

Data Structures And Other Objects Using Java

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Data Structures & Other Objects Using Java - Michael Main 1999

In this book, author Michael Main takes a gentle approach to the data structures course in Java. The text offers an early, self-contained review of object-oriented programming and Java to give students a firm grasp of key concepts, and allows students with a variety of backgrounds to adjust easily to the course. This book offers a flexibility that gives professors such options as emphasizing object-oriented programming, covering recursion and sorting early or accelerating the pace of the course. Main's book meets the needs of professors searching for a text that balances object-oriented programming and data structures with Java.

Clean Code - Robert C. Martin 2009

Looks at the principles and clean code, includes case studies showcasing the practices of writing clean code, and contains a list of heuristics and "smells" accumulated from the process of writing clean code.

Data Structures and Algorithms in Java - Michael T. Goodrich 2014-01-28

The design and analysis of efficient data structures has long been recognized as a key component of the Computer Science curriculum. Goodrich, Tomassia and Goldwasser's approach to this classic topic is based on the object-oriented paradigm as the framework of choice for the design of data structures. For each ADT presented in the text, the authors provide an associated Java interface. Concrete data structures realizing the ADTs are provided as

Java classes implementing the interfaces. The Java code implementing fundamental data structures in this book is organized in a single Java package, `net.datastructures`. This package forms a coherent library of data structures and algorithms in Java specifically designed for educational purposes in a way that is complimentary with the Java Collections Framework.

Data Structures - Elliot B. Koffman 2016

Open Data Structures - Pat Morin 2013

Introduction -- Array-based lists -- Linked lists -- Skiplists -- Hash tables -- Binary trees -- Random binary search trees -- Scapegoat trees -- Red-black trees -- Heaps -- Sorting algorithms -- Graphs -- Data structures for integers -- External memory searching.

Objects, Abstraction, Data Structures and Design Using Java Version 5.0 - Elliot B. Koffman 2004-11-10

This version of the book uses the latest Java technology, Java 2 Standard Edition Version 5.0 (J2SE V. 5.0), or otherwise known as "Version 5.0." This revolutionary book intertwines problem solving and software engineering with the study of traditional data structures topics. The book emphasizes the use of objects and object-oriented design. Early chapters provide background coverage of software engineering. Then, in the chapters on data structures, these principles are applied. The authors encourage use of a five-step process for the solution of case studies: problem specification, analysis, design,

implementation, and testing. As is done in industry, these steps are sometimes performed in an iterative fashion rather than in strict sequence. The Java Application Programming Interface (API) is used throughout the text. Wherever possible, the specification and interface for a data structure follow the Java Collections Framework. Emphasizes the use of objects and object-oriented design Provides a primer on the Java language and offers background coverage of software engineering Encourages an iterative five-step process for the solution of case studies: problem specification, analysis, design, implementation, and testing The Java Application Programming Interface (API) is used throughout

DATA STRUCTURE AND ALGORITHMS. MADE EASY GUIDE. - Harry. H. Chaudhary.

2014-06-02

Essential Data Structures Skills -- Made Easy! This book gives a good start and Complete introduction for data structures and algorithms for Beginner's. While reading this book it is fun and easy to read it. This book is best suitable for first time DSA readers, Covers all fast track topics of DSA for all Computer Science students and Professionals. Data Structures and Other Objects Using C or C++ takes a gentle approach to the data structures course in C Providing an early, text gives students a firm grasp of key concepts and allows those experienced in another language to adjust easily. Flexible by design,. Finally, a solid foundation in building and using abstract data types is also provided. Using C, this book develops the concepts and theory of data structures and algorithm analysis in a gradual, step-by-step manner, proceeding from concrete examples to abstract principles. Standish covers a wide range of Both traditional and contemporary software engineering topics. This is a handy guide of sorts for any computer science engineering Students, Data Structures And Algorithms is a solution bank for various complex problems related to data structures and algorithms. It can be used as a reference manual by Computer Science Engineering students. this Book also covers all aspects of B.TECH CS,IT, and BCA and MCA, BSC IT. || Inside Chapters. || ===== 1 Introduction. 2 Array. 3 Matrix . 4 Sorting . 5 Stack. 6 Queue. 7 Linked List. 8 Tree. 9 Graph . 10 Hashing. 11

Algorithms. 12 Misc. Topics. 13 Problems.

