
***Excel VBA
Programming***
FOR
DUMMIES[®]

by John Walkenbach



WILEY

Wiley Publishing, Inc.

***Excel VBA
Programming***
FOR
DUMMIES®

by John Walkenbach



WILEY

Wiley Publishing, Inc.

Excel VBA Programming For Dummies®

Published by
Wiley Publishing, Inc.
111 River Street
Hoboken, NJ 07030-5774

Copyright © 2004 by Wiley Publishing, Inc., Indianapolis, Indiana

Published by Wiley Publishing, Inc., Indianapolis, Indiana

Published simultaneously in Canada

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning or otherwise, except as permitted under Sections 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 646-8600. Requests to the Publisher for permission should be addressed to the Legal Department, Wiley Publishing, Inc., 10475 Crosspoint Blvd., Indianapolis, IN 46256, (317) 572-3447, fax (317) 572-4355, e-mail: brandreview@wiley.com.

Trademarks: Wiley, the Wiley Publishing logo, For Dummies, the Dummies Man logo, A Reference for the Rest of Us!, The Dummies Way, Dummies Daily, The Fun and Easy Way, Dummies.com, and related trade dress are trademarks or registered trademarks of John Wiley & Sons, Inc. and/or its affiliates in the United States and other countries, and may not be used without written permission. All other trademarks are the property of their respective owners. Wiley Publishing, Inc., is not associated with any product or vendor mentioned in this book.

LIMIT OF LIABILITY/DISCLAIMER OF WARRANTY: THE PUBLISHER AND THE AUTHOR MAKE NO REPRESENTATIONS OR WARRANTIES WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF THE CONTENTS OF THIS WORK AND SPECIFICALLY DISCLAIM ALL WARRANTIES, INCLUDING WITHOUT LIMITATION WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. NO WARRANTY MAY BE CREATED OR EXTENDED BY SALES OR PROMOTIONAL MATERIALS. THE ADVICE AND STRATEGIES CONTAINED HEREIN MAY NOT BE SUITABLE FOR EVERY SITUATION. THIS WORK IS SOLD WITH THE UNDERSTANDING THAT THE PUBLISHER IS NOT ENGAGED IN RENDERING LEGAL, ACCOUNTING, OR OTHER PROFESSIONAL SERVICES. IF PROFESSIONAL ASSISTANCE IS REQUIRED, THE SERVICES OF A COMPETENT PROFESSIONAL PERSON SHOULD BE SOUGHT. NEITHER THE PUBLISHER NOR THE AUTHOR SHALL BE LIABLE FOR DAMAGES ARISING HEREFROM. THE FACT THAT AN ORGANIZATION OR WEBSITE IS REFERRED TO IN THIS WORK AS A CITATION AND/OR A POTENTIAL SOURCE OF FURTHER INFORMATION DOES NOT MEAN THAT THE AUTHOR OR THE PUBLISHER ENDORSES THE INFORMATION THE ORGANIZATION OR WEBSITE MAY PROVIDE OR RECOMMENDATIONS IT MAY MAKE. FURTHER, READERS SHOULD BE AWARE THAT INTERNET WEBSITES LISTED IN THIS WORK MAY HAVE CHANGED OR DISAPPEARED BETWEEN WHEN THIS WORK WAS WRITTEN AND WHEN IT IS READ.

For general information on our other products and services or to obtain technical support, please contact our Customer Care Department within the U.S. at 800-762-2974, outside the U.S. at 317-572-3993, or fax 317-572-4002.

Wiley also publishes its books in a variety of electronic formats. Some content that appears in print may not be available in electronic books.

Library of Congress Control Number: 2004107892

ISBN: 0-7645-7412-4

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1

1B/QV/QY/QU/IN



About the Author

John Walkenbach is the author of more than 40 spreadsheet books and lives in southern Arizona. Visit his Web site at <http://j-walk.com>.

Author's Acknowledgments

Thanks to all of the talented people at Wiley Publishing for making it so easy to write these books. Special thanks to Dick Kusleika, the technical editor for this book. Dick uncovered quite a few errors and set me straight on a few things.

