

Data Abstraction And Problem Solving With Java Gbv

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Advanced Algorithms and Data Structures - Marcello La Rocca

2021-06-29

This book introduces a collection of algorithms for complex programming challenges in data analysis, machine learning, and graph computing.

You'll discover cutting-edge approaches to a variety of tricky scenarios. --

Data Structures - Elliot B. Koffman 2016

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.

Programming and Problem Solving with Java -

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.

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.

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 - Walter Savitch 2014-03-03

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 ISBN-10: 0133862119/ISBN-13: 9780133862119. That package includes ISBN-10: 0133766268/ISBN-13: 9780133766264 and ISBN-10: 0133841030/ISBN-13: 9780133841039. MyProgrammingLab is not a self-paced technology and should only be purchased when required by an instructor. Java: An Introduction to Problem Solving and Programming, 7e, is ideal for introductory Computer Science courses using Java, and other introductory programming courses in departments of Computer Science, Computer Engineering, CIS, MIS, IT, and Business. It also serves as a useful Java fundamentals reference for programmers. Students are introduced to object-oriented programming and important concepts such as design, testing and debugging, programming style, interfaces inheritance, and exception handling. The Java coverage is a concise, accessible introduction that covers key language features. Objects are covered thoroughly and early in the text, with an emphasis on application programs over applets. MyProgrammingLab for Java is a total learning package. MyProgrammingLab is an online homework, tutorial, and assessment program that truly engages students in learning. It helps students better prepare for class, quizzes, and exams—resulting in better performance in the course—and provides educators a dynamic set of tools for gauging individual and class progress. Teaching and Learning Experience This program presents a better teaching and learning experience—for you and your students. Personalized Learning with MyProgrammingLab: Through the power of practice and immediate personalized feedback, MyProgrammingLab helps students fully grasp the logic, semantics, and syntax of programming. A Concise, Accessible Introduction to Java: Key Java language features are covered in an accessible manner that resonates with introductory programmers. Tried-and-true Pedagogy: Numerous case studies, programming examples, and programming tips are used to help teach problem-solving and programming techniques. Flexible Coverage that Fits your Course: Flexibility charts and optional graphics

sections allow instructors to order chapters and sections based on their course needs. Instructor and Student Resources that Enhance Learning: Resources are available to expand on the topics presented in the text. Program Development in Java - Barbara Liskov 2000-06-06 Written by a world-renowned expert on programming methodology, and the winner of the 2008 Turing Award, this book shows how to build production-quality programs—programs that are reliable, easy to maintain, and quick to modify. Its emphasis is on modular program construction: how to get the modules right and how to organize a program as a collection of modules. The book presents a methodology effective for either an individual programmer, who may be writing a small program or a single module in a larger one; or a software engineer, who may be part of a team developing a complex program comprised of many modules. Both audiences will acquire a solid foundation for object-oriented program design and component-based software development from this methodology. Because each module in a program corresponds to an abstraction, such as a collection of documents or a routine to search the collection for documents of interest, the book first explains the kinds of abstractions most useful to programmers: procedures; iteration abstractions; and, most critically, data abstractions. Indeed, the author treats data abstraction as the central paradigm in object-oriented program design and implementation. The author also shows, with numerous examples, how to develop informal specifications that define these abstractions—specifications that describe what the modules do—and then discusses how to implement the modules so that they do what they are supposed to do with acceptable performance. Other topics discussed include: Encapsulation and the need for an implementation to provide the behavior defined by the specification Tradeoffs between simplicity and performance Techniques to help readers of code understand and reason about it, focusing on such properties as rep invariants and abstraction functions Type hierarchy and its use in defining families of related data abstractions Debugging, testing, and requirements analysis Program design as a top-down, iterative process, and design patterns The Java programming language is used for the book's examples.

However, the techniques presented are language independent, and an introduction to key Java concepts is included for programmers who may not be familiar with the language.

