

The Antlr Mega Tutorial Federico Tomassetti

The LNCS Journal on Data Semantics is devoted to the presentation of notable work that, in one way or another, addresses research and development on issues related to data semantics. The scope of the journal ranges from theories supporting the formal definition of semantic content to innovative domain-specific applications of semantic knowledge. The journal addresses researchers and advanced practitioners working on the semantic web, interoperability, mobile information services, data warehousing, knowledge representation and reasoning, conceptual database modeling, ontologies, and artificial intelligence. Volume XI contains extended versions of eight revised and selected papers from several international workshops in the field, which took place in 2006.

A superior primer on software testing and quality assurance, from integration to execution and automation This important new work fills the pressing need for a user-friendly text that aims to provide software engineers, software quality professionals, software developers, and students with the fundamental developments in testing theory and common testing practices. Software Testing and Quality Assurance: Theory and Practice equips readers with a solid understanding of: Practices that support the production of quality software Software testing techniques Life-cycle models for requirements, defects, test cases, and test results Process models for units, integration, system, and acceptance testing How to build test teams, including recruiting and retaining test engineers Quality Models, Capability Maturity Model, Testing Maturity Model, and Test Process Improvement Model Expertly balancing theory with practice, and complemented with an abundance of pedagogical tools, including test questions, examples, teaching suggestions, and chapter summaries, this book is a valuable, self-contained tool for professionals and an ideal introductory text for courses in software testing, quality assurance, and software engineering.

So concludes what Levi considered to be his testament, his most important and final treatise, and a summation of his esoteric philosophy. This volume is the conclusion of the work he started as Book One, The Heiratic Mystery or the Traditional Documents of High Initiation, published as The Book of Splendours (Weiser, 1984). The Great Secret contains his final two works. In Book Two, The Royal Mystery or Art of Subduing the Powers, Levi discusses such topics as Evil, the Outer Darkness, the Great Secret, Magical Sacrifice, Evocations, the Arcana of Solomon's Ring, and the Terrible Secret. In Book Three, The Sacerdotal Mystery or the Art of being Served by Spirits, he expounds on the subjects of Aberrant Forces, the Chaining of the Devil, Sacred and Accursed Rites, Divination, Dark Intelligence, and the Great Arcanum.

In 2004 the Indian cricket team headed to Pakistan to play a historic series. Accompanying them was young cricket reporter Rahul Bhattacharya. The mood was tense, with political provocations and security fears. But as the archrivals met on the field, a rare spirit of bonhomie spread throughout the tour. And in streets and homes in Lahore, Karachi, Peshawar, Multan, the author had many warm human encounters that made the tour unforgettable. This book vividly brings alive the magic of cricket, even as it chronicles an emotional and hopeful time, witnessed by a young Indian discovering Pakistan.

Raised in a family of four, Kylila thinks she has the most ideal family. After her village has been burnt down, her deep, dark secret in her life begins to unfold. Having the powers to save or destroy the world, which would Kylila choose?

The expert guide to building Ruby on Rails applications Ruby on Rails strips complexity from the development process, enabling professional developers to focus on what matters most: delivering business value. Now, for the first time, there's a comprehensive, authoritative guide to building production-quality software with Rails. Pioneering Rails developer Obie Fernandez and a team of experts illuminate the entire Rails API, along with the Ruby idioms, design approaches, libraries, and plug-ins that make Rails so valuable. Drawing on their unsurpassed experience, they address the real challenges development teams face, showing how to use Rails' tools and best practices to maximize productivity and build polished applications users will enjoy. Using detailed code examples, Obie systematically covers Rails' key capabilities and subsystems. He presents advanced programming techniques, introduces open source libraries that facilitate easy Rails adoption, and offers important insights into testing and production deployment. Dive deep into the Rails codebase together, discovering why Rails behaves as it does—and how to make it behave the way you want it to. This book will help you Increase your productivity as a web developer Realize the overall joy of programming with Ruby on Rails Learn what's new in Rails 2.0 Drive design and protect long-term maintainability with TestUnit and RSpec Understand and manage complex program flow in Rails controllers Leverage Rails' support for designing REST-compliant APIs Master sophisticated Rails routing concepts and techniques Examine and troubleshoot Rails routing Make the most of ActiveRecord object-relational mapping Utilize Ajax within your Rails applications Incorporate logins and authentication into your application Extend Rails with the best third-party plug-ins and write your own Integrate email services into your applications with ActionMailer Choose the right Rails production configurations Streamline deployment with Capistrano On the anniversary of her daughter Emily's death, Sarabess, the matriarch of the Windsor family, enlists the help of lawyer Jake Forrest to find Trinity, the daughter she had given up for adoption, a desperate search that exposes dark secrets and has unexpected and lasting consequences. 150,000 first printing.

