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By emphasizing the application of computer programming not only in success stories in the software industry but also in familiar scenarios in physical and biological science, engineering, and applied mathematics, Introduction to Programming in Java takes an interdisciplinary approach to teaching programming with the Java™ programming language. Interesting applications in these fields foster a foundation of computer science concepts and programming skills that students can use in later courses while demonstrating that computation is an integral part of the modern world. Ten years in development, this book thoroughly covers the field and is ideal for traditional introductory programming courses. It can also be used as a supplement or a main text for courses that integrate programming with mathematics, science, or engineering. Including easily digested information about fundamental techniques and concepts in software construction, this book is distinct in unifying pure theory with pragmatic details. Driven by

generic problems and concepts, with brief and complete illustrations from languages including C, Prolog, Java, Scheme, Haskell and HTML. This book is intended to be both a how-to handbook and easy reference guide. Discussions of principle, worked examples and exercises are presented. All concepts outside introductory programming are explained with clear demarcation and dependencies so the experienced programmer can quickly locate material. Readable in a linear manner, with short mono-thematic to encourage dipping and reference. Also included are sections on open problems in software theory and practice. While little other than a novice programmer's knowledge is explicitly assumed, a certain conceptual maturity, either through commercial programming or academic training is required - each language is introduced and explained briefly as needed. This book demonstrates how Processing is an excellent language for beginners to learn the fundamentals of computer programming. Originally designed to make it simpler for digital artists to learn to program, Processing is a wonderful first language for anyone to learn. Given its origins, Processing enables a multimodal approach to programming instruction, well suited to students with interests in computer science or in the arts and humanities. The book uses Processing's capabilities for graphics and interactivity in order to create examples that are simple, illustrative, interesting, and fun. It is designed to appeal to a broad range of readers, including those who want to learn to program to create digital art, as well as those who seek to learn to program to process numerical information or data. It can be used by students and instructors in a first course on programming, as well as by anyone eager to teach them self to program. Following a traditional sequence of topics for introducing programming, the book introduces key computer science concepts, without overwhelming readers with extensive detail. The conversational style and pace of the book are based upon the authors' extensive experience with teaching programming to a wide variety of beginners in a classroom. No prior programming experience is expected. A textbook that uses a hands-on approach to teach principles of programming languages, with Java as the

implementation language. This introductory textbook uses a hands-on approach to teach the principles of programming languages. Using Java as the implementation language, Rajan covers a range of emerging topics, including concurrency, Big Data, and event-driven programming. Students will learn to design, implement, analyze, and understand both domain-specific and general-purpose programming languages. Develops basic concepts in languages, including means of computation, means of combination, and means of abstraction. Examines imperative features such as references, concurrency features such as fork, and reactive features such as event handling. Covers language features that express differing perspectives of thinking about computation, including those of logic programming and flow-based programming. Presumes Java programming experience and understanding of object-oriented classes, inheritance, polymorphism, and static classes. Each chapter corresponds with a working implementation of a small programming language allowing students to follow along. Completely revised and updated, this best-selling introduction to programming in JavaScript focuses on writing real applications. JavaScript lies at the heart of almost every modern web application, from social apps like Twitter to browser-based game frameworks like Phaser and Babylon. Though simple for beginners to pick up and play with, JavaScript is a flexible, complex language that you can use to build full-scale applications. This much anticipated and thoroughly revised third edition of Eloquent JavaScript dives deep into the JavaScript language to show you how to write beautiful, effective code. It has been updated to reflect the current state of JavaScript and web browsers and includes brand-new material on features like class notation, arrow functions, iterators, async functions, template strings, and block scope. A host of new exercises have also been added to test your skills and keep you on track. As with previous editions, Haverbeke continues to teach through extensive examples and immerses you in code from the start, while exercises and full-chapter projects give you hands-on experience with writing your own programs. You start by learning the basic