Data Structures and Problem Solving Using Java - Mark Allen Weiss 2002

Uses Java to teach data structures and algorithms from the perspective of abstract thinking and problem solving.

Java 9 Data Structures and Algorithms - Debasish Ray Chawdhuri 2017-04-28

Gain a deep understanding of the complexity of data structures and algorithms and discover the right way to write more efficient code About This Book This book provides complete coverage of reactive and functional data structures Based on the latest version of Java 9, this book illustrates the impact of new features on data structures Gain exposure to important concepts such as Big-O Notation and Dynamic Programming Who This Book Is For This book is for Java developers who want to learn about data structures and algorithms. Basic knowledge of Java is assumed. What You Will Learn Understand the fundamentals of algorithms, data structures, and measurement of complexity Find out what general purpose data structures are, including arrays, linked lists, double ended linked lists, and circular lists Get a grasp on the basics of abstract data types—stack, queue, and double ended queue See how to use recursive functions and immutability while understanding and in terms of recursion Handle reactive programming and its related data structures Use binary search, sorting, and efficient sorting—quicksort and merge sort Work with the important concept of trees and list all nodes of the tree, traversal of tree, search trees, and balanced search trees Apply advanced general purpose data structures, priority queue-based sorting, and random access immutable linked lists Gain a better understanding of the concept of graphs, directed and undirected graphs, undirected trees, and much more In Detail Java 9 Data Structures and Algorithms covers classical, functional, and reactive data structures, giving you the ability to understand computational complexity, solve problems, and write efficient code. This book is based on the Zero Bug Bounce milestone of Java 9. We start off with the basics of algorithms and data structures, helping you understand the fundamentals and measure complexity. From here, we introduce you to concepts such as arrays, linked lists, as well as abstract data types

such as stacks and queues. Next, we'll take you through the basics of functional programming while making sure you get used to thinking recursively. We provide plenty of examples along the way to help you understand each concept. You will get the also get a clear picture of reactive programming, binary searches, sorting, search trees, undirected graphs, and a whole lot more! Style and approach This book will teach you about all the major algorithms in a step-by-step manner. Special notes on the Big-O Notation and its impact on algorithms will give you fresh insights.

Guide to Data Structures - James T. Streib
2017-12-30

This accessible and engaging textbook/guide provides a concise introduction to data structures and associated algorithms. Emphasis is placed on the fundamentals of data structures, enabling the reader to quickly learn the key concepts, and providing a strong foundation for later studies of more complex topics. The coverage includes discussions on stacks, queues, lists, (using both arrays and links), sorting, and elementary binary trees, heaps, and hashing. This content is also a natural continuation from the material provided in the separate Springer title Guide to Java by the same authors. Topics and features: reviews the preliminary concepts, and introduces stacks and queues using arrays, along with a discussion of array-based lists; examines linked lists, the implementation of stacks and queues using references, binary trees, a range of varied sorting techniques, heaps, and hashing; presents both primitive and generic data types in each chapter, and makes use of contour diagrams to illustrate object-oriented concepts; includes chapter summaries, and asks the reader questions to help them interact with the material; contains numerous examples and illustrations, and one or more complete program in every chapter; provides exercises at the end of each chapter, as well as solutions to selected exercises, and a glossary of important terms. This clearly-written work is an ideal classroom text for a second semester course in programming using the Java programming language, in preparation for a subsequent advanced course in data structures and algorithms. The book is also eminently suitable as a self-study guide in either academe

or industry.

Data Structures and Other Objects Using Java - Michael Main 2006

Takes a gentle approach to learning data structures using the Java programming language. Providing an early, self-contained review of object-oriented programming and Java, this text gives readers a firm grasp of key concepts and allows those experienced in another language to adjust easily. It has a solid foundation in building and using abstract data types, along with an assortment of advanced topics such as B-trees for project building and graph. It incorporates Java 5.0 including the use of scanner class and generic data types (generics). MARKET: This book is if for anyone interested in learning how to write effective data structures using the Java language.