"One of the most significant books in my life." –Obie Fernandez, Author, The Rails Way "Twenty years ago, the first edition of The Pragmatic Programmer completely changed the trajectory of my career. This new edition could do the same for yours." –Mike Cohn, Author of Succeeding with Agile, Agile Estimating and Planning, and User Stories Applied ". . . filled with practical advice, both technical and professional, that will serve you and your projects well for years to come." –Andrea Goulet, CEO, Corgibytes, Founder, LegacyCode.Rocks ". . . lightning does strike twice, and this book is proof." –VM (Vicky) Brasseur, Director of Open Source Strategy, Juniper Networks The Pragmatic Programmer is one of those rare tech books you'll read, re-read, and read again over the years. Whether you're new to the field or an experienced practitioner, you'll come away with fresh insights each and every time. Dave Thomas and Andy Hunt wrote the first edition of this influential book in 1999 to help their clients create better software and rediscover the joy of coding. These lessons have helped a generation of programmers examine the very essence of software development, independent of any particular language, framework, or methodology, and the Pragmatic philosophy has spawned hundreds of books, screencasts, and audio books, as well as thousands of careers and success stories. Now, twenty years later, this new edition re-examines what it means to be a modern programmer. Topics range from personal responsibility and career development to architectural techniques for keeping your code flexible and easy to adapt and reuse. Read this book, and you'll learn how to: Fight software rot Learn continuously Avoid the trap of duplicating knowledge Write flexible, dynamic, and adaptable code Harness the power of basic tools Avoid programming by coincidence Learn real requirements Solve the underlying problems of concurrent code Guard against security vulnerabilities Build teams of Pragmatic Programmers Take responsibility for

your work and career Test ruthlessly and effectively, including property-based testing Implement the Pragmatic Starter Kit Delight your users Written as a series of self-contained sections and filled with classic and fresh anecdotes, thoughtful examples, and interesting analogies, The Pragmatic Programmer illustrates the best approaches and major pitfalls of many different aspects of software development. Whether you're a new coder, an experienced programmer, or a manager responsible for software projects, use these lessons daily, and you'll quickly see improvements in personal productivity, accuracy, and job satisfaction. You'll learn skills and develop habits and attitudes that form the foundation for long-term success in your career. You'll become a Pragmatic Programmer. Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

In this remarkable book, Carl Verheyen teaches his philosophy and techniques for improvising. Rather than hashing out scales, Carl teaches how to play lines with strong melodic content. By approaching melodies through intervals and chord qualities, infinite lines can be generated. Carl stresses the importance of collecting lines that can be used in improvised settings. These lines and examples will provide outstanding material for any guitarist yearning for melodic ideas and inspiration. Presented in standard notation and tab.

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Crafting a Compiler is a practical yet thorough treatment of compiler construction. It is ideal for undergraduate courses in Compilers or for software engineers, systems analysts, and software architects. Crafting a Compiler is an undergraduate-level text that presents a practical approach to compiler construction with thorough coverage of the material and examples that clearly illustrate the concepts in the book. Unlike other texts on the market, Fischer/Cytron/LeBlanc uses object-oriented design patterns and incorporates an algorithmic exposition with modern software practices. The text and its package of accompanying resources allow any instructor to teach a thorough and compelling course in compiler construction in a single semester. It is an ideal reference and tutorial for students, software engineers, systems analysts, and software architects.

