Package 'pamctdp'

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Title Principal Axes Methods for Contingency Tables with Partition Structures on Rows and Columns

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Depends R (>= 2.7.0), ade4, xtable

Description Correspondence Analysis of Contingency Tables with Simple
and Double Structures Superimposed Representations, Intra
Blocks Corresponde Analysis (IBCA), Weighted Intra Blocks Corresponde Analysis (WIBCA).

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R topics documented:

`ctdp2df` *Convertion of Double Partition Contingency Table to Data Frame*

Description

It build up a data.frame containing the four factors and the frequencies associtted to a Double Partition Contingency Table

Usage

```
ctdp2df(tab,rbl,cbl,iden=rep(3,4))
```

Arguments

`tab`	matrix or data.frame containing the contingency table
`rbl`	a numeric vector indicating the row numbers for each block of rows
`cbl`	a numeric vector indicating the column numbers for each block of columns
`iden`	number of characters of each factor to paste for the row identifications

Details

A data.frame with four factors an frequency column is made

Value

Returns a data.frame containing :

`J`	factor identifying column partition
`K`	factor identifying CT columns
`L`	factor identifying row partition
`I`	factor identifying CT rows

Author(s)

Campo Elías PARDO <cepardot@unal.edu.co> http://www.docentes.unal.edu.co/cepardot

References

Pardo Campo Elías (2005). Análisis de correspondencias de tablas de contingencia estructuradas. In: Memorias del Coloquio Distrital de Matemáticas y Estadística. Volume 7. Universidad Distrital, Bogotá http://www.docentes.unal.edu.co/cepardot/docs/ColoquioDistritalMatEst/AnalCorresTCE.pdf

Examples

```
data(mores5)
attach(mores5)
ctdp2df(tab,rbl5,cbl5)
detach(mores5)
```

`inerepa` *Associtted SCA Inertia Repartition*

Description

Associtted SCA Inertia Repartition: SCA of T total of the blocks + intra-tables CA of TJ of the column band marginals + intra-tables CA of TL of the row band marginals + ACI associatted inertia

Usage

```
inerepa(tab,rbl,cbl)
```

Arguments

`tab`	matrix or data.frame containing the contingency table
`rbl`	a numeric vector indicating the row numbers for each block of rows
`cbl`	a numeric vector indicating the column numbers for each block of columns

Details

Compute total inertia of four correspondence analysis

Value

Returns a numeric vector containing :

`inT`	column band weights
`winTL`	row band weights
`winTJ`	column band qualities of the representation
`inACI`	row band qualities of the representation

Author(s)

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References

Pardo Campo Elías (2005). Análisis de correspondencias de tablas de contingencia estructuradas. In: Memorias del Coloquio Distrital de Matemáticas y Estadística. Volume 7. Universidad Distrital, Bogotá http://www.docentes.unal.edu.co/cepardot/docs/ColoquioDistritalMatEst/AnalCorresTCE.pdf

Examples

```
data(ardeche)
attach(ardeche)
inerepa(tab,row.blocks,col.blocks)
detach(ardeche)
```

`inertia.wwm` *Additional aids to interpretation of Double Intra Correspondence Analysis*

Description

Aids to interpretation associated to subclouds in Double Intra Correspondence Analysis (ICA, IBCA, ...). Square distances to the origin of rows and columns

Usage

```
inertia.wwm(ACww, xax=1,yax = 2,dec=1,ti=1000)
## S3 method for class 'wwinertia'
print(x, ...)
```

Arguments

`ACww`	object of class: `wwmodel`
`xax`	the axis number of x
`yax`	the axis number of y
`dec`	number of decimal digits in $fil and $col
`ti`	the inertia values are multiplied by ti
`x`	object of class: `wwinertia`
`...`	further arguments passed to or from other methods

Details

Aids to interpretation associated to the bands. There are J column bands and L row bands.

