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Harness the power of LaTeX and its wide range of features to create professional-looking text, articles, and books with both online and offline capabilities of LaTeX Key FeaturesGet a hands-on introduction to LaTeX using fully explained examples advance from beginner to LaTeX professional quicklyWrite impressive mathematical, scientific, and business papers or theses using LaTeXExplore LaTeX onlineBook Description LaTeX is high-quality open source typesetting software that produces professional prints and PDF files. It's a powerful and complex tool with a multitude of features, so getting started can be intimidating. However, once you become comfortable with LaTeX, its capabilities far outweigh any initial challenges, and help you with just that! The LaTeX Beginner's Guide will make getting started with LaTeX easy. If you are writing mathematical, scientific, or business papers, or have a thesis to write, this is the perfect book for you. With the help of fully explained examples, this book offers a practical introduction to LaTeX with plenty of step-by-step examples that will help you achieve professional-level results in no time. You'll learn to typeset documents containing tables, figures, formulas, and common book bibliographies, glossaries, and indexes, and go on to manage complex documents and use modern PDF features. You'll also get to grips with using macros and styles to maintain a consistent document structure while saving typing work. By using the LaTeX book, you'll have learned how to fine-tune text and page layout, create professional-looking tables, include figures, present complex mathematical formulas, manage complex documents, and benefit from modern PDF features. What you will learnMake the most of LaTeX's powerful features to produce professionally designed textsDownload, install, and set up LaTeX and use additional styles, templates, and toolsTypeset math formulas and scientific expressions to the highest standardsUnderstand how to include graphics and work with figures and tablesDiscover professional fonts and modern PDF featuresWork with book elements such as bibliographies, glossaries, and indexesTypeset documents containing tables and formulasWho this book is for If you are about to write mathematical or scientific papers, seminar handouts, or even plan to write a thesis, this book offers you a fast-paced and practical introduction to LaTeX. School and university students will find the LaTeX guide helpful, as will mathematicians, physicists, engineers, and humanists. Anybody with high expectations from their software will discover how easy it is to leverage LaTeX's high performance for creating documents. Over 100 hands-on recipes to quickly prepare LaTeX documents of various kinds to solve challenging tasks About This Book Work with modern document classes, such as KOMA-Script classes Explore the latest LaTeX packages, including Times and biblalex An example-driven approach to creating stunning graphics directly within LaTeX Who This Book Is For If you already know the basics of LaTeX and you like to get fast, efficient solutions, this is the perfect book for you. If you are a LaTeX reader, you can use this book's example-driven format to take your skillset to the next level. Some familiarity with the basic syntax of LaTeX and how to use the editor of your choice for compiling is required. What You Will Learn Choose the right class for your project to customize its features Utilize fonts globally and locally Frame, shape, arrange, and annotate images Add a bibliography, a glossary, and an index Create colorful graphics including diagrams, flow charts, bar charts, tables, and 3d, time lines, and mindmaps Solve typical tasks for various sciences including math, physics, chemistry, electrotechnics, and computer science Optimize PDF output and enrich it with meta data, annotations, popups, animations, and fill the page with the outstanding capabilities of the newest engines and formats such as XeLaTeX, LuaLaTeX, and LaTeX3 In Detail LaTeX is a high-quality typesetting software and is very popular, especially among scientists. Its programming language gives you complete control over every aspect of your documents, no matter how complex they are. LaTeX's huge amount of customizable templates and supporting packages cover most aspects of writing with embedded typographic expertise. With this book you will learn the capabilities of the latest document classes and explore the functionalities of the newest packages. The book starts with examples of common document types. It provides you with samples for tuning text design, using fonts, embedding graphics, and creating legible tables. Common document parts such as the bibliography, glossary, and index are covered, with LaTeX's modern approach. You will learn how to create excellent graphics directly within LaTeX, including diagrams and plots quickly and easily. Finally, you will discover how to use the new engines XeTeX and LuaTeX for advanced programming and calculating with LaTeX. The example-driven approach of this book is sure to increase your productivity. Style and approach This book guides you through the world of LaTeX based on over a hundred hands-on examples. These are explained in detail and are designed to take minimal time and to be self-compliant.

