

Advanced Tutorials Sas

Leverage the capabilities of SAS to process and analyze Big Data About This Book Combine SAS with platforms such as Hadoop, SAP HANA, and Cloud Foundry-based platforms for effecient Big Data analytics Learn how to use the web browser-based SAS Studio and iPython Jupyter Notebook interfaces with SAS Practical, real-world examples on predictive modeling, forecasting, optimizing and reporting your Big Data analysis with SAS Who This Book Is For SAS professionals and data analysts who wish to perform analytics on Big Data using SAS to gain actionable insights will find this book to be very useful. If you are a data science professional looking to perform large-scale analytics with SAS, this book will also help you. A basic understanding of SAS will be helpful, but is not mandatory. What You Will Learn Configure a free version of SAS in order do hands-on exercises dealing with data management, analysis, and reporting. Understand the basic concepts of the SAS language which consists of the data step (for data preparation) and procedures (or PROCs) for analysis. Make use of the web browser based SAS Studio and iPython Jupyter Notebook interfaces for coding in the SAS, DS2, and FedSQL programming languages. Understand how the DS2 programming language plays an important role in Big Data preparation and analysis using SAS Integrate and work efficiently with Big Data platforms like Hadoop, SAP HANA, and cloud foundry based systems. In Detail SAS has been recognized by Money Magazine and Payscale as one of the top

business skills to learn in order to advance one's career. Through innovative data management, analytics, and business intelligence software and services, SAS helps customers solve their business problems by allowing them to make better decisions faster. This book introduces the reader to the SAS and how they can use SAS to perform efficient analysis on any size data, including Big Data. The reader will learn how to prepare data for analysis, perform predictive, forecasting, and optimization analysis and then deploy or report on the results of these analyses. While performing the coding examples within this book the reader will learn how to use the web browser based SAS Studio and iPython Jupyter Notebook interfaces for working with SAS. Finally, the reader will learn how SAS's architecture is engineered and designed to scale up and/or out and be combined with the open source offerings such as Hadoop, Python, and R. By the end of this book, you will be able to clearly understand how you can efficiently analyze Big Data using SAS. Style and approach The book starts off by introducing the reader to SAS and the SAS programming language which provides data management, analytical, and reporting capabilities. Most chapters include hands on examples which highlights how SAS provides The Power to Know®. The reader will learn that if they are looking to perform large-scale data analysis that SAS provides an open platform engineered and designed to scale both up and out which allows the power of SAS to combine with open source offerings such as Hadoop, Python, and R. When it comes to business intelligence and analytical

capabilities, SAS Visual Analytics is the premier solution for data discovery, visualization, and reporting. An Introduction to SAS Visual Analytics will show you how to make sense of your complex data with the goal of leading you to smarter, data-driven decisions without having to write a single line of code – unless you want to! You will be able to use SAS Visual Analytics to access, prepare, and present your data to anyone anywhere in the world. SAS Visual Analytics automatically highlights key relationships, outliers, clusters, trends and more. These abilities will guide you to critical insights that inspire action from your data. With this book, you will become proficient using SAS Visual Analytics to present data and results in customizable, robust visualizations, as well as guided analyses through auto-charting. With interactive dashboards, charts, and reports, you will create visualizations which convey clear and actionable insights for any size and type of data. This book largely focuses on the version of SAS Visual Analytics on SAS 9.4, although it is available on both 9.4 and SAS Viya platforms. Each version is considered the latest release, with subsequent releases planned to continue on each platform; hence, the Viya version works similarly to the 9.4 version and will look familiar. This book covers new features of each and important differences between the two. With this book, you will learn how to: Build your first report using the SAS Visual Analytics Designer Prepare a dashboard and determine the best layout Effectively use geo-spatial objects to add location analytics to reports Understand and use the elements of data visualizations Prepare and load your data with the SAS

Visual Analytics Data Builder Analyze data with a variety of options, including forecasting, word clouds, heat maps, correlation matrix, and more Understand administration activities to keep SAS Visual Analytics humming along Optimize your environment for considerations such as scalability, availability, and efficiency between components of your SAS software deployment and data providers

