Statistical Analysis

Data, Information, Knowledge, Wisdom

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Chapter 1

Functions of binGroup2 R Package

Table 1.1: *Functions of binGroup2 (1.3.1) R Package*

Function	***Description***
Accuracy	Extract the accuracy measures from group testing results
CompareConfig	Compare group testing results
Config	Access the testing configurations returned from an object
Config.OTC	Extract the testing configuration from group testing results
Config.opChar	Extract the testing configuration from group testing results
ExpTests	Access the expected number of tests from an object
ExpTests.OTC	Extract the expected number of tests from optimal testing configuration results
ExpTests.Sterrett	Extract the expected number of tests from testing configuration results
ExpTests.TOD	Extract the expected number of tests from testing configuration results
ExpTests.halving	Extract the expected number of tests from testing configuration results
ExpTests.opChar	Extract the expected number of tests from testing configuration results
GroupMembershipMatrix	Construct a group membership matrix for hierarchical algorithms
IndProb	Extract the individual probabilities used to calculate group testing results
OTC1	Find the optimal testing configuration for group testing algorithms that use a single-disease assay
OTC2	Find the optimal testing configuration for group testing algorithms that use a multiplex assay for two diseases
Sterrett	Summary measures for Sterrett algorithms
TOD	Summary measures for the Thresholded Optimal Dorfman (TOD) algorithm
binGroup2	binGroup2: Identification and Estimation using Group Testing
coef.gtReg	Extract coefficients from a fitted group testing model
designEst	Optimal group size determination based on minimal MSE when estimating an overall prevalence
designPower	Number of groups or group size needed to achieve a power level in one parameter group testing
expectOrderBeta	Determine a vector of probabilities for informative group testing algorithms
formula.gtReg	Extract the model formula from a fitted group testing model
gtPower	Power to reject a hypothesis for one proportion in group testing

Table 1.1: *Functions of binGroup2 (1.3.1) R Package (continued)*

Function	***Description***
gtReg	Fitting group testing regression models
gtRegControl	Auxiliary for controlling group testing regression
gtSim	Simulation function for group testing data
gtTest	Hypothesis test for one proportion in group testing
gtWidth	Expected width of confidence intervals in group testing
halving	Probability mass function for halving
hivsurv	Data from an HIV surveillance project
informativeArrayProb	Arrange a matrix of probabilities for informative array testing
operatingCharacteristics1	Calculate operating characteristics for group testing algorithms that use a single-disease assay
operatingCharacteristics2	Calculate operating characteristics for group testing algorithms that use a multiplex assay for two diseases
plot.OTC	Plot method for optimal testing configuration results
pmf	Access the testing probability mass function returned from an object
pmf.Sterrett	Extract probability mass function (PMF) from group testing results
pmf.halving	Extract probability mass function (PMF) from group testing results
predict.gtReg	Predict method for 'gtReg'
print.OTC	Print method for optimal testing configuration results
print.Sterrett	Print method for objects of class "Sterrett"
print.TOD	Print method for 'TOD'
print.designEst	Print method for objects of class "designEst"
print.designPower	Print method for objects of class "designPower"
print.gtReg	Print method for 'gtReg'
print.gtTest	Print method for objects of class "gtTest"
print.halving	Print method for objects of class "halving"
print.opChar	Print method for operating characteristics results
print.predict.gtReg	Print method for 'predict.gtReg'
print.propCI	Print method for objects of class "propCI"
print.propDiffCI	Print method for objects of class "propDiffCI"
print.summary.gtReg	Print method for 'summary.gtReg'
propCI	Confidence intervals for one proportion in group testing
propDiffCI	Confidence intervals for the difference of proportions in group testing
residuals.gtReg	Extract model residuals from a fitted group testing model
summary.OTC	Summary method for optimal testing configuration results
summary.gtReg	Summary method for 'gtReg'
summary.opChar	Summary method for operating characteristics results