Why you should use this book to learn Excel 365

- **It provides a thorough coverage of Power Pivot, Power Query, data modeling and DAX.** Power Pivot is an advanced professional tool for designing OLAP multi-dimensional databases. It is impossible to effectively use Power Pivot without first acquiring the relational modeling and OLAP theory needed to use it. This book will not only teach you DAX but will also give you all the OLAP data modeling skills you need in order to use Power Pivot and Get & Transform/Power Query effectively.

- **It covers the Excel 365 version of Excel.** There are now two current Windows versions of Excel: **Excel 2019** (the pay-once version) and **Excel 365** (the subscription version that has more features). The editions are very different. This book is specifically written for the *Excel 365 January 2019 semi-annual* version. It can be very frustrating to attempt to learn Excel 365 using an Excel 2019 book.

- **It is up-to-date.** A new Excel 365 semi-annual version is released every six months* (in January and July) and automatically updated on your computer. We then publish a new edition of this book to support the latest update. This means that new features are covered, and the screen grabs will exactly match what you see on your screen. It can be very frustrating to try to learn Excel 365 using an out-of-date book.

- **It won't waste your time by teaching basic Excel 365 skills that you already know.** This isn't a beginner's book. If you are an absolute beginner, you need our *Excel 365 Essential Skills* book. By assuming that you are already able to use Excel's basic features, far more ground can be covered.

- **Learning success is guaranteed.** For over fifteen years, Smart Method® 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 and better ways of explaining them. This has made the book effective for students of all ages and abilities.

- **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.

- **It teaches to true Expert level.** This *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 effectively use) absolutely every Excel and Power Pivot feature. You'll have a complete mastery of skills that are often even a mystery to Excel power users.

Master Excel expert skills by setting aside just a few minutes each day

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 expert-level skills by setting aside just a few minutes each day to complete a single lesson.

Who Is This Book for?

If you can already use all of Excel's essential features but want to raise your skills to true Expert level, you've found the right book.

This book isn't for absolute beginners. If you're just starting out with Excel, you should buy our *Essential Skills* book to learn all of Excel's most important features.

This book will give you advanced Excel skills that are rarely mastered by Excel users. By the end of the book you'll be a true Excel expert, able to use all of the power available from the world's most powerful business tool. Your Excel skills will be greater and broader than almost all other Excel users in the workplace.

This book is for *Excel 365* users who:

■ Are already comfortable with Excel 365's basic features (ideally by completing all of the lessons in our *Essential Skills* book).

■ Want in-depth coverage of all Excel 365's more powerful and complex features rather than a simple overview.

■ Want an in-depth knowledge of multidimensional analysis using the new Power Pivot add-in (now included in all Excel versions).

■ Want to master the other OLAP "power" tools now included in all Excel versions, the tools previously known as Power Query (now re-named: Get & Transform) and Power Maps (now re-named: 3D Maps).

■ Schools, colleges and universities who wish to provide advanced Excel 365 training courses.

Use of this book as courseware

While this book is effective for self-instruction, the book is also the official courseware for The Smart Method's *Excel 365 Expert Skills* course.

Smart Method courses have been taken by a varied cross-section of the world's leading companies. We've had fantastic feedback from the vast number of professionals we've empowered with Excel skills.

This book is also suitable for use by other training organizations, teachers, schools, colleges and universities to provide structured, objective-led, and highly effective classroom courses.

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* Excel 365 Version 1808 was released to the *Semi-Annual* update channel in January 2019. An earlier build of the same version was released earlier to the *Monthly* update channel. You'll learn more about update channels, builds and versions in: *Lesson 1-1: Check that your Excel version is up to date.*

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

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.

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.

4. Add *Logical Test/Value* pairs for the other grades (see sidebar).

5. Click the OK button.

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

6. 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*

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

1. Delete the functions in column C.

2. Add a new IFS function to cell C4.

3. 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 F4 to reference the text: "Fail" in cell F4 like this:

   | Logical_test1 | B4<E5 | ↑ | = FALSE |
   | Value_if_true1 | F4 | ↑ | = "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.

4. Add appropriate *Logical Test/Value* pairs for the other grades.

5. Click the *OK* button.

6. 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.

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

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 logic 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" |

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.

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

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.