by right-clicking and selecting **Primary Key** or by clicking the  icon on the toolbar. If you accidentally set the wrong field as a primary key, then simply select the intended field and choose the primary key option once again to set it as the new primary key.

### Exercise 6. Saving a Table

It is usually best to specify a primary key for a table before saving it as we have done. Otherwise, Access will want to create an extra field as a primary key. When a table is saved, it doesn't become a new file. It becomes an object within the database file you have already created. In all other ways though, it is similar to saving a file.

- 1) From the **File** menu choose **Save** (you can also press **[Ctrl][S]** or click the  icon).



- 2) For the table name type *STUDENTS*.
- 3) Click **OK** to finish saving the table.

**Note** You can call the table whatever you want but it is best to choose names that describe what sort of information the table will store. This helps when there are several tables in the database. Also, some developers like to name tables in uppercase letters and queries in lowercase letters or use prefixes in names to make it easy to distinguish between the two.

## Exercise 7. Entering a Record

While a table is open, you can quickly switch between the **design view** (used for modifying the design of the table) and the **datasheet view** (used for working with the actual data in the table).

- 1) Click the **View** icon on the toolbar  (first icon on the far left). This is a quick way to switch between views. You can also change views from the **View** menu.



| Student Number | Last Name | First Name | Date of Birth | Address | Suburb | Postcode | State | Phone |
|----------------|-----------|------------|---------------|---------|--------|----------|-------|-------|
| AutoNumber     |           |            |               |         |        |          |       |       |

- 2) Notice that the first column is for the **Student Number** field and it is filled with the text (*AutoNumber*). We don't need to enter anything in this field since a student number will be generated automatically (remember that's what an AutoNumber field's for) so press **[Tab]** to move to the Last Name field.
- 3) Type *Robbins* as the **Last Name**. Notice that as soon as you enter information, a number will appear in the **Student Number** column. Every record will be given a unique number. If you delete a record, that number won't be used again.
- 4) Press **[Enter]** after typing the name and the cursor will move to the next field.
- 5) Complete the rest of the fields as shown below.

| Student Number | Last Name | First Name | Date of Birth | Address          | Suburb   | Postcode | State | Phone        | Gender | Mark | Comment |
|----------------|-----------|------------|---------------|------------------|----------|----------|-------|--------------|--------|------|---------|
| 1              | Robbins   | Mark       | 17-06-89      | 4 Kensington Ave | Dianella | 6059     | WA    | (08)93751234 | Male   | 78   |         |

- 6) When you reach the last field (*Comments*) press **[Enter]** again to move to the next line.

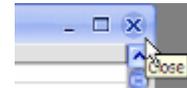
As soon as you move off that row, the record will be saved. Changes to table data are saved automatically in Access. The only time you need to save any changes yourself is when you've modified the structure of a database by adding or modifying the design of objects (such as tables). Changes to data are saved for you.

- 7) Click the **View** icon  to return to the **Table Design** view.

### Exercise 8. Closing a Table and Closing a Database

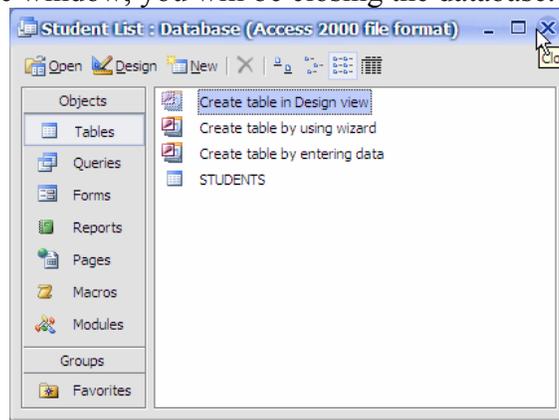
You can close a table the same way you would close an open document in another program. These methods include:

- Selecting the **File** menu and then selecting **Close**.
- Clicking the **close** button in the corner of the table as shown to the right.
- Pressing **[Ctrl][F4]**.



