Package ‘CATTextact’

September 15, 2017

Type Package
Title Computation of the p-Value for the Exact Conditional Cochran-Armitage Trend Test
Version 0.1.0
Description Provides functions for computing the one-sided p-values of the Cochran-Armitage trend test statistic for the asymptotic and the exact conditional test. The computation of the p-value for the exact test is performed using an algorithm following an idea by Mehta, et al. (1992) <doi:10.2307/1390598>.

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catt_asy  

Asymptotic Cochran-Armitage trend test

Description

catt_asy calculates the Cochran-Armitage trend test statistic (Cochran (1954), Armitage (1955)) and the one-sided p-value for the corresponding asymptotic test. The exact form of used test statistic can be found in the paper by Portier and Hoel (1984).

Usage

catt_asy(dose.ratings, totals, cases)

Arguments

dose.ratings  A vector of dose ratings, the i-th entry corresponds to the dose-rating of the i-th group. This vector must be strictly monotonically increasing

totals  The vector of total individuals per group, the i-th entry corresponds to the total number of individuals in the i-th group

cases  The vector of incidences per groups, the i-th entry corresponds to the number of incidences in the i-th group

Value

A list containing the value of the Cochran-Armitage Trend Test Statistic and its asymptotic p-value.

References


Examples

d <- c(1,2,3,4)
n <- rep(20,4)
r <- c(1,4,3,8)
catt_asy(d, n, r)
catt_exact

**Conditional exact Cochran-Armitage trend test**

**Description**

catt_exact calculates the Cochran-Armitage trend test statistic (Cochran (1954), Armitage (1955)) and the one-sided p-value for the corresponding conditional exact test. The conditional exact test has been established by Williams (1988). The computation of its p-value is performed using an algorithm following an idea by Mehta, et al. (1992).

**Usage**

catt_exact(dose.ratings, totals, cases)

**Arguments**

dose.ratings A vector of dose ratings, the i-th entry corresponds to the dose-rating of the i-th group. This vector must be strictly monotonically increasing

totals The vector of total individuals per group, the i-th entry corresponds to the total number of individuals in the i-th group.

cases The vector of incidences per groups, the i-th entry corresponds to the number of incidences in the i-th group.

**Value**

A list containing the value of the Cochran-Armitage Trend Test Statistic, its exact and asymptotic p-value.

**References**


Examples

\[ d <- c(1,2,3,4) \]
\[ n <- \text{rep}(20,4) \]
\[ r <- c(1,4,3,8) \]

\[ \text{catt\_exact}(d, n, r) \]
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