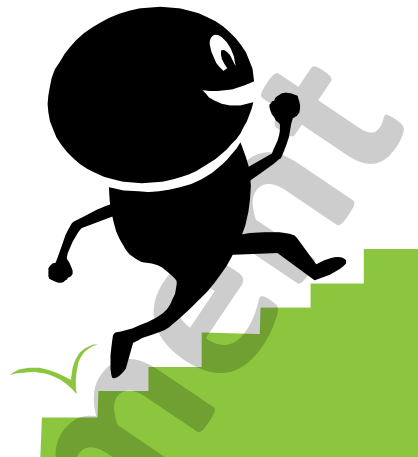


Easy Way



Teach yourself...

Microsoft Access 2007

(Level 1)

- ☒ Easy to follow
- ☒ Step-by-step instructions

By Cheryl Price

Easy Way - Microsoft Access 2007 (Level 1)

This book is designed to teach beginner topics for learning Microsoft Access 2007. It contains simple step-by-step exercises to guide you through the learning process.

There are dozens of exercises including consolidation exercises, both theory and practical at the end of each section.

The process of consolidation and accumulation of learning is unique to the Cheryl Price books.

Retrievable exercise files are used with this book. These are available for free download from the Resources page of our web site at www.cherylprice.co.nz. Instructions for downloading are included on the next page.

© Cherylprice.co.nz Limited

Cheryl Price
T.Dip.WP, T.Dip.T

ISBN 978-1-877562-74-7

Disclaimer

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, scanning, recording, or any information storage and retrieval system, without permission in writing from Cherylprice.co.nz Limited. No patent liability is assumed with respect to the use of the information contained herein. While every precaution has been taken in the preparation of this book, the publisher and authors assume no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein.

Cherylprice.co.nz Limited

PO Box 187
Matakana 0948
Auckland

Phone: (09) 422 7230
Mobile: 021 715566
Fax: (09) 422 7236

Web address:

www.cherylprice.co.nz

Downloading Exercise Files

Exercise files can be downloaded from the Cheryl Price web site as follows:


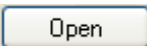




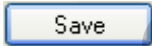
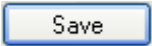
1	In your web browser, type: www.cherylprice.co.nz
2	Press Enter on the keyboard to display the Cheryl Price website.
3	Click on the Resources tab as shown at the right. 
4	Click on <u>Easy Way – Microsoft Access 2007</u>
5	Click on the <u>Free download</u> hyperlink, ie Access 2007, Level 1 <u>Free Download</u> The File Download dialog box will display.
6	If you have Winzip use the following instructions otherwise move to step 7.
	a Click on  .
	b Click on the  of the  button.
	c If My Documents folder is not displayed click on Set default unzip folder at the bottom of the list. Ensure My Documents is selected then click on Select Folder .
	d Click on the  of the  button and click on the My Documents folder. The files will be unzipped.
7	Click on  and ensure My Documents folder is displayed. Click on 
8	Click on Open Folder which will display My Documents folder. Right click on the zipped exercise file and select Extract All. Click on Extract. A folder will be created containing the exercise files. You will need to double click on this folder to use the exercise files in this book.

Table of Contents

Section One - Database Theory, Entering Simple Data, Field Types

What is a Database?	1
Uses of Databases	1
Advantages of Databases	1
Different Types of Databases Models	2
Flat File Data Model (Single Table)	2
Relational Data Model (Multiple Tables)	2
Hierarchical Data Model (Tree-like Structure)	3
Network Data Model (Tree-like Structure)	3
Starting Access 2007	5
The Microsoft Access Getting Started Window	6
Office Button	6
Quick Access Toolbar	6
Getting Started Window	6
Title Bar	6
Minimize, Maximize and Restore Down	6
Close	7
Microsoft Office Access Help (F1)	7
Task Pane	7
Status Bar	7
Template Task Bar	7
Using the Quick Access Toolbar	8
Quick Access Toolbar List	8
Customise Quick Access Toolbar	8
Opening a Database	10
Security Settings	11
MovieMaker Database	11
Using the Office Button	12
Recent Documents	12
Sub-menus	12
Closing a Database	12
Closing Access 2007	12
The Database Window	13
Ribbon	13
Navigation Pane	13
Using the Navigation Pane to View Objects	13
Database Objects	14
Tables	14
Queries	15
Forms	15
Reports	16
Macros	16
Open a Database Table	17
Home Tab	18
Icon Controls	18
Group Controls	18
Create Tab	19
Additional Ribbons	19
Shutter Bar Open/Close Button	20
Closing the Navigation Pane	20