Programming and Problem Solving with C++ - Nell B. Dale
1996-01-01

Objects, Abstraction, Data Structures and Design - Elliot B. Koffman
2004-08-09

A revolutionary book that intertwines problem solving and software engineering with the study of traditional data structures topics Promotes a five-step methodology to limit program errors and increase efficiency: problem specification, analysis, design, implementation, and testing The Java Application Programming Interface (API) is used throughout and wherever possible, the specification and interface for a data structure follow the Java Collections Framework

Data Abstraction and Problem Solving with Java - Frank M. Carrano 2006
The Second Edition of *Data Abstraction and Problem Solving with Java: Walls and Mirrors* presents fundamental problem-solving and object-oriented programming skills by focusing on data abstraction (the walls) and recursion (the mirrors). It is fully revised to use the latest version of the Java programming language (Java 5.0). Java 5.0 is particularly well suited for presenting object-oriented programming, and helps enhance this edition's increased focus on object-oriented programming and data abstraction. Clear, accessible writing is complemented by a pedagogically rich presentation throughout this textbook.

Discrete Mathematics for Computer Scientists - Clifford Stein 2011
Stein/Drysdale/Bogart's *Discrete Mathematics for Computer Scientists* is ideal for computer science students taking the discrete math course. Written specifically for computer science students, this unique textbook directly addresses their needs by providing a foundation in discrete math while using motivating, relevant CS applications. This text takes an active-learning approach where activities are presented as exercises and the material is then fleshed out through explanations and extensions of the exercises.

Enterprise Data Workflows with Cascading - Paco Nathan
2013-07-11

There is an easier way to build Hadoop applications. With this hands-on book, you'll learn how to use Cascading, the open source abstraction framework for Hadoop that lets you easily create and manage powerful enterprise-grade data processing applications—without having to learn the intricacies of MapReduce. Working with sample apps based on Java and other JVM languages, you'll quickly learn Cascading's streamlined approach to data processing, data filtering, and workflow optimization. This book demonstrates how this framework can help your business extract meaningful information from large amounts of distributed data. Start working on Cascading example projects right away Model and analyze unstructured data in any format, from any source Build and test applications with familiar constructs and reusable components Work with the Scalding and Cascalog Domain-Specific Languages Easily deploy applications to Hadoop, regardless of cluster location or data size Build workflows that integrate several big data frameworks and processes Explore common use cases for Cascading, including features and tools that support them Examine a case study that uses a dataset from the Open Data Initiative

Think Julia - Ben Lauwens 2019-04-05

If you're just learning how to program, Julia is an excellent JIT-compiled, dynamically typed language with a clean syntax. This hands-on guide uses Julia 1.0 to walk you through programming one step at a time, beginning with basic programming concepts before moving on to more advanced capabilities, such as creating new types and multiple dispatch. Designed from the beginning for high performance, Julia is a general-purpose language ideal for not only numerical analysis and computational science but also web programming and scripting. Through exercises in each chapter, you'll try out programming concepts as you learn them. Think Julia is perfect for students at the high school or college level as well as self-learners and professionals who need to learn programming basics. Start with the basics, including language syntax and semantics Get a clear definition of each programming concept Learn

about values, variables, statements, functions, and data structures in a logical progression Discover how to work with files and databases Understand types, methods, and multiple dispatch Use debugging techniques to fix syntax, runtime, and semantic errors Explore interface design and data structures through case studies

Java for Data Science - Richard M. Reese 2017-01-10

Examine the techniques and Java tools supporting the growing field of data science About This Book Your entry ticket to the world of data science with the stability and power of Java Explore, analyse, and visualize your data effectively using easy-to-follow examples Make your Java applications more capable using machine learning Who This Book Is For This book is for Java developers who are comfortable developing applications in Java. Those who now want to enter the world of data science or wish to build intelligent applications will find this book ideal. Aspiring data scientists will also find this book very helpful. What You Will Learn Understand the nature and key concepts used in the field of data science Grasp how data is collected, cleaned, and processed Become comfortable with key data analysis techniques See specialized analysis techniques centered on machine learning Master the effective visualization of your data Work with the Java APIs and techniques used to perform data analysis In Detail Data science is concerned with extracting knowledge and insights from a wide variety of data sources to analyse patterns or predict future behaviour. It draws from a wide array of disciplines including statistics, computer science, mathematics, machine learning, and data mining. In this book, we cover the important data science concepts and how they are supported by Java, as well as the often statistically challenging techniques, to provide you with an understanding of their purpose and application. The book starts with an introduction of data science, followed by the basic data science tasks of data collection, data cleaning, data analysis, and data visualization. This is followed by a discussion of statistical techniques and more advanced topics including machine learning, neural networks, and deep learning. The next section examines the major categories of data analysis including text, visual, and audio data, followed by a discussion of

resources that support parallel implementation. The final chapter illustrates an in-depth data science problem and provides a comprehensive, Java-based solution. Due to the nature of the topic, simple examples of techniques are presented early followed by a more detailed treatment later in the book. This permits a more natural introduction to the techniques and concepts presented in the book. Style and approach This book follows a tutorial approach, providing examples of each of the major concepts covered. With a step-by-step instructional style, this book covers various facets of data science and will get you up and running quickly.

