hands on sas for data analysis

Hands-On SAS for Data Analysis: A Comprehensive Guide

Introduction:

Are you ready to unlock the power of SAS for your data analysis needs? This comprehensive guide provides a hands-on approach, moving beyond theoretical explanations and diving directly into practical applications. Whether you're a beginner taking your first steps into the world of SAS or an experienced analyst looking to refine your skills, this post offers invaluable insights and practical exercises to master SAS for data analysis. We'll cover everything from fundamental data manipulation techniques to advanced statistical modeling, ensuring you gain the confidence to tackle real-world data challenges. Prepare to transform your data into actionable insights!

1. Setting Up Your SAS Environment:

Before diving into the analysis, you need a functioning SAS environment. This section will guide you through the installation process (if necessary), configuring your SAS settings for optimal performance, and understanding the different components of the SAS interface. We'll cover:

Software Installation: Step-by-step instructions for installing SAS, depending on your operating system (Windows, macOS, Linux). We will discuss various licensing options available and address common installation issues.
Navigating the SAS Interface: A visual tour of the SAS environment, including the program editor, log window, output window, and explorer. We'll show you how to efficiently manage your projects and files within the SAS environment.
Essential Configuration Settings: Optimizing your SAS settings for performance and efficiency, including setting the number of threads, memory allocation, and other key parameters to ensure

smooth data processing.

2. Importing and Exploring Data:

Data is the lifeblood of any analysis. This section focuses on bringing your data into SAS and understanding its structure. We'll explore different data import methods, including:

Reading Data from Flat Files (.csv, .txt): We'll cover the `PROC IMPORT` statement, detailing its various options and how to handle different file formats and delimiters. Practical examples will demonstrate how to efficiently import data from various sources.
Importing from Databases (SQL Server, Oracle): Learn how to connect SAS to various databases and retrieve data using SQL queries. We'll cover the necessary configurations and provide examples using `PROC SQL`.
Data Exploration and Profiling: Once imported, explore the data's structure, identify missing values, and understand the distribution of variables using `PROC CONTENTS`, `PROC MEANS`, and `PROC UNIVARIATE`. Visualizations using SAS's graphical capabilities will help in this process.

3. Data Cleaning and Manipulation:

Real-world data is rarely perfect. This section covers essential techniques for cleaning and transforming your data:

Handling Missing Values: Various strategies for addressing missing data points, including imputation techniques (mean, median, mode), deletion, and using specialized SAS procedures.
Data Transformation: Learn how to create new variables, recode existing variables, and perform other transformations using functions like `IF-THEN-ELSE`, `DO-loops`, and array processing.
Data Subsetting and Aggregation: Efficiently select subsets of your data and aggregate data using `PROC SORT`, `PROC SQL`, and `DATA` steps.

4. Descriptive Statistics and Data Visualization:

Understanding your data's characteristics is crucial. This section covers:

Descriptive Statistics: Calculating key statistics (mean, median, standard deviation, percentiles) using `PROC MEANS`, `PROC UNIVARIATE`, and other procedures. We'll discuss the interpretation of these statistics in the context of your data.
Data Visualization: Creating informative graphs and charts to visualize data distributions, relationships between variables, and trends. We'll cover various graph types available in SAS, including histograms, scatter plots, box plots, and bar charts.

5. Statistical Modeling with SAS:

This section introduces statistical modeling techniques within SAS. We'll cover:

Regression Analysis: Performing linear regression, logistic regression, and other regression models to understand relationships between variables. Interpretation of model coefficients and assessing model fit will be covered.
Analysis of Variance (ANOVA): Using ANOVA to compare means across different groups. We'll illustrate how to conduct one-way and two-way ANOVAs.
Other Statistical Procedures: Brief introductions to other useful statistical procedures within SAS, such as t-tests, chi-square tests, and non-parametric methods.

6. Advanced Techniques and Best Practices:

This section delves into more advanced topics and best practices:

Macro Programming: Learn the basics of SAS macro programming to automate repetitive tasks and create reusable code.
Data Step Performance Optimization: Strategies for optimizing the performance of your data steps to

handle large datasets efficiently.
Best Practices for Data Analysis: Essential tips for conducting robust and reproducible data analysis using SAS.

7. Case Studies and Real-World Applications:

To solidify your understanding, this section presents several case studies demonstrating the application of SAS for real-world data analysis scenarios:

Case Study 1: Customer Churn Prediction: Predicting customer churn using logistic regression.
Case Study 2: Sales Forecasting: Forecasting future sales using time series analysis.
Case Study 3: Market Basket Analysis: Analyzing customer purchasing patterns to identify product relationships.