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 variety of 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. It introduces basic ideas through simple articles and documents. It includes a visual guide and detailed exposition of multiline math formulas, and even provides instructions on preparing books for publishers.

This month: * Command & Conquer * How-To : Program in Python, LibreOffice, Using LaTeX, and [NEW!] Programming JavaScript * Graphics : Inkscape. * [NEW!] Chrome Cult * Linux Labs: OwnCloud * [NEW!] Ubuntu Phones – Interview with Olympe Parrino * Review: Precision m3800 DE laptop * Ubuntu Games: Cities: Skylines plus: News, Arduino, Q&A, and soooo much more.

Presentations with LaTeX

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY

Latex in 157 Minutes

TEX and METAFONT

Authoring Books and Technical Documents with R Markdown

Help your future genius become the smartest baby in the room! Written by an expert, Newtonian Physics for Babies is a colorfully simple introduction to Newton's laws of motion. Babies (and grownups!) will learn all about mass, acceleration, the force of gravity, and more. With a tongue-in-cheek approach that adults will love, this installment of the Baby University board book series is the perfect way to introduce basic concepts to even the youngest scientists. After all, it's never too early to become a physicist!

R Markdown is a powerful tool for combining analysis and reporting into the single document in the spirit of literate programming and reproducible research. Since the birth of the rmarkdown package in early 2014, R Markdown has grown substantially from a package that supports a few output formats (such as HTML, PDF, and Word) to an extensive and diverse ecosystem that enables the creation of books, blogs, scientific articles, websites, and more. Due to its rapid success, this ecosystem is hard to learn completely meaning that R Markdown users, from novices to advanced users, likely do not know all that these packages have to offer. The R Markdown Cookbook confronts this gap by showcasing short, practical examples of wide-ranging tips and tricks to get the most out of these tools. After reading this book, you will learn how to: Enhance your R Markdown content with diagrams, citations, and dynamically generated text Streamline your workflow with child documents, code chunk references, and caching Control the formatting and layout with Pandoc markdown syntax or by writing custom HTML and LaTeX templates Utilize chunk options and hooks to fine-tune how your code is processed Switch between different language engines to seamlessly incorporate python, D3, and more into your analysis

Quickly and Easily Write Dynamic Documents Suitable for both beginners and advanced users, Dynamic Documents with R and knitr, Second Edition makes writing statistical reports easier by integrating computing directly with reporting.

Reports range from homework, projects, exams, books, blogs, and web pages to virtually any documents related to statistical graphics, computing, and data analysis. The book covers basic applications for beginners while guiding power users in understanding the extensibility of the knitr package. New to the Second Edition A new chapter that introduces R Markdown v2 Changes that reflect improvements in the knitr package New sections on generating tables, defining custom printing methods for objects in code chunks, the C/Fortran engines, the Stan engine, running engines in a persistent session, and starting a local server to serve dynamic documents Boost Your Productivity in Statistical Report Writing and Make Your Scientific Computing with R Reproducible Like its highly praised predecessor, this edition shows you how to improve your efficiency in writing reports. The book takes you from program output to publication-quality reports, helping you fine-tune every aspect of your report.