Publisher's Acknowledgments

We're proud of this book; please send us your comments through our online registration form located at www.dummies.com/register/.

Some of the people who helped bring this book to market include the following:

Acquisitions, Editorial, and Media Development

Project Editor: Beth Taylor

Executive Editor: Greg Croy

Copy Editor: Tonya Cupp

Technical Editor: Dick Kusleika

Editorial Manager: Leah Cameron

Media Development Specialist: Kit Malone

Media Development Manager:
Laura VanWinkle

Media Development Supervisor:
Richard Graves

Editorial Assistant: Amanda Foxworth

Cartoons: Rich Tennant, www.the5thwave.com

Composition

Project Coordinator: Adrienne Martinez

Layout and Graphics: Amanda Carter,
Andrea Dahl, Lauren Goddard,
Stephanie D. Jumper, Michael Kruzil,
Lynsey Osborn, Jacque Roth

Proofreaders: Laura Albert,
TECHBOOKS Production Services

Indexer: TECHBOOKS Production Services

Publishing and Editorial for Technology Dummies

Richard Swadley, Vice President and Executive Group Publisher

Andy Cummings, Vice President and Publisher

Mary Bednarek, Executive Acquisitions Director

Mary C. Corder, Editorial Director

Publishing for Consumer Dummies

Diane Graves Steele, Vice President and Publisher

Joyce Pepple, Acquisitions Director

Composition Services

Gerry Fahey, Vice President of Production Services

Debbie Stailey, Director of Composition Services

Contents at a Glance

.....

<i>Introduction</i>	1
<i>Part I: Introducing VBA</i>	9
Chapter 1: What Is VBA?	11
Chapter 2: Jumping Right In	21
<i>Part II: How VBA Works with Excel</i>	31
Chapter 3: Introducing the Visual Basic Editor	33
Chapter 4: Introducing the Excel Object Model	51
Chapter 5: VBA Sub and Function Procedures	63
Chapter 6: Using the Excel Macro Recorder	75
<i>Part III: Programming Concepts</i>	87
Chapter 7: Essential VBA Language Elements	89
Chapter 8: Working with Range Objects	107
Chapter 9: Using VBA and Worksheet Functions	119
Chapter 10: Controlling Program Flow and Making Decisions	133
Chapter 11: Automatic Procedures and Events	151
Chapter 12: Error-Handling Techniques	171
Chapter 13: Bug Extermination Techniques	185
Chapter 14: VBA Programming Examples	195
<i>Part IV: Developing Custom Dialog Boxes</i>	213
Chapter 15: Custom Dialog Box Alternatives	215
Chapter 16: Custom Dialog Box Basics	231
Chapter 17: Using Dialog Box Controls	247
Chapter 18: UserForm Techniques and Tricks	265
<i>Part V: Creating Custom Toolbars and Menus</i>	287
Chapter 19: Customizing the Excel Toolbars	289
Chapter 20: When the Normal Excel Menus Aren't Good Enough	307
<i>Part VI: Putting It All Together</i>	323
Chapter 21: Creating Worksheet Functions — and Living to Tell about It	325
Chapter 22: Creating Excel Add-Ins	339
Chapter 23: Interacting with Other Office Applications	351

<i>Part VII: The Part of Tens</i>	363
Chapter 24: Ten VBA Questions (And Answers)	365
Chapter 25: (Almost) Ten Excel Resources	369
<i>Index</i>	373

Table of Contents

.....

