

# Contents at a Glance

---

<b><i>Introduction</i></b> .....	<b>1</b>
<b><i>Part I: Revving Up</i></b> .....	<b>7</b>
Chapter 1: Getting Started.....	9
Chapter 2: Setting Up Your Computer .....	23
Chapter 3: Running Programs.....	33
<b><i>Part II: Writing Your Own Java Programs</i></b> .....	<b>45</b>
Chapter 4: Exploring the Parts of a Program .....	47
Chapter 5: Composing a Program .....	65
Chapter 6: Using the Building Blocks: Variables, Values, and Types .....	89
Chapter 7: Numbers and Types .....	103
Chapter 8: Numbers? Who Needs Numbers?.....	121
<b><i>Part III: Controlling the Flow</i></b> .....	<b>139</b>
Chapter 9: Forks in the Road .....	141
Chapter 10: Which Way Did He Go? .....	157
Chapter 11: How to Flick a Virtual Switch.....	181
Chapter 12: Around and Around It Goes .....	195
Chapter 13: Piles of Files: Dealing with Information Overload .....	215
Chapter 14: Creating Loops within Loops.....	233
Chapter 15: The Old Runaround.....	245
<b><i>Part IV: Using Program Units</i></b> .....	<b>269</b>
Chapter 16: Using Loops and Arrays .....	271
Chapter 17: Programming with Objects and Classes.....	289
Chapter 18: Using Methods and Variables from a Java Class .....	303
Chapter 19: Creating New Java Methods.....	325
Chapter 20: Ooey GUI Was a Worm.....	347
<b><i>Part V: The Part of Tens</i></b> .....	<b>359</b>
Chapter 21: Ten Sets of Web Links .....	361
Chapter 22: Ten Useful Classes in the Java API.....	367
<b><i>Index</i></b> .....	<b>371</b>



# Table of Contents

.....

<b><i>Introduction</i></b> .....	<b>1</b>
How to Use This Book .....	1
Conventions Used in This Book .....	2
What You Don't Have to Read .....	2
Foolish Assumptions .....	3
How This Book Is Organized.....	4
Part I: Revving Up.....	4
Part II: Writing Your Own Java Programs .....	4
Part III: Controlling the Flow .....	5
Part IV: Using Program Units .....	5
Part V: The Part of Tens.....	5
Icons Used in This Book.....	5
Where to Go from Here.....	6
<b><i>Part I: Revving Up</i></b> .....	<b>7</b>
<b>Chapter 1: Getting Started</b> .....	<b>9</b>
What's It All About? .....	9
Telling a computer what to do.....	10
Pick your poison.....	11
From Your Mind to the Computer's Processor.....	12
Translating your code.....	12
Running code .....	13
Code you can use .....	17
Your Java Programming Toolset .....	19
What's already on your hard drive?.....	20
JCreator .....	21
<b>Chapter 2: Setting Up Your Computer</b> .....	<b>23</b>
Downloading and Installing the Software You Need .....	24
Downloading and installing a Java compiler .....	24
Downloading and installing the Java API documentation.....	26
Downloading and installing the JCreator integrated development environment .....	28
Running JCreator for the First Time .....	29
Is That All There Is to It? .....	31
<b>Chapter 3: Running Programs</b> .....	<b>33</b>
Running a Canned Java Program.....	33
Typing and Running Your Own Code.....	38



***Part II: Writing Your Own Java Programs* .....45**

**Chapter 4: Exploring the Parts of a Program .....47**

- Checking Out Java Code for the First Time .....47
  - Behold! A program!.....48
  - What the program's lines say .....49
- The Elements in a Java Program .....49
  - Keywords .....50
  - Identifiers that you or I can define .....52
  - Identifiers with agreed upon meanings .....52
  - Literals .....53
  - Punctuation .....54
  - Comments .....56
- Understanding a Simple Java Program.....57
  - What is a method?.....57
  - The main method in a program .....60
  - How you finally tell the computer to do something .....61
  - The Java class .....63

