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Title Exploratory Data Analysis System

Version 3.1.2

Description Performs an exploratory data analysis through a 'shiny' interface. It includes basic methods such as the mean, median, mode, normality test, among others. It also includes clustering techniques such as Principal Components Analysis, Hierarchical Clustering and the K-Means Method.

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BP *Calculate inter-class inertia*

Description

Calculate inter-class inertia

Usage

BP(DF, clusters)

Arguments

DF a data.frame object.
clusters a vector specifying the cluster of each individual.

Value

numeric

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
m <- hclust(dist(iris[, -5]))
BP(iris[, -5], cutree(m, 3))
```

calc.centros

Calculation of the center of clusters

Description

Calculation of the center of clusters

Usage

```
calc.centros(data, clusters)
```

Arguments

data a data.frame object.
clusters a vector specifying the cluster of each individual.

Value

list

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
clusters <- factor(kmeans(iris[, -5], 3)$cluster)
calc.centros(iris[, -5], clusters)
```

discoverR

Exploratory Data Analysis System

Description

Performs an exploratory data analysis through a 'shiny' interface. It includes basic methods such as the mean, median, mode, normality test, among others. It also includes clustering techniques such as Principal Components Analysis, Hierarchical Clustering and the K-Means Method.

Details

Package: discoverR
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Author(s)

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- Diego Jiménez Alvarado

e_afcbi

AFC biplot

Description

AFC biplot

Usage

```
e_afcbi(  
  modelo,  
  axes = c(1, 2),  
  colorRow = "steelblue",  
  colorCol = "forestgreen",  
  cos2Row = 0,  
  cos2Col = 0,
```

```
colorRowCos = "firebrick",
colorColCos = "darkorchid",
titulos = c("Bien Representados", "Mal Representados"),
etq = T
)
```

Arguments

modelo	an object of class CA [FactoMineR].
axes	a numeric vector of length 2 specifying the dimensions to be plotted.
colorRow	a color for the individuals well represented.
colorCol	a color for the variables well represented.
cos2Row	a numeric value from 0 to 1 specifying the quality of the individuals.
cos2Col	a numeric value from 0 to 1 specifying the quality of the variables.
colorRowCos	a color for the individuals badly represented.
colorColCos	a color for the variables badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.
etq	a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::CA(iris[, -5], graph = FALSE)
e_afcbi(p)
```

e_afcbi_3D

AFC biplot in 3D

Description

AFC biplot in 3D

Usage

```
e_afcbi_3D(  
  modelo,  
  axes = c(1, 2, 3),  
  colorRow = "steelblue",  
  colorCol = "forestgreen",  
  cos2Row = 0,  
  cos2Col = 0,  
  colorRowCos = "firebrick",  
  colorColCos = "darkorchid",  
  titulos = c("Bien Representados", "Mal Representados"),  
  etq = T  
)
```

Arguments

modelo	an object of class CA [FactoMineR].
axes	a numeric vector of length 3 specifying the dimensions to be plotted.
colorRow	a color for the individuals well represented.
colorCol	a color for the variables well represented.
cos2Row	a numeric value from 0 to 1 specifying the quality of the individuals.
cos2Col	a numeric value from 0 to 1 specifying the quality of the variables.
colorRowCos	a color for individuals badly represented.
colorColCos	a color for variables badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.
etq	a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::CA(iris[, -5], graph = FALSE)  
e_afcbi_3D(p)
```

e_afccol	<i>AFC plot of variables</i>
----------	------------------------------

Description

AFC plot of variables

Usage

```
e_afccol(  
  modelo,  
  axes = c(1, 2),  
  colorCol = "forestgreen",  
  cos2 = 0,  
  colorCos = "darkorchid",  
  titulos = c("Bien Representados", "Mal Representados")  
)
```

Arguments

modelo	an object of class CA [FactoMineR].
axes	a numeric vector of length 2 specifying the dimensions to be plotted.
colorCol	a color for the variables well represented.
cos2	a numeric value from 0 to 1 specifying the quality of the variables.
colorCos	a color for the variables badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::CA(iris[, -5], graph = FALSE)  
e_afccol(p)
```

`e_afccol_3D`*AFC plot of variables in 3D*

Description

AFC plot of variables in 3D

Usage