Data Structures - Elliot B. Koffman 2010-01-26

This book lays the foundation for programmers to build their skills. The focus is placed on how to implement effective programs using the JCL instead of producing mathematical proofs. The coverage is updated and streamlined to provide a more accessible approach to programming. They'll be able to develop a thorough understanding of basic data structures and algorithms through an objects-first approach. Data structures are discussed in the context of software engineering principles. Updated case studies also show programmers how to apply essential design skills and concepts.

Fundamentals of OOP and Data Structures in Java - Richard Wiener 2000-06-05

A book for an undergraduate course on data structures which integrates the concepts of object-oriented programming and GUI programming.

Data Structures and Algorithm Analysis in Java, Third Edition - Clifford A. Shaffer 2012-09-06

Comprehensive treatment focuses on creation of efficient data structures and algorithms and selection or design of data structure best suited to specific problems. This edition uses Java as the programming language.

Designing Data Structures in Java - Albert A. Brouillette 2013-01-01

"Designing Data Structures in Java" provides a solid foundation for anyone seeking to understand the how and the why of programming data structures. Intended for the

reader with an introductory Java background, this book aims to meet the needs of students enrolled in a typical "Data Structures and Algorithms with Java" (CS2) course. Starting with a description of the software development process, the book takes a problem-solving approach to programming, and shows how data structures form the building blocks of well-designed and cleanly-implemented programs. Topics include: Problem solving, Abstraction, Java objects and references, Arrays, Abstract Data Types, Ordered lists, Sorting, Algorithm evaluation, Binary searches, Stacks, Queues, Linked Lists, Double-ended lists, Recursion, Doubly-linked lists, Binary Search Trees, Traversals, Heaps, and more. Mr. Brouillette's 25+ years of experience as a software engineer and educator allow him to bring a unique and refreshing perspective to the topic of data structures which is rigorous, accessible and practical. Material is presented in a 'top down' approach, beginning with explanations of why different data structures are used, continuing with clearly illustrated concepts of how the structures work, and ending with clear, neat Java code examples. Succinct graphics provide visual representations of the ideas, and verbal explanations supplement the documented code. Each chapter ends with a Chapter Checklist summary page which distills and highlights the most important ideas from the chapter. The book is intended as a step by step explanation and exploration of the how and why of using Data Structures in modern computer program development. Even though the Java language is used in the explanation and implementation of the various structures, the concepts are applicable to other languages which the reader may encounter in the future. The topics included have been sequenced to build upon each other, always with the perspective of the beginning programming student in mind. There are discussions of software engineering concepts and goals, and motivations for learning different data structures. This text brings the beginning Java student from novice programmer to the next level of programming maturity.

Java Methods, Second AP Edition - Maria Litvin 2010-12-15

Serialization and Persistent Objects - Jiri

Soukup 2014-04-23

Recently, the pressure for fast processing and efficient storage of large data with complex relations increased beyond the capability of traditional databases. Typical examples include iPhone applications, computer aided design – both electrical and mechanical, biochemistry applications, and incremental compilers. Serialization, which is sometimes used in such situations is notoriously tedious and error prone. In this book, Jiri Soukup and Petr Macháček show in detail how to write programs which store their internal data automatically and transparently to disk. Together with special data structure libraries which treat relations among objects as first-class entities, and with a UML class-diagram generator, the core application code is much simplified. The benchmark chapter shows a typical example where persistent data is faster by the order of magnitude than with a traditional database, in both traversing and accessing the data. The authors explore and exploit advanced features of object-oriented languages in a depth hardly seen in print before. Yet, you as a reader need only a basic knowledge of C++, Java, C#, or Objective C. These languages are quite similar with respect to persistency, and the authors explain their differences where necessary. The book targets professional programmers working on any industry applications, it teaches you how to design your own persistent data or how to use the existing packages efficiently. Researchers in areas like language design, compiler construction, performance evaluation, and no-SQL applications will find a wealth of novel ideas and valuable implementation tips. Under <http://www.codefarms.com/book>, you will find a blog and other information, including a downloadable zip file with the sources of all the listings that are longer than just a few lines – ready to compile and run.