Nesse livro o leitor encontrará um amplo texto sobre a magia, mostrando detalhes a respeito do ocultismo, da iniciação, do lidar com espíritos de luz, trevas, entre outros, símbolos nas várias formas de magia, evocações de várias entidades, ligações entre espíritos e natureza, divinação, e todo um contexto relacionando o micro-macro na Grande Teia Universal. Além disso, ensina como desenvolver a mente e como lidar com a realidade espiritual, mantendo os devidos cuidados para não ser enganado pelas trevas. É um livro diferente dos comumente encontrados, dando uma base profunda ao iniciante na magia.

"Having been born a freeman, and for more than thirty years enjoyed the blessings of liberty in a free State—and having at the end of that time been kidnapped and sold into Slavery, where I remained, until happily rescued in the month of January, 1853, after a bondage of twelve years—it has been suggested that an account of my life and fortunes would not be uninteresting to the public."
-an excerpt

What others in the trenches say about The Pragmatic Programmer... "The cool thing about this book is that it's great for keeping the programming process fresh. The book helps you to continue to grow and clearly comes from people who have been there."
—Kent Beck, author of Extreme Programming Explained: Embrace Change "I found this book to be a great mix of solid advice and wonderful analogies!" —Martin Fowler, author of Refactoring and UML Distilled "I would buy a copy, read it twice, then tell all my colleagues to run out and grab a copy. This is a book I would never loan because I would worry about it being lost." —Kevin Ruland, Management Science, MSG-Logistics "The wisdom and practical experience of the authors is obvious. The topics presented are relevant and useful.... By far its greatest strength for me has been the outstanding analogies—tracer bullets, broken windows, and the fabulous helicopter-based explanation of the need for orthogonality, especially in a crisis situation. I have little doubt that this book will eventually become an excellent source of useful information for journeymen programmers and expert mentors alike." —John Lakos, author of Large-Scale C++ Software Design "This is the sort of book I will buy a dozen copies of when it comes out so I can give it to my clients." —Eric Vought, Software Engineer "Most modern books on software development fail to cover the basics of what makes a great software developer, instead spending their time on syntax or technology where in reality the greatest leverage possible for any software team is in having talented developers who really know their craft well. An excellent book." —Pete McBreen, Independent Consultant "Since reading this book, I have implemented many of the practical suggestions and tips it contains. Across the board, they have saved my company time and money while helping me get my job done quicker! This should be a desktop reference for everyone who works with code for a living." —Jared Richardson, Senior Software Developer, iRenaissance, Inc. "I would like to see this issued to every new employee at my company...." —Chris Cleeland, Senior Software Engineer, Object Computing, Inc. "If I'm putting together a project, it's the authors of this book that I want. . . . And failing that I'd settle for people who've read their book." —Ward Cunningham
Straight from the programming trenches, The Pragmatic Programmer cuts through the increasing specialization and technicalities of modern software development to examine the core process--taking a requirement and producing working, maintainable code that delights its users. It covers topics ranging from personal responsibility and career development to architectural techniques for keeping your code flexible and easy to adapt and reuse. Read this book, and you'll learn how to Fight software rot; Avoid the trap of duplicating knowledge; Write flexible, dynamic, and adaptable code; Avoid programming by coincidence; Bullet-proof your code with contracts, assertions, and exceptions; Capture real requirements; Test ruthlessly and effectively; Delight your users; Build teams of pragmatic programmers; and Make your developments more precise with automation. Written as a series of self-contained sections and filled with entertaining anecdotes, thoughtful examples, and interesting analogies, The Pragmatic Programmer illustrates the best practices and major pitfalls of many different aspects of software development. Whether you're a new coder, an experienced programmer, or a manager responsible for software projects, use these lessons daily, and you'll quickly see improvements in personal productivity, accuracy, and job satisfaction. You'll learn skills and develop habits and attitudes that form the foundation for long-term success in your career. You'll become a Pragmatic Programmer.