```
e_afccol_3D(  
  modelo,  
  axes = c(1, 2, 3),  
  colorCol = "forestgreen",  
  cos2 = 0,  
  colorCos = "darkorchid",  
  titulos = c("Bien Representados", "Mal Representados")  
)
```

Arguments

<code>modelo</code>	an object of class CA [FactoMineR].
<code>axes</code>	a numeric vector of length 3 specifying the dimensions to be plotted.
<code>colorCol</code>	a color for the variables well represented.
<code>cos2</code>	a numeric value from 0 to 1 specifying the quality of the variables.
<code>colorCos</code>	a color for variables badly represented.
<code>titulos</code>	a character vector of length 2 specifying the titles to use on legend.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::CA(iris[, -5], graph = FALSE)  
e_afccol_3D(p)
```

e_afcmbi

AFCM biplot

Description

AFCM biplot

Usage

```
e_afcmbi(  
  modelo,  
  axes = c(1, 2),  
  colorInd = "steelblue",  
  colorVar = "forestgreen",  
  cos2Ind = 0,  
  cos2Var = 0,  
  colorIndCos = "firebrick",  
  colorVarCos = "darkorchid",  
  titulos = c("Bien Representados", "Mal Representados"),  
  etq = T  
)
```

Arguments

modelo	an object of class AFCM [FactoMineR].
axes	a numeric vector of length 2 specifying the dimensions to be plotted.
colorInd	a color for the individuals well represented.
colorVar	a color for the variables well represented.
cos2Ind	a numeric value from 0 to 1 specifying the quality of the individuals.
cos2Var	a numeric value from 0 to 1 specifying the quality of the variables.
colorIndCos	a color for the individuals badly represented.
colorVarCos	a color for the variables badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.
etq	a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
data("poison", package = "FactoMineR")
poison.active <- poison[1:55, 5:15]
p <- FactoMineR::MCA(poison.active, graph = FALSE)
e_afcmbi(p)
```

e_afcmbi_3D

AFCM biplot in 3D

Description

AFCM biplot in 3D

Usage

```
e_afcmbi_3D(
  modelo,
  axes = c(1, 2, 3),
  colorInd = "steelblue",
  colorVar = "forestgreen",
  cos2Ind = 0,
  cos2Var = 0,
  colorIndCos = "firebrick",
  colorVarCos = "darkorchid",
  titulos = c("Bien Representados", "Mal Representados"),
  etq = T
)
```

Arguments

modelo	an object of class AFCM [FactoMineR].
axes	a numeric vector of length 3 specifying the dimensions to be plotted.
colorInd	a color for the individuals well represented.
colorVar	a color for the variables well represented.
cos2Ind	a numeric value from 0 to 1 specifying the quality of the individuals.
cos2Var	a numeric value from 0 to 1 specifying the quality of the variables.
colorIndCos	a color for individuals badly represented.
colorVarCos	a color for variables badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.
etq	a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
data("poison", package = "FactoMineR")
poison.active <- poison[1:55, 5:15]
p <- FactoMineR::MCA(poison.active, graph = FALSE)
e_afcmcat_3D(p)
```

e_afcmcat

AFCM plot of categories

Description

AFCM plot of categories

Usage

```
e_afcmcat(
  modelo,
  axes = c(1, 2),
  colorCat = "forestgreen",
  cos2 = 0,
  colorCos = "darkorchid",
  titulos = c("Bien Representados", "Mal Representados")
)
```

Arguments

modelo	an object of class AFCM [FactoMineR].
axes	a numeric vector of length 2 specifying the dimensions to be plotted.
colorCat	a color for the categories well represented.
cos2	a numeric value from 0 to 1 specifying the quality of the categories.
colorCos	a color for the categories badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
data("poison", package = "FactoMineR")
poison.active <- poison[1:55, 5:15]
p <- FactoMineR::MCA(poison.active, graph = FALSE)
e_afcmcat(p)
```

e_afcmcat_3D

AFCM plot of categories in 3D

Description

AFCM plot of categories in 3D

Usage