Navigation Buttons	21
Manipulating Data in a Database Table.....	22
Sorting Records	22
Applying a Filter to a Table	23
Adding a Record to the Database	24
AutoCorrect	24
Deleting a Record from a Table.....	25
Closing the Database Table	26
Exiting the Database	26
Exiting Access	26
Revision	29
Consolidation Exercises	30
Section Two - Using a Database Form, Viewing a Query, Creating a Simple Query	
Using a Database Form	32
Opening a Database Form.....	32
Viewing Records in a Form.....	32
Adding a New Record.....	33
Deleting a Record in a Form.....	34
Sorting the Database using a Form	35
Using Find to Search for Records in a Form	35
Using a Filter to Search for Specific Records in a Form	36
Queries	37
Viewing a Query.....	37
Creating a Select Query	38
Saving a Query.....	40
Closing a Query	40
Query Exercise	40
Sorting Information in a Query.....	42
Help.....	43
Type words to search for	43
Search Menu Items	45
Microsoft Office Online	46
Other Help Options.....	47
Obtaining Help within a Dialog Box	47
Revision	49
Consolidation Exercises	50
Section Three - Create a Database, Tables and Fields, Creating a Form	
Motorhome Rental Company.....	52
Scenario and Brief	52
List of requirements and design details	52
Resources.....	52
Creating a New Database and Table.....	53
Adding Fields to a Database Table	54
Understanding Field Data Types	56
Understanding the Primary Key	58
View the Primary Key	58
Datasheet/Design View.....	58
Field Properties.....	59
Change Field Sizes	59
The Captions Property	60
Adjusting Column Widths	60
Testing the Data in the Table	61
Checking Data.....	62

Open a Table	62
Data Entry using a Shortcut Key	63
Amending Records in a Table	64
More Field Properties	64
Format a Date Field	64
The Default Value Property	65
Make a Field Required	66
Testing the Field Properties Changes	67
Formatting the Table	68
Change Font and Font Size	68
Readable and Legible Database	68
Using Print Preview	69
Change Page Layout	69
Printing the Formatted Table	70
Forms	72
Introduction	72
The Forms Group	72
Creating a Form	72
Examining the Form Window	74
Viewing a Form	74
Form View Options	75
Adding Records to the Form	75
Copying and Pasting Data	75
Form View	75
Finding Records in a Form	77
Modifying a Record	77
Deleting a Record	78
Revision	79
Section Four – Create Queries, Use Criteria in Queries	
Queries	81
Data Retrieval Queries	81
The Other Group	81
The Simple Query Wizard	82
Sorting Query Results	85
Examining the Query Window	86
Sorting a Query in Design View	86
Saving a Query	87
Creating a Query in Design View	87
Setting Criteria in a Query	90
Modifying a Query	91
Using Print Preview	93
Change Page Setup	93
Printing the Formatted Query	94
Using Criteria Operators	95
Show/Hide a Query Field	96
Revision	97
Section Five – Create a Database Plan using a Scenario and Brief, Consolidation Exercises	
Designing a Database	99
Scenario	99
Brief	100
Purpose of the Database	100
List of requirements and design details	100

Resources	100
Database Plan.....	100
Sample Plan	101
Database Model	101
Purpose of the Database.....	101
Target Audience	101
Database Specifications	101
Database software features to be used	101
Steps to be taken	101
Determining Database Table Specifications	102
Scenario and Brief – Carter & Son	104
List of requirements and design details	104
Resources	104
Plan	105
Database Model	105
Purpose of the Database.....	105
Target Audience	105
Database Specifications	105
Database software features to be used	106
Steps to be taken	106
Scenario and Brief – Royal Homes.....	107
List of requirements and design details	107
Resources	107
Plan	108
Database Model	108
Purpose of the Database.....	108
Target Audience	108
Database Specifications	108
Database software features to be used	109
Steps to be taken	109
Scenario and Brief – Moviemaker Video Store.....	110
List of requirements and design details	110
Resources	110
Wedding Database	111
Wisk Kitchenware Store	113
Scenario and Brief	113
List of requirements and design details	113
Resources	113
Fit for Life Gym.....	118
Scenario and Brief	118
List of requirements and design details	118
Resources	119
Consolidation Exercises.....	125
Scenario and Brief	125
List of requirements and design details	125
Resources.....	126
Checklist	128

Sample Document

Database Theory Entering Simple Data Field Types

Learning Outcomes

At the end of this section you should be able to -

- ☐ Understand database concepts and the uses of databases
- ☐ Understand the different types of databases
- ☐ Start Access 2007
- ☐ Open an existing database
- ☐ Understand the database window and database objects
- ☐ Open a database table
- ☐ Identify parts of a table
- ☐ Navigate through records in a table
- ☐ Manipulate data in a table by filtering and sorting records
- ☐ Add a new record to a table
- ☐ Delete a record from a table
- ☐ Close a database table
- ☐ Close a database
- ☐ Exit Access

Sample Document

What is a Database?

A database is an organised collection of information on a specific subject. We use databases all the time in everyday life – the telephone directory, for example, is a database.

Other examples of databases could be:

- Recipe book
- List of employee details (start date, name, address, date of birth, salary)
- List of CD collection (name of CD, date of release, artist/band)
- Stock listing (product name, number of stock, supplier, type of product)
- Library (where all the books are categorised and then stored alphabetically within the category making them easy to find)

The data in an Access 2007 database is stored in one or more tables. A table is made up of records, and records are made up of fields. In a **Customers** table, a record could be:

Smith Jane 319 Alfred St East Sydney NSW 2010 (02) 9955 2523

The fields could be called:

Surname FirstName Street Suburb State PostCode PhoneNumber

Uses of Databases

Databases hold information. This information can be searched and selected.

