File Structures An Object Oriented Approach With C

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 & Theory of Computation
This book teaches design by putting the hands-on work of constructing and running programs at the center of the learning process. By following the many programming examples included in the book and in the exercise sets, readers will gain a significant understanding of object-oriented techniques and will see how C++ can be an effective software development tool. HIGHLIGHTS *Presents file structures techniques, including direct access I/O, buffer packing and unpacking, indexing, cosequential processing, B-trees, and external hashing. *Includes extensive coverage of secondary storage devices, including disk, tape, and CD-ROM. *Covers the practice of object-oriented design and programming with complete implementations in C++. Every line of code in the book has been tested on a variety of C++ systems and is available on the Internet. *Develops a collection of C++ classes that provide a framework for solving file structure problems. *Includes class definitions, sample applications and programming problems and exercises, making this book a valuable learning and reference tool. ** Instructors materials are available from your sales rep. If you do not know your local sales representative, p
"Focusing on data abstraction and data structures, the second edition of this very successful book continues to emphasize the needs of both the instructor and the student. The book illustrates the role of classes and abstract data types (ADTs) in the problem-solving process as the foundation for an object-oriented approach. Throughout the next, the distinction between specification and implementation is continually stressed. The text covers major applications of ADTs, such as searching a flight map and performing an event-driven simulation. It also offers early, extensive coverage of recursion and uses this technique in many examples and exercises. Overall, the lucid writing style, widespread use of examples, and flexible coverage of material have helped make this a leading book in the field." --Book Jacket.
Describes the LISP programming language, and covers basic procedures, data, and modularity.
Market_Desc: · Advanced Undergraduate and Graduate Students in Computer Science About The Book: This book introduces the many and powerful data structures for representing information physically (in contrast to a database management system that represents information with logical structures). It covers specialized data structures, and explains how to choose the appropriate algorithm or data structure for the job at hand. The four sections treat primary file organizations, bit level and related structures, tree structures, and file sorting. Opening chapters cover sequential file organization, direct file organization, indexed sequential file organization, bits of information, secondary key retrieval, and bits and hashing. Following chapters cover binary tree structures, B-trees and derivatives, hashing techniques for expandable files, other tree structures, more on secondary key retrieval, sorting, and applying file structures. It contains pseudocode, or an outline in English, for most algorithms.
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 books 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

This book provides a concrete demonstration of how metaclasses can be used to increase productivity and reusability in object-oriented programming. A C++-based language for programming metaclasses according to the authors' model is presented and then used throughout the book, allowing the reader to understand the utility and importance of metaclasses within the overall context of object-oriented programming. In addition, this book.

Database technology plays a vital role in Information Technology. The major objective of this book is to elucidate the methods of data storage and retrieve huge amount of data in minimal access. File Structures using C++ is targeted at students of Computer Science and Engineering, Information Science, and those who are interested in Database Design. Features Object Oriented Programming used to illustrate design of File Structures UNIX and C++ support for File Operations explained in introductory chapter Object Oriented C++ design including Class Diagrams, Control Flow Diagrams and Implementation included throughout the book Last chapter (Chapter 10) on important programs covering all aspects of File Structures

Software -- Software Engineering.

Object-Oriented Information Engineering: Analysis, Design, and Implementation discusses design, both its object-oriented and traditional development and analysis, on which the book gives much focus. The book begins with an introduction to information engineering and its phases, object-oriented information engineering, and object orientation. The text then moves on to more specific topics, such as business information requirements; detailed object modeling; business functions and subject areas; and individual object behaviors and object interactions. The book also explains the integration and validation of analysis models; object structure designs; and system designs and its different applications. The text is recommended for undergraduates and practitioners of computer and/or information engineers who want to learn more about object-oriented design, its relation with traditional design, and its analysis. The book is also for those who wish to contribute and conduct further studies in the field of object-oriented design.

Fundamentals of objet-oriented databases; Object-oriented fundamentals; Semantic data models and persistent languages; Object-oriented database systems; Implementation; Transaction processing; Special features; Relational extensions and extensible databases; Interfaces; Applications.

Goes from the basics of classes, inheritance and interfaces to advanced concepts such as reflection, object persistence, design patterns and refactoring.

