

If you are not using Excel 2007 you need a different book

This book is for Excel 2007 users. If you have a different version of Excel you can download the correct version of this book at the ExcelCentral.com web site. Here are the direct links: [Excel 2010](#), [Excel 2013](#), [Excel 2016](#).

Make sure you are using the latest version of this free e-book

This Excel 2007 book was last revised on 21st September 2017. You can always download the most recent version of this book completely free of charge from: <http://ExcelCentral.com>.

Why you should use this free e-book

- **Learning success is guaranteed.** For over fifteen years, Smart Method® classroom courses have been used by large corporations, government departments and the armed forces to train their employees. This book has been constantly refined (during hundreds of classroom courses) by observing which skills students find difficult to understand and then developing simpler ways of explaining them. This has made the book effective for students of all ages and abilities. We have never had a student who has failed to learn Excel after taking one of our courses.
- **It is the preferred choice for teachers.** As well as catering for those wishing to learn Excel by self-study, Smart Method® books have long been the preferred choice for Excel teachers as they are designed to *teach* Excel and not as reference books. Books follow best-practice adult teaching methodology with clearly defined objectives for each learning session and an exercise to confirm skills transfer. With single, self-contained lessons the books cater for any teaching period (from minutes to hours).
- **It is free (and you can print it).** Because this book is **free of charge**, schools, colleges, universities and businesses are able to teach their students best-practice Excel skills without the substantial cost of designing lesson plans or purchasing books. If printed copies are needed you can print them yourself, or any copy shop can print books for you.
- **Smart Method books are #1 best sellers.** While this book is **entirely free of charge**, every paper printed Smart Method® Excel book (and there have been nine of them starting with Excel 2007) has been an Amazon #1 best seller in its category. This provides you with the confidence that you are using a best-of-breed resource to learn Excel.
- **No previous exposure to Excel is assumed.** You will repeatedly hear the same criticism of most Excel books: “you have to already know Excel to understand the book”. This book is different. If you’ve never seen Excel before, and your only computer skill is using a web browser, you’ll have absolutely no problems working through the lessons. No previous exposure to Excel is assumed and everything is explained clearly and in a simple way that absolutely any student, of any age or ability, can easily understand.
- **It focuses upon the everyday Excel skills used in the workplace.** This free *Basic Skills* book will teach you the basics without confusing you with more advanced, less used, Excel features. If you decide to expand your Excel education you’ll be able to move on to other Smart Method® books (or e-books) in this series to master even the most advanced Excel features.
- **Basic Skills books are available for every Excel version in common use.** You are reading this book because you are using Excel 2010. You’re probably aware that Excel is now available in a new Excel 2016 version (sometimes also called Excel 365). Our free Basic Skills courses are available (for download from ExcelCentral.com) for Excel 2007, 2010, 2013, 2016 and Excel 2016 for the Apple Mac.
- This is the world’s only Excel course that is available in both book and video form. Each can be used as a stand-alone resource, but together they provide an incredibly powerful learning experience.

Learn Excel in just a few minutes each day (or in one five-hour sitting)

Excel is a huge and daunting application and you'll need to invest some time in learning the skills presented in this book. This will be time well spent as you'll have a hugely marketable skill for life. With 1.2 billion users worldwide, it is hard to imagine any non-manual occupation today that doesn't require Excel skills.

This book makes it easy to learn at your own pace because of its unique presentational style. The book contains 41 self-contained lessons and each lesson only takes a few minutes to complete.

You can complete as many, or as few, lessons as you have the time and energy for each day. Many learners have developed Excel skills by setting aside just a few minutes each day to complete a single lesson. Others have worked through the entire book in less than five hours.

Hardly anybody understands how to use every Excel feature

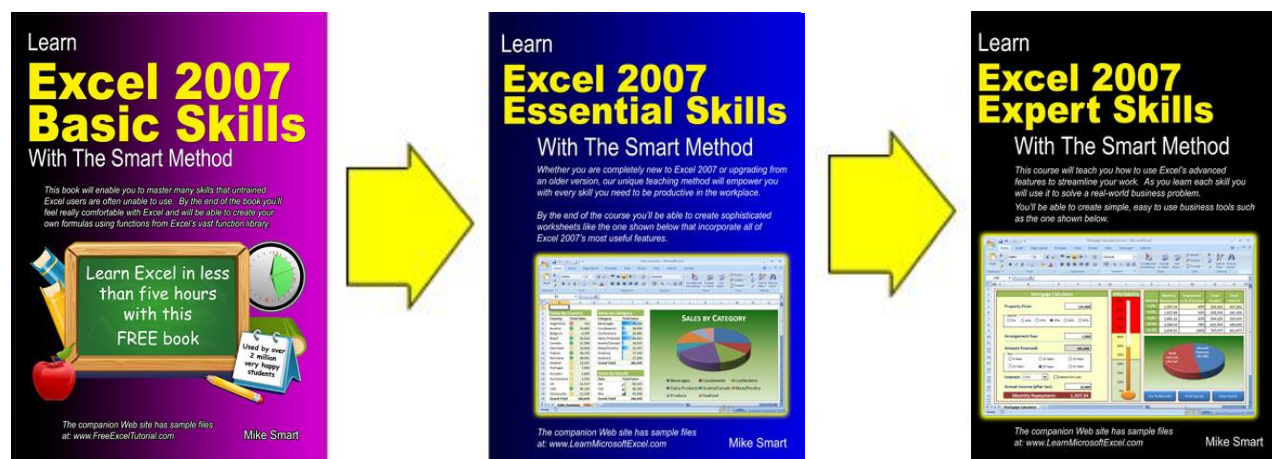
It is important to realize that Excel is probably the largest and most complex software application ever created. Hardly anybody understands how to use *every* Excel feature and, for almost all business users, large parts of Excel's functionality wouldn't even be useful.

Many learners make the fundamental error of trying to learn from an Excel reference book that attempts to document (though not teach) *everything* that Excel can do. Of course, no single book could ever actually do this. (There are some advanced Excel features that easily justify an entire book of their own).

This free *Basic Skills* book will teach you the basic Excel skills that are used every day, in offices all over the world. The book's objective is to teach the basics without confusing you by including more advanced, less used, Excel features.

By the end of this free **Basic Skills** book you'll be completely comfortable creating your own formulas using functions from Excel's vast function library. You'll also have mastered fundamental Excel skills such as *AutoSum*, *AutoFill* and *Formula Autocomplete*. You'll be confident in the knowledge that you are using Excel's features in the correct, best-practice, professional way and you'll feel really at home with Excel.

If you decide to expand your Excel education you'll be able to use other books in this series to master even the most advanced Excel features.



The full course outlines for Essential Skills and Expert Skills can be viewed at the <http://ExcelCentral.com> web site and in the appendix at the back of this book.

Introduction

Who is this book for?

This book is for Excel 2007 users who:

- Need to acquire basic Excel skills quickly.
- Have never used Excel before.

This *Basic Skills* book (along with the accompanying online video tutorials available at ExcelCentral.com) provide a 100% effective (and completely free) way for new learners to acquire basic Excel skills with little or no past exposure to Excel.

This book is only suitable for learning Excel 2007 for Windows

This book is written purely for Excel 2007. If you are using Excel 2010, Excel 2013 or Excel 2016 you should download the matching version of this book from the <http://ExcelCentral.com> website. Here are the direct links: [Excel 2010](#), [Excel 2013](#), [Excel 2016](#).

If you have an Apple Mac you need our Apple Mac basic skills book

This book isn't suitable for the Apple Mac versions of Excel.

The Mac versions of Excel have a reduced feature set and a radically different user interface to the Windows versions.

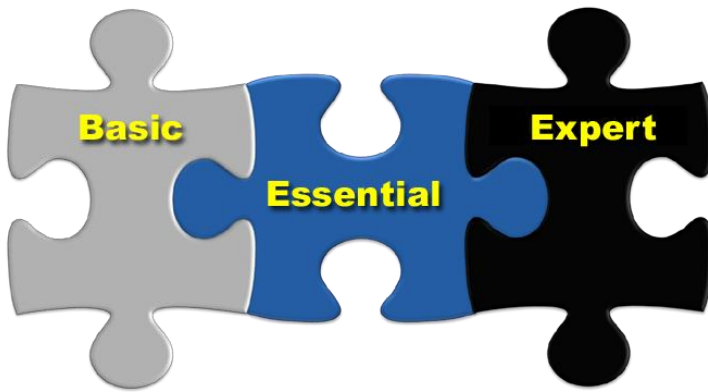
We don't publish a book for older versions of Excel for Mac but we do have a free *Excel for Mac Basic Skills* version for Excel 2016. You can download: *Learn Excel 2016 Basic Skills for Mac OS X with The Smart Method* free from the <http://ExcelCentral.com> web site.



Excel competence levels

Office workers who use Excel every day for a living generally only use (and only need) a tiny fraction of Excel's enormous feature set.

Excel is a huge application with thousands of features. For most users it is a mistake to attempt to learn every Excel feature but, instead, to learn Excel to a competence level that is appropriate for your needs.



Basic Skills

This is where you will be at the end of this book. You'll feel really comfortable with Excel. Even at **Basic Skills** level you'll have mastered many skills that most untrained Excel users are unable to use correctly. You'll also be using the correct professional techniques rather than "muddling through" in the way that most self-taught Excel users do. You'll be able to create your own formulas using functions from Excel's vast function library and have a complete mastery of fundamental Excel features such as *AutoFill* and *Formula Autocomplete*.

Essential Skills

At this level you will have excellent Excel skills, good enough to impress any employer, and your Excel skills will be better than most office workers (even those with many years of experience). You'll be able to create beautifully laid-out worksheets that will really impress. You'll also have mastered many advanced features that few Excel users understand such as *absolute and relative cell references*, *visualizations*, *advanced charts*, *conditional formatting*, *date serial numbers* and *themes*. You can see a full list of the lessons in the *Essential Skills* course at the back of this book in: **Appendix A: Skills Covered in the follow-on Essential Skills Course**.

Expert Skills

At *Essential Skills* level you'll be really, really good with Excel. If you want to join the tiny elite of power-users who can do absolutely everything with Excel you can move to expert level and become a true Excel guru.

This is an extremely high level of Excel competence that is very rarely found in the workplace (even amongst top professionals). Your Excel skills will be greater and broader than almost all other Excel users and you will understand (and be able to use) absolutely every Excel feature. You'll have a complete mastery of skills that are often even a mystery to Excel power users such as *solver*, *forms*, *what-if analysis*, *pivot tables* and *macros*. You can see a full list of the lessons in the Expert Skills course in: **Appendix B: Skills Covered in the follow-on Expert Skills Course**.

We encourage you to print this free book

Unlike most e-books, this one isn't locked to prevent printing (this is also true for all other Smart Method e-Books provided they are obtained from <http://ExcelCentral.com>).

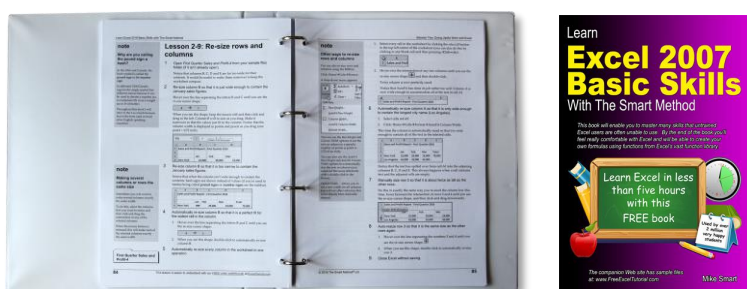
For classroom use we recommend that you print this book

While this book is ideal for self-instruction, it is also ideal for teaching structured, objective-led, and highly effective classroom courses. Even though you can read this book on an iPad, personal computer or e-Book reader, some students find it easier to use if you print it onto paper. You may legally print copies of this book (for yourself or your students) with only two conditions:

1. You must print the book exactly as it is published and may not add or remove any book content or copyright notices.
2. You may not make any charge for the books that you print. It is permissible, however, to give free copies of the book to students who attend a free (or paid for) class or course.

For classroom courses you can obtain a professional-looking result by printing (double-sided). You can then punch the pages and place them into a four-hole binder. Make sure that odd pages appear on the right-hand side. This enables each two-page lesson to be viewed without turning the page.

For a professional touch you can also put a color insert onto the front cover. Here's how it then looks:



You can download the two files you need from: <http://ExcelCentral.com/print>

A copy shop will print this book for you for around \$6

As a guide, Staples have 1500 stores in North America. On 12th August 2017, their website quoted the following (one book) print price for this book:

Printed in Black and White (without color cover sheet)	\$6.19
Printed in Black and White with booklet binding	\$6.78
Color cover sheet (if required)	\$1.00

It is likely that most smaller copy shops would charge around the same.

If you in North America or Canada we can supply 5+ printed books at our true cost price

Our cost of printing this book (printing, delivery and sales tax) for perfect-bound books (glossy colour cover with black & white inner) is currently **a little under four dollars**. You can see the current price at:

<http://excelcentral.com/discounts/wholesale.aspx>. We can't supply single copies as the delivery cost for one book would make it as expensive as printing yourself at a copy shop.

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Mike Smart

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Published by:

The Smart Method® Ltd
Burleigh Manor
Peel Road
Douglas, IOM
Great Britain
IM1 5EP

Tel: +44 (0)845 458 3282 Fax: +44 (0)845 458 3281

E-mail: Use the contact page at <http://ExcelCentral.com/support>

Web: <http://ExcelCentral.com> (this book's dedicated web site)

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Support, Feedback and Sample Files

Welcome to *Learn Excel 2007 Basic Skills With The Smart Method®*. This book has been designed to enable students to master Excel 2007 by self-study. The book is equally useful as courseware in order to deliver courses using The Smart Method® teaching system.

Smart Method publications are continually evolving as we discover better ways of explaining or teaching the concepts presented.

Feedback

At The Smart Method® we love feedback – both positive and negative. If you have any suggestions for improvements to future versions of this book, or if you find content or typographical errors, the author would always love to hear from you.

You can make suggestions for improvements to this book using the online form at:

<http://ExcelCentral.com/support>

Future editions of this book will always incorporate your feedback so that there are never any known errors at time of publication.

If you have any difficulty understanding or completing a lesson, or if you feel that anything could have been more clearly explained, we'd also love to hear from you. We've made hundreds of detail improvements to our books based upon reader's feedback and continue to chase the impossible goal of 100% perfection.

Downloading the sample files

In order to use this book it is sometimes necessary to download sample files from the Internet. The sample files are available from:

<http://ExcelCentral.com>

Type the above URL into your web browser and you'll see the link to the sample files at the top of the home page.

Problem resolution

If you encounter any problem using the course or downloading the sample files you can contact us using the online form at:

<http://ExcelCentral.com/support>

We'll do everything possible to quickly resolve the problem.

Typographical Conventions Used In This Book


This guide consistently uses typographical conventions to differentiate parts of the text.

When you see this

Here's what it means

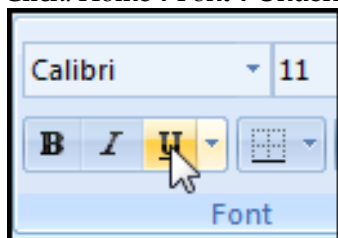
This edition was written using *Microsoft Excel 2007 Service Pack 1* running under the *Microsoft Vista Service Pack 1* operating system

Italics may sometimes be used for emphasis or distinction.

Click the *Windows Start Button*  at the bottom left of your screen.

Italics are sometimes also used when you need to click on a control.

Click: Home→Font→Underline.

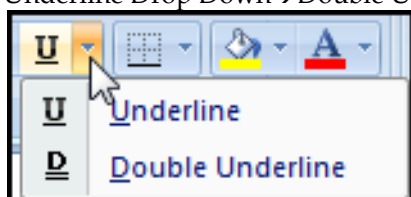


Click on the Ribbon's *Home* tab and then look for the *Font* group. Click the *Underline* button within this group (that's the left-hand side of the button, not the drop-down arrow next to it).

Don't worry if this doesn't make sense yet. We cover the Ribbon in depth in session one.

Click: Home→Font→

Underline Drop Down→Double Underline.



Click on the Ribbon's *Home* tab and then look for the *Font* group. Click the drop-down arrow next to the Underline button (that's the right-hand side of the button) within this group and then choose *Double Underline* from the drop-down list.

Click Office→Excel Options→
Popular→Edit Custom Lists→Import



Office Button

This is a more involved example. The *Office Button* is at the top left hand corner of the Excel screen.

1. Click the *Office Button*, and then click the *Excel Options* button.

A new dialog pops up.

2. Choose the *Popular* list item and then click the *Edit Custom Lists* button.

Yet another new dialog pops up.

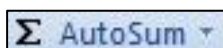
3. Click the *Import* button.

Type **European Sales** into the cell.

Whenever you are supposed to actually type something on the keyboard it is shown in bold faced text.

Press <Ctrl> + <Z>.

You should hold down the **Ctrl** key and then press the **Z** key.



When a lesson tells you to click a button, an image of the relevant button will often be shown either in the page margin or within the text itself.

note

In Excel 2007 there are a possible 16,585 columns and 1,048,476 rows. This is a great improvement on previous versions.

If you want to read through the book as quickly as possible, you don't have to read notes.

Notes usually expand a little on the information given in the lesson text.

important

Do not click the Delete button at this point as to do so would erase the entire table.

Whenever something can easily go wrong, or when the subject text is particularly important, you will see the *important* sidebar.

You should always read important sidebars.

tip

Moving between tabs using the keyboard

You can also use the <Ctrl>+<PgUp> and <Ctrl>+<PgDn> keyboard shortcuts to cycle through all of the tabs in your workbook.

Tips add to the lesson text by showing you shortcuts or time-saving techniques relevant to the lesson.

The bold text at the top of the tip box enables you to establish whether the tip is appropriate to your needs without reading all of the text.

In this example you may not be interested in keyboard shortcuts so do not need to read further.

anecdote

I ran an Excel course for a small company in London a couple of years ago...

Sometimes I add an anecdote gathered over the years from my Excel classes or from other areas of life.

If you simply want to learn Excel as quickly as possible you can ignore my anecdotes.

trivia

The feature that Excel uses to help you out with function calls first made an appearance in Visual Basic 5 back in 1996 and had the wonderful name: *IntelliSense*. The Excel...

Sometimes I indulge myself by adding a little piece of trivia in the context of the skill being taught.

Just like my anecdotes you can ignore these if you want to. They won't help you to learn Excel any better!

The World's Fastest Cars

When there is a sample file (or files) to accompany a lesson, the file name will be shown in a folder icon. You can download the sample file from: www.ExcelCentrall.com. Detailed instructions are given in: *Lesson 1-4: Open and navigate a workbook*.

How to use this book

This book utilizes some of the tried and tested techniques developed after teaching vast numbers of people to learn Excel during many years teaching *Smart Method* classroom courses.

In order to master Excel as quickly and efficiently as possible you should use the recommended learning method described below. If you do this there is absolutely no doubt that you **will** master Excel.

Complete the course from beginning to end

It is always tempting to jump around the course completing lessons in a haphazard way.

We strongly suggest that you start at the beginning and complete the lessons sequentially.

That's because each lesson builds upon skills learned in the previous lessons and one of our goals is not to waste your time by teaching the same skill twice. If you miss a skill by skipping a lesson you'll find the later lessons more difficult, or even impossible to follow. This, in turn, may demoralize you and make you abandon the course.

Because of the unique presentational style, you'll hardly waste any time reading about things that you already know and even the most advanced Excel user will find some nugget of extremely useful information in every lesson.

Don't waste your time reading about techniques you already understand (or have no interest in)

Here's a lesson step:

note

You can also use the <Ctrl>+<S> keyboard shortcut to save your work.

1 Save the workbook.

When you are editing a workbook the changes you make are only held in the computer's memory. If there is a power cut or your computer crashes, you will lose any work that has been done since the last save. For this reason, you should get into the habit of regularly saving your work.

Click the *Save button* on the *Quick Access Toolbar* at the top left of the screen.

If you already know how to save a workbook, read only the line: *Save the workbook* and just do it. Don't waste your time reading anything else. Read the smaller print only when you don't already know how to do something.

If you're in a hurry to learn only the essentials, as fast as possible, don't bother with the sidebars either unless they are labeled **important**. Read the sidebars only when you want to know everything and have the time and interest. You can see an example of this above. Clicking the *Save* button is the easiest, fastest and most intuitive method to save a file. You don't *need* to know the information in the sidebar (unless you are interested in it).

If possible, complete a session in one sitting

The Basic Skills course consists of two sessions (each containing a number of lessons).

You'll learn better if you lock yourself away, switch off your telephone, and complete a full session, without interruption, except for a 15 minute break each hour. The memory process is associative and we've ensured that the lessons in each session are very closely coupled (contextually) with the others. By learning the whole

session in one sitting, you'll store all of that information in the same part of your memory and will find it easier to recall later.

The experience of being able to remember all of the words of a song as soon as somebody has got you "started" with the first line is an example of the memory's associative system of data storage.

Rest at least once every hour

In our classroom courses we have often observed a phenomenon that we call "running into a wall". This happens when a student becomes overloaded with new information to the point that they can no longer follow even the simplest instruction. If you find this happening to you, you've studied for too long without a rest.

You should take a 15 minute break every hour (or more often if you begin to feel overwhelmed) and spend it relaxing rather than catching up with your e-mails and text messages. Ideally you should relax by lying down and closing your eyes. This allows your brain to use all of its processing power to efficiently store and index the skills you've learned. We've found that this hugely improves retention of the skills learned.

At the end of each session, complete the session exercise

Keep attempting the exercise at the end of each session until you can complete it without having to refer back to lessons in the session. Don't start the next session until you can complete the exercise from memory.

At the end of each session, review the objectives

The session objectives are stated at the beginning of each session.

Read each objective and ask yourself if you have truly mastered each skill. If you are not sure about any of the skills listed, revise the relevant lesson(s) before moving on to the next session.

You will find it very frustrating if you move to *Session 2* before you have truly mastered the skills covered in *Session 1*. This may demoralize you and make you abandon the course.

How to best use the incremental sample files

Many lessons in this course use a sample file that is incrementally improved during each lesson. At the end of each lesson an interim version is always saved. For example, a sample file called *Sales-1* may provide the starting point to a sequence of three lessons. After each lesson, interim versions called *Sales-2*, *Sales-3* and *Sales-4* are saved by the student.

A complete set of sample files (including all incremental versions) are provided in the sample file set. This provides two important benefits:

- If you have difficulty with a lesson it is useful to be able to study the completed workbook (at the end of the lesson) by opening the finished version of the lesson's workbook.
- When you have completed the book, you will want to use it as a reference. The sample files allow you to work through any single lesson in isolation, as the workbook's state at the beginning of each lesson is always available.

Use hyperlinks for easier navigation

Many books consist of disassociated self-contained chapters, often all written by different authors. This method works well for pure reference books (such as encyclopedias). The problem with this approach is that

there's no concept of building knowledge upon assumed prior knowledge, so the text is either confusing or unduly verbose as instructions for the same skill are repeated in many parts of the book.

A goal of this book (and our classroom courses) is not to waste your time by explaining any skill twice. This enables more material to be taught faster, and in fewer pages.

You may forget something that has already been covered earlier in the course. For this reason, the book makes extensive use of cross references in the text pointing you back to the lesson in which the relevant skill was learned. The cross references also help when you use this book as a reference work but have forgotten the more basic skills needed to complete each step.

Cross references are particularly useful in an e-book as you can click on any of these cross-references to automatically navigate to the relevant lesson.

2 Create a new worksheet and name it *January*.

This was covered in: *Lesson 1-5: Save a workbook*.

This is a clickable hyperlink

In the above example, the text: *Lesson 1-5: Save a workbook* is a hyperlink and will take you to lesson 1-6. You can try this with the example above.

Note that this will only work if you are viewing the entire e-book (rather than a lesson at a time via the <http://ExcelCentral.com> web site).

The free cloud version of this e-book is always available everywhere

As well as reading this e-book from an offline PDF file, you can also read it online from any web browser at: <http://ExcelCentral.com>. As well as being convenient, you can always be sure that you are reading the very latest version of this book.

The screenshot shows the website for 'Excel 2007 Essential Skills'. The top navigation bar includes links for Home, Sample Files, Pricing, Forums & Support, Search, and Contact, along with a Login button. Below this is a secondary navigation bar with tabs for Basic Skills (marked 'FREE'), Essential Skills, and Expert Skills. To the right of these tabs are year filters for 2016, 2013, 2010, 2007, and an Apple Mac section. The main heading reads 'Learn Excel 2007 Essential Skills With The Smart Method'. Under 'Before you start:', there are three buttons: 'Read: How to use the course' (Simple one-page guide), 'Download the entire e-book' (Download the entire e-Book), and 'Download the sample files' (Sample files save a lot of typing). Under 'When you need help:', there are two buttons: 'Search' (Find a lesson teaching a specific Excel feature) and 'Forums' (Ask one of our Excel experts). A red arrow points from the 'Download the sample files' button to the 'Session 1: Basic Skills' section below. This section lists three lessons, each with a 'Book' icon, a play button icon, and a duration: 'Session 1 Introduction' (1m 0s, marked 'FREE'), 'Lesson 1-1: Start Excel and check your program version' (6m 5s), and 'Lesson 1-2: Maximize, minimize, re-size, move and close the Excel window' (2m 28s).

First page of a session

1/ The first page begins with a quotation, often from an era before the age of the computer, that is particularly pertinent to the session material. As well as being fun, this helps us to remember that all of the real-world problems we solve with technology have been around for a long time.

3/ The session objectives *formally* state the precise skills that you will learn in the session.

At the end of the session you should re-visit the objectives and not progress to the next session until you can honestly agree that you have achieved them.

In a *Smart Method* course, we never progress to the next session until all delegates are completely confident that they have achieved the previous session's objectives.

1

Session One: The Sample Database

As a general rule the most successful man in life is the man who has the best information.
Benjamin Disraeli, British Politician (1804-1881)

By the end of this book you will have constructed a professional-grade Access application. The first of applications you could deliver to a corporate client with confidence, or sell as a stand-alone mass-market application.

You will write every line of code and construct every query, form and report to construct this application and before we begin adding code there's quite a lot of groundwork to do.

In order to progress quickly we've provided a simple relational database populated with some sample data to work with.

In this session you'll begin by examining the sample database and the tables and relationships within it. You may pick up one or two useful database design principles as well as a thorough understanding of the data structure.

You'll then develop the basic bones of the application by building a general purpose query that can be used to underpin forms and reports along with a simple wizard-generated form and report to get things started.

In future sessions you will build upon this foundation by incrementally adding all of the advanced features needed to produce a polished application.

Session Objectives

By the end of this session you will be able to:

- Understand the sample database
- Create a general purpose query to underpin forms and reports
- Create a prototype form using a wizard
- Create a form for keyboard input
- Create a simple report using a wizard

Session 1

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2/ In the next few paragraphs we *informally* summarise why the session is important and the benefits that you will get from completing it.

This is important because without motivation adults do not learn. For adults, learning is a means to an end and not an end in itself.

The aim of the introduction is to motivate your retention of the skills that will be taught in the following session by allowing you to preview the relevance of the material that will be presented. This may subconsciously put your brain into "must remember this" mode—assuming, of course, that the introduction convinces you that the skills will be useful to you!

Every lesson is presented on two facing pages

Pray this day, on one side of one sheet of paper, explain how the Royal Navy is prepared to meet the coming conflict.

Winston Churchill, Letter to the Admiralty, Sep 1, 1939

Winston Churchill was well aware of the power of brevity. The discipline of condensing information onto one side of a single sheet of A4 paper resulted in the efficient transfer of information.

A tenet of our teaching method is that every lesson is presented on *two* facing sheets of A4. We've had to double Churchill's rule as they didn't have to contend with screen grabs in 1939!

If we can't teach an essential concept in two pages of A4 we know that the subject matter needs to be broken into two smaller lessons.

Tips, important information and notes appear in sidebars.

Each step is numbered and begins with the thing you need to do in bold type. Sometimes this is all you need to read to accomplish the task.

Step notes sometimes provide precise instructions on how to progress if the one-line description is inadequate. Notes often also include interesting information about the current task.

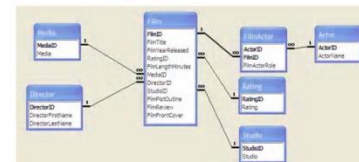
If you are not working through the course sequentially, a file is available on our web site that contains the starting point for every lesson. The file name you need to download is stated in the file icon at bottom left of every lesson page.

Lesson 1-1: Understand the sample database

The sample database will manage a collection of films. The schema incorporates some of The Smart Method's preferred naming conventions and design rules.

- 1 Create a new folder for your application on the C:\ drive called C:\FilmLibrary.
- 2 Download the FilmLibrary-Session1.zip file from http://www.thesmartmethod.com/Access_VBA_Sample_Files save it to this location, unzip it and then re-name it FilmLibrary.mdb.
- 3 Open the FilmLibrary.mdb database.
- 4 Select Tools→Relationships from the main menu to view the schema.

The schema is displayed.