For example:

- A telephone directory is used to search for the telephone number of a person whose name is known to you. You already know the contents of the Surname field, and usually the FirstName field – these are your *search criteria*.
- The *search criteria* are then used to look up the additional information about the person – ie to find the particular record and therefore the address and telephone number of the person.
- If you only know one criterion value (eg the Surname), you will find many more matching records than if you know more criteria (eg the Surname, FirstName and StreetAddress).

Advantages of Databases

Databases are designed to store large amounts of data. They allow you to control the way the data is organised and displayed.

Once the required information has been stored in a database, it can be used in many ways. For example, you can format and print it as a report. Charts can also be created using information in the database.

Examples of database programs other than Access 2007 are Lotus Approach, DataEase, and Dbase IV.

Different Types of Databases Models

There are several different types of Database Models: Flat File, Relational, Hierarchical, and Network models. Each is briefly described here.

Flat File Data Model (Single Table)

This data model stores data in a single table in rows and columns. There are no links to any other sources of data. Data stored in a single Excel spreadsheet is an example of a flat file database.

If only one table is used for a database all data will be stored in and accessed from that table. This is an example of a Flat File Database.

Clients' Pet Visits

ClientID	Title	FirstName	LastName	Address	PetName	PetType	VisitDate	Reason
Andrw1	Mrs	Judy	Andrews	2 Ocean View Rd	Lassie	dog	30/11/2005	Injury
Evans1	Mr	Bill	Evans	34 Hopetown Rd	Matthew	cat	22/11/2005	Illness
Robbn1	Dr	Jonathan	Robbins	122 Crowley Court	Tippy	bird	19/11/2005	Illness
Evans1	Mr	Bill	Evans	34 Hopetown Rd	Jennifer	bird	18/11/2005	Injury
Evans1	Mr	Bill	Evans	34 Hopetown Rd	Matthew	cat	11/11/2005	Routine
Evans1	Mr	Bill	Evans	34 Hopetown Rd	Matthew	cat	03/11/2005	Illness
Andrw1	Mrs	Judy	Andrews	2 Ocean View Rd	Zachary	dog	02/11/2005	Illness

You will notice that data duplication occurs in this Flat File Data Model. For example:

- Mr Bill Evans's name and address appears in each of his records.
- He has two pets, a cat and a bird and has visited the Vet several times with these pets. Their names and types are also duplicated.

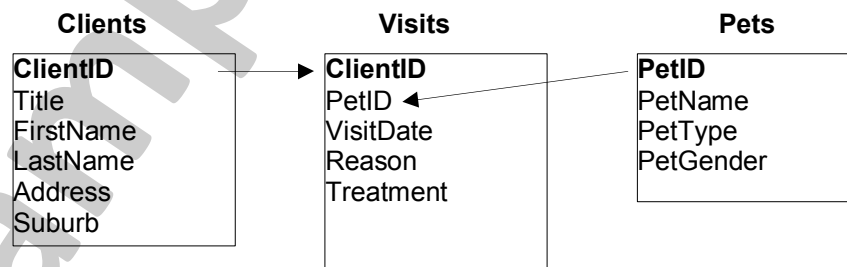
Data duplication is a problem with the Flat File Data Model, and this increases the chances of it being entered incorrectly.

Relational Data Model (Multiple Tables)

Data in this model is stored in multiple tables, each on a specific subject. Sometimes you will want to combine data from two or more tables, and this requires that Relationships have been created between them.

If we took the single table example above and converted it into a relational database, we would split the data into three separate tables. This would remove the problem of duplication of data.

The diagram below shows an example of relationships between tables.



The tables would appear as shown on the following page. Each table is storing data on a specific topic. The tables are related by a common field: **Clients** and **Visits** by ClientID, and **Pets** and **Visits** by PetID.

Clients Table

ClientID	Title	FirstName	LastName	Address	Suburb
Evans1	Mr	Bill	Evans	34 Hopetown Rd	Takapuna
Andrw1	Mrs	Judy	Andrews	2 Ocean View Rd	Torbay
Robbn1	Dr	Jonathan	Robbins	122 Crowley Court	Epsom

Pets Table

PetID	PetName	PetType	PetGender
1	Jennifer	bird	F
2	Matthew	cat	M
3	Lassie	dog	F
4	Zachary	dog	M
5	Tippy	bird	F

