

<<Java语言>>

图书基本信息

书名：<<Java语言>>

13位ISBN编号：9787302083030

10位ISBN编号：7302083037

出版时间：2004-4

出版时间：清华大学出版社

作者：萨维特

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

## 前言

This book was designed to be used in a first course in programming and computer science. It covers programming techniques, as well as the basics of the Java programming language. It is suitable for courses as short as one quarter or as long as one full academic year. No previous programming experience is required, nor is any mathematics, other than a little high school algebra. The book can also be used for a course designed to teach Java to students who have already had another programming course, in which case the first few chapters can be assigned as outside reading. (For students who have had previous programming experience in C or C++, there is an appendix that explains some of the differences between Java and C or C++.) All of the code in the book has been tested with Java 2 from Sun Microsystems (version 1.4). To be fully compatible with the material presented, the Java used in your class should be version 1.4 or higher. The coverage of Java was carefully arrived at by class testing and is a concise, accessible introduction for beginners.

**Changes in This Edition** If you have not used the second edition of this text, you can skip this subsection. If you have used the second edition, this subsection will tell you how this third edition differs from that edition. For instructors, the transition from the second edition of the text to this third edition is easy: You can teach the same course, with basically the same topics presented, in the same order and with only very minor changes in the material covered.

## <<Java语言>>

### 内容概要

《Java语言：计算机科学与程序设计》是由著名作者Walter Savitch编写的，主要介绍了Java程序设计，对Java语言的主要特点和应用编程进行了全面讲述。

《Java语言：计算机科学与程序设计》最显著的特点是，作者采用通俗易懂的方式，结合Java语方，介绍了各种基本编程技术，阐述了面向对象编程技术与计算机科学的各种概念。

《Java语言：计算机科学与程序设计》每章后附本章小结，并提供了测试题和答案、编程项止练习，以帮助学生对所学知识的掌握，提高学生的实际编程能力。

《Java语言：计算机科学与程序设计》配套光盘包含了范例程序代码和相应软件。

《Java语言：计算机科学与程序设计》可作为计算机科学及相关专业的Java程序设计教材，也是Java开发人员的很好参考书。

## 作者简介

作者：(美国)萨维特 (Walter Savitch)

## 书籍目录

CHAPTER 1 Introduction to Computers and Java Objectives Prerequisites 1.1 Computer Basics Hardware and Memory Programs Programming Languages and Compilers Java Byte-Code Linking 1.2 Designing Programs Object-Oriented Programming Encapsulation Polymorphism Inheritance If You Know Some Other Programming Language Algorithms Reusable Components Testing and Debugging Gotcha: Coping with "Gotchas" Gotcha: Hidden Errors 1.3 A Sip of Java History of the Java Language Applets A First Java Application Program Compiling a Java Program or Class Running a Java Program Preview Examples of Applets (Optional) Chapter Summary Answers to Self-Test Questions Programming Projects

CHAPTER 2 Primitive Types, Strings, and Console I/O Objectives Prerequisites 2.1 Primitive Types and Expressions Variables Java Identifiers Gotcha: Java Is Case-Sensitive Primitive Types Assignment Statements Specialized Assignment Operators Simple Input and Output Number Constants Assignment Compatibilities Type Casting Java Tip: Type Casting a Character to an Integer Programming Tip: Initialize Variables Gotcha: Imprecision in Floating-Point Numbers Arithmetic Operators Parentheses and Precedence Rules Case Study: Vending Machine Change Increment and Decrement Operators More about the Increment and Decrement Operators 2.2 The Class String String Constants and Variables Concatenation of Strings Classes String Methods String Processing Escape Characters The Unicode Character Set 2.3 Keyboard and Screen I/O Screen Output Input Using Savitch In More Input Methods Gotcha: readInt and readDouble 3 e Programming Tip: Echo Input 2.4 Documentation and Style Programming Tip: Use Meaningful Names for Variables Documentation and Comments Indenting Named Constants Chapter Summary Answers to Self-Test Questions Programming Projects

