Resources Related to the `mosaic` Package

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Contents

1 Introduction

This vignette describes related resources and materials useful for teaching statistics with a focus on modeling and computation.

2 Package Vignettes

The `mosaic` package includes a number of vignettes:

- a minimal set of R commands for use in Introductory Statistics and why it is important to keep the set of commands small (http://cran.r-project.org/web/packages/mosaic/vignettes/V1MinimalR.pdf);

- strategies for teaching statistics using R (http://cran.r-project.org/web/packages/mosaic/vignettes/V2StartTeaching.pdf);

- the R commands needed for all the basic statistical procedures in an Intro Stats course (http://cran.r-project.org/web/packages/mosaic/vignettes/V3Commands.pdf);

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- modeling in R (http://cran.r-project.org/web/packages/mosaic/vignettes/V4Modeling.pdf);

- resampling methods in R (http://cran.r-project.org/web/packages/mosaic/vignettes/V5Resample.pdf); and

- using R in calculus (http://cran.r-project.org/web/packages/mosaic/vignettes/V6Calculus.pdf).

- Less Volume, More Creativity, slides from an ICOTS 2014 presentation introducing the mosaic package and related tools. (http://cran.r-project.org/web/packages/mosaic/vignettes/LessVolume-MoreCreativity.Rhtml).

3 Textbook Related

***Statistical Modeling: A Fresh Approach* (DT Kaplan, second edition)** is an introduction to statistics embracing a modeling approach and employing resampling methods. The `mosaic` package is used throughout (http://www.mosaic-web.org/StatisticalModeling).

***Foundations and Applications of Statistics: An Introduction Using R* (R Pruim)** is an R-infused probability and mathematical statistics text that emphasizes connections between probability and statistics. The book predates the `mosaic` package, but much of the code originally in the `fastR` package has been moved into the `mosaic` package. (http://www.ams.org/publications/authors/books/postpub/amstext-13).

***The Statistical Sleuth in R* (NJ Horton)** available at http://www.amherst.edu/~nhorton/sleuth describes how to undertake analyses in R for the examples in the first 13 chapters of the Third Edition of the *Statistical Sleuth: A Course in Methods of Data Analysis* (2013), the excellent text by Fred Ramsey and Dan Schafer.

***Introduction to the Practice of Statistics in R* (NJ Horton)** available at http://www.amherst.edu/~nhorton/ips6e, describes how to undertake analyses in R that are introduced as examples in the first chapters of the Sixth Edition of *Introduction to the Practice of Statistics* (2007), the excellent text by David Moore, George McCabe, and Bruce Craig.

***Statistics: Unlocking the Power of Data* (Lock, Lock, Lock, Lock, and Lock)** is a introductory statistics textbook that embraces a resampling approach. Additional information about the book and the approach used there can be found at http://lock5stat.com An annotated companion to the examples in the book implemented using R can be found at https://github.com/rpruim/Lock5withR/blob/master/Lock5withR.pdf.

4 Articles

- GW Cobb, The introductory statistics course: a Ptolemaic curriculum?, *Technology Innovations in Statistics Education*, 2007, 1(1), http://www.escholarship.org/uc/item/6hb3k0nz.

- D Nolan and D Temple Lang, Computing in the statistics curricula, *The American Statistician*, 2010, 64(2), http://www.stat.berkeley.edu/~statcur/Preprints/ComputingCurric3.pdf.