

Package ‘conjoint’

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Title An Implementation of Conjoint Analysis Method

Description This is a simple R package that allows to measure the stated preferences using traditional conjoint analysis method.

License GPL

URL <https://github.com/packagesR/conjoint>

Imports AlgDesign, stats, grDevices, graphics, fpc, broom, ggplot2, cluster, ggfortify

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NeedsCompilation no

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caBTL	<i>Function caBTL estimates participation (market share) of simulation profiles</i>
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Description

Function caBTL estimates participation of simulation profiles using probabilistic model BTL (Bradley-Terry-Luce). Function returns vector of percentage participations. The sum of participation should be 100%.

Usage

```
caBTL(sym, y, x)
```

Arguments

sym	matrix of simulation profiles
y	matrix of preferences
x	matrix of profiles

Author(s)

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References

- Bak A., Bartłomowicz T. (2012), *Conjoint analysis method and its implementation in conjoint R package*, [In:] Pocięcha J., Decker R. (Eds.), *Data analysis methods and its applications*, C.H.Beck, Warszawa, p.239-248.
- Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.
- Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.
- SPSS 6.1 Categories* (1994), SPSS Inc., Chicago.

See Also

[caLogit](#), [caMaxUtility](#) and [ShowAllSimulations](#)

Examples

```
#Example 1
library(conjoint)
data(tea)
simutil<-caBTL(tsimp,tpref,tprof)
print("Percentage participation of profiles: ", quote=FALSE)
print(simutil)

#Example 2
library(conjoint)
data(chocolate)
simutil<-caBTL(csimp,cpref,cprof)
print("Percentage participation of profiles:", quote=FALSE)
print(simutil)

#Example 3
library(conjoint)
data(chocolate)
ShowAllSimulations(csimp,cpref,cprof)

#Example 4
#library(conjoint)
#data(journey)
#ShowAllSimulations(jsimp,jpref,jprof)
```

caEncodedDesign

Function caEncodedDesign encodes full or fractional factorial design

Description

Function caEncodedDesign encodes full or fractional factorial design. Function converts design of experiment to matrix of profiles.

Usage

```
caEncodedDesign(design)
```

Arguments

design design of experiment returned by caFactorialDesign function

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References

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Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.

Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.

SPSS 6.1 Categories (1994), SPSS Inc., Chicago.

See Also

[caFactorialDesign](#) and [caRecreatedDesign](#)

Examples

```
#Example 1
library(conjoint)
experiment<-expand.grid(
  price=c("low","medium","high"),
  variety=c("black","green","red"),
  kind=c("bags","granulated","leafy"),
  aroma=c("yes","no"))
design=caFactorialDesign(data=experiment,type="orthogonal")
print(design)
code=caEncodedDesign(design)
print(code)
print(cor(code))
```

caFactorialDesign *Function caFactorialDesign creates full or fractional factorial design*

Description

Function caFactorialDesign creates full or fractional factorial design. Function can return orthogonal factorial design.

Usage

```
caFactorialDesign(data, type="null", cards=NA, seed=123)
```

Arguments

data	experiment whose design consists of two or more factors, each with with 2 or more discrete levels
type	type of factorial design (possible values: "full", "fractional", "ca", "aca", "orthogonal"; default value: type="null")
cards	number of experimental runs
seed	seed settings (default value: seed=123)

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References

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- Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.
- Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.
- SPSS 6.1 Categories* (1994), SPSS Inc., Chicago.

See Also

[caEncodedDesign](#) and [caRecreatedDesign](#)

