Package ‘archetypes’

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Type Package
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Description The main function archetypes implements a framework for archetypal analysis supporting arbitrary problem solving mechanisms for the different conceptual parts of the algorithm.
License GPL (>= 2)
Collate 'archetypes-barplot.R' 'generics.R' 'archetypes-class.R'
 'archetypes-kit-blocks.R' 'archetypes-kit.R' 'archetypes-map.R'
 'archetypes-movie.R' 'archetypes-panorama.R' 'pcplot.R'
 'archetypes-pcplot.R' 'archetypes-robust.R'
 'archetypes-screepplot.R' 'archetypes-step.R'
 'archetypes-weighted.R' 'archetypes-xypplot.R' 'memento.R'
 'simplex-pot.R' 'skeletonplot.R'
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R topics documented:

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archetypes

Perform archetypal analysis on a data matrix.

Description

Perform archetypal analysis on a data matrix.
Usage

archetypes(data, k, weights = NULL, maxIterations = 100,
minImprovement = sqrt(.Machine$double.eps), maxKappa = 1000,
verbose = FALSE, saveHistory = TRUE,
family = archetypesFamily("original"), ...)

Arguments

data A numeric $n \times m$ data matrix.
k The number of archetypes.
weights Data weights matrix or vector (used as elements of the diagonal weights matrix).
maxIterations The maximum number of iterations.
minImprovement The minimal value of improvement between two iterations.
maxKappa The limit of kappa to report an ill-ness warning.
verbose Print some details during execution.
saveHistory Save each execution step in an environment for further analyses.
family Blocks defining the underlying problem solving mechanisms; see archetypesFamily.
... Additional arguments for family blocks.

Value

An object of class archetypes, see as.archetypes.

References


See Also

Other archetypes: archetypesFamily; as.archetypes; robustArchetypes; weightedArchetypes

Examples

data(toy)
a <- archetypes(toy, 3)
archetypesFamily  

Archetypes family constructor

Description

This function returns a problem solving block for each of the different conceptual parts of the algorithm.

Usage

archetypesFamily(which = c("original", "weighted", "robust"), ...)

Arguments

which  The kind of archetypes family.
...  Exchange predefined family blocks with self-defined functions.

Value

A list containing a function for each of the different parts.

See Also

Other archetypes: archetypes; as.archetypes; robustArchetypes; weightedArchetypes

archmap  

Archetypal maps

Description

Two-dimensional projection of the observations based on the alpha coefficients into a space spanned by the (projected) archetypes.

Usage

archmap(object, projection = simplex_projection, projection_args = list(), rotate = 0, cex = 1.5, col = 1, pch = 1, xlab = "", ylab = "", axes = FALSE, asp = TRUE, ...)
**Arguments**

- **object**: An `archetypes` object
- **projection**: Projection function; see `archmap_projections`
- **projection_args**: Arguments passed to the projection function; see `archmap_projections`
- **rotate**: Rotation angle to rotate the projection
- **cex**: Character expansion of archetypes
- **col**: Color of observations
- **pch**: Point character of observations
- **xlab**: A label for the x-axis
- **ylab**: A label for the y-axis
- **axes**: Logical value to draw axes or not
- **asp**: The y/x aspect ratio
- **...**: Arguments passed to the underlying plot function

**Value**

Invisible matrix with the projected archetypes

**See Also**

Other archmap: `archmap_projections`, `atypes_projection`, `simplex_projection`, `tspsimplex_projection`

**Examples**

```r
## Not run:
data("skel", package = "archetypes")
skel2 <- subset(skel, select = -Gender)

set.seed(1981)
a <- archetypes(skel2, k = 5)

## Simplex projection:
archmap(a, col = skel$Gender)

## Simplex projection with archetypes arranged according to their
## distances:
archmap(a, col = skel$Gender,
       projection = tspsimplex_projection)
archmap(a, col = skel$Gender,
       projection = tspsimplex_projection,
       projection_args = list(equidist = TRUE))

## MDS projection:
archmap(a, col = skel$Gender,
       projection = atypes_projection)

## End(Not run)
```
as.archetypes  

Archetypes object constructor

Description
Archetypes object constructor

Usage
as.archetypes(object, k, alphas, rss, iters = NULL, call = NULL, history = NULL, kappas = NULL, betas = NULL, zas = NULL, family = NULL, familyArgs = NULL, residuals = NULL, weights = NULL, reweights = NULL, scaling = NULL)

Arguments
- object: The archetypes; a $p \times m$ matrix, see parameters.
- k: The number of archetypes;
- alphas: The coefficients; a $n \times p$ matrix, see coef.
- rss: The residual sum of squares; see rss.archetypes.
- iters: The number of iterations to the convergence.
- call: The call of the archetypes function.
- history: If saveHistory set then an environment with the archetypes object for each execution step;
- kappas: The kappas for each system of linear equations.
- betas: The data coefficients; a $p \times n$ matrix.
- zas: The temporary archetypes.
- family: The archetypes family.
- familyArgs: Additional arguments for family blocks.
- residuals: The residuals.
- weights: The data weights.
- reweights: The data reweights.
- scaling: The scaling parameters of the data.