structure of the JavaScript language as well as control structures, functions, and data structures to help you write basic programs. Then you'll learn about error handling and bug fixing, modularity, and asynchronous programming before moving on to web browsers and how JavaScript is used to program them. As you build projects such as an artificial life simulation, a simple programming language, and a paint program, you'll learn how to: - Understand the essential elements of programming, including syntax, control, and data - Organize and clarify your code with object-oriented and functional programming techniques - Script the browser and make basic web applications - Use the DOM effectively to interact with browsers - Harness Node.js to build servers and utilities Isn't it time you became fluent in the language of the Web? \* All source code is available online in an interactive sandbox, where you can edit the code, run it, and see its output instantly. Introduction to Programming in Python: An Interdisciplinary Approach emphasizes interesting and important problems, not toy applications. The authors focus on Python's most useful and significant features, rather than aiming for exhaustive coverage that bores novices. All of this book's code has been crafted and tested for compatibility with both Python 2 and Python 3, making it relevant to every programmer and any course, now and for many years to come. An extensive amount of supplementary information is available at [introc.cs.princeton.edu/python](http://introc.cs.princeton.edu/python). With source code, I/O libraries, solutions to selected exercises, and much more, this companion website empowers people to use their own computers to teach and learn the material. For courses in Visual Basic Programming From the Beginning: A Comprehensive Introduction to Visual Basic Programming Schneider's Introduction to Programming Using Visual Basic, Student Value Edition, 10/e (loose leaf) brings continued refinement to a textbook praised in the industry since 1991. A favorite for both instructors and students, Visual Basic 2015 is designed for readers with no prior computer programming experience. Schneider introduces a problem-solving strategy early in the book and revisits it throughout allowing you to fully develop logic

and reasoning. A broad range of real-world examples, section-ending exercises, case studies and programming projects gives you a more hands-on experience than any other Visual Basic book on the market. The Tenth Edition keeps the pace with modern programming methodology while incorporating current content and practices. Each chapter is rich yet concise due to the author's focus on developing chapters around crucial subjects rather than covering too many topics superficially. The amount and the range of projects provided in the text offer flexibility to adapt the course according to the interests and abilities of the readers. Some programming projects in later chapters can be assigned as end-of-the-semester projects. "

Processing simple forms of data - Processing arbitrarily large data - More on processing arbitrarily large data - Abstracting designs - Generative recursion - Changing the state of variables - Changing compound values. This open access book offers an initial introduction to programming for scientific and computational applications using the Python programming language. The presentation style is compact and example-based, making it suitable for students and researchers with little or no prior experience in programming. The book uses relevant examples from mathematics and the natural sciences to present programming as a practical toolbox that can quickly enable readers to write their own programs for data processing and mathematical modeling. These tools include file reading, plotting, simple text analysis, and using NumPy for numerical computations, which are fundamental building blocks of all programs in data science and computational science. At the same time, readers are introduced to the fundamental concepts of programming, including variables, functions, loops, classes, and object-oriented programming. Accordingly, the book provides a sound basis for further computer science and programming studies. In programming courses, using the different syntax of multiple languages, such as C++, Java, PHP, and Python, for the same abstraction often confuses students new to computer science. Introduction to Programming Languages separates programming language concepts from the restraints of multiple language syntax by discussing the concepts at an abstract level.