```
e_afcmcat_3D(
  modelo,
  axes = c(1, 2, 3),
  colorCat = "forestgreen",
  cos2 = 0,
  colorCos = "darkorchid",
  titulos = c("Bien Representados", "Mal Representados")
)
```

Arguments

modelo	an object of class AFCM [FactoMineR].
axes	a numeric vector of length 3 specifying the dimensions to be plotted.
colorCat	a color for the categories well represented.
cos2	a numeric value from 0 to 1 specifying the quality of the categories.
colorCos	a color for categories badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
data("poison", package = "FactoMineR")
poison.active <- poison[1:55, 5:15]
p <- FactoMineR::MCA(poison.active, graph = FALSE)
e_afcmcat_3D(p)
```

e_afcmind

AFCM plot of individuals

Description

AFCM plot of individuals

Usage

```
e_afcmind(
  modelo,
  axes = c(1, 2),
  colorInd = "steelblue",
  cos2 = 0,
  colorCos = "firebrick",
  titulos = c("Bien Representados", "Mal Representados"),
  etq = T
)
```

Arguments

modelo	an object of class AFCM [FactoMineR].
axes	a numeric vector of length 2 specifying the dimensions to be plotted.
colorInd	a color for the individuals well represented.
cos2	a numeric value from 0 to 1 specifying the quality of the individuals.
colorCos	a color for individuals badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.
etq	a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
data("poison", package = "FactoMineR")
poison.active <- poison[1:55, 5:15]
p <- FactoMineR::MCA(poison.active, graph = FALSE)
e_afcmind(p)
```

e_afcmind_3D

AFCM plot of individuals in 3D

Description

AFCM plot of individuals in 3D

Usage

```
e_afcmind_3D(
  modelo,
  axes = c(1, 2, 3),
  colorInd = "steelblue",
  cos2 = 0,
  colorCos = "firebrick",
  titulos = c("Bien Representados", "Mal Representados"),
  etq = T
)
```

Arguments

modelo	an object of class AFCM [FactoMineR].
axes	a numeric vector of length 3 specifying the dimensions to be plotted.
colorInd	a color for the individuals well represented.
cos2	a numeric value from 0 to 1 specifying the quality of the individuals.
colorCos	a color for individuals badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.
etq	a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
data("poison", package = "FactoMineR")
poison.active <- poison[1:55, 5:15]
p <- FactoMineR::MCA(poison.active, graph = FALSE)
e_afcmind_3D(p)
```

e_afcmvar

AFCM plot of variables

Description

AFCM plot of variables

Usage

```
e_afcmvar(modelo, axes = c(1, 2), colorVar = "forestgreen")
```

Arguments

modelo an object of class AFCM [FactoMineR].
axes a numeric vector of length 2 specifying the dimensions to be plotted.
colorVar a color for the variables.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
data("poison", package = "FactoMineR")
poison.active <- poison[1:55, 5:15]
p <- FactoMineR::MCA(poison.active, graph = FALSE)
e_afcmvar(p)
```

e_afcmvar_3D *AFCM plot of variables in 3D*

Description

AFCM plot of variables in 3D

Usage

```
e_afcmvar_3D(modelo, axes = c(1, 2, 3), colorVar = "forestgreen")
```

Arguments

modelo an object of class AFCM [FactoMineR].
axes a numeric vector of length 3 specifying the dimensions to be plotted.
colorVar a color for the variables well represented.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
data("poison", package = "FactoMineR")  
poison.active <- poison[1:55, 5:15]  
p <- FactoMineR::MCA(poison.active, graph = FALSE)  
e_afcmvar_3D(p)
```

e_afcrow *AFC plot of individuals*

Description

AFC plot of individuals

Usage

```
e_afcrow(  
  modelo,  
  axes = c(1, 2),  
  colorRow = "steelblue",  
  cos2 = 0,  
  colorCos = "firebrick",  
  titulos = c("Bien Representados", "Mal Representados"),  
  etq = T  
)
```