8. Conclusion and Next Steps:

This section summarizes the key takeaways and points you towards further learning resources and opportunities to expand your SAS expertise.

Book Outline: "Mastering SAS for Data Analysis: A Hands-On Approach"

Introduction: What is SAS? Why use SAS for data analysis? Overview of the book's structure and learning objectives.
Chapter 1: Setting up Your SAS Environment: (Covered above)
Chapter 2: Importing and Exploring Data: (Covered above)
Chapter 3: Data Cleaning and Manipulation: (Covered above)
Chapter 4: Descriptive Statistics and Data Visualization: (Covered above)
Chapter 5: Statistical Modeling with SAS: (Covered above)
Chapter 6: Advanced Techniques and Best Practices: (Covered above)

Chapter 7: Case Studies and Real-World Applications: (Covered above)

Conclusion: Summary, further learning resources, and future applications of SAS.

FAQs:

1. What is the difference between SAS and other data analysis tools? SAS offers a comprehensive suite of tools specifically designed for data management, analysis, and reporting, often preferred for its robustness and scalability in handling large datasets. Other tools like R or Python may be more flexible but require more coding expertise.

1. Is SAS difficult to learn? The learning curve depends on your prior programming experience. However, with structured learning and practice, SAS becomes accessible.

1. What are the prerequisites for learning SAS? Basic statistical knowledge and some familiarity with programming concepts are helpful but not strictly required.

1. Is SAS free to use? No, SAS is a commercial software requiring a license. However, free trial versions are often available.

1. Where can I find more resources to learn SAS? Numerous online tutorials, courses (e.g., Coursera, edX), and documentation are available.

1. What kind of jobs utilize SAS skills? SAS skills are highly sought after in various fields, including finance, healthcare, marketing, and research.

1. Can I use SAS with big data? Yes, SAS offers solutions for handling and analyzing large datasets, often integrated with Hadoop and cloud-based platforms.

1. What is the best way to practice SAS? Working through tutorials, completing personal projects, and analyzing publicly available datasets are effective ways to build proficiency.

1. How can I get certified in SAS? SAS offers various certifications demonstrating your expertise in specific areas of SAS.

Related Articles:

1. SAS Programming for Beginners: A step-by-step guide to the fundamentals of SAS programming.

2. Advanced SAS Macro Programming Techniques: Deep dive into advanced macro techniques for automating complex tasks.

3. Data Visualization with SAS: Explore various visualization techniques using SAS's graphical capabilities.

4. SAS for Statistical Modeling: A detailed explanation of statistical modeling using SAS.

5. SAS and Big Data Analytics: Learn how SAS handles and processes large datasets.

6. Real-World Applications of SAS in Finance: Case studies demonstrating SAS's use in financial analysis.

7. Comparing SAS, R, and Python for Data Analysis: A comparative analysis of popular data analysis tools.

8. Best Practices for Data Cleaning in SAS: Effective techniques for handling missing values and inconsistencies in data.

9. Optimizing SAS Data Step Performance: Strategies for enhancing the efficiency of SAS data steps.

hands on sas for data analysis: Hands-On SAS for Data Analysis Harish Gulati, 2019-09-27 Leverage the full potential of SAS to get unique, actionable insights from your data Key FeaturesBuild enterprise-class data solutions using SAS and become well-versed in SAS programmingWork with different data structures, and run SQL queries to manipulate your dataExplore essential concepts and techniques with practical examples to confidently pass the SAS certification examBook Description SAS is one of the leading enterprise tools in the world today when it comes to data management and analysis. It enables the fast and easy processing of data and helps you gain valuable business insights for effective decision-making. This book will serve as a comprehensive guide that will prepare you for the SAS certification exam. After a quick overview of the SAS architecture and components, the book will take you through the different approaches to importing and reading data from different sources using SAS. You will then cover SAS Base and 4GL, understanding data management and analysis, along with exploring SAS functions for data manipulation and transformation. Next, you'll discover SQL procedures and get up to speed on creating and validating queries. In the concluding chapters, you'll learn all about data visualization, right from creating bar charts and sample geographic maps through to assigning patterns and

formats. In addition to this, the book will focus on macro programming and its advanced aspects. By the end of this book, you will be well versed in SAS programming and have the skills you need to easily handle and manage your data-related problems in SAS. What you will learnExplore a variety of SAS modules and packages for efficient data analysisUse SAS 4GL functions to manipulate, merge, sort, and transform dataGain useful insights into advanced PROC SQL options in SAS to interact with dataGet to grips with SAS Macro and define your own macros to share dataDiscover the different graphical libraries to shape and visualize data withApply the SAS Output Delivery System to prepare detailed reportsWho this book is for Budding or experienced data professionals who want to get started with SAS will benefit from this book. Those looking to prepare for the SAS certification exam will also find this book to be a useful resource. Some understanding of basic data management concepts will help you get the most out of this book.