- 5 Understand the table relationships.
Note the relationships between the tables. It is often useful to read the relationships to a client from the schema to ensure that they are correct. For example:-
"One film may have one and only one director but a director may direct many films." (A one to many relationship).
"One film may have many actors and one actor may perform in many films." (A many to many relationship).
- 6 Understand the relationship types.
Right-click on the relationship between the Film and Director tables and choose Edit Relationship... from the shortcut menu. The Edit Relationship dialogue is displayed.

tip

Some of The Smart Method's rules for table names and relationships:

- 1/ Table names are always in the singular and never in the plural.
 - 2/ The primary key is always meaningless (ie autonumber datatype) and is named using the syntax: <table name> + <ID>
 - 3/ Foreign keys always have exactly the same name as the related Primary key (for example the primary key in MediaID in the Media table is also called MediaID in the Film table).
 - 5/ The link table in a many-to-many relationship is always named with the names of the tables on either side of the many to many relationship (for example the FilmActor table links the Film and Actor tables).
- All of these rules (and others) are listed in *Appendix A: The Rules*.

All of these rules (and others) are listed in *Appendix A: The Rules*.

Learning by participation

Tell me, and I will forget. Show me, and I may remember. Involve me, and I will understand.

Confucius (551-479 BC)

Confucius would probably have agreed that the best way to teach IT skills is hands-on (actively) and not hands-off (passively). This is another of the principal tenets of The Smart Method® teaching system. Research has backed up the assertion that you will learn more material, learn more quickly, and understand more of what you learn if you learn using active, rather than passive methods.

For this reason, pure theory pages are kept to an absolute minimum with most theory woven into the hands-on lessons (either within the text or in sidebars). This echoes the teaching method in Smart Method classroom courses, where snippets of pertinent theory are woven into the lessons themselves so that interest and attention is maintained by hands-on involvement, but all necessary theory is still covered.

important

Amateur database designers often leave their databases open to corruption by not enforcing referential integrity between their tables.

The usual excuse for not enforcing referential integrity is that it will stop users entering incomplete records (for example users may wish to create a Film record when the Director name is not known).

The simple solution to this problem is to make sure that the default value of the foreign key within the parent table (the DirectorID field within the Film table) is always Null (Null means the absence of any value at all). It will then be possible to create Film records when the Director is not known.

note

You might wonder what would happen if you checked the *Cascade Update Related Fields* check box.

If you follow our design rules all primary keys will be meaningless (see tip sidebar and *Appendix-A: The Rules*).

Amateur database designers (and even ones that have simply read the wrong books!) often create meaningful primary keys causing all sorts of problems.

Cascade Update Related Fields is simply a work around for one of the problems caused by breaking this design rule – the case when a meaningful primary key must be changed and propagated throughout the entire database.

In a properly designed database you'll never have to use this option.

7 Understand when to use Cascade Delete.

Close the Edit Relationships dialogue. Right-click on the relationship between the Film and FilmActor tables and choose Edit Relationship... from the shortcut menu. The Edit Relationship dialogue is displayed.

Session One: The Sample Database

Edit Relationships

Table/Query: Director Related Table/Query: Film

DirectorID DirectorID

☒ Enforce Referential Integrity

☐ Cascade Update Related Fields

☐ Cascade Delete Related Records

Relationship Type: One-To-Many

OK Cancel Join Type... Create New...

Note the *Enforce Referential Integrity* check box. This means that if a user attempts to delete a director who is attached to any films the delete will fail.

It is vitally important to enforce referential integrity for all relationships within your database. Access does not do this by default!

Edit Relationships

Table/Query: Film Related Table/Query: FilmActor

FilmID FilmID

☒ Enforce Referential Integrity

☐ Cascade Update Related Fields

☒ Cascade Delete Related Records

Relationship Type: One-To-Many

OK Cancel Join Type... Create New...

Note that the *Cascade Delete Related Records* check box is checked.

This is one of the rare examples when Cascade Delete Related Records makes sense because we would want to automatically delete the association between a film and it's actors in the event that the user wanted to delete a film record.

Screen grabs are provided in-line with the text when they can explain what you need to do more clearly than words alone.

www.thesmartmethod.com

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Using the advanced video player

We have developed our own online video player to make the video lessons excellent for teaching purposes.

While you may find our videos on YouTube, you should always view them at <http://ExcelCentral.com>, as our education-focused video player has many unique features.

Click on the text to navigate to the same place in the video

and: European Sales, into cell A16.

The challenge for this lesson will be to place a formula in cell B15 that will compute the sales in January for the New York and Los Angeles offices. In other words, the addition of the values in cells B4 and B5.

And we also need to enter a formula into cell B16 that will calculate the value of European sales. In other words, the addition of the numbers in cells B6 to B8.

In other words, the addition of the numbers in cells B6 to B8.

ExcelCentral.com

Pause Back 10 Seconds Slower Faster Full Screen View

Quality Button	Videos are normally shown in FULL HD quality. In some cases your Internet connection may not be fast enough for FULL HD. This button enables you to change to a lower quality level that will still work on slow Internet connections.
Captions	The Captions button switches the captions at the bottom of the video on and off. All lessons have captions available.
Transcript	This is a feature rarely seen on the Internet. You can resize and move the Transcript window. When you click on any word in the transcript you will immediately move to the same place in the video.
Speed	This enables you to speed up, or slow down both the video and voice narration.
Buttons	This enables you to make the buttons larger when you are using an iPad or similar touchscreen device.
Back 10 Seconds	This button is very useful when you miss something and want to see it again. You can also press it more than once to move back 10, 20 or 30 seconds.
Slower/Faster	Slows or speeds up the video and voice narration (you can also do this from the Speed button).
Full Screen View	Blows the video up to full screen. This is also useful when working with a projector.

1

Session One: Basic Skills

A bad beginning makes a bad ending.

Euripides, Aegaeus (484 BC - 406 BC).

Even if you are a seasoned Excel user, I urge you to take Euripides' advice and complete this session. You'll fly through it if you already know most of the skills covered.

In my classes I often teach professionals who have used Excel for over ten years and they *always* get some nugget of fantastically useful information from this session.

In this session I teach you the absolute basics you need before you can start to do useful work with Excel 2007.

I don't assume that you have any previous exposure to Excel (in any version) so I have to include some very basic skills.

If you're moving to Excel 2007 from an earlier version, this session will de-mystify Microsoft's new fluent user interface (Ribbon).


Session Objectives

By the end of this session you will be able to:

- Start Excel and check your program version
- Maximize, minimize, re-size, move and close the Excel window
- Understand the Application and Workbook windows
- Open and navigate a workbook
- Save a workbook
- Pin a document and understand file organization
- View, add, rename, delete and navigate worksheet tabs
- Use the Ribbon
- Understand Ribbon components
- Customize the Quick Access Toolbar and preview the printout
- Use the Mini Toolbar, Key Tips and keyboard shortcuts
- Understand Views
- Use full screen view
- Use the help system

Lesson 1-1: Start Excel and check your program version

If you are using Windows XP or Windows 7 the procedure is almost the same as described here. You should be able to figure out the differences!

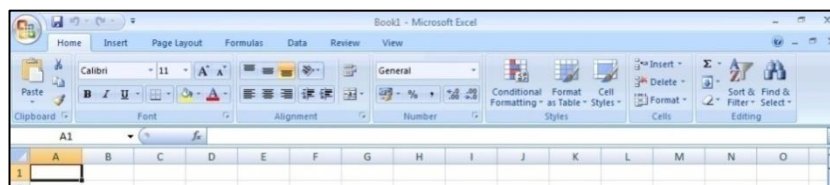
- 1 Click the *Windows Start Button*  at the bottom left of your screen.
- 2 Click the *All Programs* item at the bottom of the pop-up menu.
- 3 Scroll down the list and click on the Microsoft Office item.
- 4 Pin *Microsoft Office Excel 2007* to the start menu.

You'll be using Excel a lot so it makes sense to pin it to the start menu. This will make it appear at the top of the list in future so you'll be able to start Excel with just two clicks.



To pin to the start menu, point to *Microsoft Office Excel 2007* in the list, right-click your mouse and then choose *Pin to Start Menu* from the shortcut menu.

- 5 Left-click Microsoft Office Excel 2007 to start the application.

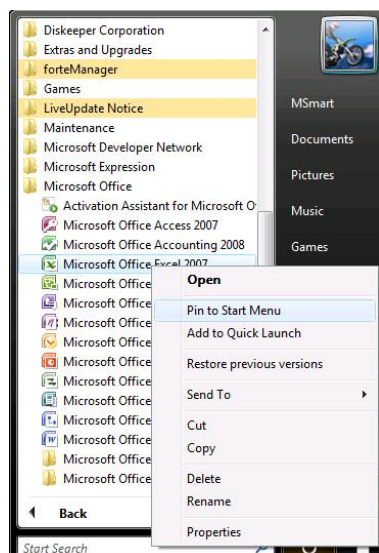
Excel starts and is displayed on the screen:



- 6 Check the program version.

Click the *Microsoft Office button*  at the top left of the screen and then click the *Excel Options* button  at the bottom right of the dialog.

Click *Resources* from the left hand sidebar and you'll see the version number at the bottom of the dialog:



important

Service Packs

When Excel 2007 was first released it had many bugs (as do all computer programs of any size).

Microsoft is very pro-active at fixing bugs that are found and always release these fixes free of charge as a service pack.

Service packs normally only fix bugs found in the original program, but Microsoft sometimes take things a little further by including new, or at least enhanced, features with their service packs.

I had many emails from readers of my book: *Learn Access VBA 2003 with the Smart Method* suggesting that some of the examples didn't work for them. In almost every case the problem was that they were using an out-of-date version of the application or the operating system. After applying the relevant service packs the problems vanished.

For this reason it is important that you make sure your software is up to date.

In this example the Excel version is:

about Microsoft Office Excel 2007

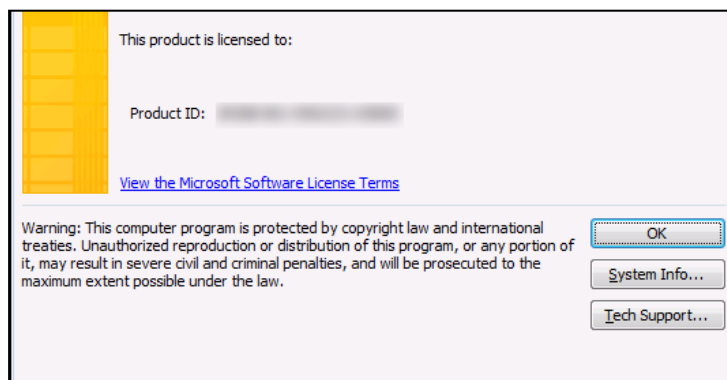
Microsoft® Office Excel® 2007 (12.0.6300.5000) SP1 MSO (12.0.6213.1000)

The important part is the *SP1* denoting that you have *service pack one* installed. If this says SP2, SP3 or an even larger number this is also fine. It simply means that Microsoft have fixed even more bugs in their product since this book was published.

If you do not see any reference to SPn, you have an early, un-patched version of Excel 2007 and you should update it (the update is free) via the Internet.

7 Check the Operating System version.

Click the *About Button* next to *about Microsoft Excel 2007*. A dialog is displayed with information about your copy of Excel.



Click the *System Info...* button. The Operating System (OS) Name and Version will then be visible at the top right of the dialog:

Vista


Item	Value
OS Name	Microsoft® Windows Vista™ Ultimate
Version	6.0.6001 Service Pack 1 Build 6001

Windows XP

Item	Value
OS Name	Microsoft Windows XP Professional
Version	5.1.2600 Service Pack 2 Build 2600

Once again, it doesn't matter if you have Vista running a later service pack than SP1 (or Windows XP running a later service pack than SP2).

If you're running Vista or Windows XP, any edition will suffice (it doesn't have to be the Ultimate or Professional edition).

8 Click the close button  on the top right corner of each dialog to return to the Excel screen.

note

What if I'm unable to upgrade my operating system or I'm using a different operating system?

Sometimes your corporate policy will not allow you to upgrade your operating system or application service pack.

In this case you can still use this book but be aware that it is possible that some of the features described may not work as expected (or may not work at all).

Lesson 1-2: Maximize, minimize, re-size, move and close the Excel window

The great successful men of the world have used their imaginations, they think ahead and create their mental picture, and then go to work materializing that picture in all its details, filling in here, adding a little there, altering this a bit and that bit, but steadily building, steadily building.

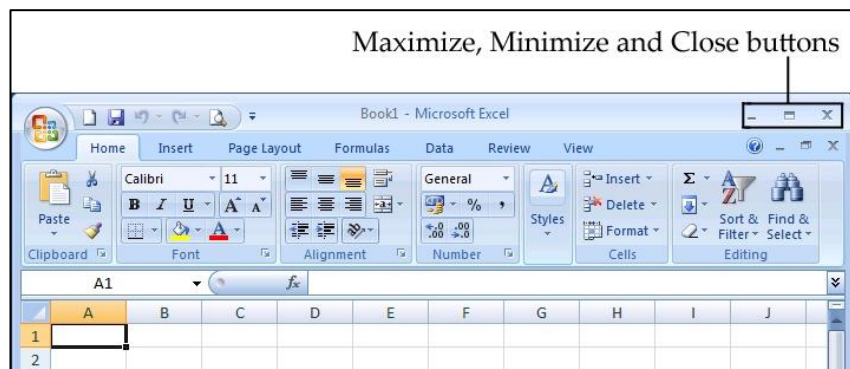
Robert Collier, American motivational author, (1885-1950)

Now that Excel is open you are confronted with a dazzling array of buttons, switches and other artifacts.

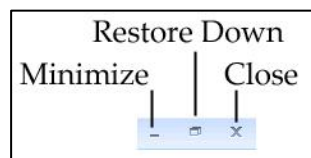
For now let's explore the big picture by looking at how the Excel window can be sized and moved. The details will come later.

1 Understand the Maximize, Minimize and Restore Down buttons

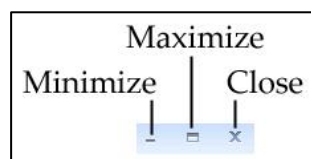
At the top right corner of the Excel window you'll see three buttons.



The buttons that you see will depend upon how the Excel window was left last time the application closed down. Normally the Excel screen is Maximized to fill the screen and you'll see:



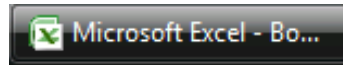
But if you had reduced the size of the Excel window so that it didn't fill the screen you'll see this instead:



Try clicking the *Maximize*, *Minimize* and *Restore Down* buttons but be careful to click the group of three buttons at the very top of the

window and not the similar group beneath (we'll be visiting those in the next lesson).

- *Maximize* makes the Excel window completely fill the screen.
- *Minimize* reduces Excel to a button on the bottom task bar.

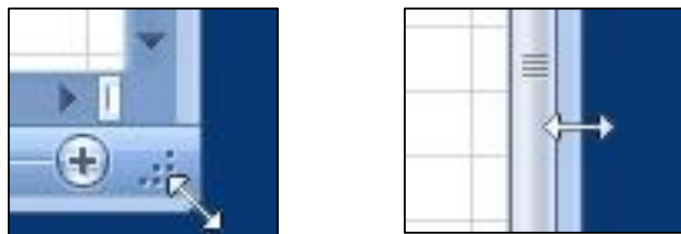


Click this button again to restore the window to its previous size.

- *Restore Down* makes the Excel window smaller allowing you to re-size the window.

2 Re-size the window

After clicking the *Restore Down* button you are able to re-size the window. Hover over either the side of the window, or a corner of the window, with your mouse cursor. The cursor shape will change to a double-headed arrow.



When you see either cursor shape, hold down the left mouse button and move the mouse (this is called *click and drag*) to re-size the window.

Clicking and dragging a corner allows you to change both the height and width of the window.

Clicking an edge allows you to change only one dimension.

3 Move the window.

Click and drag the Title Bar (the bar at the very top of the window) to move the Excel Application window around the screen.

4 Close Excel

There are two common ways to close down Excel and three lesser used methods (see sidebar). Most people will use one of the following methods:

Click on the *Close button* at the top right of the Excel application window.

OR

Click on the *Office button* at the top left of the screen and then click on the *Exit Excel* button at the bottom right of the dialog.

note

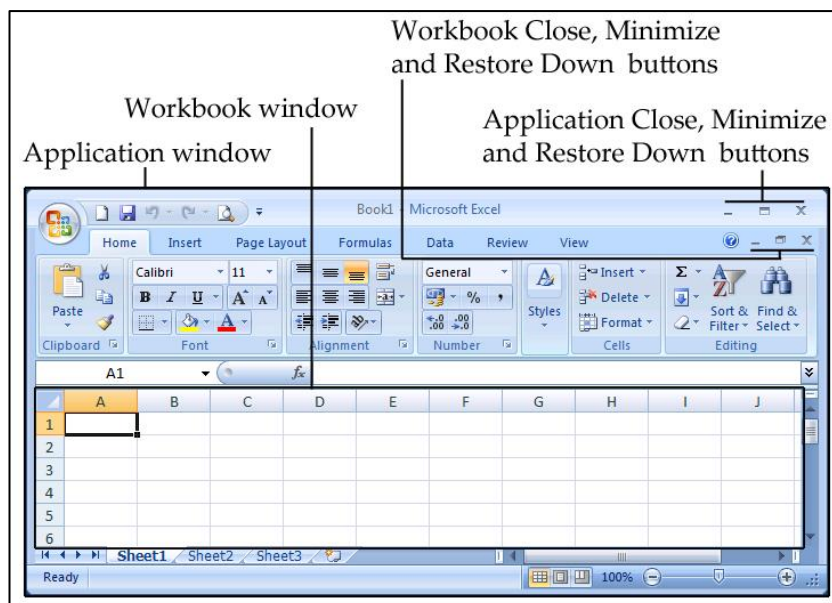
Other ways to close down Excel

There are three expert ways of closing Excel that will save a second or two of your time.

1. Double click the Office button at the top left of your screen.
2. Press the <Ctrl>+<W> keys on your keyboard. We'll be learning more about keyboard shortcuts later in this session.
3. Press the <Alt>+<F4> keys on your keyboard.

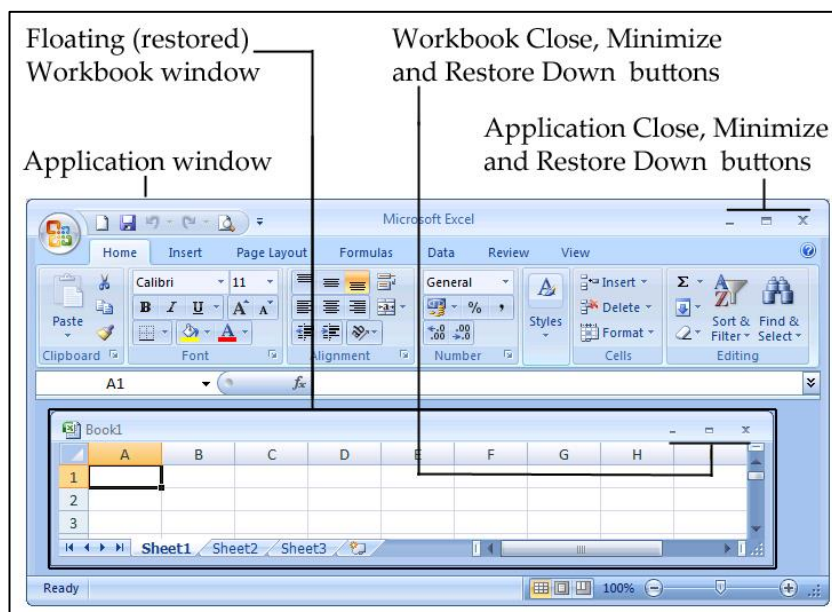
Lesson 1-3: Understand the Application and Workbook windows

Excel can be thought of as a frame (the *Application window*) containing one or more *Workbook windows*. Most of the time you will work with one *Application window* containing one *Workbook window*.



The screen grab above shows the normal way of working. The Workbook window is maximized within the Application window.

If the Workbook (that's the lower group of three buttons) *Restore Down* button is clicked the workbook window floats within the frame provided by the Application window.



1 Close Excel down and re-start it again.


note

What's the point of having a floating workbook window?

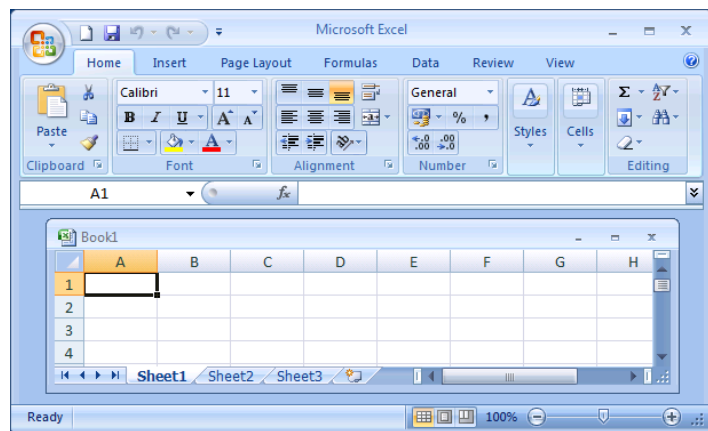
At this stage in your journey of discovery, none at all.

You need to know how to maximize, minimize and restore down the workbook window because you might do it by accident and need to fix things up again.

In Lesson 2-2: Create a new workbook and view two workbooks at the same time, you'll see how Excel is able to display more than one Workbook window within the Application window. This allows you to view two workbooks at the same time.

- 2 Click the Workbook's Restore Down button (that's the one in the lower group of three buttons). 

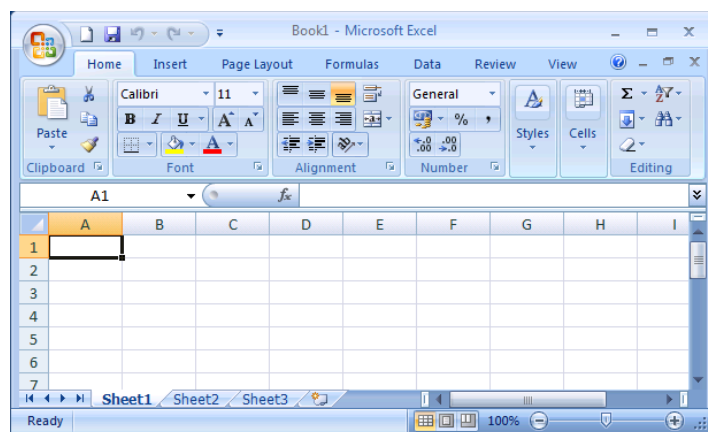
The workbook floats within the Application window:



Notice that the workbook's *Maximize*, *Minimize* and *Restore Down* buttons have now moved to the top right corner of the floating window.

- 3 Click the Workbook's Maximize button.

The workbook completely fills the Application window:



- 4 Understand the two close buttons.

You've probably noticed that there are two close buttons on screen. One for the Application window, and one for the Workbook window. How these buttons work is quite quirky.

Application close button

- Closes both the application and workbook windows when only one workbook is open, or no workbooks are open.
- Closes only the active workbook (that's the one that is currently on display), when more than one workbook is open.

Workbook close button

- Closes the workbook but always leave the application window open.

important

Organizing your sample files folder!

When you complete a lesson that involves a sample file that is changed, you will be instructed to save the file with a suffix.

By the time you've completed the course you'll have sample files such as:

Sales
Sales-1
Sales-2
Sales-3 ... etc

The first file is a sample file that you downloaded, and the others (with the number postfix) are interim versions as you complete each lesson.

The sample file set includes the sample file *and all interim versions*.

The interim versions are provided for three reasons:

1. If your work-in-progress becomes unusable (for example after a system crash) you can continue without starting at the beginning again.
2. If a lesson doesn't seem to give the results described, you can view the example to get some clues about what has gone wrong.
3. When you have completed the course you will use this book as a reference. The interim versions allow you to work through any of the lessons in isolation if you need to remind yourself how to use a specific Excel feature.

It is a good idea to place the sample files in a different folder to your saved work. If you don't do this you'll be overwriting the sample interim files (such as Sales-1, Sales-2 etc) with your own finished work.

The Wealth of Nations

Lesson 1-4: Open and navigate a workbook

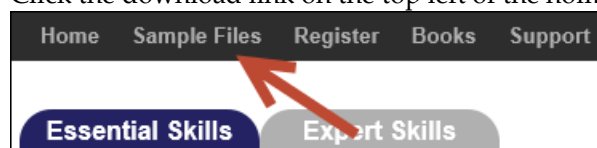
Excel uses the analogy of a book that has many pages. In Excel terminology we use the term: *Workbook* for the book and *Worksheet* for each of the pages. We'll be learning more about worksheets later in this session in *Lesson 1-7: View, add, rename, delete and navigate worksheet tabs*.

1 Download the sample files (if you haven't already done so).

1. Open your web browser and type in the URL:


www.ExcelCentral.com

2. Click the download link on the top left of the home page.



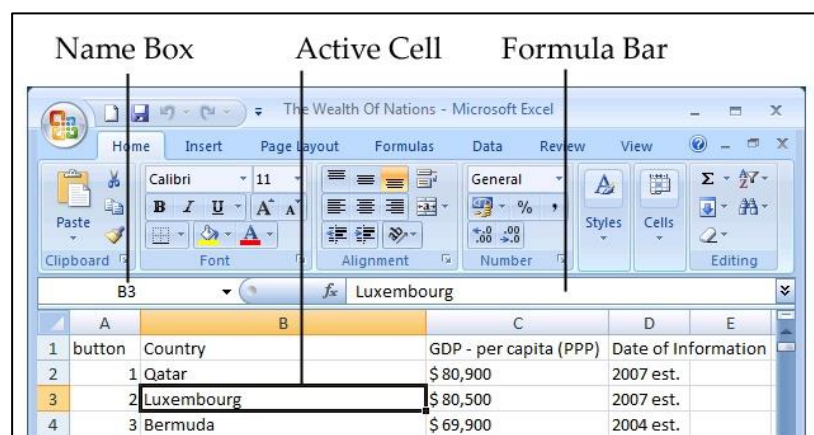
3. Download the sample files for Excel 2007 Basic Skills.

2 Open the sample workbook: *The Wealth of Nations*.

1. Open Excel and then click on the Office button  at the top left of the screen.
2. Select *Open* from the drop down menu. Navigate to the folder containing the sample files and double click *The Wealth of Nations* to open the sample workbook.

If you prefer to use the keyboard, another way to open a workbook is to hold down the <Ctrl> key and then press the <O> key.

3 Go to Cell Z23 using the Name box.



Excel uses the letter of the column and the number of the row to identify cells. This is called the *cell address*. In the above example the cell address of the active cell is B3.

In Excel 2007 there are a little over a million rows and a little over sixteen thousand columns. You may wonder how it is possible to name all of these columns with only 26 letters in the alphabet.

note

Excel 2007 is big!

"Space is big - really big - you just won't believe how vastly, hugely mind-bogglingly big it is. You may think it's a long way down the road to the chemist, but that's just peanuts to space".

Douglas Adams, The Hitchhikers' Guide to the Galaxy

A compelling reason to upgrade from Excel 2003 to the new 2007 version is the sheer size of worksheets that can now be manipulated.

Excel versions 97-2003 were limited to 65,536 rows and 256 columns.

Many of my clients have needed to overcome the "65,000 row problem" in earlier Excel versions. Until now that meant moving to Access (Microsoft's database management application).

Excel 2007 worksheets can have up to 1,048,576 rows and 16,585 columns.

Put into more understandable terms.

- You could create a single worksheet with the name of every human being on the planet and you wouldn't run out of cells (in fact, you wouldn't have even used half of your worksheet).
- If you filled every cell and printed out the worksheet it would be 3.25 miles (5.24 kilometres) long and 320 yards (293 Metres) wide – that's a lot of paper.

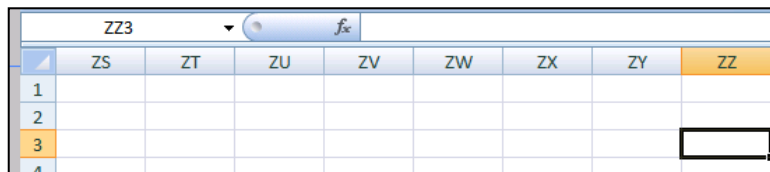
Believe it or not, some of my clients aren't even happy with this and are now running into the "million row problem"!

When Excel runs out of letters it starts using two: X,Y,Z and then AA, AB, AC etc. But even two letters is not enough. When Excel reaches column ZZ it starts using three letters: ZX, ZY, ZZ and then AAA, AAB, AAC etc.

The currently selected cell is called the *Active Cell* and has a black line around it. The Active Cell's address is always displayed in the *Name Box* and its contents are displayed in the *Formula Bar*.

We can also use the Name Box to move to a specific cell.

To see this in action, type **ZZ3** into the *Name Box* and then press the **<Enter>** key. You are teleported to cell ZZ3:



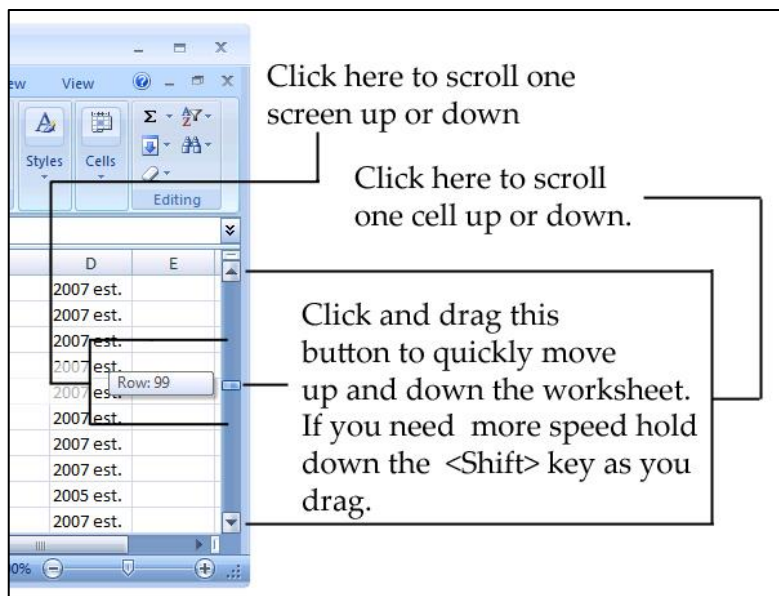
- 4 Return to Cell A1 by pressing **<Ctrl>+<Home>**.
- 5 Go to the end of the worksheet by pressing **<Ctrl>+<End>**.
- 6 Use the Scroll Bars.