Arguments

modelo	an object of class CA [FactoMineR].
axes	a numeric vector of length 2 specifying the dimensions to be plotted.
colorRow	a color for the individuals well represented.
cos2	a numeric value from 0 to 1 specifying the quality of the individuals.
colorCos	a color for individuals badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.
etq	a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::CA(iris[, -5], graph = FALSE)  
e_afcrow(p)
```

e_afcrow_3D

AFC plot of individuals in 3D

Description

AFC plot of individuals in 3D

Usage

```
e_afcrow_3D(
  modelo,
  axes = c(1, 2, 3),
  colorRow = "steelblue",
  cos2 = 0,
  colorCos = "firebrick",
  titulos = c("Bien Representados", "Mal Representados"),
  etq = T
)
```

Arguments

modelo	an object of class CA [FactoMineR].
axes	a numeric vector of length 3 specifying the dimensions to be plotted.
colorRow	a color for the individuals well represented.
cos2	a numeric value from 0 to 1 specifying the quality of the individuals.
colorCos	a color for individuals badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.
etq	a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::CA(iris[, -5], graph = FALSE)
e_afcrow_3D(p)
```

e_balloon

Balloonplot

Description

Balloonplot

Usage

```
e_balloon(datos)
```

Arguments

datos a data frame object.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
e_balloon(iris)
```

e_cat

Barplot for categoric variable by clusters.

Description

Barplot for categoric variable by clusters.

Usage

```
e_cat(clusters, var, colores = NULL, escalar = T)
```

Arguments

clusters a vector specifying the cluster of each individual.
var a factor column of a data.frame.
colores a vector of color for each cluster.
escalar a boolean value specifying if use percentage or real values.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
clusters <- factor(kmeans(iris[, -5], 3)$cluster)  
e_cat(clusters, iris[, 5], colores = c("steelblue", "pink", "forestgreen"))
```

e_horiz	<i>Horizontal representation for centers of clusters.</i>
---------	---

Description

Horizontal representation for centers of clusters.

Usage

```
e_horiz(centros, colores = NULL)
```

Arguments

centros	a data.frame object with the centers of the clusters.
colores	a vector of color for each cluster.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
clusters <- factor(kmeans(iris[, -5], 3)$cluster)
c <- calc.centros(iris[, -5], clusters)
e_horiz(c$real, c("steelblue", "pink", "forestgreen"))
```

e_inercia	<i>Inertia plot of clusterization</i>
-----------	---------------------------------------

Description

Inertia plot of clusterization

Usage

```
e_inercia(
  data,
  titulos = c("Inercia", "Inercia Inter-Clase", "Inercia Inter-Clase")
)
```

Arguments

`data` a data.frame object with the inertia values.
`titulos` a character vector of length 3 specifying the titles to use on legend.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

e_jambu	<i>Jambu Elbow plot</i>
---------	-------------------------

Description

Jambu Elbow plot

Usage

```
e_jambu(data, max.clusters)
```

Arguments

`data` a data.frame object.
`max.clusters` a numeric value specifying the number of times to generate the model.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
e_jambu(iris[, -5], 10)
```

e_mapa *PCA plot of individuals colored by clusters*

Description

PCA plot of individuals colored by clusters

Usage

```
e_mapa(pca.model, clusters, colores = NULL, ejes = c(1, 2), etq = F)
```

Arguments

`pca.model` an object of class PCA [FactoMineR].
`clusters` a vector specifying the cluster of each individual.
`colores` a vector of color for each cluster.
`ejes` a numeric vector of length 2 specifying the dimensions to be plotted.
`etq` a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::PCA(iris[, -5], graph = FALSE)
clusters <- factor(kmeans(iris[, -5], 3)$cluster)
e_mapa(p, clusters, c("steelblue", "pink", "forestgreen"), etq = FALSE)
```

e_mapa_3D *PCA plot of individuals colored by clusters*

Description

PCA plot of individuals colored by clusters

Usage