hands on sas for data analysis: SAS Essentials Alan C. Elliott, Wayne A. Woodward, 2015-08-17 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.

hands on sas for data analysis: Practical Business Analytics Using SAS Shailendra Kadre, Venkat Reddy Konasani, 2015-02-07 Practical Business Analytics Using SAS: A Hands-on Guide shows SAS users and businesspeople how to analyze data effectively in real-life business scenarios. The book begins with an introduction to analytics, analytical tools, and SAS programming. The authors—both SAS, statistics, analytics, and big data experts—first show how SAS is used in business, and then how to get started programming in SAS by importing data and learning how to manipulate it. Besides illustrating SAS basic functions, you will see how each function can be used to get the information you need to improve business performance. Each chapter offers hands-on exercises drawn from real business situations. The book then provides an overview of statistics, as well as instruction on exploring data, preparing it for analysis, and testing hypotheses. You will learn how to use SAS to perform analytics and model using both basic and advanced techniques like multiple regression, logistic regression, and time series analysis, among other topics. The book concludes with a chapter on analyzing big data. Illustrations from banking and other industries make the principles and methods come to life. Readers will find just enough theory to understand the practical examples and case studies, which cover all industries. Written for a corporate IT and programming audience that wants to upgrade skills or enter the analytics field, this book includes: More than 200 examples and exercises, including code and datasets for practice. Relevant examples

for all industries. Case studies that show how to use SAS analytics to identify opportunities, solve complicated problems, and chart a course. Practical Business Analytics Using SAS: A Hands-on Guide gives you the tools you need to gain insight into the data at your fingertips, predict business conditions for better planning, and make excellent decisions. Whether you are in retail, finance, healthcare, manufacturing, government, or any other industry, this book will help your organization increase revenue, drive down costs, improve marketing, and satisfy customers better than ever before.

hands on sas for data analysis: Big Data Analytics with SAS David Pope, 2017-11-23 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.

hands on sas for data analysis: 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.

hands on sas for data analysis: SAS for Finance Harish Gulati, 2018-05-30 Leverage the analytical power of SAS to perform financial analysis efficiently Key Features Leverage the power of SAS to analyze financial data with ease Find hidden patterns in your data, predict future trends, and optimize risk management Learn why leading banks and financial institutions rely on SAS for financial analysis Book Description SAS is a groundbreaking tool for advanced predictive and statistical analytics used by top banks and financial corporations to establish insights from their financial data. SAS for Finance offers you the opportunity to leverage the power of SAS analytics in redefining your data. Packed with real-world examples from leading financial institutions, the author discusses statistical models using time series data to resolve business issues. This book shows you how to exploit the capabilities of this high-powered package to create clean, accurate financial models. You can easily assess the pros and cons of models to suit your unique business needs. By the end of this book, you will be able to leverage the true power of SAS to design and develop accurate analytical models to gain deeper insights into your financial data. What you will learn Understand time series data and its relevance in the financial industry Build a time series forecasting model in SAS using advanced modeling theories Develop models in SAS and infer using regression and Markov chains Forecast inflation by building an econometric model in SAS for your financial planning Manage customer loyalty by creating a survival model in SAS using various groupings Understand similarity analysis and clustering in SAS using time series data Who this book is for Financial data analysts and data scientists who want to use SAS to process and analyze financial data and find hidden patterns and trends from it will find this book useful. Prior exposure to SAS will be helpful but is not mandatory. Some basic understanding of the financial concepts is required.

hands on sas for data analysis: End-to-End Data Science with SAS James Gearheart, 2020-06-26 Learn data science concepts with real-world examples in SAS! End-to-End Data Science with SAS: A Hands-On Programming Guide provides clear and practical explanations of the data science environment, machine learning techniques, and the SAS programming knowledge necessary to develop machine learning models in any industry. The book covers concepts including understanding the business need, creating a modeling data set, linear regression, parametric classification models, and non-parametric classification models. Real-world business examples and example code are used to demonstrate each process step-by-step. Although a significant amount of background information and supporting mathematics are presented, the book is not structured as a textbook, but rather it is a user's guide for the application of data science and machine learning in a business environment. Readers will learn how to think like a data scientist, wrangle messy data, choose a model, and evaluate the model's effectiveness. New data scientists or professionals who want more experience with SAS will find this book to be an invaluable reference. Take your data science career to the next level by mastering SAS programming for machine learning models.

