1 Choosing right method

Data			One group	Two groups: differences	Two groups: relations	Three and more groups: relations	Three and more groups: general picture
Measurement	Parametric	Independent	summary()	t.test()	cor.test(, method="pe")	oneway.test(), paiwise.t.test(), anova(), lm()	lda(), manova()
		Dependent		t.test(..., paired = TRUE)		–	–
	Non-parametric	Independent		wilcox.test()	cor.test(, method="sp")	kruskal.test()	pca(), tree(), cor(), hclust(), isoMDS(), cmdscale()
		Dependent		wilcox.test(..., paired = TRUE)		–	–
Categorocal or ranked	Non-parametric	Independent		chisq.test(), prop.test(), binom.test()	glm(..., "binomial")	–	cor(), dist(), hclust(), isoMDS(), corresp()
		Dependent		mcnemar.test()	–	–	–

2 Essential commands

`?` Help

`<-` Assign right to left

`[` Select part of object

`$` Call list element by name

`abline()` Addition to the graph: line from linear regression model

`anova()` Analysis of variation

`as.character()` Convert to text

`as.numeric()` Convert to number

`boxplot()` Boxplot

`c()` Concatenate into vector

`cbind()` Concatenate columns into matrix

`chisq.test()` Chi-squared test

`cor()` Correlation of multiple variables

`colSums()` Sum every column

`cor.test()` Correlation test

`data.frame()` Make data table

`dotchart()` Replacement for "pie" graph

`download.file()` Take file from Internet

`example()` Call example of command

`file.show()` Show file

`function()` Make new function

`head()` Show first rows of data table

`help()` Help

`hist()` Histogram

`legend()` Addition to the graph: legend

`length()` Length of variable

`lines()` Addition to the graph: lines

`lm()` Linear model

`log()` Natural logarithm

`max()` Maximal value

`mean()` Mean

`median()` Median

`min()` Minimal value

`NA` Missed value

`names()` Show names of elements

`nrow()` How many rows?

`order()` Create order of objects

`plot()` Graph

`points()` Addition to graph: points (dots)

`predict()` Predict values

`q()` Quit R

`qqnorm(); qqline()` Check for the normality: graph

`rbind()` Concatenate into matrix by rows

`read.table()` Read data file

`rep()` Make the sequence of same elements

`sample()` Random selection

`savehistory()` Save history of commands

`scale()` Make all variables comparable

`sd()` Standard deviation

`source()` Run script

`str()` Structure of object

`summary()` Main descriptional statistics

`t()` Transpose matrix (rotate on right angle)

`t.test()` Student test (t-test)

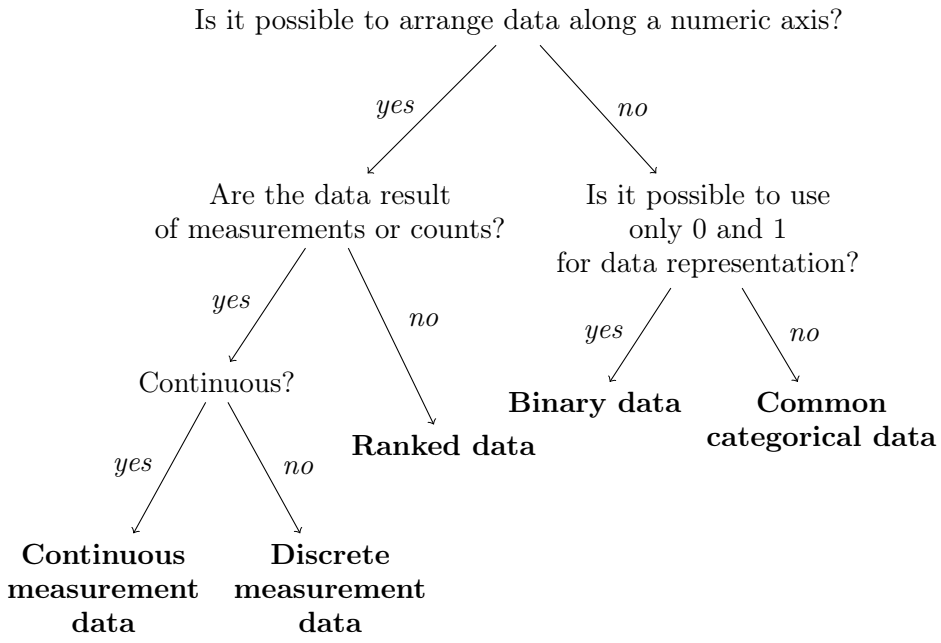
`table()` Make contingency table

`text()` Addition to graph: text

`wilcox.test()` Wilcoxon and Mann-Whitney tests

`write.table()` Write object to disk

3 Types of data



4 Multivariate methods