The guide to targeting and leveraging business opportunities using big data & analytics By leveraging big data & analytics, businesses create the potential to better understand, manage, and strategically exploiting the complex dynamics of customer behavior. Analytics in a Big Data World reveals how to tap into the powerful tool of data analytics to create a strategic advantage and identify new business opportunities. Designed to be an accessible resource, this essential book does not include exhaustive coverage of all analytical techniques, instead focusing on analytics techniques that really provide added value in business environments. The book draws on author Bart Baesens' expertise on the topics of big data, analytics and its applications in e.g. credit risk, marketing, and fraud to provide a clear roadmap for organizations that want to use data analytics to their advantage, but need a good starting point. Baesens has conducted extensive research on big data, analytics, customer relationship management, web analytics, fraud detection, and credit risk management, and uses this experience to bring clarity to a complex topic. Includes numerous case studies on risk management, fraud detection, customer relationship management, and web

analytics Offers the results of research and the author's personal experience in banking, retail, and government Contains an overview of the visionary ideas and current developments on the strategic use of analytics for business Covers the topic of data analytics in easy-to-understand terms without an undo emphasis on mathematics and the minutiae of statistical analysis For organizations looking to enhance their capabilities via data analytics, this resource is the go-to reference for leveraging data to enhance business capabilities.

Do you want to create data analysis reports without writing a line of code? This book introduces SAS Studio, a free data science web browser-based product for educational and non-commercial purposes. The power of SAS Studio comes from its visual point-and-click user interface that generates SAS code. It is easier to learn SAS Studio than to learn R and Python to accomplish data cleaning, statistics, and visualization tasks. The book includes a case study about analyzing the data required for predicting the results of presidential elections in the state of Maine for 2016 and 2020. In addition to the presidential elections, the book provides real-life examples including analyzing stocks, oil and gold prices, crime, marketing, and healthcare. You will see data science in action and how easy it is to perform complicated tasks and visualizations in SAS Studio. You will learn, step-by-step, how to do visualizations, including maps. In most cases, you will not need a line of code as you work with the SAS Studio graphical user interface. The book includes explanations of the code that SAS Studio generates automatically. You will learn

how to edit this code to perform more complicated advanced tasks. The book introduces you to multiple SAS products such as SAS Viya, SAS Analytics, and SAS Visual Statistics. What You Will Learn Become familiar with SAS Studio IDE Understand essential visualizations Know the fundamental statistical analysis required in most data science and analytics reports Clean the most common data set problems Use linear progression for data prediction Write programs in SAS Get introduced to SAS-Viya, which is more potent than SAS studio Who This Book Is For A general audience of people who are new to data science, students, and data analysts and scientists who are experienced but new to SAS. No programming or in-depth statistics knowledge is needed.

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.

With an exciting new look, math diagnostic tool, and a research roadmap to navigate projects, this new edition of Andy Field's award-winning text offers a unique combination of humor and step-by-step instruction to make learning statistics compelling and accessible to even the most anxious of students. The Fifth Edition takes students from initial theory to regression, factor analysis, and multilevel modeling, fully incorporating IBM SPSS Statistics® version 25 and fascinating examples throughout. SAGE edge offers a robust online environment featuring an impressive array of free tools and resources for review, study, and further exploration, keeping both instructors and students on the cutting edge of teaching and learning. Course cartridges available for Blackboard and Moodle. Learn more at edge.sagepub.com/field5e Stay Connected Connect with us on Facebook and share your experiences with Andy's texts, check out news, access free stuff, see photos, watch videos, learn about competitions, and much more. Video Links Go behind the scenes and learn more about the man behind the book at Andy's YouTube channel Andy Field is the award winning author of *An Adventure in Statistics: The Reality Enigma* and is the recipient of the UK National Teaching Fellowship (2010), British Psychological Society book award (2006), and has been recognized with local and national teaching awards (University of Sussex, 2015, 2016).

Hot on the heels of Andy Field's best-selling *Discovering*

Statistics Using SPSS, Third Edition (2009), the author has teamed up with a co-author, Jeremy Miles, to adapt this textbook for SAS® using the most up-to-date commands and programming language available in latest release 9.2. As with its sister textbook, Discovering Statistics Using SAS® takes the entry level student from first principles right the way through to advanced level statistical concepts all the while grounding knowledge through the use of SAS®. Its approach is to teach statistical concepts as well as the computational principles, commands and language of the SAS® software package in one textbook, and given this comprehensive coverage this textbook should be enthusiastically adopted on a wide variety of statistics courses.