Designed for a one-semester undergraduate course, this classroom-tested book teaches the principles of programming language design and implementation. It presents: Common features of programming languages at an abstract level rather than a comparative level The implementation model and behavior of programming paradigms at abstract levels so that students understand the power and limitations of programming paradigms Language constructs at a paradigm level A holistic view of programming language design and behavior To make the book self-contained, the author introduces the necessary concepts of data structures and discrete structures from the perspective of programming language theory. The text covers classical topics, such as syntax and semantics, imperative programming, program structures, information exchange between subprograms, object-oriented programming, logic programming, and functional programming. It also explores newer topics, including dependency analysis, communicating sequential processes, concurrent programming constructs, web and multimedia programming, event-based programming, agent-based programming, synchronous languages, high-productivity programming on massive parallel computers, models for mobile computing, and much more. Along with problems and further reading in each chapter, the book includes in-depth examples and case studies using various languages that help students understand syntax in practical contexts. In today's information age, scientists and engineers must quickly and efficiently analyze extremely large sets of data. One of the best tools to accomplish this is Interactive Data Language (IDL®), a programming and visualization environment that facilitates numerical modeling, data analysis, and image processing. IDL's high-level language and powerful graphics capabilities allow users to write more flexible programs much faster than is possible with other programming languages. An Introduction to Programming with IDL enables students new to programming, as well as those with experience in other programming languages, to rapidly harness IDL's capabilities: fast, interactive performance; array syntax; dynamic data typing; and built-in graphics. Each

concept is illustrated with sample code, including many complete short programs. Margin notes throughout the text quickly point readers to the relevant sections of IDL manuals. End-of-chapter summaries and exercises help reinforce learning. Students who purchase the book are eligible for a substantial discount on a student version of the IDL software. This educational book introduces emerging developers to computer programming through the Python software development language, and serves as a reference book for experienced developers looking to learn a new language or re-familiarize themselves with computational logic and syntax. Provides information on the features and function of the computer programming language Alice. The current text provides a clear introduction to Computer Science concepts in a programming environment. It is designed as suitable use in freshman- or introductory level coursework in CS and provides the fundamental concepts as well as abstract theorems for solving computational problems. The Python language serves as a medium for illustrating and demonstrating the concepts. Offer your students a comprehensive introduction to programming using C++ as the illustrative language! By actively working through this hands-on text, students will gain confidence knowing that they have mastered essential C++ skills and techniques. The free book "Fundamentals of Computer Programming with C#" is a comprehensive computer programming tutorial that teaches programming, logical thinking, data structures and algorithms, problem solving and high quality code with lots of examples in C#. It starts with the first steps in programming and software development like variables, data types, conditional statements, loops and arrays and continues with other basic topics like methods, numeral systems, strings and string processing, exceptions, classes and objects. After the basics this fundamental programming book enters into more advanced programming topics like recursion, data structures (lists, trees, hash-tables and graphs), high-quality code, unit testing and refactoring, object-oriented principles (inheritance, abstraction, encapsulation and polymorphism) and their implementation the C# language. It also covers

fundamental topics that each good developer should know like algorithm design, complexity of algorithms and problem solving. The book uses C# language and Visual Studio to illustrate the programming concepts and explains some C# / .NET specific technologies like lambda expressions, extension methods and LINQ. The book is written by a team of developers lead by Svetlin Nakov who has 20+ years practical software development experience. It teaches the major programming concepts and way of thinking needed to become a good software engineer and the C# language in the meantime. It is a great start for anyone who wants to become a skillful software engineer. The book does not teach technologies like databases, mobile and web development, but shows the true way to master the basics of programming regardless of the languages, technologies and tools. It is good for beginners and intermediate developers who want to put a solid base for a successful career in the software engineering industry. The book is accompanied by free video lessons, presentation slides and mind maps, as well as hundreds of exercises and live examples. Download the free C# programming book, videos, presentations and other resources from <http://introprogramming.info>. Title: Fundamentals of Computer Programming with C# (The Bulgarian C# Programming Book) ISBN: 9789544007737 ISBN-13: 978-954-400-773-7 (9789544007737) ISBN-10: 954-400-773-3 (9544007733) Author: Svetlin Nakov & Co. Pages: 1132 Language: English Published: Sofia, 2013 Publisher: Faber Publishing, Bulgaria Web site: <http://www.introprogramming.info> License: CC-Attribution-Share-Alike Tags: free, programming, book, computer programming, programming fundamentals, ebook, book programming, C#, CSharp, C# book, tutorial, C# tutorial; programming concepts, programming fundamentals, compiler, Visual Studio, .NET, .NET Framework, data types, variables, expressions, statements, console, conditional statements, control-flow logic, loops, arrays, numeral systems, methods, strings, text processing, StringBuilder, exceptions, exception handling, stack trace, streams, files, text files, linear data structures, list, linked list, stack, queue, tree, balanced tree, graph, depth-first