Value

Returns a list of class `wwinertia` containing :

`cloud.col`	column band weights
`cloud.row`	row band weights
`rel.col`	column band qualities of the representation
`rel.row`	row band qualities of the representation
`abs.col`	column band absolute contributions

abs.row	row band absolute contributions
col	a table of inertia for the column clouds. The inertia values are multiplied by ti
row	a table of inertia for the row clouds. The inertia values are multiplied by ti
coraxisJ	a data frame giving the correlations between the axis separate and global analysis for column bands
coraxisL	a data frame giving the correlations between the axis separate and global analysis for row bands
dis.row	square distances of rows to the origin
dis.col	square distances of columns to the origin

Author(s)

Campo Elías PARDO <cepardot@unal.edu.co> http://www.docentes.unal.edu.co/cepardot

References

Bécue M., Pagès J. and Pardo C.E. (2005). Contingency table with a double partition on rows and columns. Visualization and comparison of the partial and global structures. In: Proceedings ASMDA, Brest, France. May,17-20, 2005. Eds: Jacques Janssen and Philippe Lenca. ENST Bretagne. pages 355–364. http://conferences.telecom-bretagne.eu/asmda2005/IMG/pdf/proceedings/355.pdf

Cazes, P., Chessel, D. and Dolédec, S. (1988) L'analyse des correspondances internes d'un tableau partitionné : son usage en hydrobiologie. Revue de Statistique Appliquee, 36, 39–54. http://pbil.univ-lyon1.fr/R/articles/arti054.pdf

Pardo Campo Elías (2005). Análisis de correspondencias de tablas de contingencia estructuradas. In: Memorias del Coloquio Distrital de Matemáticas y Estadística. Volume 7. Universidad Distrital, Bogotá http://www.docentes.unal.edu.co/cepardot/docs/ColoquioDistritalMatEst/AnalCorresTCE.pdf

Examples

```
data(ardeche)
# change column names
names(ardeche$tab) <- paste(ardeche$sta.fac,ardeche$dat.fac,sep="")
rownames(ardeche$tab) <- # change row names
paste(strtrim(rownames(ardeche$tab),1),substr(rownames(ardeche$tab),4,
length(rownames(ardeche$tab))),sep="")
coa1 <- dudi.coa(ardeche$tab, scann = FALSE, nf = 4)
ww <- witwit.model(coa1, ardeche$row.blocks, ardeche$col.blocks, scann = FALSE)
aids <- inertia.wwm(ww)
aids$col
aids$row
```

mores — *Mortality Data in Spain*

Description

Structured Contingency Table: in rows years (1995, 2005) by regions(17); in columns sex by age by causes

Usage

```
data(mores)
```

Format

`mores` is a list with 6 components.

tab is a data frame containing mortality table with 34 rows and 55 columns.

cbl is a vector containing the repartition of causes for the 4 groups: male premature mortality, male no premature mortality, female premature mortality, female no premature mortality.

rbl is a vector containing the repartition of regions for the two years: 1995, 2005.

cblfac is a factor for columns (4 groups).

rblfac is a factor for rows (2 years).

de is a data frame containing gross value per capita, percentage of illiterate people and percentage of unemployed in the active population

Source

Eurostat and INE of España

References

Becue, M. and Pages, J. (2004). A principal axes method for comparing multiple contingency tables: MFACT Comp. Statistics & Data Analysis. 45(3): 481-503

mores5 — *Reduced No Premature Mortality Data in Spain*

Description

Structured Contingency Table build up with the most frequency causes (5) and the greatest regions (5) frome data `mores`

Usage

```
data(mores5)
```

Format

mores5 is a list with components.

tab is a data frame containing mortality table with 10 rows and 10 columns.

cbl is a vector containing the repartition of causes for the 2 sex: male no premature mortality, female no premature mortality.

rbl is a vector containing the repartition of regions for the two years: 1995, 2005.

cblfac is a factor for columns (2 sex).

rblfac is a factor for rows (2 years).

Source

Eurostat

References

Buitrago, D. C. (2008). Complementariedad entre el modelo log-lineal y el analisis de correspondencias en el analisis de tablas de contingencia. Trabajo de grado para optar al titulo de Estadistica. Universidad Nacional de Colombia. Bogota. http://www.docentes.unal.edu.co/cepardot/docs/TrabajosGrado/TrabajoGradoDianaBuitrago.pdf

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multilingual *Multilingual Free Responses Data*

Description

The data are extracted from a large international survey (Hayashi et al., 1992). People from four countries (Great Britain, France, Italy, Japan) are asked several closed questions and, moreover, the open-ended question: "What is the most important thing to you in life?" is considered. The Japanese an- swers are romanized. In each country, the free answers are grouped into 18 category-documents by crossing gender (male, female), age (into three categories: 18-34, 35-54, 55 and over) and educational level (into three categories: low, medium and high). Then, for each country, from the count of words in the whole answers, the lexical table arises by crossing the 18 documents and the most frequent words. Only the words used at least 20 times are kept.

