

The Latex Companion 2nd Edition

In the world of film and theatre, character transformation takes a lot of work, skill, and creativity. Dedicated solely to SFX, this book will show you tips and techniques from a seasoned SFX makeup artist with years of film, TV, and theatrical experience. Not only will this book take you through the many genres that need a special effects makeup artist, like horror, fantasy, and sci-fi, but it will also tell you about the tools you will need, how to maintain your toolkit, how to take care of the actor's skin, and how to airbrush properly when HD is involved. The author shows you how to sculpt and mold your own makeup prosthetics, focusing on how human anatomy relates to sculpture to create the most realistic effects. Case studies feature some of today's top makeup artists including Neill Gorton, Christopher Tucker, Miles Teves, Jordu Schell, Mark Alfrey, Matthew Mungle, Christien Tinsely, Vittorio Sodano, and Mark Gabarino. Put your new techniques into practice right away and see how some of the looks from the book were achieved with the step-by-step tutorials on the must-have DVD. * Written by a seasoned special effects make-up artist who has worked in both film and theatre * Gives you exclusive tips and techniques from some of the industry's most gifted artists * DVD tutorials show you step-by-step how to create the techniques from the book; also includes recipes to create makeup prosthetics, a list of suppliers, conversion charts, and bibliography

Índice abreviado: 1. The Web, its documents, and LaTeX 2. Portable document format 3. The LaTeX2HTML translator 4. Translating LaTeX to HTML using TEXT4ht 5. Direct display of LaTeX on the Web 6. HTML, SGML, and XML: three markup languages 7. CSS, DSSSL, and XSL: doing it with style 8. MathML, intelligent math markup A. Example files B. Technical appendixes C. Internalization issues.

A comprehensive review of position location technology — from fundamental theory to advanced practical applications Positioning systems and location technologies have become significant components of modern life, used in a multitude of areas such as law enforcement and security, road safety and navigation, personnel and object tracking, and many more. Position location systems have greatly reduced societal vulnerabilities and enhanced the quality of life for billions of people around the globe — yet limited resources are available to researchers and students in this important field. The Handbook of Position Location: Theory, Practice, and Advances fills this gap, providing a comprehensive overview of both fundamental and cutting-edge techniques and introducing practical methods of advanced localization and positioning. Now in its second edition, this handbook offers broad and in-depth coverage of essential topics including Time of Arrival (TOA) and Direction of Arrival (DOA) based positioning, Received Signal Strength (RSS) based positioning, network localization, and others. Topics such as GPS, autonomous vehicle applications, and visible light localization are examined, while major revisions to chapters such as body area network positioning and digital signal processing for GNSS receivers reflect current and emerging advances in the field. This new edition: Presents new and revised chapters on topics including localization error evaluation, Kalman filtering, positioning in inhomogeneous media, and Global Positioning (GPS) in harsh environments Offers MATLAB examples to demonstrate fundamental algorithms for positioning and provides online access to all MATLAB code Allows practicing engineers and graduate students to keep pace with contemporary research and new technologies Contains numerous application-based examples including the application of localization to drone navigation, capsule endoscopy localization, and satellite navigation and localization Reviews unique applications of position location systems, including GNSS and RFID-based localization systems The Handbook of Position Location: Theory, Practice, and Advances is valuable resource for practicing engineers and researchers seeking to keep pace with current developments in the field, graduate students in need of clear and accurate course material, and university instructors teaching the fundamentals of wireless localization.

Provides information on the tools and techniques to transform LaTeX sources into Web formats for electronic publication and to transform Web sources into LaTeX documents for optimal printing.