search, DFS, breadth-first search, BFS, dictionaries, hash tables, associative arrays, sets, algorithms, sorting algorithm, searching algorithms, recursion, combinatorial algorithms, algorithm complexity, OOP, object-oriented programming, classes, objects, constructors, fields, properties, static members, abstraction, interfaces, encapsulation, inheritance, virtual methods, polymorphism, cohesion, coupling, enumerations, generics, namespaces, UML, design patterns, extension methods, anonymous types, lambda expressions, LINQ, code quality, high-quality code, high-quality classes, high-quality methods, code formatting, self-documenting code, code refactoring, problem solving, problem solving methodology, 9789544007737, 9544007733 Python is a powerful, expressive programming language that's easy to learn and fun to use! But books about learning to program in Python can be kind of dull, gray, and boring, and that's no fun for anyone. Python for Kids brings Python to life and brings you (and your parents) into the world of programming. The ever-patient Jason R. Briggs will guide you through the basics as you experiment with unique (and often hilarious) example programs that feature ravenous monsters, secret agents, thieving ravens, and more. New terms are defined; code is colored, dissected, and explained; and quirky, full-color illustrations keep things on the lighter side. Chapters end with programming puzzles designed to stretch your brain and strengthen your understanding. By the end of the book you'll have programmed two complete games: a clone of the famous Pong and "Mr. Stick Man Races for the Exit"—a platform game with jumps, animation, and much more. As you strike out on your programming adventure, you'll learn how to:

- Use fundamental data structures like lists, tuples, and maps
- Organize and reuse your code with functions and modules
- Use control structures like loops and conditional statements
- Draw shapes and patterns with Python's turtle module
- Create games, animations, and other graphical wonders with tkinter

Why should serious adults have all the fun? Python for Kids is your ticket into the amazing world of computer programming. For kids ages 10+ (and their parents) The code in this book runs on almost anything: Windows, Mac, Linux, even an

OLPC laptop or Raspberry Pi! The design and implementation of programming languages, from Fortran and Cobol to Caml and Java, has been one of the key developments in the management of ever more complex computerized systems. Introduction to the Theory of Programming Languages gives the reader the means to discover the tools to think, design, and implement these languages. It proposes a unified vision of the different formalisms that permit definition of a programming language: small steps operational semantics, big steps operational semantics, and denotational semantics, emphasizing that all seek to define a relation between three objects: a program, an input value, and an output value. These formalisms are illustrated by presenting the semantics of some typical features of programming languages: functions, recursivity, assignments, records, objects, ... showing that the study of programming languages does not consist of studying languages one after another, but is organized around the features that are present in these various languages. The study of these features leads to the development of evaluators, interpreters and compilers, and also type inference algorithms, for small languages. Provides information and examples on writing JavaScript code, covering such topics as syntax, control, data, regular expressions, and scripting. Want to start programming but don't know where to start? Don't worry! With a radically different approach to programming, author Francis Glassborow demystifies programming concepts, and shows you how to create real applications with C++. Working with computing novice Roberta Allen he teaches you the basic elements of programming and will have you writing programs from the first chapter. A Concise and Practical Introduction to Programming Algorithms in Java has two main goals. The first is for novice programmers to learn progressively the basic concepts underlying most imperative programming languages using Java. The second goal is to introduce new programmers to the very basic principles of thinking the algorithmic way and turning the algorithms into programs using the programming concepts of Java. The book is divided into two parts and includes: The fundamental notions of variables, expressions