**Chapter 5: Composing a Program .....65**

- A Program to Echo Keyboard Input.....66
  - Typing and running a program .....68
  - How the EchoLine program works .....70
  - Getting numbers, words, and other things .....72
  - Type two lines of code, and don't look back .....74
- Expecting the Unexpected .....74
  - Diagnosing a problem .....76
  - What problem? I don't see a problem.....86

**Chapter 6: Using the Building Blocks:  
Variables, Values, and Types .....89**

- Using Variables .....89
  - Using a variable .....90
  - Understanding assignment statements .....92
  - To wrap or not to wrap? .....93
- What Do All Those Zeros and Ones Mean?.....94
  - Types and declarations .....95
  - What's the point?.....96
- Reading Decimal Numbers from the Keyboard.....96
  - Though these be methods, yet there is madness in 't.....97
  - Methods and assignments .....99
- Variations on a Theme.....99
  - Moving variables from place to place.....100
  - Combining variable declarations .....101

<b>Chapter 7: Numbers and Types</b> .....	<b>103</b>
Using Whole Numbers .....	103
Reading whole numbers from the keyboard.....	105
What you read is what you get .....	106
Creating New Values by Applying Operators .....	108
Finding a remainder .....	108
The increment and decrement operators .....	111
Assignment operators .....	117
Size Matters .....	118
<b>Chapter 8: Numbers? Who Needs Numbers?</b> .....	<b>121</b>
Characters.....	122
I digress . . . .....	123
One character only, please.....	125
Variables and recycling.....	125
When not to reuse a variable.....	127
Reading characters .....	129
The boolean Type .....	131
Expressions and conditions .....	132
Comparing numbers; comparing characters .....	133
The Remaining Primitive Types .....	138
<b><i>Part III: Controlling the Flow</i></b> .....	<b>139</b>
<b>Chapter 9: Forks in the Road</b> .....	<b>141</b>
Making Decisions (Java if Statements).....	143
Looking carefully at if statements .....	143
A complete program .....	147
Indenting if statements in your code .....	150
Variations on the Theme .....	150
. . . Or else what? .....	151
Packing more stuff into an if statement.....	153
Some handy import declarations .....	155
<b>Chapter 10: Which Way Did He Go?</b> .....	<b>157</b>
Forming Bigger and Better Conditions .....	157
Combining conditions: An example .....	159
When to initialize? .....	161
More and more conditions .....	162
Using boolean variables .....	165
Mixing different logical operators together .....	166
Using parentheses .....	168

Building a Nest.....	170
Nested if statements .....	171
Cascading if statements.....	172
Enumerating the Possibilities.....	175
Creating an enum type.....	176
Using an enum type.....	176
Creating a project with two Java source files .....	179
<b>Chapter 11: How to Flick a Virtual Switch .....</b>	<b>181</b>
Meet the switch Statement .....	181
The cases in a switch statement .....	183
The default in a switch statement.....	184
Picky details about the switch statement .....	185
To break or not to break.....	188
Using Fall-through to Your Advantage.....	190
Using a Conditional Operator.....	192
<b>Chapter 12: Around and Around It Goes .....</b>	<b>195</b>
Repeating Instructions Over and Over Again (Java while Statements).....	196
Following the action in a loop.....	197
No early bailout .....	199
Thinking about Loops (What Statements Go Where).....	200
Finding some pieces.....	200
Assembling the pieces .....	203
Getting values for variables .....	203
From infinity to affinity .....	205
Thinking About Loops (Priming) .....	207
Working on the problem .....	209
Fixing the problem .....	212
<b>Chapter 13: Piles of Files: Dealing with Information Overload .....</b>	<b>215</b>
Running a Disk-Oriented Program .....	216
A sample program .....	217
Creating code that messes with your hard drive .....	219
Running the sample program .....	222
Troubleshooting problems with disk files .....	224
Writing a Disk-Oriented Program .....	226
Reading from a file.....	227
Writing to a file.....	227
Writing, Rewriting, and Re-rewriting.....	230
<b>Chapter 14: Creating Loops within Loops .....</b>	<b>233</b>
Paying Your Old Code a Little Visit.....	234
Reworking some existing code .....	235
Running your code.....	236

Creating Useful Code .....236  
 Checking for the end of a file .....237  
 How it feels to be a computer.....239  
 Why the computer accidentally pushes  
 past the end of the file .....241  
 Solving the problem .....243

