

# Table of Contents

<b>List of Tables, Code Examples and Figures.....</b>	<b>1</b>
Tables .....	1
Code Examples.....	1
Figures .....	3
<b>Preface.....</b>	<b>7</b>
To the Reader .....	7
About This Book .....	8
Conventions.....	10
CD-ROM .....	11
<b>Acknowledgments.....</b>	<b>12</b>
<b>Chapter 1. An Introduction to Java .....</b>	<b>13</b>
Java as a Programming Tool .....	13
Advantages of Java.....	14
The Java “White Paper” Buzzwords .....	15
Java and the Internet.....	22
A Short History of Java.....	24
Common Misconceptions About Java.....	26
<b>Chapter 2. The Java Programming Environment.....</b>	<b>30</b>
Installing the Java Software Development Kit.....	30
Development Environments .....	34
Using the Command Line Tools .....	35
Using an Integrated Development Environment.....	38
Compiling and Running Programs from a Text Editor .....	42
Graphical Applications.....	46
Applets .....	49
<b>Chapter 3. Fundamental Programming Structures in Java .....</b>	<b>54</b>
A Simple Java Program.....	54
Comments.....	57
Data Types.....	58
Variables.....	62
Assignments and Initializations .....	63
Operators .....	65
Strings.....	73
Control Flow .....	87
Big Numbers .....	106
Arrays .....	108
<b>Chapter 4. Objects and Classes.....</b>	<b>123</b>
Introduction to Object-Oriented Programming .....	123
Using Existing Classes .....	131
Building Your Own Classes .....	143
Static Fields and Methods .....	155
Method Parameters.....	161
Object Construction.....	168
Packages .....	177
Documentation Comments .....	187
Class Design Hints .....	192
<b>Chapter 5. Inheritance.....</b>	<b>195</b>
Extending Classes .....	195

Object: The Cosmic Superclass .....	216
The <code>Class</code> Class .....	240
Reflection .....	244
Design Hints for Inheritance .....	262
<b>Chapter 6. Interfaces and Inner Classes .....</b>	<b>265</b>
Interfaces .....	265
Object Cloning .....	276
Inner Classes .....	282
Proxies .....	299
<b>Chapter 7. Graphics Programming.....</b>	<b>306</b>
Introduction to Swing.....	306
Creating a Frame .....	310
Frame Positioning .....	314
Displaying Information in a Panel .....	319
2D Shapes.....	326
Colors .....	335
Text and Fonts .....	340
Images .....	351
<b>Chapter 8. Event Handling.....</b>	<b>358</b>
Basics of Event Handling .....	358
The AWT Event Hierarchy .....	378
Semantic and Low-Level Events in the AWT .....	380
Low-Level Event Types .....	384
Actions .....	402
Multicasting.....	411
The Event Queue.....	414
<b>Chapter 9. User Interface Components with Swing.....</b>	<b>424</b>
The Model-View-Controller Design Pattern.....	424
An Introduction to Layout Management.....	430
Text Input .....	437
Making Choices.....	464
Menus .....	488
Sophisticated Layout Management .....	512
Dialog Boxes .....	540
<b>Chapter 10. Applets.....</b>	<b>582</b>
Applet Basics.....	582
The Applet HTML Tags and Attributes .....	600
Multimedia .....	614
The Applet Context .....	617
JAR Files .....	628
<b>Chapter 11. Exceptions and Debugging .....</b>	<b>640</b>
Dealing with Errors .....	640
Catching Exceptions.....	648
Some Tips on Using Exceptions .....	658
Debugging Techniques.....	661
Using a Debugger.....	684
<b>Chapter 12. Streams and Files .....</b>	<b>693</b>
Streams .....	693
The Complete Stream Zoo .....	696
ZIP File Streams .....	718

Putting Streams to Use .....	727
Object Streams .....	741
File Management.....	768
<b>Appendix Java Keywords.....</b>	<b>776</b>