Statistics in a Nutshell: A Desktop Quick Reference

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Need to learn statistics as part of your job, or want some help passing a statistics course? *Statistics in a Nutshell* is a clear and concise introduction and reference that's perfect for anyone with no previous background in the subject. This book gives you a solid understanding of statistics without being too simple, yet without the numbing complexity of most college texts.

You get a firm grasp of the fundamentals and a hands-on understanding of how to apply them before moving on to the more advanced material that follows. Each chapter presents you with easy-to-follow descriptions illustrated by graphics, formulas, and plenty of solved examples. Before you know it, you'll learn to apply statistical reasoning and statistical techniques, from basic concepts of probability and hypothesis testing to multivariate analysis.

Organized into four distinct sections, *Statistics in a Nutshell* offers you:

Introductory material: Different ways to think about statistics Basic concepts of measurement and probability theory

Data management for statistical analysis Research design and experimental design How to critique statistics presented by others

Basic inferential statistics: Basic concepts of inferential statistics The concept of correlation, when it is and is not an appropriate measure of association Dichotomous and categorical data The distinction between parametric and nonparametric statistics

Advanced inferential techniques: The General Linear Model Analysis of Variance (ANOVA) and MANOVA Multiple linear regression

Specialized techniques: Business and quality improvement statistics Medical and public health statistics Educational and psychological statistics Unlike many introductory books on the subject, *Statistics in a Nutshell* doesn't omit important material in an effort to dumb it down. And this book is far more practical than most college texts, which tend to over-emphasize calculation without teaching you when and how to apply different statistical tests.

With *Statistics in a Nutshell*, you learn how to perform most common statistical analyses, and understand statistical techniques presented in research articles. If you need to know how to use a wide range of statistical techniques without getting in over your head, this is the book you want.

Statistics in a Nutshell: A Desktop Quick Reference Details

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From Reader Review Statistics in a Nutshell: A Desktop Quick Reference for online ebook

Theresa says

Great for practical hands-on learning without all the background theory. It lets you get the job done.

Franck Chauvel says

This book surveys commonly used statistics, with an emphasize on how to use them. It covers basic inferential statistics (e.g., t-test, correlation, ANOVA) but also includes specific sections for statistics for specific fields such education, health, etc.

I liked the fact that the author always tries to convey an interpretation for the values that are computed. Yet, I wish the logic behind the formulae be sometimes further detailed (e.g., ANOVA).
To my opinion, this is a good reference for those who just have to do statistics from time to time.

Rejeev Divakaran says

Good introduction book to Statistics. Concise!

Trey says

My copy of this book is well-loved, with scotch-tape repairs and coffee stains.
This is my go-to book when starting on any research or analysis project. It's far from exhaustive, but what it does, it does well. This is a great book for getting an quick, accessible explanation of a concept to springboard into more complex topics. I find myself repeatedly dusting it off to remind myself of class material from years ago that's gone a bit fuzzy, so that I can get back into making use of it.

Louis says

One of the biggest problems faced in teaching statistics is the gap between learning the methods to actually using them. Statistics classes that are based on learning formulas fail due to the disconnect between learning formulas and the reality that very rarely are these methods used by implementing the formulas that are so painstakingly taught. But learning statistics as a set of steps or functions in a computer package only gets a little further. The real goal should be what methods should be used and why. The how is almost secondary. Statistics in a Nutshell focuses on the what and the why. I would not use this to learn how to perform a technique or its formulas, but this is where to go to understanding how the various methods of statistical analysis should be used and their qualities. It is meant to be read, not just studied, and as such it holds a different place than other statistics texts.

When I first learned statistics, the focus was on learning formulas that calculated various values. But the problems I could work on were only toys, and it took so long that we did not get into much of understanding what we were dong. Now with readily available software packages, the temptation is to focus on the mechanics of implementing a procedure on a set of data and reading the computer output. But software documentation and even books that teach statistics fall into the trap of focusing on how a method works then applying it and not as much on why. Part of this is because of the pressure of having to cover topics, but the fact that the methods are presented in isolation, without their application context so it is rare to grapple with the question of how to know what needs to be done and instead the focus is on how to do it.

Statistics in a Nutshell is the other kind of book. I was taught that for computer programming for any language you wanted a book that focused on methods, but also a book that focused on morals, the why you use a language feature. This is the morals book for statistical programming. You read it, not to learn how to calculate statistical output or implement visualizations, but to think about what method or visualization is appropriate to help understand the data and environment and to communicate those truths to an audience.

Because of the expectation that any course that teaches statistics gives the students a toolkit, this would never be a good book for teaching a course. But in the real world, what is more important is that you understand what these statistical methods are and why you use one over the other. So for the data analyst or a student who needs an overview of everything this is ideal. It would also be ideal for someone who may not have the time to go into detailed study of statistical methods, but needs to interpret the results or work with statisticians and data analysts. This book will help interpret what you get and ask the right questions to both understand statistical results and perhaps point those who are doing the analysis in the right direction so that they are answering the right questions.

Note: I received a free electronic copy of this book through the O'Reilly Press Bloggers program.

Luis Capelo says

This is a wonderful desk-reference book to be consulted often. Especially when working with statistical computing (i.e. in R or Python), it's great to look back and read the mathematical details of what you are actually doing. Those details are often expressed in a work-flow and applied context, which I think is what makes this book a wonderful reference above all.

Vasyl Pasternak says

Seems this book is about everything in statistics. Sarah covered very wide areas and book looks quite overloaded by terms and formulas. It is good reference.

Jason Yang says

Great, concise, practical reference on common statistics. I picked this up for a brief refresher. Nice to have on the bookshelf and reference when I need.

Eddie says

I got through 150 pages before giving up. I have the second edition, which was supposed to fix all the mistakes from the first, but there are still problems. The book is still poorly organized: early chapters advise you to refer to later chapters before proceeding. The book is heavy on formulas and jargon and light on explaining the concepts behind statistics. Might be a good reference if you took a good class ten years ago and need a refresher, but the material in this book doesn't stand on its own.

Joseph says

Good overview of the basics of Stat's.

Douglas says

Over my head for daily use, and contains a couple errors that need to be fixed, but a great pocket-sized resource for reminding foggy brains.

Mila says

Excellent algebra and geometry review following comprehensive & succinct statistics textbook.

Pat Gibson says

Sigh, another book for my dissertation proposal.

Jessica Applin says

Stats are fun