Summary The Well-Grounded Rubyist, Third Edition is a beautifully written tutorial that begins with your first Ruby program and takes you all the way to sophisticated topics like reflection, threading, and recursion. Ruby masters David A. Black and Joe Leo distill their years of knowledge for you, concentrating on the language and its uses so you can use Ruby in any way you choose. Updated for Ruby 2.5. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Designed for developer productivity, Ruby is an easy-to-learn dynamic language perfect for creating virtually any kind of software. Its famously friendly development community, countless libraries, and amazing tools, like the Rails framework, have established it as the language of choice for high-profile companies, including GitHub, SlideShare, and

Shopify. The future is bright for the well-grounded Rubyist! About the Book In The Well-Grounded Rubyist, Third Edition, expert authors David A. Black and Joseph Leo deliver Ruby mastery in an easy-to-read, casual style. You'll lock in core principles as you write your first Ruby programs. Then, you'll progressively build up to topics like reflection, threading, and recursion, cementing your knowledge with high-value exercises to practice your skills along the way. What's Inside Basic Ruby syntax Running Ruby extensions FP concepts like currying, side-effect-free code, and recursion Ruby 2.5 updates About the Reader For readers with beginner-level programming skills. About the Authors David A. Black is an internationally known Ruby developer and author, and a cofounder of Ruby Central. Ruby teacher and advocate Joseph Leo III is the founder of Def Method and lead organizer of the Gotham Ruby Conference. Table of Contents PART 1 RUBY FOUNDATIONS Bootstrapping your Ruby literacy Objects, methods, and local variables Organizing objects with classes Modules and program organization The default object (self), scope, and visibility Control-flow techniques PART 2 BUILT-IN CLASSES AND MODULES Built-in essentials Strings, symbols, and other scalar objects Collection and container objects Collections central: Enumerable and Enumerator Regular expressions and regexp-based string operations File and I/O operations PART 3 RUBY DYNAMICS Object individuation Callable and runnable objects Callbacks, hooks, and runtime introspection Ruby and functional programming

Beginning Backbone.js is your step-by-step guide to learning and using the Backbone.js library in your web projects. Backbone.js is one of the most popular JavaScript libraries among web developers, used to create modular, single-page web apps. This book takes you from downloading Backbone.js and its dependencies all the way to using more advanced libraries to structure your application architecture, and everything in between. With a real-world, practical approach, you will learn how you can integrate Backbone.js into the center of your JavaScript stack, and create scalable applications. James Sugrue shows you how to implement all aspects of templating, work efficiently with RequireJS, and fully understand Grunt and all its plug-ins. Armed with this knowledge you'll be able to architect a continuous integration system that is key to real-world applications. With the explosion of JavaScript-based applications on the web, the need for more structured approaches to code management is more important than ever. Backbone.js helps create applications that separate models from views, enabling developers to avoid spaghetti code. Beginning Backbone.js will gently guide you into this amazingly powerful library, and help you ramp up to building professional applications. Integrate Backbone.js into your work today with this indispensable book.

This book constitutes the proceedings of the 22nd International Conference on Theory and Practice of Digital Libraries, TPDL 2018, held in Porto, Portugal, in September 2018. The 51 full papers, 17 short papers, and 13 poster and tutorial papers presented in this volume were carefully reviewed and selected from 81 submissions. The general theme of TPDL 2018 was Digital Libraries for Open Knowledge. The papers present a wide range of the following topics: Metadata, Entity Disambiguation, Data Management, Scholarly Communication, Digital Humanities, User Interaction, Resources, Information Extraction, Information Retrieval, Recommendation.

Describes the LISP programming language, and covers basic procedures, data, and modularity

Examines the features of LADS, the Label Assembler Development System, and shows how to use this assembler program to develop other machine language programs

This will become the new standard reference for people wanting to know about the Lisp family of languages.