and assignments with type checking - Conditional and loop statements - Explanation of the concepts of functions with pass-by-value arguments and recursion - Fundamental sequential and bisection search techniques - Basic iterative and recursive sorting algorithms. Each chapter of the book concludes with a set of exercises to enable students to practice concepts covered. This book is an introduction to programming concepts that uses Python 3 as the target language. It follows a practical just-in-time presentation - material is given to the student when it is needed. Many examples will be based on games, because Python has become the language of choice for basic game development. Designed as a Year One textbook for introduction to programming classes or for the hobbyist who wants to learn the fundamentals of programming, the text assumes no programming experience. Features: \* Introduces programming concepts that use Python 3 \* Includes many examples based on video game development \* 4-color throughout with game demos on the companion files This book demonstrates how Processing is an excellent language for beginners to learn the fundamentals of computer programming. Originally designed to make it simpler for digital artists to learn to program, Processing is a wonderful first language for anyone to learn. Given its origins, Processing enables a multimodal approach to programming instruction, well suited to students with interests in computer science or in the arts and humanities. The book uses Processing's capabilities for graphics and interactivity in order to create examples that are simple, illustrative, interesting, and fun. It is designed to appeal to a broad range of readers, including those who want to learn to program to create digital art, as well as those who seek to learn to program to process numerical information or data. It can be used by students and instructors in a first course on programming, as well as by anyone eager to teach them self to program. Following a traditional sequence of topics for introducing programming, the book introduces key computer science concepts, without overwhelming readers with extensive detail. The conversational style and pace of the book are based upon the authors' extensive experience

with teaching programming to a wide variety of beginners in a classroom. No prior programming experience is expected. Classroom-tested by tens of thousands of students, this new edition of the bestselling intro to programming book is for anyone who wants to understand computer science. Learn about design, algorithms, testing, and debugging. Discover the fundamentals of programming with Python 3.6--a language that's used in millions of devices. Write programs to solve real-world problems, and come away with everything you need to produce quality code. This edition has been updated to use the new language features in Python 3.6. The new edition of an introduction to the art of computational problem solving using Python. This book introduces students with little or no prior programming experience to the art of computational problem solving using Python and various Python libraries, including numpy, matplotlib, random, pandas, and sklearn. It provides students with skills that will enable them to make productive use of computational techniques, including some of the tools and techniques of data science for using computation to model and interpret data as well as substantial material on machine learning. All of the code in the book and an errata sheet are available on the book's web page on the MIT Press website. Scratch is a fun, free, beginner-friendly programming environment where you connect blocks of code to build programs. While most famously used to introduce kids to programming, Scratch can make computer science approachable for people of any age. Rather than type countless lines of code in a cryptic programming language, why not use colorful command blocks and cartoon sprites to create powerful scripts? In Learn to Program with Scratch, author Majed Marji uses Scratch to explain the concepts essential to solving real-world programming problems. The labeled, color-coded blocks plainly show each logical step in a given script, and with a single click, you can even test any part of your script to check your logic. You'll learn how to: -Harness the power of repeat loops and recursion -Use if/else statements and logical operators to make decisions -Store data in variables and lists to use later in your program -Read, store, and manipulate user input -Implement key computer

