Package 'genBinomTest'

October 22, 2013

Type Package

Title Generalized binomial test

Version 0.1

Date 2013-10-14

Description Implementation of a generalized binomial test for independent (though not identical) random variables.

Depends R (>= 2.10.0), stats

License GPL-2

R topics documented:

`genBinomTest-package` *Generalized binomial test*

Description

`genBinomTest` provides an implementation of a generalized binomial test for independent Bernoulli random variables.

Details

Package:	genBinomTest
Type:	Package
Version:	0.1
Date:	2013-10-14
License:	GPL-2

~~ An overview of how to use the package, including the most ~~ ~~ important functions ~~

Author(s)

Karl Schlag and Oliver Reiter

References

Schlag, K. (2013), "Doing Hoeffding's Homework - Tests and Confidence Intervals for the mean of finitely many independently distributed Bernoulli random variables."

http://homepage.univie.ac.at/karl.schlag/research/statistics/

`genBinomTest` *Generalized binomial test*

Description

Performs an exact test of three hypotheses about the probability of success in a Bernoulli experiment.

Usage

```
genBinomTest(x, n, p = 0.5, alpha = 0.05)
```

Arguments

`x`	number of successes in the trials
`n`	number of trials
`p`	hypothesized probability of success.
`alpha`	the type I error

Details

`genBinomTest` calculates p-Values and confidence intervals for independently distributed Bernoulli random variables. The assumption that these variables are also identically distributed can be relaxed with this test.

The confidence intervals are chosen so as to yield the shortest-length confidence interval with confidence level at least $1 - \alpha$.

Value

A list with class "genbinom" containing the following components:

`method`	a character string indicating the name and type of the test that was performed.
`data.name`	a character string giving the name(s) of the data.
`x`	number of successes
`n`	number of trials
`p`	hypothesized probability of success.
`ci.upper, ci.lower, ci.twosided`	confidence intervals of the three hypotheses
`alpha`	the type I error
`pvalues`	p-Values for the three tested hypotheses

Author(s)

Karl Schlag, Oliver Reiter

References

Schlag, K. (2013), "Doing Hoeffding's Homework - Tests and Confidence Intervals for the mean of finitely many independently distributed Bernoulli random variables."

See Also

http://homepage.univie.ac.at/karl.schlag/research/statistics/

Examples

```
genBinomTest(8, 13, p = 0.85)
```

Index