Package 'spnet'

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Type Package

Title Plotting (Social) Networks on Maps

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Description

Facilitates the rendering of networks for which nodes have a specific position on a map (cities, participants in a political debate, etc.). Map data and network data are stored together in a single object which handles the match between network nodes and their respective position on the map. The plot method renders both the map and the network data. Several networks can be plot simultaneously. The graphic is highly customisable and the legend is automatically printed. Map data have to be supplied as 'SpatialPolygons' objects (from the 'sp' package) and network data as 'named matrix'.

URL http://emmanuel.rousseaux.me/r-package-spnet

Encoding UTF-8

License GPL-3

Depends R (>= 2.10), methods, sp, shape

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`color2blackwhite` *Convert colors to contrasted gray level for black and white rendering*

Description

This function converts color codes (given in hexadecimal format) to constrasted gray levels. This is useful to enhance readability when printing in black and white. The conversion from color to gray levels is performed using the luminosity method (0.21R + 0.72G + 0.07B), then levels are linearly scaled to [contrast.min;contrast.max].

Usage

```
color2blackwhite(x, increase.contrast = TRUE, contrast.min = 0.02,
  contrast.max = 0.98)
```

Arguments

`x`	a `character`, the vector of color codes given in hexadecimal format (ex "#21AD5C").
`increase.contrast`	a `logical`, if `TRUE` the scaling is performed.
`contrast.min`	the minimal gray value to use in the scaling (0 = white, 1 = black).
`contrast.max`	the maximal gray value to use in the scaling (0 = white, 1 = black).

Examples

```
mycols = c("#BA364E", "#32BAA1", "#12AA91")
color2blackwhite(mycols)

barplot(1:3, axes=FALSE, col=mycols)
barplot(1:3, axes=FALSE, col=color2blackwhite(mycols, increase.contrast = FALSE))
barplot(1:3, axes=FALSE, col=color2blackwhite(mycols))
barplot(1:3, axes=FALSE, col=color2blackwhite(mycols, contrast.min = 0, contrast.max = 1))
```

---

graph.barplot.bgcolor *Get the barplot background color of a* SpatialNetwork *object*

Description

This generic method intends to extract the barplot background color of a SpatialNetwork object.

Usage

```
graph.barplot.bgcolor(object)

## S4 method for signature 'SpatialNetwork'
graph.barplot.bgcolor(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.barplot.bgcolor(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new color.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = character: method for SpatialNetwork objects.

graph.barplot.bgcolor<-

Set the barplot background color of a SpatialNetwork *object*

Description

This generic method intends to set or replace the barplot background color of a SpatialNetwork object.

Usage

```
graph.barplot.bgcolor(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new color.

graph.barplot.bound.lower

Get the barplot lower bound position of a SpatialNetwork *object*

Description

This generic method intends to extract the barplot lower bound position of a SpatialNetwork object.

Usage

```
graph.barplot.bound.lower(object)

## S4 method for signature 'SpatialNetwork'
graph.barplot.bound.lower(object)

## S4 replacement method for signature 'SpatialNetwork,numeric'
graph.barplot.bound.lower(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric vector of coordinates, c(x,y), specifying a shift from the center of each country.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = numeric: method for SpatialNetwork objects.

graph.barplot.bound.lower<-

Set the barplot lower bound position of a SpatialNetwork *object*

Description

This generic method intends to set or replace the barplot lower bound position of a SpatialNetwork object.

Usage

```
graph.barplot.bound.lower(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric vector of coordinates, c(x,y), specifying a shift from the center of each country.

graph.barplot.bound.upper

Get the barplot upper bound position of a SpatialNetwork *object*

Description

This generic method intends to extract the barplot upper bound position of a SpatialNetwork object.