Examples

```
#Example 1
library(conjoint)
experiment<-expand.grid(
  price=c("low", "medium", "high"),
  variety=c("black", "green", "red"),
  kind=c("bags", "granulated", "leafy"),
  aroma=c("yes", "no"))
design=caFactorialDesign(data=experiment, type="full")
print(design)
print(cor(caEncodedDesign(design)))

#Example 2
library(conjoint)
experiment<-expand.grid(
  price=c("low", "medium", "high"),
  variety=c("black", "green", "red"),
  kind=c("bags", "granulated", "leafy"),
  aroma=c("yes", "no"))
design=caFactorialDesign(data=experiment)
print(design)
print(cor(caEncodedDesign(design)))

#Example 3
library(conjoint)
experiment<-expand.grid(
  price=c("low", "medium", "high"),
  variety=c("black", "green", "red"),
  kind=c("bags", "granulated", "leafy"),
  aroma=c("yes", "no"))
design=caFactorialDesign(data=experiment, type="orthogonal")
print(design)
print(cor(caEncodedDesign(design)))

#Example 4
library(conjoint)
experiment<-expand.grid(
  price=c("low", "medium", "high"),
  variety=c("black", "green", "red"),
  kind=c("bags", "granulated", "leafy"),
  aroma=c("yes", "no"))
design=caFactorialDesign(data=experiment, type="fractional", cards=16)
print(design)
print(cor(caEncodedDesign(design)))

#Example 5
library(conjoint)
experiment<-expand.grid(
  price=c("low", "medium", "high"),
  variety=c("black", "green", "red"),
  kind=c("bags", "granulated", "leafy"),
  aroma=c("yes", "no"))
```

```
design=caFactorialDesign(data=experiment,type="fractional")
print(design)
print(cor(caEncodedDesign(design)))

#Example 6
library(conjoint)
experiment<-expand.grid(
price=c("low","medium","high"),
variety=c("black","green","red"),
kind=c("bags","granulated","leafy"),
aroma=c("yes","no"))
design=caFactorialDesign(data=experiment,type="ca")
print(design)
print(cor(caEncodedDesign(design)))

#Example 7
library(conjoint)
experiment<-expand.grid(
price=c("low","medium","high"),
variety=c("black","green","red"),
kind=c("bags","granulated","leafy"),
aroma=c("yes","no"))
design=caFactorialDesign(data=experiment,type="aca")
print(design)
print(cor(caEncodedDesign(design)))
```

caImportance

Function caImportance calculates importance of all attributes

Description

Function caImportance calculates importance of all attributes. Function returns vector of percentage attributes' importance and corresponding chart (barplot). The sum of importance should be 100%.

Usage

```
caImportance(y, x)
```

Arguments

y	matrix of preferences
x	matrix of profiles

Author(s)

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References

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Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.

Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.

SPSS 6.1 Categories (1994), SPSS Inc., Chicago.

See Also

[Conjoint](#)

Examples

```
#Example 1
library(conjoint)
data(tea)
imp<-caImportance(tprefm, tprof)
print("Importance summary: ", quote=FALSE)
print(imp)
print(paste("Sum: ", sum(imp)), quote=FALSE)

#Example 2
library(conjoint)
data(chocolate)
imp<-caImportance(cprefm, cprof)
print("Importance summary: ", quote=FALSE)
print(imp)
print(paste("Sum: ", sum(imp)), quote=FALSE)

#Example 3
library(conjoint)
data(journey)
imp<-caImportance(jpref[1,], jprof)
print("Importance summary of first respondent: ", quote=FALSE)
print(imp)
print(paste("Sum: ", sum(imp)), quote=FALSE)

#Example 4
library(conjoint)
data(journey)
imp<-caImportance(jpref[1:5,], jprof)
print("Importance summary of group of 5 respondents: ", quote=FALSE)
print(imp)
print(paste("Sum: ", sum(imp)), quote=FALSE)
```

caLogit	<i>Function caLogit estimates participation (market share) of the simulation profiles</i>
---------	---

Description

Function caLogit estimates participation of simulation profiles using logit model. Function returns vector of percentage participations. The sum of participation should be 100%.

Usage

```
caLogit(sym, y, x)
```

Arguments

sym	matrix of simulation profiles
y	matrix of preferences
x	matrix of profiles

Author(s)

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Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.

Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.

SPSS 6.1 Categories (1994), SPSS Inc., Chicago.