There are two scroll bars for Excel's workbook window.

The vertical scroll bar runs from top to bottom of the worksheet window and allows you to quickly move up and down the worksheet.

The horizontal scroll bar is at the bottom right hand side of the workbook window and allows you to move to the left and right in wide worksheets.

Here's how the scroll bars work:



Lesson 1-5: Save a workbook

note

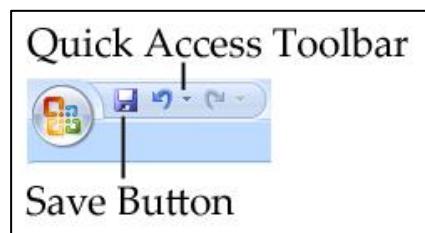
You can also use the <Ctrl>+<S> keyboard shortcut to save your work.

1 Save the workbook

When you are editing a workbook, the changes you make are only held in the computer's memory. If there is a power cut or your computer crashes you will lose any work that has been done since the last save.

For this reason you should get into the habit of regularly saving your work.

Even though we haven't changed this worksheet, let's save it now by clicking the Save button on the Quick Access Toolbar at the top left of the screen.



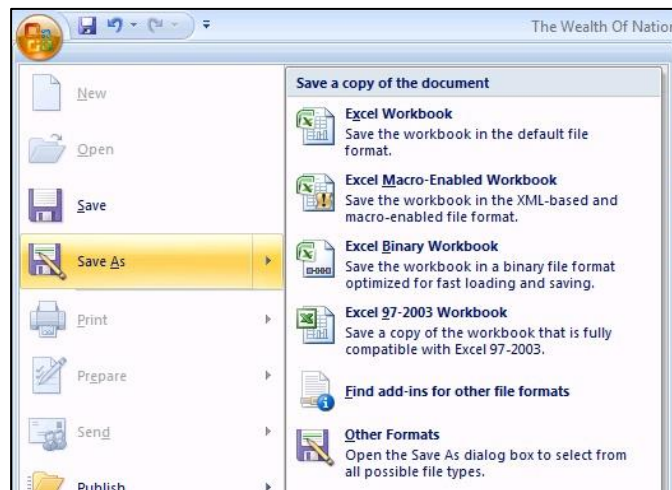
note

You can also use the <F12> key to instantly display the *Save As* dialog.

2 Save the workbook with a different name.

Click the *Office button* and then hover the mouse cursor over the *Save As* item in the drop-down dialog.

You can see that it is possible to save your file in many different formats.



3 Understand file formats.

Excel Workbook (the Open XML format)

Until very recently every program stored its information on the hard disk in a completely different way. These incompatible formats are called *binary formats*. This made it very difficult to write applications that could be used together.

All of this has changed with the new file format: *Office Open XML*.

note

How users of earlier office versions can read your OpenXML files

Microsoft has a free download: The Microsoft Office Compatibility Pack.

If users of Excel XP (2002) or 2003 install this they will be able to read and save Word, Excel and PowerPoint 2007 files in the new OpenXML format.

If the user has Office 97 or Office 2000 they are out of luck. You'll have to save your files in the old 97-2003 format if you need to share them.

The Smart Method still runs many Excel 2000 courses (especially for clients in the banking and finance sector). These users have no solution to read an Open XML workbook other than to upgrade.

Of course, as the years pass this will become less of an issue.

Microsoft have published exactly how this format works and given it away free to the world's developer community. This allows other programs to easily work with Excel workbook files. For example, Apple's iPhone already supports Office Open XML Email attachments.

Unfortunately the future has to co-exist with the past and there are a lot of people in the world using the older versions of Office (97, 2000, 2002 and 2003). If you save your files in the new Open XML format only people running Office 2007 will be able to read them (but see the sidebar for a potential solution to this problem).

Excel Macro Enabled Workbook

The Excel Macro Enabled Workbook is simply a workbook that has program code (called Macro code) embedded within it. Macros are beyond the scope of this book but are covered in our *Excel Expert Skills* book

Macro programming (also called VBA programming) is a vast subject of its own and is not useful to the vast majority of Excel users. The Smart Method run comprehensive Excel VBA courses but they are usually only taken by scientists and engineers who need to add very advanced functionality to Excel.

Earlier versions of Excel could potentially allow a workbook to infect your machine with a macro virus because all Excel files were capable of carrying macros. By separating the formats it is easier to avoid opening potentially infected files.

Excel 97-2003 Workbook

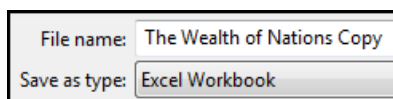
This is the old binary format that allows users with earlier versions of Excel to read your workbooks. Some features won't work in earlier versions and if you've used those in your workbook Excel will display a warning and tell you which features will be lost.

Excel Binary Workbook

An oddity in Excel 2007 is a new binary format: Excel Binary Workbook. This is a binary alternative to Open XML but it can't be read by earlier versions of Excel. The advantage of this format is that it loads and saves more quickly than Open XML.

4 Save the workbook with a different name.

1. Click on the *Excel Workbook* icon.
2. Type: **The Wealth of Nations Copy** into the *File name* text box.
3. Click the *Save* button.



Notice that the name of the workbook in the title bar (at the top of the window) has now changed indicating that you are now viewing the new workbook that you have just saved.

Lesson 1-6: Pin a document and understand file organization

tip

Increasing the number of items in the recent documents list.

Excel remembers the seventeen most recently opened documents.

As you open more documents the seventeenth oldest is removed from the Recent Documents list unless you pin it.

If you'd like to increase Excel's memory up to a maximum of fifty items here's how it's done:

1. Click the Office button at the top left of the screen.
2. Click the *Excel Options* button at the bottom right of the dialog.
3. Choose *Advanced* from the left hand pane.
4. Scroll down the right-hand list until you find the *Display* category. You'll see *Show this number of Recent Documents: 17*.
5. Change the number to the number of recent documents you'd prefer Excel to remember (up to a maximum of fifty).

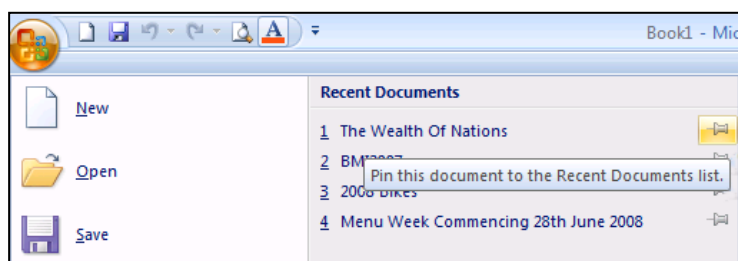
1. Close down and restart Excel.
2. Pin a workbook to the Recent Documents list.

1. Click the Office Button at the top left of the screen.



On the right hand side of the dialog is a list of all recently opened documents beginning with the most recent (probably the *Wealth of Nations* worksheet opened during the last lesson).

Note that there is a pin icon  next to each workbook name.

When you hover the mouse cursor over the pin a tooltip is displayed saying: *Pin this document to the Recent Documents list*.



This can be a great time saver as it enables any workbook that you use a lot to always be in the *Recent Documents* list. You won't have to waste time looking for it on the hard drive.

2. Click the pin icon. The icon changes from unpinned  to pinned. 



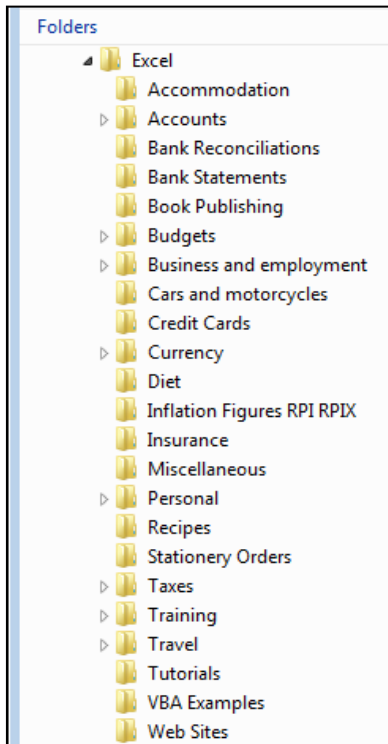
3. Click on *The Wealth of Nations* to open the workbook.

3 Understand file organization.

By default Excel saves all workbooks into your documents folder along with other Office documents (such as Word and PowerPoint files). This clearly is going to cause problems when you have a few hundred files.

Better to organize yourself from the start by setting up an orderly filing system.

I create a folder called *Excel* beneath the *Documents* folder (Windows Vista) or the *MyDocuments* folder (Windows XP). In this folder I create subfolders to store my work. You can see a screen



tip

Learning more about file organization.


Microsoft have some good ideas about good file organization. You can read their recommendations at:

www.microsoft.com/atwork/manageinfo/files.msp

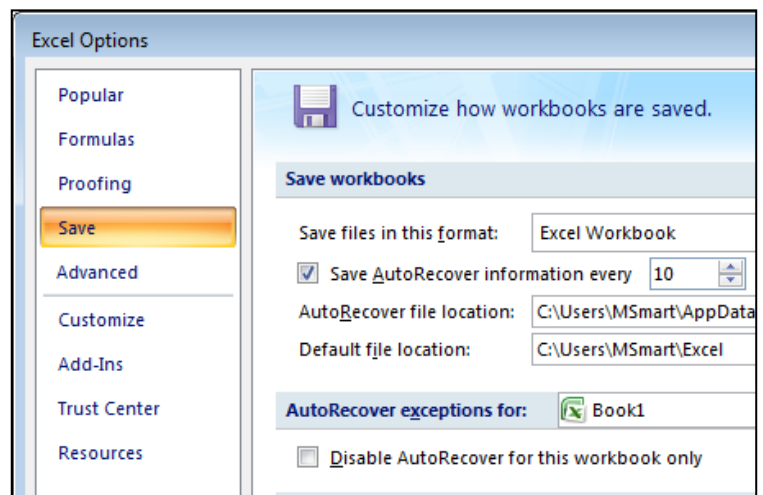
4 Set the default file location.

If you take my advice and create an Excel folder you will waste a mouse click every time you open a file because Excel will take you to the *documents* folder by default.

Here's how to reset the default file location to your new Excel folder:

1. Click the Office button  at the top left of the screen.
2. Click the Excel Options button at the bottom right of the dialog.
3. Choose the Save category from the left hand side of the dialog.
4. Change the default file location.

You have to actually type in the default file location. Microsoft seems to have forgotten to add a browse button!



When you click Office→Open in future you'll automatically be taken to your Excel folder ready to choose a category.

During the remainder of the book I'll explain the above sequence of choices like this:

Click: Office→Excel Option→Save, and then change the default file location.

This will save a lot of time and forests!

Lesson 1-7: View, add, rename, delete and navigate worksheet tabs

When you save an Excel file onto your hard disk, you are saving a single workbook containing one or more worksheets.

You can add as many Worksheets as you like to a Workbook.

There are two types of worksheet. Regular worksheets contain cells. Chart sheets, as you would expect, each contain a single chart. Charts are not covered in this *Basic Skills* course but have an entire session devoted to them in the *Essential Skills* book in this series (*Session Five: Charts and Graphics*).

- 1 Open *The Wealth of Nations* from your sample files folder (if it isn't already open).

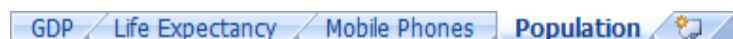
- 2 Move between worksheets.

Look at the tabs on the bottom left corner of your screen. Notice that this sample workbook contains three worksheets: GDP, Life Expectancy and Mobile Phones. Click on each tab in turn to view the different worksheets.



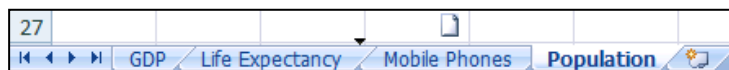
- 3 Add a new worksheet.

1. Click the Insert Worksheet tab (the tiny tab next to Mobile Phones). A new tab appears named *Sheet1*.
2. Double-click the *Sheet1* tab.
3. Type the word **Population** followed by the <Enter> key.



- 4 Move a worksheet's tab.

1. Click on the Population tab (you may have to do this twice).
2. Drag to the left. As you drag you'll notice an icon of a page and a black arrow telling you where the tab will be placed.
3. Release the mouse button to move the tab to the location of your choice.



- 5 Understand the tab scroll buttons

Because this workbook only has four tabs, there's no need to use the tab scroll buttons (in fact, they won't work at all when all tabs are visible).



When there are more tabs than will fit on the screen the *tab scroll buttons* are used to move between tabs.

6 Move between worksheets using the keyboard.

You can move between worksheets using only the keyboard by pressing the <Ctrl>+<PgUp> and <Ctrl>+<PgDn> keyboard shortcuts to cycle through all of the tabs in your workbook.

7 Change tab colors.

The colored tab feature was only added in Excel 2003 and most users have yet to discover that they can color code their tabs. Others will be very impressed if you color code yours!

1. Right-click on any of the tabs and choose *Tab Color* from the shortcut menu.
2. Choose any color.
3. Repeat for the other tabs on the worksheet.

8 Delete a worksheet.

Right click on the Population tab and select *Delete* from the shortcut menu.

9 Delete several worksheets at the same time.

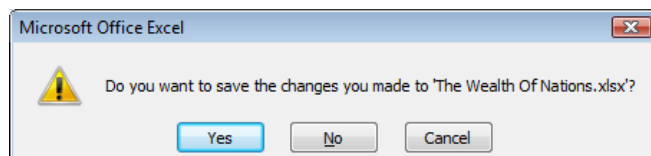
1. Hold down the <Ctrl> key.
2. Click each tab you want to delete in turn. Don't select them all as it isn't possible to delete every worksheet in a workbook.
3. Right click any of the selected tabs and select *Delete* from the shortcut menu.

Don't worry about the missing tabs. We're going to close the workbook without saving it so you won't overwrite the original workbook.

10 Close the workbook without saving it.

1. Click Office→Close.

A dialog is displayed:



2. Click *No* so that you don't over-write the workbook.

Because you haven't saved the workbook it will remain in its original state when you next open it.

note

Older versions of Excel hid all of their best features underneath an arcane system of menu navigation. Many users didn't know that half of the features were there at all.

Because only the standard and formatting toolbars were visible on screen, users didn't explore the menu options and, instead, used only a tiny subset of Excel's features.

The Ribbon makes Excel seem overwhelming because all of those features are right in your face.

Hardly anybody in the workplace today understands every one of Excel's features. You'll be doing productive work with Excel by session two of this book while using a tiny subset of the full feature set. By the end of the book you'll be thoroughly competent working with Excel.

note

The Ribbon shows more if you have a wide screen

When I work with Excel I use a 22 inch widescreen monitor running at 1,680*1,050 pixels.

Excel uses the extra screen space to display extended descriptions of each feature on the Ribbon.

For example, the Styles pane on the Home Ribbon expands to show buttons for nine common cell styles allowing them to be applied with a single click rather than two clicks.

Lesson 1-8: Use the Ribbon

Look what they've done to my song, Ma
Look what they've done to my song
Well it's the only thing I could do half right
And it's turning out all wrong, Ma
Look what they've done to my song

Song lyric by Melanie (M. Safka)

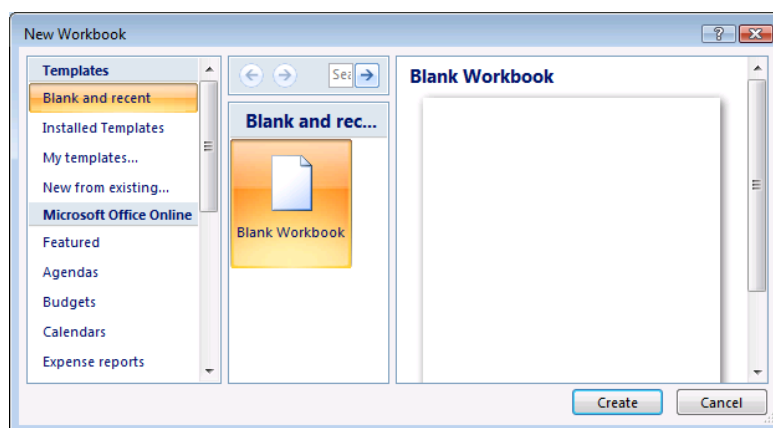
The Ribbon causes huge frustration for seasoned Excel 97 to 2003 users as everything seems to be in the "wrong place". "Look what they've done to Excel" they cry. But it's a better, and an entirely new, way of working.

The sheer breadth of Excel features can seem overwhelming. This book will gently introduce all of the most important features, one at a time. By the end of the book you'll be really comfortable and productive with the Ribbon.

1 Start Excel and open a new workbook.

1. Click Office→New.

The New Workbook dialog appears.



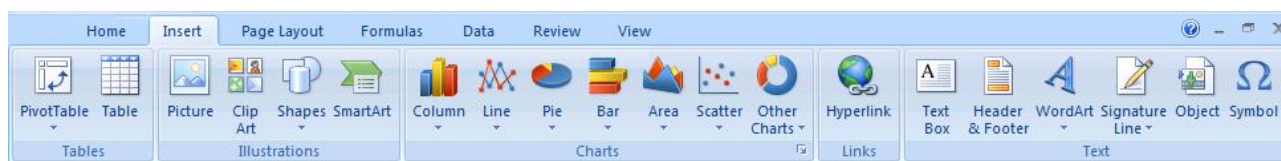
2. Double-click the *Blank Workbook* icon to create a new blank workbook.

2 Use Ribbon tabs.

Each Ribbon tab has its own toolkit available to you. By far the most important tab is the *Home* tab which has buttons for all of the most common and useful features.

Click each tab in turn and view the buttons. The screen grab below has the *Insert Tab* selected. Don't worry if the buttons seem cryptic at the moment. Most of them will make complete sense by the end of this book.

If you later go on to complete the Expert course too, Excel will have no mysteries left at all!



note

contextual tabs

If you are doing something special, such as previewing a worksheet, Excel doesn't want to bother you with a lot of commands that are irrelevant.

For this reason you'll often see a cut-down version of the Ribbon, listing only the commands that are available at that time. For example, when you change to print preview view (we cover that later in *Lesson 1-10: Customize the Quick Access Toolbar and preview the printout*), you'll see a cut-down Ribbon with only one tab containing all of the things you are able to do when previewing a printout.

Sometimes Excel will show you even more tabs. For example, when you select a picture, a *Picture Tools* tab group will magically appear containing a *Format* tab. This enables you to enhance the picture.

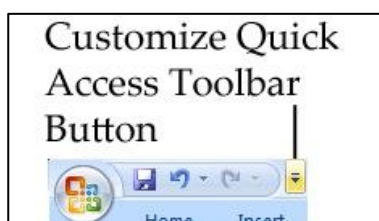
note

Other ways to show and hide the Ribbon

1. Press <Ctrl>+<F1>.
2. Right-click anywhere on the Ribbon and choose *minimize the Ribbon* from the shortcut menu.

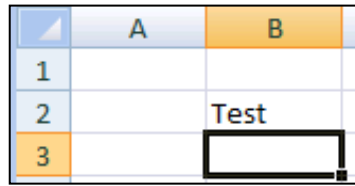
You can do any of the above a second time to bring the Ribbon back.

If you close Excel with the Ribbon hidden it will still be hidden when you re-open it.



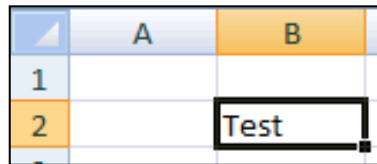
- 3 Type the word **Test** into any blank cell and then press the <Enter> key on the keyboard once.

Notice how the Active Cell moves to the cell beneath.



- 4 Make the cell with the word *Test* into the active cell.

Click once on the word *Test* or use the arrow keys on the keyboard to navigate back to the cell. Be very careful not to double-click otherwise Excel will think that you want to edit the cell.



- 5 Click the *Home* tab on the Ribbon and focus upon the Font panel (it's the second panel from the left). Try clicking each of the buttons and you will see the word *Test* change to reflect your choices.

This drop-down allows you to change the font to something different to the default Calibri.

This drop-down allows you to change the size of the font (measured in points).

These buttons allow you to change the cell's background and text colour.

Click here once to make the text Bold, Italic or Underlined (or all three). Click again to restore it to Normal.

Clicking here puts a single underline along the entire length of the bottom of the cell. Try the drop-down arrow too for more border options.

This drop-down arrow allows you to add a double underline.

- 6 Minimize the Ribbon.

To minimize the Ribbon in order to save screen space, click the *Customize the Quick Access Toolbar* button (see sidebar) and choose *Minimize the Ribbon* from the drop-down menu. Notice how the Ribbon now takes up far less screen space.

An even quicker way of doing the same thing is to double-click any of the tabs.

Double-click once more to bring the Ribbon back to full size.

- 7 Save your work with the name *Ribbon Test* and close Excel.

Click Office→Save As→Excel Workbook, type in the file name (Ribbon) and then click the Save button.

Lesson 1-9: Understand Ribbon components

The whole is more than the sum of its parts.

*Aristotle, Greek critic, philosopher, physicist & zoologist
(384 BC – 322 BC)*

The Ribbon is made up of several different artifacts.

Normal button

Simply executes a command when clicked. The Bold button on the Home tab is a good example.



Menu button

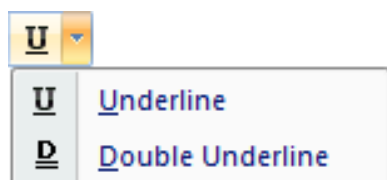
This type of button has a little down-arrow on it. It will display a Menu or Gallery when clicked.

Split button



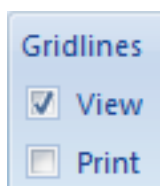
This is the hardest button to understand because these buttons look almost the same as the *menu or gallery* button. When you hover the mouse cursor over a split button, the icon and drop-down arrow highlight separately as different “buttons within a button”.

A good example is the *underline* button on the Home toolbar.



Clicking the icon part of a split button (the U) will perform the default action of the button (in this case a single underline). Clicking the arrow part of the button will display a menu of further choices (in this case the choice between a single and double underline).

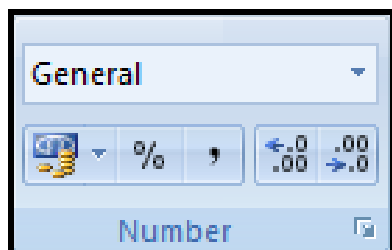
Check box



A little square box that you can click to switch an option on or off.

In this example (from the *Page Layout* Ribbon) you are able to switch the gridlines on and off for the screen display and/or the printout.

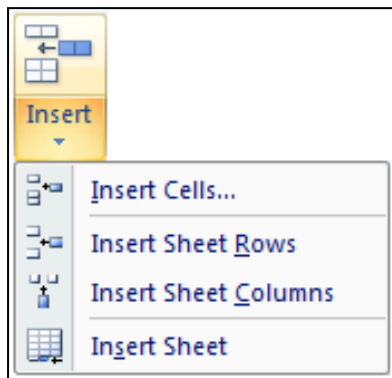
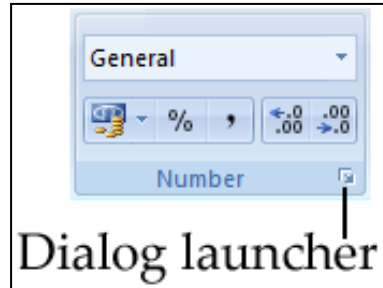
Command group



Similar actions are grouped into a cluster. For example, every component relating to numbers is clustered into the Number group.

Dialog launcher

Dialog launchers appear on the bottom right-hand corner of some command groups. Dialogs offer more choice than it is possible for the Ribbon to express graphically. Many of the dialog launchers will present a dialog that is identical to the old dialogs from Excel 2003.



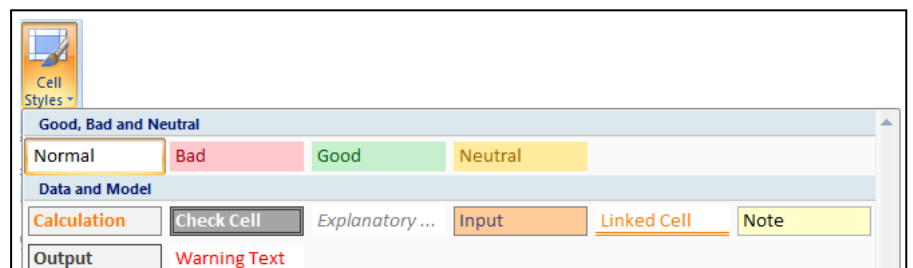
Drop down list

I often shorten this to simply “Drop Down” in this book. A drop down is a simple menu listing several choices.

If you see an ellipsis (...) after a drop down list item this means that a dialog will be displayed after you click, offering further choices.

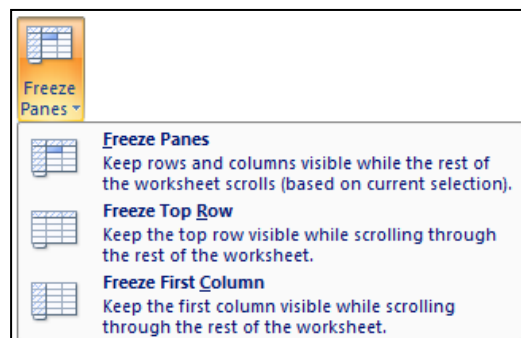
Drop down gallery

This is a little like a drop down list but has graphics to visually demonstrate the effect of each choice.



Rich menu

The rich menu is Microsoft’s way of trying to coerce you into being brave enough to use a feature that you might not have understood in previous Excel versions. A sort of an “in your face” help system.



This rich menu can be found at:
View→Window→Freeze Panes

The *Freeze Panes* feature is not covered in this *Basic Skills* book but is covered in-depth in the *Essential Skills* book in this series (in Lesson 3-16: *Freeze Columns and Rows*).

note

If you are used to an earlier version of Excel you might wonder where all of the toolbars have gone?

In earlier versions of Excel it was possible to create as many of your own custom toolbars as you wanted.

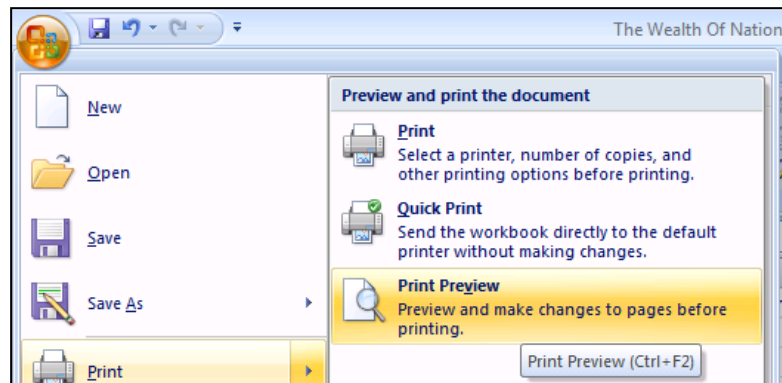
The new Ribbon based user interface (Microsoft calls this the *Fluent Interface*) means that you don't need to create toolbars to the same extent in Excel 2007, because every panel on the Ribbon is, essentially, a toolbar.

Lesson 1-10: Customize the Quick Access Toolbar and preview the printout

In Excel 2007 you may have just one custom toolbar: the *Quick Access Toolbar*. In this lesson we'll add some useful buttons to the Quick Access Toolbar to save a few clicks.

The Quick Access Toolbar is one of the keys to being really productive with Excel 2007. This lesson will introduce you to the main features.

- 1 Open *The Wealth of Nations* from your sample folder, (if it isn't already open).
- 2 Preview how the *Life Expectancy* worksheet will look when printed.
 1. Click the *Life Expectancy* tab at the bottom of the worksheet.
 2. Click Office→Print→Print Preview:



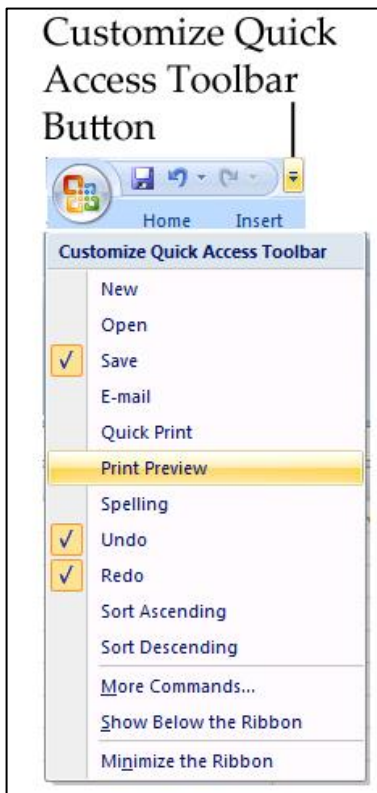
A preview of how the page will print is displayed.