Data Structures And Algorithms - Harry. H. Chaudhary. 2014-10-01

Features of Book - Essential Data Structures Skills -- Made Easy! All Code/Algo written in C Programming. || Learn with Fun strategy. Anyone can comfortably follow this book to Learn DSA Step By Step. Unique strategy- Concepts, Problems, Analysis, Questions, Solutions. Why This Book - This book gives a

good start and complete introduction for data structures and algorithms for Beginner's. While reading this book it is fun and easy to read it. This book is best suitable for first time DSA readers, Covers all fast track topics of DSA for all Computer Science students and Professionals. Learn all Concept's Clearly with World Famous Programmer Harry Chaudhary. Main Objective - Data structures is concerned with the storage, representation and manipulation of data in a computer. In this book, we discuss some of the more versatile and popular data structures used to solve a variety of useful problems. Among the topics are linked lists, stacks, queues, trees, graphs, sorting and hashing. What Special - Data Structures & Algorithms Using C or C++ takes a gentle approach to the data structures course in C Providing an early, text gives students a firm grasp of key concepts and allows those experienced in another language to adjust easily. Flexible by design,. Finally, a solid foundation in building and using abstract data types is also provided. Using C, this book develops the concepts & theory of data structures and algorithm analysis in a gradual, step-by-step manner, proceeding from concrete examples to abstract principles. Standish covers a wide range of both traditional and contemporary software engineering topics. This is a handy guide of sorts for any computer science Students, This book is a solution bank for various problems related to data structures and algorithms. It can be used as a reference manual by Computer Science Engineering students. This Book also covers all aspects of CS, IT. Special Note: Digital Pdf Edition || Epub Edition is Available on Google Play & Books. less [Java Programming](#) - D. S. Malik 2011 Designed for a first Computer Science (CS1) Java course, JAVA PROGRAMMING: FROM PROBLEM ANALYSIS TO PROGRAM DESIGN, 5e, International Edition will motivate your students while building a cornerstone for the Computer Science curriculum. With a focus on your students' learning, this text approaches programming using the latest version of Java, and includes updated programming exercises and programs. The engaging and clear-cut writing style will help your students learn key concepts through concise explanations and

practice in this complex and powerful language.

Think Data Structures - Allen Downey

2017-07-07

If you're a student studying computer science or a software developer preparing for technical interviews, this practical book will help you learn and review some of the most important ideas in software engineering—data structures and algorithms—in a way that's clearer, more concise, and more engaging than other materials. By emphasizing practical knowledge and skills over theory, author Allen Downey shows you how to use data structures to implement efficient algorithms, and then analyze and measure their performance. You'll explore the important classes in the Java collections framework (JCF), how they're implemented, and how they're expected to perform. Each chapter presents hands-on exercises supported by test code online. Use data structures such as lists and maps, and understand how they work Build an application that reads Wikipedia pages, parses the contents, and navigates the resulting data tree Analyze code to predict how fast it will run and how much memory it will require Write classes that implement the Map interface, using a hash table and binary search tree Build a simple web search engine with a crawler, an indexer that stores web page contents, and a retriever that returns user query results Other books by Allen Downey include Think Java, Think Python, Think Stats, and Think Bayes.

An Introduction to Object-Oriented

Programming with Java 1. 5 Update with

OLC Bi-Card - C. Thomas Wu 2004

An Introduction to Object-Oriented

Programming with Java provides an accessible and thorough introduction to the basics of programming in java. This much-anticipated revision continues its emphasis on object-oriented programming. Objects are used early so students begin thinking in an object-oriented way, then later Wu teaches students to define their own classes. In the third edition, the author has eliminated the author-written classes, so students get accustomed to using the standard java libraries. In the new update, the author has included the Scanner Class for input, a new feature of Java 1.5. Also new is the use of smaller complete code examples to enhance student learning. The larger sample

development programs are continued in this edition, giving students an opportunity to walk incrementally through program design, learning the fundamentals of software engineering. The number and variety of examples makes this a student-friendly text that teaches by showing. Object diagrams continue to be an important element of Wu's approach. The consistent, visual approach assists students in understanding concepts.

Data Structures & Other Objects Using C++ - Michael Main 2011

Data Structures and Other Objects Using C++ takes a gentle approach to the data structures course in C++. Providing an early, self-contained review of object-oriented programming and C++, this text gives students a firm grasp of key concepts and allows those experienced in another language to adjust easily. Flexible by design, professors have the option of emphasizing object-oriented programming, covering recursion and sorting early, or accelerating the pace of the course. Finally, a solid foundation in building and using abstract data types is also provided, along with an assortment of advanced topics such as B-trees for project building and graphs.