<i>Introduction</i>	1
Is This the Right Book?	1
So You Want to Be a Programmer	2
Why Bother?	3
What I Assume about You	3
Obligatory Typographical Conventions Section	4
Check Your Security Settings	5
How This Book Is Organized	5
Part I: Introducing VBA	6
Part II: How VBA Works with Excel	6
Part III: Programming Concepts	6
Part IV: Developing Custom Dialog Boxes	6
Part V: Creating Custom Toolbars and Menus	6
Part VI: Putting It All Together	6
Part VII: The Part of Tens	7
Marginal Icons	7
Get the Sample Files	8
Now What?	8

Part 1: Introducing VBA

Chapter 1: What Is VBA?	11
Okay, So What Is VBA?	11
What Can You Do with VBA?	12
Inserting a text string	13
Automating a task you perform frequently	13
Automating repetitive operations	13
Creating a custom command	13
Creating a custom toolbar button	13
Creating a custom menu command	14
Creating a simplified front end	14
Developing new worksheet functions	14
Creating complete, macro-driven applications	14
Creating custom add-ins for Excel	14
Advantages and Disadvantages of VBA	15
VBA advantages	15
VBA disadvantages	15
VBA in a Nutshell	16
An Excursion into Versions	18

Chapter 2: Jumping Right In	21
What You'll Be Doing	21
Taking the First Steps	22
Recording the Macro	23
Testing the Macro	24
Examining the Macro	25
Modifying the Macro	28
More about the ConvertFormulas Macro	29

Part II: How VBA Works with Excel **31**

Chapter 3: Introducing the Visual Basic Editor	33
What Is the Visual Basic Editor?	33
Activating the VBE	33
Understanding VBE components	34
Working with the Project Explorer	36
Adding a new VBA module	36
Removing a VBA module	37
Exporting and importing objects	37
Working with a Code Window	38
Minimizing and maximizing windows	38
Creating a module	39
Getting VBA code into a module	39
Entering code directly	40
Using the macro recorder	42
Copying VBA code	44
Customizing the VBA Environment	44
Using the Editor tab	45
Using the Editor Format tab	47
Using the General tab	48
Using the Docking tab	48
Chapter 4: Introducing the Excel Object Model	51
Excel Is an Object?	52
Climbing the Object Hierarchy	52
Wrapping Your Mind around Collections	53
Referring to Objects	54
Navigating through the hierarchy	55
Simplifying object references	56
Diving into Object Properties and Methods	56
Object properties	58
Object methods	59
Object events	60
Finding Out More	60
Using VBA's Help system	60
Using the Object Browser	61

Chapter 5: VBA Sub and Function Procedures	63
Subs versus Functions.....	63
Looking at Sub procedures	64
Looking at Function procedures.....	64
Naming Subs and Functions.....	65
Executing Sub Procedures	65
Executing the Sub procedure directly	67
Executing the procedure from the Macro dialog box.....	68
Executing a macro using a shortcut key	68
Executing the procedure from a button or shape.....	70
Executing the procedure from another procedure	71
Executing Function Procedures	72
Calling the function from a Sub procedure	72
Calling a function from a worksheet formula.....	73
Chapter 6: Using the Excel Macro Recorder	75
Is It Live or Is It VBA?.....	75
Recording Basics.....	76
Preparing to Record.....	78
Relative or Absolute?.....	78
Recording in absolute mode	78
Recording in relative mode.....	79
What Gets Recorded?	81
Recording Options	82
Macro name.....	83
Shortcut key.....	83
Store Macro In.....	83
Description.....	83
Is This Thing Efficient?	84
Part III: Programming Concepts	87
Chapter 7: Essential VBA Language Elements	89
Using Comments in Your VBA Code	89
Using Variables, Constants, and Data Types	91
Understanding variables	91
What are VBA's data types?.....	92
Declaring and scoping variables	93
Working with constants	98
Working with strings	100
Working with dates.....	100
Using Assignment Statements	101
Assignment statement examples.....	102
About that equal sign.....	102
Other operators.....	102



