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SAS Essentials - Alan C. Elliott 2015-08-10

A step-by-step introduction to using SAS® statistical software as a foundational approach to data analysis and interpretation Presenting a straightforward introduction from the ground up, SAS® Essentials: Mastering SAS for Data Analytics, Second Edition illustrates SAS using hands-on learning techniques and numerous real-world examples. Keeping different experience levels in mind, the highly-qualified author team has developed the book over 20 years of teaching introductory SAS courses. Divided into two sections, the first part of the book provides an introduction to data manipulation, statistical techniques, and the SAS programming language. The second section is designed to introduce users to statistical analysis using SAS Procedures. Featuring self-contained chapters to enhance the learning process, the Second Edition also includes: Programming approaches for the most up-to-date version of the SAS platform including information on how to use the SAS University Edition Discussions to illustrate the concepts and highlight key fundamental computational skills that are utilized by business, government, and organizations alike New chapters on reporting results in tables and factor analysis Additional information on the DATA step for data management with an emphasis on importing data from other sources, combining data sets, and data cleaning Updated ANOVA and regression examples as well as other data analysis techniques A companion website with the discussed data sets, additional code, and related PowerPoint® slides SAS Essentials: Mastering SAS for Data Analytics, Second Edition is an ideal textbook for upper-undergraduate and graduate-level courses in statistics, data analytics, applied SAS programming, and statistical computer applications as well as an excellent supplement for statistical methodology courses. The book is an appropriate reference for researchers and academicians who require a basic introduction to SAS for statistical analysis and for preparation for the Basic SAS Certification Exam.

The Book of R - Tilman M. Davies 2016-07-16

The Book of R is a comprehensive, beginner-friendly guide to R, the world's most popular programming language for statistical analysis. Even if you have no programming experience and little more than a grounding in the basics of mathematics, you'll find everything you need to begin using R effectively for statistical analysis. You'll start with the basics, like how to handle data and write simple programs, before moving on to more advanced topics, like producing statistical summaries of your data and performing statistical tests and modeling. You'll even learn how to create impressive data visualizations with R's basic graphics tools and contributed packages, like ggplot2 and ggvis, as well as interactive 3D visualizations using the rgl package. Dozens of hands-on exercises (with downloadable solutions) take you from theory to practice, as you learn: -The fundamentals of programming in R, including how to write data frames, create functions, and use variables, statements, and loops -Statistical concepts like exploratory data analysis, probabilities, hypothesis tests, and regression modeling, and how to execute them in R -How to access R's thousands of functions, libraries, and data sets -How to draw valid and useful conclusions from your data -How to create publication-quality graphics of your results Combining detailed explanations with real-world examples and exercises, this book will provide you with a solid understanding of both statistics and the depth of R's functionality. Make The Book of R your doorway into the growing world of data analysis.

R for SAS and SPSS Users - Robert A. Muenchen 2011-08-27

R is a powerful and free software system for data analysis and graphics, with over 5,000 add-on packages

available. This book introduces R using SAS and SPSS terms with which you are already familiar. It demonstrates which of the add-on packages are most like SAS and SPSS and compares them to R's built-in functions. It steps through over 30 programs written in all three packages, comparing and contrasting the packages' differing approaches. The programs and practice datasets are available for download. The glossary defines over 50 R terms using SAS/SPSS jargon and again using R jargon. The table of contents and the index allow you to find equivalent R functions by looking up both SAS statements and SPSS commands. When finished, you will be able to import data, manage and transform it, create publication quality graphics, and perform basic statistical analyses. This new edition has updated programming, an expanded index, and even more statistical methods covered in over 25 new sections.

Learning SAS by Example - Ron Cody 2018-07-03

Learn to program SAS by example! Learning SAS by Example, A Programmer's Guide, Second Edition, teaches SAS programming from very basic concepts to more advanced topics. Because most programmers prefer examples rather than reference-type syntax, this book uses short examples to explain each topic. The second edition has brought this classic book on SAS programming up to the latest SAS version, with new chapters that cover topics such as PROC SGPLOT and Perl regular expressions. This book belongs on the shelf (or e-book reader) of anyone who programs in SAS, from those with little programming experience who want to learn SAS to intermediate and even advanced SAS programmers who want to learn new techniques or identify new ways to accomplish existing tasks. In an instructive and conversational tone, author Ron Cody clearly explains each programming technique and then illustrates it with one or more real-life examples, followed by a detailed description of how the program works. The text is divided into four major sections: Getting Started, DATA Step Processing, Presenting and Summarizing Your Data, and Advanced Topics. Subjects addressed include Reading data from external sources Learning details of DATA step programming Subsetting and combining SAS data sets Understanding SAS functions and working with arrays Creating reports with PROC REPORT and PROC TABULATE Getting started with the SAS macro language Leveraging PROC SQL Generating high-quality graphics Using advanced features of user-defined formats and informats Restructuring SAS data sets Working with multiple observations per subject Getting started with Perl regular expressions You can test your knowledge and hone your skills by solving the problems at the end of each chapter.