Java Data Objects - David Jordan 2003-04-22
Introduces Java Data Objects and its capabilities, explains how to make classes persistent, how to configure JDO, how to make queries, how to perform transactions, and its use in Web applications and J2EE environments.

Student Value Edition for Starting Out with Java - Tony Gaddis 2014-03-03

[Data Structures and Problem Solving Using Java](#) - Mark Allen Weiss 2013-08-29

For the second or third programming course. A practical and unique approach to data structures that separates interface from implementation. This book provides a practical introduction to data structures with an emphasis on abstract thinking and problem solving, as well as the use of Java. It does this through what remains a unique approach that clearly separates each data structure's interface (how to use a data structure) from its implementation (how to actually program that structure). Parts I (Tour of Java), II (Algorithms and Building Blocks), and III (Applications) lay the groundwork by

discussing basic concepts and tools and providing some practical examples, while Part IV (Implementations) focuses on implementation of data structures. This forces the reader to think about the functionality of the data structures before the hash table is implemented. The full text downloaded to your computer With eBooks you can: search for key concepts, words and phrases make highlights and notes as you study share your notes with friends eBooks are downloaded to your computer and accessible either offline through the Bookshelf (available as a free download), available online and also via the iPad and Android apps. Upon purchase, you'll gain instant access to this eBook. Time limit The eBooks products do not have an expiry date. You will continue to access your digital ebook products whilst you have your Bookshelf installed.

Data Structures and Algorithms in Python - Michael T. Goodrich 2013-03-08

Based on the authors' market leading data structures books in Java and C++, this textbook offers a comprehensive, definitive introduction to data structures in Python by authoritative authors. *Data Structures and Algorithms in Python* is the first authoritative object-oriented book available for the Python data structures course. Designed to provide a comprehensive introduction to data structures and algorithms, including their design, analysis, and implementation, the text will maintain the same general structure as *Data Structures and Algorithms in Java* and *Data Structures and Algorithms in C++*.

Fundamentals of Computer Programming with C# - Svetlin Nakov 2013-09-01

The free book "Fundamentals of Computer Programming with C#" is a comprehensive computer programming tutorial that teaches programming, logical thinking, data structures and algorithms, problem solving and high quality code with lots of examples in C#. It starts with the first steps in programming and software development like variables, data types, conditional statements, loops and arrays and continues with other basic topics like methods, numeral systems, strings and string processing, exceptions, classes and objects. After the basics this fundamental programming book enters into more advanced programming topics like

recursion, data structures (lists, trees, hash-tables and graphs), high-quality code, unit testing and refactoring, object-oriented principles (inheritance, abstraction, encapsulation and polymorphism) and their implementation the C# language. It also covers fundamental topics that each good developer should know like algorithm design, complexity of algorithms and problem solving. The book uses C# language and Visual Studio to illustrate the programming concepts and explains some C# / .NET specific technologies like lambda expressions, extension methods and LINQ. The book is written by a team of developers lead by Svetlin Nakov who has 20+ years practical software development experience. It teaches the major programming concepts and way of thinking needed to become a good software engineer and the C# language in the meantime. It is a great start for anyone who wants to become a skillful software engineer. The book does not teach technologies like databases, mobile and web development, but shows the true way to master the basics of programming regardless of the languages, technologies and tools. It is good for beginners and intermediate developers who want to put a solid base for a successful career in the software engineering industry. The book is accompanied by free video lessons, presentation slides and mind maps, as well as hundreds of exercises and live examples. Download the free C# programming book, videos, presentations and other resources from <http://introprogramming.info>. Title: Fundamentals of Computer Programming with C# (The Bulgarian C# Programming Book) ISBN: 9789544007737 ISBN-13: 978-954-400-773-7 (9789544007737) ISBN-10: 954-400-773-3 (9544007733) Author: Svetlin Nakov & Co. Pages: 1132 Language: English Published: Sofia, 2013 Publisher: Faber Publishing, Bulgaria Web site: <http://www.introprogramming.info> License: CC-Attribution-Share-Alike Tags: free, programming, book, computer programming, programming fundamentals, ebook, book programming, C#, CSharp, C# book, tutorial, C# tutorial; programming concepts, programming fundamentals, compiler, Visual Studio, .NET, .NET Framework, data types, variables, expressions, statements, console,