PROC SQL: Beyond the Basics Using SAS®, Third Edition, is a step-by-step, example-driven guide that helps readers master the language of PROC SQL. Packed with analysis and examples illustrating an assortment of PROC SQL options, statements, and clauses, this book not only covers all the basics, but it also offers extensive guidance on complex topics such as set operators and correlated subqueries.

Programmers at all levels will appreciate Kirk Lafler's easy-to-follow examples, clear explanations, and handy tips to extend their knowledge of PROC SQL. This third edition explores new and powerful features in SAS® 9.4, including topics such as: IFC and IFN functions nearest neighbor processing the HAVING clause indexes It also features two completely new chapters on fuzzy matching and data-driven programming. Delving into the workings

of PROC SQL with greater analysis and discussion, PROC SQL: Beyond the Basics Using SAS®, Third Edition, explores this powerful database language using discussion and numerous real-world examples.

This tutorial for data analysts new to SAS Enterprise Guide and SAS Enterprise Miner provides valuable experience using powerful statistical software to complete the kinds of business analytics common to most industries. This beginner's guide with clear, illustrated, step-by-step instructions will lead you through examples based on business case studies. You will formulate the business objective, manage the data, and perform analyses that you can use to optimize marketing, risk, and customer relationship management, as well as business processes and human resources. Topics include descriptive analysis, predictive modeling and analytics, customer segmentation, market analysis, share-of-wallet analysis, penetration analysis, and business intelligence. --

This comprehensive text covers the use of SAS for epidemiology and public health research. Developed with students in mind and from their feedback, the text addresses this material in a straightforward manner with a multitude of examples. It is directly applicable to students and researchers in the fields of public health, biostatistics and epidemiology. Through a “hands on” approach to the use of SAS for a broad number of epidemiologic analyses,

readers learn techniques for data entry and cleaning, categorical analysis, ANOVA, and linear regression and much more. Exercises utilizing real-world data sets are featured throughout the book. SAS screen shots demonstrate the steps for successful programming. SAS (Statistical Analysis System) is an integrated system of software products provided by the SAS institute, which is headquartered in California. It provides programmers and statisticians the ability to engage in many sophisticated statistical analyses and data retrieval and mining exercises. SAS is widely used in the fields of epidemiology and public health research, predominately due to its ability to reliably analyze very large administrative data sets, as well as more commonly encountered clinical trial and observational research data. A supplement such as Using SAS for Econometrics is quite essential for use in a classroom environment, for those attempting to learn SAS, and for quick and useful reference. The SAS documentation comes in many volumes, and several are thousands of pages long. This makes for a very difficult challenge when getting started with SAS. This volume spans several levels of econometrics. It is suitable for undergraduate students who will use “canned” SAS statistical procedures, and for graduate students who will use advanced procedures as well as direct programming in SAS’s matrix language, discussed in chapter appendices.

Material within the chapters is accessible to undergraduate and/or Masters students, with appendices to chapters devoted to more advanced materials and matrix programming.

Sharpening Your Advanced SAS® Skills presents sophisticated SAS programming techniques, procedures, and tools, such as Proc SQL, hash tables, and SAS Macro programming, for any industry. Drawing on his more than 20 years' experience of SAS programming in the pharmaceutical industry, the author provides a unique approach that empowers both advanced programmers who need a quick refresher and programmers interested in learning new techniques. The book helps you easily search for key points by summarizing and differentiating the syntax between similar SAS statements and options. Each chapter begins with an overview so you can quickly locate the detailed examples and syntax. The basic syntax, expected data, and descriptions are organized in summary tables to facilitate better memory recall. General rules list common points about similar statements or options. Real-world examples of SAS programs and code statements are line numbered with references, such as SAS papers and websites, for more detailed explanations. The text also includes end-of-chapter questions to reinforce your knowledge of the topics and prepare you for the advanced SAS certification exam. In addition, the

author's website offers mindmaps and process flowcharts that connect concepts and relationships. New and updated for SAS Enterprise Guide 4.2, this pragmatic, example-driven book demonstrates how programmers can use SAS code to enhance the capabilities of SAS Enterprise Guide.