- 1) Use one of the above methods to close the table

When you close the database window, you will be closing the database.

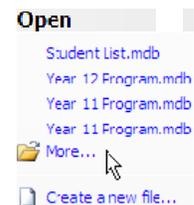


- 2) Close the database window by clicking the close button as shown above. If there have been any changes to the design of the table you will be prompted to save the changes.

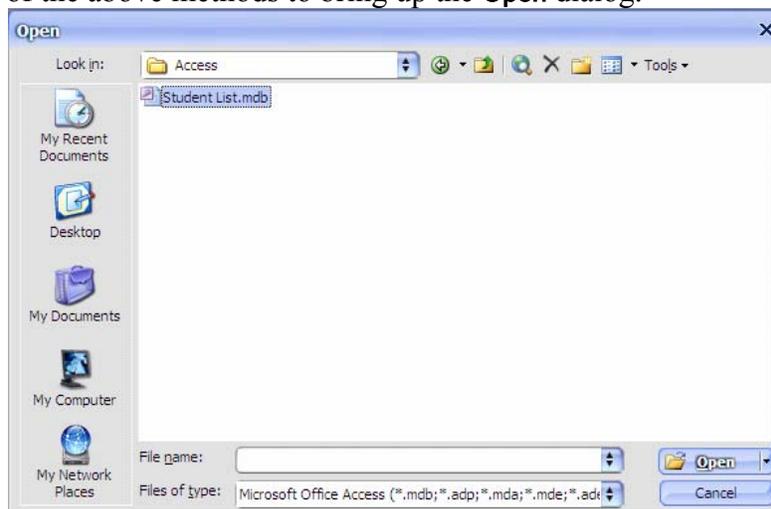
### Exercise 9. Opening a Database

Opening a database in Access is similar to opening a file in another program. When Access first starts, you can click the **More...** option from the task pane as shown to the right.

At other times you can open a database by selecting **File, Open**, pressing **[Ctrl][O]** or by clicking the  icon on the toolbar.



- 1) Use one of the above methods to bring up the **Open** dialog.



- 2) Open the Student List.mdb database.

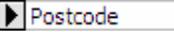
### Table Properties

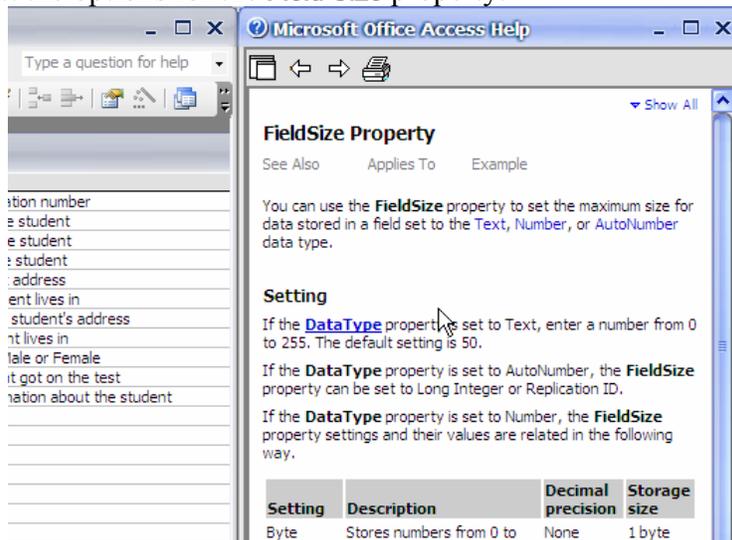
A database will often be used by a lot of different people and the person designing it will not always be one of the users. For that reason, it is important to ensure that the database is designed to be easy to use. A table's fields each have several properties that can be changed to make the table easier to use. The properties available for each field will vary depending on data type. The following table provides a summary of the purpose of each field property.

| Property          | Value |
|-------------------|-------|
| Field Size        | 50    |
| Format            |       |
| Input Mask        |       |
| Caption           |       |
| Default Value     |       |
| Validation Rule   |       |
| Validation Text   |       |
| Required          | No    |
| Allow Zero Length | Yes   |
| Indexed           | No    |

### Exercise 10. The Field Size Property

Your database window should be listing the table in the database. Only one table has been created.