Usage

```
data(multilingual)
```

Format

multilingual is a list with components.

tab is a data frame containing frequency table: 18 rows (categorical variable = gender x age x educational level)

rbl is a vector containing the repartition of words for the 4 countries

tab3 concatenation of three frequency tables (gender, age, educational level)

cbl3 is a vector containing the category numbers in each table

Source

Hayashi et al.,1992. We thank Profesor Lebart to put at our disposal this data set.

References

M. Becue and J. Pages and C.E. Pardo (2004). Analysis of cross-language open-ended questions through MFACT, in: Classification, Clustering, and Data Mining Applications. Editors-David Banks,Leanna House, Frederick R. McMorris, Phipps Arabie and Wlfgang Gaul. Heidelberg. pringer". pages 553-561. The 2004 Meeting of the International Federation of Classification Societies. Illinois Institute of Technology in Chicago, 15-18 July 2004 See in directory: BecuePagesPardo04.pdf.

Examples

```
# MFACT with pamctdp functions
data(multilingual)
# simple correspondence analysis
sca <- dudi.coa(multilingual$tab,scannf=FALSE,nf=2)
# MFACT analysis
mfact <- witwit.model(sca,multilingual$rbl,18,weight="mfa",scannf=FALSE,nf=2)
inertia.wwm(mfact)$row
# MFACT = ACIBP*homotecia
wibca2mfa(mfact)
# plot of texts
plot(mfact,Trow=FALSE,cframe=0.5)
# plot of words with representation quality on the first plan >= 40%
dev.new()
plot(mfact,ucal=40,all.point=FALSE)
# partial coordinates
parmfact <- partial.wwm(mfact)
#superimposed representation of categorias with age between 35 and 54
#1. points selection
age2 <- names(multilingual$tab)[substr( names(multilingual$tab),3,4)=="35"]
#2. new graphics window
dev.new(width=6,height=8)
#3. superimposed representation
# clic in global points and clic in the top to finish
# plot(parmfact,graph="cols",coleti=age2)
```

`partial.wwm` *Coordinates and Aids to Interpretation of Superimposed Representation of Double Intra Correspondence Analysis*

Description

Coordinates and Aids to Interpretation of Superimposed Representation of Double Intra Correspondence Analysis

Usage

```
partial.wwm(ACww,dil = TRUE)
## S3 method for class 'parwwm'
print(x, ...)
"wwm.util.addfactor<-"(x,value)
```

Arguments

ACww	an object of class wwmodel
dil	when dil=TRUE the partial column coordinates are multiplied by the inve of the column band weight and the partial column coordinates are multiplied by the inverse of the column band weight but it is FALSE the multipliers are J and L
x	object of type parwwm
...	further arguments passed to or from other methods
value	list: rbl,cbl,nr,nc

Details

function 'wwm.util.addfactor<-' is used by 'partial.wwm' function

Value

comp1	Description of 'comp1'
comp2	Description of 'comp2'
dil	dilation T/F
nf	integer, number of kept axes
lw	row weights, a vector with I components
cw	column weights, a vector with K components
row.coor	partial row coordinates
col.coor	partial column coordinates
row.rel	quality of the representation of the partial rows
col.rel	quality of the representation of the partial columns
row.cwit	contribution to the intra inertia of the partial rows
row.cwitS	contribution to the intra inertia of the partial rows on the S subspace
col.cwit	contribution to the intra inertia of the partial columns
col.cwitS	contribution to the intra inertia of the partial columns on the S subspace
row.wit	intra inertia of the rows
row.witS	intra inertia of the rows on the S subspace
col.wit	intra inertia of the columns
col.witS	intra inertia of the columns on the S subspace

quaj	quality of the representation of the partial row clouds (J)
qual	quality of the representation of the partial colum clouds (L)
betj	intra inertia/total inertia of the whole partial row clouds on the axis
betjS	intra inertia/total inertia of the whole partial row clouds on the S subspace
betl	intra inertia/total inertia of the whole partial column clouds on the axis
betlS	intra inertia/total inertia of the whole partial column clouds on the S subspace
inLJ	cotribution to the inertia of blocks (l,j)
cancorj	cannonical correlation of the partial row clouds
cancorl	cannonical correlation of the partial column clouds
parwwm	an object of class parwwm
x	an object of class parwwm
value	list: rbl,cbl,nr,nc