Data Structures Using Java - Langsam 2003-09

Data Abstraction and Problem Solving with C++ - Frank M. Carrano 2016-02-26

For courses in C++ Data Structures Concepts of Data Abstraction and Manipulation for C++ Programmers The Seventh Edition of Data Abstraction & Problem Solving with C++: Walls and Mirrors introduces fundamental computer science concepts related to the study of data structures. The text Explores problem solving and the efficient access and manipulation of data and is intended for readers who already have a basic understanding of C++. The "walls and mirrors" mentioned in the title represent problem-solving techniques that appear throughout the text. Data abstraction hides the details of a module from the rest of the program, whereas recursion is a repetitive technique that solves a problem by solving smaller versions of the same problems, much as images in facing mirrors grow smaller with each reflection. Along with general changes to improve clarity and correctness, this Seventh Edition includes new notes, programming tips, and sample problems.

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 and Abstractions with Java - Frank M. Carrano 2007
Using the latest features of Java 5, this unique object-oriented presentation introduces readers to data structures via thirty, manageable chapters. KEY FeaturesTOPICS: Introduces each ADT in its own chapter, including examples or applications. Provides a variety of exercises and projects, plus additional self-assessment questions throughout. the text Includes generic data types as well as enumerations, for-each loops, the interface Iterable, the class Scanner, assert statements, and autoboxing and unboxing. Identifies important Java code as a Listing. Provides NNotes and Pprogramming Ttips in each chapter. For programmers and software engineers interested in learning more about data structures and abstractions.

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 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.

Data Structures - Elliot B. Koffman 2021-02-03

Data Structures: Abstraction and Design Using Java offers a coherent and well-balanced presentation of data structure implementation and data structure applications with a strong emphasis on problem solving and software design. Step-by-step, the authors introduce each new data structure as an abstract data type (ADT), explain its underlying theory and computational complexity, provide its specification in the form of a Java interface, and demonstrate its implementation as one or more Java classes. Case studies using the data structures covered in the chapter show complete and detailed solutions to real-world problems, while a variety of software design tools are discussed to help students “Think, then code.” The book supplements its rigorous coverage of basic data structures and algorithms with chapters on sets and maps, balanced binary search trees, graphs, event-oriented programming, testing and debugging, and other key topics. Now available as an enhanced e-book, the fourth edition of Data Structures: Abstraction and Design Using Java enables students to measure their progress after completing each section through interactive questions, quick-check questions, and review questions.

Jumpstart Tableau - Arshad Khan 2016-05-31

Learn how to create powerful data visualizations easily and quickly. You will develop reports and queries, and perform data analysis. Jumpstart Tableau covers the basic reporting and analysis functions that most BI users perform in their day-to-day work. These include connecting to a data source, working with dimensions and measures, developing reports and charts, saving workbooks, filtering, swapping, sorting, formatting, grouping, creating hierarchies, forecasting, exporting, distributing, as well developing various chart types. Each exercise in Jumpstart Tableau provides screenshots that cover every step from start to finish. The exercises are based on a comprehensive sample Excel-based data source that Tableau Software (version 9) has provided, which makes it very easy to duplicate the exercises on the real software. This book teaches you to: Execute each function in a step-by-step manner Work up to more

advanced and complex Tableau functionality Integrate individual development of content, such as tables/charts and visualizations., onto a dashboard for an effective presentation What You'll Learn Connect to data sources Develop reports Create visualizations Perform analysis functions (e.g., filtering, drilldown, sorting, grouping, forecasting, etc.) Save visualizations in different formats and distribute them Develop dashboards and their content Who This Book Is For Novice Tableau users, BI end users, as well as developers and business analysts. Also, students in university courses on dashboards and data visualization as well as BI and data analysis can quickly get up to speed with Tableau tools and use them for implementing the hands-on projects associated with these courses. "/div> div

Thinking in Java - Bruce Eckel 2003

An overview of the programming language's fundamentals covers syntax, initialization, implementation, classes, error handling, objects, applets, multiple threads, projects, and network programming.