- 1) Click once on the *STUDENTS* table and then click the  button above the list. This will return you to the table **design view**. We will modify the field size for some of the fields.
- 2) Click on the *Postcode* field.  At the bottom of the window you will see a list of properties for the selected field.
- 3) Since we will only use this field for Australian postcodes, we will limit the field size to 4 characters. Click in the **Field Size** property and change the number from 50 to 4.
- 4) In the top part of the window, click in the *State* field.
- 5) This field will only be used to store 2 and 3 letter abbreviations for state names such as *WA* and *NSW*. Change the **Field Size** property to 3.
- 6) In the top part of the window, click in the *Mark* field.
- 7) For number fields, you have a range of **Field Size** options to choose from (such as *byte*, *single* and *integer*). To find out more about any property you want to modify, you can use the **[F1]** key to go straight to help about the selected property. Press **[F1]** now to find out more about the options for the **Field Size** property.



- 8) Read through the information about the different field sizes that appears in the help window on the side of the screen. When you are finished, close the help window.
- 9) For our marks field we want an option that allows for decimal places but doesn't have a large number range. *Single* would be a suitable option so choose that for **Field Size**.
- 10) Click  or press **[Ctrl][S]** to save the changes to the design of the table.

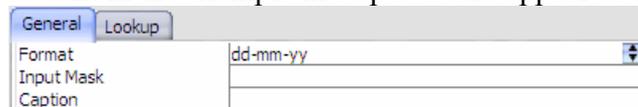
## Exercise 11. The Format Property

The format property is used to control how information from a field will display. This allows you to ensure that all of the information in a table will have a consistent look.

- 1) Select the *Date of Birth* field from the top section of the window.
- 2) Click in the **Format** property at the bottom. An arrow to the right of the property indicates that there are some built-in formats that can be chosen from a list. 
- 3) Click the arrow to display the list and choose the *Short Date* option. This will mean that any dates in this field will be displayed as *dd/mm/yyyy* so that the *1st of January 2004* would display as *01/01/2004*.

You can also create your own custom formats for any field. Remember that you can use the **[F1]** key for help on creating custom formats.

- 4) In the **Format** property for the date, delete *Short Date* and change it to *dd-mm-yy*. This will mean that the date from the example in step 3 would appear as *01-01-04*.



- 5) Save the changes to the table design.

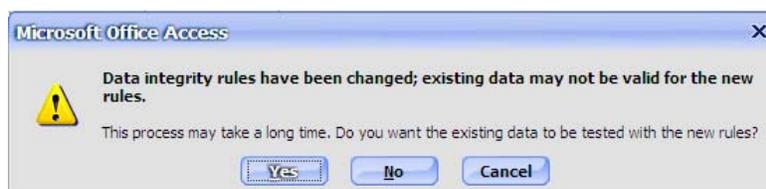
## Exercise 12. The Default Value Property

This property is used to specify that a certain field will be filled in automatically. This is useful if most of the values in that field will be the same, since the user will only have to type information that is different from the specified default value.

- 1) Select the **Default Value** property for the *State* field. We will assume that most of the addresses will be in WA so we will make that the default value.
- 2) Enter *WA* for the default value.
- 3) Save changes to the table design.

**Tip** If you have a field where you want the default value to be the current date, you can use the **=Date()** function. Whenever you enter a record, Access will enter the current date in that field.

When you save changes to a table design, you may see a message like the following.



This simply means that Access wants to check data that has already been entered in to the table to make sure that it won't conflict with any changes in the table design.

