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Sommario/riassunto

As the authors write in the preface, "Data is messy, and statistical tools are imperfect. But, when you understand the strengths and weaknesses of these tools, you can use them to learn about the real world." This book is full of examples and exercises on topics of current interest pulled from the popular media and published research. In addition to the exercises at the end of each chapter, a novel feature is the incorporation of in-chapter exercises, meant to be done immediately, with answers below in the footnotes. Chapter Summaries Introduction to data. Data structures, variables, summaries, graphics, and basic data collection techniques. Probability. The basic principles of probability. An understanding of this chapter is not required for the main content in Chapters 3-8. Distributions of random variables. Introduction to the normal model and other key distributions. Foundations for inference. General ideas for statistical inference in the context of estimating the population mean. Inference for numerical data. Inference for one or two sample means using the normal model and t distribution, and also comparisons of many means using ANOVA.Inference for categorical data. Inference for proportions using the normal and chi-square distributions, as well as simulation and randomization techniques. Introduction to linear regression. An introduction to regression with two variables. Most of this chapter could be covered after Chapter 1.

Multiple and logistic regression. An introduction to multiple regression and logistic regression for an accelerated course.