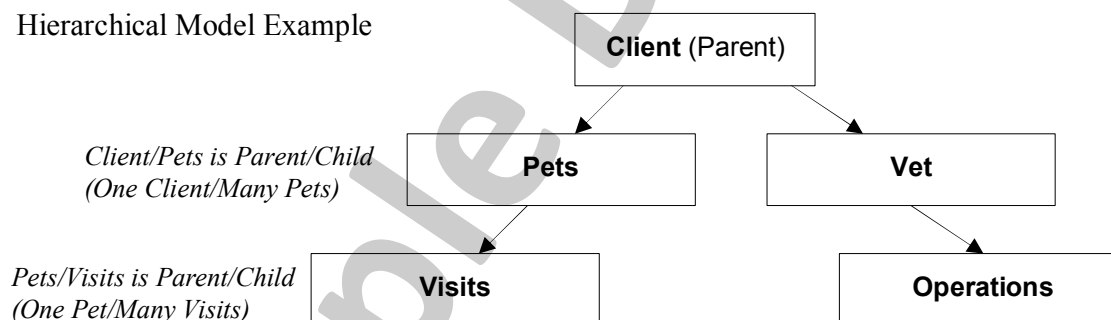
Visits Table

ClientID	PetID	VisitDate	Reason	Treatment
Evans1	1	18/11/2005	Injury	Bandage leg
Evans1	2	03/11/2005	Illness	Medication for cat fever
Evans1	2	11/11/2005	Routine	Full examination, no problems
Evans1	2	22/11/2005	Illness	Under observation
Andrw1	3	30/11/2005	Injury	Operation
Andrw1	4	02/11/2005	Illness	Injection for diarrhoea
Robbn1	5	19/11/2005	Illness	Ointment

Hierarchical Data Model (Tree-like Structure)

The Hierarchical model is organised in a tree-like structure. This means it allows there to be repeating information in the data that uses parent/child relationships. A parent/child relationship means that each parent may have many children but each child will only have one parent.

Hierarchical Model Example



If we were to use this on the Client and Pets example the Client is the Parent and the Pet is the Child. Under a Hierarchical structure One Client may have many Pets, but each Pet may only have One Client (Owner).

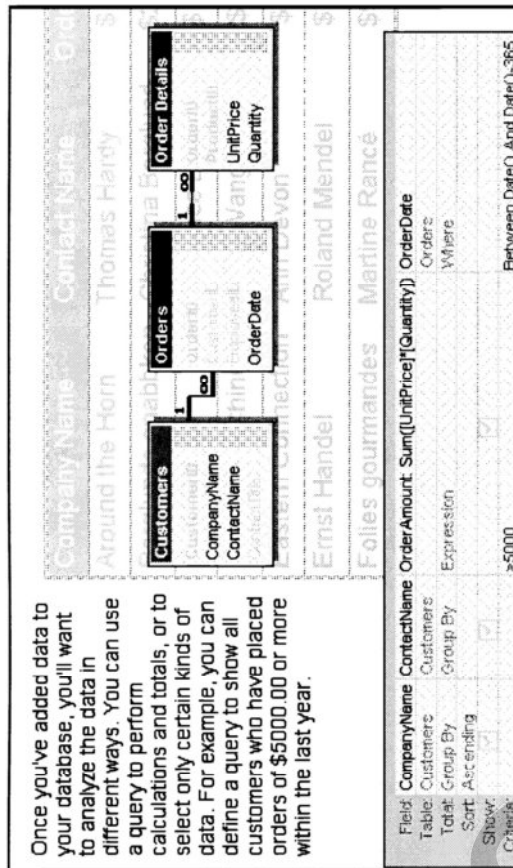
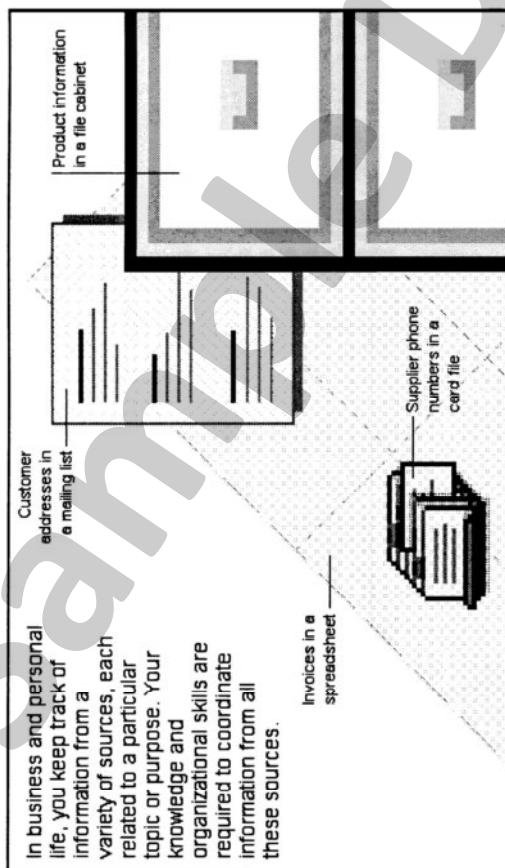
Network Data Model (Tree-like Structure)

The Network Model uses objects and their relationships in a more flexible way. The important thing about a Network Model is it is viewed as a graph using object types which are referred to as nodes and relationship types which are referred to as arcs.

When you compare the hierarchical model with the tree structure which has one parent and many children records this model gives the flexibility of having multiple parent and child records which make up a graph type of structure.

This model was used widely in the early years of computing. However, as computer processing became faster, people began using the Relational Model in preference to the Network Data models.