Working with Arrays	104
Declaring arrays	104
Multidimensional arrays.....	105
Dynamic Arrays	105
Using Labels.....	106
Chapter 8: Working with Range Objects	107
A Quick Review.....	107
Other Ways to Refer to a Range	108
The Cells property	109
The Offset property	110
Referring to entire columns and rows	110
Some Useful Range Object Properties.....	111
The Value property	111
The Text property	112
The Count property	112
The Column and Row properties	112
The Address property.....	113
The HasFormula property.....	113
The Font property	114
The Interior property.....	114
The Formula property	115
The NumberFormat property	115
Some Useful Range Object Methods.....	116
The Select method	116
The Copy and Paste methods.....	116
The Clear method.....	117
The Delete method.....	117
Chapter 9: Using VBA and Worksheet Functions	119
What Is a Function?.....	119
Using VBA Functions	120
VBA function examples.....	120
VBA functions that do more than return a value	122
Discovering VBA functions	123
Using Worksheet Functions in VBA	126
Worksheet function examples	127
Entering worksheet functions.....	129
More about Using Worksheet Functions	130
Using Custom Functions	131
Chapter 10: Controlling Program Flow and Making Decisions	133
Going with the Flow, Dude	133
The GoTo Statement	134
Decisions, decisions.....	135
The If-Then structure	135
The Select Case structure	140

Knocking Your Code for a Loop	143
For-Next loops.....	144
Do-While loop	147
Do-Until loop	148
Looping through a Collection	149
Chapter 11: Automatic Procedures and Events	151
Preparing for the Big Event.....	151
Are events useful?	154
Programming event-handler procedures	154
Where Does the VBA Code Go?	155
Writing an Event-Handler Procedure	156
Introductory Examples	157
The Open event for a workbook.....	157
The BeforeClose event for a workbook	159
The BeforeSave event for a workbook.....	160
Examples of Activation Events	161
Activate and Deactivate events in a sheet	161
Activate and Deactivate events in a workbook	161
Workbook activation events	162
Other Worksheet-Related Events	163
The BeforeDoubleClick event	163
The BeforeRightClick event	163
The Change event.....	164
Events Not Associated with Objects	166
The OnTime event.....	167
Keypress events.....	168
Chapter 12: Error-Handling Techniques	171
Types of Errors	171
An Erroneous Example	172
The macro's not quite perfect	172
The macro is still not perfect.....	174
Is the macro perfect yet?	174
Giving up on perfection	176
Handling Errors Another Way.....	176
Revisiting the EnterSquareRoot procedure	176
About the On Error statement	177
Handling Errors: The Details	178
Resuming after an error.....	178
Error handling in a nutshell	180
Knowing when to ignore errors	180
Identifying specific errors	181
An Intentional Error	182
Chapter 13: Bug Extermination Techniques	185
Species of Bugs	185
Identifying Bugs.....	186

Debugging Techniques	187
Examining your code	187
Using the MsgBox function	187
Inserting Debug.Print statements	189
Using the VBA debugger	189
About the Debugger	189
Setting breakpoints in your code	189
Using the Watch window	192
Bug Reduction Tips	194
Chapter 14: VBA Programming Examples	195
Working with Ranges	195
Copying a range	196
Copying a variable-sized range	197
Selecting to the end of a row or column	198
Selecting a row or column	199
Moving a range	199
Looping through a range efficiently	200
Prompting for a cell value	201
Determining the selection type	202
Identifying a multiple selection	203
Changing Excel Settings	203
Changing Boolean settings	204
Changing non-Boolean settings	204
Working with Charts	205
Modifying the chart type	205
Looping through the ChartObjects collection	206
Modifying properties	206
Applying chart formatting	207
VBA Speed Tips	207
Turning off screen updating	208
Turning off automatic calculation	208
Eliminating those pesky alert messages	209
Simplifying object references	209
Declaring variable types	210
Using the With-End With structure	211
 Part IV: Developing Custom Dialog Boxes	 213
Chapter 15: Custom Dialog Box Alternatives	215
Why Create Dialog Boxes?	215
The MsgBox Function	216
Displaying a simple message box	216
Getting a response from a message box	217
Customizing message boxes	218