Someday her ship will come back...with a vengeance. Susannah Samundar is on the verge of leaving her grandparents' sheltered bay for Canada but her worst fear is confirmed when Adrian T. Jaldev drops anchor (and his pants) long enough to impregnate her...with twins! Four years later, the very same Bad Buoy not only pounces on Suzy at the airport but also acts as if he has all rights to drag her off to his lair! She's the fish that got away from his net... Adrian T. Jaldev is the swashbuckling captain of his own sea realm, a hot shot playboy, a genius billionaire and one other title, a devastatingly sexy DILF. But he has no clue he's the father of the most unbearably and utterly cute twins, ever! When Adrian discovers the (daddy) insertion on his list of glorious titles, he feels highly deceived so God help the nauti girl who hoodwinked him. Their passion is stronger than the...tides of evil. Now that a tragedy (a murder) has brought them together, Suzy and Adrian are unaware the evil force which capsized their (metaphoric) boat years ago, still lurked. And as horrible secrets begin to surface like tsunami waves, they're forced to swim against the tide or sink.

retirement of languages.

The Definitive ANTLR 4 ReferencePragmatic Bookshelf

Programmers run into parsing problems all the time. Whether it's a data format like JSON, a network protocol like SMTP, a server configuration file for Apache, a PostScript/PDF file, or a simple spreadsheet macro language--ANTLR v4 and this book will demystify the process. ANTLR v4 has been rewritten from scratch to make it easier than ever to build parsers and the language applications built on top. This completely rewritten new edition of the bestselling Definitive ANTLR Reference shows you how to take advantage of these new features. Build your own languages with ANTLR v4, using ANTLR's new advanced parsing technology. In this book, you'll learn how ANTLR automatically builds a data structure representing the input (parse tree) and generates code that can walk the tree (visitor). You can use that combination to implement data readers, language interpreters, and translators. You'll start by learning how to identify grammar patterns in language reference manuals and then slowly start building increasingly complex grammars. Next, you'll build applications based upon those grammars by walking the automatically generated parse trees. Then you'll tackle some nasty language problems by parsing files containing more than one language (such as XML, Java, and Javadoc). You'll also see how to take absolute control over parsing by embedding Java actions into the grammar. You'll learn directly from well-known parsing expert Terence Parr, the ANTLR creator and project lead. You'll master ANTLR grammar construction and learn how to build language tools using the built-in parse tree visitor mechanism. The book teaches using real-world examples and shows you how to use ANTLR to build such things as a data file reader, a JSON to XML translator, an R parser, and a Java class->interface extractor. This book is your ticket to becoming a parsing guru! What You Need: ANTLR 4.0 and above. Java development tools. Ant build system optional(needed for building ANTLR from source)

If you need to parse or process text data in Linux or Unix, this useful book explains how to use flex and bison to solve your problems quickly. flex & bison is the long-awaited sequel to the classic O'Reilly book, lex & yacc. In the nearly two decades since the original book was published, the flex and bison utilities have proven to be more reliable and more powerful than the original Unix tools. flex & bison covers the same core functionality vital to Linux and Unix program development, along with several important new topics. You'll find revised tutorials for novices and references for advanced users, as well as an explanation of each utility's basic usage and simple, standalone applications you can create with them. With flex & bison, you'll discover the wide range of uses these flexible tools offer. Address syntax crunching that regular expressions tools can't handle Build compilers and interpreters, and handle a wide range of text processing functions Interpret code, configuration files, or any other structured format Learn key programming techniques, including abstract syntax trees and symbol tables Implement a full SQL grammar-with complete sample code Use new features such as pure (reentrant) lexers and parsers, powerful GLR parsers, and interfaces to C++

A compiler translates a program written in a high level language into a program written in a lower level language. For students of computer

science, building a compiler from scratch is a rite of passage: a challenging and fun project that offers insight into many different aspects of computer science, some deeply theoretical, and others highly practical. This book offers a one semester introduction into compiler construction, enabling the reader to build a simple compiler that accepts a C-like language and translates it into working X86 or ARM assembly language. It is most suitable for undergraduate students who have some experience programming in C, and have taken courses in data structures and computer architecture.