Author(s)

Campo Elías PARDO <cepardot@unal.edu.co>

References

Becue M., Pagès J. and Pardo C.E. (2005). Contingency table with a double partition on rows and columns. Visualization and comparison of the partial and global structures. In: Proceedings ASMDA, Brest, France. May,17-20, 2005. Eds: Jacques Janssen and Philippe Lenca. ENST Bretagne. pages 355–364. http://conferences.telecom-bretagne.eu/asmda2005/IMG/pdf/proceedings/355.pdf

Pages, J. (2004) Multiple Factor Analysis: Main Features and Application to Sensory Data. Revista Colombiana de Estadística. **27**(1) 1–26 http://www.estadistica.unal.edu.co/publicaciones/estadistica/rce/V27/V27_1_1Pages.pdf

Examples

```
data(ardeche)
# change column names
names(ardeche$tab) <- paste(ardeche$sta.fac,ardeche$dat.fac,sep="")
rownames(ardeche$tab) <- # change row names
paste(strtrim(rownames(ardeche$tab),1),substr(rownames(ardeche$tab),4,
length(rownames(ardeche$tab))),sep="")
coa <- dudi.coa(ardeche$tab, scann = FALSE, nf = 4)
ww <- witwit.model(coa, ardeche$row.blocks, ardeche$col.blocks, scannf = FALSE)
parica <- partial.wwm(ww)
parica
```

plot.dudi *Factorial Planes from Objects of Class dudi*

Description

It plots factorial planes from objects of class dudi

Usage

```
## S3 method for class 'dudi'
plot(x,xy=c(1,2),xlim=NULL,ylim=NULL,main=NULL,rotx=FALSE,roty=FALSE,
roweti=row.names(dudi$li),coleti=row.names(dudi$co),
axislabel=TRUE,col.row="black",col.col="blue",cex=0.8,
cex.row=0.8,cex.col=0.8,all.point=TRUE,Trow=TRUE,Tcol=TRUE,
cframe=1.2,ucal=0,cex.global=1,infaxes="out",...)
sutil.grid(cgrid,scale=TRUE)
```

Arguments

x	object of type dudi
xy	a length 2 vector specifying the components to plot
xlim	the x limits (x1, x2) of the plot
ylim	the y limits of the plot
main	graphic title
rotx	TRUE if you want change the sign of the horizontal coordinates. Default FALSE
roty	TRUE if you want change the sign of the vertical coordinates. Default FALSE
roweti	selected row points for the graphic. Default all points
coleti	selected column points for the graphic. Default all points
axislabel	if it is TRUE the axis information is written
col.row	color for row points and row labels. Default "black"
col.col	color for column points and column labels. Default "blue"
cex	global scale for the labels. Default cex=0.8
cex.row	scale for row points and row labels. Default cex.row=0.8
cex.col	scale for column points and column labels. Default cex.col=0.8
all.point	If if is TRUE, all points are outlined. Default all.point=TRUE
Trow	if it is TRUE the row points are outlined. Default TRUE
Tcol	if it is TRUE the column points are outlined. Default TRUE
cframe	scale for graphic limits
ucal	quality representation threshold (percentage) in the plane . Default ucal=0
cex.global	scale for the label sizes

infaxes	place to put the axes information: "out","in","no". Default infaxes="out". If infaxes="out" the graphic is similar to FactoMineR graphics, otherwise the style is similar to the one in ade4, without axes information when infaxes="no"
...	further arguments passed to or from other methods
cgrid	internal parameter
scale	internal

Details

Plot the selected factorial plane. sutil.grid is used by plot.dudi

Value

It graphs the factorial plane x,y using $co, $li of a "dudi" object. If ucal > 0, the function inertia.dudi is used to calculate the quality of representation on the plane

Author(s)

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Examples

```
data(ardeche)
ca <- dudi.coa(ardeche$tab,scannf=FALSE,nf=4)
# FactoMineR style
plot.dudi(ca,ucal=40,all.point=FALSE,main="SCA of Ardeche, First Factorial Plane")
dev.new()
# ade4 style
plot.dudi(ca,xy=c(3,4),ucal=20,all.point=FALSE,infaxes="in",main="SCA of
Ardeche, Plane 3-4")
```

---

plot.parwwm *Superimposed Representacion on Factorial Planes from Objects of Class parwwm*

Description

It plots partial points in factorial planes from objects of class parwwm. We select each global point with a clic. With a clic on the top of the graphic the selection is stopped