Cut through the complexity of model risk management with a guide to solutions from SAS! There is an increasing demand for more model governance and model risk awareness. At the same time, high-performing models are expected to be deployed faster than ever. SAS Model Risk Management is a user-friendly, web-based application that facilitates the capture and life cycle management of statistical model-related information. It enables all stakeholders in the model life cycle — developers, validators, internal audit, and management — to get overview reports as well as detailed information in one central place. Model Risk Management with SAS introduces you to the features and capabilities of this software, including the entry, collection, transfer, storage, tracking, and reporting of models that are drawn from multiple lines of business across an organization. This book teaches key concepts, terminology, and base functionality that are integral to SAS Model Risk Management through hands-on examples and demonstrations. With this guide to SAS Model Risk Management, your organization can be confident it is

making fact-based decisions and mitigating model risk.

The SAS® Certified Specialist Prep Guide: Base Programming Using SAS® 9.4 prepares you to take the new SAS 9.4 Base Programming -- Performance-Based Exam. This is the official guide by the SAS Global Certification Program. This prep guide is for both new and experienced SAS users, and it covers all the objectives that are tested on the exam. New in this edition is a workbook whose sample scenarios require you to write code to solve problems and answer questions. Answers for the chapter quizzes and solutions for the sample scenarios in the workbook are included. You will also find links to exam objectives, practice exams, and other resources such as the Base SAS® glossary and a list of practice data sets. Major topics include importing data, creating and modifying SAS data sets, and identifying and correcting both data syntax and programming logic errors. All exam topics are covered in these chapters: Setting Up Practice Data Basic Concepts Accessing Your Data Creating SAS Data Sets Identifying and Correcting SAS Language Errors Creating Reports Understanding DATA Step Processing BY-Group Processing Creating and Managing Variables Combining SAS Data Sets Processing Data with DO Loops SAS Formats and Informats SAS Date, Time, and Datetime Values Using Functions to Manipulate Data Producing

Descriptive Statistics Creating Output Practice Programming Scenarios (Workbook)

Web Report Studio (WRS) is a powerful web based application that is an integral part of the SAS Business Intelligence (BI) Platform. The fourth in the series Tutorials in SAS Business Intelligence, this tutorial shows the reader how to create reporting applications with WRS. Using step by step instructions, it builds linked reports that are connected to each other in sophisticated ways. As sensitive data often has access restrictions, the tutorial also shows the reader how schedule reports and distribute them differentially. Because an information map is the preferred data source for WRS Reports, the tutorial also leads the user in building the information map. The sample data for the information map can be downloaded from the author's website at www.ace-cube.com. For an optimal learning experience, download the data, create the information map, and build the reports as you read along.

Prepare for the SAS Base Programming for SAS 9 exam with the official guide by the SAS Global Certification Program. New and experienced SAS users who want to prepare for the SAS Base Programming for SAS 9 exam will find this guide to be an invaluable, convenient, and comprehensive resource that covers all of the objectives tested on the exam. Now in its fourth edition, the guide has been extensively updated, and revised to streamline

explanations. Major topics include importing and exporting raw data files, creating and modifying SAS data sets, and identifying and correcting data syntax and programming logic errors. The chapter quizzes have been thoroughly updated and full solutions are included at the back of the book. In addition, links are provided to the exam objectives, practice exams, and other helpful resources, such as the updated Base SAS glossary and an expanded collection of practice data sets.

We all negotiate on a daily basis. We negotiate with our spouses, children, parents, and friends. We negotiate when we rent an apartment, buy a car, purchase a house, and apply for a job. Your ability to negotiate might even be the most important factor in your career advancement. Negotiation is also the key to business success. No organization can survive without contracts that produce profits. At a strategic level, businesses are concerned with value creation and achieving competitive advantage. But the success of high-level business strategies depends on contracts made with suppliers, customers, and other stakeholders. Contracting capability—the ability to negotiate and perform successful contracts—is the most important function in any organization. This book is designed to help you achieve success in your personal negotiations and in your business transactions. The book is unique in two ways. First, the book not only covers negotiation concepts, but also provides practical actions you can take in future negotiations. This includes a Negotiation Planning Checklist and a completed example of the checklist for your use in future negotiations. The book also includes

