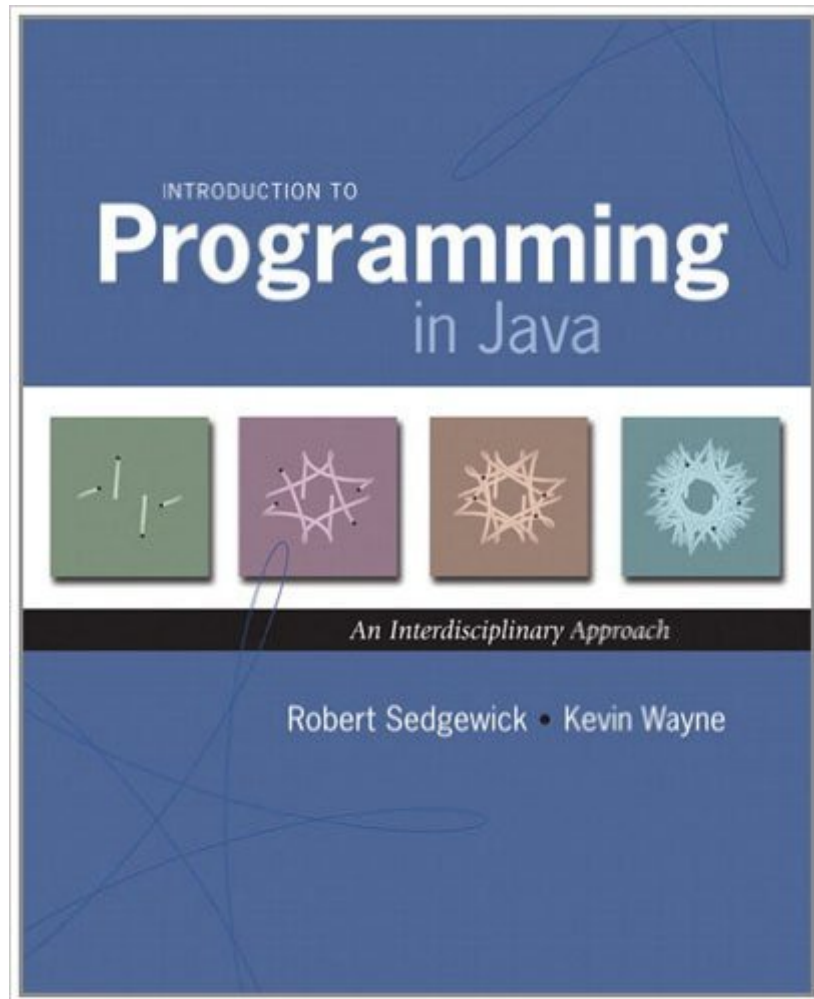# Introduction To Programming In Java: An Interdisciplinary Approach

Synopsis

By emphasizing the application of computer programming not only in success stories in the software industry but also in familiar scenarios in physical and biological science, engineering, and applied mathematics, Introduction to Programming in JavaÂ takes an interdisciplinary approach to teaching programmingÂ with theÂ Javaâ„¢ programming language.   Elements of Programming: Your First Program; Built-in Types of Data; Conditionals and Loops; Arrays; Input and Output. Functions and Modules: Static Methods; Libraries and Clients; Recursion. Object-Oriented Programming: Data Types; Creating Data Types; Designing Data Types. Algorithms and Data Structures: Performance; Sorting and Searching; Stacks and Queues; Symbol Tables.   For all readers interested in introductory programming courses using theÂ Java programming language.