Explanation of a Relational Database



It's usually easiest to add data to a database by using a form. In Microsoft Access, you can use a form to add, view, and edit your data one or more records at a time. You can also work with data from several tables at once with forms, and automate tasks by including macros or Visual Basic in your forms.

You can create a form that looks just like a printed paper form with instructions on how to fill it out.

Automate tasks

Orders

Bill To: Franchi S.p.A.
Via Monte Bianco 34
Torino 10100 Italy

Salesperson: Suyama, Michael

Order ID: 10000 Order Date: 12-Jun-95

Print Invoice

Product	Unit Price	Quantity	Extended Price
Alice Mutton	\$27.00	4	\$108.00

Using reports, you can print your data in a broad variety of layouts and type styles. Reports can print data from fields; text you define; totals and the results of calculations; or charts, pictures, or other objects — even another report. You can also use reports to print mailing labels.

Use a report to print mailing labels to send a discount offer to your best customers.

Antonio Moreno Taqueria
Mataderos 2312
Mexico D.F. 05023
Mexico

Around the Horn
120 Hanover Sq.
London QA1 1DP
UK

Berglunds snabbköp
Berguvsvägen 8
Luleå S-958 22
Sweden


Blondel père et fils
24, place Kléber
Strasbourg 67000
France

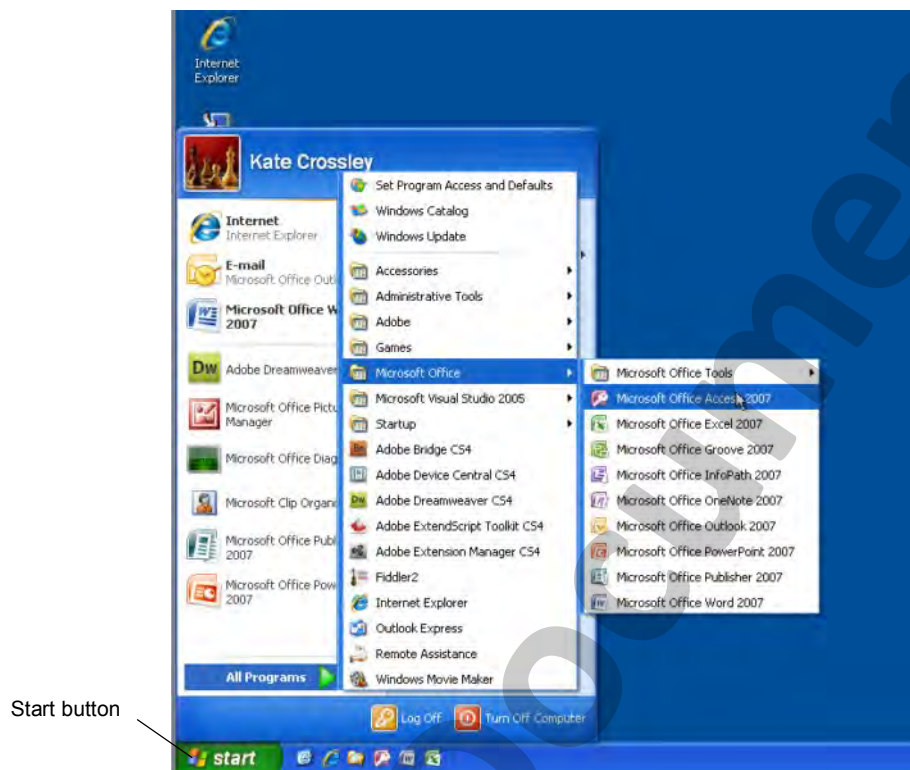
Bon app'
12, rue des Bouchers
Marseille 13008
France

Bottom-Dollar Markets
23 Tsawassen Blvd.
Tsawassen BC T2F 8M4
Canada

Starting Access 2007

Exercise 1

- Click on the Start button , move the cursor up to All Programs, across to the right to Microsoft Office, across again to Microsoft Office Access 2007 and then click.