conditional statements, control-flow logic, loops, arrays, numeral systems, methods, strings, text processing, StringBuilder, exceptions, exception handling, stack trace, streams, files, text files, linear data structures, list, linked list, stack, queue, tree, balanced tree, graph, depth-first search, DFS, breadth-first search, BFS, dictionaries, hash tables, associative arrays, sets, algorithms, sorting algorithm, searching algorithms, recursion, combinatorial algorithms, algorithm complexity, OOP, object-oriented programming, classes, objects, constructors, fields, properties, static members, abstraction, interfaces, encapsulation, inheritance, virtual methods, polymorphism, cohesion, coupling, enumerations, generics, namespaces, UML, design patterns, extension methods, anonymous types, lambda expressions, LINQ, code quality, high-quality code, high-quality classes, high-quality methods, code formatting, self-documenting code, code refactoring, problem solving, problem solving methodology, 9789544007737, 9544007733

Advanced Data Structures - Peter Brass
2019-05-16

Advanced Data Structures presents a comprehensive look at the ideas, analysis, and implementation details of data structures as a specialized topic in applied algorithms. Data structures are how data is stored within a computer, and how one can go about searching for data within. This text examines efficient ways to search and update sets of numbers, intervals, or strings by various data structures, such as search trees, structures for sets of intervals or piece-wise constant functions, orthogonal range search structures, heaps, union-find structures, dynamization and persistence of structures, structures for strings, and hash tables. This is the first volume to show data structures as a crucial algorithmic topic, rather than relegating them as trivial material used to illustrate object-oriented programming methodology, filling a void in the ever-increasing computer science market. Numerous code examples in C and more than 500 references make Advanced Data Structures an indispensable text. topic. Numerous code examples in C and more than 500 references make Advanced Data Structures an indispensable text.

Starting Out with Java - Tony Gaddis

2015-05-29

NOTE: You are purchasing a standalone product; MyProgrammingLab® does not come packaged with this content. If you would like to purchase both the physical text and MyProgrammingLab search for 0134059875 / 9780134059877

Starting Out with Java: From Control Structures through Objects plus MyProgrammingLab with Pearson eText -- Access Card Package, 6/e Package consists of: 0133957055 /

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courses in computer programming in Java

Starting Out with Java: From Control Structures

through Objects provides a brief yet detailed

introduction to programming in the Java

language. Starting out with the fundamentals of

data types and other basic elements, readers

quickly progress to more advanced

programming topics and skills. By moving from

control structures to objects, readers gain a

comprehensive understanding of the Java

language and its applications. As with all Gaddis

texts, the Sixth Edition is clear, easy to read, and

friendly in tone. The text teaches by example

throughout, giving readers a chance to apply

their learnings by beginning to code with Java.

Also available with MyProgrammingLab

MyProgrammingLab is an online homework,

tutorial, and assessment program designed to

work with this text to engage students and

improve results. Within its structured

environment, students practice what they learn,

test their understanding, and pursue a

personalized study plan that helps them better

absorb course material and understand difficult

concepts. MyProgrammingLab allows you to

engage your students in the course material

before, during, and after class with a variety of

activities and assessments.

Grokking Algorithms - Aditya Bhargava

2016-05-12

Summary Grokking Algorithms is a fully

illustrated, friendly guide that teaches you how

to apply common algorithms to the practical

problems you face every day as a programmer.

You'll start with sorting and searching and, as

you build up your skills in thinking

algorithmically, you'll tackle more complex

concerns such as data compression and artificial

intelligence. Each carefully presented example

includes helpful diagrams and fully annotated

code samples in Python. Learning about

algorithms doesn't have to be boring! Get a

sneak peek at the fun, illustrated, and friendly

examples you'll find in Grokking Algorithms on

Manning Publications' YouTube channel.

Continue your journey into the world of

algorithms with Algorithms in Motion, a

practical, hands-on video course available

exclusively at Manning.com

([www.manning.com/livevideo/algorithms-](http://www.manning.com/livevideo/algorithms-in-motion)

[in-motion](http://www.manning.com/livevideo/algorithms-in-motion)). Purchase of the print book includes a

free eBook in PDF, Kindle, and ePub formats

from Manning Publications. About the

Technology An algorithm is nothing more than a

step-by-step procedure for solving a problem.

