Chapter R Packages, functions, data sets, and script files1

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| Chapter | R Package | Functions | Data Sets | Script files A |
| 1 |Introduction and Overview | http://cran.r-project.org/  | help()data() |  |  |
| 2 |Multivariate Statistics: Issues and Assumptions | mvnormtestnormtestnortestnormwhn.testbiotools | install.packages()library()attach()head()mshapiro.test()jb.norm.test()ad.test()cvm.test()lillie.test()pearson.test()sf.test()normality.test1()boxM()det()cor()cov()cov2cor()data.frame()rep()options()describeBy()lapply()factor() | > data()  attitude iris | Chap2Assumptions.r |
| 3 |Hotelling T2 | ICSNPmvtnormpsych | names()mean()sd()error.bars()HotellingsT2()matrix()par()plotmeans()round()cat()t()c() | Stevensp148.sav  | Chap3Hotelling.rChap3Hotelling single sample.rChap3Hotelling independent sample.rChap3Hotelling dependent sample.r |
| 4| MANOVA | psychnortestmvnormtestcarMASS | colnames()rownames()ICC()cor.test()shapiro.test()manova()summary()summary.aov()anova()lm() | Source: Stevens (2009, p. 215, achievement data matrix)Stevensp215.txtStevensp215mod.txt> library(car)> data() Baumann.txt | Chap4MANOVA1.rChap4MANOVA2.rChap4factorialM.r |
| 5| MANCOVA | MASScarpsychMatchItHmisc | effect()plot()abline()matchit()spss.get()setwd()write.table()cbind() | Source: Stevens (2009, p. 302)mancova.txtPropensity.por | Chap5Mancova.rChap5PropensityScore.r |
| 6| Multivariate Repeated Measures | reshapenlmeezpsychggplot2lmer4 | rbind()melt()lme()ezANOVA()ggplot()geom\_line()lmer()pf() | Source: Tabachnick and Fidell (2007, p. 317)multdv.txtSource: Tabachnick and Fidell (6th Edition, ASCII file type) dblmult.datSource: Raykov & Marcolides, p. 168-179.ch5ex3.dat | Chap6ex1.rChap6ex2.rChap6ex3.rChap6Exercise5.rChap6WeightLoss.r |
| 7| Discriminant Analysis | MASSbiotoolsCCA | lda()boxM()predict()table()diag()prop.table()chisq.test()gl()cca() | Source: Field, Miles, & Field (2012, p. 720-722)OCD.txt Source: biotools library> library(biotools)> data(amis)> amis | Chap7discrim2grp.rChap7discrim3grp.rChap7DiscriminantChap7Exercise3 |
| 8| Canonical Correlation | statsCCAyacca | cancor()matcor()cc()cca()F.test.cca()read.csv()plt.cc()comput() | Source:UCLA (IDRE web data set - read by R script file) mm.txt> library(stats)> data()> data(LifeCycleSavings)> LifeCycleSavingsLifeCycleSavings.txtSource: Tabachnick & Fidell (2007, p. 572)Xvar.txtYvar.txt | Chap8Commonality.rChap8canonicalr.rChap8example.rChap8Exercise3.r |
| 9| Exploratory Factor Analysis | corpcorGPArotationpsychrelaMASSparallel | setwd()read.table()file.choose()corr.p()paf()cortest.bartlett()cortest.mat()cortest.normal()cortest.jennrich()itemanal()fa()print()fa.parallel()hist()fa.diagram() | Papanastasiou & Schumacker (2014) atr30.csv> library (psych)> data(Harman.8)> Harman.8 | Chap9example.rChap9Exercise.r |
| 10| Principal Components Analysis | statspsychrelaMASSparallel | cov2cor()corr.p()det()eigen()t()round()read.delim()head()tail()paf()cortest.bartlett()principal()alpha()fa.parallel()fa.diagram()sort() | Source: Raykov and Marcoulides (2008, p. 217)S matrix (created in R program)chap7ex1.datattitude.txt | Chap10PCbasics.rChap10Example.rChap10Exercise.r |
| 11| Multidimensional Scaling | MASSstatspsychveganSensoMineRsmacofapeHSAURpsy | isoMDS()cmdscale()cor2dist()wcmdscale()indscal()smacofSym()pcoa()scree.plot()dist()map()Shepard()lines()text()describe()na.omit() | > library(stats)> d(created in R program using city distances)> library(psych)> data(iqitems)> iqitems | Chap11\_EverittVoting.rChap11ex6.rChap11MetricMDSSex1.rChap11nonMetricMDSSex2.r |
| 12| Structural Equation Modeling | MVNmvnormtestsemlavaancorpcor | mardiaTest()mshapiro.test()cortest.bartlett()as.matrix()cov2cor()cor2cov()lower2full()cortest.mat()cor2pcor()pcor2cor()cfa()lavaan()modindices()lavaan.diagram()fitMeasures()anova()sem() | > library(stats)> data(iris)> irisSource:Schumacker & Lomax (2010, p. 171, Holzinger and Swineford matrix)> library(sem)> HScov and created by R programSource: Raykov & Marcoulides (2008, p. 317)ch9ex4.datch9ex4-boys.datch9ex4-girls.datSource: Tabachnick & Fidell (2007, p. 687, ski matrix)Created by R programSchumacker & Lomax (2010, p. 342, data matrix)Created by R programRaykov & Marcoulides (2008)Download zip file, then extract their data set:  ch13ex1\_mcm.dat | Chap12basic.rChap12adv.rChap12BasicSEM.rChap12CFAbi-factor.rChap12CFAGRP.rChap12ex5.r |

1 R functions re-used in other chapters are not always listed again.

 A Some data sets are created or read by the R script programs, so not listed in the Data Set column