Provide beginning programmers with a guide to developing object-oriented program logic with Farrell's AN OBJECT-ORIENTED APPROACH TO PROGRAMMING LOGIC AND DESIGN, 4E. This text takes a unique, language-independent approach to ensure students develop a strong foundation in traditional programming principles and object-oriented concepts before learning the details of a specific programming language. The author presents object-oriented programming terminology without highly technical language, making the book ideal for students with no previous programming experience. Common business examples clearly illustrate key points. The book begins with a strong object-oriented focus in updated chapters that make even the most challenging programming concepts accessible. A wealth of updated programming exercises in every chapter provide diverse practice opportunities, while new Video Lessons by the author clarify and expand on key topics. Use this text alone or with a language-specific companion text that emphasizes C++, Java or Visual Basic for the solid introduction to object-oriented programming logic your students need for success. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

This ground-breaking book presents a complete methodology for adaptive programming in any object-oriented programming language. Lieberherr's adaptive method signals a new approach to object-oriented program design that goes beyond object encapsulation and hard-coded navigation paths to achieve more flexible interactions among objects. Programmers using this method work at a higher, schematic level of abstraction; graph notation represents the class structure and a "propagation pattern" language tells how to distribute meaningful methods - including navigation - across the structure. Using this method, programmers can easily adapt and modify programs as they evolve. This book can be used with any object-oriented programming environment, or with the Demeter Tools Version 5.5, a complete, professional software system for creating and maintaining adaptive programs.

File StructuresAn Object-oriented Approach with C++Addison Wesley

This book is designed for people with some experience in basic programming practices. It is also assumed that they have some basic experience using R and are familiar using the command line in an R environment. Our primary goal is to raise a beginner to a more advanced level to make him/her more comfortable creating programs and extending R to solve common problems.

The Hitchhiker's Guide to Python takes the journeyman Pythonista to true expertise. More than any other language, Python was created with the philosophy of simplicity and parsimony. Now 25 years old, Python has become the primary or secondary language (after SQL) for many business users. With popularity comes diversity—and possibly dilution. This guide, collaboratively written by over a hundred members of the Python community, describes best practices currently used by package and application developers. Unlike other books for this audience, The Hitchhiker’s Guide is light on reusable code and heavier on design philosophy, directing the reader to excellent sources that already exist.

This book provides the conceptual tools to build file structures that can be quickly and efficiently accessed. It teaches good design judgment through an approach that puts the "hands-on" work of constructing and running programs at the center of the learning process. This best-selling book has been thoroughly updated. It includes timely coverage of file structures in a UNIX environment in addition to a new and substantial appendix on CD-ROM. All former programs in C and Pascal have been updated to ANSI C and Turbo Pascal 6.0. 0201557134B04062001

This compact book presents a clear and thorough introduction to the object-oriented paradigm using the C++ language. It

introduces the readers to various C++ features that support object-oriented programming (OOP) concepts. In an easy-to-comprehend format, the text teaches how to start and compile a C++ program and discusses the use of C++ in OOP. The book covers the full range of object-oriented topics, from the fundamental features through classes, inheritance, polymorphism, template, exception handling and standard template library. KEY FEATURES • Includes several pictorial descriptions of the concepts to facilitate better understanding. • Offers numerous class-tested programs and examples to show the practical application of theory. • Provides a summary at the end of each chapter to help students in revising all key facts. The book is designed for use as a text by undergraduate students of engineering, undergraduate and postgraduate students of computer applications, and postgraduate students of management.

An Essential Reference for Intermediate and Advanced R Programmers Advanced R presents useful tools and techniques for attacking many types of R programming problems, helping you avoid mistakes and dead ends. With more than ten years of experience programming in R, the author illustrates the elegance, beauty, and flexibility at the heart of R. The book develops the necessary skills to produce quality code that can be used in a variety of circumstances. You will learn: The fundamentals of R, including standard data types and functions Functional programming as a useful framework for solving wide classes of problems The positives and negatives of metaprogramming How to write fast, memory-efficient code This book not only helps current R users become R programmers but also shows existing programmers what’s special about R. Intermediate R programmers can dive deeper into R and learn new strategies for solving diverse problems while programmers from other languages can learn the details of R and understand why R works the way it does.

Being familiar with object-oriented design is an essential part of programming in Python. This new edition includes all the topics that made Python Object-Oriented Programming an instant Packt classic. Moreover, it’s packed with updated content to reflect more recent changes in the core Python libraries and cover modern third-party packages.