The algorithms you'll use most often as a

programmer have already been discovered,

tested, and proven. If you want to understand

them but refuse to slog through dense multipage

proofs, this is the book for you. This fully

illustrated and engaging guide makes it easy to

learn how to use the most important algorithms

effectively in your own programs. About the

Book Grokking Algorithms is a friendly take on

this core computer science topic. In it, you'll

learn how to apply common algorithms to the

practical programming problems you face every

day. You'll start with tasks like sorting and

searching. As you build up your skills, you'll

tackle more complex problems like data

compression and artificial intelligence. Each

carefully presented example includes helpful

diagrams and fully annotated code samples in

Python. By the end of this book, you will have

mastered widely applicable algorithms as well as

how and when to use them. What's Inside Covers

search, sort, and graph algorithms Over 400

pictures with detailed walkthroughs

Performance trade-offs between algorithms

Python-based code samples About the Reader

This easy-to-read, picture-heavy introduction is

suitable for self-taught programmers, engineers,

or anyone who wants to brush up on algorithms.

About the Author Aditya Bhargava is a Software

Engineer with a dual background in Computer Science and Fine Arts. He blogs on programming at adit.io. [Table of Contents](#)
[Introduction to algorithms](#) [Selection sort](#)
[Recursion](#) [Quicksort](#) [Hash tables](#) [Breadth-first search](#) [Dijkstra's algorithm](#) [Greedy algorithms](#)
[Dynamic programming](#) [K-nearest neighbors](#)
[A Practical Introduction to Data Structures and Algorithm Analysis](#) - Clifford A. Shaffer 2001
This practical text contains fairly "traditional" coverage of data structures with a clear and complete use of algorithm analysis, and some emphasis on file processing techniques as relevant to modern programmers. It fully integrates OO programming with these topics, as part of the detailed presentation of OO programming itself. Chapter topics include lists, stacks, and queues; binary and general trees; graphs; file processing and external sorting; searching; indexing; and limits to computation. For programmers who need a good reference on data structures.

Objects, Abstraction, Data Structures and Design - Elliot B. Koffman 2005-10-20

"It is a practical book with emphasis on real problems the programmers encounter daily." -- Dr. Tim H. Lin, California State Polytechnic University, Pomona "My overall impressions of this book are excellent. This book emphasizes the three areas I want: advanced C++, data structures and the STL and is much stronger in these areas than other competing books." -- Al Verbanec, Pennsylvania State University
Think, Then Code When it comes to writing code, preparation is crucial to success. Before you can begin writing successful code, you need to first work through your options and analyze the expected performance of your design. That's why Elliot Koffman and Paul Wolfgang's *Objects, Abstraction, Data Structures, and Design: Using C++* encourages you to Think, Then Code, to help you make good decisions in those critical first steps in the software design process. The text helps you thoroughly understand basic data structures and algorithms, as well as essential design skills and principles. Approximately 20 case studies show you how to apply those skills and principles to real-world problems. Along the way, you'll gain an understanding of why different data structures are needed, the applications they are suited for, and the

advantages and disadvantages of their possible implementations. Key Features * Object-oriented approach. * Data structures are presented in the context of software design principles. * 20 case studies reinforce good programming practice. * Problem-solving methodology used throughout... "Think, then code!" * Emphasis on the C++ Standard Library. * Effective pedagogy.

Data Structures and Other Objects Using Java - Michael Main 2011-11

Data Structures and Other Objects Using Java is a gradual, "just-in-time" introduction to Data Structures for a CS2 course. Each chapter provides a review of the key aspects of object-oriented programming and a syntax review, giving students the foundation for understanding significant programming concepts. With this framework they are able to accomplish writing functional data structures by using a five-step method for working with data types; understanding the data type abstractly, writing a specification, using the data type, designing and implementing the data type, and analyzing the implementation. Students learn to think analytically about the efficiency and efficacy of design while gaining exposure to useful Java classes libraries.

