Contents

Preface	xiii
The Idea Behind This Book	xv
Part One An Intuitive Approach	1
Chapter 1 Writing Your First Macro	3
1.1 Definition of Terms	4
1.2 What Is Visual Basic for Applications?	
1.3 Linking a Custom Style with a Tool	
1.4 A Macro for Simplifying Input	15
1.5 A Simple Literature Database	
1.6 A Form for Computing Interest in a Savings Account	
1.7 User-Defined Functions	
1.8 Analysis of Complex Tables	
1.9 A Vocabulary Tutor	
1.10 Example Programs for You to Try	40
Chapter 2 What's New in Excel 2000	47
2.1 New in Excel 2002	
2.2 New in Excel 2000	
2.3 New in Excel 97	
2.4 New in Excel 7	
2.5 Problems and Incompatibilities	59

Part Two Fundamentals 65 Chapter 3 The Development Environment67 Chapter Overview67 3.1 The Components of a VBA Program68 3.2 The Components of the Development Environment69 Object Browser72 3.3 Code Input in Modules76 3.4 Executing Macros80 3.5 Recording Macros82 3.6 Keyboard Shortcuts83 Chapter 4 VBA Concepts85 4.1 Variables and Fields86 Managing Variables86 Syntax Summary95 4.2 Procedural Programming97 Realm of Validity of Variables and Procedures107 Branching (Tests)112 Accessing Objects Clarified with Keyword With134 Object Variables135 Receiving Events of Arbitrary Objects150 Generating Event Procedures with Program Code152 4.5 Programming Your Own Classes159

Example for Derived Classes (Implements)	168
Syntax Summary	
4.6 Operators in VBA	175
4.7 Virus Protection	178
Chapter 5 Techniques of Programming	185
5.1 Cells and Ranges of Cells	186
Objects, Methods, Properties	
Programming Techniques	201
Syntax Summary	212
5.2 Workbooks, Windows, and Worksheets	215
Objects, Methods, and Properties	215
Programming Techniques	221
Syntax Summary	
5.3 Data Transfer via the Clipboard	228
Copying, Cutting, and Pasting Ranges of Cells	228
Access to the Clipboard with the DataObject	230
Syntax Summary	
5.4 Working with Numbers and Character Strings	
Numerical Functions, Random Numbers	
Character Strings	
Transformation Functions	
Syntax Summary	
5.5 Working with Dates and Times	
VBA Functions	
Worksheet Functions	
Application and Programming Techniques	
Holidays	
Syntax Summary	
5.6 Working with Files; Text Import and Export	
File System Objects: An Overview	
Drives, Folders, and Files	
Text Files (TextStream)	
Binary Files (Open)	
Excel-Specific Methods and Properties	
Importing and Exporting Text Files	
Text Exportation for Mathematica Lists	
Syntax Summary	
5.7 User-Defined Worksheet Functions	
Fundamentals	
Examples	314

5.8 Protection Mechanisms	317
Restricting the Field of Action	318
Protecting Cells and Worksheets from Changes	
Protection Mechanism for Shared Workbooks	324
Protecting Program Code and ToolBars	324
Syntax Summary	326
5.9 Configuration Files, Custom Configuration	327
Options	
Setting Options with Program Code	328
Configuration Files	332
5.10 Excel Meets the Euro	
The Euroconvert Function	340
Converting Excel Files to the Euro	343
5.11 Tips and Tricks	356
Speed Optimization	
Time-Intensive Calculations	
Working Efficiently with Worksheets	
Interplay with Excel-4 Macros	
Determining the Version of Excel	
Helping You to Help Yourself	
Syntax Summary	368
Chapter 6 Debugging, Protection When Errors Ar	
6.1 Debugging Aids	
Syntax Control	
Reaction to Errors	373
Controlled Program Execution	376
6.2 Error-Tolerant Behavior of Programs	380
6.3 Response to Program Interrupts	
6.4 Syntax Summary	
Chapter 7 Forms (Microsoft Forms Library)	387
7.1 Predefined Dialogs	388
Standard Excel Dialogs	
The Functions MsgBox and InputBox	
The Method Application.InputBox	388
The Method Application in pathox	388 392
7.2 User-Defined Forms	388 392 393
	388 392 393

