Package 'discoveR'

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Title Exploratory Data Analysis System

Version 3.1.7

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.

License GPL (>= 2)

Imports DT, rlang, golem, shiny (>= 1.7.4), config, plotly, loadeR, cluster, ggplot2, shinyjs, shinyAce, ggdendro, echarts4r, htmltools, FactoMineR, htmlwidgets, colourpicker, shinydashboard, shinycustomloader, shinydashboardPlus (>= 2.0.0)

Depends R (>= 4.4)

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URL https://promidat.website/, https://github.com/PROMiDAT/discoveR

BugReports https://github.com/PROMiDAT/discoveR/issues

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Repository CRAN

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Contents

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)
```

discoveR *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:	discoveR
Type:	Package
Version:	3.1.7
Date:	2025-02-12
License:	GPL (>=2)

Author(s)

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See Also

Useful links:

- https://promidat.website/
- https://github.com/PROMiDAT/discoveR
- Report bugs at https://github.com/PROMiDAT/discoveR/issues

`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 *AFC plot of variables*

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

`modelo`	an object of class CA [FactoMineR].
`axes`	a numeric vector of length 3 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 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_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_afcmbi_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 *Horizontal representation for centers of clusters.*

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 *Inertia plot of clusterization*

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 *Jambu Elbow plot*

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.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 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

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Author(s)

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Examples

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

---

e_pcavar *PCA plot of variables*

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 *Calculate total inertia*

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 *Run the Shiny Application*

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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