Usage

```
## S3 method for class 'parwwm'
plot(x,xy=c(1,2),graph="rows",namesg=NULL,
                        xlim=NULL,ylim=NULL,main=NULL,
                        rotx=FALSE,roty=FALSE,roweti=row.names(dudi$li),
                        coleti=row.names(dudi$co),axislabel=TRUE,asp=1,
grid=TRUE,col.row="black",col.col="black",
cex=0.8,cex.row=0.8,cex.col=0.8,cframe=1.2,
cex.global=1,col.own= c("darkred","darkgreen" ,
"darkblue", "darkmagenta","red",
"darkorange","green3",palette()),...)
```

Arguments

x	object of type parwwm
xy	a length 2 vector specifying the components to plot
graph	select "rows" or "colums"
namesg	group names
xlim	the x limits (x1, x2) of the plot
ylim	the y limits of the plot
main	graphic title
rotx	TRUE if you want change the sign of the horizontal coordinates. Default FALSE
roty	TRUE if you want change the sign of the vertical coordinates. Default FALSE
roweti	selected row points for the graphic. Default all points
coleti	selected column points for the graphic. Default all points
axislabel	if it is TRUE the axis information is written
asp	the y/x aspect ratio, see 'plot.window'
grid	if it is TRUE a grid is plotted
col.row	color for row points and row labels. Default "black"
col.col	color for column points and column labels. Default "black"
cex	global scale for the labels. Default cex=0.8
cex.row	scale for row points and row labels. Default cex.row=0.8
cex.col	scale for column points and column labels. Default cex.col=0.8
cframe	scale for graphic limits
cex.global	scale for the label sizes
col.own	the colors used to draw the partial points by groups
...	further arguments passed to or from other methods

Details

Draw a factorial plane with the partial points and the centers of gravity. The graph is interactive and clicking on a point will draw the partial points, if you click on a point for which the partial points are yet drawn, the partial points are deleted. To stop the interactive plot, click in the top of the graph)

Value

Returns a list containing:

global	global coordinates
partial	partial coordinates of selected global points
xlim	the ended value of xlim
ylim	the ended value of ylim

Author(s)

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Examples

```
data(ardeche)
ca <- dudi.coa(ardeche$tab,scannf=FALSE,nf=4)
# FactoMineR style
plot.dudi(ca,ucal=40,all.point=FALSE,main="SCA of Ardeche, First Factorial Plane")
dev.new()
# ade4 style
plot.dudi(ca,xy=c(3,4),ucal=20,all.point=FALSE,infaxes="in",main="SCA of
Ardeche, Plane 3-4")
```

---

plotct *Row and Column Profiles of a Contingency Table*

Description

It plots barplot profiles of rows or columns from a contingency table including marginal profiles

Usage

```
plotct(x,profiles="both",legend.text=TRUE,... )
```

Arguments

x	contingency table
profiles	select profiles: "both" file and column profiles in two graph devices, "row" only row profiles, "col" only column profiles
legend.text	if it is TRUE a box with legends is included at the right
...	further arguments passed to or from other methods

Details

Plot row profiles in horizontal form and columns profiles in vertical form

Author(s)

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Examples

```
mycolors<-colors()[c(1,26,32,37,52,57,68,73,74,81,82,84,88,100)]
data(mores5)
plotct(mores5$tab,col=mycolors)
```

---

plotfp *Factorial Planes from Coordinates*

Description

It plots factorial planes from a coordinate table

Usage

```
plotfp(co,x=1,y=2,eig=NULL,cal=NULL,ucal=0,xlim=NULL,ylim=NULL,main=NULL,
                    rotx=FALSE,roty=FALSE,eti=row.names(co),
                         axislabel=TRUE,col.row="black",cex=0.8,cex.row=0.8,
                         all.point=TRUE,cframe=1.2,cex.global=1,infaxes="out")
```