Up to now there has been no scientific publication on natural language research that presents a broad and complex description of the current problems of parsing in the context of Artificial Intelligence. However, there are many interesting results from this domain appearing mainly in numerous articles published in professional journals. In view of this situation, the objective of this book is to enable scientists from different countries to present the results of their research on natural language parsing in the form of more detailed papers than would be possible in professional journals. This book thus provides a collection of studies written by well known scientists whose earlier publications have greatly contributed to the development of research on natural language parsing. Jaime G. Carbonell and Philip J. Hayes present in their paper "Robust Parsing Using Multiple Construction-Specific Strategies" two small experimental parsers, implemented to illustrate the advantages of a multi-strategy approach to parsers, with strategies selected according to the type of construction being parsed at any given time. This presentation is followed by the description of a parsing algorithm, integrating some of the best features of the two smaller parsers, including case-frame instantiation and partial pattern-matching strategies.

This book provides a comprehensive treatment of methodologies and applications including CDMA telephony, coded radar, and stream cipher generation.

"The modern human animal spends upwards of 11 hours out of every 24 in a state of constant consumption. Not eating, but gorging on information ceaselessly spewed from the screens and speakers we hold dear. Just as we have grown morbidly obese on sugar, fat, and flour--so, too, have we become gluttons for texts, instant messages, emails, RSS feeds, downloads, videos, status updates, and tweets. We're all battling a storm of distractions, buffeted with notifications and tempted by tasty tidbits of information. And just as too much junk food can lead to obesity, too much junk information can lead to cluelessness."--Publisher's blurb.

If you've ever wondered how to build your own programming language or wanted to learn C but weren't sure where to start, this is the book for you. In under 1000 lines of code you'll start building your very own programming language, and in doing so learn how to program in C, one of the world's most important programming languages. Along the way we'll learn about the weird and wonderful nature of Lisps, the unique techniques behind function programming, the methods used to concisely solve problems, and the art of writing beautiful code. Build Your Own Lisp is a fun and creative journey through a fascinating area of computer science, and an essential read for any programmer, new or old!

A comprehensive introduction to type systems and programming languages. A type system is a syntactic method for automatically checking the absence of certain erroneous behaviors by classifying program phrases according to the kinds of values they compute. The study of type systems—and of programming languages from a type-theoretic perspective—has important applications in software engineering, language design, high-performance compilers, and security. This text provides a comprehensive introduction both to type systems in computer science and to the basic theory of programming languages. The approach is pragmatic and operational; each new concept is motivated by programming examples and the more theoretical sections are driven by the needs of implementations. Each chapter is accompanied by numerous exercises and solutions, as well as a running implementation, available via the Web. Dependencies between chapters are explicitly identified, allowing readers to choose a variety of paths through the material. The core topics include the untyped lambda-calculus, simple type systems, type reconstruction, universal and existential polymorphism, subtyping, bounded quantification, recursive types, kinds, and type operators. Extended case studies develop a variety of approaches to modeling the features of object-oriented languages.

Despite using them every day, most software engineers know little about how programming languages are designed and implemented. For many, their only experience with that corner of computer science was a terrifying "compilers" class that they suffered through in undergrad and tried to blot from their memory as soon as they had scribbled their last NFA to DFA conversion on the final exam. That fearsome reputation belies a field that is rich with useful techniques and not so difficult as some of its practitioners might have you believe. A better understanding of how programming languages are built will make you a stronger software engineer and teach you concepts and data structures you'll use the rest of your coding days. You might even have fun. This book teaches you everything you need to know to implement a full-featured, efficient scripting language. You'll learn both high-level concepts around parsing and semantics and gritty details like bytecode representation and garbage collection. Your brain will light up with new ideas, and your hands will get dirty and calloused. Starting from `main()`, you will build a language that features rich syntax, dynamic typing, garbage collection, lexical scope, first-class functions, closures, classes, and inheritance. All packed into a few thousand lines of clean, fast code that you thoroughly understand because you wrote each one yourself.