This is the first English-language biography of the relentlessly ambitious and incomparably talented printer Giambattista Bodoni (1740-1813). Born to a printing family in the small foothill town of Saluzzo, he left his comfortable life to travel to Rome in 1758 where he served as an apprentice of Cardinal Spinelli at the Propaganda Fide press. There, under the sponsorship of Ruggieri, he learned all aspects of the printing craft. Even then, his real talent lay in type design and direct punchcutting, especially of the exotic foreign alphabets needed by the papal office to spread the faith. His life changed when at age 28 he was invited by the Duke of Parma to abandon Rome for that very French city to establish and direct the ducal press. He remained in Parma, overseeing a vast variety of printing, some of it pedestrian, but much of it glorious. And all of it making use of the typefaces he personally designed and engraved. This fine book goes beyond Bodoni's capacity as a printer; it examines the life and times in which he lived, the turbulent and always fragile political climate, the fascinating cast of characters that enlivened the ducal court, the impressive list of visitors making the pilgrimage to Parma, and the unique position Parma occupied, politically Italian but very much French in terms of taste and culture. Even the food gets its due. The illustrations—of the city, of the press, of the types and matrices—are captivating, but most striking are the pages from the books he designed, especially pages from his typographic masterpiece, the Manuale Tipografico, which displayed the myriad typefaces in multiple sizes that Bodoni had designed and engraved over a long and prolific career. Intriguing, scholarly, visually arresting, and designed and printed to Bodoni's standards, this title belongs on the shelf of any self-respecting bibliophile. It not only makes for compelling reading, it will be considered the biography of record of a great printer for years to come.

The LaTeX Companion

Giambattista Bodoni

Big Practical Guide to Computer Simulations

Full Circle Magazine #96

Advanced LaTeX in Academia

Reproducible Research with R and RStudio

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? 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. 0321173856B10162003

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

The TeX Reference Manual is the first comprehensive reference manual written by a programmer for programmers. It contains reference pages for each of TeX's 325 primitive control sequences. Over 80% of its reference pages contain examples that range from simple to challenging. Each example is typeset verbatim in a style which is easy to read and experiment with. TeX Reference Manual also just typesets the example, so you can see what it makes, and explains how the example works. The description on each primitive's reference page is an annotated discussion of The TeXbook's treatment of the primitive. That means a TeX user will find it natural to move back and forth between the two books. One of TeX Reference Manual's innovative features is families. They simplify the search for the primitive which performs a particular task.

Presentations with LaTeXWhich package, which command, which syntax?Lehmanns Media

The BEAMER Class

The Princeton Companion to Applied Mathematics

Illustrating Documents with TeX and PostScript

More Math Into LaTeX

LaTeX in 24 Hours

The Princeton Companion to Mathematics

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.

bookdown: Authoring Books and Technical Documents with R Markdown presents a much easier way to write books and technical publications than traditional tools such as LaTeX and Word. The bookdown package inherits the simplicity of syntax and flexibility for data analysis from R Markdown, and extends R Markdown for technical writing, so that you can make better use of document elements such as figures, tables, equations, theorems, citations, and references. Similar to LaTeX, you can number and cross-reference these elements with bookdown. Your document can even include live examples so readers can interact with them while reading the book. The book can be rendered to multiple output formats, including LaTeX/PDF, HTML, EPUB, and Word, thus making it easy to put your documents online. The style and theme of these output formats can be customized. We used books and R primarily for examples in this book, but bookdown is not only for books or R. Most features introduced in this book also apply to other types of publications: journal papers, reports, dissertations, course handouts, study notes, and even novels. You do not have to use R, either. Other choices of computing languages include Python, C, C++, SQL, Bash, Stan, JavaScript, and so on, although R is best supported. You can also leave out computing, for example, to write a fiction. This book itself is an example of publishing with bookdown and R Markdown, and its source is fully available on GitHub.