Value
A list with an element for each parameter and class attribute archetypes.

See Also
Other archetypes: archetypesFamily; archetypes; robustArchetypes; weightedArchetypes
barplot.archetypes  

Barplot of archetypes.

Description

Barplot of archetypes.

Usage

## S3 method for class 'archetypes'
barplot(height, data, which = c("below", "beside"),
which.beside = c("atypes", "variables"), which.below = c("compressed","default"), percentiles = FALSE, below.compressed.height = 0.1,
below.compressed.srt = 0, col.atypes = NULL, ...)

Arguments

- `height`  
  An archetypes object.
- `data`  
  The original data matrix.
- `which`  
  `below` creates a barplot for each archetype, `beside` creates one barplot with bars side by side.
- `which.beside`  
  Barplot according to `atypes` or `variables`.
- `which.below`  
  compressed plots the labels only once.
- `percentiles`  
  Show real values or percentile profiles.
- `below.compressed.height`  
  Height of additional tail subplot.
- `below.compressed.srt`  
  Rotations of the x-labels.
- `col.atypes`  
  Color of archetypes; only used in `below.compressed`.
- `...`  
  Passed to the underlying barplot call.

Value

Undefined.
bestModel.stepArchetypes

Return best model

Description

Return best model

Usage

## S3 method for class 'stepArchetypes'
bestModel(object, ...)

## S3 method for class 'repArchetypes'
bestModel(object, ...)

Arguments

object        An archetypes object.
...           Ignored

body

Exploring relationships in body dimensions

Description

Body girth measurements and skeletal diameter measurements, as well as age, weight, height and gender, are given for 507 physically active individuals - 247 men and 260 women.

Usage

body

Format

A data.frame containing 507 observations of 25 variables.

References


See Also

skel
## coef.archetypes

**Return coefficients**

**Description**

Return coefficients

**Usage**

```r
## S3 method for class 'archetypes'
coef(object, type = c("alphas", "betas"), ...)
```

**Arguments**

- `object`: An archetypes object.
- `type`: Return alpha or beta coefficients.
- `...`: Ignored.

**Value**

Coefficient matrix.

## fitted.archetypes

**Return fitted data**

**Description**

Returns the approximated data.

**Usage**

```r
## S3 method for class 'archetypes'
fitted(object, ...)
```

**Arguments**

- `object`: An archetypes object.
- `...`: Ignored.

**Value**

Matrix with approximated data.
**kappa.archetypes**

*Return kappa*

---

**Description**

Return kappa

**Usage**

```r
## S3 method for class 'archetypes'
kappa(z, ...)
```

**Arguments**

- `z` An archetypes object.
- `...` Ignored.

**Value**

A vector of kappas.

---

**lines.pcplot**

*Add lines to an existing parallel coordinates plot.*

---

**Description**

Add lines to an existing parallel coordinates plot.

**Usage**

```r
## S3 method for class 'pcplot'
lines(x, data, col = 1, lty = 1, ...)
```

**Arguments**

- `x` A matrix or data frame containing the additional data.
- `data` The data of the existing parallel coordinates plot.
- `col` Line colors.
- `lty` Line types.
- `...` Passed to underlying `matlines`.

**Value**

Undefined.
movieplot

Archetypes movies.

Description

Archetypes movies.
Shows the intermediate steps of the algorithm;
Archetypes parallel coordinates plot movie.

Usage

movieplot(zs, data, show = c("atypes", "adata", "rwdata"), ssleep = 0, 
          bsleep = 0, postfn = function(iter) { }, rwdata.col1 = gray(0.7), 
          rwdata.col2 = 2, ...)

movieplot2(zs, data, show = "atypes", ssleep = 0, bsleep = 0, 
           zas.col = 2, zas.pch = 13, old.col = rgb(1, 0.5, 0.5), ...)

moviepcplot(zs, data, show = c("atypes", "adata"), ssleep = 0, bsleep = 0, 
            ...