Arguments

co	matrix or data.frame with coordinates
x	the component like horizontal axis
y	the component like vertical axis
eig	numeric with the eigenvalues
cal	matrix or data.frame with the square cosinus
ucal	quality representation threshold (percentage) in the plane . Default ucal=0
xlim	the x limits (x1, x2) of the plot
ylim	the y limits of the plot
main	graphic title
rotx	TRUE if you want change the sign of the horizontal coordinates. Default FALSE
roty	TRUE if you want change the sign of the vertical coordinates. Default FALSE
eti	selected row points for the graphic. Default all points
axislabel	if it is TRUE the axis information is written
col.row	color for row points and row labels. Default "black"
cex	global scale for the labels. Default cex=0.8
cex.row	scale for row points and row labels. Default cex.row=0.8

all.point	If if is TRUE, all points are outlined. Default all.point=TRUE
cframe	scale for graphic limits
cex.global	scale for the label sizes
infaxes	place to put the axes information: "out","in","no". Default infaxes="out". If infaxes="out" the graphic is similar to FactoMineR graphics, otherwise the style is similar to the one in ade4, without axes information when infaxes="no"

Details

Plot the selected factorial plane.

Value

It graphs the factorial plane x,y using co and optional information of eigenvalues and representation quality of the points. If ucal > 0, only the points with the quality of representation on the plane bigger than ucal are pointed

Author(s)

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Examples

```
data(mores5)
attach(mores5)
ca <- dudi.coa(tab,scannf=FALSE,nf=4)
wibca <- witwit.model(ca,rbl5,cbl5,model="B",weight="mfa",scannf=FALSE,nf=4)
detach(mores5)
mfa <- wibca2mfa(wibca)
attach(mfa)
plotfp(colb$coor,colb$eig,main="WIBCA Column bands like MFA of Spain Mortality, First Factorial Plane")
dev.new()
plotfp(rowb$coor,rowb$eig,main="WIBCA Row bands like MFA of Spain Mortality, First Factorial Plane")
```

---

wibca2mfa *MFA aids to interpretation of Weighted Intra Blocks Correspondence Analysis Lg function computes the COVV between two operators*

Description

Aids to interpretation WIBCA like two MFACT and Lg

Usage

```
wibca2mfa(ACww)
Lg(Xj,Mj,D=diag(nrow(Xj))/nrow(Xj),Xk=Xj,Mk=Mj)
```

Arguments

ACww	object of class: wwmodel
Xj	the first data matrix
Mj	the metric matrix associatted to Xj
D	the diagonal matrix with the row weights
Xk	the second data matrix
Mk	the metric matrix associatted to Xk

Details

Aids to interpretation associated to the bands of WIBCA like two MFA.

Value

Returns a list containing:

colb	WIBCA like column bands MFA
colb$eig	eigenvalues of column bands MFA
colb$Lg	Lg of column bands MFA
colb$RV	RV of column bands MFA
rowb	WIBCA like row bands MFA
rowb$eig	eigenvalues of row bands MFA
rowb$Lg	Lg of row bands MFA
rowb$RV	RV of row bands MFA
Lg	Lg betwenn two operators

Author(s)

Campo Elías PARDO <cepardot@unal.edu.co> http://www.docentes.unal.edu.co/cepardot

References

Pardo Campo Elías (2005). Análisis de correspondencias de tablas de contingencia estructuradas. In: Memorias del Coloquio Distrital de Matemáticas y Estadística. Volume 7. Universidad Distrital, Bogotá http://www.docentes.unal.edu.co/cepardot/docs/ColoquioDistritalMatEst/AnalCorresTCE.pdf

Examples

```
data(mores5)
coa <- dudi.coa(mores5$tab, scann = FALSE, nf = 4)
wibca <- witwit.model(coa, mores5$rbl5, mores5$cbl5, model="B",weight="mfa",scann = FALSE,nf=4)
mfa <- wibca2mfa(wibca)
mfa
```

witwit.model *Within Correspondence Analysis using divers Models and Weights*

Description

witwit.model performs an Double Within Tables Correspondence Analysis. Modification of witwit.coa of ade4 to allow Intra Block Model and divers weights

Usage

```
witwit.model(dudi, row.blocks, col.blocks, pfil = dudi$lw, pcol = dudi$cw,
    model = "C", weight = "coa", scannf = TRUE, nf = 2,eps=1e-15,iter=100)
## S3 method for class 'wwmodel'
summary(object, ...)
## S3 method for class 'wwmodel'
print(x, ...)
```