Notice that the Ribbon now displays a contextual menu because there are only a few options open to you when previewing.

3. Click the *Next Page* and *Previous Page* buttons to move through the print preview.
 4. Use the *Zoom* button to magnify the page for a clearer view.
 5. Click the *Close Print Preview* button to return to the workbook.
- 3 Add a Print Preview button to the Quick Access Toolbar.

Print Preview is a very useful feature and you'll probably use it a lot. Every time you use it, however, it is going to take three clicks of the mouse. Wouldn't it be better if you could show a print preview with just one click?

1. Click the *Customize Quick Access Toolbar* button (see sidebar).
2. Click the *Print Preview* item in the drop-down list.



The Wealth of Nations

note

Some amazing Excel features cannot be used at all without customizing the Quick Access Toolbar!

One of my favourite features in Excel 2007 is its ability to read the workbook to me via its *Text to Voice* facility.

When I need to input lots of numbers from a sheet of paper and want to check them I get Excel to read them to me as I tick each off my list. This is much faster and nicer than continuously looking first at the screen, then at the paper, for each entry.

This feature is covered in depth in the Expert Skills book in this series.

You can't use this feature at all unless you add some custom buttons to the Quick Access Toolbar!

tip

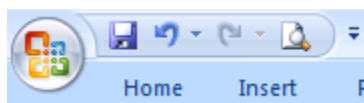
The Quick Access Toolbar is one of the keys to being really productive with Excel 2007.

Always try to minimize the number of mouse clicks needed to do common tasks.

If you find yourself forever changing tabs to use a button, change two clicks into one by adding the button to the Quick Access Toolbar.


All of those extra clicks add up to a lot of time over the weeks and years.

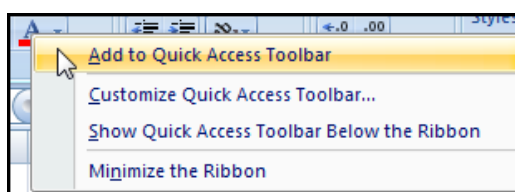
A new button now appears on the Quick Access Toolbar. You are now able to Print Preview your work with a single click of the mouse.



4 Add a Font Color button to the Quick Access Toolbar.

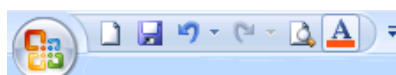
The *More Commands...* option is available when you click the *Customize Quick Access Toolbar* button. This enables you to add any command in Excel to the toolbar. But there's an easier way!

1. Click the *Home tab* on the Ribbon (if it isn't already selected)
2. Right-click on the *Font Color* button  in the *Font Group*.



3. Click *Add to Quick Access Toolbar*.


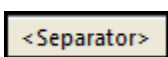



A *Font Color* button is added to the Quick Access Toolbar.



5 Remove a button from the Quick Access Toolbar.

1. Right-click on the *Font Color* button you've just added to the Quick Access Toolbar. 
2. Click *Remove from Quick Access Toolbar* on the shortcut menu.

6 Add separators to make heavily customized Quick Access toolbars more readable.

1. When you add many items to the Quick Access toolbar it is a good idea to use separators to split icons into logical groups.
2. Click the *Customize Quick Access Toolbar* button. 
3. Click *More Commands...* on the shortcut menu.
4. Click the  item at the top of the Commands list.
5. Click the *Add >>* button. 
6. Use the up  and down  buttons to move the separator to the required location.

Here's a screen grab of my own Quick Access Toolbar:



important

Keyboard shortcuts don't work with the numeric keypad

It's a strange quirk of Excel that you must use the number keys along the top of your keyboard when using keyboard shortcuts that involve a number.

If you use the numeric keypad on the right of your keyboard they won't work.

note

Keyboard shortcuts are one of the secrets of maximizing productivity with Excel

Many years ago I took my mouse and stuck it to the back of my monitor with sticky tape.

For a whole day I struggled to work without it.

The first few hours weren't much fun but after that my work became faster and faster. It became a challenge to figure out how to do things without the mouse.

You will be far more productive if you can get into the same habit.

These days, there are some things that you simply need the mouse for, and some things that are genuinely faster (or easier) with the mouse. For most common tasks, however, there are keyboard shortcuts and Excel 2007 has just made things a lot easier with the new Key Tips feature.

Lesson 1-11: Use the Mini Toolbar, Key Tips and keyboard shortcuts

- 1 Open the *Wealth of Nations* sample worksheet (if it isn't already open).
- 2 Select cell B2 (Qatar) on the GDP worksheet.
 1. Click on the *GDP* tab.
 2. Click on cell B2 (Qatar).

Make sure that you only click once otherwise Excel will think that you are trying to edit the cell.

	A	B	C
1	button	Country	GDP - per capita (PPP)
2	1	Qatar	\$ 80,900

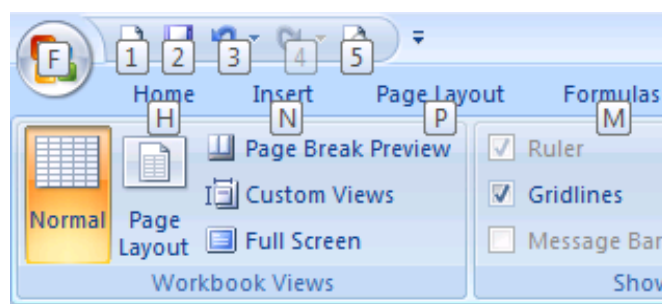
- 3 Make cell B2 (Qatar) bold, italicized and underlined.
 1. Click Home→Font→Bold
 2. Click Home→Font→Italic
 3. Click Home→Font→Underline

	A	B	C
1	button	Country	GDP - per capita (PPP)
2	1	<i><u>Qatar</u></i>	\$ 80,900

- 4 Display Key Tips.

Hold down the <Alt> key on the keyboard.

Notice how Key Tips are now displayed on the Ribbon and the Quick Access Toolbar:



- 5 Use the Key Tips to show a print preview using only the keyboard.

The key tips reveal the key you need to press to simulate clicking any of the Ribbon and Quick Access Toolbar icons.

Hold down the <Alt> key and press the relevant number to show a print preview.

NB: Your toolbar, and the number you need to press, may look different to the screen grab above. For example, the print preview

note

If you don't like the Mini Toolbar you can switch it off

Personally I really like the mini toolbar and wouldn't dream of switching it off but if you are used to an early version of Excel and find that it annoys you, here is how it's done:

1. Click the Office button.
2. Click the *Excel Options* button at the bottom right of the dialog.
3. Click the *Popular* item in the left-hand list.
4. Uncheck the *Show Mini Toolbar* item.
5. Click the OK button.

note


The shortcut menu

If you right-click on a cell, a shortcut menu is displayed.

The shortcut menu doesn't display *everything* that you can do to a cell but Excel's best guesses at the *most likely things* you might want to do.

Because Excel is guessing at the actions you might want to take in the context of what you are doing, the *shortcut menu* is also sometimes referred to as the *contextual menu*.

button will not be on the Quick Access Toolbar unless you added it during: *Lesson 1-10: Customize the Quick Access Toolbar and preview the printout.*

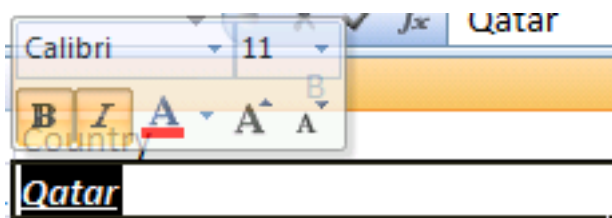
- 6 Click the Close Print Preview button  to return to normal
- 7 Use the mouse to select the text *Qatar* in cell B2.

1. Double-click the cell containing the text.
You'll see the cursor flashing in the cell.
2. Position the cursor just after the word *Qatar* and hold down the left mouse button.
3. Drag the mouse across the complete word until it is highlighted like this:





- 8 Observe the *Mini Toolbar*.

Hover the mouse cursor over the selected text and you should see a "ghost" image of the Mini Toolbar just above the cell:



When you move the mouse cursor up and over the Mini Toolbar it will light up.

- 9 Use the Mini Toolbar to restore the text to non-bold and non-italic.

Click on the Bold  and Italic  buttons to remove the bold and italic attributes from the text.




- 10 Show a bigger Mini Toolbar with a right-click.

Right-click on *Bermuda* (Cell B4). Notice that, as well as the shortcut menu (see sidebar) you now get an even better Mini Toolbar with a few extra buttons.

- 11 Remove the underline from *Qatar*.




1. Click on *Qatar* again (cell B2).
2. Press the <Ctrl>+<U> keys on the keyboard to remove the underline.

But how can you remember cryptic keyboard shortcuts like <Ctrl>+<U>? Fortunately you don't have to. Hover the mouse over the underline button  and you'll see the keyboard shortcut listed in the tooltip.

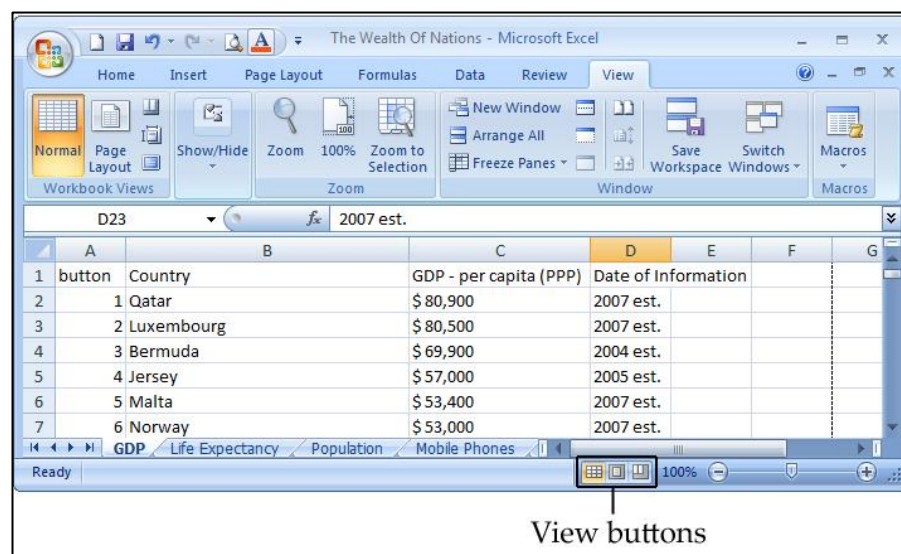
Lesson 1-12: Understand views


Views are different ways to look at your worksheet.

Excel 2007 has three views. They are:-

View	Icon	What it is used for
Normal		This is the view you've been using until now. It's the view most users use all of the time when they are working with Excel.
Page layout		This is a fantastic new view for Excel 2007. It allows you to see (almost) exactly what the printout will look like. Unlike running a Print Preview you are able to edit cells just as you can in Normal view.
Page break preview		A page break is when the printer advances onto a new sheet of paper.

- 1 Open the *Wealth of Nations* sample worksheet (if it isn't already open).

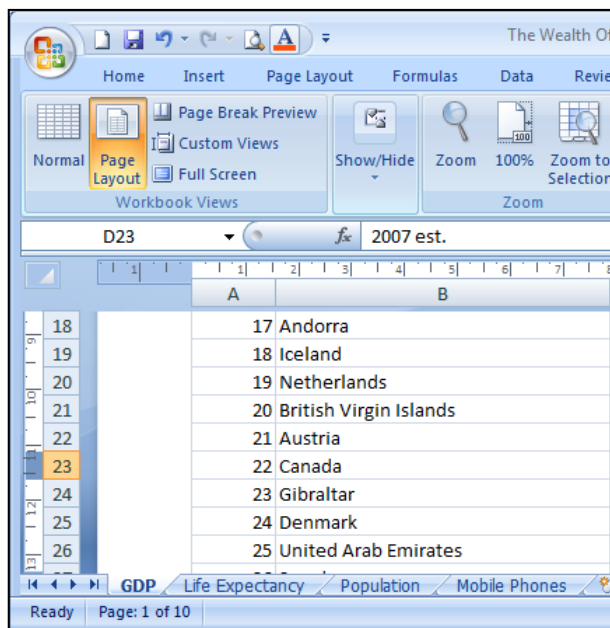


- 2 Click on the GDP tab and then click on the *page layout view* button  at the bottom of the screen.

The worksheet is displayed in *page layout view*. It is a little like *Print Preview view* as you are able to see (almost) exactly what will be printed. Headers, footers and margins are all shown.

Unlike *Print Preview view* you are able to edit the worksheet.

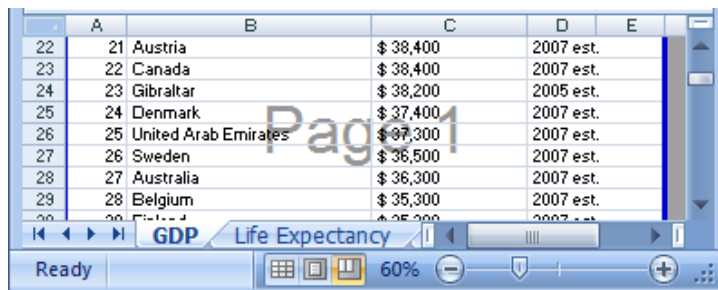
You may wonder why we don't use page layout view as the default when editing worksheets. While some users may prefer to do this, most will want to see the maximum amount of data possible on screen and so will prefer the Normal view.



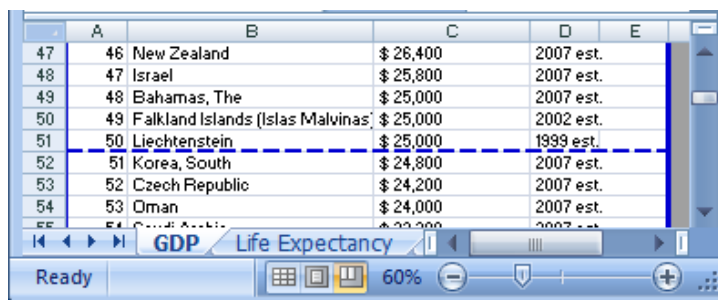
3 Click the *page break preview* button.

The worksheet is displayed in page break preview view (you may also see a help dialog first).

This view shows each page with a watermark to indicate which sheet of paper it will be printed on:



It also shows the break between each page as a dotted line:

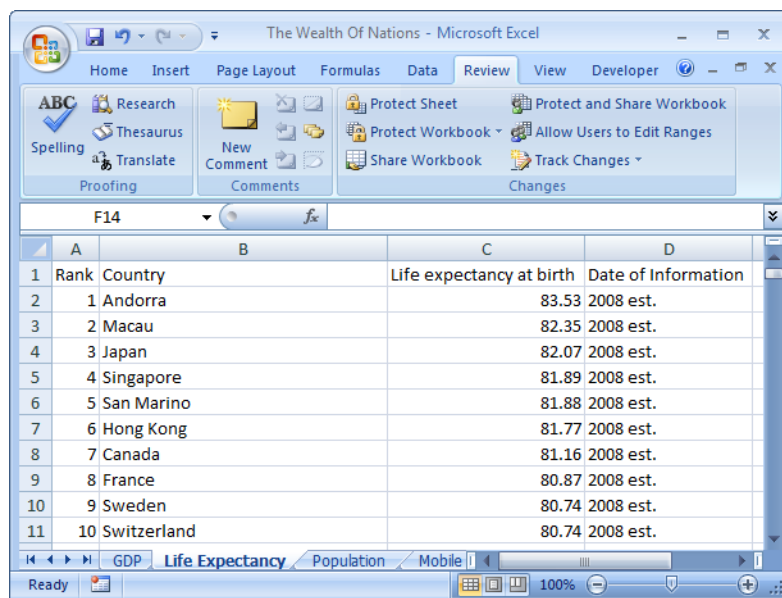


It is possible to click and drag the dotted line to change the place where the page breaks.

This view is not covered in this *Basic Skills* book but is covered in depth in the *Essential Skills* book in this series (in *Session Seven: Printing Your Work*).

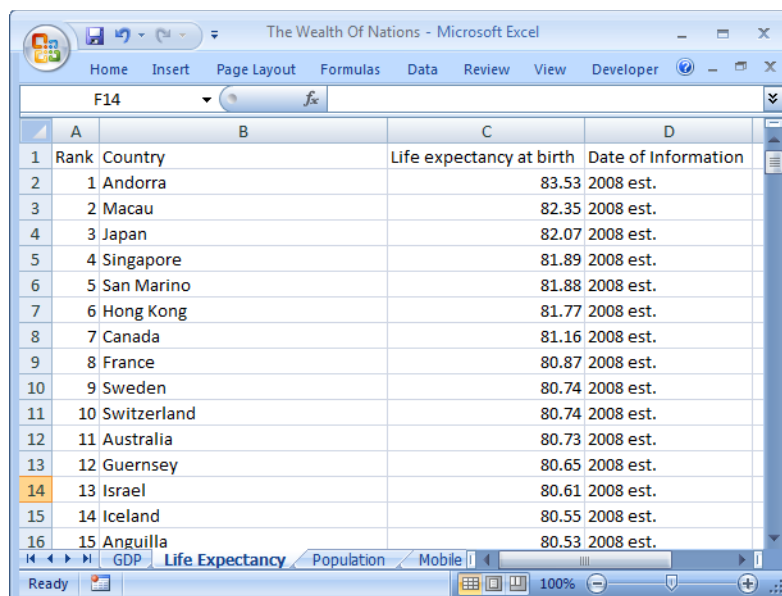
Lesson 1-13: Use full screen view

- 1 Open the *Wealth of Nations* from your sample files folder (if it isn't already open) and click the *Life Expectancy* tab.



Notice that the Ribbon, formula bar and status bar are all taking up space that could be used to display information. In the example above only the first eleven rows are visible.

- 1 Double-click on any of the Ribbon tabs to hide the Ribbon.



With the Ribbon hidden things are a little better. Sixteen rows are now visible. Perhaps you may need to view even more. This is what *Full Screen View* is for.

- 2 Click View→Workbook Views→Full Screen.

The Wealth of Nations

	A	B	C	D	E	F	G	H	I	J	K
1	Rank	Country	Life expectancy at birth	Date of Information							
2	1	Andorra	83.53	2008 est.							
3	2	Macau	82.35	2008 est.							
4	3	Japan	82.07	2008 est.							
5	4	Singapore	81.89	2008 est.							
6	5	San Marino	81.88	2008 est.							
7	6	Hong Kong	81.77	2008 est.							
8	7	Canada	81.16	2008 est.							
9	8	France	80.87	2008 est.							
10	9	Sweden	80.74	2008 est.							
11	10	Switzerland	80.74	2008 est.							
12	11	Australia	80.73	2008 est.							
13	12	Guernsey	80.65	2008 est.							
14	13	Israel	80.61	2008 est.							
15	14	Iceland	80.55	2008 est.							
16	15	Anguilla	80.53	2008 est.							
17	16	Cayman Islands	80.32	2008 est.							
18	17	New Zealand	80.24	2008 est.							
19	18	Italy	80.07	2008 est.							
20	19	Gibraltar	80.06	2008 est.							
21	20	Monaco	79.96	2008 est.							
22	21	Liechtenstein	79.95	2008 est.							
23	22	Spain	79.92	2008 est.							
24	23	Norway	79.81	2008 est.							
25	24	Jersey	79.65	2008 est.							
26	25	Greece	79.52	2008 est.							
27	26	Austria	79.36	2008 est.							
28	27	Virgin Islands	79.34	2008 est.							
29	28	Malta	79.3	2008 est.							
30	29	Faroe Islands	79.29	2008 est.							
31	30	Netherlands	79.25	2008 est.							
32	31	Luxembourg	79.18	2008 est.							
33	32	Montserrat	79.15	2008 est.							
34	33	Germany	79.1	2008 est.							

Note that the Quick Access Toolbar, the Ribbon, the formula bar and the status bar have all vanished. On the above example shown at 1,024*768 screen resolution 34 rows are visible.

On my own 22 inch monitor running at 1,680*1,050 pixels in portrait mode I can view 81 rows of information on one screen.

3 Switch back to normal view.

To return to normal view either:

Press the <Esc> key on the keyboard.

OR

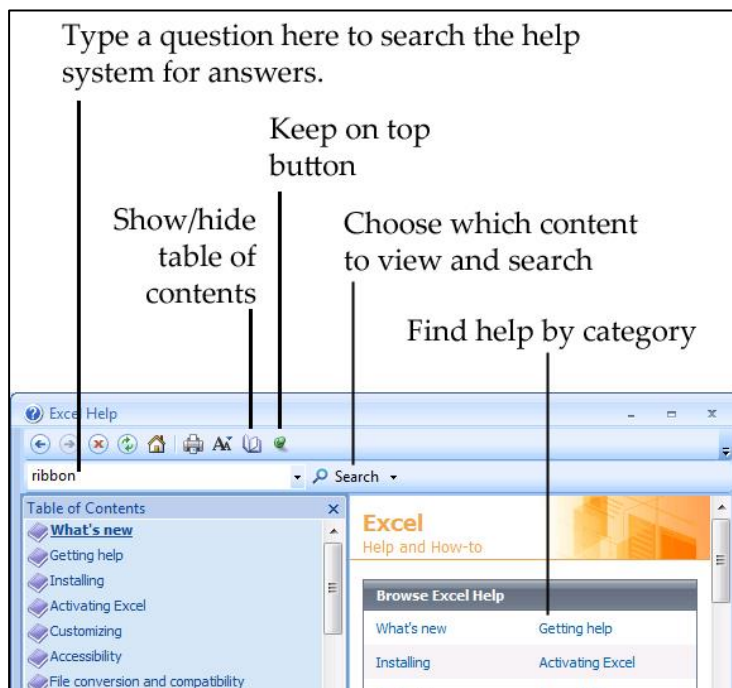
Right click in any cell and then click *Close Full Screen*.

Lesson 1-14: Use the help system

- 1 Click the Help button  at the top right of your screen.


The help dialog is displayed:


If your screen doesn't look like this, click the *show/hide table of contents* button.



Tip

The *Keep On Top* button

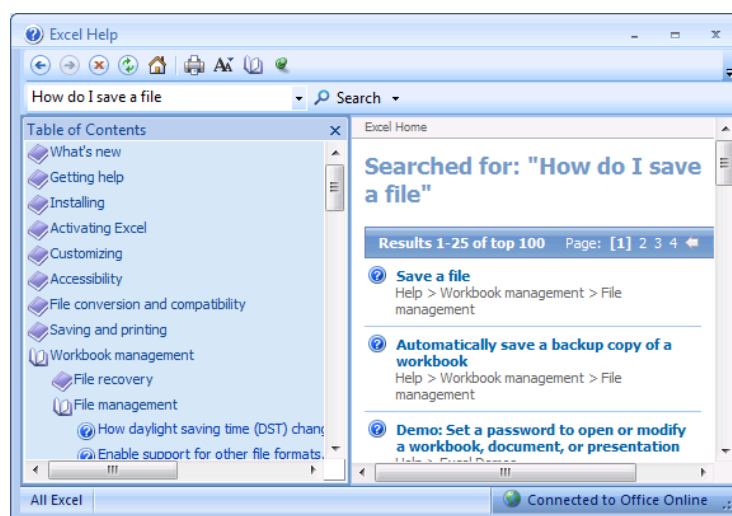
When this button is pinned in like this:  the help window will stay on top of all open Office windows.

When the button is unpinned like this:  the window will be hidden if you move other Office windows on top of the help window.

Note that this is only the case with Microsoft Office windows and not with windows from other applications.

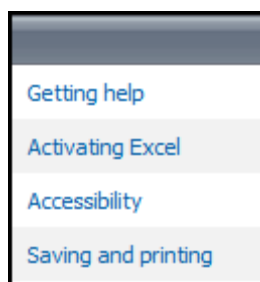
- 2 Type **how do I save a file** into the search box followed by the **<Enter>** key.

The help system provides many potential answers to the question:



- 3 Click on the most likely answer to read the help topic.
Step by step instructions are displayed showing how to save a file.

4 Find help by category.



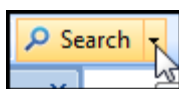
Let's do the same thing now using the category pane. The category pane is a little like a web page. You find the answer to your question by navigating a series of hyperlinks.

Close down the help system and re-start it. Look at all of the categories and decide which is most relevant. See if you can find a help topic for saving a file by navigating the hyperlinks. On my system I got there by clicking Workbook Management → Saving and Printing → Save a File but your links may differ.

The same help topic found earlier is displayed.

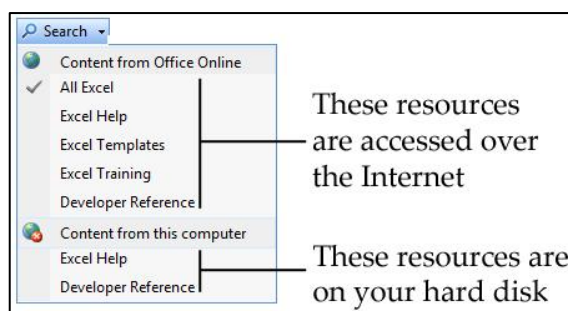
5 Choosing which content to search.

Excel is a huge application and just one help reference wouldn't be enough. As well as the help files stored on your hard disk you can also search a perpetually updating help resource on-line at Microsoft via the Internet.



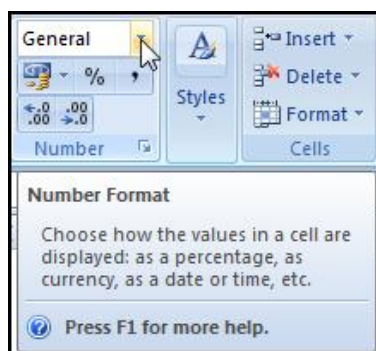
Click the drop-down arrow next to the *Search* button at the top of the Help dialog.

The Search drop-down menu appears:



The Developer Reference contains topics only of interest to programmers who understand VBA macro code. This is a very advanced subject and is covered in the *Excel Expert Skills* book in this series.

6 Get help directly from the Ribbon.



1. Click the *Home* tab on the Ribbon and hover the mouse cursor over the drop down arrow to the right of the word *General* in the *Number* group.

If you keep the mouse still, after a short delay a screen tip pops up providing a short description of what the drop-down list is for and also advising that you can obtain more help by pressing the <F1> key on your keyboard.

2. Press the <F1> button (at the top left of your keyboard) to obtain help about topics relevant to this control.

7 Obtain help directly from a dialog.

Click Office → Save As.

At the top right corner of the *Save As* dialog there is a help button



(if you are using Windows Vista).

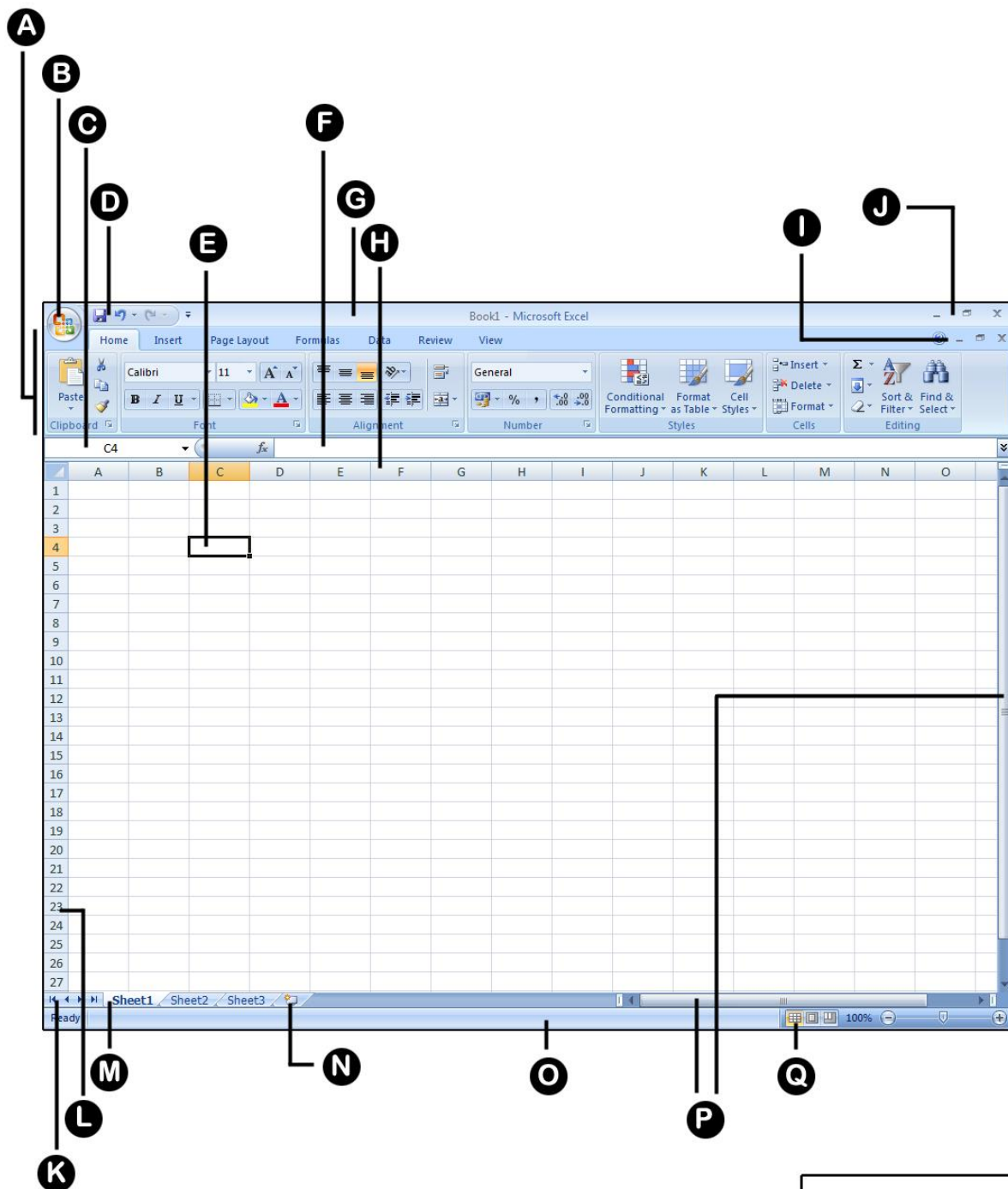
Click it for detailed help about the *Save As* dialog.