See Also

[caBTL](#), [caMaxUtility](#) and [ShowAllSimulations](#)

Examples

```
#Example 1
library(conjoint)
data(tea)
simutil<-caLogit(tsimp,tpref,tprof)
print("Percentage participation of profiles: ", quote=FALSE)
print(simutil)

#Example 2
library(conjoint)
data(chocolate)
simutil<-caLogit(csimp,cpref,cprof)
print("Percentage participation of profiles:", quote=FALSE)
print(simutil)

#Example 3
library(conjoint)
data(chocolate)
ShowAllSimulations(csimp,cpref,cprof)

#Example 4
#library(conjoint)
#data(journey)
#ShowAllSimulations(jsimp,jpref,jprof)
```

caMaxUtility

Function caMaxUtility estimates participation (market share) of simulation profiles

Description

Function caMaxUtility estimates participation of simulation profiles using model of maximum utility ("first position"). Function returns vector of percentage participations. The sum of participation should be 100%.

Usage

```
caMaxUtility(sym, y, x)
```

Arguments

sym	matrix of simulation profiles
y	matrix of preferences
x	matrix of profiles

Author(s)

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References

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Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.

Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.

SPSS 6.1 Categories (1994), SPSS Inc., Chicago.

See Also

[caBTL](#), [caLogit](#) and [ShowAllSimulations](#)

Examples

```
#Example 1
library(conjoint)
data(tea)
simutil<-caMaxUtility(tsimp,tpref,tprof)
print("Percentage participation of profiles: ", quote=FALSE)
print(simutil)

#Example 2
library(conjoint)
data(chocolate)
simutil<-caMaxUtility(csimp,cpref,cprof)
print("Percentage participation of profiles:", quote=FALSE)
print(simutil)

#Example 3
library(conjoint)
data(chocolate)
ShowAllSimulations(csimp,cpref,cprof)

#Example 4
#library(conjoint)
#data(journey)
#ShowAllSimulations(jsimp,jpref,jprof)
```

`caModel`*Function caModel estimates parameters of conjoint analysis model*

Description

Function `caModel` estimates parameters of conjoint analysis model for one respondent. Function `caModel` returns vector of estimated parameters of traditional conjoint analysis model.

Usage

```
caModel(y, x)
```

Arguments

<code>y</code>	vector of preferences, vector should be like single profil of preferences
<code>x</code>	matrix of profiles

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References

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- Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.
- Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.
- SPSS 6.1 Categories* (1994), SPSS Inc., Chicago.

See Also

[Conjoint](#)

Examples

```
#Example 1
library(conjoint)
data(tea)
model=caModel(tprefm[1,], tprof)
print(model)
```

```
#Example 2
library(conjoint)
data(chocolate)
model=caModel(cprefm[1,], cprof)
print(model)

#Example 3
library(conjoint)
data(journey)
model=caModel(jpref[306,], jprof)
print(model)
```

caPartUtilities *Function caPartUtilities calculates matrix of individual utilities*

Description

Function caPartUtilities calculates matrix of individual utilities for respondents. Function returns matrix of partial utilities (parameters of conjoint model regression) for all artificial variables including parameters for reference levels for respondents (with intercept on first place).

Usage

```
caPartUtilities(y, x, z)
```

Arguments

y	matrix of preferences
x	matrix of profiles
z	vector of levels names

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References

Bak A., Bartlomowicz T. (2012), *Conjoint analysis method and its implementation in conjoint R package*, [In:] Pociecha J., Decker R. (Eds.), *Data analysis methods and its applications*, C.H.Beck, Warszawa, p.239-248.

Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.

Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.

SPSS 6.1 Categories (1994), SPSS Inc., Chicago.

See Also

[caUtilities](#), [caTotalUtilities](#) and [ShowAllUtilities](#)

Examples

```
#Example 1
library(conjoint)
data(tea)
uslall<-caPartUtilities(tprefm,tprof,tlevn)
print(uslall)

#Example 2
library(conjoint)
data(chocolate)
uslall<-caPartUtilities(cprefm,cprof,clevn)
print(head(uslall))

#Example 3
library(conjoint)
data(journey)
usl<-caPartUtilities(jpref[1,],jprof,jlevn)
print("Individual (partial) utilities for first respondent:")
print(usl)
```

caRankToScore	<i>Function caRankToScore transforms ranking data into rating data design</i>
---------------	---

Description

Function caRankToScore transforms ranking data into rating data design necessary for conjoint model.