Applied Statistics and the SAS Programming Language - Ronald P. Cody 2006

As the SAS® programming language continues to evolve, this guide follows suit with timely coverage of the combination statistical package, database management system, and high-level programming language. Using current examples from business, medicine, education, and psychology, Applied Statistics and the SAS Programming Language is an invaluable resource for applied researchers, giving them the capacity to perform statistical analyses with SAS without wading through pages of technical documentation. Includes the necessary SAS statements to run programs for most of the commonly used statistics, explanations of the computer output, interpretations of results, and examples of how to construct tables and write up results for reports and journal articles. Illustrated with SAS Graph™ output. Provides readers with ample models for developing programming skills. For anyone interested in learning more about applied statistics and the SAS programming language.

R For Dummies - Andrie de Vries 2012-06-06

Master the programming language of choice among statisticians and data analysts worldwide Coming to grips with R can be tough, even for seasoned statisticians and data analysts. Enter R For Dummies, the quick, easy way to master all the R you'll ever need. Requiring no prior programming experience and packed with practical examples, easy, step-by-step exercises, and sample code, this extremely accessible guide is the ideal introduction to R for complete beginners. It also covers many concepts that intermediate-level programmers will find extremely useful. Master your R ABCs ? get up to speed in no time with the basics, from installing and configuring R to writing simple scripts and performing simultaneous calculations on many variables Put data in its place ? get to know your way around lists, data frames, and other R data structures while learning to interact with other programs, such as Microsoft Excel Make data dance to your tune ? learn how to reshape and manipulate data, merge data sets, split and combine data, perform calculations on vectors and arrays, and much more Visualize it ? learn to use R's powerful data visualization features to create beautiful and informative graphical presentations of your data Get statistical ? find out how to do simple statistical analysis, summarize your variables, and conduct classic statistical tests, such as t-tests Expand and customize R ? get the lowdown on how to find, install, and make the most of add-on packages created by the global R community for a wide variety of purposes Open the book and find: Help downloading, installing, and configuring R Tips for getting data in and out of R Ways to use data frames and lists to organize data How to manipulate and process data Advice on fitting regression models and ANOVA Helpful hints for working with graphics How to code in R What R mailing lists and forums can do for you

[SAS Programming and Data Analysis](#) - Leonard C. Onyiah 2005

"SAS Programming and Data Analysis is an instructional manual on programming with SAS and the general syntax of the SAS software. The Statistical Analysis System was developed by, and is proprietary to the SAS Institute, Cary, North Carolina. SAS is an integrated software that enables the user to enter, retrieve, manage, and analyze data in different ways. It has become one of the foremost software programs for business, government, and industry. Additionally, SAS is the software of choice for most institutions graduating majors and minor in Statistics."--Back cover.

Modern Statistics with R - Måns Thulin 2021-07-28

The past decades have transformed the world of statistical data analysis, with new methods, new types of data, and new computational tools. The aim of *Modern Statistics with R* is to introduce you to key parts of the modern statistical toolkit. It teaches you: - Data wrangling - importing, formatting, reshaping, merging, and filtering data in R. - Exploratory data analysis - using visualisation and multivariate techniques to explore datasets. - Statistical inference - modern methods for testing hypotheses and computing confidence intervals. - Predictive modelling - regression models and machine learning methods for prediction, classification, and forecasting. - Simulation - using simulation techniques for sample size computations and evaluations of statistical methods. - Ethics in statistics - ethical issues and good statistical practice. - R programming - writing code that is fast, readable, and free from bugs. Starting from the very basics, *Modern Statistics with R* helps you learn R by working with R. Topics covered range from plotting data and writing simple R code to using cross-validation for evaluating complex predictive models and using simulation for sample size determination. The book includes more than 200 exercises with fully worked solutions. Some familiarity with basic statistical concepts, such as linear regression, is assumed. No previous programming experience is needed.