science algorithms like a linear search and bubble sort. Hands-on projects will challenge you to create an Ohm's law simulator, draw intricate patterns, program sprites to mimic line-following robots, create arcade-style games, and more! Each chapter is packed with detailed explanations, annotated illustrations, guided examples, lots of color, and plenty of exercises to help the lessons stick. Learn to Program with Scratch is the perfect place to start your computer science journey, painlessly. Uses Scratch 2 In programming courses, using the different syntax of multiple languages, such as C++, Java, PHP, and Python, for the same abstraction often confuses students new to computer science. Introduction to Programming Languages separates programming language concepts from the restraints of multiple language syntax by discussing the concepts at an abstract level. This book is suitable for use in a university-level first course in computing (CS1), as well as the increasingly popular course known as CS0. It is difficult for many students to master basic concepts in computer science and programming. A large portion of the confusion can be blamed on the complexity of the tools and materials that are traditionally used to teach CS1 and CS2. This textbook was written with a single overarching goal: to present the core concepts of computer science as simply as possible without being simplistic. For courses in Visual Basic Programming From the Beginning: A Comprehensive Introduction to Visual Basic Programming Schneider's Introduction to Programming Using Visual Basic, Tenth Edition brings continued refinement to a textbook praised in the industry since 1991. A favorite for both instructors and students, Visual Basic 2015 is designed for readers with no prior computer programming experience. Schneider introduces a problem-solving strategy early in the book and revisits it throughout allowing you to fully develop logic and reasoning. A broad range of real-world examples, section-ending exercises, case studies and programming projects gives you a more hands-on experience than any other Visual Basic book on the market. The Tenth Edition keeps the pace with modern programming methodology while incorporating current content and practices. Each chapter is rich yet concise due to the author's focus on

developing chapters around crucial subjects rather than covering too many topics superficially. The amount and the range of projects provided in the text offer flexibility to adapt the course according to the interests and abilities of the readers. Some programming projects in later chapters can be assigned as end-of-the-semester projects. Also available with MyProgrammingLab (TM) . MyProgrammingLab is an online learning system designed to engage students and improve results. MyProgrammingLab consists of a set of programming exercises correlated to specific Pearson CS1/Intro to Programming textbooks. Through practice exercises and immediate, personalized feedback, MyProgrammingLab improves the programming competence of beginning students who often struggle with the basic concepts of programming languages. Interactive Practice provides first-hand programming experience in an interactive online environment. Error Messages for Incorrect Answers give students immediate personalized feedback. The error messages include both the feedback from the compiler and plain English interpretations of likely causes for the incorrect answer. Step-by-step VideoNote Tutorials enhance the programming concepts presented in your Pearson textbook by allowing students to view the entire problem-solving process outside of the classroom-when they need help the most. Pearson eText gives students access to their textbook anytime, anywhere. In addition to note taking, highlighting, and bookmarking, the Pearson eText offers interactive and sharing features. Rich media options let students watch lecture and example videos as they read or do their homework. Instructors can share their comments or highlights, and students can add their own, creating a tight community of learners in your class. The Pearson eText companion app allows existing subscribers to access their titles on an iPad or Android tablet for either online or offline viewing. Dynamic grading and assessment provide auto-grading of student assignments, saving you time and offering students immediate learning opportunities: A dynamic roster tracks their performance and maintains a record of submissions. The color-coded gradebook gives you a quick glance of your class' progress. Easily



drill down to receive information on a single student's performance or a specific problem. Gradebook results can be exported to Excel to use with your LMS. This introductory text teaches students with no programming background how to write object-oriented programs. Students learn programming basics through the use of predefined Graphics User Interface (GUI) objects. By using these objects, students will grasp the concepts and benefits of object-oriented programming. In the later part of the book, students learn to define their own objects and develop programs using object-oriented design methodology. Modern programming topics, such as event-driven programming, are also covered. Our textbook Introduction to Programming in Java is an interdisciplinary approach to the traditional CS1 curriculum. We teach all of the classic elements of programming, using an "objects-in-the-middle" approach that emphasizes data abstraction. A key feature of the book is the manner in which we motivate each programming concept by examining its impact on specific applications, taken from fields ranging from materials science to genomics to astrophysics to internet commerce. The book is organized around four stages of learning to program.-- Learn Golang Programming by "Reading" This Book! Go is one of the most popular programming languages, created by Google. Go is much simpler than most other modern programming languages such as Java or C#. It is easier to learn. It is easier to use. And, it is more fun to use. If you are just starting with programming, then Go is the perfect language to learn programming with. Go is a "backend programming language", and it is different from other popular dynamic languages like Python and Javascript. It requires more discipline. It will make you a better programmer. Once you are comfortable with Go, you can more easily learn other programming languages. The Art of Go - Basics starts from the absolute basics and moves on to more advanced topics. Although it is an introductory book, you will gain sufficient knowledge, after reading this book, that you can venture into a journey of programming in Go on your own. If you are a seasoned developer, then it will provide a good introduction to idiomatic usages of Go in broad contexts. Who is this book