Usage

```
graph.barplot.bound.upper(object)

## S4 method for signature 'SpatialNetwork'
graph.barplot.bound.upper(object)

## S4 replacement method for signature 'SpatialNetwork,numeric'
graph.barplot.bound.upper(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric vector of coordinates, c(x,y), specifying a shift from the center of each country.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork,value = numeric: method for SpatialNetwork objects.

---

graph.barplot.bound.upper<- *Set the barplot upper bound position of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the barplot upper bound position of a SpatialNetwork object.

Usage

```
graph.barplot.bound.upper(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric vector of coordinates, c(x,y), specifying a shift from the center of each country.

---

graph.barplot.fgcolor *Get the barplot foreground color of a* SpatialNetwork *object*

Description

This generic method intends to extract the barplot foreground color of a SpatialNetwork object.

Usage

```
graph.barplot.fgcolor(object)

## S4 method for signature 'SpatialNetwork'
graph.barplot.fgcolor(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.barplot.fgcolor(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the color.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork,value = character: method for SpatialNetwork objects.

---

graph.barplot.fgcolor<- *Set the barplot foreground color of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the barplot foreground color of a SpatialNetwork object.

Usage

```
graph.barplot.fgcolor(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the color.

---

graph.barplot.list *Get the list of all barplot parameters of a* SpatialNetwork *object*

Description

This generic method intends to extract barplot parameters of a SpatialNetwork object.

Usage

```
graph.barplot.list(object)

## S4 method for signature 'SpatialNetwork'
graph.barplot.list(object)

## S4 replacement method for signature 'SpatialNetwork,list'
graph.barplot.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to get parameters.
value	a list of parameters.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork,value = list: method for SpatialNetwork objects.

---

graph.barplot.list<- *Set the list of all barplot parameters of a* SpatialNetwork *object*

Description

This generic method intends to set or replace barplot parameters of a SpatialNetwork object.

Usage

```
graph.barplot.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to set parameters.
value	a list of parameters.

---

graph.barplot.variable *Get the barplot variable of a* SpatialNetwork *object*

Description

This generic method intends to extract the barplot variable of a SpatialNetwork object.

Usage

```
graph.barplot.variable(object)

## S4 method for signature 'SpatialNetwork'
graph.barplot.variable(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.barplot.variable(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the name of the variable to use for plotting barplots.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork,value = character: method for SpatialNetwork objects.

graph.barplot.variable<- *Set the barplot variable of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the barplot variable of a SpatialNetwork object.

Usage

```
graph.barplot.variable(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the name of the variable to use for plotting barplots.

graph.barplot.width *Get the barplot width of a* SpatialNetwork *object*

Description

This generic method intends to extract the barplot width of a SpatialNetwork object.

Usage

```
graph.barplot.width(object)

## S4 method for signature 'SpatialNetwork'
graph.barplot.width(object)

## S4 replacement method for signature 'SpatialNetwork,numeric'
graph.barplot.width(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork,value = numeric: method for SpatialNetwork objects.

graph.barplot.width<- *Set the barplot width of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the barplot width of a SpatialNetwork object.

Usage

```
graph.barplot.width(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric.

graph.blackwhite.enable *Get the black and white mode status of a* SpatialNetwork *object*

Description

This generic method intends to extract the black and white mode status of a SpatialNetwork object.

Usage

```
graph.blackwhite.enable(object)

## S4 method for signature 'SpatialNetwork'
graph.blackwhite.enable(object)

## S4 replacement method for signature 'SpatialNetwork,logical'
graph.blackwhite.enable(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a logical, the black and white mode status.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = logical: method for SpatialNetwork objects.

graph.blackwhite.enable<- *Set the black and white mode status of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the black and white mode status of a SpatialNetwork object.

Usage

```
graph.blackwhite.enable(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a logical, the black and white mode status.

graph.blackwhite.list *Get the list of all black and white mode parameters of a* SpatialNetwork *object*

Description

This generic method intends to extract black and white mode parameters of a SpatialNetwork object.