Book Information

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Customer Reviews

This is an excellent book for someone new to programming. It's also a great next step for an experienced programmer learning Java. It is surprisingly easy reading for an expansive 700+ page book. The authors also have a great website: [...]The book is full of short, self-contained sample programs that are easy to explore. The pages are decorated with helpful sidebar illustrations and descriptive elaborations of code. Sample results are often presented, which makes it easy to read through and understand how a given Java program works. The book includes instructive use of color (shades of blue) and greyscale printing to enhance the reading and learning experience.The four major sections of the book are: Elements of Programming, Functions and Modules,

Object-Oriented Programming, and Algorithms and Data Structures. Algorithms is a topic the authors are well known for; I'm certainly glad they've extended their repertoire here.The "Anatomy of a Class" on page 377 is just one of many examples where the authors analyze and break down a code sample in a way that gives the reader a much deeper understanding of Java. The authors get you close to the code. The layout of this book makes it easy for you to think about Java and programming concepts as you read.This is a comprehensive yet enjoyable book covering the essential elements of both Programming and Java.

I hold a B.S. in Computer Science as well as a B.S in Mathematics, but I have to admit that over the last several months of not doing a whole lot of programming (I work in a different field), my fundamentals got a bit rusty. So, in a bid to sharpen my skills up in order to start working on some projects that I'd been wanting to pursue on my own time, I picked this book up - and it's been pretty incredible.The examples are short and sweet, but always illustrate a key point/technique, which is so unlike most of the "Teach Yourself In..." or "...For Dummies" books which feature completely worthless examples. This is also in stark contrast to many college textbooks that retail for twice the price. In short, you'll learn the core material but with examples and concepts that are much more useful than your typical toy examples.The real value, though, is in the exercises. Any book can teach you the basics of Java (even if their examples aren't great), but not many books try to teach you how to be a PROGRAMMER. In order to be a programmer, you need to build your problem solving skills and use them to solve non-trivial problems. The exercises in this book (separated into "standard" and "creative" ones) really reinforce the idea that programming is all about using these tools to solve your particular problem. For each section, pick a couple of the "creative exercises" and work your way towards a solution - that's where the real learning will happen.Anyway, while I'm almost done with the text, and while I think that I've sharpened up my skills to what I think is enough to be able to write the programs that I'd like to, I still went ahead and picked up "Algorithms" by the same author (Sedgewick) to help further my algorithmic problem solving skills. If the book is anything like this one (particularly on the exercise side), then I'm sure I'll be writing a glowing review of that, too.

This book doesn't just teach you Java, it teaches you programming. Yes, there is a difference. Learning programming involves using algorithm to solve problems, and much of this book is using Java based algorithms to solve problems.Regardless of the programming language preference (I prefer C#), you will benefit a great deal by mastering the contents of this book.The book has been

very strategically written. Every programming example not only extends one's understanding of programming, but also delves into important pieces of programmatic algorithm that is worth understanding and mastering (even memorizing).I highly recommend this book for all levels (even for the experts who need algorithmic refreshers). This is also a very fine reference book as well.Pros:1)Written strategically to build one's understanding of programming each step of the way. Every programmatic example is like a work of art.2)Great exercise problems.3)I cannot think of better way to learn Java. I only wish there is an equivalent book for C# (but all of the algorithms also applies to C# as well). Fortunately, there isn't a whole lot of syntax difference between C# and Java, and I highly recommend this book for C# programmers.Cons:1)Deceptively difficult. Yes, it is an introduction to programming in Java, but you may get lost if you have never programmed before.

I have a long experience in programming, as most of the reviewers found here. As one can imagine, this accounts for lots of books in FORTRAN, C, C++, Pascal, BASIC, Python, Perl, etc., over time, but none of them has been so fun to read and teach from, as this gem. In addition, there is a wealth of information in the book webpage, which makes it ideal for self-study.

This is the best book on programming among the many I've read. Sedgewick & Wayne concentrate on the programming part of "Programming in Java." There's a lot of information on various algorithms. There are a number of useful utility classes available on the books website. By using the utilities the student can focus on important programming idioms and methods, without getting too bogged down in the details. In contrast to many other beginning Java texts, the reader is treated with respect. Plus the exercises are a lot of fun!

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