for? Anyone who wants to know what programming is and how the code is written. Anyone who has tried to learn programming and given up because it was too hard. Anyone who has some experience in programming and who wants to learn the Go language. The Art of Go - Basics is organized into a series of small lessons. Each lesson starts with simple example programs, and it emphasizes code reading rather than premature writing. You will learn basics of coding, and some intricacies of Golang, just by reading each lesson. The book includes some (optional) exercises, and it ends with a few final projects. The Art of Go - Basics covers the following topics (as of version Go 1.16), among other things: The basic structure of Go programs. Basic constructs of the Go programming language such as expressions and statements. Primitive types, slices, maps, and functions. Go structs, interfaces, and methods. Pointers. Value semantics vs reference semantics. Value receivers vs pointer receivers. Concurrent programming with Goroutines and channels. Simple network programming over TCP. Simple Web programming using the net/http standard package. Go build tools. Go modules. If you are just starting to learn programming, then learn Go. Learn programming with Go. The Art of Go - Basics will guide you through your first steps in the wonderful world of programming! Get this book now and start learning programming in Go today! The new edition of an introductory text that teaches students the art of computational problem solving, covering topics ranging from simple algorithms to information visualization. This book introduces students with little or no prior programming experience to the art of computational problem solving using Python and various Python libraries, including PyLab. It provides students with skills that will enable them to make productive use of computational techniques, including some of the tools and techniques of data science for using computation to model and interpret data. The book is based on an MIT course (which became the most popular course offered through MIT's OpenCourseWare) and was developed for use not only in a conventional classroom but in a massive open online course (MOOC). This new edition has been updated for Python 3,

reorganized to make it easier to use for courses that cover only a subset of the material, and offers additional material including five new chapters. Students are introduced to Python and the basics of programming in the context of such computational concepts and techniques as exhaustive enumeration, bisection search, and efficient approximation algorithms. Although it covers such traditional topics as computational complexity and simple algorithms, the book focuses on a wide range of topics not found in most introductory texts, including information visualization, simulations to model randomness, computational techniques to understand data, and statistical techniques that inform (and misinform) as well as two related but relatively advanced topics: optimization problems and dynamic programming. This edition offers expanded material on statistics and machine learning and new chapters on Frequentist and Bayesian statistics. Based on Hanson and Rischel's introductory programming course in the Informatics Programme at the Technical University of Denmark, Using Standard ML (Meta Language) throughout, they bypass theory and customized or efficient implementations to focus on understanding the process of programming and program design. Annotation copyrighted by Book News, Inc., Portland, OR A Concise Introduction to Programming in Python, Second Edition provides a hands-on and accessible introduction to writing software in Python, with no prior programming experience required. The Second Edition was thoroughly reorganized and rewritten based on classroom experience to incorporate: A spiral approach, starting with turtle graphics, and then revisiting concepts in greater depth using numeric, textual, and image data Clear, concise explanations written for beginning students, emphasizing core principles A variety of accessible examples, focusing on key concepts Diagrams to help visualize new concepts New sections on recursion and exception handling, as well as an earlier introduction of lists, based on instructor feedback The text offers sections designed for approximately one class period each, and proceeds gradually from procedural to object-oriented design. Examples, exercises, and projects are included from diverse application domains, including finance, biology, image