This is the digital version of the printed book (Copyright © 2004). The LaTeX Companion has long been the essential resource for anyone using LaTeX to create high-quality printed documents. This completely updated edition brings you all the latest information about LaTeX and the vast range of add-on packages now available--over 200 are covered! Full of new tips and tricks for using LaTeX in both traditional and modern typesetting, this book will also show you how to customize layout features to your own needs--from phrases and paragraphs to headings, lists, and pages. Inside, you will find: Expert advice on using LaTeX's basic formatting tools to create all types of publications--from memos to encyclopedias In-depth coverage of important extension packages for tabular and technical typesetting, floats and captions, multicolumn layouts--including reference guides and discussions of the underlying typographic and TeXnical concepts Detailed techniques for generating and typesetting contents lists, bibliographies, indexes, etc. Tips and tricks for LaTeX programmers and systems support New to this edition: Nearly 1,000 fully tested examples that illustrate the text and solve typographical and technical problems--all ready to run! An additional chapter on citations and bibliographies Expanded material on the setup and use of fonts to access a huge collection of glyphs, and to typeset text from a wide range of languages and cultures Major new packages for graphics, "verbatim" listings, floats, and page layout Full coverage of the latest packages for all types of documents--mathematical, multilingual, and many more Detailed help on all error messages, including those troublesome low-level TeX errors Like its predecessor, The LaTeX Companion, Second Edition, is an indispensable reference for anyone wishing to productively use LaTeX. Appendix D talks about the TLC2 TeX CD at the end of the book, something you will have a hard time finding in the eBook. The most important content of the CD included with the print book is the full text of the examples. You can find the examples easily on the Internet, for example at <http://www.ctan.org/tex-archive/info/examples/tlc2> as well as in many LaTeX installations.

Advanced R helps you understand how R works at a fundamental level. It is designed for R programmers who want to deepen their understanding of the language, and programmers experienced in other languages who want to understand what makes R different and special. This book will teach you the foundations of R; three fundamental programming paradigms (functional, object-oriented, and metaprogramming); and powerful techniques for debugging and optimising your code. By reading this book, you will learn: The difference between an object and its name, and why the distinction is important The important vector data structures, how they fit together, and how you can pull them apart using subsetting The fine details of functions and environments The condition system, which powers messages, warnings, and errors The powerful functional programming paradigm, which can replace many for loops The three most important OO systems: S3, S4, and R6 The tidy eval toolkit for metaprogramming, which allows you to manipulate code and control evaluation Effective debugging techniques that you can deploy, regardless of how your code is run How to find and remove performance bottlenecks The second edition is a comprehensive update: New foundational chapters: "Names and values," "Control flow," and "Conditions" comprehensive coverage of object oriented programming with chapters on S3, S4, R6, and how to choose between them Much deeper coverage of metaprogramming, including the new tidy evaluation framework use of new package like rlang (<http://rlang.r-lib.org>), which provides a clean interface to low-level operations, and purrr (<http://purrr.tidyverse.org/>) for functional programming Use of color in code chunks and figures Hadley Wickham is Chief Scientist at RStudio, an Adjunct Professor at Stanford University and the University of Auckland, and a member of the R Foundation. He is the lead developer of the tidyverse, a collection of R packages, including ggplot2 and dplyr, designed to support data science. He is also the author of R for Data Science (with Garrett Grolemund), R Packages, and ggplot2: Elegant Graphics for Data Analysis.

The success of the first edition of Generalized Linear Models led to the updated Second Edition, which continues to provide a definitive unified, treatment of methods for the analysis of diverse types of data. Today, it remains popular for its clarity, richness of content and direct relevance to agricultural, biological, health, engineering, and ot

The new RISC-V Edition of Computer Organization and Design features the RISC-V open source instruction set architecture, the first open source architecture designed to be used in modern

computing environments such as cloud computing, mobile devices, and other embedded systems. With the post-PC era now upon us, Computer Organization and Design moves forward to explore this generational change with examples, exercises, and material highlighting the emergence of mobile computing and the Cloud. Updated content featuring tablet computers, Cloud infrastructure, and the x86 (cloud computing) and ARM (mobile computing devices) architectures is included. An online companion Web site provides advanced content for further study, appendices, glossary, references, and recommended reading. Features RISC-V, the first such architecture designed to be used in modern computing environments, such as cloud computing, mobile devices, and other embedded systems Includes relevant examples, exercises, and material highlighting the emergence of mobile computing and the cloud