Usage

```
graph.blackwhite.list(object)

## S4 method for signature 'SpatialNetwork'
graph.blackwhite.list(object)

## S4 replacement method for signature 'SpatialNetwork,list'
graph.blackwhite.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to get parameters.
value	a list of parameters.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = list: method for SpatialNetwork objects.

`graph.blackwhite.list<-` *Set the list of all black and white mode parameters of a* `SpatialNetwork` *object*

Description

This generic method intends to set or replace black and white mode parameters of a `SpatialNetwork` object.

Usage

```
graph.blackwhite.list(object) <- value
```

Arguments

`object`	the `SpatialNetwork` object for which we want to set parameters.
`value`	a list of parameters.

`graph.blackwhite.max` *Get the black and white mode maximal gray value of a* `SpatialNetwork` *object*

Description

This generic method intends to extract the black and white mode maximal gray value (from 0 to 1) of a `SpatialNetwork` object.

Usage

```
graph.blackwhite.max(object)

## S4 method for signature 'SpatialNetwork'
graph.blackwhite.max(object)

## S4 replacement method for signature 'SpatialNetwork,numeric'
graph.blackwhite.max(object) <- value
```

Arguments

`object`	a `SpatialNetwork` object.
`value`	a `logical`, the black and white mode maximal gray value.

Methods (by class)

- `SpatialNetwork`: method for `SpatialNetwork` objects.
- `object` = `SpatialNetwork`, `value` = `numeric`: method for `SpatialNetwork` objects.

graph.blackwhite.max<-

Set the black and white mode maximal gray value of a SpatialNetwork *object*

Description

This generic method intends to set or replace the black and white mode maximal gray value (from 0 to 1) of a SpatialNetwork object.

Usage

```
graph.blackwhite.max(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric, the black and white mode maximal gray value.

graph.blackwhite.min

Get the black and white mode minimal gray value of a SpatialNetwork *object*

Description

This generic method intends to extract the black and white mode minimal gray value (from 0 to 1) of a SpatialNetwork object.

Usage

```
graph.blackwhite.min(object)

## S4 method for signature 'SpatialNetwork'
graph.blackwhite.min(object)

## S4 replacement method for signature 'SpatialNetwork,numeric'
graph.blackwhite.min(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a logical, the black and white mode minimal gray value.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = numeric: method for SpatialNetwork objects.

graph.blackwhite.min<-

Set the black and white mode minimal gray value of a SpatialNetwork *object*

Description

This generic method intends to set or replace the black and white mode minimal gray value (from 0 to 1) of a SpatialNetwork object.

Usage

```
graph.blackwhite.min(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric, the black and white mode minimal gray value.

graph.color.background

Get the background color of a SpatialNetwork *object*

Description

This generic method intends to extract the background color of a SpatialNetwork object.

Usage

```
graph.color.background(object)

## S4 method for signature 'SpatialNetwork'
graph.color.background(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.color.background(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a character, the color.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = character: method for SpatialNetwork objects.

graph.color.background<- *Set the background color of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the background color of a SpatialNetwork object.

Usage

```
graph.color.background(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a character, the color.

graph.color.border *Get the border color of a* SpatialNetwork *object*

Description

This generic method intends to extract the border color of a SpatialNetwork object.

Usage

```
graph.color.border(object)

## S4 method for signature 'SpatialNetwork'
graph.color.border(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.color.border(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a character, the color.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = character: method for SpatialNetwork objects.

graph.color.border<- *Set the border color of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the border color of a SpatialNetwork object.

Usage

```
graph.color.border(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a character, the color.

graph.color.legend *Get the color legend of a* SpatialNetwork *object*

Description

This generic method intends to extract the color legend of a SpatialNetwork object.

Usage

```
graph.color.legend(object)

## S4 method for signature 'SpatialNetwork'
graph.color.legend(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.color.legend(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the color legend.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = character: method for SpatialNetwork objects.

graph.color.legend<- *Set the color legend of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the color legend of a SpatialNetwork object.

Usage

```
graph.color.legend(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the color legend.

graph.color.list *Get the list of all color parameters of a* SpatialNetwork *object*

Description

This generic method intends to extract color parameters of a SpatialNetwork object.