[Exploring SAS Viya](#) - Sas Education 2019-06-14

This first book in the series covers how to access data files, libraries, and existing code in SAS Studio. You also learn about new procedures in SAS Viya, how to write new code, and how to use some of the pre-installed tasks that come with SAS Visual Data Mining and Machine Learning. In the last chapter, you learn how to use the features in SAS Data Preparation to perform data management tasks using SAS Data Explorer, SAS Data Studio, and SAS Lineage Viewer. Also available free as a PDF from sas.com/books.

SAS Statistics by Example - Ron Cody 2011-08-22

In *SAS Statistics by Example*, Ron Cody offers up a cookbook approach for doing statistics with SAS. Structured specifically around the most commonly used statistical tasks or techniques--for example,

comparing two means, ANOVA, and regression--this book provides an easy-to-follow, how-to approach to statistical analysis not found in other books. For each statistical task, Cody includes heavily annotated examples using ODS Statistical Graphics procedures such as SGPLOT, SGSCATTER, and SGPANEL that show how SAS can produce the required statistics. Also, you will learn how to test the assumptions for all relevant statistical tests. Major topics featured include descriptive statistics, one- and two-sample tests, ANOVA, correlation, linear and multiple regression, analysis of categorical data, logistic regression, nonparametric techniques, and power and sample size. This is not a book that teaches statistics. Rather, *SAS Statistics by Example* is perfect for intermediate to advanced statistical programmers who know their statistics and want to use SAS to do their analyses. This book is part of the SAS Press program.

Quantitative Data Analysis for Language Assessment Volume I - Vahid Aryadoust 2019-03-27

Quantitative Data Analysis for Language Assessment Volume I: Fundamental Techniques is a resource book that presents the most fundamental techniques of quantitative data analysis in the field of language assessment. Each chapter provides an accessible explanation of the selected technique, a review of language assessment studies that have used the technique, and finally, an example of an authentic study that uses the technique. Readers also get a taste of how to apply each technique through the help of supplementary online resources that include sample data sets and guided instructions. Language assessment students, test designers, and researchers should find this a unique reference as it consolidates theory and application of quantitative data analysis in language assessment.

The Little SAS Book - Lora D. Delwiche 2002

[Complex Survey Data Analysis with SAS](#) - Taylor H. Lewis 2016-09-15

Complex Survey Data Analysis with SAS® is an invaluable resource for applied researchers analyzing data generated from a sample design involving any combination of stratification, clustering, unequal weights, or finite population correction factors. After clearly explaining how the presence of these features can invalidate the assumptions underlying most traditional statistical techniques, this book equips readers with the knowledge to confidently account for them during the estimation and inference process by employing the SURVEY family of SAS/STAT® procedures. The book offers comprehensive coverage of the most essential topics, including: Drawing random samples Descriptive statistics for continuous and categorical variables Fitting and interpreting linear and logistic regression models Survival analysis Domain estimation Replication variance estimation methods Weight adjustment and imputation methods for handling missing data The easy-to-follow examples are drawn from real-world survey data sets spanning multiple disciplines, all of which can be downloaded for free along with syntax files from the author's website:

<http://mason.gmu.edu/~tlewis18/>. While other books may touch on some of the same issues and nuances of complex survey data analysis, none features SAS exclusively and as exhaustively. Another unique aspect of this book is its abundance of handy workarounds for certain techniques not yet supported as of SAS Version 9.4, such as the ratio estimator for a total and the bootstrap for variance estimation. Taylor H. Lewis is a PhD graduate of the Joint Program in Survey Methodology at the University of Maryland, College Park, and an adjunct professor in the George Mason University Department of Statistics. An avid SAS user for 15 years, he is a SAS Certified Advanced programmer and a nationally recognized SAS educator who has produced dozens of papers and workshops illustrating how to efficiently and effectively conduct statistical analyses using SAS.

The R Inferno - Patrick Burns 2011

An essential guide to the trouble spots and oddities of R. In spite of the quirks exposed here, R is the best computing environment for most data analysis tasks. R is free, open-source, and has thousands of contributed packages. It is used in such diverse fields as ecology, finance, genomics and music. If you are using spreadsheets to understand data, switch to R. You will have safer -- and ultimately, more convenient -- computations.

Step-by-step Programming with Base SAS Software - SAS Institute 2001

Step-by-Step Programming with Base SAS Software provides conceptual information about Base SAS software along with step-by-step examples that illustrate the concepts.