Summary Get Programming with Haskell leads you through short lessons, examples, and exercises designed to make Haskell your own. It has crystal-clear illustrations and guided practice. You will write and test dozens of interesting programs and dive into custom Haskell modules. You will gain a new perspective on programming plus the practical ability to use Haskell in the everyday world. (The 80 IQ points: not guaranteed.) Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Programming languages often differ only around the edges—a few keywords, libraries, or platform choices. Haskell gives you an entirely new point of view. To the software pioneer Alan Kay, a change in perspective can be worth 80 IQ points and Haskellers agree on the dramatic benefits of thinking the Haskell way—thinking functionally, with type safety, mathematical certainty, and more. In this hands-on book, that's exactly what you'll learn to do. What's Inside Thinking in Haskell Functional programming basics Programming in types Real-world applications for Haskell About the Reader Written for readers who know one or more programming languages. Table of Contents Lesson 1 Getting started with Haskell Unit 1 - FOUNDATIONS OF FUNCTIONAL PROGRAMMING Lesson 2 Functions and functional programming Lesson 3 Lambda functions and lexical scope Lesson 4 First-class functions Lesson 5 Closures and partial application Lesson 6 Lists Lesson 7 Rules for recursion and pattern matching Lesson 8 Writing recursive functions Lesson 9 Higher-order functions Lesson 10 Capstone: Functional object-oriented programming with robots! Unit 2 - INTRODUCING TYPES Lesson 11 Type basics Lesson 12 Creating your own types Lesson 13 Type classes Lesson 14 Using type classes Lesson 15 Capstone: Secret messages! Unit 3 - PROGRAMMING IN TYPES Lesson 16 Creating types with "and" and "or" Lesson 17 Design by composition—Semigroups and Monoids Lesson 18 Parameterized types Lesson 19 The Maybe type: dealing with missing values Lesson 20 Capstone: Time series Unit 4 - IO IN HASKELL Lesson 21 Hello World!—introducing IO types Lesson 22 Interacting with the command line and lazy I/O Lesson 23 Working with text and Unicode Lesson 24 Working with files Lesson 25 Working with binary data Lesson 26 Capstone: Processing binary files and book data Unit 5 - WORKING WITH TYPE IN A CONTEXT Lesson 27 The Functor type class Lesson 28 A peek at the Applicative type class: using functions in a context Lesson 29 Lists as context: a deeper look at the Applicative type class Lesson 30 Introducing the Monad type class Lesson 31 Making Monads easier with donotation Lesson 32 The list monad and list comprehensions Lesson 33 Capstone: SQL-like queries in Haskell Unit 6 - ORGANIZING CODE AND BUILDING PROJECTS Lesson 34 Organizing Haskell code with modules Lesson 35 Building projects with stack Lesson 36 Property testing with QuickCheck Lesson 37 Capstone: Building a prime-number library Unit 7 - PRACTICAL HASKELL Lesson 38 Errors in Haskell and the Either type Lesson 39 Making HTTP requests in Haskell Lesson 40 Working with JSON data by using Aeson Lesson 41 Using databases in Haskell Lesson 42 Efficient, stateful arrays in Haskell Afterword - What's next? Appendix - Sample answers to exercise

The second edition of a bestselling textbook, Using R for Introductory Statistics guides students through the basics of R, helping them overcome the sometimes steep learning curve. The author does this by breaking the material down into small, task-oriented steps. The second edition maintains the features that made the first edition so popular, while updating data, examples, and changes to R in line with the current version. See What's New in the Second Edition: Increased emphasis on more idiomatic R provides a grounding in the functionality of base R. Discussions of the use of RStudio helps new R users avoid as many pitfalls as possible. Use of knitr package makes code easier to read and therefore easier to reason about. Additional information on computer-intensive approaches motivates the traditional approach. Updated examples and data make the information current and topical. The book has an accompanying package, UsingR, available from CRAN, R's repository of user-contributed packages. The package contains the data sets mentioned in the text (`data(package="UsingR")`), answers to selected problems (`answers()`), a few demonstrations (`demo()`), the errata (`errata()`), and sample code from the text. The topics of this text line up closely with traditional teaching progression; however, the book also highlights computer-intensive approaches to motivate the more traditional approach. The authors emphasize realistic data and examples and rely on visualization techniques to gather insight. They introduce statistics and R seamlessly, giving students the tools they need to use R and the information they need to navigate the sometimes complex world of statistical computing.