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.

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.

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.

AI Algorithms, Data Structures, and Idioms in Prolog, Lisp, and Java - George F. Luger 2009

Problem Solving with Java - Elliot B. Koffman 2002

"Problem Solving with Java"(TM), "Second Edition" provides an accessible introduction to programming that carefully balances the problem-solving skills all beginning programmers need to develop with the essential constructs of the Java programming language. This edition includes coverage of: Problem-Solving: Strong problem-solving skills are emphasized through 20 Case Studies, 10 of which are new to this edition. Each emphasizes the classic Koffman 5-step approach: problem specification, analysis, design, implementation, and testing. Object-Oriented Design: Principles of object-oriented design are used throughout, building up to an in-depth discussion of object-oriented design midway through the book. Inheritance, interfaces, and abstract classes are introduced by examining several case studies that use these features. Applications and Applets: Coverage of both applications and applets is provided throughout, including several examples of each. Graphical User Interface: The material describes how to build GUIs using swing components. It also shows how to use class JFrame to write applications that have GUIs. Input and Output: Most programs in the book use standard Java I/O methods. An optional package using class methods for input, based on class JOptionPane, to simplify data entry with dialog windows can also be used. Streams and Files: A new chapter covers streams and files, including coverage of streams of characters and streams of binary files, as well as demonstrations of how to read and write files of objects.

[Big Data Analytics with Java](#) - Rajat Mehta 2017-07-31

Learn the basics of analytics on big data using Java, machine learning and other big data tools About This Book Acquire real-world set of tools

for building enterprise level data science applications Surpasses the barrier of other languages in data science and learn create useful object-oriented codes Extensive use of Java compliant big data tools like apache spark, Hadoop, etc. Who This Book Is For This book is for Java developers who are looking to perform data analysis in production environment. Those who wish to implement data analysis in their Big data applications will find this book helpful. What You Will Learn Start from simple analytic tasks on big data Get into more complex tasks with predictive analytics on big data using machine learning Learn real time analytic tasks Understand the concepts with examples and case studies Prepare and refine data for analysis Create charts in order to understand the data See various real-world datasets In Detail This book covers case studies such as sentiment analysis on a tweet dataset, recommendations on a movielens dataset, customer segmentation on an ecommerce dataset, and graph analysis on actual flights dataset. This book is an end-to-end guide to implement analytics on big data with Java. Java is the de facto language for major big data environments, including Hadoop. This book will teach you how to perform analytics on big data with production-friendly Java. This book basically divided into two sections. The first part is an introduction that will help the readers get acquainted with big data environments, whereas the second part will contain a hardcore discussion on all the concepts in analytics on big data. It will take you from data analysis and data visualization to the core concepts and advantages of machine learning, real-life usage of regression and classification using Naive Bayes, a deep discussion on the concepts of clustering, and a review of simple neural networks on big data using deepLearning4j or plain Java Spark code. This book is a must-have book for Java developers who want to start learning big data analytics and want to use it in the real world. Style and approach The approach of book is to deliver practical learning modules in manageable content. Each chapter is a self-contained unit of a concept in big data analytics. Book will step by step builds the competency in the area of big data analytics. Examples using real world case studies to give ideas of real applications and how to use the techniques mentioned. The examples and case

studies will be shown using both theory and code.

MapReduce Design Patterns - Donald Miner 2012-11-21

Until now, design patterns for the MapReduce framework have been scattered among various research papers, blogs, and books. This handy guide brings together a unique collection of valuable MapReduce patterns that will save you time and effort regardless of the domain, language, or development framework you're using. Each pattern is explained in context, with pitfalls and caveats clearly identified to help you avoid common design mistakes when modeling your big data architecture. This book also provides a complete overview of MapReduce that explains its origins and implementations, and why design patterns are so important. All code examples are written for Hadoop.

Summarization patterns: get a top-level view by summarizing and grouping data
Filtering patterns: view data subsets such as records generated from one user
Data organization patterns: reorganize data to work with other systems, or to make MapReduce analysis easier
Join patterns: analyze different datasets together to discover interesting relationships
Metapatterns: piece together several patterns to solve multi-stage problems, or to perform several analytics in the same job
Input and output patterns: customize the way you use Hadoop to load or store data
"A clear exposition of MapReduce programs for common data processing patterns—this book is indispensable for anyone using Hadoop." --Tom White, author of Hadoop: The Definitive Guide

Data Abstraction and Problem Solving with Java - Frank M. Carrano 2001

This work focuses on the important concepts of data abstraction and data structures. It also introduces students to java classes along with other basic concepts of object-oriented programming, including inheritance, polymorphism, interfaces and packages.