Usage

```
graph.color.list(object)

## S4 method for signature 'SpatialNetwork'
graph.color.list(object)

## S4 replacement method for signature 'SpatialNetwork,list'
graph.color.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to get parameters.
value	a list of parameters.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = list: method for SpatialNetwork objects.

graph.color.list<- *Set the list of all color parameters of a* SpatialNetwork *object*

Description

This generic method intends to set or replace color parameters of a SpatialNetwork object.

Usage

```
graph.color.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to set parameters.
value	a list of parameters.

graph.color.node *Get the default color of a node of a* SpatialNetwork *object*

Description

This generic method intends to extract the default color of a node of a SpatialNetwork object.

Usage

```
graph.color.node(object)

## S4 method for signature 'SpatialNetwork'
graph.color.node(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.color.node(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a character, the color.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = character: method for SpatialNetwork objects.

graph.color.node<- *Set the default color of a node of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the default color of a node of a SpatialNetwork object.

Usage

```
graph.color.node(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a character, the color.

graph.color.region *Get the default color of a region of a* SpatialNetwork *object*

Description

This generic method intends to extract the default color of a region of a SpatialNetwork object.

Usage

```
graph.color.region(object)

## S4 method for signature 'SpatialNetwork'
graph.color.region(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.color.region(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a character, the color.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = character: method for SpatialNetwork objects.

graph.color.region<- *Set the default color of a region of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the default color of a region of a SpatialNetwork object.

Usage

```
graph.color.region(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a character, the color.

graph.color.variable *Get the color variable of a* SpatialNetwork *object*

Description

This generic method intends to extract the color variable of a SpatialNetwork object.

Usage

```
graph.color.variable(object)

## S4 method for signature 'SpatialNetwork'
graph.color.variable(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.color.variable(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new color, for example "#000000".

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = character: method for SpatialNetwork objects.

graph.color.variable<- *Set the color variable of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the color variable of a SpatialNetwork object.

Usage

```
graph.color.variable(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new color, for example "#000000".

graph.label.cex *Get the label cex of a* SpatialNetwork *object*

Description

This generic method intends to extract the label cex of a SpatialNetwork object.

Usage

```
graph.label.cex(object)

## S4 method for signature 'SpatialNetwork'
graph.label.cex(object)

## S4 replacement method for signature 'SpatialNetwork,numeric'
graph.label.cex(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	numeric; the cex parameter.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = numeric: method for SpatialNetwork objects.

graph.label.cex<- *Set the label cex of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the label cex of a SpatialNetwork object.

Usage

```
graph.label.cex(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	numeric; the cex parameter.

graph.label.color *Get the label color of a* SpatialNetwork *object*

Description

This generic method intends to extract the label color of a SpatialNetwork object.

Usage

```
graph.label.color(object)

## S4 method for signature 'SpatialNetwork'
graph.label.color(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.label.color(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new label, for example "#000000".

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = character: method for SpatialNetwork objects.

graph.label.color<- *Set the label color of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the label color of a SpatialNetwork object.

Usage

```
graph.label.color(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new label, for example "#000000".

graph.label.list *Get the list of all label parameters of a* SpatialNetwork *object*

Description

This generic method intends to extract label parameters of a SpatialNetwork object.

Usage

```
graph.label.list(object)

## S4 method for signature 'SpatialNetwork'
graph.label.list(object)

## S4 replacement method for signature 'SpatialNetwork,list'
graph.label.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to get parameters.
value	a list of parameters.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork,value = list: method for SpatialNetwork objects.

graph.label.list<- *Set the list of all label parameters of a* SpatialNetwork *object*

Description

This generic method intends to set or replace label parameters of a SpatialNetwork object.

Usage

```
graph.label.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to set parameters.
value	a list of parameters.

graph.label.variable *Get the label variable of a* SpatialNetwork *object*

Description

This generic method intends to extract the label variable of a SpatialNetwork object.