**Chapter 15: The Old Runaround .....245**

Repeating Statements a Certain Number Times  
 (Java for Statements).....246  
 The anatomy of a for statement .....248  
 Initializing a for loop .....250  
 Using Nested for Loops .....252  
 Repeating Until You Get What You Need (Java do Statements).....254  
 Getting a trustworthy response .....255  
 Deleting files .....257  
 Using Java’s do statement .....258  
 A closer look at the do statement .....259  
 Repeating with Predetermined Values  
 (Java’s Enhanced for Statement).....260  
 Creating an enhanced for loop .....261  
 Nesting the enhanced for loops .....263

***Part IV: Using Program Units .....269***

**Chapter 16: Using Loops and Arrays .....271**

Some for Loops in Action.....271  
 Deciding on a loop’s limit at runtime.....274  
 Using all kinds of conditions in a for loop.....275  
 Reader, Meet Arrays; Arrays, Meet the Reader .....277  
 Storing values in an array.....280  
 Creating a report .....282  
 Working with Arrays .....283

**Chapter 17: Programming with Objects and Classes .....289**

Creating a Class .....290  
 Reference types and Java classes .....291  
 Using a newly defined class .....291  
 Running code that straddles two separate files.....293  
 Why bother?.....294  
 From Classes Come Objects .....294  
 Understanding (or ignoring) the subtleties .....297  
 Making reference to an object’s parts .....297  
 Creating several objects .....298  
 Another Way to Think About Classes .....300  
 Classes, objects, and tables .....301  
 Some questions and answers .....302

<b>Chapter 18: Using Methods and Variables from a Java Class . . . .</b>	<b>303</b>
The String Class.....	303
A simple example .....	304
Putting String variables to good use.....	305
Reading and writing strings .....	306
Using an Object's Methods .....	307
Comparing strings .....	310
The truth about classes and methods.....	311
Calling an object's methods .....	312
Combining and using data.....	313
Static Methods.....	313
Calling static and non-static methods .....	314
Turning strings into numbers .....	315
Turning numbers into strings .....	316
How the NumberFormat works .....	318
Understanding the Big Picture .....	318
Packages and import declarations.....	319
Shedding light on the static darkness .....	320
Barry makes good on an age-old promise.....	321
<b>Chapter 19: Creating New Java Methods . . . . .</b>	<b>325</b>
Defining a Method within a Class.....	325
Making a method .....	326
Examining the method's header .....	328
Examining the method's body .....	328
Calling the method .....	330
The flow of control.....	332
Using punctuation .....	333
The versatile plus sign.....	333
Let the Objects Do the Work.....	334
Passing Values to Methods .....	336
Handing off a value.....	338
Working with a method header .....	340
How the method uses the object's values.....	340
Getting a Value from a Method .....	341
An example.....	342
How return types and return values work .....	344
Working with the method header (again) .....	345
<b>Chapter 20: Ooey GUI Was a Worm . . . . .</b>	<b>347</b>
The Java Swing Classes .....	348
Showing an image on the screen.....	348
Just another class.....	350
Keeping the User Busy (Working with Buttons and Text Fields) .....	352
Taking Action .....	355

---

<b><i>Part V: The Part of Tens</i></b> .....	<b>359</b>
<b>Chapter 21: Ten Sets of Web Links</b> .....	<b>361</b>
The Horse's Mouth.....	361
Finding News, Reviews, and Sample Code.....	362
Improving Your Code with Tutorials .....	362
Finding Help on Newsgroups.....	362
Reading Documentation with Additional Commentary .....	363
Checking the FAQs for Useful Info.....	363
Opinions and Advocacy .....	363
Looking for Java Jobs .....	364
Finding Out More about Other Programming Languages .....	364
Everyone's Favorite Sites.....	365
<b>Chapter 22: Ten Useful Classes in the Java API</b> .....	<b>367</b>
Applet .....	367
ArrayList.....	368
File.....	368
Integer.....	368
Math.....	369
NumberFormat .....	369
Scanner .....	369
String.....	369
StringTokenizer .....	370
System .....	370
<b><i>Index</i></b> .....	<b>371</b>