CHAPTER 3 Flow of Control Objectives Prerequisites 3.1 Branching Statements The if-else Statement Introduction to Boolean Expressions Gotcha: Using == with Strings Programming Tip: Alphabetical Order Nested Statements and Compound Statements Java Tip: Matching else and if Multi-branch if-else Statements Programming Example: Assigning Letter Grades The switch Statement Gotcha: Omitting a break Statement The Conditional Operator (Optional) 3.2 Java Loop Statements while Statements Java Tip: A while Loop Can Perform Zero Iterations The do-while Statement Programming Example: Bug Infestation Gotcha: Infinite Loops The for Statement the Comma in for Statements (Optional) Gotcha: Extra Semicolon in a Loop Statement Java Tip: Choosing a Loop Statement The break Statement in Loops Gotcha: Misuse of break Statements The exit Method 3.3 Programming with Loops The Loop Body Initializing Statements Ending a Loop Programming Example: Nested Loops Programming Tip: Avoid Declaring Variables in a Loop Body Loop Bugs Tracing Variables 3.4 The Type boolean Boolean Expressions and Boolean Variables Programming Tip: Naming Boolean Variables Precedence Rules Input and Output of Boolean Values Case Study: Using a Boolean Variable to End a Loop Chapter Summary Answers to Self-Test Questions Programming Projects

CHAPTER 4 Defining Classes and Methods Objectives Prerequisites 4.1 Class and Method Definitions Class Files and Separate Compilation Instance Variables Using Methods void Method Definitions Methods That Return a Value Java Tip: Use of return in void Methods The this Parameter Local Variables Blocks Gotcha: Variables Declared in a Block Java Tip: Declaring Variables in a for Statement Parameters of a Primitive Type Gotcha: Use of the Terms Parameter and Argument Summary of Class and Method Definition Syntax 4.2 Information Hiding and Encapsulation Information Hiding Programming Tip: Parameter Names Are Local to the Method Precondition and Postcondition Comments Java Tip: Assertion Checks The public and private Modifiers Programming Tip: Instance Variables Should Be private Programming Example: A Purchase Class Encapsulation Automatic Documentation with javadoc UML Class Diagrams 4.3 Objects and Reference Variables of a Class Type and Objects Gotcha: Use of = and == with Variables of a Class Type Java Tip: Define an equals Method for Your Classes Programming Example: A Species Class Boolean-Valued Methods Class Parameters Comparing Class Parameters and Primitive-Type Parameters Chapter Summary Answers to Self-Test Questions Programming Projects

CHAPTER 5 More About Objects and Methods Objectives Prerequisites 5.1 Programming with Methods Methods Calling Methods Programming Tip: Make Helping Methods Private Java Tip: Make the compiler Happy Gotcha: Null Pointer Exception 5.2 Static Methods and Static Variables Static