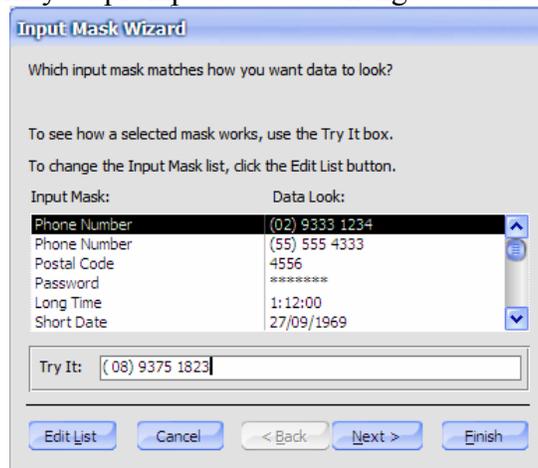
### Exercise 13. The Input Mask Property

Input masks are a way of ensuring that information is entered in to a database in a consistent way. They are often used with things like Dates and Phone numbers to assist with data entry. This can prevent problems with data being entered different ways by different users of the database. For example, different people using the database might enter the same phone number in different ways such as:

- +61 08 0000 0000
- 0000 0000
- (08) 0000 0000

In this instance, an input mask could be entered to ensure that everyone enters phone numbers the same way.

- 1) Select the *Phone* field from the top section of the window and then click in the **Input Mask** property at the bottom.
- 2) A button will appear to the right of the property . Click on this button to begin the **Input Mask Wizard** (you may be prompted to save changes to the table first).



- 3) In the first step of the wizard, make sure the first phone number option is selected.
- 4) Press **[Tab]** to move to the *Try It:* box.
- 5) Type in your own phone number to see a sample of how the input mask will work. Notice that the brackets and spaces are put in for you so you only need to enter the numbers.
- 6) Click **Next** to move to the next step of the wizard.
- 7) The top part of this step will show the code for the input mask as **!(999) 9900\ 0000**. We only want a 2 digit area code so change it to **!(99) 9900\ 0000**. Leave the placeholder character as it is and click **Next**.
- 8) For the final step, choose the first option, **With the symbols in the mask**, and click **Finish**.
- 9) The **Input Mask** property will now contain **!(99) 9900\ 0000;0;\_** (remember you can press **[F1]** for an explanation of what the input mask code means).
- 10) Enter Input masks for the following fields as shown below.

|               |            |
|---------------|------------|
| Date of Birth | 99/90/00;_ |
| Postcode      | 0000;_     |
| State         | >aaa       |

- 11) Save the changes to the table design.

## Exercise 14. Creating Validation Rules

A **Validation Rule** is a property which places a restriction on what can be entered in to a particular field. This can be used to make sure that only certain types of information are entered in to a field. If the user of a database tries to enter information which is not allowed by the validation rule, an error message will appear. The **Validation Text** property allows you to specify what the error message will say.

First we will create a validation rule which limits the State field to Australian states.

- 1) Select the *State field* in the top section of the window and then select the Validation Rule property in the bottom section.
- 2) For the **Validation Rule** enter *ACT or NSW or NT or QLD or SA or TAS or VIC or WA*. When you press the **[Enter]** key after typing the rule, Access will place “ ”s around each entry. This rule will mean that the user of the database can only enter information that matches one of the entries in the rule. Now we will enter **Validation Text** in the next property. `[ACT" Or "NSW" Or "NT" Or "Q`
- 3) For the **Validation Text** property enter, *Must be an Australian state*. This means that if someone enters something that is not allowed by the rule, this text will appear as an error message.
- 4) Enter the following **Validation Rule** and **Validation Text** for the *Date of Birth* field.

|                 |  |
|-----------------|--|
| Validation Rule | <code>&lt;Date()</code>                  |
| Validation Text | <i>Must be earlier than today's date</i> |

This rule will only accept dates that are earlier than *Date()* (which means the current date in Access). Obviously we won't have any students that haven't been born yet, so any future dates entered would be an error. Validation rules and text can let a user know when they have made an error such as that.