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

Praise for previous editions: "Gandrud has written a great outline of how a fully reproducible research project should look from start to finish, with brief explanations of each tool that he uses along the way... Advanced undergraduate students in mathematics, statistics, and similar fields as well as students just beginning their graduate studies would benefit the most from reading this book. Many more experienced R users or second-year graduate students might find themselves thinking, 'I wish I'd read this book at the start of my studies, when I was first learning R!...' This book could be used as the main text for a class on reproducible research..." (The American Statistician) Reproducible Research with R and R Studio, Third Edition brings together the skills and tools needed for doing and presenting computational research. Using straightforward examples, the book takes you through an entire reproducible research workflow. This practical workflow enables you to gather and analyze data as well as dynamically present results in print and on the web. Supplementary materials and example are available on the author's website. New to the Third Edition Updated package recommendations, examples, URLs, and removed technologies no longer in regular use. More advanced R Markdown (and less LaTeX) in discussions of markup languages and examples. Stronger focus on reproducible working directory tools. Updated discussion of cloud storage services and persistent reproducible material citation. Added discussion of Jupyter notebooks and reproducible practices in industry. Examples of data manipulation with Tidymverse tibbles (in addition to standard data frames) and pivot_longer() and pivot_wider() functions for pivoting data. Features Incorporates the most important advances that have been developed since the editions were published Describes a complete reproducible research workflow, from data gathering to the presentation of results Shows how to automatically generate tables and figures using R Includes instructions on formatting a presentation document via markup languages Discusses cloud storage and versioning services, particularly Github Explains how to use Unix-like shell programs for working with large research projects

The TeXbook

Practical LaTeX

A Practical Guide for Scientific Writing

An Agony, in Eight Fits

The Hunting of the Snark

Using LaTeX to Write a PhD Thesis

This book teaches you all necessary (problem-independent) tools and techniques needed to implement and perform sophisticated scientific numerical simulations. Thus, it is suited for undergraduate and graduate students who want to become experts in computer simulations in Physics, Chemistry, Biology, Engineering, Computer Science and other fields.

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.

Which package, which command, which syntax? LATEX can be used to create high-quality presentations. Further more, the typesetting system TEX can be used to easily create an imatedslides. This books how show to create presentations with the two most important classes, powerdot and beamer. In

addition to the basic functionality, examples illustrate how to realise a custom corporate design to create a custom document class or package.

Beamer is a LATEX class for creating presentations that are held using a projector, but it can also be used to create transparency slides. Preparing presentations with beamer is different from preparing them with wysiwyg programs like OpenOffice.org Impress, Apple Keynote, KOffice KPresenter or Microsoft PowerPoint. A beamer presentation is created like any other LATEX document: It has a preamble and a body, the body contains sections and subsections, the different slides (called frames in beamer) are put in environments, they are structured using itemize and enumerate environments, and so on. This manual is available online for free at ctan.org. This manual is printed in grayscale.

Statistics and Software Systems

Guide to LaTeX

Dynamic Documents with R and knitr

Gröbner Bases

Latex

LaTeX and Friends

This is a follow-on from "LaTeX for Complete Novices" by the same author. This book concentrates on typesetting aspects usually required in a PhD thesis, such as displaying code listings, algorithms and glossaries.

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.

This is a reference work for the TeX typesetting language. It is valuable for people who want to write LaTeX macros and other customizations of TeX.

LaTeX is a free, automated state-of-the-art typesetting system. This book teaches all the ins and outs of LaTeX which are needed to write an article, report, thesis, or book. The book teaches by example, giving many worked out examples showing input and output side by side. The book presents the most recent techniques for presenting data plots, complex graphics, and computer presentations, but does not require previous knowledge. However, it is also a reference for the more seasoned user, with pointers to modern techniques and packages. Recurring themes in the book are consistent and effective presentation, planning and development, controlling style and content, and maintenance.

New Directions in Typesetting

R Markdown Cookbook

Which package, which command, which syntax?

The Definitive Guide

TeX Reference Manual

A Primer of Probability Logic

This book is meant to be a primer, that is an introduction, to probability logic, a subject that appears to be in its infancy. Probability logic is a subject envisioned by Hans Reichenbach and largely created by Adams. It treats conditionals as bearers of conditional probabilities and discusses an appropriate sense of validity for arguments such conditionals, as well as ordinary statements as premises. This is a clear well written text on the subject of probability logic, suitable for advanced undergraduates or graduates, but also of interest to professional philosophers. There are well thought out exercises, and a number of advanced topics treated in appendices, while some are brought up in exercises and some are alluded to only in footnotes. By this means it is hoped that the reader will at least be made aware of most of the important ramifications of the subject and its tie-ins with current research, and will have some indications concerning recent and relevant literature.

