

Programming Sudoku



Wei-Meng Lee

Programming Sudoku

Copyright © 2006 by Wei-Meng Lee

All rights reserved. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage or retrieval system, without the prior written permission of the copyright owner and the publisher.

ISBN-13 (pbk): 978-1-59059-662-3

ISBN-10 (pbk): 1-59059-662-5

Printed and bound in the United States of America 9 8 7 6 5 4 3 2 1

Trademarked names may appear in this book. Rather than use a trademark symbol with every occurrence of a trademarked name, we use the names only in an editorial fashion and to the benefit of the trademark owner, with no intention of infringement of the trademark.

Lead Editor: Dominic Shakeshaft

Technical Reviewer: Andy Olsen

Editorial Board: Steve Anglin, Dan Appleman, Ewan Buckingham, Gary Cornell, Jason Gilmore,
Jonathan Hassell, James Huddleston, Chris Mills, Matthew Moodie, Dominic Shakeshaft, Jim Sumser,
Keir Thomas, Matt Wade

Project Manager and Production Director: Grace Wong

Copy Edit Manager: Nicole LeClerc

Copy Editor: Bill McManus

Assistant Production Director: Kari Brooks-Copony

Production Editor: Katie Stence

Compositor: Susan Glinert

Proofreader: Lori Bring

Indexer: Carol Burbo

Artist: April Milne

Cover Designer: Kurt Krames

Manufacturing Director: Tom Debolski

Distributed to the book trade worldwide by Springer-Verlag New York, Inc., 233 Spring Street, 6th Floor, New York, NY 10013. Phone 1-800-SPRINGER, fax 201-348-4505, e-mail orders-ny@springer-sbm.com, or visit <http://www.springeronline.com>.

For information on translations, please contact Apress directly at 2560 Ninth Street, Suite 219, Berkeley, CA 94710. Phone 510-549-5930, fax 510-549-5939, e-mail info@apress.com, or visit <http://www.apress.com>.

The information in this book is distributed on an “as is” basis, without warranty. Although every precaution has been taken in the preparation of this work, neither the author(s) nor Apress shall have any liability to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by the information contained in this work.

The source code for this book is available to readers at <http://www.apress.com> in the Source Code section. You will need to answer questions pertaining to this book in order to successfully download the code.

Contents at a Glance

About the Author	ix
About the Technical Reviewer	x
Acknowledgments	xi
Introduction	xiii
CHAPTER 1 What Is Sudoku?	1
CHAPTER 2 Creating the Sudoku Application	11
CHAPTER 3 Basic Sudoku Solving Technique	47
CHAPTER 4 Intermediate Techniques	69
CHAPTER 5 Advanced Techniques	95
CHAPTER 6 Generating Sudoku Puzzles	139
CHAPTER 7 How to Play Kakuro	171
APPENDIX The SudokuPuzzle Class	181
INDEX	207