MethodsGotcha: Invoking a Nonstatic Method Within a Static MethodJava Tip: You Can Put a main in Any ClassStatic Variables (Optional)The Math ClassInteger, Double, and Other Wrapper Classes5.3 Designing MethodsCase Study: Formatting OutputTop-Down DesignTesting Methods5.4 OverloadingOverloading BasicsProgramming Example: A Pet ClassGotcha: Overloading and Automatic Type ConversionGotcha: You Cannot Overload on the Basis of the Returned TypeProgramming Example: A Class for Money5.5 ConstructorsDefining ConstructorsProgramming Tip: You Can Use Other Methods in a ConstructorGotcha: Omitting the Default ConstructorGotcha: Many Wrapper Classes Have No Default Constructor5.6 Information Hiding RevisitedGotcha: Privacy Leaks5.7 PackagesPackages and importingPackage Names and DirectoriesGotcha: Not Including the Current Directory in Your Class PathName ClashesChapter SummaryAnswers to Self-Test QuestionsProgramming ProjectsCHAPTER 6 ArraysObjectivesPrerequisites6.1 Array BasicsCreating and Accessing ArraysArray DetailsProgramming Tip: Use Singular Array NamesThe length Instance VariableJava Tip: Array Indices Start with ZeroProgramming Tip: Use a for Loop to Step Through an ArrayGotcha: Array Index Out of BoundsInitializing Arrays6.2 Arrays in Classes and MethodsCase Study: Sales ReportIndexed Variables as Method ArgumentsEntire Arrays as Method ArgumentsArguments for the Method mainGotcha: Use of = and == with ArraysMethods That Return Arrays6.3 Programming with Arrays and ClassesProgramming Example: A Specialized List ClassPartially Filled ArraysSearching an ArrayGotcha: Returning an Array Instance Variable6.4 Sorting ArraysSelection SortOther Sorting Algorithms6.5 Multidimensional ArraysMultidimensional-Array BasicsMultidimensional-Array Parameters and Returned ValuesImplementation of Multidimensional ArraysBagged Arrays (Optional)Programming Example: Employee Time RecordsChapter SummaryAnswers to Self-Test QuestionsProgramming ProjectsCHAPTER 7 InheritanceObjectivesPrerequisites7.1 Inheritance BasicsProgramming Example: A Person ClassDerived ClassesOverriding Method DefinitionsOverriding Versus OverloadingThe final ModifierGotcha: Use of Private Instance Variables from the Base ClassProgramming Tip: Assume That Your Coworkers Are MaliciousGotcha: Private Methods Are Not InheritedUML Inheritance Diagrams7.2 Programming with InheritanceConstructors in Derived ClassesThe this Method (Optional)Call to an Overridden MethodProgramming Example: Multilevel Derived ClassesA Subtle Point About Overloading and Overriding (Optional)Java Tip: You Cannot Use Multiple superProgramming Tip: An Object Can Have More than One TypeProgramming Tip: "Is a" and "Has a" RelationsThe Class ObjectCase Study: Character GraphicsAbstract ClassesInterfaces (Optional)7.3 Dynamic Binding and PolymorphismDynamic BindingType Checking and Dynamic BindingDynamic Binding with toStringPolymorphismJava Tip: A Better equals Method (Optional)Chapter SummaryAnswers to Self-Test QuestionsProgramming ProjectsCHAPTER 8 Exception HandlingObjectivesPrerequisites8.1 Basic Exception HandlingExceptions in JavaPredefined Exception ClassesArrayIndexOutOfBoundsException (Alternative Ordering)8.2 Defining Exception ClassesDefining Your Own Exception ClassesJava Tip: Preserve getMessage When You Define Exception ClassesProgramming Tip: When to Define an Exception Class8.3 Using Exception ClassesDeclaring Exceptions (Passing the Buck)Exceptions That Do Not Need To Be CaughtThe AssertionError Class (Optional)Multiple Throws and CatchesJava Tip: Catch the More Specific Exception FirstProgramming Tip: Exception Handling and Information HidingGotcha: Overuse of ExceptionsProgramming Tip: When to Throw an ExceptionGotcha: Nested try-catch BlocksThe finally Block (Optional)Rethrowing an Exception (Optional)Case Study: A Line-Oriented CalculatorChapter SummaryAnswers to Self-Test QuestionsProgramming ProjectsCHAPTER 9 Streams and File I/OObjectivesPrerequisites9.1 An Overview of Streams and File I/OThe Concept of a StreamWhy Use Files for I/O?Differences between Text Files and Binary Files9.2 Text-File I/OText-File Output with PrintWriterGotcha: A try Block Is a BlockGotcha: Overwriting a FileJava Tip: Appending To a Text FileJava Tip: Use toString for Text-File OutputText-File Input with BufferedReaderProgramming Example: Reading a File Name from the KeyboardJava Tip: Using Path NamesThe StringTokenizer ClassJava Tip: Testing for the End of a Text FileThe Classes FileReader and FileOutputStreamUnwrapping the Class Scanner9.3 The File ClassUsing the File Class9.4 Basic Binary-File I/OOutput to Binary Files, Using ObjectOutputStreamSome Details about writeUTF (Optional)Reading Input