hands on sas for data analysis: Practical Business Analytics Using SAS Venkat Reddy Konasani, Shailendra Kadre, 2015-05-05 Practical Business Analytics Using SAS: A Hands-on Guide shows SAS users and businesspeople how to analyze data effectively in real-life business scenarios. The book begins with an introduction to analytics, analytical tools, and SAS programming. The authors—both SAS, statistics, analytics, and big data experts—first show how SAS is used in business, and then how to get started programming in SAS by importing data and learning how to

manipulate it. Besides illustrating SAS basic functions, you will see how each function can be used to get the information you need to improve business performance. Each chapter offers hands-on exercises drawn from real business situations. The book then provides an overview of statistics, as well as instruction on exploring data, preparing it for analysis, and testing hypotheses. You will learn how to use SAS to perform analytics and model using both basic and advanced techniques like multiple regression, logistic regression, and time series analysis, among other topics. The book concludes with a chapter on analyzing big data. Illustrations from banking and other industries make the principles and methods come to life. Readers will find just enough theory to understand the practical examples and case studies, which cover all industries. Written for a corporate IT and programming audience that wants to upgrade skills or enter the analytics field, this book includes: More than 200 examples and exercises, including code and datasets for practice. Relevant examples for all industries. Case studies that show how to use SAS analytics to identify opportunities, solve complicated problems, and chart a course. Practical Business Analytics Using SAS: A Hands-on Guide gives you the tools you need to gain insight into the data at your fingertips, predict business conditions for better planning, and make excellent decisions. Whether you are in retail, finance, healthcare, manufacturing, government, or any other industry, this book will help your organization increase revenue, drive down costs, improve marketing, and satisfy customers better than ever before.

hands on sas for data analysis: *Unstructured Data Analysis* Matthew Windham, 2018-09-14 Unstructured data is the most voluminous form of data in the world, and several elements are critical for any advanced analytics practitioner leveraging SAS software to effectively address the challenge of deriving value from that data. This book covers the five critical elements of entity extraction, unstructured data, entity resolution, entity network mapping and analysis, and entity management. By following examples of how to apply processing to unstructured data, readers will derive tremendous long-term value from this book as they enhance the value they realize from SAS products.

hands on sas for data analysis: SAS for Epidemiologists Charles DiMaggio, 2012-10-25 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.

hands on sas for data analysis: A Handbook of Statistical Graphics Using SAS ODS Geoff Der, Brian S. Everitt, 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.

hands on sas for data analysis: Applying Data Science Gerhard Svolba, 2017-03-29 See how data science can answer the questions your business faces! Applying Data Science: Business Case Studies Using SAS, by Gerhard Svolba, shows you the benefits of analytics, how to gain more insight into your data, and how to make better decisions. In eight entertaining and real-world case studies, Svolba combines data science and advanced analytics with business questions, illustrating them with data and SAS code. The case studies range from a variety of fields, including performing headcount survival analysis for employee retention, forecasting the demand for new projects, using Monte Carlo simulation to understand outcome distribution, among other topics. The data science methods covered include Kaplan-Meier estimates, Cox Proportional Hazard Regression, ARIMA models, Poisson regression, imputation of missing values, variable clustering, and much more! Written for business analysts, statisticians, data miners, data scientists, and SAS programmers, Applying Data Science bridges the gap between high-level, business-focused books that skimp on the details and technical books that only show SAS code with no business context.

hands on sas for data analysis: SAS Programming 2: Data Manipulation Techniques SAS Institute, 2007-01-01

hands on sas for data analysis: Data Preparation for Analytics Using SAS Gerhard Svolba, 2006-11-27 Written for anyone involved in the data preparation process for analytics, Gerhard Svolba's Data Preparation for Analytics Using SAS offers practical advice in the form of SAS coding tips and tricks, and provides the reader with a conceptual background on data structures and considerations from a business point of view. The tasks addressed include viewing analytic data preparation in the context of its business environment, identifying the specifics of predictive modeling for data mart creation, understanding the concepts and considerations of data preparation for time series analysis, using various SAS procedures and SAS Enterprise Miner for scoring, creating meaningful derived variables for all data mart types, using powerful SAS macros to make changes among the various data mart structures, and more!

