

Make sure that this is the right book for your Excel version

This book is designed only for use with **Excel 2019**.

There are two different current Windows versions of Excel: *Excel 2019* and *Excel 365* (we publish a different book for Excel 365).

Excel 2019 is a “pay once and use forever” product. *Excel 365* is a subscription product (pay monthly or pay annually) that is automatically updated with a new semi-annual version in January and July each year.

Why you should use this 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 book of 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 or self-learning period (from minutes to hours).
- **Smart Method® books are #1 best sellers.** Every paper printed Smart Method® Excel book (and there have been ten 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 *Essential Skills* book will equip you with excellent Excel 2019 skills, good enough to impress any employer, but it doesn’t confuse by attempting to teach skills that are not common in the workplace. Only users who have advanced requirements need progress to the *Expert Skills* book.

Learn Excel in just a few minutes each day (or in as little as one full day)

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 short 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 a single day.

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 aware of the power of brevity. The discipline of condensing thoughts into one side of a single sheet of A4 paper resulted in the efficient transfer of information.

A tenet of our teaching system 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.

How this book avoids wasting your time.

Over the years I have read many hundreds of computer text books and most of my time was wasted. The big problem with most books is that I must wade through thousands of words just to learn one important technique. If I don't read everything I might miss that one essential insight.

Many presentational methods have been used in this book to help you to avoid reading about things you already know how to do, or things that are of little interest to you.

Lessons are logically grouped into *Lessons* and *Sessions* that are numbered for easy reference. This example shows *Lesson 28* in *Session 3*.

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

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

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

If you already know how to do something simply read the bold text for each step and just do it. Step notes sometimes provide precise instructions about how to progress if the one-line description is inadequate. Notes also often include interesting information about the current task.

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 set from: <https://TheSmartMethod.com>

Learn Excel 365 Expert Skills with The Smart Method

note

VLOOKUP is still (usually) a better solution than IFS

In: *Lesson 3-5: Use the IF logic function* (sidebar) I advised: "Excel allows you to nest IF functions up to 64 levels deep (which is 63 too many)".

The new IFS and SWITCH functions (introduced in Feb 2016) are mainly intended to offer a simpler alternative to nested IF functions.

This doesn't mean using the IFS and SWITCH functions provides a better solution than VLOOKUP.

It is easy to introduce errors using IFS and SWITCH, as the order in which the logic pairs are listed is vital to the correct operation of the function.

In almost all business situations a VLOOKUP will provide a better and more elegant solution than the use of the IFS or SWITCH function.

Lesson 3-28: Use the IFS function

In: *Lesson 3-25: Use a VLOOKUP function for an inexact lookup*, you used a VLOOKUP function to return a grade from different pass mark percentages.

In this lesson you will solve exactly the same problem posed in: *Lesson 3-25: Use a VLOOKUP function for an inexact lookup*, with a logic based (rather than lookup based) solution.

- 1 Open *IFS Grades-1* from your sample files folder.

	A	B	C	D	E	F
1	Exam Results					
2						
3	Name	Percentage	Grade	Percentage	Grade	
4	Johnny Caine	70%		0% Fail		
5	George Marley	68%		60% C		
6	Betty Anan	86%		70% B		
7	Paris Winfrey	80%		80% A		
8	Ozzy Dickens	95%		90% A*		
9	Johnny Roberts	84%				

This is an exact duplicate of the *Grades-1* sample file that you used at the beginning of: *Lesson 3-25: Use a VLOOKUP function for an inexact lookup*.

- 2 Use the IFS function to calculate the grade for each student by defining grade data within the function.

Sometimes it may be better to "hard code" data (such as the percentage grade thresholds) within the function itself. This prevents users from accidentally deleting or changing the grade percentage thresholds within the worksheet.

The argument against this approach is that the worksheet is more difficult to maintain if grade thresholds change in the future.

1. Click in cell C4.
2. Click: Formulas → Function Library → Logical → IFS.

The *Function Arguments* dialog for the IFS function appears.

The IFS function accepts up to 127 *Logical Test/Value* pairs.

3. Enter the following pair of arguments:

Logical_test1	B4 < 60%
Value_if_true1	"Fail"

The *Logical Test* is an expression that returns TRUE or FALSE. In this case the test asks if Johnny Caine's percentage is less than 60%.

As Johnny scored 70%, the result is FALSE (as 70% is not less than 60%). If Johnny had a percentage score of less than 60%, the function would have returned the text "Fail".

IFS Grades-1

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<https://thesmartmethod.com>

Learning by participation

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

Confucius, Chinese teacher, editor, politician and philosopher (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 method.

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 used 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.

Session Three: Advanced Functions

Logical_test1	B4 < 60%
Value_if_true1	"Fail"
Logical_test2	B4 < 70%
Value_if_true2	"C"
Logical_test3	B4 < 80%
Value_if_true3	"B"
Logical_test4	B4 < 90%
Value_if_true4	"A"
Logical_test5	B4 > = 90%
Value_if_true5	"A*"

Note that textual values must be placed in double quotation marks. If you omit to do this Excel will add them for you.