- 5) Save the changes to the table design.

|  |
|--|
| <b>Note</b> If you create a validation rule, make sure you also provide a clear validation text message. If a user gets an error message, they'll want to know why there's an error. |
|--|

### Exercise 15. Other Field Properties

Some of the other field properties may also be useful in table design.

- 1) Select the *Last Name* field. We want to set the field properties so that the user has to make an entry in this field.
- 2) Change the **Required** property to *Yes* (wherever you have a drop-down list for a property  you can double click on the **No** to quickly change it to the next available option which would be *Yes* in this case).

When the **Required** property is set to *Yes*, the user must enter something in this field or they will get an error.

- 3) Change the **Allow Zero Length** property to *No*.

When the **Allow Zero Length** property is set to *No*, entering a blank space and nothing else in the field will not be accepted as a valid entry.

- 4) Change the **Indexed** property to *Yes (Duplicates OK)*.

When a field is indexed, it means that Access will keep track of what has been entered in to that field. That means that Access will be able to find information in that field a lot quicker which speeds up operations such as sorting, searching and querying. It is similar to the way an index in a book allows you to find information quicker without you have to search one page at a time. It is a good idea to index any field that is likely to be used a lot in searches and sorting.

The *Duplicates OK* part simply means that it will be OK to have more than one record with the same last name in the field.

- 5) Change the **Indexed** property to *Yes (Duplicates OK)* for the following fields.

- First Name
- Date of Birth
- Suburb
- State
- Gender
- Mark

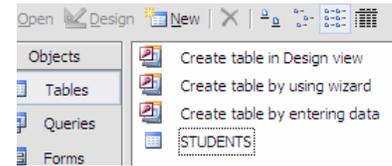
**Note** You can't index Memo, Hyperlink, or OLE Object data type fields.

- 6) Save the changes to the table design.
- 7) Close the table to return to the Database window.

## Exercise 16. Record Entry with Properties

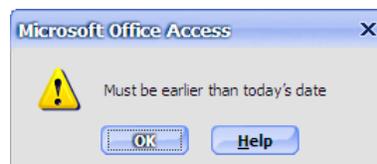
Now that we have modified field properties for the table, we will enter another record to see the effects of the changes.

- 1) In the **Database Window**, double-click the *STUDENTS* table (this is a quick way to open a table in **Datasheet View**).
- 2) The student record you entered before will be displayed. Click in the **Last Name** field underneath *Robbins*.
- 3) Type *Stevens* for the **Last Name** and press **[Enter]**.
- 4) Type *Sarah* for the **First Name** and press **[Enter]**.



As soon as you begin entering a date in the **Date of Birth** field, the **Input Mask** will appear.

- 5) We will test the **Validation Rule** by entering a date that's not accepted. Enter a future date such as *020809* (remember you won't need to enter the / since the input mask puts them in there for you). As soon as you press **[Enter]**, the **Validation Rule** will recognise that the entry is invalid and the **Validation Text** will appear.



- 6) Click **OK** to clear the message. You won't be able to proceed until you enter a valid date or press **[Esc]** to cancel the entry. Enter *100489* (*10/04/89*) for the date and press **[Enter]** to proceed to the next field.
- 7) Enter *24 Browne Ave* for the **Address** Field and *Yokine* for the **Suburb** field.
- 8) Enter *6060* for the **Postcode** field (notice the input mask in this field).
- 9) Notice that the **Default Value** for the **State** field (*WA*) has already been entered. To test the **Validation Rule**, enter *NY* as the **State**. The **Validation Text** will tell you that only Australian states can be entered.
- 10) Type *WA* for the **State** and press **[Enter]** (The **Input Mask** used for this field automatically converts entered text to uppercase).
- 11) For the final four fields, enter the information shown below.

| Phone        | Gender | Mark | Comment     |
|--------------|--------|------|-------------|
| (08)92498127 | Female | 62   | New Student |

- 12) Close the table when complete.