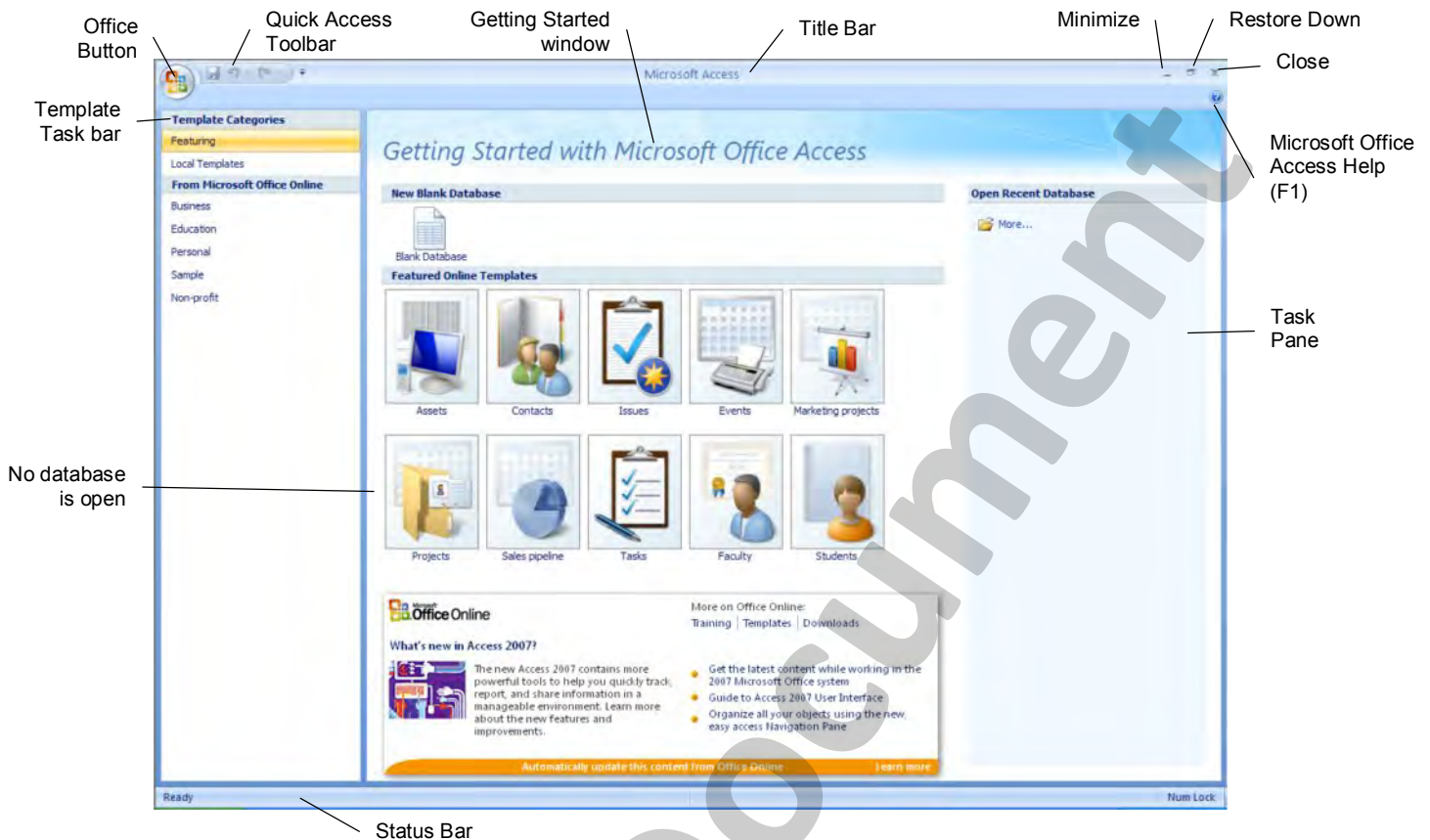


The full name of the application is Microsoft Office Access 2007 but for the rest of this book it will be referred to as Access 2007.

Note When you have used Access 2007 once it will appear on your Start menu as shown below. You can just click on it to start Access.



The Microsoft Access Getting Started Window



Office Button

The Office Button displays a drop-down menu which gives easy access to Access 2007 commands, ie New, Open, Save, Save As, Print.

Quick Access Toolbar

The Quick Access Toolbar is a useful feature for keeping all of your most frequently used commands in easy reach.

Getting Started Window

This window is displayed when Access 2007 is first opened. From this window you can create a new Blank Database or view some of Access 2007's Featured Online Templates.

Title Bar

When a database is open its name appears on the window title bar. (Because a database is not open in the above illustration there is no file name showing.)

Minimize, Maximize and Restore Down

These two buttons are used to increase (maximise) the size of the main window (Access 2007) and reduce the main window to a button (minimise) on the Taskbar. When the window is maximised, the Maximize button will display as the Restore Down button.



Close

This is used to shut down Access 2007.

Microsoft Office Access Help (F1)

This displays a list of Help topics in the 'Microsoft Office Access Help (F1)' window. You can also type a question into the 'Type words to search for' box and search for a help topic. When Enter is pressed a list of help topics relating to the question will appear.

Task Pane

The Task Pane is used to access databases in two ways. Click on **Open Recent Databases** to display a list of databases you have worked with recently. Click on a database name to open it. Click on the **More** folder to find other databases that you have access to.

Status Bar

Amongst other things the Status Bar displays Form View, Datasheet View etc. to indicate what part of the database you are currently working in.

Template Task Bar



The Template Task Bar displays a list of templates available to use when creating a new database. These will already have all the fields set up in the tables so that it is easy to add data to your new database. Some templates are loaded in Access 2007, and others can be downloaded from Microsoft's web site.

Using the Quick Access Toolbar

The Quick Access Toolbar is a useful feature for keeping all of your most frequently used commands in easy reach. It is the only part of the Access 2007 screen that can be customised by ordinary users – commands can be added or removed and the toolbar itself can be positioned either above or below the Ribbon.