from a Binary File, Using ObjectInputStreamGotcha: Using ObjectInputStream with a Text FileGotcha: Defining a Method to Open a StreamThe EOFException on ClassGotcha: Forgetting to Check for the End of a FileGotcha: Checking for the End of a File in the Wrong WayThe Classes FileInputStream and FileOutputStreamProgramming Example: Processing a File of Binary Data9.5 Object I/O with Object StreamsBinary I/O of Class ObjectsGotcha: Exceptions, Exceptions, ExceptionsThe Serializable InterfaceGotcha: Mixing Class Types in the Same FileArray Objects in Binary FilesChapter SummaryAnswers to Self-Test QuestionsProgramming ProjectsCHAPTER 10 Dynamic Data StructuresObjectivesPrerequisites10.1 VectorsUsing VectorsProgramming Tip: Adding to a VectorGotcha: Vector Elements Are of Type ObjectComparing Vectors and ArraysGotcha: Using capacity Instead of sizeJava Tip: Use trimToSize to Save MemoryGotcha: Using the Method cloneJava Tip: Newer Collection Classes (Optional)10.2 Linked Data StructuresLinked ListsGotcha: Null Pointer ExceptionGotcha: Privacy LeaksInner ClassesNode Inner ClassesIteratorsProgramming Tip: Internal and External IteratorsException Handling with Linked ListsVariations on a Linked ListOther Linked Data StructuresChapter SummaryAnswers to Self-Test QuestionsProgramming ProjectsCHAPTER 11 RecursionObjectivesPrerequisites11.1 The Basics of RecursionCase Study: Digits to WordsHow Recursion WorksGotcha: Infinite RecursionRecursive versus Iterative DefinitionsRecursive Methods That Return a Value11.2 Programming with RecursionProgramming Tip: Ask Until the User Gets It RightCase Study: Binary SearchProgramming Tip: Generalize the ProblemProgramming Example: Merge Sort——A Recursive Sorting MethodChapter SummaryAnswers to Self-Test QuestionsProgramming ProjectsCHAPTER 12 Window Interfaces Using SwingObjectivesPrerequisites12.1 BackgroundGUIs——Graphical User InterfacesEvent-Driven Programming12.2 Basic Swing DetailsGotcha: Save All Your Work before Running a Swing ProgramProgramming Example: A Simple WindowJava Tip: Ending a Swing ProgramGotcha: Forgetting to Program the Close-Window ButtonGotcha: Forgetting to Use getContentPaneMore about Window ListenersSize Units for Screen ObjectsMore on setVisibleProgramming Example: A Better Version of Our First Swing ProgramProgramming Example: A Window with ColorSome Methods of the Class JFrameLayout Managers12.3 Buttons and Action ListenersProgramming Example: Adding ButtonsButtonsAction Listeners and Action EventsGotcha: Changing the Parameter List for actionPerformedInterfacesJava Tip: Code a GUI's Look and Actions SeparatelyThe Model-View——Controller PatternJava Tip: Use the Method setActionCommand12.4 Container ClassesThe JPanel ClassThe Container ClassJava Tip: Guide for Creating Simple Window Interfaces12.5 Text I/O for GUIsText Areas and Text FieldsProgramming Example: Labeling a Text FieldInputting and Outputting NumbersProgramming Example: A GUI Adding MachineCatching a NumberFormatExceptionChapter SummaryAnswers to Self-Test QuestionsProgramming ProjectsCHAPTER 13 Applets and HTMLCHAPTER 14 More Swing

章节摘录

插图：



编辑推荐

《Java语言:计算机科学与程序设计(第3版)》是由清华大学出版社出版的。

#### 版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>