Package 'flatr'

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Type Package

Title Transforms Contingency Tables to Data Frames, and Analyses Them

Version 0.1.1

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Description Contingency Tables are a pain to work with when you want to run regressions.
This package takes them, flattens them into a long data frame, so you can more easily analyse them!
As well, you can calculate other related statistics. All of this is done so in a 'tidy' manner, so it should tie in nicely with 'tidyverse' series of packages.

Depends R(>= 3.4.2), stats, dplyr, tibble, magrittr

Suggests testthat

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Encoding UTF-8

LazyData true

RoxygenNote 6.0.1

NeedsCompilation no

Repository CRAN

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Contents

flatten_ct *Flatten i*j*k contingency tables into tidy data.*

Description

flatten_ct() takes a i*j*k array, and turns it into a tibble

Usage

```
flatten_ct(data)
```

Arguments

data	An i*j*k array.

Value

A tibble with 3 columns.

Examples

```
flatten_ct(lung_cancer)
```

goodness_of_fit *Calculate the Chi^2 and G^2 Statistics*

Description

Calculates the goodness of fit test statistics for contingency tables

Usage

```
goodness_of_fit(model, type = "Chisq", ...)
```

Arguments

model	a GLM regression model.
type	either "Chisq" or "Gsq", which determines the type of goodness of fit test that is ran. Defaults to "Chisq".
...	Further arguments passed to or from other methods.

Value

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

test the type of test used.

model the name of the inputted model.

statistic The value of the test statistic as determined by the type parameter

df The number of degrees of freedom. This equals the number of combinations for explanatory variables less the number of parameters in the model

p.value The p-value calculated under a Chi-Squared distribution.

Examples

```
lung_logit <-
  lung_cancer %>%
  flatten_ct() %>%
  glm(
    Lung ~ Smoking
    ,family = binomial
    ,data = .
  )

goodness_of_fit(model = lung_logit, type = "Chisq")
lung_logit %>%
  goodness_of_fit(type = "Gsq")
lung_cancer %>%
  flatten_ct() %>%
  glm(
    Lung ~ City + Smoking
    ,family = binomial
    ,data = .
  ) %>%
  goodness_of_fit()
```

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lung_cancer *Lung Cancer by whether or not a person smokes and City.*

Description

Based on data in Z. Liu, Int. J. Epidemiol., 21: 197–201, 1992.

Usage

```
lung_cancer
```

Format

An Array with 2*2*8 dimensions

Smoking Whether or not a person smokes.

Lung Whether or not a person has lung cancer.

City Name of the city a person lives in.

Examples

```
lung_cancer
```

`print.ct_goodness_of_fit` *Print method for goodness_of_fit()*

Description

Creates a nice looking output for the goodness_of_fit() function

Usage

```
## S3 method for class 'ct_goodness_of_fit'
print(x, ...)
```

Arguments

`x`	A list
`...`	Further arguments passed to or from other methods.

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