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.

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/.

R Markdown: The Definitive Guide is the first official book authored by the core R Markdown developers that provides a comprehensive and accurate reference to the R Markdown ecosystem. With R Markdown, you can easily create reproducible data analysis reports, presentations, dashboards, interactive applications, books, dissertations, websites, and journal articles, while enjoying the simplicity of Markdown and the great power of R and other languages. In this book, you will learn Basics: Syntax of Markdown and R code chunks, how to generate figures and tables, and how to use other computing languages Built-in output formats of R Markdown: PDF/HTML/Word/RTF/Markdown documents and ioslides/Slidy/Beamer/PowerPoint presentations Extensions and applications: Dashboards, Tufte handouts, xaringan/reveal.js presentations, websites, books, journal articles, and interactive tutorials Advanced topics: Parameterized reports, HTML widgets, document templates, custom output formats, and Shiny documents. Yihui Xie is a software engineer at RStudio. He has authored and co-authored several R packages, including knitr, rmarkdown, bookdown, blogdown, shiny, xaringan, and animation. He has published three other books, Dynamic Documents with R and knitr, bookdown: Authoring Books and Technical Documents with R Markdown, and blogdown: Creating Websites with R Markdown. J.J. Allaire is the founder of RStudio and the creator of the RStudio IDE. He is an author of several packages in the R Markdown ecosystem including rmarkdown, flexdashboard, learnr, and radix. Garrett Grolemond is the co-author of R for Data Science and author of Hands-On Programming with R. He wrote the lubridate R package and works for RStudio as an advocate who trains engineers to do data science with R and the Tidyverse.

bookdown

Learning LaTeX

Full Circle Magazine #95

The LaTeX Graphics Companion

A Document Preparation System : User's Guide and Reference Manual

Second Edition

Nick Higham follows up his successful HWMS volume with this much-anticipated second edition.

This is the most authoritative and accessible single-volume reference book on applied mathematics. Featuring numerous entries by leading experts and organized thematically, it introduces readers to applied mathematics and its uses: explains key concepts; describes important equations, laws, and functions; looks at exciting areas of research; covers modeling and simulation; explores areas of application; and more. Modeled on the popular Princeton Companion to Mathematics, this volume is an indispensable resource for undergraduate and graduate students, researchers, and practitioners in other disciplines seeking a user-friendly reference book on applied mathematics. Features nearly 200 entries organized thematically and written by an international team of distinguished contributors Presents the major ideas and branches of applied mathematics in a clear and accessible way Explains important mathematical concepts, methods, equations, and applications Introduces the language of applied mathematics and the goals of applied mathematical research Gives a wide range of examples of mathematical modeling Covers continuum mechanics, dynamical systems, numerical analysis, discrete and combinatorial mathematics, mathematical physics, and much more Explores the connections between applied mathematics and other disciplines Includes suggestions for further reading, cross-references, and a comprehensive index

Here is a short, well-written book that covers the material essential for learning LaTeX. This manual includes the following crucial features:

- o - numerous examples of widely used mathematical expressions
- o - complete documents illustrating the creation of articles, reports, presentations, and posters
- o - troubleshooting tips to help you pinpoint an error
- o - 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

- o - the American Mathematical Society packages for typesetting additional mathematical symbols and multi-line displays
- o - the B^BT^EX program for creating bibliographies
- o - the Beamer package for creating presentations; and
- the a^Oposter class for creating posters

