

WEB DOWNLOADS
AVAILABLE



Python[®] Programming, Third Edition

for the
**absolute
beginner™**

NO EXPERIENCE REQUIRED

"This series shows that it's possible to teach newcomers a programming language and good programming practices without being boring."

—LOU GRINZO,
reviewer for Dr. Dobbs's Journal

MICHAEL DAWSON

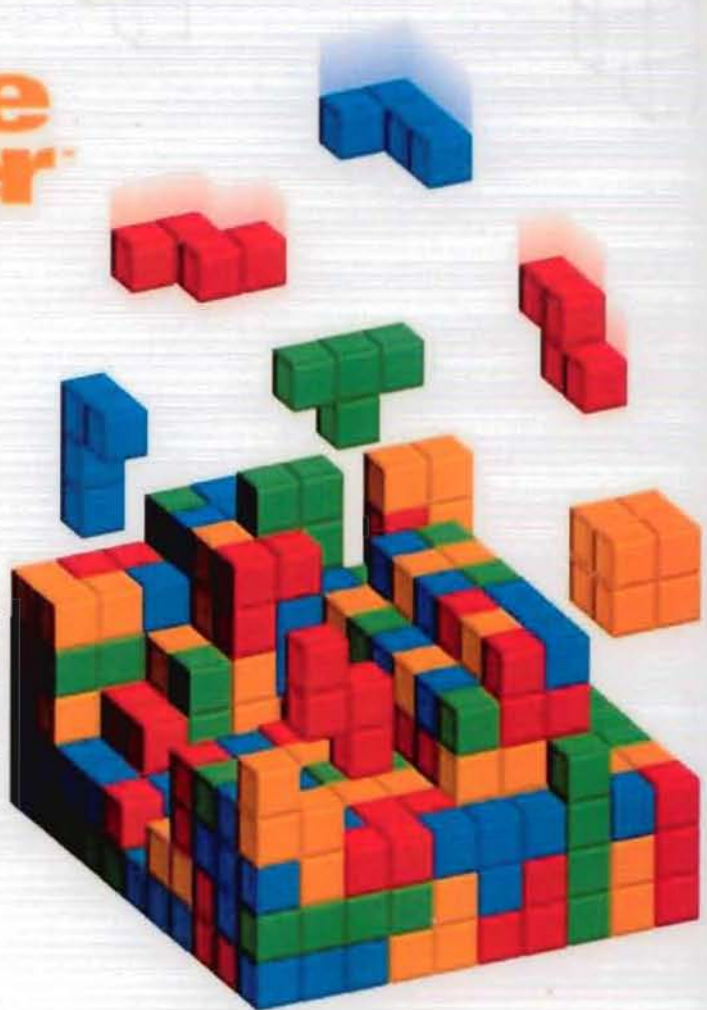


TABLE OF CONTENTS

Chapter 1	GETTING STARTED: THE GAME OVER PROGRAM.....	1
	Examining the Game Over Program.....	1
	Introducing Python.....	3
	Python Is Easy to Use	3
	Python Is Powerful	3
	Python Is Object-Oriented	3
	Python Is a “Glue” Language	4
	Python Runs Everywhere.....	4
	Python Has a Strong Community	4
	Python Is Free and Open Source.....	5
	Setting Up Python on Windows.....	5
	Installing Python on Windows	5
	Setting Up Python on Other Operating Systems.....	6
	Introducing IDLE.....	7
	Programming in Interactive Mode	7
	Programming in Script Mode	10
	Back to the Game Over Program.....	12
	Using Comments	12
	Using Blank Lines	13
	Printing the String	13
	Waiting for the User	14
	Summary.....	14
 Chapter 2	 TYPES, VARIABLES, AND SIMPLE I/O: THE USELESS TRIVIA PROGRAM.....	 15
	Introducing the Useless Trivia Program.....	15
	Using Quotes with Strings.....	16
	Introducing the Game Over 2.0 Program	16
	Using Quotes Inside Strings	18
	Printing Multiple Values	19
	Specifying a Final String to Print.....	19
	Creating Triple-Quoted Strings.....	20