PDF is becoming the standard for digital documents worldwide, but it’s not easy to learn on your own. With capabilities that let you use a variety of images and text, embed audio and video, and provide links and navigation, there’s a lot to explore. This practical guide helps you understand how to work with PDF to construct your own documents, troubleshoot problems, and even build your own tools. You’ll also find best practices for producing, manipulating, and consuming PDF documents. In addition, this highly approachable reference will help you navigate the official (and complex) ISO documentation. Learn how to combine PDF objects into a cohesive whole Use PDF’s imaging model to create vector and raster graphics Integrate text, and become familiar with fonts and glyphs Provide navigation within and between documents Use annotations to overlay or incorporate additional content Build interactive forms with the Widget annotation Embed related files such as multimedia, 3D content, and XML files Use optional content to enable non-printing graphics Tag content with HTML-like structures, including paragraphs and tables

Unleash the power of Python 3 objects About This Book Stop writing scripts and start architecting programs Learn the latest Python syntax and libraries A practical, hands-on tutorial that teaches you all about abstract design patterns and how to implement them in Python 3 Who This Book Is For If you're new to object-oriented programming techniques, or if you have basic Python skills and wish to learn in depth how and when to correctly apply object-oriented programming in Python to design software, this is the book for you. What You Will Learn Implement objects in Python by creating classes and defining methods Separate related objects into a taxonomy of classes and describe the properties and behaviors of those objects via the class interface Extend class functionality using inheritance Understand when to use object-oriented features, and more importantly when not to use them Discover what design patterns are and why they are different in Python Uncover the simplicity of unit testing and why it's so important in Python Grasp common concurrency techniques and pitfalls in Python 3 Exploit object-oriented programming in key Python technologies such as Kivy and Django. Object-oriented programming concurrently with asyncio In Detail Python 3 is more versatile and easier to use than ever. It runs on all major platforms in a huge array of use cases. Coding in Python minimizes development time and increases productivity in comparison to other languages. Clean, maintainable code is easy to both read and write using Python's clear, concise syntax. Object-oriented programming is a popular design paradigm in which data and behaviors are encapsulated in such a way that they can be manipulated together. Many modern programming languages utilize the powerful concepts behind object-oriented programming and Python is no exception. Starting with a detailed analysis of object-oriented analysis and design, you will use the Python programming language to clearly grasp key concepts from the object-oriented paradigm. This book fully explains classes, data encapsulation, inheritance, polymorphism, abstraction, and exceptions with an emphasis on when you can use each principle to develop well-designed software. You'll get an in-depth analysis of many common object-oriented design patterns that are more suitable to Python's unique style. This book will not just teach Python syntax, but will also build your confidence in how to program. You will also learn how to create maintainable applications by studying higher level design patterns. Following this, you'll learn the complexities of string and file manipulation, and how Python distinguishes between binary and textual data. Not one, but two very powerful automated testing systems will be introduced in the book. After you discover the joy of unit testing and just how easy it can be, you'll study higher level libraries such as database connectors and GUI toolkits and learn how they uniquely apply object-oriented principles. You'll learn how these principles will allow you to make greater use of key members of the Python eco-system such as Django and Kivy. This new edition includes all the topics that made Python 3 Object-oriented Programming an instant Packt classic. It's also packed with updated content to reflect recent changes in the core Python library and covers modern third-party packages that were not available on the Python 3 platform when the book was first published. Style and approach Throughout the book you will learn key object-oriented programming techniques demonstrated by comprehensive case studies in the context of a larger project.

A catalog of solutions to commonly occurring design problems, presenting 23 patterns that allow designers to create flexible and reusable designs for object-oriented software. Describes the circumstances in which each pattern is applicable, and discusses the consequences and trade-offs of using the pattern within a larger design. Patterns are compiled from real systems, and include code for implementation in object-oriented programming languages like C++ and Smalltalk. Includes a bibliography. Annotation copyright by Book News, Inc., Portland, OR

Once a radical notion, object-oriented programming is one of today's most active research areas. It is especially well suited to the design of very large software projects involving many programmers all working on the same project. The original contributions in this book will provide researchers and students in programming languages, databases, and programming semantics with the most complete survey of the field available. Broad in scope and deep in its examination of substantive issues, the book focuses on the major topics of object-oriented languages, models of computation, mathematical models, object-oriented databases, and object-oriented environments.The object-oriented languages include Beta, the Scandinavian successor to Simula (a chapter by Bent Kristensen, whose group has had the longest experience

with object-oriented programming, reveals how that experience has shaped the group's vision today); CommonObjects, a Lisp-based language with abstraction; Actors, a low-level language for concurrent modularity; and Vulcan, a Prolog-based concurrent object-oriented language.New computational models of inheritance, composite objects, block-structure layered systems, and classification are covered, and theoretical papers on functional object-oriented languages and object-oriented specification are included in the section on mathematical models.The three chapters on object-oriented databases (including David Maier's "Development and Implementation of an Object-Oriented Database Management System," which spans the programming and database worlds by integrating procedural and representational capability and the requirements of multi-user persistent storage) and the two chapters on object-oriented environments provide a representative sample of good research in these two important areas.Bruce Shriver is a researcher at IBM's Thomas J. Watson Research Center. Peter Wegner is a professor in the Department of Computer Science at Brown University. Research Directions in Object-Oriented Programming is included in the Computer Systems series, edited by Herb Schwetman.