```
e_mapa_3D(pca.model, clusters, colores = NULL, ejes = c(1, 2, 3), etq = F)
```

Arguments

`pca.modelo` an object of class PCA [FactoMineR].
`clusters` a vector specifying the cluster of each individual.
`colores` a vector of color for each cluster.
`ejes` a numeric vector of length 3 specifying the dimensions to be plotted.
`etq` a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::PCA(iris[, -5], graph = FALSE)
clusters <- factor(kmeans(iris[, -5], 3)$cluster)
e_mapa_3D(p, clusters, c("steelblue", "pink", "forestgreen"), etq = FALSE)
```

e_pcabi

PCA biplot

Description

PCA biplot

Usage

```
e_pcabi(
  modelo,
  axes = c(1, 2),
  colorInd = "steelblue",
  colorVar = "forestgreen",
  cos2Ind = 0,
  cos2Var = 0,
  colorIndCos = "firebrick",
  colorVarCos = "darkorchid",
  titulos = c("Bien Representados", "Mal Representados"),
  etq = F
)
```

Arguments

modelo	an object of class PCA [FactoMineR].
axes	a numeric vector of length 2 specifying the dimensions to be plotted.
colorInd	a color for the individuals well represented.
colorVar	a color for the variables well represented.
cos2Ind	a numeric value from 0 to 1 specifying the quality of the individuals.
cos2Var	a numeric value from 0 to 1 specifying the quality of the variables.
colorIndCos	a color for the individuals badly represented.
colorVarCos	a color for the variables badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.
etq	a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::PCA(iris[, -5], graph = FALSE)
e_pcabi(p)
```

e_pcabi_3D

PCA biplot in 3D

Description

PCA biplot in 3D

Usage

```
e_pcabi_3D(
  modelo,
  axes = c(1, 2, 3),
  colorInd = "steelblue",
  colorVar = "forestgreen",
  cos2Ind = 0,
  cos2Var = 0,
  colorIndCos = "firebrick",
  colorVarCos = "darkorchid",
  titulos = c("Bien Representados", "Mal Representados"),
  etq = F
)
```


Arguments

modelo	an object of class PCA [FactoMineR].
axes	a numeric vector of length 3 specifying the dimensions to be plotted.
colorInd	a color for the individuals well represented.
colorVar	a color for the variables well represented.
cos2Ind	a numeric value from 0 to 1 specifying the quality of the individuals.
cos2Var	a numeric value from 0 to 1 specifying the quality of the variables.
colorIndCos	a color for individuals badly represented.
colorVarCos	a color for variables badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.
etq	a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::PCA(iris[, -5], graph = FALSE)
e_pcabi_3D(p)
```

e_pcaind

PCA plot of individuals

Description

PCA plot of individuals

Usage

```
e_pcaind(
  modelo,
  axes = c(1, 2),
  colorInd = "steelblue",
  cos2 = 0,
  colorCos = "firebrick",
  titulos = c("Bien Representados", "Mal Representados"),
  etq = F
)
```

Arguments

modelo	an object of class PCA [FactoMineR].
axes	a numeric vector of length 2 specifying the dimensions to be plotted.
colorInd	a color for the individuals well represented.
cos2	a numeric value from 0 to 1 specifying the quality of the individuals.
colorCos	a color for individuals badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.
etq	a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::PCA(iris[, -5], graph = FALSE)
e_pcaind(p)
```

e_pcaind_3D

PCA plot of individuals in 3D

Description

PCA plot of individuals in 3D

Usage

```
e_pcaind_3D(
  modelo,
  axes = c(1, 2, 3),
  colorInd = "steelblue",
  cos2 = 0,
  colorCos = "firebrick",
  titulos = c("Bien Representados", "Mal Representados"),
  etq = F
)
```

Arguments

modelo	an object of class PCA [FactoMineR].
axes	a numeric vector of length 3 specifying the dimensions to be plotted.
colorInd	a color for the individuals well represented.
cos2	a numeric value from 0 to 1 specifying the quality of the individuals.
colorCos	a color for individuals badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.
etq	a boolean, whether to add label to graph or not.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::PCA(iris[, -5], graph = FALSE)
e_pcaind_3D(p)
```

e_pcavar	<i>PCA plot of variables</i>
----------	------------------------------

Description

PCA plot of variables

Usage

```
e_pcavar(  
  modelo,  
  axes = c(1, 2),  
  colorVar = "forestgreen",  
  cos2 = 0,  
  colorCos = "darkorchid",  
  titulos = c("Bien Representados", "Mal Representados")  
)
```