Arguments

dudi	an object of class coa
row.blocks	a numeric vector indicating the row numbers for each block of rows
col.blocks	a numeric vector indicating the column numbers for each block of columns
scannf	a logical value indicating whether the eigenvalues bar plot should be displayed
nf	if scannf FALSE, an integer indicating the number of kept axes
pfil	a numeric vector indicating the row weights
pcol	a numeric vector indicating the column weights
model	"C": the same model of ICA,"B": intra blocks independence model
weight	c("coa": the same row and columns weights than CA, "mfa": MFA-like weights in rows and columns, "mafc": MFA-like weights in columns, "mfar": MFA-like weights in rows
eps	convergence error if weight="mfa"
iter	maximum itection number if if weight="mfa"
object	an object of class wwmodel
x	an object of class wwmodel
...	further arguments passed to or from other methods

Details

This function is build up with witwit.coa of ade4, in order to allow diferents weights and models in a contingency table with double structure of partition. If model="C" and weight="coa" the results are the same of witwit.coa. If model="B" and weight="coa" a Intra-Blocks Correspondence Analysis (IBCA) is buld up If model="B" and weight="mfa" a Weighted Intra-Blocks Correspondence Analysis (WIBCA) is build up

Value

Returns a list of class `wwmodel` containing:

`tab`	a data frame with I rows and K columns
`cw`	column weights, a vector with K components
`lw`	row weights, a vector with I components
`eig`	eigenvalues, a vector with min(I,K) components
`nf`	integer, number of kept axes
`c1`	principal axes, data frame with I rows and nf columns
`l1`	principal components, data frame with I rows and nf columns
`co`	column coordinates, data frame with K rows and nf columns
`li`	row coordinates, data frame with I rows and nf columns
`call`	original call
`rbvar`	a data frame with the within variances of the rows of the factorial coordinates
`lbw`	a data frame with the marginal weighting of the row bands
`cvar`	a data frame with the within variances of the columns of the factorial coordinates
`cbw`	a data frame with the marginal weighting of the column bands
`hom`	homotecia to read some aids as in MFA
`rbl`	number of rows in each row-band
`cbl`	number of columns in each column-band
`sepeig.col`	band-column separate firt eigenvalues if weight="mfa"
`sepeig.row`	band-row separate firt eigenvalues if weight="mfa"

Author(s)

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References

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Pardo Campo Elías (2005). Análisis de correspondencias de tablas de contingencia estructuradas. In: Memorias del Coloquio Distrital de Matemáticas y Estadística. Volume 7. Universidad Distrital, Bogotá http://www.docentes.unal.edu.co/cepardot/docs/ColoquioDistritalMatEst/AnalCorresTCE.pdf

Examples

```
data(ardeche)
# change column names
names(ardeche$tab) <- paste(ardeche$sta.fac,ardeche$dat.fac,sep="")
rownames(ardeche$tab) <- # change row names
paste(strtrim(rownames(ardeche$tab),1),substr(rownames(ardeche$tab),4,
length(rownames(ardeche$tab))),sep="")
coa1 <- dudi.coa(ardeche$tab, scannf = FALSE, nf = 4)
ww <- witwit.model(coa1, ardeche$row.blocks, ardeche$col.blocks, scann = FALSE)
ww
plot(ww)
summary(ww)
```

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wwinertia.ord *Sorting of Rows and Columns by Intra Inertia in Double Intra Correspondence Analysis*

Description

Rows or colums are sorted by their intra inertia. The rows or columns with the greatest and the least intra inertia are printed. The same output is printed for the intra inertia contribution of the partial rows or columns

Usage

```
wwinertia.ord(parti,ax=0,coro="row",pato="tot",can=5,dec=1)
```

Arguments

parti	an object of class parwwm
ax	number of the axis, if ax=0 the subespecie intra inertias are used
coro	within inertias for "row"s or "col"umns
pato	"tot"al or "par"tial within inertias
can	the can rows with the greatest intra inertias and the can rows with the least within inertias are printed
dec	number of decimals in the outputs

Details

when ax=0 the within inertias are calculed in the subspace of nf dimension

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Examples

```
# ICA of Ardeche using witwit.model
data(ardeche)
# change column names
names(ardeche$tab) <- paste(ardeche$sta.fac,ardeche$dat.fac,sep="")
rownames(ardeche$tab) <- # change row names
paste(strtrim(rownames(ardeche$tab),1),substr(rownames(ardeche$tab),4,
length(rownames(ardeche$tab))),sep="")
coa <- dudi.coa(ardeche$tab, scann = FALSE, nf = 4)
ica <- witwit.model(coa,ardeche$row.blocks,ardeche$col.blocks,scannf=FALSE,nf=4)
parica <- partial.wwm(ica)
wwinertia.ord(parica,ax=1)
```

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