Package ‘rms.gof’

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Type Package
Title Root-mean-square goodness-of-fit test for simple null hypothesis
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Description This package can be used to test any simple null hypothesis using the root-mean-square goodness of fit test. Monte Carlo estimation is used to calculate the associated P-value.
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rms.gof-package Root-mean-square goodness-of-fit test for simple null hypothesis

Description

This package can be used to test any simple null hypothesis using the root-mean-square goodness of fit test. Monte Carlo estimation is used to calculate the associated P-value.

Details
To use this package, the model must be a completely specified discrete probability distribution. The function `rms.pval()` returns the P-value.

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**References**

"Chi-square and classical exact tests often wildly misreport significance; the remedy lies in computers." by Will Perkins, Mark Tygert, and Rachel Ward.

**See Also**

`rms.pval`

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**Description**

Returns the P-value associated with a root-mean-square test.

**Usage**

`rms.pval(observed, expected, num_sim= 1000)`

**Arguments**

- `observed` The observed data
- `expected` The expected data
- `num_sim` Number of Monte-Carlo simulations desired. The default is 1,000 simulations.

**Details**

This function calls on `test.rms()` to calculate the root-mean-square test statistic before calculating the P-value using Monte-Carlo simulation.
Value

Returns the P-value associated with the root-mean-square test.

Author(s)

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References

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See Also

test.rms

Examples

#This example is from section 5.1.2 of the referenced text

k <- c(1:128)
#Define model distribution (exp) and observed distribution (obs)
C1 <- 1/sum(1/k)
exp <- C1/k

C2 <- 1/sum(1/k^2)
obs <- C2/k^2

rms.pval(obs,exp,10000)

test.rms

Computing the root-mean-square test statistic

Description

Calculates the root-mean-square test statistic between the observed data and fully-specified model distribution.

Usage

test.rms(observed, expected)

Arguments

<table>
<thead>
<tr>
<th>observed</th>
<th>The observed data</th>
</tr>
</thead>
<tbody>
<tr>
<td>expected</td>
<td>The expected data</td>
</tr>
</tbody>
</table>
Details

Called on by rms.pval().

Author(s)

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References

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See Also

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