All the Tools for Gathering and Analyzing Data and Presenting Results Reproducible Research with R and RStudio, Second Edition brings together the skills and tools needed for doing and presenting computational research. Using straightforward examples, the book takes you through an entire reproducible research workflow. This practical workflow enables you to gather and analyze data as well as dynamically present results in print and on the web. New to the Second Edition The rmarkdown package that allows you to create reproducible research documents in PDF, HTML, and Microsoft Word formats using the simple and intuitive Markdown syntax Improvements to RStudio's interface and capabilities, such as its new tools for handling R Markdown documents Expanded knitr R code chunk capabilities The kable function in the knitr package and the texreg package for dynamically creating tables to present your data and statistical results An improved discussion of file organization, enabling you to take full advantage of relative file paths so that your documents are more easily reproducible across computers and systems The dplyr, magrittr, and tidyr packages for fast data manipulation Numerous modifications to R syntax in user-created packages Changes to GitHub's and Dropbox's interfaces Create Dynamic and Highly Reproducible Research This updated book provides all the tools to combine your research with the presentation of your findings. It saves you time searching for information so that you can spend more time actually addressing your research questions. Supplementary files used for the examples and a reproducible research project are available on the author's website.

LaTeX for Complete Novices

Reproducible Research with R and R Studio

Handbook of Writing for the Mathematical Sciences

Applications in Research and Education

User Guide for Version 3.49

Create visually appealing texts, articles, and books for business and science using LaTeX

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.

This book contains a comprehensive treatment of advanced LaTeX features. The focus is on the development of high quality documents and presentations, by revealing powerful insights into the LaTeX language. The well-established advantages of the typesetting system LaTeX are the preparation and publication of platform-independent high-quality documents and automatic numbering and cross-referencing of illustrations or references. These can be extended beyond the typical applications, by creating highly dynamic electronic documents. This is commonly performed in connection with the portable document format (PDF), as well as other programming tools which allow the development of extremely flexible electronic documents.

The idea of the Gröbner basis first appeared in a 1927 paper by F. S. Macaulay, who succeeded in creating a combinatorial characterization of the Hilbert functions of homogeneous ideals of the polynomial ring. Later, the modern definition of the Gröbner basis was independently introduced by Heisuke Hironaka in 1964 and Bruno Buchberger in 1965. However, after the discovery of the notion of the Gröbner basis by Hironaka and Buchberger, it was not actively pursued for 20 years. A breakthrough was made in the mid-1980s by David Bayer and Michael Stillman, who created the Macaulay computer algebra system with the help of the Gröbner basis. Since then, rapid development on the Gröbner basis has been achieved by many researchers, including Bernd Sturmfels. This book serves as a standard bible of the Gröbner basis, for which the harmony of theory, application, and computation are indispensable. It provides all the fundamentals for graduate students to learn the ABC's of the Gröbner basis, requiring no special knowledge to understand those basic points. Starting from the introductory performance of the Gröbner basis (Chapter 1), a trip around mathematical software follows (Chapter 2). Then comes a deep discussion of how to compute the Gröbner basis (Chapter 3). These three chapters may be regarded as the first act of a mathematical play. The second act opens with topics on algebraic statistics (Chapter 4), a fascinating research area where the Gröbner basis of a toric ideal is a fundamental tool of the Markov chain Monte Carlo method. Moreover, the Gröbner basis of a toric ideal has had a great influence on the study of convex polytopes (Chapter 5). In addition, the Gröbner basis of the ring of differential operators gives effective algorithms on holonomic functions (Chapter 6). The third act (Chapter 7) is a collection of concrete examples and problems for Chapters 4, 5 and 6 emphasizing computation by using various software systems.