A First Course in Statistical Programming with R - W. John Braun 2007-12-13

This is the only introduction you'll need to start programming in R, the open-source language that is free to download, and lets you adapt the source code for your own requirements. Co-written by one of the R Core Development Team, and by an established R author, this book comes with real R code that complies with the standards of the language. Unlike other introductory books on the ground-breaking R system, this book emphasizes programming, including the principles that apply to most computing languages, and techniques used to develop more complex projects. Learning the language is made easier by the frequent exercises and end-of-chapter reviews that help you progress confidently through the book. Solutions, datasets and any errata will be available from the book's web site. The many examples, all from real applications, make it particularly useful for anyone working in practical data analysis.

[Learning Statistics with R](#) - Daniel Navarro 2013-01-13

"Learning Statistics with R" covers the contents of an introductory statistics class, as typically taught to undergraduate psychology students, focusing on the use of the R statistical software and adopting a light, conversational style throughout. The book discusses how to get started in R, and gives an introduction to data manipulation and writing scripts. From a statistical perspective, the book discusses descriptive statistics and graphing first, followed by chapters on probability theory, sampling and estimation, and null hypothesis testing. After introducing the theory, the book covers the analysis of contingency tables, t-tests, ANOVAs and regression. Bayesian statistics are covered at the end of the book. For more information (and the opportunity to check the book out before you buy!) visit <http://ua.edu.au/ccs/teaching/lsr> or <http://learningstatisticswithr.com>

Learn R for Applied Statistics - Eric Goh Ming Hui 2018-11-30

Gain the R programming language fundamentals for doing the applied statistics useful for data exploration and analysis in data science and data mining. This book covers topics ranging from R syntax basics, descriptive statistics, and data visualizations to inferential statistics and regressions. After learning R's syntax, you will work through data visualizations such as histograms and boxplot charting, descriptive statistics, and inferential statistics such as t-test, chi-square test, ANOVA, non-parametric test, and linear regressions. Learn R for Applied Statistics is a timely skills-migration book that equips you with the R programming fundamentals and introduces you to applied statistics for data explorations. What You Will Learn Discover R, statistics, data science, data mining, and big data Master the fundamentals of R programming, including variables and arithmetic, vectors, lists, data frames, conditional statements, loops, and functions Work with descriptive statistics Create data visualizations, including bar charts, line charts, scatter plots, boxplots, histograms, and scatterplots Use inferential statistics including t-tests, chi-square tests, ANOVA, non-parametric tests, linear regressions, and multiple linear regressions Who This Book Is For Those who are interested in data science, in particular data exploration using applied statistics, and the use of R programming for data visualizations.

[Python for Data Analysis](#) - Wes McKinney 2017-09-25

Get complete instructions for manipulating, processing, cleaning, and crunching datasets in Python. Updated for Python 3.6, the second edition of this hands-on guide is packed with practical case studies that show you how to solve a broad set of data analysis problems effectively. You'll learn the latest versions of pandas, NumPy, IPython, and Jupyter in the process. Written by Wes McKinney, the creator of the Python pandas project, this book is a practical, modern introduction to data science tools in Python. It's ideal for analysts new to Python and for Python programmers new to data science and scientific computing. Data files and related material are available on GitHub. Use the IPython shell and Jupyter notebook for exploratory computing Learn basic and advanced features in NumPy (Numerical Python) Get started with data analysis tools in the pandas library Use flexible tools to load, clean, transform, merge, and reshape data Create informative visualizations with matplotlib Apply the pandas groupby facility to slice, dice, and summarize datasets Analyze and manipulate regular and irregular time series data Learn how to solve real-world data analysis problems with thorough, detailed examples

[Common Statistical Methods for Clinical Research with SAS Examples, Third Edition](#) - Glenn Walker 2010-02-15

Glenn Walker and Jack Shostak's Common Statistical Methods for Clinical Research with SAS Examples, Third Edition, is a thoroughly updated edition of the popular introductory statistics book for clinical

researchers. This new edition has been extensively updated to include the use of ODS graphics in numerous examples as well as a new emphasis on PROC MIXED. Straightforward and easy to use as either a text or a reference, the book is full of practical examples from clinical research to illustrate both statistical and SAS methodology. Each example is worked out completely, step by step, from the raw data. Common Statistical Methods for Clinical Research with SAS Examples, Third Edition, is an applications book with minimal theory. Each section begins with an overview helpful to nonstatisticians and then drills down into details that will be valuable to statistical analysts and programmers. Further details, as well as bonus information and a guide to further reading, are presented in the extensive appendices. This text is a one-source guide for statisticians that documents the use of the tests used most often in clinical research, with assumptions, details, and some tricks--all in one place. This book is part of the SAS Press program.