MODELS2008 was the 11th edition of the series of conferences on Model-Driven Engineering Languages and Systems. The conference was held in Toulouse, France, during the week of September 28 to October 3, 2008. The local arrangements were provided by the Institut de Recherche en Informatique de Toulouse (IRIT). The conference program included three keynote presentations, technical paper presentations, two panels, and several workshops and tutorials. The invited keynote speakers were Don Batory (University of Texas, USA), Je? Kramer (Imperial College London, UK), and Patrick Rauhut (Airbus, Germany). This volume contains the ?nal versions of the papers accepted for presentation at the conference. The papers cover a wider range of topics from the ?eld including model transformation, model management, domain-specific modeling, modeling language semantics, model analysis, and applications. We received a record number of 271 full paper submissions from 40 different countries. Of these, 43 papers were submitted by authors from more than one country. The top three countries submitting papers were France (40), Germany (38), and Canada (24). A total of 58 papers were accepted for inclusion in the proceedings. The acceptance rate was therefore 21%, which is somewhat lower than those of the previous MODELS conferences. At least three Program Committee or Expert Reviewer Panel members viewed each paper. Reviewing was thorough, and most authors received detailed comments on their submissions. Conflicts of interest were taken very seriously. No-one participated in any way in the decision process of any paper where a conflict of interest was identified. In particular, PC members who submitted papers did not have access to information concerning the reviews of their papers.

Jonathan Harker, a young English lawyer, travels to Castle Dracula in the Eastern European country of Transylvania to conclude a real estate transaction with a nobleman named Count Dracula. As Harker wends his way through the picturesque countryside, the local peasants warn him about his destination, giving him crucifixes and other charms against evil and uttering strange words that Harker later translates into "vampire." Frightened but no less determined, Harker meets the count's carriage as planned. The journey to the castle is harrowing, and the carriage is nearly attacked by angry wolves along the way. Upon arriving at the crumbling old castle, Harker finds that the elderly Dracula is a well educated and hospitable gentleman. After only a few days, however, Harker realizes that he is effectively a prisoner in the castle.

Key ideas in programming language design and implementation explained using a simple and concise framework; a comprehensive introduction suitable for use as a textbook or a reference for researchers. Hundreds of programming languages are in use today—scripting languages for Internet commerce, user interface programming tools, spreadsheet macros, page format

specification languages, and many others. Designing a programming language is a metaprogramming activity that bears certain similarities to programming in a regular language, with clarity and simplicity even more important than in ordinary programming. This comprehensive text uses a simple and concise framework to teach key ideas in programming language design and implementation. The book's unique approach is based on a family of syntactically simple pedagogical languages that allow students to explore programming language concepts systematically. It takes as premise and starting point the idea that when language behaviors become incredibly complex, the description of the behaviors must be incredibly simple. The book presents a set of tools (a mathematical metalanguage, abstract syntax, operational and denotational semantics) and uses it to explore a comprehensive set of programming language design dimensions, including dynamic semantics (naming, state, control, data), static semantics (types, type reconstruction, polymorphism, effects), and pragmatics (compilation, garbage collection). The many examples and exercises offer students opportunities to apply the foundational ideas explained in the text. Specialized topics and code that implements many of the algorithms and compilation methods in the book can be found on the book's Web site, along with such additional material as a section on concurrency and proofs of the theorems in the text. The book is suitable as a text for an introductory graduate or advanced undergraduate programming languages course; it can also serve as a reference for researchers and practitioners.

Functional Programming in Kotlin is a serious tutorial for programmers looking to learn FP and apply it to the everyday business of coding. Based on the bestselling Functional Programming in Scala, this book guides intermediate Java and Kotlin programmers from basic techniques to advanced topics in a logical, concise, and clear progression. In this authoritative guide, you'll take on the challenge of learning functional programming from first principles, and start writing Kotlin code that's easier to read, easier to reuse, better for concurrency, and less prone to bugs and errors. Functional Programming in Kotlin is a serious tutorial for programmers looking to learn FP and apply it to the everyday business of coding. Based on the bestselling Functional Programming in Scala, this book guides intermediate Java and Kotlin programmers from basic techniques to advanced topics in a logical, concise, and clear progression. In it, you'll find concrete examples and exercises that open up the world of functional programming. The book will deliver practical mastery of FP using Kotlin and a valuable perspective on program design that you can apply to other languages. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications.