Session 1: Exercise

In this exercise you'll try to remember the name of each of the Excel screen elements. The answers are on the next page so you might want to recap by turning the page for a little revision before you start.

Keep trying until you are able to name each of the screen elements from memory. We'll be using this terminology during the remainder of the book so it's important that you can correctly identify each element.



If you need help
slide the page to
the left



Session 1: Exercise answers

Ribbon

Office button

Name Box

Quick Access
Toolbar

Active Cell

Formula Bar

Title bar

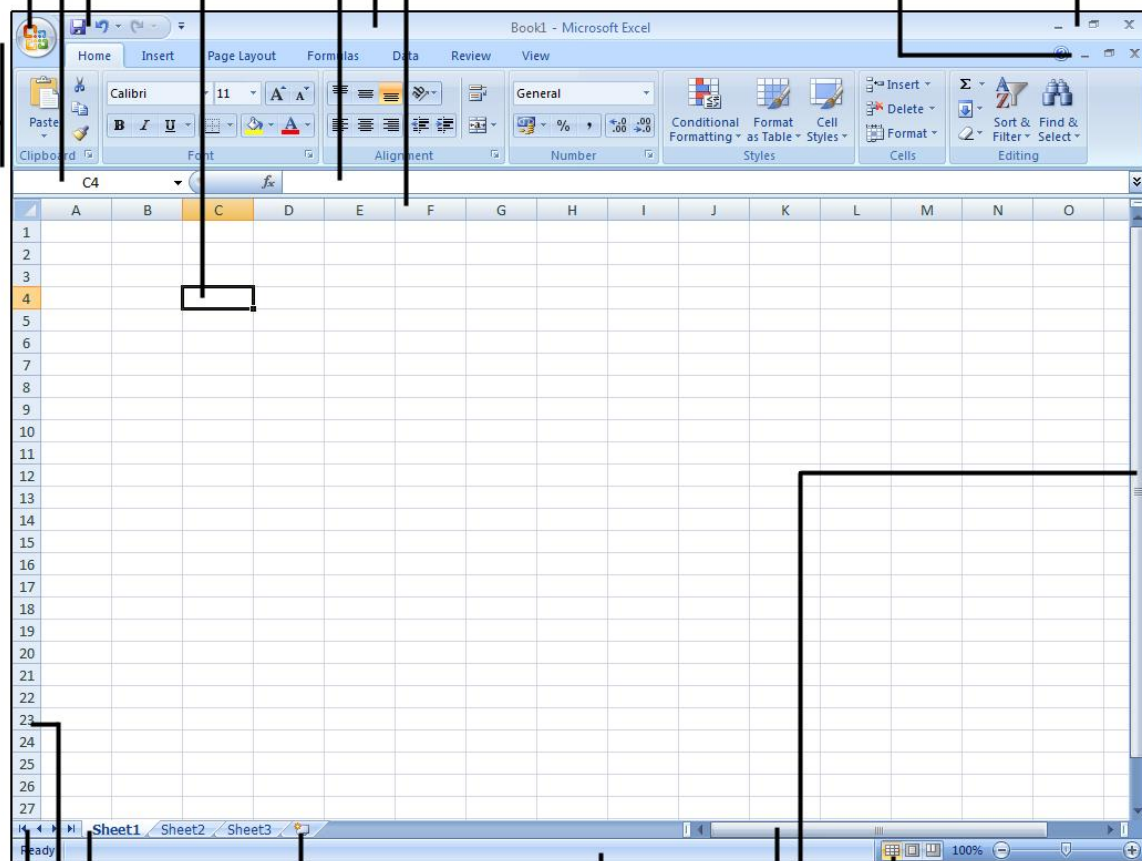
Column Header

Minimize, Maximize

and Close buttons:

For Excel application

For this worksheet



Sheet Tabs

New Sheet
tab

Status Bar

View buttons

Row Header

Scroll Bars

Tab Scroll Buttons

2

Session Two: Doing Useful Work with Excel

Only those who have the patience to do simple things perfectly ever acquire the skill to do difficult things easily.

Unknown author

Now that you've mastered the basics you are ready to do really useful work with this amazing tool. In this session you will learn to use all of Excel's basic features properly. This will put you way ahead of anybody that hasn't been formally trained in Excel best practice. You'll be doing simple things, but you'll be doing them perfectly!

Even after years of daily use many users are unable to properly use Excel's fundamental features. They often reach their goal, but get there in a very inefficient way simply because they were never taught how to do things correctly. By the end of this session you'll be astonished with how well you are working with Excel. What originally seemed like a baffling array of little colored buttons will suddenly all begin to make sense.

Session Objectives

By the end of this session you will be able to:

- Enter text and numbers into a worksheet
- Create a new workbook and view two workbooks at the same time
- Use AutoSum to quickly calculate totals
- Select a range of cells and understand Smart Tags
- Enter data into a range and copy data across a range
- Select adjacent and non-adjacent rows and columns
- Select non-contiguous cell ranges and view summary information
- Re-size rows and columns
- Use AutoSum to sum a non-contiguous range
- Use AutoSum to quickly calculate averages
- Create your own formulas
- Resize a column and create functions using Formula AutoComplete
- Use AutoFill for text and numeric series
- Use AutoFill to adjust formulas
- Use AutoFill Options
- Speed up your AutoFills and create a custom fill series
- Use the zoom control
- Print out a worksheet

Lesson 2-1: Enter text and numbers into a worksheet

Excel beginners tend to reach for the mouse far too often. One of the keys to productivity with Excel is to avoid using the mouse when entering data. In this lesson we'll quickly populate a worksheet without using the mouse at all.

- 1 Open the Sample file: *First Quarter Sales and Profit*.

	A	B	C	D
1	Sales and Profit Report - First Quarter 2008			
2				
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000
5	Los Angeles			
6	London			
7	Paris			
8	Munich			

- 2 Notice the difference between values and text.

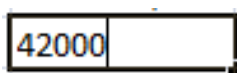
Cells can contain values or text. Values can be numbers, dates or formulas (more on formulas later).

Excel usually does a great job of recognizing when there are values in a cell and when there is text. The giveaway is that text is always (by default) left aligned in the cell and values are right aligned.

Look at the numbers on this worksheet. Notice how they are all right aligned. This lets you know that Excel has correctly recognized them as values and will happily perform mathematical operations using them.

- 3 Save a value into a cell.


1. Type the value 42000 into cell B5. Notice that the mouse cursor is still flashing in the cell.



At this stage the value has not been saved into the cell.

If you change your mind, you can still undo the value by pressing the <ESC> key at the top left of your keyboard or by

clicking the *Cancel button*  on the left hand side of the Formula Bar.

2. Decide that you want to keep this value in the cell by either pressing the <Enter>, <Tab> or an <Arrow> key on the keyboard, or by clicking the *Confirm button*  on the Formula Bar.

- 4 Enter a column of data without using the mouse.

When you enter data into a column there's no need to use the mouse. Press the <Enter> key after each entry and the active cell moves to the cell beneath. Try this now with the following January sales data:

tip

Entering numbers as text

Sometimes you need Excel to recognize a number as text.

If you type an apostrophe (') first, Excel won't display the apostrophe but will format the cell as text. You'll notice that the number is then left justified to reflect this.

When a number is formatted as text you cannot perform any mathematical calculation with it.

First Quarter Sales and Profit

important

The many ways of entering numbers

Negative numbers

-123.56
(123.56)

Currency prefixes

Excel is quite happy for you to prefix a number with a currency symbol. The currency symbol it will accept depends upon how you defined the regional options in your operating system.

\$123.56 (works in USA)
£123.56 (works in UK)

Formatting currency values in any way required (whatever your locale) is covered in depth in the *Essential Skills* book in this series (in *Session 4: Making Your Worksheets Look Professional*).

Commas

12,234,567.78

Fractions

You must leave a space between a number and a fraction for this to work.

6 1/4
(six, space, one, /, four)

The above will appear on the worksheet as 6.25 after you enter it in this way.

0 1/4
(zero, space, one, /, four)

The above will appear on the worksheet as 0.25. The leading zero is needed to prevent Excel from thinking that you are entering a date.

The screenshot shows the Excel interface. The Formula Bar at the top contains the text 'January'. Below it, the worksheet grid shows the following data:

	Jan	Feb	Mar
New York	22,000	29,000	19,000
Los Angeles	42,000	39,000	43,000
London	18,000	20,000	22,000
Paris	35,000	26,000	31,000
Munich	12,000	15,000	13,000

1. Type **18,000** into cell B6.
2. Press the <Enter> key to move to cell B7.
3. Do the same to enter the relevant values into the next two cells.

	Jan	Feb	Mar
New York	22,000	29,000	19,000
Los Angeles	42,000		
London	18,000		
Paris	35,000		
Munich	12,000		

5 Enter a row of data without using the mouse.

When you enter a row of data you also don't have to use the mouse.

1. Click in Cell C5.
2. Type **39,000** and then press the <Tab> key on your keyboard.

The <Tab> key is on the left hand side of the keyboard above the <Caps Lock> key. Notice how pressing the <Tab> key saves the value into the cell and then moves one cell to the right.

3. Type **43,000** in cell D5 and press the <Enter> key.
4. You magically move to cell C6 as Excel assumes you want to begin entering the next row.

6 Complete the table without using the mouse.

By using the <Tab> or <Enter> key in the right place you should be able to complete the table now without using the mouse:

	A	B	C	D
	Jan	Feb	Mar	
New York	22,000	29,000	19,000	
Los Angeles	42,000	39,000	43,000	
London	18,000	20,000	22,000	
Paris	35,000	26,000	31,000	
Munich	12,000	15,000	13,000	

7 Change the text in cell B3 to January.

1. Double-click cell B3. Notice that there is now a flashing cursor in the cell.

The screenshot shows cell B3 containing the text 'Jan' with a flashing cursor at the end of the text.

2. Type **uary** on the keyboard to change Jan to January.
3. Press the <Enter> key.

8 Change the text in cell B3 back to Jan using the formula bar.

Click once in cell B3 and then change the text in the formula bar (see sidebar).

9 Save your work as First Quarter Sales and Profit-2.

tip

Other ways of creating a new workbook

- Use the keyboard shortcut <Ctrl>+<N>.
- Add a button to the Quick Access Toolbar.

See more details of how this is done in: *Lesson 1-10: Customize the Quick Access Toolbar and preview the printout.*

note

What are templates?

The vast majority of users know nothing about templates and simply base every workbook upon the *Blank Workbook* default template supplied by Microsoft.

The *Blank Workbook* template has no information in the worksheet itself, but contains all of the Excel Option settings such as the default font size and type.

Templates can also contain anything that a workbook can contain and are used to store workbook frameworks to give you a flying start when you find that you often create very similar workbook layouts.

If you explore the *New Workbook* dialog a little more, you'll see that there are hundreds of pre-built templates provided by Microsoft.

Many of Microsoft's templates have been created using some very advanced Excel skills and techniques. If you make use of them there's a danger that you may depend upon a workbook you don't understand and are unable to maintain.

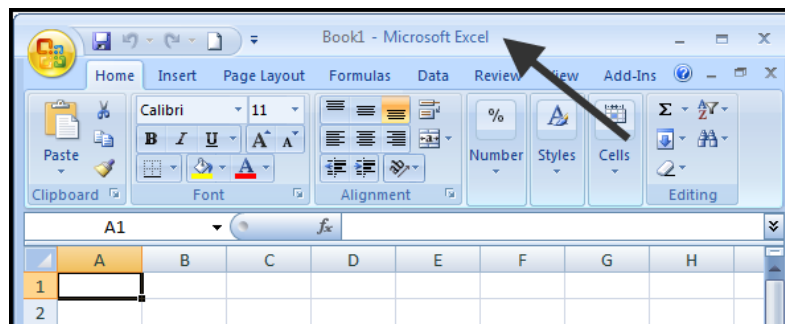
Templates you create yourself are far more useful. Creating your own custom templates is beyond the scope of this *Basic Skills* course but is covered in depth in the *Essential Skills* book in this series (in *Lesson 3-14: Create a Template*).

Lesson 2-2: Create a new workbook and view two workbooks at the same time

1 Create a new workbook by opening Excel


The easiest way to create a new workbook is to simply open Excel. Excel helpfully creates a workbook, unimaginatively named *Book1*. If you already have a workbook open called *Book1*, the new workbook will be called *Book2...* and so on.

Open Excel now and see this in action. Notice that *Book1 – Microsoft Excel* is displayed on the Title Bar.



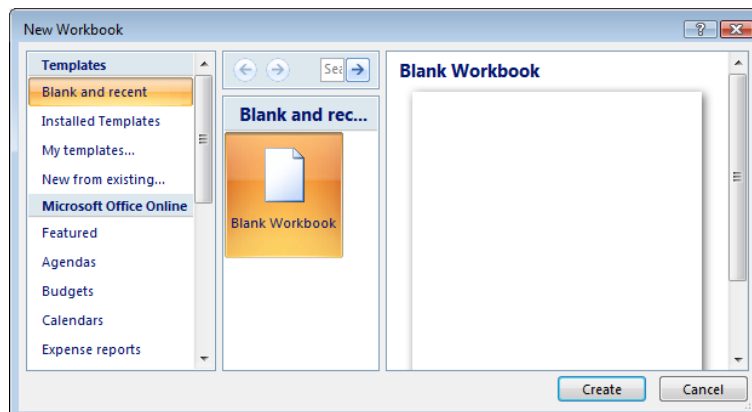
2 Create another new workbook.

You wouldn't want to have to open and close Excel every time you needed a new workbook.

1. Click the Office button  at the top left of the screen and click the *New* button on the dialog:



2. The New Workbook dialog is displayed:



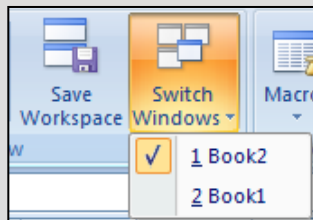
3. Double-Click the *Blank Workbook* template. A new blank workbook called *Book2* is displayed in the workbook window.

note

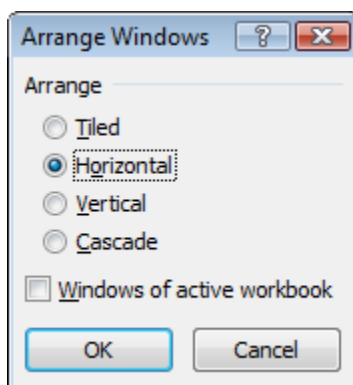
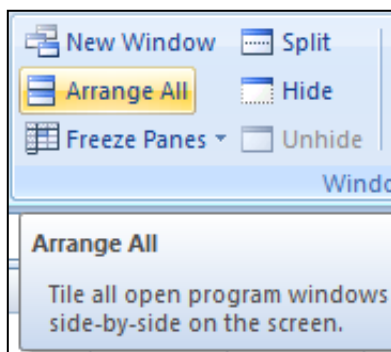
Finding a workbook when many are open

An alternative way to quickly find a workbook when many are open is to click View→Window→Switch Windows.

This presents you with a list of all open workbooks.



You can also use the <Ctrl>+<Tab> keyboard shortcut to cycle through all open workbooks.



You could be forgiven for thinking that nothing has happened but you can see that the Title Bar now says: *Book2 – Microsoft Excel*, showing that you are now looking at a different workbook.

See the *What are templates* sidebar for more information about templates.

3 Use the buttons on the taskbar to move between workbooks.

You'll see two buttons on the taskbar at the bottom of the screen:



Click on the buttons to show each workbook in the worksheet window. The only difference you will see is the Title Bar changing from Book1 to Book2 because both workbooks are empty.

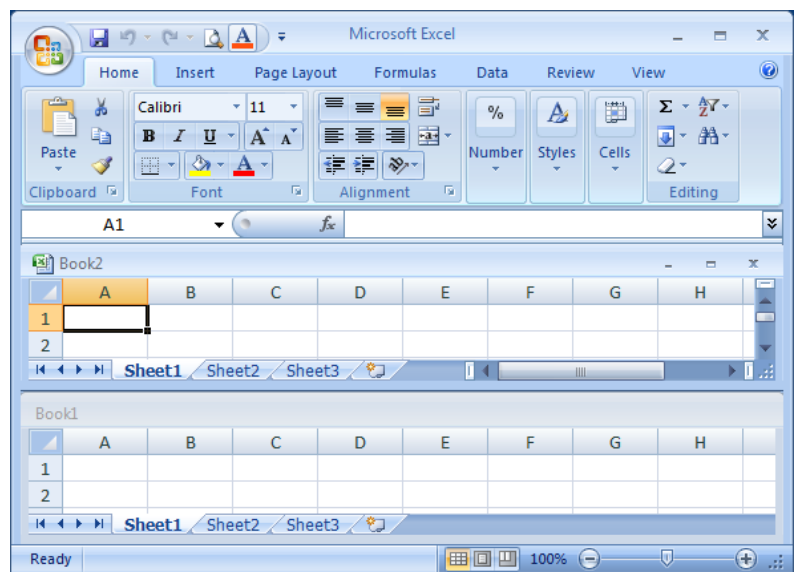
See the sidebar for other methods of switching windows.

4 Show both Book1 and Book2 in the worksheet window at the same time.

This skill often draws a gasp of amazement from my students. Believe it or not, most Excel users don't know how to do this.

1. Click View→Window→Arrange All. The *Arrange Windows* dialog is displayed.
2. Choose the Horizontal arrangement and click the OK button.

Both workbooks are now shown within the workbook window:



Notice that as you click each workbook window the title bar lights up and the *Close/Minimize/Restore Down* buttons appear, to show that this is the active workbook.

5 Close Book2 and Maximize Book1 to restore the display to a single workbook.

If you've forgotten how to do this, refer back to: *Lesson 1-3: Understand the Application and Workbook windows*.

Lesson 2-3: Use AutoSum to quickly calculate totals

anecdote

I ran an Excel course for a small company in London a couple of years ago.

The boss had sent his two office staff to learn a little more about Excel.

Before the course began I asked the delegates how long they had been using Excel. They told me that they'd been using it for two years to do all of their office reports.

When I showed them AutoSum they gasped in delight. "This will save us hours" they told me.

I was curious how they had been doing their reports before.

Believe it or not, they had been adding up all of the figures in each column with a calculator and then manually typing the totals at the bottom of each column.

In this case the boss had given them Excel as he had heard it was very good. Unfortunately he had not initially seen the need to train the staff in its use.


With no training it seemed quite logical to them to use it like a word processor and the boss had still been delighted that his staff were using such impressive technology.

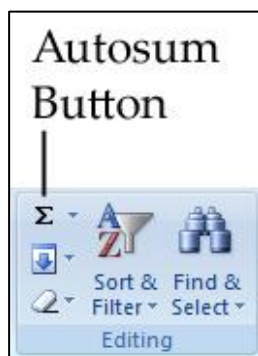
Excel's AutoSum feature is a really useful and fast way to add the values in a range of cells together.

- 1 Open *First Quarter Sales and Profit-2* from your sample files folder (if it isn't already open).
- 2 In cell A9 Type the word **Total** followed by the <Tab> key.

The cursor moves to the right and is now in cell B9:

	A	B	C	D
7	Paris	35,000	26,000	31,000
8	Munich	12,000	15,000	13,000
9	Total			

- 3 Click Home→Editing→  (this is the Autosum button).



Something interesting has happened to the worksheet:

	A	B	C	D
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000
5	Los Angeles	42,000	39,000	43,000
6	London	18,000	20,000	22,000
7	Paris	35,000	26,000	31,000
8	Munich	12,000	15,000	13,000
9	Total	=SUM(B4:B8)		
10				

Excel has placed a marquee around the number range that AutoSum has guessed we want to work with. The pattern of dots that marks the boundary of the marquee is called the *marching ants* (that really is the technical term for them)!

The marching ants surround all of the numbers in the column above, up to the first blank cell or text cell (in this case, up to the word Jan).


=Sum(B4:B8) is your first glimpse of an Excel Formula. Formulas always begin with an equals sign. This formula is using the SUM function to compute the Sum (or total) of the values in cells B4 to B8.

First Quarter Sales and Profit-2

tip**Entering an AutoSum using only the keyboard**

You can also execute an AutoSum using the keyboard shortcut:

<Alt>+=

- 4 Press the <Enter> key or click the AutoSum button  once more to display the total January sales:

	A	B	C	D
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000
5	Los Angeles	42,000	39,000	43,000
6	London	18,000	20,000	22,000
7	Paris	35,000	26,000	31,000
8	Munich	12,000	15,000	13,000
9	Total	129,000		

- 5 Type the word **Total** in cell E3 and press the <Enter> key once.

The cursor moves down one row and is now in cell E4.

	B	C	D	E
3	Jan	Feb	Mar	Total
4	22,000	29,000	19,000	
5	42,000	39,000	43,000	

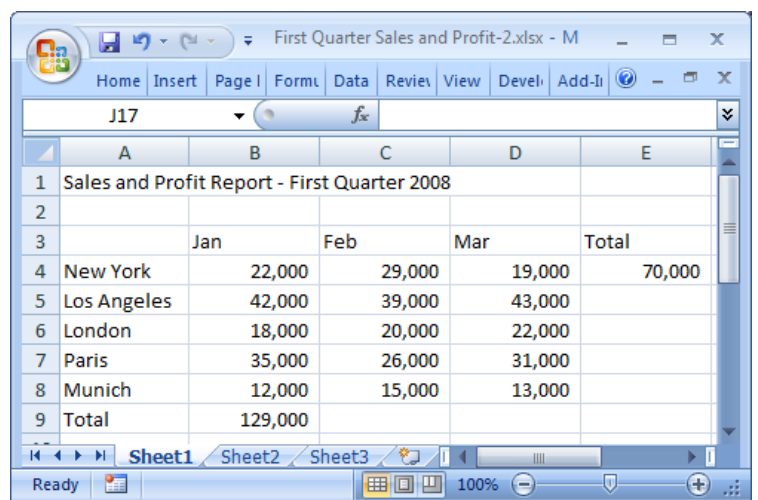
- 6 Use AutoSum to calculate sales for New York.

1. Click Home→Editing→AutoSum. 

This time AutoSum correctly guesses that you want to sum the values to the left of cell E4:

	B	C	D	E
3	Jan	Feb	Mar	Total
4	22,000	29,000	19,000	=SUM(B4:D4)
5	42,000	39,000		SUM(number1, [number2], ...)
6	18,000	20,000	22,000	

2. Press the <Enter> key, or click the AutoSum button once more.



	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					
3		Jan	Feb	Mar	Total
4	New York	22,000	29,000	19,000	70,000
5	Los Angeles	42,000	39,000	43,000	
6	London	18,000	20,000	22,000	
7	Paris	35,000	26,000	31,000	
8	Munich	12,000	15,000	13,000	
9	Total	129,000			

- 7 Save your work as First Quarter Sales and Profit-3.

Lesson 2-4: Select a range of cells and understand Smart Tags

Sometimes you don't want to add all of the values in a column. You only want to add a selection of cells that you define yourself.

This lesson shows you how to do this with a different AutoSum technique.

- 1 Open *First Quarter Sales and Profit-3* from your sample files folder (if it isn't already open).
- 2 Observe the formula behind the value in cell B9.

Click on cell B9 or move to it with the arrow keys on your keyboard.

Look at the *formula bar* at the top of the screen. Notice that the cell displays the *value* of a calculation and the formula bar shows the *formula* used to calculate the value:

B9		fx =SUM(B4:B8)		
	A	B	C	D
8	Munich	12,000	15,000	13,000
9	Total	129,000		
10				
11				

Value Formula

- 3 Delete the contents of cell B9.

The easiest way to delete the contents of a cell is to press the **<Delete>** key on your keyboard but you can also right-click the cell and then click *Clear Contents* from the shortcut menu.

8	Munich	12,000
9	USA Sales	
10		

- 4 Change the word *Total* in cell A9 to *USA Sales* and press the **<Tab>** key once.

You don't have to delete the word *Total* before typing *USA Sales*. When you click in a cell and immediately begin to type, the existing cell contents are replaced.

The cursor moves to cell B9.

- 5 Select cells B4:B5 with your mouse.

When the mouse cursor hovers over a cell there are three possible cursor shapes:

note

Selecting cells with the keyboard


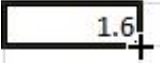

To select cells with the keyboard hold down the <Shift> key and then use the <Arrow> keys to select the range needed.

note

Selecting a large range of cells with the <Shift>-click technique

If you need to select a very large range of cells it is sometimes useful to use this technique:

1. Click the cell in the top left corner of the required range.
2. If necessary, use the scroll bars to make the bottom right corner of the required range visible.
3. Hold down the <Shift> key.
4. Click in the bottom right corner of the required range.

Cursor	What it does
	The white cross (Select) cursor appears when you hover over the centre of the cell. You can then click and drag to select a range of cells.
	The black cross (AutoFill) cursor appears when you hover over the bottom right-hand corner of a cell. We'll be covering AutoFill later in this session.
	The four headed arrow (Move) cursor appears when you hover over one of the black edges of the cell (but not the bottom right corner).

Beginners often have difficulty selecting cells and end up moving them or AutoFilling them by mistake.

Position the mouse at the centre of cell B4 so that you see the White Cross (select) cursor. When you see the white cross, hold down the left mouse button and drag down to cell B5.

You have now selected cells B4 and B5 (in Excel speak we say that you have selected the *range* B4:B5).

	A	B
3		Jan
4	New York	22,000
5	Los Angeles	22,000

6 Click the Autosum button.

USA sales are shown in cell B9. Notice the small green triangle at the top left of B9. This is Excel's way of saying: "I think you may have made a mistake".

9	USA Sales	64,000
---	-----------	--------

Select cell B9 and you will see an Exclamation Mark icon. This is called a *Smart Tag*.

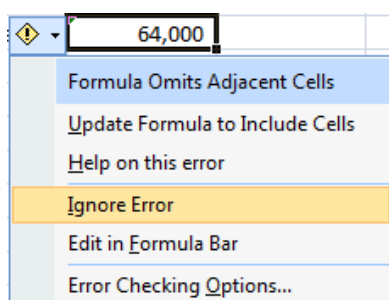
7 Hover the mouse cursor over the Smart Tag.

A tip box pops up telling you what Excel thinks you may have done wrong (see below). Of course, in this case, everything is fine. The Smart Tag thinks that perhaps we didn't want just the USA sales – but the Smart Tag is mistaken!

USA Sales	64,000
The formula in this cell refers to a range that has additional numbers adjacent to it.	

8 Examine the remedial actions suggested by the Smart Tag.

Click the drop-down arrow next to the exclamation mark icon. A list of possible remedial actions is displayed. In this case you can choose *Ignore Error* to remove the green triangle from the corner of the cell.



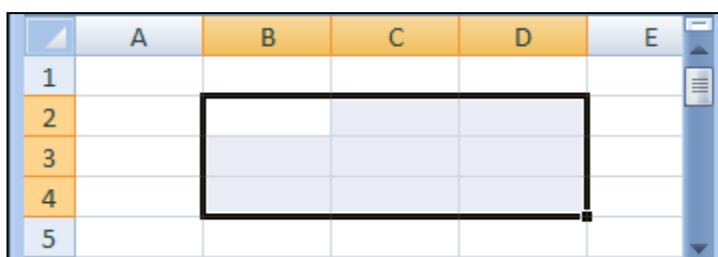
9 Save your work as First Quarter Sales and Profit-4.

Lesson 2-5: Enter data into a range and copy data across a range

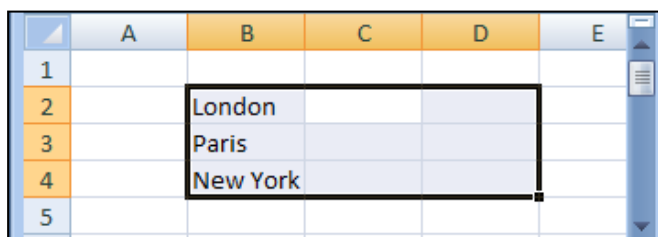
Now that you have mastered the technique of selecting cells, you can use it to speed up data entry.

When you select a range of cells prior to entering data, Excel knows that all data entered belongs in that range. Several key combinations are then available to greatly speed up data entry.