The InputBox Function.....	221
InputBox syntax.....	221
An InputBox example.....	221
The GetOpenFilename Method.....	223
The syntax.....	223
A GetOpenFilename example.....	224
Selecting multiple files.....	226
The GetSaveAsFilename Method	227
Displaying Excel's Built-in Dialog Boxes.....	228
Chapter 16: Custom Dialog Box Basics	231
Knowing When to Use a Custom Dialog Box (Also Known as UserForm)	231
Creating Custom Dialog Boxes: An Overview.....	232
Working with UserForms.....	233
Inserting a new UserForm	233
Adding controls to a UserForm	234
Changing properties for a UserForm control.....	235
Viewing the UserForm Code window.....	236
Displaying a custom dialog box.....	237
Using information from a custom dialog box	237
A Custom Dialog Box Example	238
Creating the custom dialog box.....	238
Adding the CommandButtons	238
Adding the OptionButtons	239
Adding event-handler procedures.....	241
Creating a macro to display the dialog box	243
Making the macro available	243
Testing the macro.....	244
Chapter 17: Using Dialog Box Controls	247
Getting Started with Dialog Box Controls	247
Adding controls	247
Introducing control properties.....	248
Dialog Box Controls — the Details.....	250
CheckBox control	251
ComboBox control	252
CommandButton control.....	253
Frame control.....	253
Image control	254
Label control	254
ListBox control	255
MultiPage control	256
OptionButton control.....	256
RefEdit control.....	257
ScrollBar control.....	258
SpinButton control.....	258

TabStrip control.....	259
TextBox control	259
ToggleButton control	260
Working with Dialog Box Controls	260
Moving and resizing controls.....	261
Aligning and spacing controls	261
Accommodating keyboard users.....	262
Testing a UserForm	263
Dialog Box Aesthetics	264
Chapter 18: UserForm Techniques and Tricks	265
Using Dialog Boxes.....	265
A UserForm Example	265
Creating the dialog box.....	266
Writing code to display the dialog box.....	268
Making the macro available	268
Trying out your dialog box	269
Adding event-handler procedures.....	269
Validating the data.....	271
Now the dialog box works.....	271
More UserForm Examples	272
A ListBox example.....	272
Selecting a range.....	276
Using multiple sets of OptionButtons.....	278
Using a SpinButton and a TextBox.....	278
Using a UserForm as a progress indicator	280
Creating a tabbed dialog box	283
Displaying a chart in a dialog box.....	284
A Dialog Box Checklist.....	286

Part V: Creating Custom Toolbars and Menus.....287

Chapter 19: Customizing the Excel Toolbars	289
Introducing CommandBars	289
Customizing Toolbars.....	289
Working with Toolbars	291
The Toolbars tab	292
The Commands tab	294
The Options tab.....	294
Adding and Removing Toolbar Controls	295
Moving and copying controls	295
Inserting a new control.....	295
Using other toolbar button operations	296
Distributing Toolbars.....	297
Using VBA to Manipulate Toolbars	298
Commanding the CommandBars collection	299
Listing all CommandBar objects	299

Referring to CommandBars.....	300
Referring to controls in a CommandBar.....	300
Properties of CommandBar controls.....	301
VBA Examples.....	302
Resetting all built-in toolbars.....	302
Displaying a toolbar when a worksheet is activated.....	302
Ensuring that an attached toolbar is displayed.....	303
Hiding and restoring toolbars.....	304
Chapter 20: When the Normal Excel Menus Aren't Good Enough . .	307
Defining Menu Lingo.....	307
How Excel Handles Menus.....	308
Customizing Menus Directly.....	309
Looking Out for the CommandBar Object.....	310
Referring to CommandBars.....	310
Referring to Controls in a CommandBar.....	310
Properties of CommandBar Controls.....	312
Placing your menu code.....	313
Would You Like to See Our Menu Examples?.....	313
Creating a menu.....	313
Adding a menu item.....	315
Deleting a menu.....	316
Deleting a menu item.....	316
Changing menu captions.....	317
Adding a menu item to the Tools menu.....	318
Working with Shortcut Menus.....	320
Adding menu items to a shortcut menu.....	321
Deleting menu items from a shortcut menu.....	321
Disabling shortcut menus.....	322
Finding Out More.....	322
Part VI: Putting It All Together	323
Chapter 21: Creating Worksheet Functions —	
and Living to Tell about It	325
Why Create Custom Functions?.....	325
Understanding VBA Function Basics.....	326
Writing Functions.....	327
Working with Function Arguments.....	327
Function Examples.....	328
A function with no argument.....	328
A function with one argument.....	328
A function with two arguments.....	330
A function with a range argument.....	331
A function with an optional argument.....	332
A function with an indefinite number of arguments.....	334