Software -- Programming Languages.

Learn to build configuration file readers, data readers, model-driven code generators, source-to-source translators, source analyzers, and interpreters. You don't need a background in computer science--ANTLR creator Terence Parr demystifies language implementation by breaking it down into the most common design patterns. Pattern by pattern, you'll learn the key skills you need to implement your own computer languages. Knowing how to create domain-specific languages (DSLs) can give you a huge productivity boost. Instead of writing code in a general-purpose programming language, you can first build a custom language tailored to make you efficient in a particular domain. The key is understanding the common patterns found across language implementations. Language Design Patterns identifies and condenses the most common design patterns, providing sample implementations of each. The pattern implementations use Java, but the patterns themselves are completely general. Some of the implementations use the well-known ANTLR parser generator, so readers will find this book an excellent source of ANTLR examples as well. But this book will benefit anyone interested in implementing languages, regardless of their tool of choice. Other language implementation books focus on compilers, which you rarely need in your daily life. Instead, Language Design Patterns shows you patterns you can use for all kinds of language applications. You'll learn to create configuration file readers, data readers, model-driven code generators, source-to-source translators, source analyzers, and interpreters. Each chapter groups related design patterns and, in each pattern, you'll get hands-on experience by building a complete sample implementation. By the time you finish the book, you'll know how to solve most common language implementation problems.

"The security of information systems has not improved at a rate consistent with the growth and sophistication of the attacks being made against them. To address this problem, we must improve the underlying strategies and techniques used to create our systems. Specifically, we must build security in from the start, rather than append it as an afterthought. That's the point of Secure Coding in C and C++. In careful detail, this book shows software developers how to build high-quality systems that are less vulnerable to costly and even catastrophic attack. It's a book that every developer should read before the start of any serious project." --Frank Abagnale, author, lecturer, and leading consultant on fraud prevention and secure documents Learn the Root Causes of Software Vulnerabilities and How to Avoid Them Commonly exploited software vulnerabilities are usually caused by avoidable software defects. Having analyzed nearly 18,000 vulnerability reports over the past ten years, the CERT/Coordination Center (CERT/CC) has determined that a relatively small number of root causes account for most of them. This book identifies and explains these causes and shows the steps that can be taken to prevent exploitation. Moreover, this book encourages programmers to adopt security best practices and develop a security mindset that can help protect software from tomorrow's attacks, not just today's. Drawing on the CERT/CC's reports and conclusions, Robert Seacord systematically identifies the program errors most likely to lead to security breaches, shows how they can be exploited, reviews the potential consequences, and presents secure alternatives. Coverage includes technical detail on how to Improve the overall security of any C/C++ application Thwart buffer overflows and stack-smashing attacks that exploit insecure string manipulation logic Avoid vulnerabilities and security flaws resulting from the incorrect use of dynamic memory management functions Eliminate integer-related problems: integer overflows, sign errors, and truncation errors Correctly use formatted output functions without introducing format-string vulnerabilities Avoid I/O vulnerabilities, including race conditions Secure Coding in C and C++ presents hundreds of examples of secure code, insecure code, and exploits, implemented for Windows and Linux. If you're responsible for creating secure C or C++ software--or for keeping it safe--no other book offers you this much detailed, expert assistance.

A refreshing antidote to heavy theoretical tomes, this book is a concise, practical guide to modern compiler design and construction by an acknowledged master. Readers are taken step-by-step through each stage of compiler design, using the simple yet powerful method of recursive descent to create a compiler for Oberon-0, a subset of the author's Oberon language. A disk provided with the book gives full listings of the Oberon-0 compiler and associated tools. The hands-on, pragmatic approach makes the book equally attractive for project-oriented courses in compiler design and for software engineers wishing to develop their skills in system software.

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