# 10 Fun Python Coding Projects

# Python FOR INTERIOR

- Learn a Pro Coding Language
- Create Games and Secret Messages
- Customize Your Projects

Brendan Scott
Creator of Python4Kids blog



# Python<sup>®</sup> For Kids

DUMMIES A Wiley Brand

THUÔNS ĐẠI HOO SỐNG NUHIỆP VÀ NỘI
TRUNG YÀM THIỆNG TIN THƯI VIỆN
6 07 07
03058

## by Brendan Scott

GIFT OF THE ASIA FOUNDATION NOT FOR RE-SALE

QUÀ TẶNG CỦA QUỸ CHÂU Á KHÔNG ĐƯỢC BÁN LẠI



#### Python® For Kids For Dummies®

Published by: John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030-5774, www.wiley.com

Copyright @ 2015 by John Wiley & Sons, Inc., Hoboken, New Jersey

Media and software compilation copyright © 2015 by John Wiley & Sons, Inc. All rights reserved.

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 the prior written permission of the Publisher. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008, or online at http://www.wiley.com/go/permissions.

**Trademarks:** Wiley, For Dummies, the Dummies Man logo, Dummies.com, Making Everything Easier, and related trade dress are trademarks or registered trademarks of John Wiley & Sons, Inc. and may not be used without written permission. Python is a registered trademark of Python Software Foundation. All other trademarks are the property of their respective owners. John Wiley & Sons, 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, please contact our Customer Care Department within the U.S. at 877-762-2974, outside the U.S. at 317-572-3993, or fax 317-572-4002. For technical support, please visit www.wiley.com/techsupport.

Wiley publishes in a variety of print and electronic formats and by print-on-demand. Some material included with standard print versions of this book may not be included in e-books or in print-on-demand. If this book refers to media such as a CD or DVD that is not included in the version you purchased, you may download this material at http://booksupport.wiley.com. For more information about Wiley products, visit www.wiley.com.

Library of Congress Control Number: 2015944529

ISBN 978-1-119-09310-7 (pbk); ISBN 978-1-119-11216-7 (ebk); ISBN 978-1-119-11085-9 (ebk)

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2

# Contents

Introduction	1
Week 1: Slithering into Python	7
Project 1: Getting Started with Python	
Project 2: Hello World!	
Week 2: Building Guessing Games	57
Project 3: Guessing Game	
Project 4: Set Up Your Coding Environment	
Project 5: A Better Guessing Game	
Week 3: Creating Word Games	141
Project 6: Hacker Speaker: 1337 Sp34k3r	
Project 7: Cryptopy	177
Project 8: Silly Sentences	219
Week 4: Stepping Up to Object-Oriented	
Programming	235
Project 9: Address Book	
Project 10: Math Trainer	
Index	309

### Introduction

Hi! Welcome to the book. You're going on a tour of all things Python. If you join me and code along with the projects, you'll have your basic Python programming wings by the end of the book.

Everything in this book you need to know by *doing* — typing in the code or, better yet, thinking up the code before reading what I've done.

#### **About This Book**

This book walks you through all the parts you have to know about Python programming. You get examples. I talk about planning programs. And I help link you with the broader Python community so that you can head out there after mastering the projects in this book.

#### **Conventions Used**

Keep these things in mind while you read:

- Sometimes words are in *italics* and then I explain the words. Here is an example: "The objects in the list are called *elements*." When you see this sentence, you know to keep your eyes peeled for a definition. (Elements are the objects in a list.)
- ✓ Python code is written in a different font from the other text. Sometimes it's inline with the text and looks like this: print ('Hello World!').