Data Abstraction & Problem Solving with Java - Janet J. Prichard 2010-10

Rev. ed. of: Data abstraction and problem solving with Java / Frank M. Carrano, Janet J. Prichard. 2007.

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.

Better, Faster, Lighter Java - Bruce Tate 2004-05-28

Sometimes the simplest answer is the best. Many Enterprise Java developers, accustomed to dealing with Java's spiraling complexity, have fallen into the habit of choosing overly complicated solutions to problems when simpler options are available. Building server applications with "heavyweight" Java-based architectures, such as WebLogic, JBoss, and WebSphere, can be costly and cumbersome. When you've reached the point where you spend more time writing code to support your chosen framework than to solve your actual problems, it's time to think in terms of simplicity. In *Better, Faster, Lighter Java*, authors Bruce Tate and Justin Gehtland argue that the old heavyweight architectures are unwieldy, complicated, and contribute to slow and buggy application code. As an alternative means for building better applications, the authors present two "lightweight" open source architectures: Hibernate--a persistence framework that does its job with a minimal API and gets out of the way, and Spring--a container that's not invasive, heavy or complicated. Hibernate and Spring are designed to be fairly simple to learn and use, and place reasonable demands on system resources. *Better, Faster, Lighter Java* shows you how they can help you create enterprise applications that are easier to maintain, write, and debug, and are ultimately much faster. Written for intermediate to advanced Java developers, *Better, Faster, Lighter Java*, offers fresh ideas--often unorthodox--to help you rethink the way you work, and techniques and principles you'll use to build simpler applications. You'll learn to spend more time on what's important. When you're finished with this book, you'll find that your Java is better, faster, and lighter than ever before.

Programming and Problem Solving with Java - Nell B. Dale 2008
Extensively revised, the new Second Edition of *Programming and Problem Solving with Java* continues to be the most student-friendly text available. The authors carefully broke the text into smaller, more manageable pieces by reorganizing chapters, allowing student to focus

more sharply on the important information at hand. Using Dale and Weems' highly effective "progressive objects" approach, students begin with very simple yet useful class design in parallel with the introduction of Java's basic data types, arithmetic operations, control structures, and file I/O. Students see first hand how the library of objects steadily grows larger, enabling ever more sophisticated applications to be developed through reuse. Later chapters focus on inheritance and polymorphism, using the firm foundation that has been established by steadily developing numerous classes in the early part of the text. A new chapter on Data Structures and Collections has been added making the text ideal for a one or two-semester course. With its numerous new case studies, end-of-chapter material, and clear descriptive examples, the Second Edition is an exceptional text for discovering Java as a first programming language!

Problem Solving, Abstraction, and Design Using C++ - Frank L. Friedman 1994

Using C++, this book presents introductory programming material. Only the features of C++ that are appropriate to introductory concepts are introduced. Object-oriented concepts are presented. Abstraction is stressed throughout the book and pointers are presented in a gradual and gentle fashion for easier learning.

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.

Problem Solving with Algorithms and Data Structures Using Python - Bradley N. Miller 2011

THIS TEXTBOOK is about computer science. It is also about Python. However, there is much more. The study of algorithms and data structures is central to understanding what computer science is all about. Learning computer science is not unlike learning any other type of difficult subject matter. The only way to be successful is through deliberate and incremental exposure to the fundamental ideas. A beginning computer scientist needs practice so that there is a thorough understanding before continuing on to the more complex parts of the curriculum. In addition, a beginner needs to be given the opportunity to be successful and gain confidence. This textbook is designed to serve as a text for a first course on data structures and algorithms, typically taught as the second course in the computer science curriculum. Even though the second course is considered more advanced than the first course, this book assumes you are beginners at this level. You may still be struggling with some of the basic ideas and skills from a first computer science course and yet be ready to further explore the discipline and continue to practice problem solving. We cover abstract data types and data structures, writing algorithms, and solving problems. We look at a number of data structures and solve classic problems that arise. The tools and techniques that you learn here will be applied over and over as you continue your study of computer science.