7.3 The Form Editor	402
7.4 The MS Forms Controls	406
Label	408
TextBox	409
ListBox and ComboBox	412
Check Box and OptionButton	419
Command Buttons and Toggle Buttons	
Frames	
MultiPage, TabStrip	
Scrollbar and SpinButton	
Image	
Formulas (RefEdit)	
The UserForm Object	
7.5 Placing Controls Directly into Worksheets	
7.6 Programming Techniques	
Numerical Input	
Reciprocal Calling of Forms	
Editing Forms Dynamically	
Working with Spin Buttons	
0 1	
Chapter 8 Menus and Toolbars	457
8.1 Menu Bars and Toolbars	150
Manual Editing of Menus and Toolbars	
Saving Changes	
Object Hierarchy	
Programming Techniques	
Changing Sheets via a Toolbar	
Differences Compared to Excel 5/7	
Syntax Summary	
8.2 Formatting the Interface for Freestanding	403
Excel Applications	105
Extending the Standard Menu	
9	
Hiding and Unhiding Custom Toolbars Using a Custom Standard Menu	
USING a Custom Standard Menu	490

Part III	
	400
Application	493
Chapter 9 Templates, Smart Forms	495
0.4.5	40.0
9.1 Fundamentals	
Design Elements for Smart Forms Templates Linked to Databases	
9.2 Example: The "Speedy" Invoice Form	
9.3 Example: Balance Sheet for a Car-Sharing Club	
9.4 The Limits of Smart Forms	
7.4 THE LIMITES Of SMALE FORMS	020
Chapter 10 Charts and Drawing Objects (Sha	ipes) 527
10.1 Charts	528
Fundamentals	
Chart Types	
Chart Elements (Chart Objects) and Formatting Options	
Printing	
10.2 Programming Charts	
Object Hierarchy	536
Programming Techniques	540
10.3 Example: Automatic Data Reporting	
Using the Example Program	
Program Code	547
10.4 Syntax Summary for Charts	558
10.5 Drawing Objects (Shapes)	
10.6 Diagrams	565
Chapter 11 Data Management in Excel	569
,	
11.1 Fundamentals	
Introduction: What Is a Database?	
A Brief Database Glossary	
Excel Versus Database Systems	
11.2 Data Management Within Excel	
Creating a Database in Excel	
Input, Alteration, and Deletion of Data with the Database F	
Sorting, Searching, and Filtering Data	
11.3 Data Processing in VBA Code	
Programming Techniques	388

Example: A Form Letter in Microsoft Word	591
Syntax Summary	
11.4 Database Worksheet Functions	595
11.5 Consolidating Tables	599
Fundamentals	599
Consolidation via VBA Code	601
11.6 Example: Balance Sheet for a Car-Sharing Club	602
Running the Program	
Overview of the Components of the Application	607
Program Code	608
Chapter 12 Access to External Data	010
Chapter 12 Access to External Data	618
12.1 Fundamental Concepts About Relational Databases	620
12.2 Importing External Data	
Importing Data from Databases (MS Query)	
The QueryTable Object	
Exporting Excel Data	
12.3 Database Access with the ADO Library	
Introduction	
Connections	
Recordset	
SQL Commands (Command)	
SQL Basics	
Syntax Summary	
12.4 Example: Evaluating a Questionnaire	
Overview	
Construction of the Database	
Program Code	
Charter 42 Data Analysis in Fusal	00-
Chapter 13 Data Analysis in Excel	687
13.1 Grouping Data (Subtotals)	688
Introduction	
Programming	
13.2 Pivot Tables	
Introduction	
Layout Options	
Pivot Tables for External Data	
Pivot Table Options	
Pivot Charts	709

13.3 Programming Techniques	710
Generating and Deleting Pivot Tables	
Construction and Reconstruction of Existing Pivot Tables	
Internal Management (PivotCache)	
Syntax Summary	
•	
Chapter 14 VBA Programming for Pros	731
14.1 Add-Ins	732
14.2 Excel and the Internet	
Sending Excel Files as E-Mail	737
HTML Import	739
HTML Export, Web Components	740
14.3 Smart Tags	744
14.4 Using Web Services	
14.5 Using Dynamic Link Libraries (DLLs)	754
14.6 ActiveX Automation	
Excel as Client (Controlling External Programs)	761
Excel as Server (Control by an External Program)	
New Objects for Excel (ClipBoard Example)	772
Object Linking and Embedding (OLE)	775
Automation and Visual Basic .NET	
Launching and Controlling Programs Without ActiveX	786
Syntax Summary	789
Part Four	
Reference	791
101010100	
Chapter 15 Object Reference	793
15.1 Object Hierarchy	794
15.2 Alphabetical Reference	
-5·- · · · · · · · · ·	
Appendix Excel 2003 Beta 2	863
References	879
Index	881