Arguments

zs An archetypes object.
data The data matrix.
show Show archetypes or approximated data.
ssleep Seconds to sleep before start.
bsleep Seconds to sleep between each plot.
postfn Post plot function; is called in each iteration after the plot call.
rwdata.col1 If show = 'rwdata': color of base data set.
rwdata.col2 If show = 'rwdata': color of weighted data set.
... Passed to underlying plot functions.
zas.col Color of the intermediate archetypes.
zas.pch Type of the intermediate archetypes points.
old.col Color of the archetypes on step further.

Value

Undefined.
Undefined.
Undefined.
nparameters.archetypes

Return number of archetypes

Description

Return number of archetypes

Usage

## S3 method for class 'archetypes'
nparameters(object, ...)

## S3 method for class 'stepArchetypes'
nparameters(object, ...)

## S3 method for class 'repArchetypes'
nparameters(object, ...)

Arguments

object An archetypes object.
...

Ignored.

Value

Number of archetypes.

panorama.archetypes

Panorma plot for archetypes.

Description

Panorma plot for archetypes.

Usage

## S3 method for class 'archetypes'
panorama(object, data, distfn = distEuclidean,
  xlab = "Index", ylab = "Distance", order = TRUE, col = 1, pch = 1,
  cex = 1, atypes.col = (seq(length = nparameters(object)) + 1),
  atypes.pch = rep(19, nparameters(object)), atypes.cex = rep(1,
  nparameters(object)), ylim = NULL, ...)
**Arguments**

- **object**: An *archetypes*-related object.
- **data**: A matrix or data frame.
- **distfn**: Distance function.
- **xlab**: Label of xaxis.
- **ylab**: Label of yaxis.
- **order**: Order the distances.
- **col**: Color of distances.
- **pch**: Plot character of distances.
- **cex**: Magnification of the distances.
- **atypes.col**: Color of archetype distances.
- **atypes.pch**: Plot character of archetype distances.
- **atypes.cex**: Magnification of the archetype distances.
- **ylim**: The y limits of the plot.
- **...**: Passed to the underlying plot call.

**Examples**

```r
## Not run:
data(toy)
a <- archetypes(toy, 3)
panorama(a, toy)

## See demo(robust-ozone).
## End(Not run)
```

---

**parameters,archetypes-method**

*Return fitted archetypes*

**Description**

Return fitted archetypes

**Usage**

```r
## S4 method for signature 'archetypes'
parameters(object, ...)

## S4 method for signature 'stepArchetypes'
parameters(object, ...)

## S4 method for signature 'repArchetypes'
parameters(object, ...)
```
Arguments

object An archetypes object.

Value

Matrix with \( k \) archetypes.

---

**pcplot.archetypes**  

*Parallel coordinates of data and archetypes.*

Description

Parallel coordinates of data and archetypes.

Usage

```r
## S3 method for class 'archetypes'
pclplot(x, data, data.col = gray(0.7), data.lwd = 1,
atypes.col = 2, atypes.lwd = 2, atypes.lty = 1, chull = NULL,
chull.col = 1, chull.lwd = 2, chull.lty = 1, ...)
```

Arguments

- **x**  
  An archetypes object.
- **data**  
  A matrix or data frame.
- **data.col**  
  Color of data lines.
- **data.lwd**  
  Width of data lines.
- **atypes.col**  
  Color of archetypes lines.
- **atypes.lwd**  
  Width of archetypes lines.
- **atypes.lty**  
  Type of archetypes lines.
- **chull**  
  An integer vector giving the indices of the points from data lying on the convex hull.
- **chull.col**  
  Color of convex hull lines.
- **chull.lwd**  
  Width of convex hull lines.
- **chull.lty**  
  Type of convex hull lines.
- **...**  
  Passed to `pcplot` and `lines.pcplot`.

Value

Undefined.
pcplot.default

Default parallel coordinates plot.

Description

Code copied from function \texttt{parcoord} of package \texttt{MASS} to simply play around with the visualization of archetypes. At a later date, when it is clear which visualisation is the best, the functionality is probably merged with the original function or it is possible with parallel coordinate plots which are available et all.