processing, and textual analysis. It also includes a brief "How-To" sections that introduce optional topics students may be interested in exploring. The text is written to be read, making it a good fit in flipped classrooms. Designed for either classroom use or self-study, all example programs and solutions to odd-numbered exercises (except for projects) are available at: <http://www.central.edu/go/conciseintro/>. Praise for the first edition: "The well-written, comprehensive book...[is] aiming to become a de facto reference for the language and its features and capabilities. The pace is appropriate for beginners; programming concepts are introduced progressively through a range of examples and then used as tools for building applications in various domains, including sophisticated data structures and algorithms...Highly recommended. Students of all levels, faculty, and professionals/practitioners. —D. Papamichail, University of Miami in CHOICE Magazine Mark Lewis' Introduction to the Art of Programming Using Scala was the first textbook to use Scala for introductory CS courses. Fully revised and expanded, the new edition of this popular text has been divided into two books. Introduction to Programming and Problem-Solving Using Scala is designed to be used in first semester college classrooms to teach students beginning programming with Scala. The book focuses on the key topics students need to know in an introductory course, while also highlighting the features that make Scala a great programming language to learn. The book is filled with end-of-chapter projects and exercises, and the authors have also posted a number of different supplements on the book website. Video lectures for each chapter in the book are also available on YouTube. The videos show construction of code from the ground up and this type of "live coding" is invaluable for learning to program, as it allows students into the mind of a more experienced programmer, where they can see the thought processes associated with the development of the code. About the Authors Mark Lewis is a Professor at Trinity University. He teaches a number of different courses, spanning from first semester introductory courses to advanced seminars. His research interests included simulations and modeling,

programming languages, and numerical modeling of rings around planets with nearby moons. Lisa Lacher is an Assistant Professor at the University of Houston, Clear Lake with over 25 years of professional software development experience. She teaches a number of different courses spanning from first semester introductory courses to graduate level courses. Her research interests include Computer Science Education, Agile Software Development, Human Computer Interaction and Usability Engineering, as well as Measurement and Empirical Software Engineering. Get a solid understanding of Java fundamentals to master programming through a series of practical steps

Key Features

Enjoy your first step into the world of programming

Understand what a language is and use its features to build applications

Learn about a wide variety of programming applications

Book Description

Have you ever thought about making your computer do what you want it to do? Do you want to learn to program, but just don't know where to start? Instead of guiding you in the right direction, have other learning resources got you confused with over-explanations? Don't worry. Look no further. Introduction to Programming is here to help. Written by an industry expert who understands the challenges faced by those from a non-programming background, this book takes a gentle, hand-holding approach to introducing you to the world of programming. Beginning with an introduction to what programming is, you'll go on to learn about languages, their syntax, and development environments. With plenty of examples for you to code alongside reading, the book's practical approach will help you to grasp everything it has to offer. More importantly, you'll understand several aspects of

application development. As a result, you'll have your very own application running by the end of the book. To help you comprehensively understand Java programming, there are exercises at the end of each chapter to keep things interesting and encourage you to add your own personal touch to the code and, ultimately, your application. What you will learn

Understand what Java is

Install Java and learn how to run it

Write and execute a Java program

Write and execute the test for your program

Install components and configure your development environment

Learn and use Java language fundamentals

Learn object-oriented design principles

Master the frequently used Java constructs

Who this book is for

Introduction to Programming is for anybody who wants to learn programming. All you'll need is a computer, internet connection, and a cup of coffee.

Introduction to Programming Using JAVA. 700 pages. The first programming course at Hobart and William Smith Colleges covers the Java programming language. Since 1996, the textbook for the course has been this Java textbook that was written for the course. The current version 2009 is Introduction to Programming Using Java, Version 5.0. It requires Java 5.0 or higher. It is an introduction to programming and also an introduction to Java directed towards people who do not have any background in programming, although it might also be useful for experienced programmers who want to learn something about Java. It is certainly not meant to provide complete coverage of the Java language.

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