The high-level language of R is recognized as one of the most powerful and flexible statistical software environments, and is rapidly becoming the standard setting for quantitative analysis, statistics and graphics. R provides free access to unrivalled coverage and cutting-edge applications, enabling the user to apply numerous statistical methods ranging from simple regression to time series or multivariate analysis. Building on the success of the author's bestselling Statistics: An Introduction using R, The R Book is packed with worked examples, providing an all inclusive guide to R, ideal for novice and more accomplished users alike. The book assumes no background in statistics or computing and introduces the advantages of the R environment, detailing its applications in a wide range of disciplines. Provides the first comprehensive reference manual for the R language, including practical guidance and full coverage of the graphics facilities. Introduces all the statistical models covered by R, beginning with simple classical tests such as chi-square and t-test. Proceeds to examine more advance methods, from regression and analysis of variance, through to generalized linear models, generalized mixed models, time series, spatial statistics, multivariate statistics and much more. The R Book is aimed at undergraduates, postgraduates and professionals in science, engineering and medicine. It is also ideal for students and professionals in statistics, economics, geography and the social sciences.

Python for Software Design is a concise introduction to software design using the Python programming language. The focus is on the programming process, with special emphasis on debugging. The book includes a wide range of exercises, from short examples to substantial projects, so that students have ample opportunity to practice each new concept.

Want to learn the Python language without slogging your way through how-to manuals? With Head First Python, you'll quickly grasp Python's fundamentals, working with the built-in data

structures and functions. Then you'll move on to building your very own webapp, exploring database management, exception handling, and data wrangling. If you're intrigued by what you can do with context managers, decorators, comprehensions, and generators, it's all here. This second edition is a complete learning experience that will help you become a bonafide Python programmer in no time. Why does this book look so different? Based on the latest research in cognitive science and learning theory, Head First Python uses a visually rich format to engage your mind, rather than a text-heavy approach that puts you to sleep. Why waste your time struggling with new concepts? This multi-sensory learning experience is designed for the way your brain really works.

Complementing The LaTeX Companion, this new graphics companion addresses one of the most common needs among users of the LaTeX typesetting system: the incorporation of graphics into text. It provides the first full description of the standard LaTeX color and graphics packages, and shows how you can combine TeX and PostScript capabilities to produce beautifully illustrated pages. You will learn how to incorporate graphic files into a LaTeX document, program technical diagrams using several different languages, and achieve special effects with fragments of embedded PostScript. Furthermore, you'll find detailed descriptions of important packages like Xy-pic, PSTricks, and METAPOST; the dvips dvi to PostScript driver; and Ghostscript.

Class-tested and coherent, this textbook teaches classical and web information retrieval, including web search and the related areas of text classification and text clustering from basic concepts. It gives an up-to-date treatment of all aspects of the design and implementation of systems for gathering, indexing, and searching documents; methods for evaluating systems; and an introduction to the use of machine learning methods on text collections. All the important ideas are explained using examples and figures, making it perfect for introductory courses in information retrieval for advanced undergraduates and graduate students in computer science. Based on feedback from extensive classroom experience, the book has been carefully structured in order to make teaching more natural and effective. Slides and additional exercises (with solutions for lecturers) are also available through the book's supporting website to help course instructors prepare their lectures.

Thoroughly revised, this third edition focuses on modern techniques used to generate synthetic three-dimensional images in a fraction of a second. With the advent of programmable shaders, a wide variety of new algorithms have arisen and evolved over the past few years. This edition discusses current, practical rendering methods used in games and other applications. It also presents a solid theoretical framework and relevant mathematics for the field of interactive computer graphics, all in an approachable style. The authors have made the figures used in the book available for download for fair use. Download Figures. Reviews Rendering has been a required reference for professional graphics practitioners for nearly a decade. This latest edition is as relevant as ever, covering topics from essential mathematical foundations to advanced techniques used by today's cutting edge games. -- Gabe Newell, President, Valve, May 2008 Rendering ... has been completely revised and revamped for its updated third edition, which focuses on modern techniques used to generate three-dimensional images in a fraction of the time old processes took. From practical rendering for games to math and details for better interactive applications, it's not to be missed. -- The Bookwatch, November 2008 You'll get brilliantly lucid explanations of concepts like vertex morphing and variance shadow mapping—as well as a new respect for the incredible craftsmanship that goes into today's PC games. -- Logan Decker, PC Gamer Magazine , February 2009