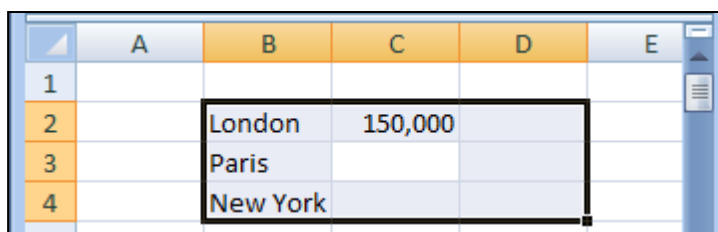
- 1 Open a new workbook and save it as *Data Range Test*.
- 2 Select cells B2:D4.



- 3 Type **London**.
The text appears in Cell B2, the top left cell in the range selected.
- 4 Press the **<Enter>** Key.
The cursor moves to cell B3 as it normally would.
- 5 Type **Paris** followed by the **<Enter>** key.
The cursor moves to cell B4 as it normally would.
- 6 Type **New York** followed by the **<Enter>** key.
This time something new happens. The cursor doesn't move to cell B5 as you might expect but jumps to cell C2.



- 7 Type **150,000** followed by the **<Enter>** key.
The value appears in C2 and Excel moves down the column again to cell C3.



- 8 Press the **<Enter>** key without entering a value to leave C3 blank.

Excel moves down the column to cell C4.

- 9 Type **225,000** followed by the **<Enter>** key.

The cursor jumps to cell D2.

- 10 Press **<Shift>+<Enter>** twice to change your mind about leaving Paris blank.
1. Press **<Shift>+<Enter>** to move backwards to New York sales.
 2. Press **<Shift>+<Enter>** a second time and you are back to the Paris cell.

	A	B	C	D	E
1					
2		London	150,000		
3		Paris			
4		New York	225,000		
5					

- 11 Type **180,000** followed by the **<Tab>** key.

<Tab> moves you across the range, to cell D3.

	A	B	C	D	E
1					
2		London	150,000		
3		Paris	180,000		
4		New York	225,000		
5					

You can now appreciate how to use this technique of **<Enter>**, **<Tab>**, **<Shift>+<Tab>** and **<Shift>+<Enter>** to save a lot of time when entering a whole table of data.

- 12 Select cells D2:D4.
- 13 Type **50%** but don't press the **<Enter>** or **<Tab>** keys.
- The challenge this time is to place the same value into cells D3 and D4 without having to type the value two more times.
- 14 Press **<Ctrl>+<Enter>**.

The value is replicated into all of the other cells in the range.

	A	B	C	D	E
1					
2		London	150,000	50%	
3		Paris	180,000	50%	
4		New York	225,000	50%	
5					

Lesson 2-6: Select adjacent and non-adjacent rows and columns

- 1 Open *First Quarter Sales and Profit-4* from your sample files folder (if it isn't already open).
- 2 Select all of column A.

Hover the mouse cursor over the letter **A** at the top of the column. The button lights up and the mouse cursor changes to a black down arrow:

	A	B	C
1	Sales and Profit Report - First Quarter 2008		

Click to select the entire column. The column becomes slightly shaded and a black line surrounds all of the cells.

	A	B
1	Sales and Profit Report - First	
2		
3		Jan
4	New York	22,000

- 3 Click Home→Font→Bold to bold face the column.
Because the whole column was selected, all of the values become bold faced.
- 4 Click Home→Font→Bold once more to change the type back to normal.
- 5 Select all of row 4.

To select a row, hover the mouse cursor over the number on the left hand side of the row. The button lights up and the mouse cursor changes to a black arrow pointing across the row:

3		Jan
4	New York	22,000
5	Los Angeles	42,000

Click to select the row.

- 6 Select columns B and C.

Hover over the letter at the top of column B until you see the black down arrow. When you see the arrow, click and drag to the right to select both columns.

	A	B	C	D
1	Sales and Profit Report - First Quarter 2008			
2				
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000

7 Select rows 6 and 7.

Hover over the number at the left of row 6 until you see the black arrow pointing across the row. When you see the arrow, click and drag down to row 7 to select both rows.

5	Los Angeles	42,000	39,000
6	London	18,000	20,000
7	Paris	35,000	26,000
2R	Munich	12,000	15,000

8 Select columns A, B, C, D and E.

Sometimes you will need to select a large number of adjacent columns or rows. You could drag across them but it is often easier to use the following technique:

1. Select Column A.
2. Hold down the <Shift> key.
3. Select Column E.

Columns A to E are selected.

	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					

9 Select rows 4 and 6.

Perhaps you need to perform an operation on two non-adjacent rows. To select rows 4 and 6 you need to:

1. Select row 4.
2. Hold down the <Ctrl> key on the keyboard.
3. Select Row 6.

3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000
5	Los Angeles	42,000	39,000	43,000
6	London	18,000	20,000	22,000
7	Paris	35,000	26,000	31,000

Lesson 2-7: Select non-contiguous cell ranges and view summary information

Non-contiguous is a very impressive word! It simply means a range of cells that is split across two blocks of cells in different parts of the worksheet.

Non-contiguous ranges can be selected using both the mouse and keyboard. The keyboard method may seem a little involved at first but you'll find it much faster once you have the hang of it.

- 1 Open *First Quarter Sales and Profit-4* from your sample files folder (if it isn't already open).
- 2 Select the contiguous range B4:D8 with the keyboard.

When you need to select a contiguous range with the keyboard here's how it's done:

1. Use the arrow keys on the keyboard to navigate to cell B4
2. Hold down the <Shift> key on the keyboard
3. Still holding the <Shift> key down, use the arrow keys on the keyboard to navigate to cell D8

The contiguous range B4:D8 is selected.

	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					
3		Jan	Feb	Mar	Total
4	New York	22,000	29,000	19,000	70,000
5	Los Angeles	42,000	39,000	43,000	
6	London	18,000	20,000	22,000	
7	Paris	35,000	26,000	31,000	
8	Munich	12,000	15,000	13,000	
9	USA Sales	64,000			

- 3 Select the non-contiguous range B4:B8,D4:D8 using the mouse.

1. Select the range B4:B8.
2. Hold down the <Ctrl> key and select the range D4:D8.

The non-contiguous range **B4:B8,D4:D8** is selected:

	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					
3		Jan	Feb	Mar	Total
4	New York	22,000	29,000	19,000	70,000
5	Los Angeles	42,000	39,000	43,000	
6	London	18,000	20,000	22,000	
7	Paris	35,000	26,000	31,000	
8	Munich	12,000	15,000	13,000	
9	USA Sales	64,000			

First Quarter Sales and Profit-4

4 Select the same non-contiguous range with the keyboard.

This is a little more involved than using the simple <Shift>+<Arrow keys> method used earlier.

Here's how it's done:

1. Use the arrow keys on the keyboard to navigate to cell B4
2. Press the <F8> key (it is on the very top row of your keyboard)
3. Use the arrow keys to navigate to cell B8
4. Press <Shift>+<F8>
5. Use the arrow keys to navigate to cell D4
6. Press <F8>
7. Use the arrow keys to navigate to cell D8
8. Press <Shift>+<F8> one last time

The non-contiguous range B4:B8,D4:D8 is selected:

	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					
3		Jan	Feb	Mar	Total
4	New York	22,000	29,000	19,000	70,000
5	Los Angeles	42,000	39,000	43,000	
6	London	18,000	20,000	22,000	
7	Paris	35,000	26,000	31,000	
8	Munich	12,000	15,000	13,000	
9	USA Sales	64,000			

5 Obtain a total sales figures for January and March using the status bar.

The status bar contains summary information for the currently selected range.

Look at the bottom right of your screen. You can see the average sales and total sales (sum of sales) for January and March:

Average: 25,700	Count: 10	Sum: 257,000
-----------------	-----------	--------------

6 View the Maximum and Minimum sales for January and March using the status bar.

Right-click the status bar and click *Maximum* and *Minimum* on the pop-up menu (see sidebar).

The status bar now also displays Maximum and Minimum values.

<input checked="" type="checkbox"/>	Average	25,700
<input checked="" type="checkbox"/>	Count	10
	Numerical Count	
<input checked="" type="checkbox"/>	Minimum	12,000
<input checked="" type="checkbox"/>	Maximum	43,000
<input checked="" type="checkbox"/>	Sum	257,000
<input checked="" type="checkbox"/>	View Shortcuts	
<input checked="" type="checkbox"/>	Zoom	100%
<input checked="" type="checkbox"/>	Zoom Slider	

Average: 25,700	Count: 10	Min: 12,000	Max: 43,000	Sum: 257,000
-----------------	-----------	-------------	-------------	--------------

7 Close the workbook without saving.

Lesson 2-8: AutoSelect a range of cells

When data is arranged in a block (as it is in the Sales and Profit Report) it is referred to as a *range* (in previous versions of Excel it used to be called a database or list).

You will often want to select a row or column of cells within a range, or even the entire range.

You can select ranges by using any of the techniques covered so far but this could be very time consuming if the range encompassed thousands of rows and columns.

In this lesson you'll learn how to select range rows, range columns and entire ranges with a few clicks of the mouse.

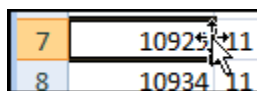
1 Open *Sales Report* from your sample files folder.

This report contains a range of cells. The range is the block of cells from A3 to E19.

	A	B	C	D	E
1	Weekly Sales Report				
2					
3	Invoice No	Date	Customer	Country	Total
4	10918	10 March 2008	Bottom-Dollar Markets	Canada	1,700.81
5	10917	10 March 2008	Romero y tomillo	Spain	429.92
6	10926	10 March 2008	Ana Trujillo Emparedados y helados	Mexico	604.42
7	10929	11 March 2008	Frankenversand	Germany	1,380.33
8	10934	11 March 2008	Lehmanns Marktstand	Germany	587.50
9	10939	11 March 2008	Magazzini Alimentari Riuniti	Italy	749.05
10	10939	11 March 2008	Magazzini Alimentari Riuniti	Italy	- 749.05
11	10925	12 March 2008	Hanari Carnes	Brazil	558.29
12	10944	12 March 2008	Bottom-Dollar Markets	Canada	1,204.75
13	10923	12 March 2008	La maison d'Asie	France	879.83
14	10937	13 March 2008	Cactus Comidas para llevar	Argentina	757.64
15	10947	13 March 2008	B's Beverages	UK	258.50
16	10933	13 March 2008	Island Trading	UK	1,081.71
17	10938	14 March 2008	QUICK-Stop	Germany	3,209.95
18	10949	14 March 2008	Bottom-Dollar Markets	Canada	5,195.85
19	10945	14 March 2008	Morgenstern Gesundkost	Germany	287.88
20					
21	Thsi report excludes sales to Asia and South Africa.				

2 Select all cells within the range to the right of cell A7.

1. Click in cell A7 to make it the active cell.
2. Hover over the right hand border of cell A7 until you see the four headed arrow cursor shape.



3. When you see this cursor shape hold down the <Shift> key and double-click.

All cells to the right of A7, but within the range, are selected.

7	10929	11 March 2008	Frankenversand	Germany	1,380.33
---	-------	---------------	----------------	---------	----------

Sales Report

note

Other ways to AutoSelect a range

Using the keyboard.

Here's how you would select the entire range in the Weekly Sales Report (excluding the header row) using the keyboard method.

Make cell A4 the active cell by navigating to it with the <Arrow> keys.

1. Press: <Ctrl>+<Shift>+<DownArrow>

Cells A4:A19 are selected.

2. Press: <Ctrl>+<Shift>+<RightArrow>

The entire range (excluding the header row) is selected.

Using shortcut keys.

The shortcut keys method is the fastest way to select the entire range *including* the header row.

1. Click anywhere inside the range.
2. Press: <Ctrl>+<A>

The entire range (including the header row) is selected.

From the Ribbon.

The Ribbon method isn't as powerful as the other methods but does provide a way to select the current range (described as the *region* in the dialog).

Make sure that the active cell is within the range.

1. Click:

Home→**Editing**→
Find & Select→
GoTo Special...

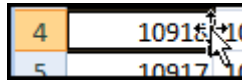
The *GoTo Special* dialog is displayed.

2. Click the *Current Region* option button and then click the OK button.

The entire range (including the header row) is selected.

3 Select all cells within the range except the header row.

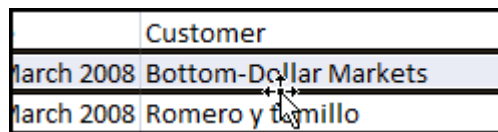
1. Click in cell A4 to make it the active cell.
2. Hover over the right hand border of cell A4 until you see the four headed arrow cursor shape.



3. When you see this cursor shape hold down the <Shift> key and double-click.

All cells to the right of cell A4, but within the range, are selected.

4. Hover over the bottom border of the selected range until you see the four headed arrow cursor shape.



5. When you see this cursor shape hold down the <Shift> key and double-click.

The entire range (except the header row) is selected.

	A	B	C	D	E
1	Weekly Sales Report				
2					
3	Invoice No	Date	Customer	Country	Total
4	10918	10 March 2008	Bottom-Dollar Markets	Canada	1,700.81
5	10917	10 March 2008	Romero y tomilllo	Spain	429.92
6	10926	10 March 2008	Ana Trujillo Emparedados y helados	Mexico	604.42
7	10929	11 March 2008	Frankenversand	Germany	1,380.33
8	10934	11 March 2008	Lehmans Marktstand	Germany	587.50
9	10939	11 March 2008	Magazzini Alimentari Riuniti	Italy	749.05
10	10939	11 March 2008	Magazzini Alimentari Riuniti	Italy	- 749.05
11	10925	12 March 2008	Hanari Carnes	Brazil	558.29
12	10944	12 March 2008	Bottom-Dollar Markets	Canada	1,204.75
13	10923	12 March 2008	La maison d'Asie	France	879.83
14	10937	13 March 2008	Cactus Comidas para llevar	Argentina	757.64
15	10947	13 March 2008	B's Beverages	UK	258.50
16	10933	13 March 2008	Island Trading	UK	1,081.71
17	10938	14 March 2008	QUICK-Stop	Germany	3,209.95
18	10949	14 March 2008	Bottom-Dollar Markets	Canada	5,195.85
19	10945	14 March 2008	Morgenstern Gesundkost	Germany	287.88
20					
21	Thsi report excludes sales to Asia and South Africa.				

You can also use this technique to select cells to the left of the active cell or above the active cell.

4 Close the workbook without saving.

Lesson 2-9: Re-size rows and columns

- 1 Open *First Quarter Sales and Profit-4* from your sample files folder (if it isn't already open).

Notice that columns B, C, D and E are far too wide for their contents. It would be useful to make them narrower to keep the worksheet compact.

- 2 Re-size column B so that it is just wide enough to contain the January sales figures.

Hover over the line separating the letters B and C until you see the re-size cursor shape:



When you see this shape, keep the mouse still and click and drag to the left. Column B will re-size as you drag. Make it narrower so that the values just fit in the column. Notice that the column width in points and pixels are displayed as you drag (one point = 1/72 inch).

	A1		Width: 8.86 (67 pixels)	Profit Re
	A	B	C	D
1	Sales and Profit Report - First Quarter 2008			
2				
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000

- 3 Re-size column B so that it is too narrow to contain the January sales figures.

Notice that when the column isn't wide enough to contain the contents, hash signs are shown instead of values (if you're used to hashes being called **pound signs** or **number signs** see the sidebar).

	A	B	C	D
1	Sales and Profit Report - First Quarter 2008			
2				
3		Jan	Feb	Mar
4	New York	#####	29,000	19,000

- 4 Automatically re-size column B so that it is a perfect fit for the widest cell in the column.

Hover over the line separating the letters B and C until you see the re-size cursor shape:



When you see this shape, double-click to automatically re-size column B.

note

Why are you calling the pound sign a hash?

*You like potato and I like potahto,
You like tomato and I like tomahto;
Potato, potahto, tomato, tomahto!
Let's call the whole thing off!*

*Song lyric by George Gershwin,
American Composer (1898-1937)*

In the USA and Canada the hash symbol is called the **pound sign** or the **number sign**.

In different USA/Canada regions the single symbol has different names because it can be used to denote a number (as in contestant #5) or as a weight (as in 3# of butter).

Throughout this book I will refer to the # as a hash because that is the term used in most other English speaking countries.

First Quarter Sales and Profit-4

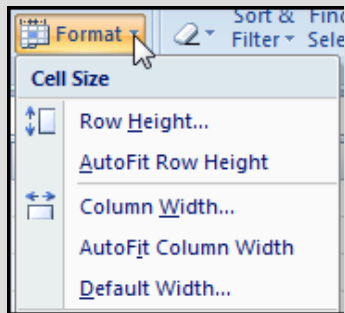
note

Other ways to re-size rows and columns

You can also re-size rows and columns using the Ribbon.

Click Home→Cells→Format.

A drop-down menu appears.



You can use the *Row Height* and *Column Width* settings to set the row or column to a specific number of points (a point is 1/72 of an inch).

You can also use the *AutoFit Row Height* and *AutoFit Column Width* options to automatically size the row or column (you achieved this more efficiently with a double-click in the lesson).

Default Width... often confuses as it doesn't appear to work. This is because it re-sets all columns to default width *except those that have already been re-sized*.

note

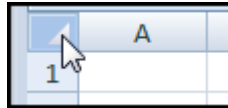
Making several columns or rows the same size.


Sometimes you will want to make several columns exactly the same width.

To do this, select the multiple columns and then click and drag the intersection of any of the selected columns. This will make each of the columns exactly the same width.

- 5 Automatically re-size every column in the worksheet in one operation.

1. Select every cell in the worksheet by clicking the *select all* button in the top left corner of the worksheet (you can also do this by clicking in any blank cell and then pressing <Ctrl>+<A>).



2. Hover over the intersection of any two columns until you see the re-size cursor shape  and then double-click.

Every column is now perfectly sized.

Notice that Auto-resize has done its job rather too well. Column A is now wide enough to accommodate all of the text in cell A1.

	A	B	C
1	Sales and Profit Report - First Quarter 2008		

- 6 Automatically re-size column A so that it is only wide enough to contain the longest city name (Los Angeles).

	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					
3		Jan	Feb	Mar	Total
4	New York	22,000	29,000	19,000	70,000
5	Los Angeles	42,000	39,000	43,000	

1. Select cells A4:A9.
2. Click Home→Cells→Format→AutoFit Column Width.

This time the column is automatically sized so that it is wide enough to contain all of the text in the selected cells.

Notice that the text has spilled over from cell A1 into the adjoining columns B, C, D and E. This always happens when a cell contains text and the adjacent cells are empty.

- 7 Manually size row 3 so that it is about twice as tall as the other rows.

Do this in exactly the same way you re-sized the column but, this time, hover between the intersection of rows 3 and 4 until you see the re-size cursor shape, and then drag downwards.

1	Sales and Profit Report - First Quarter 2008			
2	Height: 30.00 (40 pixels)			
3	New York	22,000	29,000	19,000
4	Los Angeles	42,000	39,000	43,000

- 8 Auto-resize row 3 so that it is the same size as the other rows again.

Lesson 2-10: Use AutoSum to sum a non-contiguous range

In Lesson 2-7: *Select non-contiguous cell ranges and view summary information*, you learned how to view the sum of January and March sales using the status bar. But how can you put that value onto the worksheet?

Now that you have the hang of selecting non-contiguous ranges you can use this in conjunction with your AutoSum skills to create a formula that will calculate the total of a non-contiguous range.

- 1 Open *First Quarter Sales and Profit-4* from your sample files folder (if it isn't already open).
- 2 Enter the text **Jan/Mar Sales** in cell A10 and press the <Tab> key.

The active cell moves to cell B10.

- 3 Re-size column A so that it is wide enough to contain the text.

1. Hover over the line separating the letters A and B until you see the re-size cursor shape:



2. When you see this shape, keep the mouse still and click and drag to the right. Column A will re-size as you drag. Make it wider so that the words *Jan/Mar Sales* comfortably fit in the column:

	Jan	Feb	Mar
4 New York	22,000	29,000	19,000
5 Los Angeles	42,000	39,000	43,000
6 London	18,000	20,000	22,000
7 Paris	35,000	26,000	31,000
8 Munich	12,000	15,000	13,000
9 USA Sales	64,000		
10 Jan/Mar Sales			

- 4 Click Home→Editing→ (the AutoSum button).

An AutoSum appears in cell B10 but it isn't anything like what we want yet. It guesses that we simply want to repeat the value in the USA Sales cell.

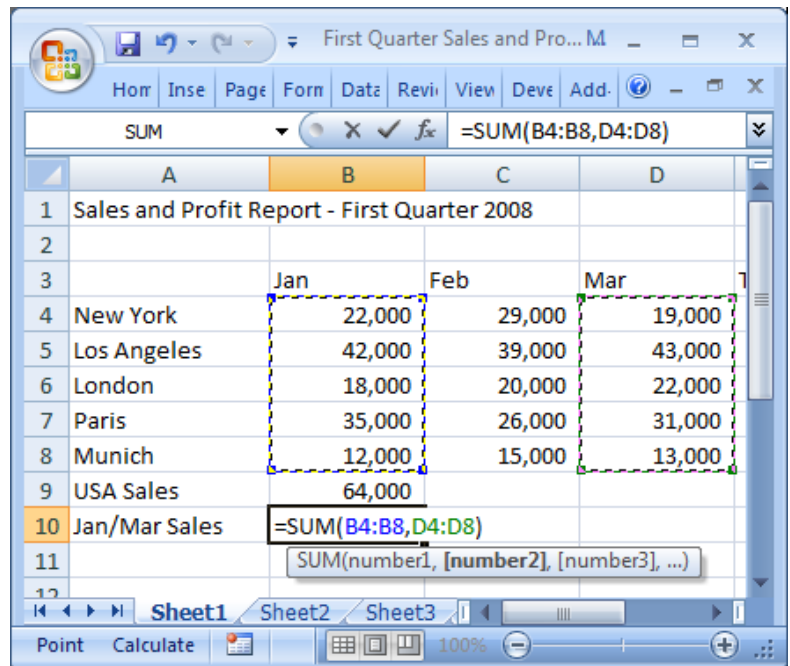
	Jan	Feb	Mar
8 Munich	12,000	15,000	13,000
9 USA Sales	64,000		
10 Jan/Mar Sales	=SUM(B9)		


- 5 Select the range B4:B8 with the mouse.

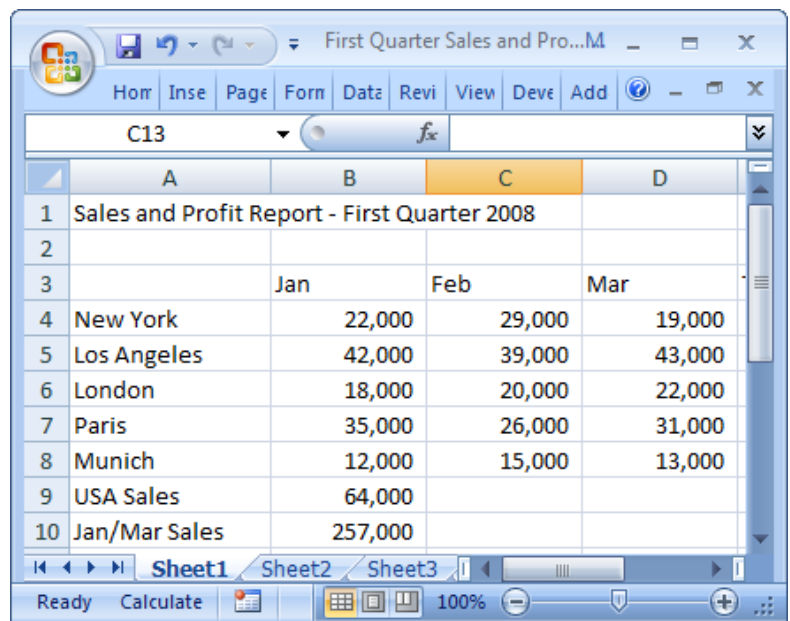
First Quarter Sales and Profit-4

- 6 Hold down the <Ctrl> key and select the range D4:D8 with the mouse.

Notice that the non-contiguous range **B4:B8,D4:D8** is shown in the AutoSum's formula:



- 7 Press the <Enter> key or click the AutoSum button  again to view the sales for January and March in cell B10.



- 8 Save your work as *First Quarter Sales and Profit-5*.

Lesson 2-11: Use AutoSum to quickly calculate averages

Excel's *AutoSum* feature isn't only restricted to addition. It is also able to compute averages and maximum/minimum values.

In this lesson we'll use AutoSum to calculate the average sales for each month.

- 1 Open *First Quarter Sales and Profit 5* from your sample files folder (If it isn't already open).

- 2 Delete cells E3:E4.

Select cells E3 and E4 and press the <Delete> key on your keyboard.

- 3 Type the word *Average* in cell E3 and press the <Enter> key.

The cursor moves to cell E4:

	C	D	E
3	Feb	Mar	Average
4	29,000	19,000	


- 4 Use AutoSum to create a formula that will show the Average New York sales.

1. Click Home→Editing→AutoSum →Drop down arrow (see sidebar).

A drop down menu is displayed showing all of the different ways in which AutoSum can operate upon a range of cells:

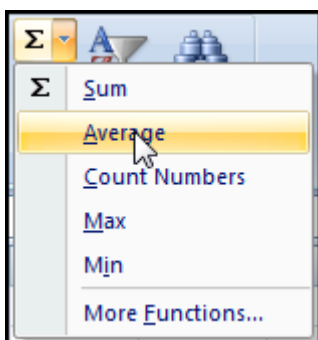
2. Click Average.
3. Excel generates an Average function and inserts the cell range B4:D4. This is exactly what we want:

Average			
=AVERAGE(B4:D4)			
AVERAGE(number1, [number2], ...)			

4. Press the <Enter> key or click the AutoSum button  again to see the average sales for New York:

		Jan	Feb	Mar	Average
3					
4	New York	22,000	29,000	19,000	23,333

- 5 Type the word **Maximum** in Cell F3 and then press the <Enter> key.
- 6 Use AutoSum to create a formula in cell F4 that will show the Maximum New York Sales for this period.



First Quarter Sales and Profit-5

1. Place an AutoSum in cell F4 but this time, choose Max from the drop-down menu.

This time we have a small problem. AutoSum is including the average value (23,333) in the calculation.


Jan	Feb	Mar	Average	Maximum
22,000	29,000	19,000	23,333	=MAX(B4:E4)

2. Select cells B4:D4 with the mouse

The marquee corrects and the average value in cell E4 is no longer included.

New York	22,000	29,000	19,000	23,333	=MAX(B4:D4)
----------	--------	--------	--------	--------	-------------

Notice that the Max function is now working with the range B4:D4.

3. Press the <Enter> key or click the AutoSum button  once more to see the maximum sales the New York office managed during the first quarter of the year:

3		Jan	Feb	Mar	Average	Maximum
4	New York	22,000	29,000	19,000	23,333	29,000

tip

Another way to bring back the blue box showing a range is to click the range in the Formula bar.

- 7 Change the words *USA Sales* in cell A9 back to *Sales* and press the <Tab> key.
- 8 Press the <F2> key on the keyboard (or double-click cell B9) to bring back the marquee (shown as a blue box).
- 9 Adjust the marquee using click and drag so that all offices are included in the Sales total.

Notice that there is a small blue spot on each corner of the range. These are called sizing handles.

1. Hover the mouse cursor over the bottom right (or bottom left) sizing handle until the cursor shape changes to a double headed arrow. It is really important that you see the double headed arrow and not the four headed arrow or white cross.

4	New York	22,000
5	Los Angeles	42,000
6	London	18,000

2. When you see the double headed arrow click and drag with the mouse down to cell B8.
3. Press the <Enter> key or click the AutoSum button again.

7	Paris	35,000
8	Munich	12,000
9	Sales	129,000

- 10 Save your work as First Quarter Sales and Profit-6.

Lesson 2-12: Create your own formulas

The AutoSum tool is very useful for quickly inserting Sum(), Average(), Count(), Max() and Min() formulas into cells. Many Excel users never get any further with their formulas than this.

In this session we'll create our own formulas without the use of AutoSum. You'll be amazed at how easy it is.

- 1 Open *First Quarter Sales and Profit-6* from your sample files folder (if it isn't already open).
- 2 Select cells A10:B10 and press the <Delete> key once.
The previous contents of cells A10:B10 are removed.
- 3 Type the word **Costs** into cell A11 and **Profit** into cell A12.
- 4 Type the value 83,000 into cell B11 and press the <Enter> key to move down to cell B12.

11	Costs	83,000		
12	Profit			

- 5 Enter a formula into cell B12 to compute the profit made in January.
 1. Type: = B9-B11 into cell B12
 2. Press the <Enter> key.

The profit for January is displayed:

9	Sales	129,000
10		
11	Costs	83,000
12	Profit	46,000

- 6 Enter the formula again using a better technique.

The method that you have just used to enter the formula works just fine but it isn't the best method. Sooner or later you will make a mistake. For example you could easily type B8:B11 resulting in an incorrect answer.

To eliminate such errors you should always select cell references visually rather than simply type them in. You can visually select cells using either the mouse or the keyboard. First we'll use the mouse method.

1. Click in cell B12 and press the <Delete> key on the keyboard to clear the old formula.
2. Press the equals <=> key on the keyboard.
3. Click once on the value 129,000 in cell B9.

important

Formulas automatically recalculate whenever any of the cells in the formula change.

For example: If you were to change the Paris sales to 45,000 this would cause cell B9 to recalculate to 139,000. Because B9 has changed this would, in turn, cause the profit to recalculate to 56,000.

First Quarter Sales and Profit-6

4. Press the minus <-> key on the keyboard.
5. Click once on the value 83,000 in cell B11.
6. Press the <Enter> key on the keyboard.