(1) a tool you can use to assess your negotiation style; (2) examples of “decision trees,” which are useful in calculating your alternatives if your negotiation is unsuccessful; (3) a three-part strategy for increasing your power during negotiations; (4) a practical plan for analyzing your negotiations based on your reservation price, stretch goal, most-likely target, and zone of potential agreement; (5) clear guidelines on ethical standards that apply to negotiations; (6) factors to consider when deciding whether you should negotiate through an agent; (7) psychological tools you can use in negotiations—and traps to avoid when the other side uses them; (8) key elements of contract law that arise during negotiations; and (9) a checklist of factors to use when you evaluate your performance as a negotiator. Second, the book is unique in its holistic approach to the negotiation process. Other books often focus narrowly either on negotiation or on contract law. Furthermore, the books on negotiation tend to focus on what happens at the bargaining table without addressing the performance of an agreement. These books make the mistaken assumption that success is determined by evaluating the negotiation rather than evaluating performance of the agreement. Similarly, the books on contract law tend to focus on the legal requirements for a contract to be valid, thus giving short shrift to the negotiation process that precedes the contract and to the performance that follows. In the real world, the contracting process is not divided into independent phases. What happens during a negotiation has a profound impact on the contract and on the performance that follows. The contract’s legal

content should reflect the realities of what happened at the bargaining table and the performance that is to follow. This book, in contrast to others, covers the entire negotiation process in chronological order beginning with your decision to negotiate and continuing through the evaluation of your performance as a negotiator. A business executive in one of the negotiation seminars the author teaches as a University of Michigan professor summarized negotiation as follows: "Life is negotiation!" No one ever stated it better. As a mother with young children and as a company leader, the executive realized that negotiations are pervasive in our personal and business lives. With its emphasis on practical action, and with its chronological, holistic approach, this book provides a roadmap you can use when navigating through your life as a negotiator.

Summary Taming Text, winner of the 2013 Jolt Awards for Productivity, is a hands-on, example-driven guide to working with unstructured text in the context of real-world applications. This book explores how to automatically organize text using approaches such as full-text search, proper name recognition, clustering, tagging, information extraction, and summarization. The book guides you through examples illustrating each of these topics, as well as the foundations upon which they are built. About this Book There is so much text in our lives, we are practically drowning in it. Fortunately, there are innovative tools and techniques for managing unstructured information that can throw the smart developer a much-needed lifeline. You'll find them in this book. Taming Text is a practical, example-driven guide to working with text in

real applications. This book introduces you to useful techniques like full-text search, proper name recognition, clustering, tagging, information extraction, and summarization. You'll explore real use cases as you systematically absorb the foundations upon which they are built. Written in a clear and concise style, this book avoids jargon, explaining the subject in terms you can understand without a background in statistics or natural language processing. Examples are in Java, but the concepts can be applied in any language. Written for Java developers, the book requires no prior knowledge of GWT. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book. Winner of 2013 Jolt Awards: The Best Books—one of five notable books every serious programmer should read. What's Inside

- When to use text-taming techniques
- Important open-source libraries like Solr and Mahout
- How to build text-processing applications
- About the Authors

Grant Ingersoll is an engineer, speaker, and trainer, a Lucene committer, and a cofounder of the Mahout machine-learning project. Thomas Morton is the primary developer of OpenNLP and Maximum Entropy. Drew Farris is a technology consultant, software developer, and contributor to Mahout, Lucene, and Solr. "Takes the mystery out of very complex processes."—From the Foreword by Liz Liddy, Dean, iSchool, Syracuse University

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Untamed text: exploring the next frontier

