Package 'archetypes'

May 2, 2025

Type Package

Title Archetypal Analysis

Version 2.2-0.2

Date 2025-05-02

Depends methods, stats, modeltools, nnls (>= 1.1)

Suggests MASS, vcd, mlbench, ggplot2, TSP, mvtnorm

Description The main function archetypes implements a framework for archetypal analysis supporting arbitrary problem solving mechanisms for the different conceptual parts of the algorithm.

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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-screeplot.R' 'archetypes-step.R' 'archetypes-weighted.R' 'archetypes-xyplot.R' 'memento.R' 'simplex-pot.R' 'skeletonplot.R' 'body.R' 'skel.R' 'toy.R'

NeedsCompilation no

Repository CRAN

Date/Publication 2025-05-02 10:00:06 UTC

RoxygenNote 7.3.2

LazyData true

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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

Cutler and Breiman. Archetypal Analysis. Technometrics, 36(4), 1994. 338-348.

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

```
## 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-methods`.
`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

Heinz, Peterson, Johnson and Kerk. "Exploring relationships in body dimensions". Journal of Statistics Education, 11(2). http://www.amstat.org/publications/jse/v11n2/datasets.heinz.html

See Also

skel

coef.archetypes *Return coefficients*

Description

Return coefficients

Usage

```
## 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

```
## 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

```
## 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

```
## 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

```
## 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

```
## 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.
...	Ignored.

Value

Matrix with k archetypes.

---

pcplot.archetypes *Parallel coordinates of data and archetypes.*

Description

Parallel coordinates of data and archetypes.

Usage

```
## S3 method for class 'archetypes'
pcplot(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 parcoord of package MASS to simply play arround with the visualization of archetypes. At a later date, when it is clear which visualisation is the best, the functionality is probabibly merged with the original function or it is possible with parallel coordinate plots which are available et all.

Usage

```
## Default S3 method:
pcplot(x, col = gray(0.7), lty = 1, var.label = TRUE,
  rx = NULL, ...)
```

Arguments

x	A $n \times m$ matrix or data frame who columns represent variables. Missing values are allowed.
col	Line color.
lty	Line type.
var.label	Axes labels.
rx	A $2 \times m$ matrix with ranges for each dimension.
...	Passed to the underlying matplot function.

Value

Undefined.

predict.archetypes *Predict method for archetypal analysis fits*

Description

This method produces predicted alpha coefficients for new data.

Usage

```
## S3 method for class 'archetypes'
predict(object, newdata, ...)
```

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

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

Arguments

object	An archetypes object.
...	Ignored.

Value

Matrix with residuals.

---

robustArchetypes *Robust archetypes*

Description

Robust archetypes

Usage

```
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

---

rss *Defined generics*

Description

Generics defined by the archetypes package.

Return number of parameters

Return best model

Panorama

Parallel coordinates plot

Usage

```
rss(object, ...)

nparameters(object, ...)

bestModel(object, ...)

panorama(object, ...)

pcplot(x, ...)
```

Arguments

object	An object
...	Futher arguments
x	An object.

rss.archetypes *Return residual sum of squares*

Description

Return residual sum of squares

Usage

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

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

## 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.

screeplot.stepArchetypes *Screeplot of stepArchetypes.*

Description

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

Usage

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

Arguments

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

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

```
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

Value

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

References

See Section 6 in "Probabilistic Archetypal Analysis" by Seth and Eugster (2014), http://arxiv.org/abs/1312.7604.

Examples

```
### 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

```
simplex_projection(x, r = 10)

tspsimplex_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` *Exploring relationships in body dimensions, skeletal measurements*

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

Heinz, Peterson, Johnson and Kerk. "Exploring relationships in body dimensions". Journal of Statistics Education, 11(2). http://www.amstat.org/publications/jse/v11n2/datasets.heinz.html

See Also

body

`skeletonplot` *Skeleton plot.*

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.

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 exection.

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

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

  ## Residual sum of squares curve:
  screeplot(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

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

Arguments

object	A stepArchetypes object.
...	Ignored.

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

```
## 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

```
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.

Note

The link between approximated and original data is based on an idea and Matlab source code of Bernard Pailthorpe.

`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, ...)
```

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.

---

xyplot.weightedArchetypes

Plot of two-dimensional data and weighted archetypes.

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.

`[.stepArchetypes` *Extract method*

Description

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

Usage

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

Arguments

`x`	A `stepArchetypes` object.
`i`	The indizes to extract.

Value

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

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