- Add *Logical Test/Value* pairs for the other grades (see sidebar).
- Click the OK button.

Johnny Caine's B grade is shown in cell C4.

- AutoFill cell C4 to the end of the range.

All grades are now correctly shown.

	A	B	C	D	E	F
3	Name	Percentage	Grade		Percentage	Grade
4	Johnny Caine	70%	B		0%	Fail
5	George Marley	68%	C		60%	C
6	Betty Anan	86%	A		70%	B
7	Paris Winfrey	80%	A		80%	A
8	Ozzy Dickens	95%	A*		90%	A*

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.

important

Excel recognizes text as having a value in logical expressions

If you try entering text into the *Percentage* column you might be surprised to find this result:

A	B	C
3	Name	Percentage Grade
4	Johnny Caine	teacup A*
5	George Marley	68% C

Excel has evaluated this logical expression:

= "teacup" > 90%

... and has surprisingly returned TRUE.

This seems puzzling at first until you realize that (behind the scenes) Excel assigns numeric values to text in order to implement alphabetical sorting.

These numeric values are always higher than any number so that (in an A-Z sort) numbers will always come before text.

To work around this peculiarity, you could add a new first *Logical Test/Value* pair to ensure that the value in column B was numeric like this:

Logical_test1	=ISNUMBER(B4)=FALSE
Value_if_true1	"Error"

- Use the IFS function to calculate the grade for each student using the grade data defined in cells E3:F8.

- Delete the functions in column C.
- Add a new IFS function to cell C4.
- Enter the following pair of *Logical Test/Value* arguments:

Logical_test1	B4 <= \$E5	= FALSE
Value_if_true1	"Fail"	"Fail"

Notice the use of an absolute reference for cell E5. This is needed to make sure that the formula AutoFills correctly.

If you do not understand absolute references see: *Lesson 1-10: Add percentage and running totals using Quick Analysis* (sidebar).

You could also have used \$F\$4 to reference the text: "Fail" in cell F4 like this:

Logical_test1	B4 <= \$E5	= FALSE
Value_if_true1	\$F\$4	"Fail"

Personally I prefer the literal text approach in this case as it makes the formula easier to read and thus less prone to error.

- Add appropriate *Logical Test/Value* pairs for the other grades.
- Click the OK button.
- AutoFill cell C4 down to the end of the range.

Exactly the same grade values are now shown. The difference from the first approach is that the grades will change if the Percentage thresholds shown in cells E4:E8 change in the future.

Each lesson models a real-world business problem. You'll immediately appreciate the value and relevance of each skill you learn.

- Save your work as *IFS Grades-2*.

A goal of this book is not to waste your time by explaining any skill twice. Sometimes you may forget something that has already been covered earlier in the course.

Cross-references are extensively used, pointing you back to the lesson in which the relevant skills were learned. The cross-references also help when you use this course as a reference book but have forgotten the more basic skills needed to complete each step.

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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.

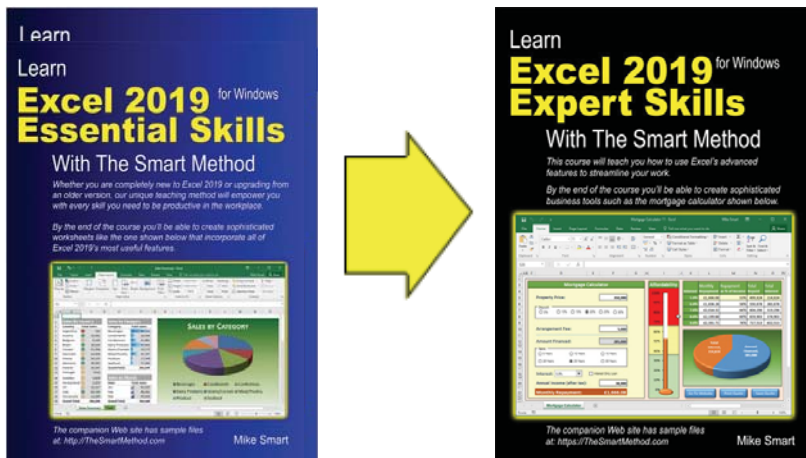
Many learners make the fundamental error of trying to learn from an Excel reference book that attempts to document (though not teach) *everything* that Excel can do. Of course, no single book could ever actually do this. (There are some advanced Excel features that easily justify an entire book of their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

By the end of this *Essential Skills* 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. 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, themes and cloud computing.

We also have a follow-on book that will teach you expert-level skills

The *Excel 2019 Expert Skills* book teaches Excel to an extremely high level of competence that is very rarely found in the workplace (even amongst top professionals).

At *Expert* level your 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.



The full course outlines for the *Expert Skills* book can be viewed on the <https://thesmartmethod.com> web site.