hands on sas for data analysis: Data Quality for Analytics Using SAS Gerhard Svolba, 2012-04-01 Analytics offers many capabilities and options to measure and improve data quality, and SAS is perfectly suited to these tasks. Gerhard Svolba's Data Quality for Analytics Using SAS focuses on selecting the right data sources and ensuring data quantity, relevancy, and completeness. The book is made up of three parts. The first part, which is conceptual, defines data quality and contains text, definitions, explanations, and examples. The second part shows how the data quality status can be profiled and the ways that data quality can be improved with analytical methods. The final part details the consequences of poor data quality for predictive modeling and time series forecasting. With this book you will learn how you can use SAS to perform advanced profiling of data quality status and how SAS can help improve your data quality. This book is part of the SAS Press program.

hands on sas for data analysis: Hands-On Data Analysis with Scala Rajesh Gupta, 2019-05-03 Master scala's advanced techniques to solve real-world problems in data analysis and gain valuable insights from your data Key FeaturesA beginner's guide for performing data analysis loaded with numerous rich, practical examplesAccess to popular Scala libraries such as Breeze, Saddle for efficient data manipulation and exploratory analysisDevelop applications in Scala for real-time analysis and machine learning in Apache SparkBook Description Efficient business decisions with an accurate sense of business data helps in delivering better performance across products and services. This book helps you to leverage the popular Scala libraries and tools for performing core data analysis tasks with ease. The book begins with a quick overview of the building blocks of a standard data analysis process. You will learn to perform basic tasks like Extraction, Staging, Validation, Cleaning, and Shaping of datasets. You will later deep dive into the data exploration and visualization areas of the data analysis life cycle. You will make use of popular Scala

libraries like Saddle, Breeze, Vegas, and PredictionIO for processing your datasets. You will learn statistical methods for deriving meaningful insights from data. You will also learn to create applications for Apache Spark 2.x on complex data analysis, in real-time. You will discover traditional machine learning techniques for doing data analysis. Furthermore, you will also be introduced to neural networks and deep learning from a data analysis standpoint. By the end of this book, you will be capable of handling large sets of structured and unstructured data, perform exploratory analysis, and building efficient Scala applications for discovering and delivering insights What you will learnTechniques to determine the validity and confidence level of dataApply quartiles and n-tiles to datasets to see how data is distributed into many bucketsCreate data pipelines that combine multiple data lifecycle stepsUse built-in features to gain a deeper understanding of the dataApply Lasso regression analysis method to your dataCompare Apache Spark API with traditional Apache Spark data analysisWho this book is for If you are a data scientist or a data analyst who wants to learn how to perform data analysis using Scala, this book is for you. All you need is knowledge of the basic fundamentals of Scala programming.

hands on sas for data analysis: An Introduction to SAS Visual Analytics Tricia Aanderud, Rob Collum, Ryan Kumpfmiller, 2017-03-21 Focusing on the version of SAS Visual Analytics on SAS 9.4, this thorough guide 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. --

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hands on sas for data analysis: Business Analytics Using SAS Enterprise Guide and SAS Enterprise Miner Olivia Parr-Rud, 2014-10 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 beginnner'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. --

hands on sas for data analysis: Statistical Analysis of Medical Data Using SAS Geoff Der, Brian S. Everitt, 2005-09-20 Statistical analysis is ubiquitous in modern medical research. Logistic regression, generalized linear models, random effects models, and Cox's regression all have become commonplace in the medical literature. But while statistical software such as SAS make routine application of these techniques possible, users who are not primarily statisticians must take care to correctly implement the various procedures and correctly interpret the output. Statistical Analysis of Medical Data Using SAS demonstrates how to use SAS to analyze medical data. Each chapter addresses a particular analysis method. The authors briefly describe each procedure, but focus on

its SAS implementation and properly interpreting the output. The carefully designed presentation relegates the theoretical details to Displays, so that the code and results can be explored without interruption. All of the code and data sets used in the book are available for download from either the SAS Web site or www.crcpress.com. Der and Everitt, authors of the best-selling Handbook of Statistical Analyses Using SAS, bring all of their considerable talent and experience to bear in this book. Step-by-step instructions, lucid explanations and clear examples combine to form an outstanding, self-contained guide--suitable for medical researchers and statisticians alike--to using SAS to analyze medical data.

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