Quick Access Toolbar List

Exercise 2

- 1 Click on  to the right of the Quick Access Toolbar. A menu of commands will display. A tick is shown to the left of every command that is currently on the Quick Access Toolbar.
- 2 Click on the **New** command to add it to the Quick Access Toolbar.
- 3 Click on the  again and click on the **Open** command.
- 4 Add the following commands to the Quick Access Toolbar using the same steps.
Quick Print, Print Preview, Spelling

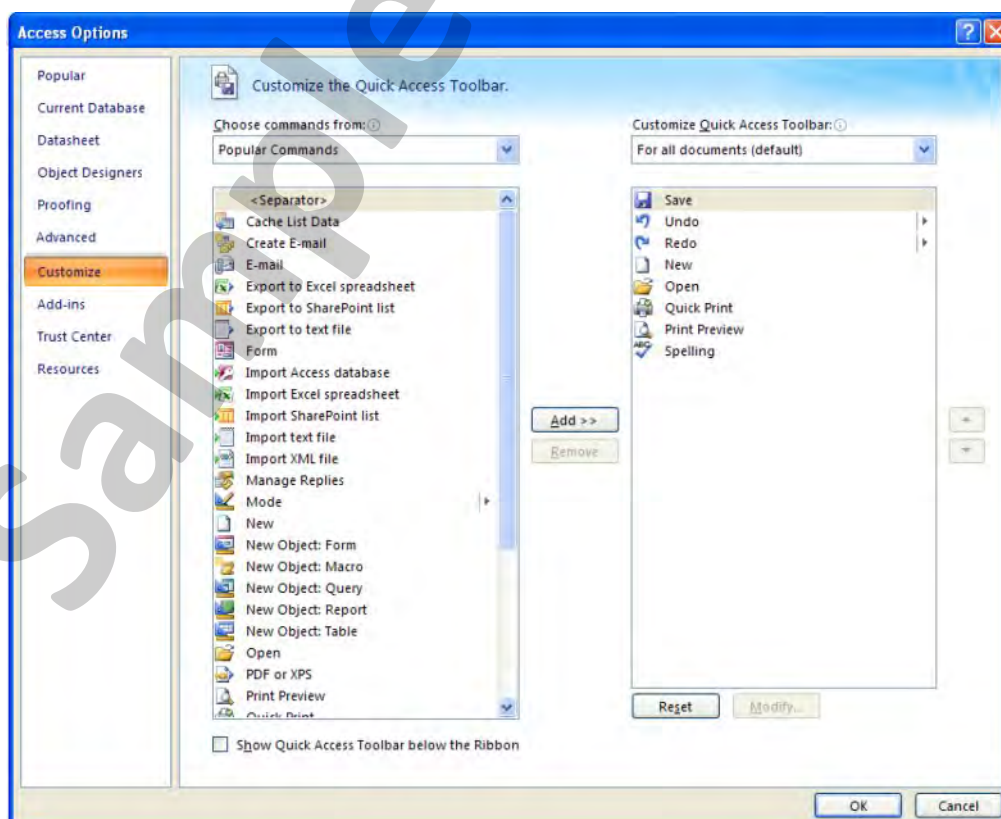



Customise Quick Access Toolbar


Some other useful commands are not on the Quick Access Toolbar list, but these can be added using the following steps.

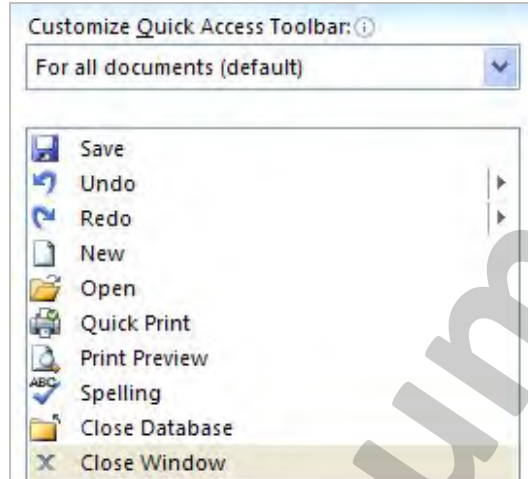
Exercise 3


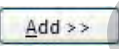

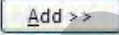
- 1 Click on the  to the right of the Quick Access Toolbar and select *More Commands...*.
The Access Options dialog box will display, with the Customize option selected.




Note You could also click on the Office Button, click on , then select **Customize**.

- 2 Click on the **Choose Commands from:**  and select **All Commands**. The commands are listed in alphabetical order.
- 3 Scroll down the list until the **Close** commands are displayed.




- 4 Click on  **Close Database** then click on .
- 5 Click on  **Close Window** then click on .

The two commands will be added to the Quick Access Toolbar list as shown on the right.

- 6 Click on OK to close the Access Options dialog box.
- 7 Click on the  of the Quick Access Toolbar and select **Show Below the Ribbon**.

The toolbar will display below the Ribbon, just above the document.


- 8 Click on the  again and select **Show Above the Ribbon** to restore it to its original position.