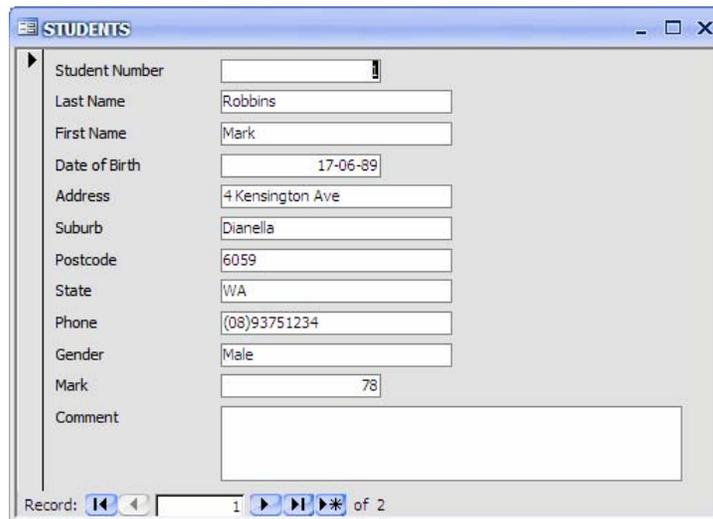
The new data will be saved automatically in the Database.

## Exercise 17. Data Entry Using a Form

Many people find it easier to enter data with the help of a form.

- 1) From the **Database Window**, make sure the *STUDENTS* table is selected.
- 2) From the **Insert** menu, select **AutoForm** or click the  icon on the toolbar.

A form will be created automatically using the Fields and Records from your table.



You can move from one record or Field to another using your mouse or the keyboard.

To use your keyboard:

- Press ↓ or [Tab] to move to the next field and ↑ and [Shift][Tab] to move to the previous field.
- Press [Page Down] to move to the next record and [Page Up] to move to the previous record.
- Press [Ctrl][End] to move to the last record and [Ctrl][Home] to move to the first record.
- If you are already on the last record, moving to the next one will give you a blank record.

To use your mouse, click the icons at the bottom of the form.

Record:  1 of 2

-  Next and previous record
-  First record and Last record
-  New record
- Enter a number to be taken to that record number

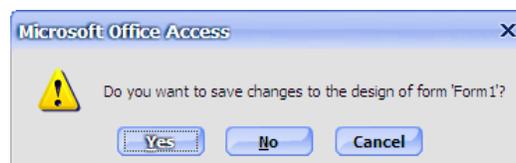
- 3) Use any of the above methods to move to a new, blank record.

4) Complete the form so it looks like the one below.

5) Use the form to add the records 4 to 6 as shown below.

| Student Number | Last Name | First Name | Date of Birth | Address          | Suburb   | Postcode | State | Phone          | Gender | Mark | Comment            |
|----------------|-----------|------------|---------------|------------------|----------|----------|-------|----------------|--------|------|--------------------|
| 1              | Robbins   | Mark       | 17-06-89      | 4 Kensington Ave | Dianella | 6059     | WA    | (08)93751234   | Male   | 78   |                    |
| 2              | Stevens   | Sarah      | 10-04-89      | 24 Browne Ave    | Yokine   | 6060     | WA    | (08) 9249 8127 | Female | 62   | New student        |
| 3              | Andrews   | Claire     | 01-11-89      | 322 Walter Rd    | Morley   | 6059     | WA    | (08) 9275 1937 | Female | 58   |                    |
| 4              | McKay     | Tim        | 02-08-89      | 54 Coode St      | Dianella | 6059     | WA    | (08) 9375 5610 | Male   | 34   | Need to try harder |
| 5              | Petersen  | Robert     | 28-03-89      | 230 Flinders St  | Yokine   | 6060     | WA    | (08) 9249 7128 | Male   | 83   |                    |
| 6              | Sanders   | Jemma      | 30-05-89      | 183 Grand Prom.  | Bedford  | 6062     | WA    | (08) 9273 9182 | Female | 91   |                    |

6) After you have entered the last record, close the form. You will be prompted to save.