Usage

```
caRankToScore(y.rank)
```

Arguments

y.rank matrix of preferences in ranking format

Author(s)

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References

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Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.

Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.

SPSS 6.1 Categories (1994), SPSS Inc., Chicago.

Examples

```
#Example 1
library(conjoint)
data(ice)
print(ilevn)
print(iprof)
print(ipref)
preferences<-caRankToScore(ipref)
print(preferences)
Conjoint(preferences, iprof, ilevn)
```

caRecreatedDesign

Function caRecreatedDesign reconstructs factorial design

Description

Function caRecreatedDesign reconstructs the factorial design on the basis of arguments in the form of: a vector of variables (attributes) names, a vector of the number of variables' levels, a vector of variable level names and the list of numbers of the reconstructed profiles.

Usage

```
caRecreatedDesign(attr.names, lev.numbers, z, prof.numbers)
```

Arguments

attr.names	a vector of variables (attributes) names
lev.numbers	a vector of the number of variables' levels
z	a vector of variable level names
prof.numbers	list of numbers of the reconstructed profiles

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References

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Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.

Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.

SPSS 6.1 Categories (1994), SPSS Inc., Chicago.

See Also

[caFactorialDesign](#) and [caEncodedDesign](#)

Examples

```
#Example 1
library(conjoint)
attrNames<-c("price", "variety", "kind", "aroma")
levNumbers<-c(3, 3, 3, 2)
z<-c("low", "medium", "high", "black", "green", "red", "bags", "granulated", "leafy", "yes", "no")
profNumbers<-c(3, 4, 14, 20, 27, 29, 33, 35, 39, 43, 46, 50, 51)
design<-caRecreatedDesign(attrNames, levNumbers, z, profNumbers)
print(design)
print(design$dnumbers)
print(design$dnames)
```

caSegmentation *Function caSegmentation divides respondents on clusters*

Description

Function caSegmentation divides respondents on n clusters (segments) using *k*-means method (function kmeans, package stats). There are two data sets used - matrix or vector of preferences and matrix of profiles.

Usage

```
caSegmentation(y, x, c)
```

Arguments

y	matrix of preferences
x	matrix of profiles
c	number of clusters (optional), default value c=2

Author(s)

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References

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Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.

Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.

SPSS 6.1 Categories (1994), SPSS Inc., Chicago.

Examples

```
#Example 1
library(conjoint)
require(fpc)
data(tea)
segments<-caSegmentation(tprefm, tprof)
print(segments$seg)
plotcluster(segments$util, segments$sclu)
```

```

#Example 2
library(conjoint)
require(fpc)
data(tea)
segments<-caSegmentation(tpref, tprof, 3)
print(segments$seg)
plotcluster(segments$util, segments$sclu)

#example 3
library(conjoint)
require(fpc)
require(broom)
require(ggplot2)
data(tea)
segments<-caSegmentation(tprefm, tprof, 3)
dcf<-discrcoord(segments$util, segments$sclu)
assignments<-augment(segments$segm, dcf$proj[, 1:2])
ggplot(assignments)+geom_point(aes(x=X1, y=X2, color= .cluster))+labs(color="Cluster Assignment",
title="K-Means Clustering Results")

#Example 4
library(conjoint)
require(ggfortify)
data(tea)
segments<-caSegmentation(tpref, tprof, 3)
print(segments$seg)
util<-as.data.frame(segments$util)
set.seed(123)
ggplot2::autoplot(kmeans(util, 3), data=util, label=TRUE, label.size=4, frame=TRUE)

#Example 5
#library(conjoint)
#require(ggfortify)
#require(cluster)
#data(tea)
#segments<-caSegmentation(tpref, tprof, 3)
#print(segments$seg)
#util<-as.data.frame(segments$util)
#ggplot2::autoplot(pam(util, 3), label=TRUE, label.size=4, frame=TRUE, frame.type='norm')

```

caTotalUtilities

Function caTotalUtilities calculates matrix of theoretical total utilities

Description

Function caTotalUtilities calculates matrix of theoretical total utilities for respondents. Function returns matrix of total utilities for all profiles.