Published Nov 25, 2003 by Addison-Wesley Professional. Part of the Tools and Techniques for Computer Typesetting series. The series editor may be contacted at frank.mittelbach@latex-project.org. LaTeX is the text-preparation system of choice for scientists and academics, and is especially useful for typesetting technical materials. This popular book shows you how to begin using LaTeX to create high-quality documents. The book also serves as a handy reference for all LaTeX users. In this completely revised edition, the authors cover the LaTeX2_ε standard and offer more details, examples, exercises, tips, and tricks. They go beyond the core installation to describe the key contributed packages that have become essential to LaTeX processing. Inside, you will find: Complete coverage of LaTeX fundamentals, including how to input text, symbols, and mathematics; how to produce lists and tables; how to include graphics and color; and how to organize and customize documents Discussion of more advanced concepts such as bibliographical databases and BibTeX, math extensions with AMS-LaTeX, drawing, slides, and letters Helpful appendices on installation, error messages, creating packages, using LaTeX with HTML and XML, and fonts An extensive alphabetized listing of commands and their uses New to this edition: More emphasis on LaTeX as a markup language that separates content and form--consistent with the essence of XML Detailed discussions of contributed packages alongside relevant standard topics In-depth information on PDF output, including extensive coverage of how to use the hyperref package to create links, bookmarks, and active buttons As did the three best-selling editions that preceded it, Guide to LaTeX, Fourth Edition, will prove indispensable to anyone wishing to gain the benefits of LaTeX. The accompanying CD-ROM is part of the TeX Live set distributed by TeX Users Groups, containing a full LaTeX installation for Windows, MacOSX, and Linux, as well as many extensions, including those discussed in the book.

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Create high-quality and professional-looking texts, articles, and books for Business and Science using LaTeX.

Here is a short, well-written book that covers the material essential for learning LaTeX. This manual includes the following crucial features: - numerous examples of widely used mathematical expressions; - complete documents illustrating the creation of articles, reports, presentations, and posters; - troubleshooting tips to help you pinpoint an error; - details of how to set up an index and a bibliography; and - information about online LaTeX resources. This second edition of the well-regarded and highly successful book includes additional material on - the American Mathematical Society packages for typesetting additional mathematical symbols and multi-line displays; - the BibTeX program for

creating bibliographies; - the Beamer package for creating presentations; and - the a0poster class for creating posters.

The fundamental mathematical tools needed to understand machine learning include linear algebra, analytic geometry, matrix decompositions, vector calculus, optimization, probability and statistics. These topics are traditionally taught in disparate courses, making it hard for data science or computer science students, or professionals, to efficiently learn the mathematics. This self-contained textbook bridges the gap between mathematical and machine learning texts, introducing the mathematical concepts with a minimum of prerequisites. It uses these concepts to derive four central machine learning methods: linear regression, principal component analysis, Gaussian mixture models and support vector machines. For students and others with a mathematical background, these derivations provide a starting point to machine learning texts. For those learning the mathematics for the first time, the methods help build intuition and practical experience with applying mathematical concepts. Every chapter includes worked examples and exercises to test understanding. Programming tutorials are offered on the book's web site.

This book presents direct and concise explanations and examples to many LaTeX syntax and structures, allowing students and researchers to quickly understand the basics that are required for writing and preparing book manuscripts, journal articles, reports, presentation slides and academic theses and dissertations for publication. Unlike much of the literature currently available on LaTeX, which takes a more technical stance, focusing on the details of the software itself, this book presents a user-focused guide that is concerned with its application to everyday tasks and scenarios. It is packed with exercises and looks at topics like formatting text, drawing and inserting tables and figures, bibliographies and indexes, equations, slides, and provides valuable explanations to error and warning messages so you can get work done with the least time and effort needed. This means LaTeX in 24 Hours can be used by students and researchers with little or no previous experience with LaTeX to gain quick and noticeable results, as well as being used as a quick reference guide for those more experienced who want to refresh their knowledge on the subject.