Data Structures and Algorithms in C++ - Michael T. Goodrich 2011-02-22

An updated, innovative approach to data structures and algorithms Written by an author team of experts in their fields, this authoritative guide demystifies even the most difficult mathematical concepts so that you can gain a clear understanding of data structures and algorithms in C++. The unparalleled author team incorporates the object-oriented design paradigm using C++ as the implementation language, while also providing intuition and analysis of fundamental algorithms. Offers a unique multimedia format for learning the fundamentals of data structures and algorithms Allows you to visualize key analytic concepts, learn about the most recent insights in the field, and do data structure design Provides clear approaches for developing programs Features a clear, easy-to-understand writing style that breaks down even the most difficult mathematical concepts Building on the success of the first edition, this new version offers you an innovative approach to fundamental data

structures and algorithms.

Data Structures and Other Objects Using Java - Michael Main 2003

This book takes a gentle approach to the data structures course in Java. It offers an early, self-contained review of object-oriented programming and Java to give students a firm grasp of key concepts, and allows those experienced in other languages to adjust easily. The book also offers a flexibility which allows professors such options as emphasizing object-oriented programming, covering recursion and sorting early or accelerating the pace of the course. This title meets the needs of professors searching for a book to balance the introduction of object-oriented programming and data structures with Java. The new edition has been updated to cover Java 1.3 and includes new appendices with more reference material on such topics as Java collections. It also features increased coverage of object-oriented programming and inheritance. New exercises on radix sort and shell sort have also been added.

Object-Oriented Data Structures Using Java - Nell Dale 2011-02-27

Continuing the success of the popular second edition, the updated and revised *Object-Oriented Data Structures Using Java, Third Edition* is sure to be an essential resource for students learning data structures using the Java programming language. It presents traditional data structures and object-oriented topics with an emphasis on problem-solving, theory, and software engineering principles. Beginning early and continuing throughout the text, the authors introduce and expand upon the use of many Java features including packages, interfaces, abstract classes, inheritance, and exceptions. Numerous case studies provide readers with real-world examples and demonstrate possible solutions to interesting problems. The authors' lucid writing style guides readers through the rigor of standard data structures and presents essential concepts from logical, applications, and implementation levels. Key concepts throughout the Third Edition have been clarified to increase student comprehension and retention, and end-of-chapter exercises have been updated and modified. New and Key Features to the Third Edition: -Includes the use of generics throughout the text, providing the dual benefits of allowing

for a type safe use of data structures plus exposing students to modern approaches. -This text is among the first data structures textbooks to address the topic of concurrency and synchronization, which are growing in the importance as computer systems move to using more cores and threads to obtain additional performance with each new generation. Concurrency and synchronization are introduced in the new Section 5.7, where it begins with the basics of Java threads. -Provides numerous case studies and examples of the problem solving process. Each case study includes problem description, an analysis of the problem input and required output, and a discussion of the appropriate data structures to use. -Expanded chapter exercises allow you as the instructor to reinforce topics for your students using both theoretical and practical questions. -Chapters conclude with a chapter summary that highlights the most important topics of the chapter and ties together related topics.

Java, Java, Java - Ralph Morelli 2006

Functional and flexible, this guide takes an objects-first approach to Java programming and problem using games and puzzles. Updated to cover Java version 1.5 features, such as generic types, enumerated types, and the Scanner class. Offers independent introductions to both a command-line interface and a graphical user interface (GUI). Features coverage of Unified Modeling Language (UML), the industry-standard, object-oriented design tool. Illustrates key aspects of Java with a collection of game and puzzle examples. Instructor and Student resources available online. For introductory computer programming students or professionals interested in learning Java.

Data Structures and Algorithms Using Java - William McAllister 2009

Data Structures & Theory of Computation Data Structures Using C++ - D. S. Malik 2009-07-31

Now in its second edition, D.S. Malik brings his proven approach to C++ programming to the CS2 course. Clearly written with the student in mind, this text focuses on Data Structures and includes advanced topics in C++ such as Linked Lists and the Standard Template Library (STL). The text features abundant visual diagrams, examples, and extended Programming

Examples, all of which serve to illuminate difficult concepts. Complete programming code and clear display of syntax, explanation, and example are used throughout the text, and each chapter concludes with a robust exercise set.

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Introduction to Programming Using Java - David Eck 2009-09-01