Usage

```
caTotalUtilities(y, x)
```

Arguments

y	matrix of preferences
x	matrix of profiles

Author(s)

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References

Bak A., Bartlomowicz T. (2012), *Conjoint analysis method and its implementation in conjoint R package*, [In:] Pociecha J., Decker R. (Eds.), *Data analysis methods and its applications*, C.H.Beck, Warszawa, p.239-248.

Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.

Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.

SPSS 6.1 Categories (1994), SPSS Inc., Chicago.

See Also

[caUtilities](#), [caPartUtilities](#) and [ShowAllUtilities](#)

Examples

```
#Example 1
library(conjoint)
data(tea)
uslall<-caTotalUtilities(tprefm, tprof)
print(uslall)

#Example 2
library(conjoint)
data(chocolate)
uslall<-caTotalUtilities(cprefm, cprof)
print(uslall)

#Example 3
library(conjoint)
data(journey)
usl<-caTotalUtilities(jpref[1,], jprof)
```

```
print("Individual (total) utilities for first respondent:")  
print(us1)
```

`caUtilities`*Function caUtilities calculates utilities of levels of attributes*

Description

Function `caUtilities` calculates utilities of attribute's levels. Function returns vector of utilities.

Usage

```
caUtilities(y,x,z)
```

Arguments

<code>y</code>	matrix of preferences
<code>x</code>	matrix of profiles
<code>z</code>	matrix of levels names

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Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.

SPSS 6.1 Categories (1994), SPSS Inc., Chicago.

See Also

[caPartUtilities](#) and [caTotalUtilities](#)

Examples

```
#Example 1
library(conjoint)
data(tea)
uslall<-caUtilities(tprefm,tprof,tlevn)
print(uslall)

#Example 2
library(conjoint)
data(chocolate)
uslall<-caUtilities(cprefm,cprof,clevn)
print(uslall)

#Example 3
library(conjoint)
data(journey)
usl<-caUtilities(jpref[1,],jprof,jlevn)
print("Individual utilities for first respondent:")
print(usl)
```

chocolate

Sample data for conjoint analysis

Description

Sample data in score mode. Rating (score) data does not need any conversion. Data collected in the survey conducted by W. Nowak in 2000.

Usage

```
data(chocolate)
```

Format

`cpref` Vector of preferences (length 1392).
`cprefm` Matrix of preferences (87 respondents and 16 profiles).
`cprof` Matrix of profiles (5 attributes and 16 profiles).
`clevn` Character vector of names for the attributes' levels.
`csimp` Matrix of simulation profiles.

Examples

```
library(conjoint)
data(chocolate)
print(cprefm)
print(cprof)
print(clevn)
print(csimp)
```

Conjoint

Function Conjoint sums up the main results of conjoint analysis

Description

Function Conjoint is a combination of following conjoint package's functions: [caPartUtilities](#), [caUtilities](#) and [caImportance](#). Therefore it sums up the main results of conjoint analysis. Function Conjoint returns matrix of partial utilities for levels of variables for respondents, vector of utilities for attribute's levels and vector of percentage attributes' importance with corresponding chart (barplot). The sum of importance should be 100

Usage

```
Conjoint(y, x, z, y.type)
```

Arguments

y	matrix of preferences
x	matrix of profiles
z	matrix of levels names
y.type	type of data preferences (possible values: "score" for preferences as rating data, "rank" for preferences as ranking data; default value: y.type="score")

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References

- Bak A., Bartlomowicz T. (2012), *Conjoint analysis method and its implementation in conjoint R package*, [In:] Pocięcha J., Decker R. (Eds.), *Data analysis methods and its applications*, C.H.Beck, Warszawa, p.239-248.
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- Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.
- SPSS 6.1 Categories* (1994), SPSS Inc., Chicago.