7) Since this was only a temporary table to use for data entry, click **No**.

8) Open the table and you will see the new records listed.

| Student Number | Last Name | First Name | Date of Birth | Address         | Suburb   | Postcode |
|----------------|-----------|------------|---------------|-----------------|----------|----------|
| 1              | Robbins   | Mark       | 17-06-89      | 4 Kensington A  | Dianella | 6059     |
| 2              | Stevens   | Sarah      | 10-04-89      | 24 Browne Ave   | Yokine   | 6060     |
| 3              | Andrews   | Claire     | 01-11-89      | 322 Walter Rd   | Morley   | 6059     |
| 4              | McKay     | Tim        | 02-08-89      | 54 Coode St     | Dianella | 6059     |
| 5              | Petersen  | Robert     | 28-03-89      | 230 Flinders St | Yokine   | 6060     |
| 6              | Sanders   | Jemma      | 30-05-89      | 183 Grand Prom  | Bedford  | 6062     |

## Exercise 18. Using Data Entry

When you open a table, all of the existing records in that table will usually be displayed. The **Data Entry** feature will temporarily hide existing records so that you can enter new records in a blank table. This can be useful for the following reasons.

- In a table with a lot of records, you may not want to have to go all the way to the bottom to add a new record.
- If you have several records to enter, it is a lot easier to check what you have just typed when the new records are the only ones displayed.
  - 1) Make sure your *STUDENTS* table is still open in **Datasheet View**.
  - 2) From the **Records** menu select **Data Entry**. The 6 records you have already entered will be hidden.
  - 3) Enter the following records (notice that the first one you enter will still use the student number following the last one you entered).

| Student Number | Last Name | First Name | Date of Birth | Address          | Suburb   | Postcode | State | Phone          | Gender | Mark | Comment |
|----------------|-----------|------------|---------------|------------------|----------|----------|-------|----------------|--------|------|---------|
| 7              | Hutch     | Ian        | 28-09-89      | 18 Croft Ave     | Dianella | 6059     | WA    | (08) 9275 7219 | Male   | 67   |         |
| 8              | Springer  | Louise     | 18-10-89      | 56 Surry St      | Dianella | 6059     | WA    | (08) 9375 9182 | Female | 72   |         |
| 9              | Davies    | Laura      | 09-07-88      | 14 Halvorsen Rd  | Morley   | 6062     | WA    | (08) 9276 8291 | Female | 54   |         |
| 10             | Carey     | Ivan       | 27-12-89      | 287 Light St     | Dianella | 6059     | WA    | (08) 9375 2839 | Male   | 67   |         |
| 11             | Chang     | Paul       | 14-03-89      | 89 Wellington Rd | Morley   | 6062     | WA    | (08) 9276 2983 | Male   | 76   |         |
| 12             | Sheppard  | Larissa    | 12-08-89      | 14 Chelsea Crt   | Dianella | 6059     | WA    | (08) 9375 8127 | Female | 83   |         |

- 4) When you have completed entering the records, go to the **Records** menu and select **Remove Filter/Sort**. All 12 records will now appear.
- 5) Close the table (There won't be any need to save anything unless you changed the design of the table by doing something like adjusting column widths).

**Tip** A quick way of entering information in a field that is the same as information from the previous record is to use the **[Ctrl][']** (Control apostrophe) shortcut. For example, in the above exercise, if you wanted to add a thirteenth record that had *Dianella* for the suburb, you could use the shortcut since the previous record also had *Dianella* for the suburb. When you were in the Suburb field, you could press **[Ctrl][']** to enter the information from the previous record in the same field.