If you followed the above steps carefully you will see that you have created the same formula but with a much lower possibility of making a mistake.

7 Enter the formula again using the visual keyboard technique.

The very best Excel experts hardly use the mouse at all. You waste valuable seconds every time you reach for the mouse.

Here's the expert technique of visual selection via keyboard:

1. Use the arrow keys to navigate to cell B12 and then press the <Delete> key on the keyboard to clear the old formula.
2. Press the <=> key on the keyboard.
3. Press the <Up Arrow> key three times to move to cell B9.
4. Press the <-> key on the keyboard.
5. Press the <Up Arrow> key once to move to cell B11.
6. Press the <Enter> key on the keyboard.

8 Enter a formula that uses the multiplication operator.

This employer is very generous and pays the staff ten percent of all profits as an incentive bonus.

In cell A13 type the words **10% Bonus** and then press the <Tab> key on the keyboard to move to cell B13.

9 Enter a formula that uses the multiplication operator.

The multiplication operator is not an X as you might expect but an asterisk (*). The other Excel operators are shown in the sidebar.

You need to press <Shift>+<8> to enter an asterisk. If you are using a full size keyboard with a numeric keypad at the right-hand side you can also use the numeric keyboard's <X> key.

Whichever key you use you'll still see an asterisk in the formula.

Use either the *mouse click* technique or the *visual keyboard* technique to enter the formula shown below into cell B13 and then press the <Enter> key to see how much bonus was earned:

11	Costs	83,000
12	Profit	46,000
13	10% Bonus	=B12*.1

11	Costs	83,000
12	Profit	46,000
13	10% Bonus	4,600

10 Save your work as First Quarter Sales and Profit-7.

important

The Excel Operators

	Name	Example
+	Addition	1+2
-	Subtraction	7-5
*	Multiplication	6*3
/	Division	15/5
%	Percent	25%
^	Exponentiation	4^2

trivia

The feature that Excel uses to help you out with function calls first made an appearance in Visual Basic 5 back in 1996 and had the wonderful name: *IntelliSense*. The Excel implementation is called *Formula AutoComplete*.

In 1996 I was working in Switzerland developing a ski-school management application. I was extremely impressed by how easy *IntelliSense* made my job. I didn't have to remember hundreds of function names any more.

I was even slightly worried that just about anybody could now program (but, of course, I was wrong).

Recently I was in London being driven by a Hackney cab driver (Hackney cab drivers know every shortcut and back street in London). He was worried that Satellite Navigation would now mean that anybody could become a London cabbie.

Of course, he really had nothing to worry about either!

note

Enabling and disabling AutoComplete.

As with so many other features, Microsoft allows you to turn this very useful feature off.

You'd never want to do this but you may work on a machine that has had Formula AutoComplete switched off and you need to turn it on again.

Click Office→Excel Options→Formulas and make sure that the *Formula AutoComplete* box is checked.

First Quarter Sales and Profit-7

Lesson 2-13: Create functions using Formula AutoComplete

- 1 Open *First Quarter Sales and Profit-7* from your sample files folder (if it isn't already open).
- 2 Type the words **USA Sales** into cell A15 and **European Sales** into cell A16.

Notice that the text *European Sales* spills over into column B because column A isn't wide enough to contain it.

- 3 Re-size column A so that it is wide enough for the words *European Sales* to fit within the column.

You learned how to do this in: *Lesson 2-9: Re-size rows and columns*.

	A	B
15	USA Sales	
16	European Sales	

- 4 Click into cell B15 and type **=S** into the cell.

Something amazing happens:

15	USA Sales	=S
16	European Sales	
17		
18		
19		

A list drops down showing every function in the Excel function library beginning with S. This is a great new feature for Excel 2007 that Microsoft call *Formula AutoComplete* (if AutoComplete didn't display as expected see the sidebar).

You've already encountered the Sum(), Average() and Max() functions courtesy of AutoSum.

You may be pleased (or dismayed) to know that there are over 300 functions in the Excel function library. The good news is that most untrained Excel users only ever get to understand Sum() and Average()!

When you typed **=S** Excel listed all functions beginning with S.

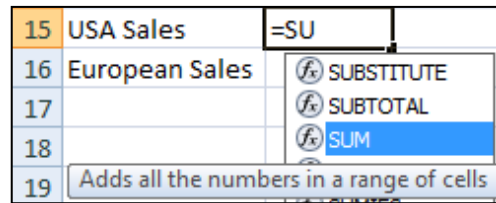
- 5 Continue typing: **=SU**.

Notice that the list now only shows functions beginning with SU and look... there's the *SUM()* function we need three down in the list.

You could simply click on it with the mouse but let's behave like an Excel pro and do it with the keyboard.

- 6 Press the **<Down Arrow>** key twice to move the cursor over the SUM function.

The Sum function now has a tip telling you what the function does:



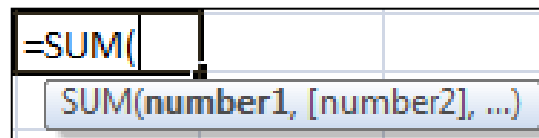
7 Display detailed information about the SUM() function.

The tip tells you a little about the SUM() function but to get the full story press the <F1> key while SUM is still highlighted in the dropdown list:

The Excel help system opens showing detailed help for the SUM() function.

Read the help text if you are interested and then close the help window.

Notice that Excel has now left you with only =SU in the cell. Complete the formula by typing M(



Notice that a little box has appeared beneath the function call. This is the *Syntax* (see sidebar for more information).

8 Select the cells that you need to sum (cells B4:B5) with the mouse or keyboard.

If you want to be a real pro you should select them with the keyboard. To do this:

1. Press the <Up Arrow> key repeatedly until you reach cell B4.
2. Hold down the <Shift> key and press the <Down Arrow> key once to select cells B4:B5.

9 Type a closing bracket to complete the formula and then press the <Enter> key.

The total USA sales are displayed in cell B15.

10 Use the same technique to create a SUM() function in cell B16 to show the total European sales (cells B6:B8).

1. Click in cell B16.
2. Type = SU.
3. Press the <Down Arrow> key twice to move the cursor over the SUM function.
4. Press the <Tab> key to automatically enter the SUM function into cell B16.
5. Select the range B6:B8.
6. Type the closing bracket followed by the <Enter> key. The formula should now be: =SUM(B6:B8).

11 Save your work as *First Quarter Sales and Profit 8*.

note

The syntax box

The Syntax box tells you what arguments (sometimes called parameters) the function needs. The first argument has no square brackets meaning that you can't leave it out. The argument in square brackets is optional.

For such a simple function as SUM() the syntax box is hardly needed but later we'll discover functions that require several arguments and then the syntax box will be invaluable.

	A	B
14		
15	USA Sales	64,000
16	European Sales	65,000

Lesson 2-14: Use AutoFill for text and numeric series

- 1 Open *First Quarter Sales and Profit-8* from your sample files folder (if it isn't already open).

- 2 Delete the text **Feb** and **Mar** from cells C3:D3.

Select cells C3:D3 and then press the <Delete> key on your keyboard.




- 3 Make B3 the active cell.

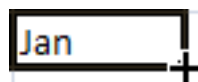
Notice that there is a black border around the cell and a black spot on the bottom right-hand corner. This is the AutoFill handle. If you don't see it, refer to the sidebar.



- 4 Hover over the AutoFill handle with your mouse until the cursor shape changes to a black cross.

Many of my students have great difficulty with this when they try it for the first time.

- You don't want the four-headed arrow:  – that would move the cell.
- You don't want the white cross:  – that would select the cell.
- You want the black cross:  – the AutoFill cursor.



- 5 When the black cross cursor is visible hold down the mouse button and drag your mouse to the right to AutoFill the other months: **Feb** and **Mar**.

Jan	Feb	Mar
22,000	29,000	Mar 000

Notice the tip that appears as you drag, previewing the month that will appear in each cell.

- 6 In cell A18 type **Monday** and AutoFill down to cell A24 to show the days of the week.

(If you are not using an English language version of Excel you will need to type **Monday** in your own language).

- 7 In cell B18 type the number **1** and in cell B19 type the number **2**.

note

If you don't see the AutoFill handle somebody has switched it off

It's almost certain that AutoFill will be enabled on any computer that you work on. It is such a useful feature that you wouldn't want to disable it.

If you don't see the AutoFill handle (the black spot on the bottom right hand corner of the active cell) it's because somebody has switched AutoFill off.

Bring it back like this:

Click Office→Excel Options→Advanced

In the first section (*Editing Options*) check the box next to *Enable fill handle and cell drag and drop*.

First Quarter Sales and Profit-8

tip

You don't have to enter two numbers if you want to create a numeric range.

If you simply type a number into a cell and then AutoFill while holding down the <Ctrl> key you will automatically generate sequential numbers.

- 8 Select cells B18 and B19.



- 9 AutoFill down to B24 to create sequential numbers:

18	Monday	1
19	Tuesday	2
20	Wednesday	3
21	Thursday	4

- 10 In cell C18 type **9** and in cell C19 type **18**.

- 11 Select cells C18 and C19.



- 12 AutoFill down to B24 to create the nine times table.

18	Monday	1	9
19	Tuesday	2	18
20	Wednesday	3	27

- 13 Use AutoFill to create sequential dates.

1. Type 01-Jan-08 into cell D18.
2. Type 02-Jan-08 into cell D19.
3. Select Cells D18:D19.
4. AutoFill down to D24 to create sequential dates.

- 14 Use AutoFill to quickly copy values.

Sometimes you will want to duplicate the value from one cell into many others to the right of, left of, beneath, or above the active cell.

When a cell containing text is the active cell and it isn't defined as a *fill series* (the built-in fill series are days of the week and months of the year), AutoFill will simply duplicate the contents of the cell:

Type the text **Adjusted** into cell E18 and then AutoFill it down as far as cell E24.

The same text is now shown in each of the cells:

18	Monday	1	9	01-Jan-08	Adjusted
19	Tuesday	2	18	02-Jan-08	Adjusted
20	Wednesday	3	27	03-Jan-08	Adjusted
21	Thursday	4	36	04-Jan-08	Adjusted
22	Friday	5	45	05-Jan-08	Adjusted
23	Saturday	6	54	06-Jan-08	Adjusted
24	Sunday	7	63	07-Jan-08	Adjusted

- 15 Save your work as First Quarter Sales and Profit-9.

Lesson 2-15: Use AutoFill to adjust formulas

AutoFill can save you a lot of time when extending or copying text and number ranges. But the story's not over yet.

AutoFill's ability to copy and adjust formulas is one of the most powerful tools in Excel's impressive armory.

- 1 Open *First Quarter Sales and Profit 9* from your sample files folder (If it isn't already open).
- 2 Consider the formula in cell B9.

Click onto cell B9 and view the formula displayed in the formula bar (the formula bar is at the top right of the screen grab below).

	A	B	C	D	E
1	Sales and Profit Report - First Quarter 2008				
2					
3		Jan	Feb	Mar	Average
4	New York	22,000	29,000	19,000	23,333
5	Los Angeles	42,000	39,000	43,000	
6	London	18,000	20,000	22,000	
7	Paris	35,000	26,000	31,000	
8	Munich	12,000	15,000	13,000	
9	Sales	129,000			
10					

The formula is **=SUM(B4:B8)**. AutoSum created it for us in:

Lesson 2-3: Use AutoSum to quickly calculate totals. The formula uses the SUM() function to add together the values in the range B4:B8.

Think about the formula that would work in cell C9 (the total sales for February). It would be: **=SUM(C4:C8)**. Similarly the formula that would work in cell D9 (the total sales for March) would be **=SUM(D4:D8)**.

As we move to the right all that is needed is to increment the letter for each cell reference in the formula and we'll get the right answer every time.

Now AutoFill is very clever and realizes this. When we AutoFill a cell containing a formula to the right, AutoFill increments the letters in each cell reference.

Most of the time that is exactly what we want.

There's also a way to fine-tune the way in which AutoFill adjusts cell references allowing you to implement some more advanced AutoFill techniques. While this is beyond the scope of this Basic Skills course, it is covered in-depth in the Essential Skills book in this series (in *Lesson 3 12: Understand absolute and relative cell references*, and *Lesson 3 13: Understand mixed cell references*).

First Quarter Sales and Profit-9

3 AutoFill cell B9 to the right as far as cell D9.

You may see a row of hashes in Cell C9. This is because the value is too wide to fit in the cell. If this is the case, AutoFit the column using the skill learned in: *Lesson 2-9: Re-size rows and columns.*

The correct answers for Feb and Mar sales are shown on the worksheet. Click on the Feb total cell (C9) and look at the formula in the formula bar.

C9					
fx =SUM(C4:C8)					
	A	B	C	D	E
3		Jan	Feb	Mar	Average
4	New York	22,000	29,000	19,000	23,333
5	Los Angeles	42,000	39,000	43,000	
6	London	18,000	20,000	22,000	
7	Paris	35,000	26,000	31,000	
8	Munich	12,000	15,000	13,000	
9	Sales	129,000	129,000	128,000	
10					

You can see that AutoFill has done its work perfectly, creating a sum of the values in cells C4:C8. Our five branches have sold exactly the same amount in both January and February, but a little less in March.

4 Consider the formula in cell E4.

Click onto cell E4 and view the formula displayed in the formula bar.

E4					
fx =AVERAGE(B4:D4)					
	A	B	C	D	E
3		Jan	Feb	Mar	Average
4	New York	22,000	29,000	19,000	23,333
5	Los Angeles	42,000	39,000	43,000	
6	London	18,000	20,000	22,000	

The formula is **=AVERAGE(B4:D4)**. AutoSum created it for us in: *Lesson 2-11: Use AutoSum to quickly calculate averages.*

Think about the formula that would work in cell E5 (the average sales for Los Angeles). It would be: **=AVERAGE(B5:D5)**. Similarly the formula that would work in cell E6 (the average sales for London) would be **=AVERAGE(B6:D6)**.

As we move downward all that is needed is to increment the number for each cell reference in the formula. This is exactly what AutoFill will do.

E	F
Average	Maximum
23,333	29,000
41,333	43,000
20,000	22,000
30,667	35,000
13,333	15,000

5 AutoFill cell E4 down to E8 to see the Average sales for each branch.

6 AutoFill cell F4 down to F8 to view the maximum sales for each branch.

7 Save your work as First Quarter Sales and Profit-10.

Lesson 2-16: Use AutoFill options

Sometimes AutoFill begins to misbehave and actually gets in the way of efficient work by wrongly anticipating what you need.

- 1 Open *First Quarter Sales and Profit-10* from your sample files folder (If it isn't already open).
- 2 In cell F18 type the date **1-Jan-2009**.
- 3 AutoFill down as far as cell F24.

The cells are populated with sequential dates:


	A	B	C	D	E	F
18	Monday	1	9	01-Jan-08	Adjusted	01-Jan-09
19	Tuesday	2	18	02-Jan-08	Adjusted	02-Jan-09
20	Wednesday	3	27	03-Jan-08	Adjusted	03-Jan-09
21	Thursday	4	36	04-Jan-08	Adjusted	04-Jan-09
22	Friday	5	45	05-Jan-08	Adjusted	05-Jan-09
23	Saturday	6	54	06-Jan-08	Adjusted	06-Jan-09
24	Sunday	7	63	07-Jan-08	Adjusted	07-Jan-09

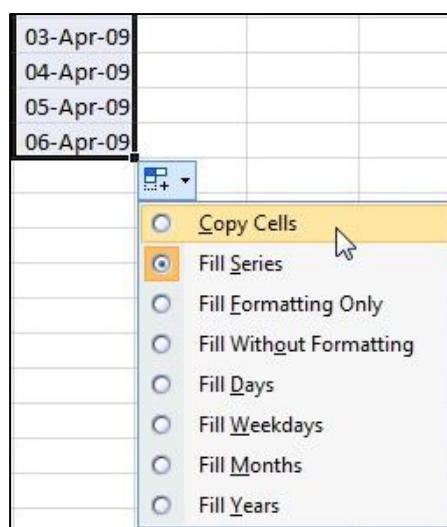
- 4 In cell G18 type the date **31-Mar-2009**.
- 5 AutoFill down as far as cell G24.

At some time you'll need to add transaction dates to a worksheet and will have four or five entries with the same date.

AutoFill is perfect for eliminating the need to re-type the date for each transaction, but its insistence upon incrementing the date every time could be very frustrating.

Fortunately we can change the default behavior.

- 6 Click the Auto Fill Options Smart Tag  at the bottom right corner of the filled cells.



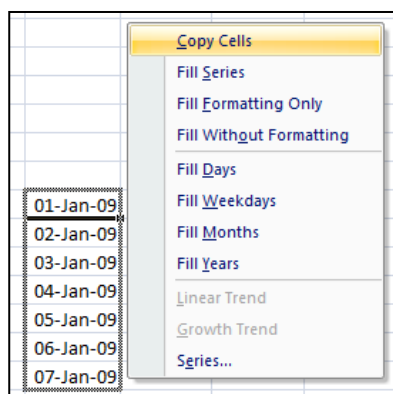
First Quarter Sales and Profit-10

7 Click *Copy Cells* to tell AutoFill not to increment the date.

The *Fill Formatting* option is beyond the scope of this Basic Skills book but is covered in-depth in the Essential Skills book in this series (in *Session Four: Making Your Worksheets Look Professional*).

Here's what the other options will do:

Copy Cells	Fill Series	Fill Days	Fill Weekdays	Fill Months	Fill Years
This is what we just did. The first cell is copied to the other cells.	The default for dates that include the day. The date increments by one day at a time.	The date increments by one day at a time.	Because 3 rd April 2009 is a Friday the weekend days are omitted and the series jumps from 3 rd April to 6 th April.	Normally this would show the same day number for each month. In this example, there are only 30 days in two of the months so 30 th is shown instead of 31 st .	The same calendar day is shown for each subsequent year.
31-Mar-09	31-Mar-09	31-Mar-09	31-Mar-09	31-Mar-09	31-Mar-09
31-Mar-09	01-Apr-09	01-Apr-09	01-Apr-09	30-Apr-09	31-Mar-10
31-Mar-09	02-Apr-09	02-Apr-09	02-Apr-09	31-May-09	31-Mar-11
31-Mar-09	03-Apr-09	03-Apr-09	03-Apr-09	30-Jun-09	31-Mar-12
31-Mar-09	04-Apr-09	04-Apr-09	06-Apr-09	31-Jul-09	31-Mar-13
31-Mar-09	05-Apr-09	05-Apr-09	07-Apr-09	31-Aug-09	31-Mar-14
31-Mar-09	06-Apr-09	06-Apr-09	08-Apr-09	30-Sep-09	31-Mar-15



8 Access fill options using right-click AutoFill.

1. Click again on cell F18 to make it the active cell.
2. AutoFill once more but, this time, hold down the right mouse button.

When you release the mouse button you are presented with the AutoFill options (see sidebar).

This method is preferred to the Smart Tag method because it is faster (one click instead of two)!

9 Change back to Fill Series or Fill Days.

In this example Fill Series and Fill Days produce exactly the same result.

10 Save your work as First Quarter Sales and Profit-11.

Lesson 2-17: Speed up your AutoFills and create a custom fill series

In this lesson we're going to learn some AutoFill techniques that will massively speed up your efficient use of the AutoFill feature.

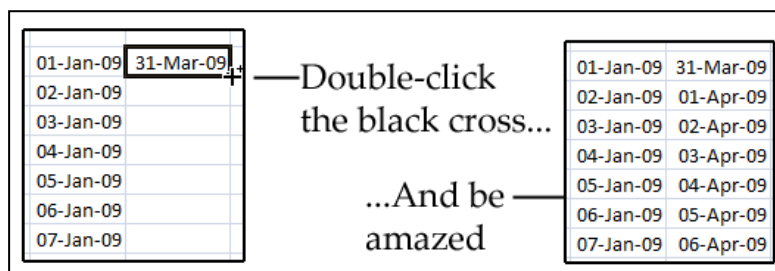
- 1 Open *First Quarter Sales and Profit-11* (if it isn't already open).
- 2 Delete the contents of cells G18:G24.
- 3 Type **31-Mar-09** into cell G18.

	A	B	C	D	E	F	G
17							
18	Monday	1	9	01-Jan-08	Adjusted	01-Jan-09	31-Mar-09
19	Tuesday	2	18	02-Jan-08	Adjusted	02-Jan-09	
20	Wednesday	3	27	03-Jan-08	Adjusted	03-Jan-09	
21	Thursday	4	36	04-Jan-08	Adjusted	04-Jan-09	
22	Friday	5	45	05-Jan-08	Adjusted	05-Jan-09	
23	Saturday	6	54	06-Jan-08	Adjusted	06-Jan-09	
24	Sunday	7	63	07-Jan-08	Adjusted	07-Jan-09	

- 4 Double click the AutoFill handle to automatically fill cells G19:G24.

This is a real master tip!

Hover over the AutoFill handle (the black spot at the bottom right hand corner). When you are sure that you have the correct black cross cursor shape, double click to automatically fill down.



- 5 Delete all of the dates from cells G19:G24 leaving only the date 31-Mar-09 in cell G18.
- 6 Hold down the **<Ctrl>** key and AutoFill down as far as G24 by dragging the AutoFill handle down with the mouse.

Because you held the <Ctrl> key down AutoFill simply copies the cell instead of creating a series of values.

First Quarter Sales and Profit-11

	B	C	D	E	F	G
1		9	01-Jan-08	Adjusted	01-Jan-09	31-Mar-09
2		18	02-Jan-08	Adjusted	02-Jan-09	31-Mar-09
3		27	03-Jan-08	Adjusted	03-Jan-09	31-Mar-09
4		36	04-Jan-08	Adjusted	04-Jan-09	31-Mar-09
5		45	05-Jan-08	Adjusted	05-Jan-09	31-Mar-09
6		54	06-Jan-08	Adjusted	06-Jan-09	31-Mar-09
7		63	07-Jan-08	Adjusted	07-Jan-09	31-Mar-09

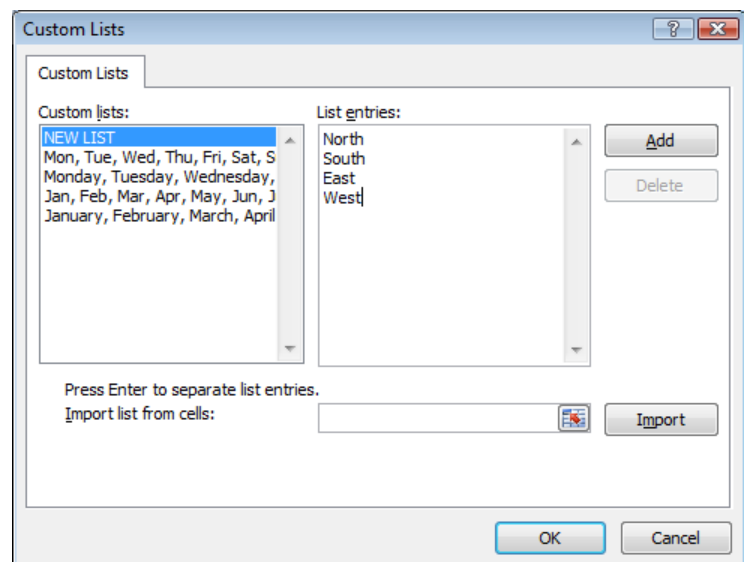
This is even faster than using the right-click method when you want to prevent the date incrementing.

- 7 Click Office→Excel Options→Popular.
- 8 In the *Popular* category under *Top options for working with Excel* click the gray *Edit Custom Lists...* button.

Edit Custom Lists...

The Custom Lists dialog appears.

- 9 Click in the *List entries* window and add four custom list entries: North, South, East and West.



North
South
East
West
North
South
East
West

- 10 Click the OK button.
- 11 Type **North** in any cell and AutoFill down.
As you AutoFill the custom list entries appear in the worksheet.
- 12 Delete the North, South, East, West... cells from the worksheet.
- 13 Save your work as First Quarter Sales and Profit-12.

Lesson 2-18: Use the zoom control

Zooming is used to magnify or reduce the worksheet. If you have a lot of rows in a worksheet and have good eyes you might want to zoom out sometimes to see more of the worksheet on one screen.

- 1 Open *First Quarter Sales and Profit-12* from your sample files folder (if it isn't already open).
- 2 Zoom in and out of a worksheet using the mouse wheel.

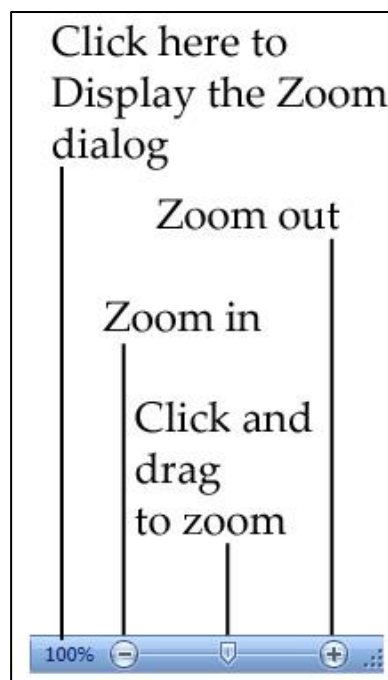
The fastest way to zoom a worksheet is by using the mouse.

Most mice these days have a wheel in the middle of the buttons. To zoom using this wheel hold down the <Ctrl> key on the keyboard and roll the wheel to zoom in and out.

- 3 Zoom in and out of a worksheet using the zoom control.

The zoom control is at the bottom right of your screen,

Click and drag on the zoom control slider to zoom in and out of your worksheet. You can also zoom by clicking the plus and minus buttons on either side of the Zoom control.



- 4 Select cells A3:D9.

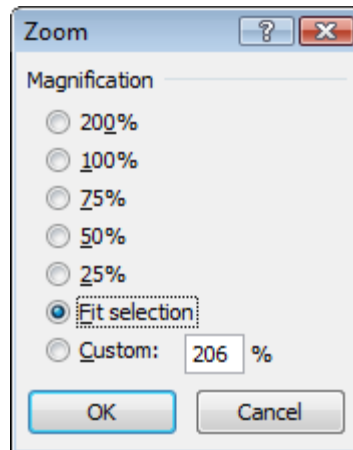
We're going to use the zoom dialog to make this selection completely fill the screen.

- 5 Click the left hand side of the zoom bar.

The zoom dialog is displayed.

First Quarter Sales and Profit-12

- 6 Select the *Fit Selection* option button and click the OK button.

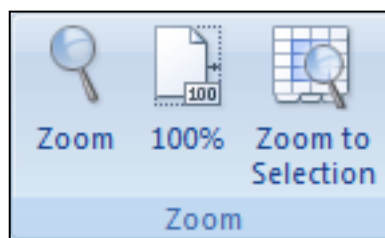


The worksheet is zoomed so that the selected cells completely fill the screen.

	A	B	C	D
1	Sales and Profit Report - First Quarter 2008			
2				
3		Jan	Feb	Mar
4	New York	22,000	29,000	19,000
5	Los Angeles	42,000	39,000	43,000
6	London	18,000	20,000	22,000
7	Paris	35,000	26,000	31,000
8	Munich	12,000	15,000	13,000
9	Sales	129,000	129,000	128,000

- 7 Zoom back to 100% using the Ribbon.

You'll probably find the zoom bar to be the quickest and most convenient way to zoom, but the View Ribbon also has a Zoom group containing three buttons:



Use the 100% button to restore the screen to normal.


Lesson 2-19: Print out a worksheet

We aren't going to explore every option for preparing and printing a worksheet in this *Basic Skills* book. Printing is such a huge subject that a whole session to it in the *Essential Skills* book in this series (in *Session Seven: Printing Your Work*).

This lesson only aims to teach you the bare minimum skills you need to put your work onto paper.

- 1 Open *First Quarter Sales and Profit-12* from your sample files folder (if it isn't already open).