Usage

\begin{verbatim}
## Default S3 method:
pcplot(x, col = gray(0.7), lty = 1, var.label = TRUE,
       rx = NULL, ...)
\end{verbatim}

Arguments

\begin{itemize}
  \item \textbf{x} \hspace{1cm} A $n \times m$ matrix or data frame who columns represent variables. Missing values are allowed.
  \item \textbf{col} \hspace{1.5cm} Line color.
  \item \textbf{lty} \hspace{1.5cm} Line type.
  \item \textbf{var.label} \hspace{1.5cm} Axes labels.
  \item \textbf{rx} \hspace{1.5cm} A $2 \times m$ matrix with ranges for each dimension.
  \item \textbf{...} \hspace{1.5cm} Passed to the underlying \texttt{matplot} function.
\end{itemize}

Value

Undefined.

predict.archetypes

Predict method for archetypal analysis fits

Description

This method produces predicted alpha coefficients for new data.

Usage

\begin{verbatim}
## S3 method for class 'archetypes'
predict(object, newdata, ...)
\end{verbatim}
robustArchetypes

Arguments

- **object**: An archetypes object; currently only original-family objects.
- **newdata**: A data frame with data for which to predict the alpha coefficients.
- **...**: Ignored.

Value

The predict alpha coefficients.

---

residuals.archetypes  Return residuals

---

Description

Return residuals

Usage

```r
## S3 method for class 'archetypes'
residuals(object, ...)
```

Arguments

- **object**: An archetypes object.
- **...**: Ignored.

Value

Matrix with residuals.

---

robustArchetypes  Robust archetypes

---

Description

Robust archetypes

Usage

```r
robustArchetypes(data, k, familyBlocks = list(), ...)
```
Arguments

familyBlocks  Exchange predefined family blocks; see archetypesFamily.
data  A numeric $n \times m$ data matrix.
k  The number of archetypes.
...  Additional arguments for family blocks.

Value

An object of class robustArchetypes and as.archetypes.

See Also

Other archetypes: archetypesFamily; archetypes; as.archetypes; weightedArchetypes

---

**Defined generics**

Description

Generics defined by the archetypes package.
Return number of parameters
Return best model
Panorama
Parallel coordinates plot

Usage

rss(object, ...)

parameters(object, ...)

bestModel(object, ...)

panorama(object, ...)

pcplot(x, ...)

Arguments

object  An object
...  Futher arguments
x  An object.
**Description**

Return residual sum of squares

**Usage**

```r
## S3 method for class 'archetypes'
rss(object, type = c("scaled", "single", "global"), ...)
```

```r
## S3 method for class 'stepArchetypes'
rss(object, ...)
```

```r
## S3 method for class 'repArchetypes'
rss(object, ...)
```

**Arguments**

- **object**: An archetypes object.
- **type**: Return scaled, single or global RSS.
- **...**: Ignored.

**Value**

Residual sum of squares.

---

**Description**

Screeplot draws the residual sum of square curve based on the best model of each step.

**Usage**

```r
## S3 method for class 'stepArchetypes'
screenplot(x, type = c("lines", "barplot"), ...)
```

**Arguments**

- **x**: A stepArchetypes object.
- **type**: Draw lines or a barplot.
- **...**: Passed to underlying plot functions.
simplexplot

**Value**

Undefined.

---

**simplexplot**  
*Simplex visualization*

**Description**

The stochastic nature of the alpha coefficients implies that they exist on a standard (K-1)-simplex with the K archetypes Z as the corners, and the coefficients as the coordinate with respect to these corners. A standard simplex can be projected to two dimensions via a skew orthogonal projection, where all the vertices of the simplex are shown on a circle connected by edges. The individual alpha coefficients can be then projected into this circle.

**Usage**

```r
simplexplot(object, radius = 10, order = NULL, labels_cex = 1,
            labels = NULL, show_labels = TRUE, points_col = "#00000044",
            points_pch = 19, points_cex = 1, projection = simplex_projection,
            show_points = TRUE, show_circle = TRUE, circle_col = "lightgray",
            show_edges = TRUE, edges_col = "lightgray", show_direction = FALSE,
            direction_length = 1, directions_col = points_col, ...)
```

**Arguments**

- `object`: An `archetypes` object
- `radius`: Radius of the projection
- `order`: Order of the archetypes
- `labels_cex`: Label expansion
- `labels`: Labels
- `show_labels`: Show labels
- `points_col`: Color of the points
- `points_pch`: Plot character of the points
- `points_cex`: Character expansion of the points
- `projection`: Projection function; see `archmap_projections`
- `show_points`: Show the points
- `show_circle`: Show the circle
- `circle_col`: Color of the circle
- `show_edges`: Show the edges
- `edges_col`: Color of the edges
- `direction_length`: Expansion of the direction pointers
- `directions_col`: Color of the direction pointers
- `show_direction`: Show direction pointers
- `...`: Additional arguments; currently ignored
simplex_projection

Value

Invisible list of all computed components needed for the simplex visualization.