See Also

[caImportance](#), [caPartUtilities](#) and [caUtilities](#)

Examples

```
#Example 1
library(conjoint)
data(ice)
print("Preferences of all respondents (preferences as ranking data):")
Conjoint(ipref,iprof,ilevn,y.type="rank")

#Example 2
library(conjoint)
data(ice)
ipref=caRankToScore(ipref)
print("Preferences of all respondents (preferences converted into rating data):")
Conjoint(ipref,iprof,ilevn,y.type="score")

#Example 3
library(conjoint)
data(journey)
print("Preferences of all respondents (preferences as default - rating data):")
Conjoint(jpref,jprof,jlevn)

#Example 4
library(conjoint)
data(tea)
print("Preferences of all respondents (preferences as rating data):")
Conjoint(tprefm,tprof,tlevn,y.type="score")

#Example 5
library(conjoint)
data(tea)
print("Preferences of first respondent (preferences as default - rating data):")
Conjoint(tprefm[1,],tprof,tlevn)

#Example 6
library(conjoint)
data(tea)
print("Preferences of group of 5 respondents (preferences as rating data):")
Conjoint(tprefm[11:15,],tprof,tlevn,y.type="score")
```

czekolada

Sample data for conjoint analysis

Description

Sample data in score mode. Rating (score) data does not need any conversion. Data collected in the survey conducted by W. Nowak in 2000.

Usage

```
data(czekolada)
```

Format

czpref Vector of preferences (length 1392).
czprefm Matrix of preferences (87 respondents and 16 profiles).
czprof Matrix of profiles (5 attributes and 16 profiles).
czlevn Character vector of names for the attributes' levels.
czsimp Matrix of simulation profiles.

Examples

```
library(conjoint)
data(czekolada)
print(czprefm)
print(czprof)
print(czlevn)
print(czsimp)
```

herbata

Sample data for conjoint analysis

Description

Sample data in score mode. Rating (score) data does not need any conversion. Data collected in the survey conducted by M. Baran in 2007.

Usage

```
data(herbata)
```

Format

hpref Vector of preferences (length 1300).
hprefm Matrix of preferences (100 respondents and 13 profiles).
hprof Matrix of profiles (4 attributes and 13 profiles).
hlevn Character vector of names for the attributes' levels.
hsimp Matrix of simulation profiles.

Examples

```
library(conjoint)
data(herbata)
print(hprefm)
print(hprof)
print(hlevn)
print(hsimp)
```

ice	<i>Sample data for conjoint analysis</i>
-----	--

Description

Sample artificial data in rank mode. Ranking (rank) data needs conversion into rating (score) data.

Usage

```
data(ice)
```

Format

ipref Matrix of preferences (6 respondents and 9 profiles).

iprof Matrix of profiles (4 attributes and 9 profiles).

ilevn Character vector of names for the attributes' levels.

Examples

```
library(conjoint)
data(ice)
print(ipref)
print(iprof)
print(ilevn)
```

journey	<i>Sample data for conjoint analysis</i>
---------	--

Description

Sample data in score mode. Rating (score) data does not need any conversion. Data collected in the survey conducted by M. Gordzicz in 2015/2016.

Usage

```
data(journey)
```

Format

jpref Matrix of preferences (306 respondents and 14 profiles).

jprof Matrix of profiles (4 attributes and 14 profiles).

jlevn Character vector of names for the attributes' levels.

jsimp Matrix of simulation profiles.

Examples

```
library(conjoint)
data(journey)
print(jpref)
print(jprof)
print(jlevn)
print(jsimp)
```

lody

Sample data for conjoint analysis

Description

Sample artificial data in rank mode. Ranking (rank) data needs conversion into rating (score) data.

Usage

```
data(lody)
```

Format

lpref Matrix of preferences (6 respondents and 9 profiles).

lprof Matrix of profiles (4 attributes and 9 profiles).

llevn Character vector of names for the attributes' levels.

Examples

```
library(conjoint)
data(lody)
print(lpref)
print(lprof)
print(llevn)
```

plyty

Sample data for conjoint analysis

Description

Sample artificial data in score mode. Rating (score) data does not need any conversion.

Usage

```
data(plyty)
```

Format

ppref Matrix of preferences (6 respondents and 8 profiles).

pprof Matrix of profiles (3 attributes and 8 profiles).

plevn Character vector of names for the attributes' levels.