This is the fourth edition of the standard introductory text and complete reference for scientists in all disciplines, as well as engineers. This fully revised version includes important updates on articles and books as well as information on a crucial new topic: how to create transparencies and computer projections, both for classrooms and professional meetings. The text maintains its user-friendly, example-based, visual approach, gently easing readers into the secrets of Latex with The Short Course. Then it introduces basic ideas through sample articles and documents. It includes a visual guide and detailed exposition of multiline math formulas, and even provides instructions on preparing books for publishers.

The new edition of a widely used, comprehensive graduate-level text and professional reference covering all aspects of labor economics, with substantial new material. This landmark graduate-level text combines depth and breadth of coverage with recent, cutting-edge work in all the major areas of modern labor economics. Its command of the literature and its coverage of the latest theoretical, methodological, and empirical developments make it also a valuable resource for practicing labor economists. This second edition has been substantially updated and augmented. It incorporates examples drawn from many countries, and it presents empirical methods using contributions that have proved to be milestones in labor economics. The data and codes of these research publications, as well as numerous tables and figures describing the functioning of labor markets, are all available on a dedicated website (www.labor-economics.org), along with slides that can be used as course aids and a discussion forum. This edition devotes more space to the analysis of public policy and the levers available to policy makers, with new chapters on such topics as discrimination, globalization, income redistribution, employment protection, and the minimum wage or labor market programs for the unemployed. Theories are explained on the basis of the simplest possible models, which are in turn related to empirical results. Mathematical appendixes provide a toolkit for understanding the models.

In-depth instruction and practical techniques for buildingwith the BeagleBone embedded Linux platform Exploring BeagleBone is a hands-on guide to bringinggadgets, gizmos, and robots to life using the popular BeagleBoneembedded Linux platform. Comprehensive content and deep detailprovide more than just a BeagleBone instructionmanual—you'll also learn the underlying engineeringtechniques that will allow you to create your own projects. Thebook begins with a foundational primer on essential skills, andthen gradually moves into communication, control, and advancedapplications using C/C++, allowing you to learn at your own pace.In addition, the book's companion website featuresinstructional videos, source code, discussion forums, and more, toensure that you have everything you need. The BeagleBone's small size, high performance, low cost,and extreme adaptability have made it a favorite developmentplatform, and the Linux software base allows for complex yetflexible functionality. The BeagleBone has applications in smartbuildings, robot control, environmental sensing, to name a few;and, expansion boards and peripherals dramatically increase thepossibilities. Exploring BeagleBone provides areader-friendly guide to the device, including a crash coursein computer engineering. While following step by step, you can: Get up to speed on embedded Linux, electronics, andprogramming Master interfacing electronic circuits, buses and modules, withpractical examples Explore the Internet-connected BeagleBone and the BeagleBonewith a display Apply the BeagleBone to sensing applications, including videoand sound Explore the BeagleBone's Programmable Real-TimeControllers Hands-on learning helps ensure that your new skills stay withyou, allowing you to design with electronics, modules, orperipherals even beyond the BeagleBone. Insightful guidance andonline peer support help you transition from beginner to expert asyou master the techniques presented in Exploring BeagleBone,the practical handbook for the popular computing platform.

Computing Methodologies -- Text Processing.

Introduces the popular, powerful and free programming language and software package R Focus implementation of standard tools and methods used in econometrics Compatible with "Introductory Econometrics" by Jeffrey M. Wooldridge in terms of topics, organization, terminology and notation Companion website with full text, all code for download and other goodies: <http://urfie.net> Also check out Using Python for Introductory Econometrics <http://upfie.net/> Praise "A very nice resource for those wanting to use R in their introductory econometrics courses." (Jeffrey M. Wooldridge) Using R for Introductory Econometrics is a fabulous modern resource. I know I'm going to be using it with my students, and I recommend it to anyone who wants to learn about econometrics and R at the same time." (David E. Giles in his blog "Econometrics Beat") Topics: A gentle introduction to R Simple and multiple regression in matrix form and using black box routines Inference in small samples and asymptotics Monte Carlo simulations Heteroscedasticity Time series regression Pooled cross-sections and panel data Instrumental variables and two-stage least squares Simultaneous equation models Limited dependent variables: binary, count data, censoring, truncation, and sample selection Formatted reports and research papers combining R with R Markdown or LaTeX