Enhance your SAS data-wrangling skills with high-precision and parallel data manipulation using the DS2 programming language. Now in its second edition, this book addresses the DS2 programming language from SAS, which combines the precise procedural power and control of the Base SAS DATA step language with the simplicity and flexibility of SQL. DS2 provides simple, safe syntax for performing complex data transformations in parallel and enables manipulation of native database data types at full precision. It also covers PROC FEDSQL, a modernized SQL language that blends perfectly with DS2. You will learn to harness the power of parallel processing to speed up CPU-intensive computing processes in Base SAS and how to achieve even more speed by processing DS2 programs on massively parallel database systems. Techniques for leveraging internet APIs to acquire data, avoiding large data movements when working with data from disparate sources, and leveraging DS2's new data types for full-precision numeric calculations are presented, with examples of why these techniques are essential for the modern data wrangler. Here's what's new in this edition: how to significantly improve performance by using the new SAS Viya architecture with its SAS Cloud Analytic Services (CAS) how to declare private variables and methods in a package the new PROC DSTODS2 the PCRXFIND and PCRXREPLACE packages While working though the code samples provided with this book, you will build a library of custom, reusable, and

easily shareable DS2 program modules, execute parallelized DATA step programs to speed up a CPU-intensive process, and conduct advanced data transformations using hash objects and matrix math operations. This book is part of the SAS Press Series. Reduce the cost and time of cleaning, managing, and preparing research data while also improving data quality! Have you ever wished there was an easy way to reduce your workload and improve the quality of your data? The Data Detective's Toolkit: Cutting-Edge Techniques and SAS Macros to Clean, Prepare, and Manage Data will help you automate many of the labor-intensive tasks needed to turn raw data into high-quality, analysis-ready data. You will find the right tools and techniques in this book to reduce the amount of time needed to clean, edit, validate, and document your data. These tools include SAS macros as well as ingenious ways of using SAS procedures and functions. The innovative logic built into the book's macro programs enables you to monitor the quality of your data using information from the formats and labels created for the variables in your data set. The book explains how to harmonize data sets that need to be combined and automate data cleaning tasks to detect errors in data including out-of-range values, inconsistent flow through skip paths, missing data, no variation in values for a variable, and duplicates. By the end of this book, you will be able to automatically produce codebooks, crosswalks, and data catalogs.

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.

Master machine learning with SAS Viya! Machine learning can feel intimidating for new practitioners. Machine Learning with SAS Viya provides everything you need to know to get started with machine learning in SAS Viya, including decision trees, neural networks, and support vector machines. The analytics life cycle is covered from data preparation and discovery to deployment. Working with open-source code? Machine Learning with SAS Viya has you covered – step-by-step instructions are given on how to use SAS Model Manager tools with open source. SAS Model Studio features are highlighted to show how to carry out machine learning in SAS Viya. Demonstrations, practice tasks, and quizzes are included to help sharpen your skills. In this book, you will learn about: Supervised and unsupervised machine learning Data preparation and dealing with missing and unstructured data Model building and selection Improving and optimizing models Model deployment and monitoring performance To write an accomplished program in the DATA step of SAS®, programmers must understand programming logic and know how to implement and even create their own programming algorithm. Handbook of SAS® DATA Step Programming shows readers how best to manage and manipulate data by using the DATA step. The book helps novices avoid common mistakes resulting from a lack of understanding fundamental and unique SAS programming concepts. It explains that learning syntax does not solve all problems; rather, a thorough

comprehension of SAS processing is needed for successful programming. The author also guides readers through a programming task. In most of the examples, the author first presents strategies and steps for solving the problem, then offers a solution, and finally gives a more detailed explanation of the solution. Understanding the DATA steps, particularly the program data vector (PDV), is critical to proper data manipulation and management in SAS. This book helps SAS programmers thoroughly grasp the concept of DATA step processing and write accurate programs in the DATA step. Numerous supporting materials, including data sets and programs used in the text, are available on the book's CRC Press web page.

Data Analysis Using SAS offers a comprehensive core text focused on key concepts and techniques in quantitative data analysis using the most current SAS commands and programming language. The coverage of the text is more evenly balanced among statistical analysis, SAS programming, and data/file management than any available text on the market. It provides students with a hands-on, exercise-heavy method for learning basic to intermediate SAS commands while understanding how to apply statistics and reasoning to real-world problems. Designed to be used in order of teaching preference by instructor, the book is comprised of two primary sections: the first half of the text instructs students in techniques for data and file managements such as concatenating and merging files, conditional or

repetitive processing of variables, and observations. The second half of the text goes into great depth on the most common statistical techniques and concepts - descriptive statistics, correlation, analysis of variance, and regression - used to analyze data in the social, behavioral, and health sciences using SAS commands. A student study at www.sagepub.com/pengstudy comes replete with a multitude of computer programs, their output, specific details on how to check assumptions, as well as all data sets used in the book. Data Analysis Using SAS is a complete resource for Data Analysis I and II, Statistics I and II, Quantitative Reasoning, and SAS Programming courses across the social and behavioral sciences and health - especially those that carry a lab component.