[Statistics for Linguists: An Introduction Using R](#) - Bodo Winter 2019-10-30

Statistics for Linguists: An Introduction Using R is the first statistics textbook on linear models for linguistics. The book covers simple uses of linear models through generalized models to more advanced approaches, maintaining its focus on conceptual issues and avoiding excessive mathematical details. It contains many applied examples using the R statistical programming environment. Written in an accessible tone and style, this text is the ideal main resource for graduate and advanced undergraduate students of Linguistics statistics courses as well as those in other fields, including Psychology, Cognitive Science, and Data Science.

[Advanced SQL with SAS](#) - Christian Fg Schendera 2022-05-19

This book introduces advanced techniques for using PROC SQL in SAS. If you are a SAS programmer, analyst, or student who has mastered the basics of working with SQL, Advanced SQL with SAS(R) will help take your skills to the next level. Filled with practical examples with detailed explanations, this book demonstrates how to improve performance and speed for large data sets. Although the book addresses advanced topics, it is designed to progress from the simple and manageable to the complex and sophisticated. In addition to numerous tuning techniques, this book also touches on implicit and explicit pass-throughs, presents alternative SAS grid- and cloud-based processing environments, and compares SAS programming languages and approaches including FedSQL, CAS, DS2, and hash programming. Other topics include: Missing values and data quality with audit trails "Blind spots" like how missing values can affect even the simplest calculations and table joins SAS macro language and SAS macro programs SAS functions Integrity constraints SAS Dictionaries SAS Compute Server

[Statistical Programming with SAS/IML Software](#) - Rick Wicklin 2010-10-22

SAS/IML software is a powerful tool for data analysts because it enables implementation of statistical algorithms that are not available in any SAS procedure. Rick Wicklin's Statistical Programming with SAS/IML Software is the first book to provide a comprehensive description of the software and how to use it. He presents tips and techniques that enable you to use the IML procedure and the SAS/IML Studio application efficiently. In addition to providing a comprehensive introduction to the software, the book also shows how to create and modify statistical graphs, call SAS procedures and R functions from a SAS/IML program, and implement such modern statistical techniques as simulations and bootstrap methods in the SAS/IML language. Written for data analysts working in all industries, graduate students, and consultants, Statistical Programming with SAS/IML Software includes numerous code snippets and more than 100 graphs. This book is part of the SAS Press program.

[An Introduction to SAS University Edition](#) - Ron Cody 2018-02-02

SAS® OnDemand for Academics is now the primary software choice for learners. SAS OnDemand for Academics is available for free access to SAS for individual learners as well as university educators and students. Access to SAS University Edition will end Aug. 2, 2021; users will no longer be able to download it after Apr. 30, 2021. Get up and running with the SAS University Edition using Ron Cody's easy-to-follow, step-by-step guide. Aimed at beginners who have downloaded the free SAS University Edition and want to either use the point-and-click interactive environment of SAS Studio, or who want to write their own SAS programs, or both, An Introduction to SAS University Edition, begins by showing you how to obtain the SAS University Edition, and how you can run SAS on a PC or Macintosh computer. The first part of the book shows you how to perform basic tasks, such as producing a report, summarizing data, producing charts and

graphs, and using the SAS Studio built-in tasks. The first part also describes how you can perform basic statistical tests using the interactive point-and-click environment. The second part of the book shows you how to write your own SAS programs, and how to use SAS procedures to perform a variety of tasks. This part of the book also explains how to read data from a variety of sources: text files, Excel workbooks, and CSV files. In order to get familiar with the SAS Studio environment, this book also shows you how to access dozens of interesting data sets that are included with the product.

Applied Statistics for the Social and Health Sciences - Rachel A. Gordon 2012

This book is for use in a two-semester graduate course sequence covering basic univariate and bivariate statistics and regression models for nominal and ordinal outcomes, as well as ordinary least squares regression.