This is a one-of-a-kind reference for anyone with a serious interest in mathematics. Edited by Timothy Gowers, a recipient of the Fields Medal, it presents nearly two hundred entries, written especially for this book by some of the world's leading mathematicians, that introduce basic mathematical tools and vocabulary; trace the development of modern mathematics; explain essential terms and concepts; examine core ideas in major areas of mathematics; describe the achievements of scores of famous mathematicians; explore the impact of mathematics on other disciplines such as biology, finance, and music--and much, much more. Unparalleled in its depth of coverage, The Princeton Companion to Mathematics surveys the most active and exciting branches of pure mathematics. Accessible in style, this is an indispensable resource for undergraduate and graduate students in mathematics as well as for researchers and scholars seeking to understand areas outside their specialties. Features nearly 200 entries, organized thematically and written by an international team of distinguished contributors Presents major ideas and branches of pure mathematics in a clear, accessible style Defines and explains important mathematical concepts, methods, theorems, and open problems Introduces the language of mathematics and the goals of mathematical research Covers number theory, algebra, analysis, geometry, logic, probability, and more Traces the history and development of modern mathematics Profiles more than ninety-five mathematicians who influenced those working today Explores the influence of mathematics on other disciplines Includes bibliographies, cross-references, and a comprehensive index Contributors incude: Graham Allan, Noga Alon, George Andrews, Tom Archibald, Sir Michael Atiyah, David Aubin, Joan Bagaria, Keith Ball, June Barrow-Green, Alan Beardon, David D. Ben-Zvi, Vitaly Bergelson, Nicholas Bingham, Béla Bollobás, Henk Bos, Bodil Branner, Martin R. Bridson, John P. Burgess, Kevin Buzzard, Peter J. Cameron, Jean-Luc Chabert, Eugenia Cheng, Clifford C. Cocks, Alain Connes, Leo Corry, Wolfgang Coy, Tony Crilly, Serafina Cuomo, Mihalis Dafermos, Partha Dasgupta, Ingrid Daubechies, Joseph W. Dauben, John W. Dawson Jr., Francois de Gandt, Persi Diaconis, Jordan S. Ellenberg, Lawrence C. Evans, Florence Fasanelli, Anita Burdman Feferman, Solomon Feferman, Charles Fefferman, Della Fenster, José Ferreirós, David Fisher, Terry Gannon, A. Gardiner, Charles C. Gillispie, Oded Goldreich, Catherine Goldstein, Fernando Q. Gouvêa, Timothy Gowers, Andrew Granville, Ivor Grattan-Guinness, Jeremy Gray, Ben Green, Ian Grojnowski, Niccolò Guicciardini, Michael Harris, Ulf Hashagen, Nigel Higson, Andrew Hodges, F. E. A. Johnson, Mark Joshi, Kiran S. Kedlaya, Frank Kelly, Sergiu Klainerman, Jon Kleinberg, Israel Kleiner, Jacek Klinowski, Eberhard Knobloch, János Kollár, T. W. Körner, Michael Krivelevich, Peter D. Lax, Imre Leader, Jean-François Le Gall, W. B. R. Lickorish, Martin W. Liebeck, Jesper Lützen, Des MacHale, Alan L. Mackay, Shahn Majid, Lech Maligranda, David Marker, Jean Mawhin, Barry Mazur, Dusa McDuff, Colin McLarty, Bojan Mohar, Peter M. Neumann, Catherine Nolan, James Norris, Brian Osserman, Richard S. Palais, Marco Panza, Karen Hunger Parshall, Gabriel P. Paternain, Jeanne Peiffer, Carl Pomerance, Helmut Pulte, Bruce Reed, Michael C. Reed, Adrian Rice, Eleanor Robson, Igor Rodnianski, John Roe, Mark Ronan, Edward Sandifer, Tilman Sauer, Norbert Schappacher, Andrzej Schinzel, Erhard Scholz, Reinhard Siegmund-Schultze, Gordon Slade, David J. Spiegelhalter, Jacqueline Stedall, Arild Stubhaug, Madhu Sudan, Terence Tao, Jamie Tappenden, C. H. Taubes, Rüdiger Thiele, Burt Totaro, Lloyd N. Trefethen, Dirk van Dalen, Richard Weber, Dominic Welsh, Avi Wigderson, Herbert Wilf, David Wilkins, B. Yandell, Eric Zaslow, Doron Zeilberger

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The adventures of a motley crew in search of an elusive prey.