The fun and easy way to learn to use this leading business intelligence tool Written by an author team who is directly involved with SAS, this easy-to-follow guide is fully updated for the latest release of SAS and covers just what you need to put this popular software to work in your business. SAS allows any business or enterprise to improve data delivery, analysis, reporting, movement across a company, data mining, forecasting, statistical analysis, and more. SAS For Dummies, 2nd Edition gives you the necessary background on what SAS can do for you and explains how to use the Enterprise Guide. SAS provides statistical and data analysis tools to help

you deal with all kinds of data: operational, financial, performance, and more Places special emphasis on Enterprise Guide and other analytical tools, covering all commonly used features Covers all commonly used features and shows you the practical applications you can put to work in your business Explores how to get various types of data into the software and how to work with databases Covers producing reports and Web reporting tools, analytics, macros, and working with your data In the easy-to-follow, no-nonsense For Dummies format, SAS For Dummies gives you the knowledge and the confidence to get SAS working for your organization. Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file. Learning to use SAS Enterprise Guide has never been easier! Whether you are using SAS Enterprise Guide for the first time, or are looking to expand your skills, this is the book for you! With The Little SAS Enterprise Guide Book, award-winning authors Susan Slaughter and Lora Delwiche help you quickly become productive in the SAS Enterprise Guide point-and-click environment. A series of carefully designed tutorials help you master the basics of the tasks you'll want to do most frequently. The reference section of the book expands on the tutorial topics, covering specific features in more depth. This edition has been completely rewritten, and updated with new features in SAS Enterprise Guide.

Learn how to solve basic statistical problems with Ron Cody's easy-to-follow style using the point-and-click SAS Studio tasks. Aimed specifically at the health sciences, *Biostatistics by Example Using SAS Studio*, provides an introduction to SAS Studio tasks. The book includes many biological and health-related problem sets and is fully compatible with SAS University Edition. After reading this book you will be able to understand temporary and permanent SAS data sets, and you will learn how to create them from various data sources. You will also be able to use SAS Studio statistics tasks to generate descriptive statistics for continuous and categorical data. The inferential statistics portion of the book covers the following topics: paired and unpaired t tests one-way analysis of variance N-way ANOVA correlation simple and multiple regression logistic regression categorical data analysis power and sample size calculations Besides describing each of these statistical tests, the book also discusses the assumptions that need to be met before running and interpreting these tests. For two-sample tests and N-way tests, nonparametric tests are also described. This book leads you step-by-step through each of the statistical tests with numerous screen shots, and you will see how to read and interpret all of the output generated by these tests. Experience with some basic statistical tests used to analyze medical data or classroom experience in biostatistics or

statistics is required. Although the examples are related to the medical and biology fields, researchers in other fields such as psychology or education will find this book helpful. No programming experience is required. Loading data files into SAS University Edition? [Click here](#) for more information.

Get up and running with SAS using Ron Cody's easy-to-follow, step-by-step guide. Aimed at beginners, *Getting Started with SAS Programming: Using SAS Studio in the Cloud* uses short examples to teach SAS programming from the basics to more advanced topics in the point-and-click interactive environment of SAS Studio. To begin, you will learn how to register for SAS OnDemand for Academics, an online delivery platform for teaching and learning statistical analysis that provides free access to SAS software via the cloud. The first part of the book shows you how to use SAS Studio built-in tasks to produce a report, summarize data, and create charts and graphs. It also describes how you can perform basic statistical tests using the interactive point-and-click environment. The second part of the book uses easy-to-follow examples to show 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 SAS OnDemand for Academics platform.

Carpenter's Guide to Innovative SAS Techniques offers advanced SAS programmers an all-in-one programming reference that includes advanced topics not easily found outside the depths of SAS documentation or more advanced training classes. Art Carpenter has written fifteen chapters of advanced tips and techniques, including topics on data summary, data analysis, and data reporting. Special emphasis is placed on DATA step techniques that solve complex data problems. There are numerous examples that illustrate advanced techniques that take advantage of formats, interface with the macro language, and utilize the Output Delivery System. Additional topics include operating system interfaces, table lookup techniques, and the creation of customized reports.