References


Examples

```r
### This example reproduces parts of the Figure 7 shown in
### "Probabilistic Archetypal Analysis" by Seth and Eugster (2014)

data("toy", package = "archetypes")
suppressWarnings(RNGversion("3.5.0"))
set.seed(1234); a3 <- archetypes(toy, k = 3)
set.seed(1237); a4 <- archetypes(toy, k = 4)
set.seed(1238); a5 <- archetypes(toy, k = 5)
simplexplot(a3)
simplexplot(a3, show_direction = TRUE, show_points = FALSE)
simplexplot(a4, projection = tspsimplex_projection)
simplexplot(a5, show_direction = TRUE, show_points = FALSE,
direction_length = 2, directions_col = "black")
```

simplex_projection  Archetypal map projections

Description

Archetypal map projections

Usage

```r
simplex_projection(x, r = 10)

tsp_simplex_projection(x, r = 10, equidist = FALSE, ...)

atypes_projection(x)
```

Arguments

- `x`: Archetypes matrix
- `r`: Radius of the simplex projection
- `equidist`: Arrange archetypes equidistantly or in relation to their distance
- `...`: Parameters for the `solve_TSP` function
Value
Matrix with the projected archetypes

See Also
Other archmap: archmap

```
skel
```

---

**Description**

Skeletal diameter measurements, as well as height and gender, are given for 507 physically active individuals - 247 men and 260 women.

This is a subset of the body data set.

**Usage**

skel

**Format**

A data.frame containing 507 observations of 11 variables.

**References**


**See Also**

body

```
skeletonplot
```

---

**Description**

Displays a schematic representation of skeleton data as available in dataset skel.

Displays a generic skeleton with annotations explaining the measurements available in data set skel.
stepArchetypes

Usage

skeletonplot(x, skel.width = 100, skel.height = 200, ylab = "Height (cm)",
base.radius = 2, xlab = ", xlim = (nrow(x) * c(0, skel.width)),
ylim = c(0, skel.height), col = NULL, mtext = TRUE, skel.lwd = 1, ...)

jd()

Arguments

x Matrix or data.frame of skeleton data.
skel.width Reference width for instance calculation.
skel.height Reference height for instance calculation.
base.radius Base radius for points.
xlab The x label of the plot.
ylab The y label of the plot.
xlim Numeric of length 2 giving the x limits for the plot.
ylim Numeric of length 2 giving the y limits for the plot.
col Color of the different parts of the skeleton.
mtext Label archetypes.
skel.lwd Line width of skeleton.
... Passed to underlying canvas plot function.

Value

List of skeleton instances.
Generic skeleton instance.

See Also

skel

---

stepArchetypes Run archetypes algorithm repeatedly

Description

Run archetypes algorithm repeatedly

Usage

stepArchetypes(..., k, nrep = 3, method = archetypes, verbose = TRUE)
Arguments

... Passed to the specific archetype function.

k A vector of integers passed in turn to the k argument of archetypes.
nrep For each value of k run archetypes nrep times.

method Archetypes function to use, typically archetypes, weightedArchetypes or robustArchetypes.

verbose Show progress during execution.

Value

A list with k elements and class attribute stepArchetypes. Each element is a list of class repArchetypes with nrep elements; only for internal usage.

See Also

archetypes

Examples

```r
## Not run:
data(skel)
skel2 <- subset(skel, select=-Gender)
as <- stepArchetypes(skel2, k=1:5, verbose=FALSE)

## Residual sum of squares curve:
screepplot(as)

## Select three archetypes and from that the best
## recurrence:
a3 <- bestModel(as[[3]])

## End(Not run)
```

---

**summary.stepArchetypes**

*Summary method for stepArchetypes object*

**Description**

Summary method for stepArchetypes object

**Usage**

```r
## S3 method for class 'stepArchetypes'
summary(object, ...)
```
Arguments

object: A stepArchetypes object.

Value

Undefined.

toy: Toy data set

Description

A simple artificial two-dimensional data set.

Usage

toy

Format

A data.frame containing 250 observations of 2 variables.

weightedArchetypes: Weighted archetypes

Description

Weighted archetypes

Usage

weightedArchetypes(data, k, weights = NULL, familyBlocks = list(), ...)