Using Escape Sequences with Strings.....	21
Introducing the Fancy Credits Program	21
Moving Forward a Tab Stop	22
Printing a Backslash	22
Inserting a Newline	23
Inserting a Quote.....	23
Sounding the System Bell	23
Concatenating and Repeating Strings.....	24
Introducing the Silly Strings Program	24
Concatenating Strings	25
Using the Line Continuation Character	26
Repeating Strings	26
Working with Numbers.....	27
Introducing the Word Problems Program.....	27
Understanding Numeric Types.....	28
Using Mathematical Operators.....	29
Understanding Variables.....	30
Introducing the Greeter Program.....	30
Creating Variables.....	31
Using Variables	31
Naming Variables.....	32
Getting User Input.....	33
Introducing the Personal Greeter Program	33
Using the input() Function.....	34
Using String Methods.....	35
Introducing the Quotation Manipulation Program	35
Creating New Strings with String Methods	36
Using the Right Types.....	38
Introducing the Trust Fund Buddy–Bad Program	38
Tracking Down Logical Errors.....	40
Converting Values.....	41
Introducing the Trust Fund Buddy–Good Program	41
Converting Strings to Integers.....	42
Using Augmented Assignment Operators	44
Back to the Useless Trivia Program.....	44
Creating the Initial Comments	44
Getting the User Input.....	45
Printing Lowercase and Uppercase Versions of name.....	45
Printing name Five Times	46
Calculating seconds.....	46
Calculating moon_weight and sun_weight.....	46
Waiting for the User.....	46
Summary.....	47

Chapter 3

**BRANCHING, WHILE LOOPS, AND PROGRAM PLANNING:
THE GUESS MY NUMBER GAME..... 49**

Introducing the Guess My Number Game.....	50
Generating Random Numbers.....	50
Introducing the Craps Roller Program.....	50
Importing the random Module.....	51
Using the randint() Function.....	52
Using the randrange() Function.....	52
Using the if Statement.....	53
Introducing the Password Program.....	53
Examining the if Statement.....	55
Creating Conditions.....	55
Understanding Comparison Operators.....	55
Using Indentation to Create Blocks.....	56
Building Your Own if Statement.....	57
Using the else Clause.....	57
Introducing the Granted or Denied Program.....	57
Examining the else Clause.....	59
Using the elif Clause.....	59
Introducing the Mood Computer Program.....	59
Examining the elif Clause.....	62
Creating while Loops.....	63
Introducing the Three-Year-Old Simulator Program.....	63
Examining the while Loop.....	64
Initializing the Sentry Variable.....	65
Checking the Sentry Variable.....	65
Updating the Sentry Variable.....	66
Avoiding Infinite Loops.....	66
Introducing the Losing Battle Program.....	66
Tracing the Program.....	68
Creating Conditions That Can Become False.....	69
Treating Values as Conditions.....	69
Introducing the Maitre D' Program.....	70
Interpreting Any Value as True or False.....	71
Creating Intentional Infinite Loops.....	72
Introducing the Finicky Counter Program.....	72
Using the break Statement to Exit a Loop.....	73
Using the continue Statement to Jump Back to the Top of a Loop.....	73
Understanding When to Use break and continue.....	73
Using Compound Conditions.....	74
Introducing the Exclusive Network Program.....	74
Understanding the not Logical Operator.....	77
Understanding the and Logical Operator.....	78
Understanding the or Logical Operator.....	79

Planning Your Programs.....	80
Creating Algorithms with Pseudocode.....	80
Applying Stepwise Refinement to Your Algorithms.....	81
Returning to the Guess My Number Game.....	81
Planning the Program.....	81
Creating the Initial Comment Block.....	82
Importing the random Module.....	83
Explaining the Game.....	83
Setting the Initial Values.....	83
Creating a Guessing Loop.....	83
Congratulating the Player.....	84
Waiting for the Player to Quit.....	84
Summary.....	84

Chapter 4 **FOR LOOPS, STRINGS, AND TUPLES: THE WORD JUMBLE GAME..... 87**

Introducing the Word Jumble Game.....	87
Using for Loops.....	88
Introducing the Loopy String Program.....	88
Understanding for Loops.....	89
Creating a for Loop.....	90
Counting with a for Loop.....	90
Introducing the Counter Program.....	90
Counting Forwards.....	92
Counting by Fives.....	93
Counting Backwards.....	93
Using Sequence Operators and Functions with Strings.....	93
Introducing the Message Analyzer Program.....	94
Using the len() Function.....	95
Using the in Operator.....	95
Indexing Strings.....	95
Introducing the Random Access Program.....	96
Working with Positive Position Numbers.....	97
Working with Negative Position Numbers.....	98
Accessing a Random String Element.....	99
Understanding String Immutability.....	100
Building a New String.....	101
Introducing the No Vowels Program.....	101
Creating Constants.....	102
Creating New Strings from Existing Ones.....	103
Slicing Strings.....	104
Introducing the Pizza Slicer Program.....	104
Introducing None.....	106