	A	B	C	D	E	F	G
1	Sales and Profit Report - First Quarter 2008						
2							
3		Jan	Feb	Mar	Average	Maximum	
4	New York	22,000	29,000	19,000	23,333	29,000	
5	Los Angeles	42,000	39,000	43,000	41,333	43,000	
6	London	18,000	20,000	22,000	20,000	22,000	
7	Paris	35,000	26,000	31,000	30,667	35,000	
8	Munich	12,000	15,000	13,000	13,333	15,000	
9	Sales	129,000	129,000	128,000			
10							
11	Costs	83,000					
12	Profit	46,000					
13	10% Bonus	4,600					
14							
15	USA Sales	-					
16	European Sales						
17							
18	Monday	1	9	01-Jan-08	Adjusted	01-Jan-09	31-Mar-09
19	Tuesday	2	18	02-Jan-08	Adjusted	02-Jan-09	31-Mar-09
20	Wednesday	3	27	03-Jan-08	Adjusted	03-Jan-09	31-Mar-09
21	Thursday	4	36	04-Jan-08	Adjusted	04-Jan-09	31-Mar-09
22	Friday	5	45	05-Jan-08	Adjusted	05-Jan-09	31-Mar-09
23	Saturday	6	54	06-Jan-08	Adjusted	06-Jan-09	31-Mar-09
24	Sunday	7	63	07-Jan-08	Adjusted	07-Jan-09	31-Mar-09
25							

- 2 Click the Office button at the top left of the screen .
- 3 Hover the mouse cursor over the Print button at the left of the dialog.
- 4 Click Print Preview from the menu at the right hand side of the dialog.
- 5 A preview of the printout is shown on screen:

Sales and Profit Report - First Quarter 2008						
	Jan	Feb	Mar	Average	Maximum	
New York	22,000	29,000	19,000	23,333	29,000	
Los Angeles	42,000	39,000	43,000	41,333	43,000	
London	18,000	20,000	22,000	20,000	22,000	
Paris	35,000	26,000	31,000	30,667	35,000	
Munich	12,000	15,000	13,000	13,333	15,000	
Sales	129,000	129,000	128,000			
Costs	83,000					
Profit	46,000					
10% Bonus	4,600					
USA Sales	-					
European Sales						
Monday	1	9	01-Jan-08	Adjusted	01-Jan-09	31-Mar-09
Tuesday	2	18	02-Jan-08	Adjusted	02-Jan-09	31-Mar-09
Wednesday	3	27	03-Jan-08	Adjusted	03-Jan-09	31-Mar-09
Thursday	4	36	04-Jan-08	Adjusted	04-Jan-09	31-Mar-09
Friday	5	45	05-Jan-08	Adjusted	05-Jan-09	31-Mar-09
Saturday	6	54	06-Jan-08	Adjusted	06-Jan-09	31-Mar-09
Sunday	7	63	07-Jan-08	Adjusted	07-Jan-09	31-Mar-09

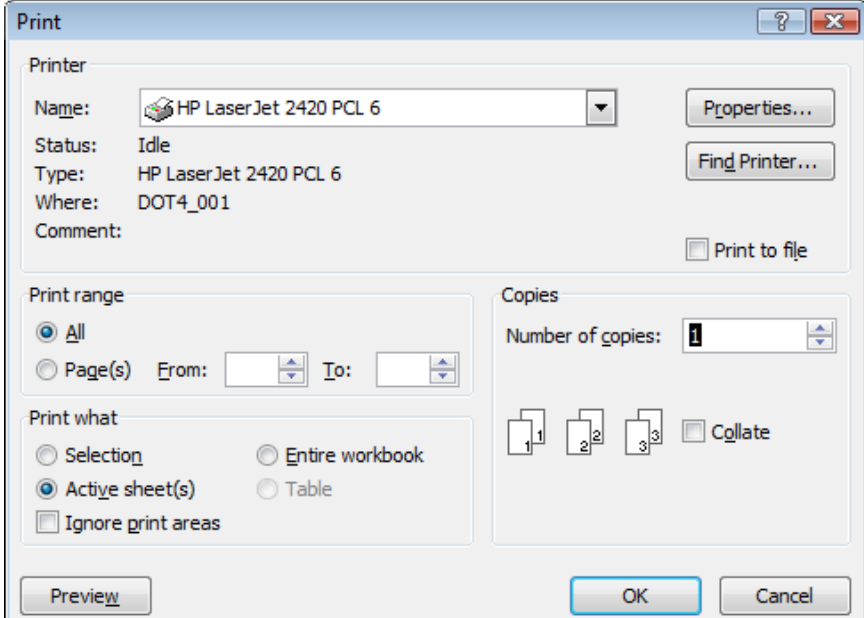
- 6 Click on the page to see the zoom feature working.

Each time you click on the page the page zooms in and out.

- 7 Click the Print button  at the top left of the Print Preview screen.

If you don't see this icon at the top of the Print Preview window it is because you have hidden the Ribbon. Unhide it by double-clicking the *Print Preview* Ribbon tab.

The print options dialog appears:



Print

Printer

Name: HP LaserJet 2420 PCL 6

Status: Idle

Type: HP LaserJet 2420 PCL 6

Where: DOT4_001

Comment:

Print range

☒ All

☐ Page(s) From: To:

Print what

☐ Selection ☐ Entire workbook

☒ Active sheet(s) ☐ Table

☐ Ignore print areas

Copies

Number of copies: 1

☐ Collate

Preview OK Cancel

- 8 Click the **OK** button to print your work.

For this simple worksheet there's no need to change any of the options but you can probably figure out what most of them are for.

Session 2: Exercise

- 1 Open a new workbook.
- 2 Use AutoFill to put the three months Jan, Feb, and Mar into cells A4:A6.
- 3 Using only the keyboard add the following data:

	A	B	C	D	E
1	Profit Analysis				
2					
3		London	Paris	New York	Average
4	Jan	2,500	3,100	2,300	
5	Feb	2,200	2,700	2,600	
6	Mar	2,100	2,600	2,800	
7	Total				

- 4 Use AutoSum to compute London's total profit for Jan/Feb/Mar in cell B7.
- 5 Use AutoSum to compute the average January profit in cell E4.
- 6 Use AutoFill to extend the London total in cell B7, to the Paris and New York totals in cells C7 and D7.
- 7 Use AutoFill to extend the January average profit in cell E4, to the February and March average profits in cells E5 and E6.
- 8 Select all of Column A and all of Column E (at the same time) and bold face the values in them.
- 9 Select row 3 and row 7 (at the same time) and bold face the values in them.

	A	B	C	D	E
1	Profit Analysis				
2					
3		London	Paris	New York	Average
4	Jan	2,500	3,100	2,300	2,633
5	Feb	2,200	2,700	2,600	2,500
6	Mar	2,100	2,600	2,800	2,500
7	Total	6,800	8,400	7,700	

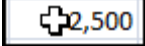
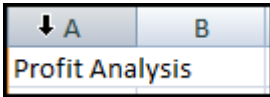
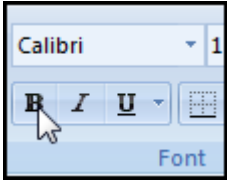

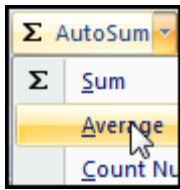
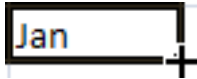
- 10 Select cells B4:B6 and cells D4:D6 at the same time and then read the total London and New York sales figure for Jan, Feb and March from the summary information displayed on the status bar.
- 11 Select cells B4:D6 and zoom the selection so that these cells fill the screen.
- 12 Save your work as Exercise2-End.

If you need help
slide the page to
the left



Session 2: Exercise answers

These are the four questions that students find the most difficult to remember:

Q 10	Q 8	Q 4 and 5	Q 2
<p>1. Hover over the centre of cell B4 so that you see the white cross cursor shape.</p>  <p>2. Click and drag down to cell B6.</p> <p>3. Hold down the <Ctrl> key.</p> <p>4. Hover over cell D4 until you see the white cross cursor shape.</p> <p>5. Click and drag down to cell D6.</p> <p>This was covered in: <i>Lesson 2-7: Select non-contiguous cell ranges and view summary information.</i></p>	<p>1. Click on the column A header.</p>  <p>2. Hold down the <Ctrl> key.</p> <p>3. Click on the column E header.</p> <p>4. Click Home→Font→Bold.</p>  <p>This was covered in: <i>Lesson 2-6: Select adjacent and non-adjacent rows and columns.</i></p>	<p>1. Click in cell B7.</p> <p>2. Click Home→Editing→Autosum (Q4).</p>  <p>OR</p> <p>Click Home→Editing→Autosum→Average (Q5).</p>  <p>3. Either press the <Enter> key or click the Autosum button again.</p> <p>This was covered in: <i>Lesson 2-3: Use AutoSum to quickly calculate totals.</i></p>	<p>1. Type Jan into cell A4 and press the <Enter> key.</p> <p>2. Click cell A4 once to make it the active cell.</p> <p>3. Hover the mouse cursor over the bottom right corner of the cell until you see the black cross cursor shape.</p>  <p>4. Click and drag down to cell A6.</p> <p>This was covered in: <i>Lesson 2-14: Use AutoFill for text and numeric series.</i></p>

If you have difficulty with the other questions, here are the lessons that cover the relevant skills:

- 1** Refer to: Lesson 2-2: Create a new workbook and view two workbooks at the same time.
- 3** Refer to: Lesson 2-1: Enter text and numbers into a worksheet.
- 6** Refer to: Lesson 2-15: Use AutoFill to adjust formulas.
- 7** Refer to: Lesson 2-15: Use AutoFill to adjust formulas.
- 9** Refer to: Lesson 2-6: Select adjacent and non-adjacent rows and columns.
- 11** Refer to: Lesson 2-18: Use the zoom control.
- 12** Refer to: Lesson 1-5: Save a workbook.

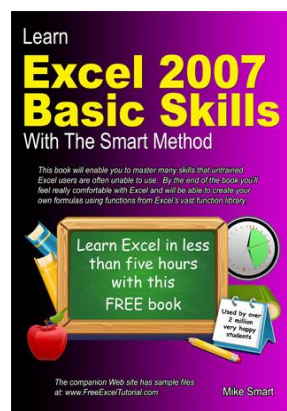
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page***

A

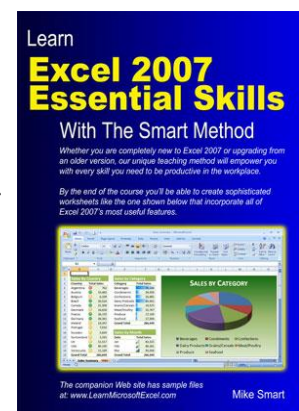
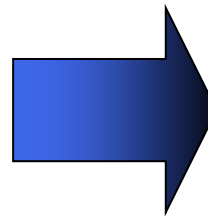
Appendix A: Skills Covered in the follow-on Essential Skills Course

This free book has given you a flying start with Excel by giving you a good grounding in Excel's basic features. While you can now do some useful work with Excel, you still need to expand your skillset to truly describe yourself as a competent Excel user.

If you now progress to our Essential Skills course, you'll have Excel skills that would impress any employer. Your Excel skills will be better than most office workers (even those with many years of Excel experience).



This book



ISBN: 978-0-9554599-2-4
(300 pages).

This appendix lists the lessons contained in the eight sessions that make up the *Essential Skills* book.

Because you've already completed the *Basic Skills* book you'll be able to skip the first two sessions.

Learn *Excel 2007 Essential Skills with The Smart Method* is available as both a low-cost printed paper book (always in stock at Amazon) and as a PDF e-Book (provided in the same format as this e-Book).

You can only obtain the *Essential Skills* e-Book from the <http://ExcelCentral.com> web site (this is the publisher's own web site: The Smart Method Ltd).

Essential skills course outline

Session 1 (a recap of the lessons in this basic skills course)

- Start Excel and check your program version
- Maximize, minimize, re-size, move and close the Excel window
- Understand the Application and Workbook windows
- Download the sample files and open/navigate a workbook
- Save a workbook
- Pin a workbook and understand file organization
- View, move, add, rename, delete and navigate worksheet tabs
- Use the Ribbon
- Understand Ribbon components
- Customize the Quick Access Toolbar and preview the printout
- Use the Mini Toolbar, Key Tips and keyboard shortcuts
- Understand views
- Use full screen view
- Use the help system

Session 2 (a recap of the lessons in this basic skills course)

- Enter text and numbers into a worksheet
- Create a new workbook and view two workbooks at the same time
- Use AutoSum to quickly calculate totals
- Select a range of cells and understand Smart Tags
- Enter data into a range and copy data across a range
- Select adjacent and non-adjacent rows and columns
- Select non-contiguous cell ranges and view summary information
- Re-size rows and columns
- AutoSelect a range of cells
- Use AutoSum to sum a non-contiguous range
- Use AutoSum to quickly calculate averages
- Create your own formulas
- Create functions using Formula AutoComplete
- Use AutoFill for text and numeric series
- Use AutoFill to adjust formulas
- Use AutoFill Options

- Speed up your AutoFills and create a custom fill series
- Use the zoom control
- Print out a worksheet

Session 3 - Taking Your Skills To The Next Level

- Insert and delete rows and columns
- Use AutoComplete and fill data from adjacent cells
- Cut, copy and paste
- Cut, copy and paste using drag and drop
- Use Paste Values
- Increase/decrease decimal places displayed
- Transpose a range
- Use the multiple item clipboard
- Use Undo and Redo
- Insert, View and Print cell comments
- Understand absolute, relative and mixed cell references
- Create a template
- Use a template
- Freeze columns and rows
- Split the window into multiple panes
- Check spelling

Session 4 - Making Your Worksheets Look Professional

- Format dates
- Understand date serial numbers
- Format numbers using built-in number formats
- Create custom number formats
- Horizontally and Vertically align the contents of cells
- Merge cells, wrap text and expand/collapse the formula bar
- Understand themes
- Use cell styles and change themes
- Add color and gradient effects to cells
- Add borders and lines
- Create your own custom theme
- Create your own custom cell styles
- Use a master style book and merge styles

- Use simple conditional formatting
- Manage multiple conditional formats using the Rules Manager
- Bring data alive with visualizations
- Create a formula driven conditional format
- Use the format painter
- Rotate text

Session 5 - Charts and Graphics

- Create a simple chart with two clicks
- Move, re-size, copy and delete a chart
- Change the chart layout and add a data table
- Format chart element fills and borders
- Format 3-D elements and align text
- Move, re-size, add and delete chart elements
- Change a chart's source data
- Assign non-contiguous source data by click and drag
- Change source data using the Select Data Source dialog tools
- Chart non-contiguous source data by hiding rows and columns
- Create a chart with numerical axis
- Deal with empty data points
- Add data labels to a chart
- Highlight specific data points with color and annotations
- Add gridlines and scale axes
- Emphasize data by manipulating pie charts
- Create a chart with two vertical axis
- Create a combination chart containing different chart types
- Add a trend line
- Switch chart rows/columns
- Add a gradient fill
- Create your own chart templates

Session 6 - Multiple Worksheets and Workbooks

- View the same workbook in different windows
- View two windows side by side and perform synchronous scrolling
- Duplicate worksheets within a workbook
- Move and copy worksheets from one workbook to another
- Hide and unhide a worksheet

- Create cross-worksheet formulas
- Understand worksheet groups
- Use find and replace

Session 7 - Printing Your Work

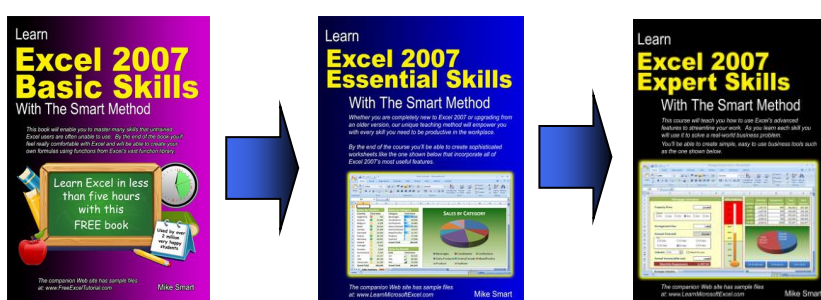
- Print Preview and change paper orientation
- Use Page Layout view to adjust margins
- Use Page Setup to set margins more precisely and center the worksheet
- Set paper size and scale
- Insert, delete and preview page breaks
- Adjust page breaks using Page Break Preview
- Add auto-headers and auto-footers and set starting page number
- Add custom headers and footers
- Specify different headers and footers for the first, odd and even pages
- Print only part of a worksheet
- Add row and column data labels and grid lines to printed output
- Print several selected worksheets and change the page order
- Suppress error messages in printouts

B

Appendix B: Skills Covered in the follow-on Expert Skills Course

This free book has given you a flying start with Excel by giving you a good grounding in Excel's basic features. While you can now do some useful work with Excel, you still need to expand your skill set to truly describe yourself as a competent Excel user.

Every Excel user can benefit from the *Essential Skills* book. After completing this course, you will have an Excel skill level that would impress any employer. Your Excel skills will be better than most office workers (even those with many years of Excel experience).



Not many Excel users will need to go further than *Essential Skills* in expanding their skill set. Some users may have special requirements, or simply a desire to understand **absolutely every** Excel feature. For such users, we created our *Expert Skills* book that builds upon the skills learned in the *Essential Skills* book.

The *Expert Skills* book teaches advanced Excel skills that are rarely mastered by Excel users.

By the end of the book you'll be a true Excel expert. Your Excel skills will be greater and broader than almost all other Excel users in the workplace.

This appendix lists the lessons contained in the eleven sessions that make up the *Expert Skills* book.

Learn *Excel 2007 Expert Skills with The Smart Method* is available as both a low-cost printed paper book (always in stock at Amazon) and as a PDF e-Book (provided in the same format as this e-Book).

You can only obtain the *Expert Skills* e-Book from the <http://ExcelCentral.com> web site (this is the publisher's own web site: The Smart Method Ltd).

Expert skills course outline

Session 1 - Tables, and Ranges

- Check your program and operating system version
- Apply a simple filter to a range
- Apply a top 10 and custom filter to a range
- Apply an advanced filter with multiple OR criteria
- Apply an advanced filter with complex criteria
- Apply an advanced filter with function-driven criteria
- Extract unique records using an advanced filter
- Convert a range into a table and add a total row
- Format a table using table styles and convert a table into a range
- Create a custom table style
- Sort a range or table by rows
- Sort a range by columns
- Sort a range or table by custom list
- Name a table and create an automatic structured table reference
- Create a manual structured table reference
- Use special items in structured table references
- Understand unqualified structured table references

Session 2 - Data Integrity, Subtotals and Validations

- Split fixed width data using Text to Columns
- Split delimited data using Text to Columns
- Automatically subtotal a range
- Create nested subtotals
- Consolidate data from multiple data ranges
- Use data consolidation to generate quick subtotals from tables
- Validate numerical data
- Create user-friendly messages for validation errors
- Create data entry input messages
- Add a formula-driven date validation and a text length validation
- Add a table-based dynamic list validation
- Use a formula-driven custom validation to enforce complex business rules
- Remove duplicate values from a range or table

- Use a custom validation to add a unique constraint to a column

Session 3 - Advanced Functions

- Understand precedence rules and use the Evaluate feature
- Use common functions with Formula AutoComplete
- Use the formula palette and the PMT function
- Use the PV and FV functions to value investments
- Use the IF logic function
- Use the SUMIF and COUNTIF functions to create conditional totals
- Understand date serial numbers
- Understand common date functions
- Use the DATEDIF function
- Use date offsets to manage projects using the scheduling equation
- Use the DATE function to offset days, months and years
- Enter time values and perform basic time calculations
- Perform time calculations that span midnight
- Understand common time functions and convert date serial numbers to decimal values
- Use the TIME function to offset hours, minutes and seconds
- Use the AND and OR functions to construct complex Boolean criteria
- Understand calculation options (manual and automatic)
- Concatenate strings using the concatenation operator (&)
- Use the TEXT function to format numerical values as strings
- Extract text from fixed width strings using the LEFT, RIGHT and MID functions
- Extract text from delimited strings using the FIND and LEN functions
- Use a VLOOKUP function for an exact lookup
- Use an IFERROR function to suppress error messages
- Use a VLOOKUP function for an inexact lookup

Session 4 - Using Names and the Formula Auditing Tools

- Automatically create single-cell range names
- Manually create single cell range names and named constants
- Use range names to make formulas more readable
- Automatically create range names in two dimensions
- Use intersection range names and the INDIRECT function

- Create dynamic formula-based range names using the OFFSET function
- Create table based dynamic range names
- Create two linked drop-down lists using range names
- Understand the #NUM!, #DIV/0! and #NAME? error values
- Understand the #VALUE!, #REF! and #NULL! error values
- Understand background error checking and error checking rules
- Manually check a worksheet for errors
- Audit a formula by tracing precedents
- Audit a formula by tracing dependents
- Use the Watch Window to monitor cell values
- Use Speak Cells to eliminate data entry errors

Session 5 - Pivot Tables

- Create a one dimensional pivot table report from a table
- Create a grouped pivot table report
- Understand pivot table rows and columns
- Use an external data source
- Apply a simple filter and sort to a pivot table
- Use report filter fields
- Use report filter fields to automatically create multiple pages
- Format a pivot table using PivotTable styles
- Create a custom pivot table style
- Understand pivot table report layouts
- Add/remove subtotals and apply formatting to pivot table fields
- Display multiple summations within a single pivot table
- Add a calculated field to a pivot table
- Add a calculated item to a pivot table
- Group by text, date and numeric value ranges
- Show row data by percentage of total rather than value
- Create a pivot chart from a pivot table
- Embed multiple pivot tables onto a worksheet

Session 6 - What If Analysis and Security

- Create a single-input data table
- Create a two-input data table
- Define scenarios
- Create a scenario summary report

- Use Goal Seek
- Use Solver
- Hide and unhide worksheets, columns and rows
- Create custom views
- Prevent unauthorized users from opening or modifying workbooks
- Control the changes users can make to workbooks
- Restrict the cells users are allowed to change
- Allow different levels of access to a worksheet with multiple passwords
- Create a digital certificate
- Add an invisible digital signature to a workbook
- Add a visible digital signature to a workbook

Session 7 - Working with the Internet, Other Applications and Workgroups

- Publish a worksheet as a single web page
- Publish multiple worksheets as a web site
- Hyperlink to worksheets and ranges
- Hyperlink to other workbooks and the Internet
- Hyperlink to an e-mail address and enhance the browsing experience
- Execute a web query
- Embed an Excel worksheet object into a Word document
- Embed an Excel chart object into a Word document
- Link an Excel worksheet to a Word document
- Understand the three different ways to share a workbook
- Share a workbook using the lock method
- Share a workbook using the merge method
- Share a workbook on a network
- Accept and reject changes to shared workbooks

Session 8 - Forms and Macros

- Add group box and option button controls to a worksheet form
- Add a combo box control to a worksheet form
- Set form control cell links
- Connect result cells to a form
- Add a check box control to a worksheet form
- Use check box data in result cells

- Add a temperature gauge chart to a form
- Add a single input data table to a form
- Improve form appearance and usability
- Understand macros and VBA
- Record a macro with absolute references
- Understand macro security
- Implement macro security
- Record a macro with relative references
- Use shapes to run macros
- Run a macro from a button control

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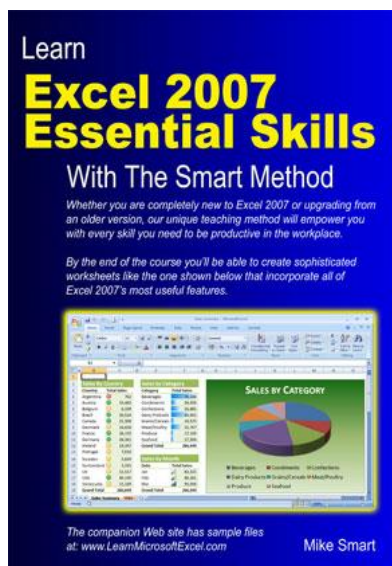
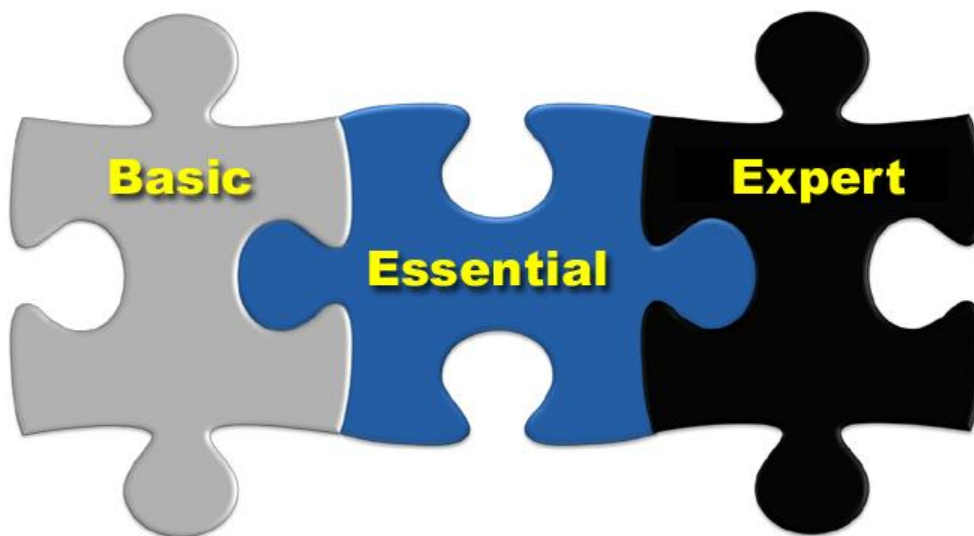
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Moving to the next level



The next book/e-book in this series (Essential Skills) builds upon the basic skills you've already learned.

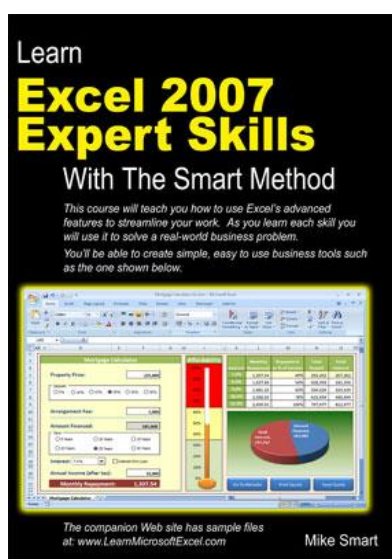
When you have completed this book/e-book you will have excellent Excel skills, good enough to impress any employer, and your Excel skills will be better than most office workers (even those with many years of experience).

You'll be able to create beautifully laid-out worksheets that will really impress and will have completely mastered all of Excel's charting features.

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If you purchase this book as an e-book, you'll also have access to videos of each lesson at: <http://ExcelCentral.com>.

The Smart Method's e-book/video packages

You are currently using Excel 2007, but it is likely that you will update to Excel 2016 in the near future. If you register for the Excel 2007 e-books and videos you will also receive the e-books and videos for Excel 2010, 2013, 2016 and 2016 for Apple Mac, as well as the next two editions of our Excel 2016 e-book (and Excel 2016 e-book for Apple Mac).

This means that our e-book packages are always the most up-to-date resources available, while also allowing for the use of older versions.

Why we recommend the e-book package for Excel 2016



With Excel 2007, 2010, 2013 and 2016, we became used to an Excel product that only had a feature update every three years.

Many have speculated that Excel 2016 may be the last Excel version ever released. That's because a new version of Excel 2016 (now often referred to by the new name: Excel 365) is now released every six months (in January and July).

You could think of these new versions as Excel (Jan 2018), Excel (July 2018), Excel (Jan 2019) etc.

When you purchase an Excel 2016 e-Book package from The Smart Method you don't just get the current version of the e-book. You also get the right to use (both online and offline) the next two editions of the e-Book as well. That means that if (for example) you purchased an e-book in February 2018 (covering the Jan 18 release), you'd also have access to the Jul 2018 edition and Jan 2019 edition of the e-book at no extra cost.

E-book purchasers also get the right to view all lessons and videos in legacy versions of Excel (Excel 2007, 2010 and 2013). All e-books are supplied as unlocked PDF files and you have the right to print a paper copy for your own personal use if required.

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Our books are printed using the very latest digital technology. As well as providing better print quality than the old-fashioned ink presses, it also means that we can instantly print in small batches. Traditional printers used to print at least 15,000 books at a time – stock that often sat in a warehouse for years.

Because of the streamlined printing process, we aim to have a new edition of our paper printed book in stock (and available for purchase via Amazon) on (or slightly before) the release date of each new Excel version (in January and July of each year).

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You can print this *Basic Skills* book yourself for free and use it to teach your own Excel classes. We can also directly and rapidly supply the latest edition of our paper-printed books, at educational discount prices, to Excel instructors, book stores, corporate clients, schools, colleges and universities from our warehouses in the USA (also serving Canada), UK (also serving Europe) and Australia (also serving New Zealand).

Our *Excel 2007 Essential Skills* and *Excel 2007 Expert Skills* books are available as printed paper books (and as PDF printable e-books). We also have books (and PDF printable e-books) to teach Excel 2016 for both Windows and Apple Mac, and for the legacy versions of Excel (Excel 2013 and 2010). This means that you'll be able to teach Excel classes whatever version of Excel your client, students or employees are using.

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Obtain a fast solution to any Excel issue using our support forum

Sometimes the correct solution to a specific Excel-related problem is not immediately apparent. Our online support forum enables you to ask any Excel-related question. One of our staff members will solve the problem.

The problem with most Excel forums

There are many *forums* on the Internet where members of the public try to answer each other's questions to help to solve Excel problems. If you've ever used such a forum you will know the problems that this creates:

- The Internet can become a mine of misinformation as good-natured contributors provide incorrect or misleading information.
- Questions are sometimes not answered at all, or are answered weeks after asking a question.
- Topics tend to rapidly drift "off topic" as contributors answer questions that were not asked by the original poster.
- Contributors often post VBA program code in their answers (almost always the wrong approach to solving an Excel-related problem).
- Answers are often found that are many years out of date (referring to products such as Excel 2003 that bear little resemblance to contemporary versions of Excel).

How the ExcelCentral.com forum is different

Our forum is the same as others found on the web in that Excel users ask for solutions to real-world business problems. Our difference is that the answers are written by paid staff members who have many years of Excel experience. This presents the following advantages:

- The answers you see will always be correct and represent the best-practice way of solving a problem.
- Most problems only require a single answer as the problem is usually solved at once.
- VBA code is never used in forum answers as we solve Excel problems using Excel's own features rather than by using program code.
- Every time that Excel is updated we re-visit older questions and update them so that the answers match the latest Excel version.
- Questions are sometimes answered almost immediately, but are always answered within 24 hours.

You can read answers to questions that have previously been posed, completely free of charge. You must be a registered user to post any questions. Visit:

<http://forums.ExcelCentral.com/> ... for an insight into how it all works.