Arguments

weights: Data weights matrix.
familyBlocks: Exchange predefined family blocks; see archetypesFamily.
data: A numeric \( n \times m \) data matrix.
k: The number of archetypes.
...: Additional arguments for family blocks.

Value

An object of class weightedArchetypes and as.archetypes.
See Also

Other archetypes: archetypesFamily; archetypes; as.archetypes; robustArchetypes

---

**weights.archetypes**  
Return weights

### Description

Return weights

### Usage

```r
## S3 method for class 'archetypes'
weights(object, type = c("weights", "reweights"), ...)
```

### Arguments

- `object`: An archetypes object.
- `type`: Return global weights (weighted archetypes) or weights calculated during the iterations (robust archetypes).
- `...`: Ignored.

### Value

Vector of weights.

---

**xyplot**  
Two-dimensional plot.

### Description

Two-dimensional plot.

### Usage

```r
xyplot(x, ...)
```

### Arguments

- `x`: An object.
- `...`: Further arguments.

### Value

Undefined.
xyplot.archetypes

Plot of two-dimensional data and archetypes.

Description

Plot of two-dimensional data and archetypes.

Usage

## S3 method for class 'archetypes'
xyplot(x, y, data.col = 1, data.pch = 19,
data.bg = NULL, atypes.col = 2, atypes.pch = 19, ahull.show = TRUE,
ahull.col = atypes.col, chull = NULL, chull.col = gray(0.7),
chull.pch = 19, adata.show = FALSE, adata.col = 3, adata.pch = 13,
link.col = data.col, link.lty = 1, ...)

Arguments

x
An archetypes object.
y
A matrix or data frame.
data.col
Color of data points.
data.pch
Type of data points.
data.bg
Background of data points.
atypes.col
Color of archetypes points.
atypes.pch
Type of archetypes points.
ahull.show
Show approximated convex hull.
ahull.col
Color of approximated convex hull line.
chull
An integer vector giving the indices of the points from data lying on the convex hull.
chull.col
Color of convex hull points.
chull.pch
Type of convex hull points.
adata.show
Show approximated data with link to the original data.
adata.col
Color of approximated data points.
adata.pch
Type of approximated data points.
link.col
Color of link between approximated and original data points.
link.lty
Line type of link between approximated and original data points.
...
Passed to the underlying plot functions.

Value

Undefined.
xyplot.robustArchetypes

Plot of two-dimensional data and robust archetypes.

Description
Plot of two-dimensional data and robust archetypes.

Usage

## S3 method for class 'robustArchetypes'
xyplot(x, y, ...)  

Arguments

x An archetypes object.
y A matrix or data frame.
... Arguments of xyplot.weightedArchetypes and xyplot.robustArchetypes

xyplot.stepArchetypes  Plot of two-dimensional data and stepArchetypes.

Description
Plot of two-dimensional data and stepArchetypes.

Usage

## S3 method for class 'stepArchetypes'
xyplot(x, y, data.col = gray(0.7), data.pch = 19,  
       atypes.col = (seq_len(length(x) * length(x[[1]])) + 1), atypes.pch = 19,  
       ahull.show = TRUE, ahull.col = atypes.col, ...)
xyplot.weightedArchetypes

Arguments

x
An stepArchetypes object.
y
A matrix or data frame.
data.col
Color of data points.
data.pch
Type of data points.
atypes.col
Color of archetypes points.
atypes.pch
Type of archetypes points.
ahull.show
Show approximated convex hull.
ahull.col
Color of approximated convex hull line.
...
Passed to the underlying plot functions.

Value

Undefined.

Description

Plot of two-dimensional data and weighted archetypes.

Usage

## S3 method for class 'weightedArchetypes'
xyplot(x, y, data.col = 1, data.pch = 21,
data.bg = gray, link.col = NULL, link.lty = NULL,
weights.type = "weights", ...)

Arguments

x
An archetypes object.
y
A matrix or data frame.
data.col
Color of data points.
data.pch
Type of data points.
data.bg
Background of data points.
link.col
Color of link between approximated and original data points.
link.lty
Line type of link between approximated and original data points.
weights.type
Weights to display; see weights.archetypes.
...
Arguments of xyplot.archetypes.
Description

An extraction on a stepArchetypes object returns again a stepArchetypes object.

Usage

```r
## S3 method for class 'stepArchetypes'
x[i]
```

Arguments

- `x` A stepArchetypes object.
- `i` The indexes to extract.

Value

A stepArchetypes object containing only the parts defined in `i`. 
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