Using the Insert Function Dialog Box	335
Displaying the function's description	335
Function categories	336
Argument descriptions	337
Chapter 22: Creating Excel Add-Ins	339
Okay . . . So What's an Add-In?	339
Why Create Add-Ins?	340
Working with Add-Ins	341
Add-in Basics	341
An Add-in Example	343
Setting up the workbook	343
Testing the workbook	346
Adding descriptive information	346
Creating the add-in	347
Opening the add-in	348
Distributing the add-in	349
Modifying the add-in	349
Chapter 23: Interacting with Other Office Applications	351
Starting Another Application from Excel	351
Using the VBA Shell function	351
Activating a Microsoft Office application	352
Using Automation in Excel	352
Getting Word's version number	354
Controlling Word from Excel	355
Controlling Excel from Word	355
Sending Personalized E-mail Using Outlook	358
Working with ADO	360
 Part VII: The Part of Tens	 363
Chapter 24: Ten VBA Questions (And Answers)	365
The Top Ten Questions about VBA	365
Chapter 25: (Almost) Ten Excel Resources	369
The VBA Help System	369
Microsoft Product Support	369
Internet Newsgroups	370
Internet Web Sites	370
Excel Blogs	371
Google	371
Local User Groups	371
My Other Book	371
 Index	 373

Introduction

.....

Greetings, prospective Excel programmer . . .

Thanks for buying my book. I think you'll find that it offers a fast, enjoyable way to discover the ins and outs of Microsoft Excel programming. Even if you don't have the foggiest idea of what programming is all about, this book can help you make Excel jump through hoops in no time (well, it will take *some* time).

Unlike most programming books, this one is written in plain English, and even normal people can understand it. Even better, it's filled with information of the "just the facts, ma'am" variety — and not the drivel you might need once every third lifetime.

Is This the Right Book?

Go to any large bookstore and you'll find many Excel books (far too many, as far as I'm concerned). A quick overview can help you decide whether this book is really right for you. This book

- ✔ Is designed for intermediate to advanced Excel users who want to learn Visual Basic for Applications (VBA) programming.
- ✔ Requires no previous programming experience.
- ✔ Covers the most commonly used commands.
- ✔ Is appropriate for Excel 2000 through Excel 2003. Fact is, there are very few significant differences among Excel 2000, Excel 2002, and Excel 2003.
- ✔ Just might make you crack a smile occasionally — it even has cartoons.

If you are using Excel 5, Excel 95, or Excel 97, this book is not for you. Although there are many similarities between the current version of Excel and previous versions, there are also many subtle (and not-so-subtle) differences that can be perplexing and can likely confuse you. If you're still using a pre-2000 version of Excel, locate a book that is specific to that version. Or consider upgrading your copy of Excel.

This is *not* an introductory Excel book. If you're looking for a general-purpose Excel book, check out any of the following books, which are all published by Wiley:

- ✓ *Excel 2003 For Dummies*, by Greg Harvey
- ✓ *Excel 2003 Bible*, by John Walkenbach (yep, that's me)
- ✓ *Excel 2003 For Dummies Quick Reference*, by John Walkenbach (me again) and Colin Banfield

Notice that the title of this book isn't *The Complete Guide to Excel VBA Programming For Dummies*. I don't cover all aspects of Excel programming — but then again, you probably don't want to know *everything* about this topic. In the unlikely event you want a more comprehensive Excel programming book, you might try *Microsoft Excel 2003 Power Programming with VBA*, by John Walkenbach (is this guy prolific, or what?), also published by Wiley Publishing.