A Handbook of Statistical Graphics Using SAS ODS - Geoff Der 2014-08-15

Easily Use SAS to Produce Your Graphics Diagrams, plots, and other types of graphics are indispensable components in nearly all phases of statistical analysis, from the initial assessment of the data to the selection of appropriate statistical models to the diagnosis of the chosen models once they have been fitted to the data. Harnessing the full graphics capabilities of SAS, A Handbook of Statistical Graphics Using SAS ODS covers essential graphical methods needed in every statistician's toolkit. It explains how to implement the methods using SAS 9.4. The handbook shows how to use SAS to create many types of statistical graphics for exploring data and diagnosing fitted models. It uses SAS's newer ODS graphics throughout as this system offers a number of advantages, including ease of use, high quality of results, consistent appearance, and convenient semiautomatic graphs from the statistical procedures. Each chapter deals graphically with several sets of example data from a wide variety of areas, such as epidemiology, medicine, and psychology. These examples illustrate the use of graphic displays to give an overview of data, to suggest possible hypotheses for testing new data, and to interpret fitted statistical models. The SAS programs and data sets are available online.

Learning SAS by Example - Ronald P. Cody 2007

In an instructive and conversational tone, Cody clearly explains how to program SAS, illustrating with one or more real-life examples and giving a detailed description of how the program works.

SAS and R - Ken Kleinman 2014-07-17

An Up-to-Date, All-in-One Resource for Using SAS and R to Perform Frequent Tasks The first edition of this popular guide provided a path between SAS and R using an easy-to-understand, dictionary-like approach. Retaining the same accessible format, SAS and R: Data Management, Statistical Analysis, and Graphics, Second Edition explains how to easily perform an analytical task in both SAS and R, without having to navigate through the extensive, idiosyncratic, and sometimes unwieldy software documentation. The book covers many common tasks, such as data management, descriptive summaries, inferential procedures, regression analysis, and graphics, along with more complex applications. New to the Second Edition This edition now covers RStudio, a powerful and easy-to-use interface for R. It incorporates a number of additional topics, including using application program interfaces (APIs), accessing data through database management systems, using reproducible analysis tools, and statistical analysis with Markov chain Monte Carlo (MCMC) methods and finite mixture models. It also includes extended examples of simulations and many new examples. Enables Easy Mobility between the Two Systems Through the extensive indexing and cross-referencing, users can directly find and implement the material they need. SAS users can look up tasks in the SAS index and then find the associated R code while R users can benefit from the R index in a similar manner. Numerous example analyses demonstrate the code in action and facilitate further exploration. The datasets and code are available for download on the book's website.

Statistical Data Analysis Using SAS - Mervyn G. Marasinghe 2018-04-12

The aim of this textbook (previously titled SAS for Data Analytics) is to teach the use of SAS for statistical analysis of data for advanced undergraduate and graduate students in statistics, data science, and disciplines involving analyzing data. The book begins with an introduction beyond the basics of SAS, illustrated with non-trivial, real-world, worked examples. It proceeds to SAS programming and applications, SAS graphics, statistical analysis of regression models, analysis of variance models, analysis of variance with random and mixed effects models, and then takes the discussion beyond regression and analysis of

variance to conclude. Pedagogically, the authors introduce theory and methodological basis topic by topic, present a problem as an application, followed by a SAS analysis of the data provided and a discussion of results. The text focuses on applied statistical problems and methods. Key features include: end of chapter exercises, downloadable SAS code and data sets, and advanced material suitable for a second course in applied statistics with every method explained using SAS analysis to illustrate a real-world problem. New to this edition: • Covers SAS v9.2 and incorporates new commands • Uses SAS ODS (output delivery system) for reproduction of tables and graphics output • Presents new commands needed to produce ODS output • All chapters rewritten for clarity • New and updated examples throughout • All SAS outputs are new and updated, including graphics • More exercises and problems • Completely new chapter on analysis of nonlinear and generalized linear models • Completely new appendix Mervyn G. Marasinghe, PhD, is Associate Professor Emeritus of Statistics at Iowa State University, where he has taught courses in statistical methods and statistical computing. Kenneth J. Koehler, PhD, is University Professor of Statistics at Iowa State University, where he teaches courses in statistical methodology at both graduate and undergraduate levels and primarily uses SAS to supplement his teaching.