The essential introduction to the principles and applications of feedback systems—now fully revised and expanded This textbook covers the mathematics needed to model, analyze, and design feedback

systems. Now more user-friendly than ever, this revised and expanded edition of Feedback Systems is a one-volume resource for students and researchers in mathematics and engineering. It has applications across a range of disciplines that utilize feedback in physical, biological, information, and economic systems. Karl Åström and Richard Murray use techniques from physics, computer science, and operations research to introduce control-oriented modeling. They begin with state space tools for analysis and design, including stability of solutions, Lyapunov functions, reachability, state feedback observability, and estimators. The matrix exponential plays a central role in the analysis of linear control systems, allowing a concise development of many of the key concepts for this class of models. Åström and Murray then develop and explain tools in the frequency domain, including transfer functions, Nyquist analysis, PID control, frequency domain design, and robustness. Features a new chapter on design principles and tools, illustrating the types of problems that can be solved using feedback Includes a new chapter on fundamental limits and new material on the Routh-Hurwitz criterion and root locus plots Provides exercises at the end of every chapter Comes with an electronic solutions manual An ideal textbook for undergraduate and graduate students Indispensable for researchers seeking a self-contained resource on control theory

Latex is a typesetting system that is very suitable for producing scientific and mathematical documents of high typographical quality. It is also suitable for producing all sorts of other documents, from simple letters to complete books. Latex uses Tex as its formatting engine. This short introduction describes Latex and should be sufficient for most applications of Latex.

A tutorial that covers the very basics of using the LaTeX computer typesetting system with exercises to get the reader started. Accompanying resources and solutions to the exercises are available from the book's home page at www.dickimaw-books.com/latex/novices/.

Practical LaTeX covers the material that is needed for everyday LaTeX documents. This accessible manual is friendly, easy to read, and is designed to be as portable as LaTeX itself. A short chapter, Mission Impossible, introduces LaTeX documents and presentations. Read these 30 pages; you then should be able to compose your own work in LaTeX. The remainder of the book delves deeper into the topics outlined in Mission Impossible while avoiding technical subjects. Chapters on presentations and illustrations are a highlight, as is the introduction of LaTeX on an iPad. Students, faculty, and professionals in the worlds of mathematics and technology will benefit greatly from this new, practical introduction to LaTeX. George Grätzer, author of More Math into LaTeX (now in its 4th edition) and First Steps in LaTeX, has been a LaTeX guru for over a quarter of century. From the reviews of More Math into LaTeX: "There are several LaTeX guides, but this one wins hands down for the elegance of its approach and breadth of coverage." —Amazon.com, Best of 2000, Editors Choice "A very helpful and useful tool for all scientists and engineers." —Review of Astronomical Tools "A novice reader will be able to learn the most essential features of LaTeX sufficient to begin typesetting papers within a few hours of time...An experienced TeX user, on the other hand, will find a systematic and detailed discussion of all LaTeX features, supporting software, and many other advanced technical issues." —Reports on Mathematical Physics

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.

This book covers an especially broad range of topics, including some topics not generally found in linear algebra books The first part details the basics of linear algebra. Coverage then proceeds to a discussion of modules, emphasizing a comparison with vector spaces. A thorough discussion of inner product spaces, eigenvalues, eigenvectors, and finite dimensional spectral theory follows, culminating in the finite dimensional spectral theorem for normal operators.

This is an easy-to-follow tutorial on the most popular text processing system used in the academic community. It explains formatting fundamentals and the more complex techniques for typesetting mathematical formulas. It is useful as a resource for those with access to the previous version (LATEX 2.09) who want to update themselves on the latest version - LATEX 2. The book is aimed at anyone interested in text processing and in particular those wanting to use LATEX to produce high quality documents. LATEX 2e is suitable for people with no previous LATEX experience. Written from the users point of view, this edition features many entirely new commands, replacing obsolete material as well as an appendix describing the main differences between old version LATEX 2.09 and the new version. There is also a glossary of all basic LATEX 2 commands. Many of the typesetting examples from the book are coded as templates and are available on the accompanying Website.

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