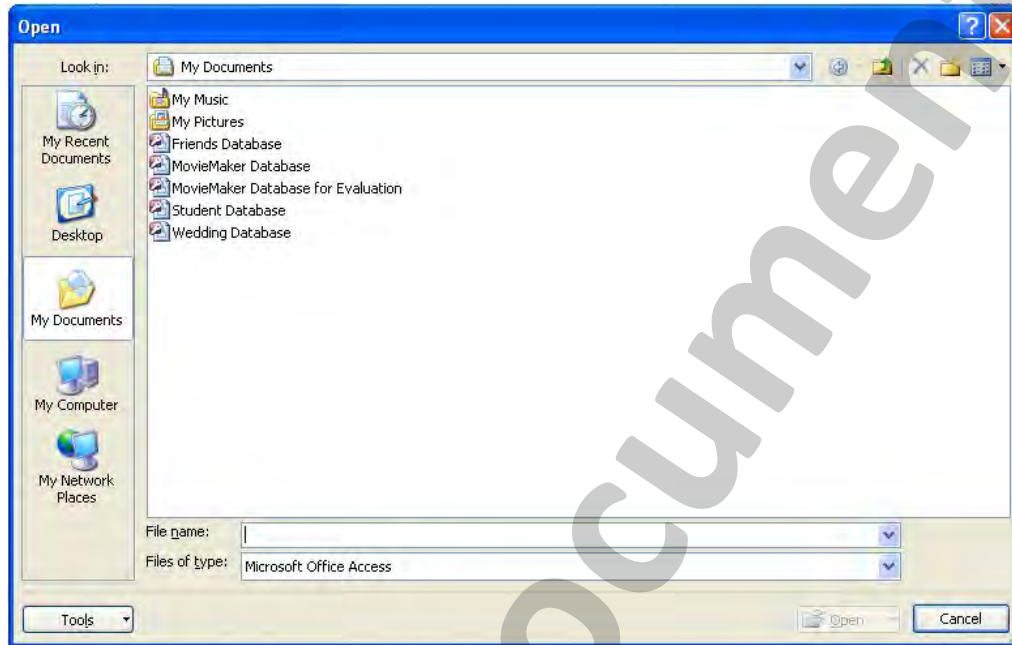


The commands that you have just added in the two previous exercises will be used throughout the remainder of this book.

Opening a Database

Exercise 4

- 1 Click on the Open button  on the Quick Access Toolbar to open an existing database.
The Open dialog box will display existing database files.

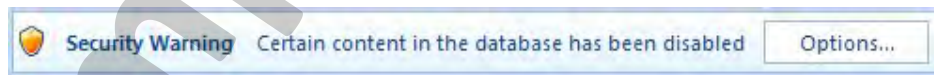



Open Dialog Box

- 2 Click on the **MovieMaker Database**.
- 3 Click on  **Open**.

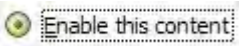
Access 2007 has improved security measures to protect your PC from viruses. Many database files contain shortcut programs called *macros* that are designed to help the user work more efficiently. A macro could also be a virus however, and Access 2007 may try to warn you about this.

Unless your security settings are already set to the lowest level, Access 2007 may display the following security warning when you click on Open.



- 4 Click on  to display the following dialog box.



- 5 Click on ; the Moviemaker Database is clear of viruses.
- 6 Click on OK to continue.

The database is now enabled so it can be accessed.

Security Settings

Security settings can be changed from High to Medium or Low but we recommend that you continue enabling content when you open a database instead of changing the security as this could be hazardous to your computer.

It is your responsibility to look after the security of your computer by using and maintaining up to date anti-virus software.

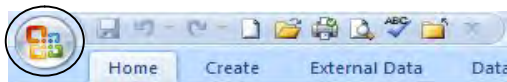
MovieMaker Database

The database that has been opened is a simple flat file database designed to keep track of videos in a video shop.

The MovieMaker Database can be used as follows:


- To search for specific videos
- To find a specific type of video, eg action, romance, comedy
- To see in how many videos the lead role is played by a specific actor or actress
- To search for a specific director
- To see if a video is in the shop or on lease

Using the Office Button



The Office Button is located at the top left of the screen. You can think of the Office Button as being very similar to the old File menu in previous versions of Microsoft Access.

Exercise 5

- Click on the Office Button 

A menu with commands for working with your *files* will display, eg to open a database, create a new one, or to save or print the file you are working on.

Recent Documents

The menu will also display a list of the databases that you have been working on most recently. Click on a database name to open it again.

If you haven't used Access 2007 before, the Recent Documents list will be empty.

Sub-menus

A menu item with an arrow next to it has extra options that you can select from a sub-menu. Point to the menu item to display the sub-menu.

The Print sub-menu shown here allows you to choose between Print, for selecting printing options, Quick Print, to send the whole document straight to your default printer, and Print Preview.


The Save As sub-menu includes options for saving in different database formats.

It also gives you options to save the current database object as a new object.

Closing a Database

Use the Close Database button you added to the Quick Access Toolbar or the option at the bottom of the menu to close the database you are working on, if you want to keep Access 2007 open for other work.

Closing Access 2007

In Access 2007, clicking on the Close button  at the top right of the screen will close Access down completely.