Foundational and Applied Statistics for Biologists Using R - Ken A. Aho 2016-03-09

Full of biological applications, exercises, and interactive graphical examples, Foundational and Applied Statistics for Biologists Using R presents comprehensive coverage of both modern analytical methods and statistical foundations. The author harnesses the inherent properties of the R environment to enable students to examine the code of complica

Business Statistics Made Easy in SAS - Gregory Lee 2015-10-30

This book is designed to teach businesspeople, students, and others core statistical concepts and applications. It begins with absolute core principles and takes you through an overview of statistics, data and data collection, an introduction to SAS, and basic statistics (descriptive statistics and basic associational statistics). It provides an overview of statistical modeling, effect size, statistical significance and power testing, basics of linear regression, introduction to comparison of means, basics of chi-square tests for categories, extrapolating statistics to business outcomes, and some topical issues in statistics, such as big data, simulation, machine learning, and data warehousing. It teaches the core ideas of statistics through methods such as careful, intuitive written explanations, easy-to-follow diagrams, step-by-step technique implementation, and interesting metaphors. --

Fundamentals of Programming in SAS - James Blum 2019-07-27

Unlock the essentials of SAS programming! Fundamentals of Programming in SAS: A Case Studies Approach gives a complete introduction to SAS programming. Perfect for students, novice SAS users, and programmers studying for their Base SAS certification, this book covers all the basics, including: working with data creating visualizations data validation good programming practices Experienced programmers know that real-world scenarios require practical solutions. Designed for use in the classroom and for self-guided learners, this book takes a novel approach to learning SAS programming by following a single case study throughout the text and circling back to previous concepts to reinforce material. Readers will benefit from the variety of exercises, including both multiple choice questions and in-depth case studies. Additional case studies are also provided online for extra practice. This approach mirrors the way good SAS programmers develop their skills—through hands-on work with an eye toward developing the knowledge necessary to tackle more difficult tasks. After reading this book, you will gain the skills and confidence to take on larger challenges with the power of SAS.

SAS Programming for R Users - Jordan Bakerman 2019-12-09

SAS Programming for R Users, based on the free SAS Education course of the same name, is designed for experienced R users who want to transfer their programming skills to SAS. Emphasis is on programming and not statistical theory or interpretation. You will learn how to write programs in SAS that replicate familiar functions and capabilities in R. This book covers a wide range of topics including the basics of the SAS programming language, how to import data, how to create new variables, random number generation, linear modeling, Interactive Matrix Language (IML), and many other SAS procedures. This book also explains how to write R code directly in the SAS code editor for seamless integration between the two tools. Exercises are provided at the end of each chapter so that you can test your knowledge and practice your

programming skills.

Statistical Programming in SAS - A. John Bailer 2020-01-28

Statistical Programming in SAS Second Edition provides a foundation for programming to implement statistical solutions using SAS, a system that has been used to solve data analytic problems for more than 40 years. The author includes motivating examples to inspire readers to generate programming solutions. Upper-level undergraduates, beginning graduate students, and professionals involved in generating programming solutions for data-analytic problems will benefit from this book. The ideal background for a reader is some background in regression modeling and introductory experience with computer programming. The coverage of statistical programming in the second edition includes □ Getting data into the SAS system, engineering new features, and formatting variables □ Writing readable and well-documented code □ Structuring, implementing, and debugging programs that are well documented □ Creating solutions to novel problems □ Combining data sources, extracting parts of data sets, and reshaping data sets as needed for other analyses □ Generating general solutions using macros □ Customizing output □ Producing insight-inspiring data visualizations □ Parsing, processing, and analyzing text □ Programming solutions using matrices and connecting to R □ Processing text □ Programming with matrices □ Connecting SAS with R □ Covering topics that are part of both base and certification exams.

Applied Statistics Using SPSS, STATISTICA and MATLAB - Joaquim P. Marques de Sá 2013-03-09

Assuming no previous statistics education, this practical reference provides a comprehensive introduction and tutorial on the main statistical analysis topics, demonstrating their solution with the most common software package. Intended for anyone needing to apply statistical analysis to a large variety of science and engineering problems, the book explains and shows how to use SPSS, MATLAB, STATISTICA and R for analysis such as data description, statistical inference, classification and regression, factor analysis, survival data and directional statistics. It concisely explains key concepts and methods, illustrated by practical examples using real data, and includes a CD-ROM with software tools and data sets used in the examples and exercises. Readers learn which software tools to apply and also gain insights into the comparative capabilities of the primary software packages.

SAS for Data Analysis - Mervyn G. Marasinghe 2008-12-10

This book is intended for use as the textbook in a second course in applied statistics that covers topics in multiple regression and analysis of variance at an intermediate level. Generally, students enrolled in such courses are primarily graduate majors or advanced undergraduate students from a variety of disciplines. These students typically have taken an introductory-level statistical methods course that requires the use of a software system such as SAS for performing statistical analysis. Thus students are expected to have an understanding of basic concepts of statistical inference such as estimation and hypothesis testing. Understandably, adequate time is not available in a first course in statistical methods to cover the use of a software system adequately in the amount of time available for instruction. The aim of this book is to teach how to use the SAS system for data analysis. The SAS language is introduced at a level of sophistication not found in most introductory SAS books. Important features such as SAS data step programming, pointers, and line-hold speakers are described in detail. The powerful graphics support available in SAS is emphasized throughout, and many worked SAS program examples contain graphic components.