Object-Oriented Programming under Windows presents object-oriented programming (OOP) techniques that can be used in Windows programming. The book is comprised of 15 chapters that tackle an area in OOP. Chapter 1 provides an introductory discourse about OOP, and Chapter 2 covers the programming languages. Chapter 3 deals with the Windows environment, while Chapter 4 discusses the creation of application. Windows and dialogue boxes, as well as controls and standard controls, are tackled. The book then covers menus and event response. Graphics operation, clipboard, bitmaps, icons, and cursors are also dealt with. The book also tackles disk file access, and then discusses the help file system. The last chapter covers data transfer. The text will be of great use to individuals who want to write Windows based programs.

This volume aims to study how practicing software developers, in industrial as well as academic environments, can use object technology to improve the quality of the software they produce. It includes topics on concurrency and Internet programming.

”Demystifies object-oriented programming, and lays out how to use it to design truly secure and performant applications.” —Charles Soetan, Plum.io Key Features Dozens of techniques for writing object-oriented code that’s easy to read, reuse, and maintain Write code that other programmers will instantly understand Design rules for constructing objects, changing and exposing state, and more Examples written in an instantly familiar pseudocode that’s easy to apply to Java, Python, C#, and any object-oriented language Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Well-written object-oriented code is easy to read, modify, and debug. Elevate your coding style by mastering the universal best practices for object design presented in this book. These clearly presented rules, which apply to any OO language, maximize the clarity and durability of your codebase and increase productivity for you and your team. In Object Design Style Guide, veteran developer Matthias Noback lays out design rules for constructing objects, defining methods, and much more. All examples use instantly familiar pseudocode, so you can follow along in the language you prefer. You’ll go case by case through important scenarios and challenges for object design and then walk through a simple web application that demonstrates how different types of objects can work together effectively. What You Will Learn Universal design rules for a wide range of objects Best practices for testing objects A catalog of common object types Changing and exposing state Test your object design skills with exercises This Book Is Written For For readers familiar with an object-oriented language and basic application architecture. About the Author Matthias Noback is a professional web developer with nearly two decades of experience. He runs his own web development, training, and consultancy company called “Noback’s Office.” Table of Contents: 1 ¦ Programming with objects: A primer 2 ¦ Creating services 3 ¦ Creating other objects 4 ¦ Manipulating objects 5 ¦ Using objects 6 ¦ Retrieving information 7 ¦ Performing tasks 8 ¦ Dividing responsibilities 9 ¦ Changing the behavior of services 10 ¦ A field guide to objects 11 ¦ Epilogue

The Complete Guide to Writing More Maintainable, Manageable, Pleasing, and Powerful Ruby Applications Ruby's widely admired ease of use has a downside: Too many Ruby and Rails applications have been created without concern for their long-term maintenance or evolution. The Web is awash in Ruby code that is now virtually impossible to change or extend. This text helps you solve that problem by using powerful real-world object-oriented design techniques, which it thoroughly explains using simple and practical Ruby examples. Sandi Metz has distilled a lifetime of conversations and presentations about object-oriented design into a set of Ruby-focused practices for crafting manageable, extensible, and pleasing code. She shows you how to build new applications that can survive success and repair existing applications that have become impossible to change. Each technique is illustrated with extended examples, all downloadable from the companion Web site,poodr.info. The first title to focus squarely on object-oriented Ruby application design, Practical Object-Oriented Design in Ruby will guide you to superior outcomes, whatever your previous Ruby experience. Novice Ruby programmers will find specific rules to live by; intermediate Ruby programmers will find valuable principles they can flexibly interpret and apply; and advanced Ruby programmers will find a common language they can use to lead development and guide their colleagues. This guide will help you Understand how object-oriented programming can help you craft Ruby code that is easier to maintain and upgrade Decide what belongs in a single Ruby class Avoid entangling objects that should be kept separate Define flexible interfaces among objects Reduce programming overhead costs with duck typing Successfully apply inheritance Build objects via composition Design cost-effective tests Solve common problems associated with poorly designed Ruby code