Examples

```
library(conjoint)
data(plyty)
print(ppref)
print(pprof)
print(plevn)
```

ShowAllSimulations	<i>Function ShowAllSimulations sums up the results of all simulation functions</i>
--------------------	--

Description

Function ShowAllSimulations sums up the results of all simulation functions. It's a combination of following conjoint package's functions: [caMaxUtility](#), [caBTL](#) and [caLogit](#). Therefore it sums up the main results of simulation using conjoint analysis method. Function ShowAllSimulations returns three vectors of percentage participations using maximum utility, BTL and logit models. The sum of importance for every vector should be 100%.

Usage

```
ShowAllSimulations(sym, y, x)
```

Arguments

sym	matrix of simulation profiles
y	matrix of preferences
x	matrix of profiles

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References

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Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa, p. 283-317.

Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, p. 103-123.

SPSS 6.1 Categories (1994), SPSS Inc., Chicago.

See Also

[caBTL](#), [caLogit](#) and [caMaxUtility](#)

Examples

```
#Example 1
library(conjoint)
data(tea)
ShowAllSimulations(tsimp, tpref, tprof)

#Example 2
library(conjoint)
data(chocolate)
ShowAllSimulations(csimp, cpref, cprof)

#Example 3
#library(conjoint)
#data(journey)
#ShowAllSimulations(jsimp, jpref, jprof)
```

ShowAllUtilities

Function ShowAllUtilities sums up all results of utility measures

Description

Function ShowAllUtilities is a combination of following conjoint package's functions: [caPartUtilities](#), [caTotalUtilities](#), [caUtilities](#) and [caImportance](#). Function ShowAllUtilities returns: matrix of partial utilities (basic matrix of utilities with the intercept), matrix of total utilities for n profiles and all respondents, vector of utilities for attribute's levels and vector of percentage attributes' importance, with sum of importance. The sum of importance should be 100%.

Usage

```
ShowAllUtilities(y, x, z)
```

Arguments

y matrix of preferences
x matrix of profiles
z matrix of levels names

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References

Bak A. (2009), *Analiza Conjoint [Conjoint Analysis]*, [In:] Walesiak M., Gatnar E. (Eds.), *Statystyczna analiza danych z wykorzystaniem programu R [Statistical Data Analysis using R]*, Wydawnictwo Naukowe PWN, Warszawa.
Green P.E., Srinivasan V. (1978), *Conjoint Analysis in Consumer Research: Issues and Outlook*, "Journal of Consumer Research", September, 5, 103-123.
SPSS 6.1 Categories (1994), SPSS Inc., Chicago.

See Also

[caImportance](#), [caPartUtilities](#), [caTotalUtilities](#) and [caUtilities](#)

Examples

```
#Example 1
library(conjoint)
data(tea)
ShowAllUtilities(tprefm, tprof, tlevn)

#Example 2
library(conjoint)
data(chocolate)
ShowAllUtilities(cprefm, cprof, clevn)
```

tea *Sample data for conjoint analysis*

Description

Sample data in score mode. Rating (score) data does not need any conversion. Data collected in the survey conducted by M. Baran in 2007.

Usage

```
data(tea)
```

Format

tpref Vector of preferences (length 1300).
tprefm Matrix of preferences (100 respondents and 13 profiles).
tprof Matrix of profiles (4 attributes and 13 profiles).
tlevn Character vector of names for the attributes' levels.
tsimp Matrix of simulation profiles.

Examples

```
library(conjoint)
data(tea)
print(tprefm)
print(tprof)
print(tlevn)
print(tsimp)
```

wycieczka

Sample data for conjoint analysis

Description

Sample data in score mode. Rating (score) data does not need any conversion. Data collected in the survey conducted by M. Gordzicz in 2015/2016.

Usage

```
data(wycieczka)
```

Format

wpref Matrix of preferences (306 respondents and 14 profiles).
wprof Matrix of profiles (4 attributes and 14 profiles).
wlevn Character vector of names for the attributes' levels.
wsimp Matrix of simulation profiles.

Examples

```
library(conjoint)
data(wycieczka)
print(wpref)
print(wprof)
print(wlevn)
print(wsimp)
```

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