Practical Statistics for Data Scientists - Peter Bruce 2017-05-10

Statistical methods are a key part of data science, yet very few data scientists have any formal statistics training. Courses and books on basic statistics rarely cover the topic from a data science perspective. This practical guide explains how to apply various statistical methods to data science, tells you how to avoid their misuse, and gives you advice on what's important and what's not. Many data science resources incorporate statistical methods but lack a deeper statistical perspective. If you're familiar with the R programming language, and have some exposure to statistics, this quick reference bridges the gap in an

accessible, readable format. With this book, you'll learn: Why exploratory data analysis is a key preliminary step in data science How random sampling can reduce bias and yield a higher quality dataset, even with big data How the principles of experimental design yield definitive answers to questions How to use regression to estimate outcomes and detect anomalies Key classification techniques for predicting which categories a record belongs to Statistical machine learning methods that "learn" from data Unsupervised learning methods for extracting meaning from unlabeled data

The Little SAS Book - Lora D. Delwiche 2019-10-11

A classic that just keeps getting better, The Little SAS Book is essential for anyone learning SAS programming. Lora Delwiche and Susan Slaughter offer a user-friendly approach so that readers can quickly and easily learn the most commonly used features of the SAS language. Each topic is presented in a self-contained, two-page layout complete with examples and graphics. Nearly every section has been revised to ensure that the sixth edition is fully up-to-date. This edition is also interface-independent, written for all SAS programmers whether they use SAS Studio, SAS Enterprise Guide, or the SAS windowing environment. New sections have been added covering PROC SQL, iterative DO loops, DO WHILE and DO UNTIL statements, %DO statements, using variable names with special characters, the ODS EXCEL destination, and the XLSX LIBNAME engine. This title belongs on every SAS programmer's bookshelf. It's a resource not just to get you started, but one you will return to as you continue to improve your programming skills. Learn more about the updates to The Little SAS Book, Sixth Edition here. Reviews for The Little SAS Book, Sixth Edition can be read here.

The Art of R Programming - Norman Matloff 2011-10-11

R is the world's most popular language for developing statistical software: Archaeologists use it to track the spread of ancient civilizations, drug companies use it to discover which medications are safe and effective, and actuaries use it to assess financial risks and keep economies running smoothly. The Art of R Programming takes you on a guided tour of software development with R, from basic types and data structures to advanced topics like closures, recursion, and anonymous functions. No statistical knowledge is required, and your programming skills can range from hobbyist to pro. Along the way, you'll learn about functional and object-oriented programming, running mathematical simulations, and rearranging complex data into simpler, more useful formats. You'll also learn to: -Create artful graphs to visualize complex data sets and functions -Write more efficient code using parallel R and vectorization -Interface R with C/C++ and Python for increased speed or functionality -Find new R packages for text analysis, image manipulation, and more -Squash annoying bugs with advanced debugging techniques Whether you're designing aircraft, forecasting the weather, or you just need to tame your data, The Art of R Programming is your guide to harnessing the power of statistical computing.

Statistics Done Wrong - Alex Reinhart 2015-03-01

Scientific progress depends on good research, and good research needs good statistics. But statistical analysis is tricky to get right, even for the best and brightest of us. You'd be surprised how many scientists are doing it wrong. Statistics Done Wrong is a pithy, essential guide to statistical blunders in modern science that will show you how to keep your research blunder-free. You'll examine embarrassing errors and omissions in recent research, learn about the misconceptions and scientific politics that allow these mistakes to happen, and begin your quest to reform the way you and your peers do statistics. You'll find advice on: -Asking the right question, designing the right experiment, choosing the right statistical analysis, and sticking to the plan -How to think about p values, significance, insignificance, confidence intervals, and regression -Choosing the right sample size and avoiding false positives -Reporting your analysis and publishing your data and source code -Procedures to follow, precautions to take, and analytical software that can help Scientists: Read this concise, powerful guide to help you produce statistically sound research. Statisticians: Give this book to everyone you know. The first step toward statistics done right is Statistics Done Wrong.