Arguments

modelo	an object of class PCA [FactoMineR].
axes	a numeric vector of length 2 specifying the dimensions to be plotted.
colorVar	a color for the variables well represented.
cos2	a numeric value from 0 to 1 specifying the quality of the variables.
colorCos	a color for the variables badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::PCA(iris[, -5], graph = FALSE)
e_pcavar(p)
```

e_pcavar_3D

PCA plot of variables in 3D

Description

PCA plot of variables in 3D

Usage

```
e_pcavar_3D(
  modelo,
  axes = c(1, 2, 3),
  colorVar = "forestgreen",
  cos2 = 0,
  colorCos = "darkorchid",
  titulos = c("Bien Representados", "Mal Representados")
)
```

Arguments

modelo	an object of class PCA [FactoMineR].
axes	a numeric vector of length 3 specifying the dimensions to be plotted.
colorVar	a color for the variables well represented.
cos2	a numeric value from 0 to 1 specifying the quality of the variables.
colorCos	a color for variables badly represented.
titulos	a character vector of length 2 specifying the titles to use on legend.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
p <- FactoMineR::PCA(iris[, -5], graph = FALSE)
e_pcavar_3D(p)
```

e_radar

Radar representation for centers of clusters.

Description

Radar representation for centers of clusters.

Usage

```
e_radar(centros, colores = NULL)
```

Arguments

centros	a data.frame object with the centers of the clusters.
colores	a vector of color for each cluster.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
clusters <- factor(kmeans(iris[, -5], 3)$cluster)
c <- calc.centros(iris[, -5], clusters)
e_radar(c$porcentual, c("steelblue", "pink", "forestgreen"))
```

e_silhouette

Silhouette plot

Description

Silhouette plot

Usage

```
e_silhouette(data, max.clusters)
```

Arguments

`data` a data.frame object.
`max.clusters` a numeric value specifying the number of times to generate the model.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
e_silhouette(iris[, -5], 10)
```

e_vert *Vertical representation for centers of clusters.*

Description

Vertical representation for centers of clusters.

Usage

```
e_vert(centros, colores = NULL)
```

Arguments

centros a data.frame object with the centers of the clusters.
colores a vector of color for each cluster.

Value

echarts4r plot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
clusters <- factor(kmeans(iris[, -5], 3)$cluster)
c <- calc.centros(iris[, -5], clusters)
e_vert(c$real, c("steelblue", "pink", "forestgreen"))
```

gg_dendrograma *Dendrogram plot*

Description

Dendrogram plot

Usage

```
gg_dendrograma(model, k, colors = NULL)
```

Arguments

model an object of class hclust.
k a vector specifying the cluster of each individual.
colors a vector of color for each cluster.

Value

ggplot

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

inercia.total	<i>Calculate total inertia</i>
---------------	--------------------------------

Description

Calculate total inertia

Usage

```
inercia.total(DF)
```

Arguments

DF a data.frame object.

Value

numeric

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

run_app	<i>Run the Shiny Application</i>
---------	----------------------------------

Description

Run the Shiny Application

Usage

```
run_app(...)
```

Arguments

... A series of options to be used inside the app.

Examples

```
if(interactive()) {  
  run_app()  
}
```

WP

Calculate intra-class inertia

Description

Calculate intra-class inertia

Usage

```
WP(DF, clusters)
```

Arguments

DF a data.frame object.
clusters a vector specifying the cluster of each individual.

Value

numeric

Author(s)

Diego Jimenez <diego.jimenez@promidat.com>

Examples

```
m <- hclust(dist(iris[, -5]))  
WP(iris[, -5], cutree(m, 3))
```

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