So You Want to Be a Programmer . . .

Besides earning money to pay my bills, my main goal in writing this book is to teach Excel users how to use the VBA language — a tool that helps you significantly enhance the power of the world's most popular spreadsheet. Using VBA, however, involves programming. (Yikes! The *p* word.)

If you're like most computer users, the word *programmer* conjures up an image of someone who looks and behaves nothing like you. Perhaps words such as *nerd*, *geek*, and *dweeb* come to mind.

Times have changed. Computer programming has become much easier, and even so-called normal people now engage in this activity. *Programming* simply means developing instructions that the computer automatically carries out. *Excel programming* refers to the fact that you can instruct Excel to automatically do things that you normally do manually — saving you lots of time and (you hope) reducing errors. I could go on, but I need to save some good stuff for Chapter 1.

If you've read this far, it's a safe bet that you need to become an Excel programmer. This could be something you came up with yourself or (more likely) something your boss decided. In this book, I tell you enough about Excel programming so that you won't feel like an idiot the next time you're trapped in a conference room with a group of Excel aficionados. And by the time you finish this book, you can honestly say, "Yeah, I do some Excel programming."

Why Bother?

Most Excel users never bother to learn VBA programming. Your interest in this topic definitely places you among an elite group. Welcome to the fold! If you're still not convinced that learning Excel programming is a good idea, I've come up with a few good reasons why you might want to take the time to learn VBA programming.

- ✔ **It will make you more marketable.** Like it or not, Microsoft's applications are extremely popular. You may already know that all applications in Microsoft Office support VBA. The more you know about VBA, the better your chances for advancement in your job.
- ✔ **It lets you get the most out of your software investment** (or, more likely, your *employer's* software investment). Using Excel without knowing VBA is sort of like buying a TV set and watching only the odd-numbered channels.
- ✔ **It will improve your productivity (eventually).** Learning VBA definitely takes some time, but you'll more than make up for this in the amount of time you ultimately save because you're more productive. Sort of like what they told you about going to college.
- ✔ **It's fun (well, sometimes).** Some people really enjoy making Excel do things that are otherwise impossible. By the time you finish this book, you just might be one of those people.

Now are you convinced?

What I Assume about You

People who write books usually have a target reader in mind. For this book, my target reader is a conglomerate of dozens of Excel users I've met over the years (either in person or out in cyberspace). The following points more or less describe my hypothetical target reader:

- ✔ You have access to a PC at work — and probably at home.
- ✔ You're running Excel 2000 or later.
- ✔ You've been using computers for several years.
- ✔ You use Excel frequently in your work, and you consider yourself to be more knowledgeable about Excel than the average bear.
- ✔ You need to make Excel do some things that you currently can't make it do.
- ✔ You have little or no programming experience.
- ✔ You understand that the Help system in Excel can actually be useful. Face it, this book doesn't cover everything. If you get on good speaking terms with the Help system, you'll be able to fill in some of the missing pieces.
- ✔ You need to accomplish some work, and you have a low tolerance for thick, boring computer books.

Obligatory Typographical Conventions Section

All computer books have a section like this. (I think some federal law requires it.) Read it or skip it.

Sometimes, I refer to key combinations — which means you hold down one key while you press another. For example, Ctrl+Z means you hold down the Ctrl key while you press Z.

For menu commands, I use a distinctive character to separate menu items. For example, you use the following command to open a workbook file:

File⇨Open

Excel programming involves developing *code* — that is, the instructions Excel follows. All code in this book appears in a monospace font, like this:

```
Range("A1:A12").Select
```

Some long lines of code don't fit between the margins in this book. In such cases, I use the standard VBA line continuation character sequence: a space followed by an underscore character. Here's an example:

```
Selection.PasteSpecial Paste:=xlValues, _  
    Operation:=xlNone, SkipBlanks:=False, _  
    Transpose:=False
```

When you enter this code, you can type it as written or place it on a single line (omitting the spaces and the underscore characters).