Get the most from your SAS software! In this expert collection of strategic and tactical solutions, author Philip Holland shows you how to save time and money by making the most of your SAS software. You'll gain a deeper knowledge of your existing SAS components, improve your coding efficiency, and learn how to develop applications that are easier to maintain. Filled with invaluable tips and hints and with coding examples that can be adapted to your specific projects, this book is the ultimate reference

source that you will reach for again and again as you develop your business processes. You'll learn how to perform many tasks, including the following:

- access SAS data by using the SAS ODBC Driver, DDE, and SAS Integration Technologies
- make productive use of available space in mainframe, Windows, and UNIX environments
- produce portable graphic report formats by using SAS/GRAPH
- import data from and export data to external databases and spreadsheets without using SAS/ACCESS
- read specific data types from flat files into SAS data sets
- develop SAS applications by using SAS Enterprise Guide

Whether you're a beginner or an advanced SAS programmer, this guide will increase your understanding of SAS and help you get the full value from your SAS software!

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.

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.

Data simulation is a fundamental technique in statistical programming and research. Rick Wicklin's *Simulating Data with SAS* brings together the most useful algorithms and the best programming techniques for efficient data simulation in an accessible how-to book for practicing statisticians and statistical programmers. This book discusses in detail how to simulate data from common univariate and multivariate distributions, and how to use simulation to evaluate statistical techniques. It also covers simulating correlated data, data for regression models, spatial data, and data with given moments. It provides tips and techniques for beginning programmers, and offers libraries of functions for advanced practitioners. As the first

book devoted to simulating data across a range of statistical applications, *Simulating Data with SAS* is an essential tool for programmers, analysts, researchers, and students who use SAS

software. SAS Products and Releases: Base SAS:

9.3 SAS/ETS: 9.3 SAS/IML: 9.3 SAS/STAT: 9.3

Operating Systems: All

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 official guide by the SAS Global Certification
Program, SAS Certified Professional Prep Guide:
Advanced Programming Using SAS 9.4 prepares
you to take the new SAS 9.4 Advanced
Programming Performance-Based Exam. New in this
edition is a workbook whose sample scenarios
require you to write code to solve problems and
answer questions. Answers to the chapter quizzes
and solutions to the sample scenarios in the
workbook are included. You will also find links to

exam objectives, practice exams, and other resources such as the Base SAS Glossary and a list of practice data sets. Major topics include SQL processing, SAS macro language processing, and advanced SAS programming techniques. All exam topics are covered in the following chapters: SQL Processing with SAS PROC SQL Fundamentals Creating and Managing Tables Joining Tables Using PROC SQL Joining Tables Using Set Operators Using Subqueries Advanced SQL Techniques SAS Macro Language Processing Creating and Using Macro Variables Storing and Processing Text Working with Macro Programs Advanced Macro Techniques Advanced SAS Programming Techniques Defining and Processing Arrays Processing Data Using Hash Objects Using SAS Utility Procedures Using Advanced Functions Practice Programming Scenarios (Workbook) SAS users in the Health and Life Sciences industry need to create complex graphs to analyze biostatistics data and clinical data, and they need to submit drugs for approval to the FDA. Graphs used in the HLS industry are complex in nature and require innovative usage of the graphics features. Clinical Graphs Using SAS® provides the knowledge, the code, and real-world examples that enable you to create common clinical graphs using SAS graphics tools, such as the Statistical Graphics procedures and the Graph Template Language. This

book describes detailed processes to create many commonly used graphs in the Health and Life Sciences industry. For SAS® 9.3 and SAS® 9.4 it covers many improvements in the graphics features that are supported by the Statistical Graphics procedures and the Graph Template Language, many of which are a direct result of the needs of the Health and Life Sciences community. With the addition of new features in SAS® 9.4, these graphs become positively easy to create. Topics covered include the usage of SGPLOT procedure, the SGPANEL procedure and the Graph Template Language for the creation of graphs like forest plots, swimmer plots, and survival plots.

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.

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