Check Your Security Settings

It's a cruel world out there. It seems that some scam artist is always trying to take advantage of you or cause some type of problem. The world of computing is equally cruel. You probably know about computer viruses, which can cause some nasty things to happen to your system. But did you know that computer viruses can also reside in an Excel file? It's true. In fact, it's relatively easy to write a computer virus using VBA. An unknowing user can open an Excel file and spread the virus to other Excel workbooks.

Over the years, Microsoft has become increasingly concerned about security issues. This is a good thing, but it also means that Excel users need to understand how things work. You can check Excel's security settings by using the Tools ⇨ Macro ⇨ Security command. Your options are Very High, High, Medium, and Low. Check Excel's Help system for details on these settings.

Consider this scenario: You spend a week writing a killer VBA program that will revolutionize your company. You test it thoroughly, and then send it to your boss. He calls you into his office and claims that your macro doesn't do anything at all. What's going on? Chances are, your boss's security setting does not allow macros to run. Or, maybe he chose to disable the macros when he opened the file.

Bottom line? Just because an Excel workbook contains a macro it is no guarantee that the macro will ever be executed. It all depends on the security setting and whether the user chooses to enable or disable macros for that file.

In order to work with this book, you will need to enable macros for the files you work with. My advice is to use the Medium security level. Then, when you open a file that you've created, you can simply enable the macros. If you open a file from someone you don't know, you should disable the macros and check the VBA code to ensure that it doesn't contain anything destructive or malicious.

How This Book Is Organized

I divided this book into seven major parts, each of which contains several chapters. Although I arranged the chapters in a fairly logical sequence, you can read them in any order you choose. Here's a quick preview of what's in store for you.

Part I: Introducing VBA

Part I has but two chapters. I introduce the VBA language in the first chapter. In Chapter 2, I let you get your feet wet right away by taking you on a hands-on guided tour.

Part II: How VBA Works with Excel

In writing this book, I assumed that you already know how to use Excel. The four chapters in Part II give you a better grasp on how VBA is implemented in Excel. These chapters are all important, so I don't recommend skipping past them, okay?

Part III: Programming Concepts

The eight chapters in Part III get you into the nitty-gritty of what programming is all about. You may not need to know all this stuff, but you'll be glad it's there if you ever do need it.

Part IV: Developing Custom Dialog Boxes

One of the coolest parts of programming in Excel is designing custom dialog boxes (well, at least *I* like it). The four chapters in Part IV show you how to create dialog boxes that look like they came straight from the software lab at Microsoft.

Part V: Creating Custom Toolbars and Menus

Part V has two chapters, both of which address *user interface* topics. One chapter deals with creating custom menus; the other describes how to customize toolbars.

Part VI: Putting It All Together

The four chapters in Part VI pull together information from the preceding chapters. You find out how to develop custom worksheet functions, create

- [click Aestheticism in Art for free](#)
- [click Keep from All Thoughtful Men: How U.S. Economists Won World War II](#)
- [download A Little Known Murder in Studio 4 \(Trese Case, Book 5\) pdf, azw \(kindle\), epub](#)
- [download Adventures in the Screen Trade: A Personal View of Hollywood and Screenwriting for free](#)
- [Top O' the Mournin' \(Passport to Peril, Book 2\) online](#)

- <http://nexson.arzamashev.com/library/Lonely-Planet-Hiking---Tramping-in-New-Zealand--7th-Edition-.pdf>
- <http://ramazotti.ru/library/Storm-Over-The-Land--A-Profile-of-the-Civil-War.pdf>
- <http://test.markblaustein.com/library/Locked-Rooms--Mary-Russell-and-Sherlock-Holmes-Mysteries--Book-8-.pdf>
- <http://cavalldecartro.highlandagency.es/library/A-Closer-Talk-with-God--Spiritual-Prayers-for-Women.pdf>
- <http://www.celebritychat.in/?ebooks/Applied-WPF-4-in-Context.pdf>