Usage

```
graph.label.variable(object)

## S4 method for signature 'SpatialNetwork'
graph.label.variable(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.label.variable(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new label, for example "#000000".

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = character: method for SpatialNetwork objects.

graph.label.variable<- *Set the label variable of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the label variable of a SpatialNetwork object.

Usage

```
graph.label.variable(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new label, for example "#000000".

graph.layout.list *Get the list of all layout parameters of a* SpatialNetwork *object*

Description

This generic method intends to extract layout parameters of a SpatialNetwork object.

Usage

```
graph.layout.list(object)

## S4 method for signature 'SpatialNetwork'
graph.layout.list(object)

## S4 replacement method for signature 'SpatialNetwork,list'
graph.layout.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to get parameters.
value	a list of parameters.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork,value = list: method for SpatialNetwork objects.

graph.layout.list<- *Set the list of all layout parameters of a* SpatialNetwork *object*

Description

This generic method intends to set or replace layout parameters of a SpatialNetwork object.

Usage

```
graph.layout.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to set parameters.
value	a list of parameters.

graph.legend.cex *Get the legend cex parameter of a* SpatialNetwork *object*

Description

This generic method intends to extract the legend cex parameter of a SpatialNetwork object.

Usage

```
graph.legend.cex(object)

## S4 method for signature 'SpatialNetwork'
graph.legend.cex(object)

## S4 replacement method for signature 'SpatialNetwork,numeric'
graph.legend.cex(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = numeric: method for SpatialNetwork objects.

graph.legend.cex<- *Set the legend cex parameter of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the legend cex parameter of a SpatialNetwork object.

Usage

```
graph.legend.cex(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric.

graph.legend.horiz *Get the legend horizontal or vertical setting of a* SpatialNetwork *object*

Description

This generic method intends to extract the legend horizontal or vertical setting of a SpatialNetwork object.

Usage

```
graph.legend.horiz(object)

## S4 method for signature 'SpatialNetwork'
graph.legend.horiz(object)

## S4 replacement method for signature 'SpatialNetwork,logical'
graph.legend.horiz(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a logical.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = logical: method for SpatialNetwork objects.

graph.legend.horiz<- *Set the legend horizontal or vertical setting of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the legend horizontal or vertical setting of a SpatialNetwork object.

Usage

```
graph.legend.horiz(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a logical.

graph.legend.line.width *Get the legend line width parameter of a* SpatialNetwork *object*

Description

This generic method intends to extract the legend line width parameter of a SpatialNetwork object.

Usage

```
graph.legend.line.width(object)

## S4 method for signature 'SpatialNetwork'
graph.legend.line.width(object)

## S4 replacement method for signature 'SpatialNetwork,numeric'
graph.legend.line.width(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a logical.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = numeric: method for SpatialNetwork objects.

graph.legend.line.width<- *Set the legend line width parameter of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the legend line width parameter of a SpatialNetwork object.

Usage

```
graph.legend.line.width(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a logical.

graph.legend.list *Get the list of all legend parameters of a* SpatialNetwork *object*

Description

This generic method intends to extract legend parameters of a SpatialNetwork object.

Usage

```
graph.legend.list(object)

## S4 method for signature 'SpatialNetwork'
graph.legend.list(object)

## S4 replacement method for signature 'SpatialNetwork,list'
graph.legend.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to get parameters.
value	a list of parameters.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = list: method for SpatialNetwork objects.

graph.legend.list<- *Set the list of all legend parameters of a* SpatialNetwork *object*

Description

This generic method intends to set or replace legend parameters of a SpatialNetwork object.

Usage

```
graph.legend.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to set parameters.
value	a list of parameters.

graph.legend.ncol *Get the legend number of columns of a* SpatialNetwork *object*

Description

This generic method intends to extract the legend number of columns of a SpatialNetwork object.

Usage

```
graph.legend.ncol(object)

## S4 method for signature 'SpatialNetwork'
graph.legend.ncol(object)

## S4 replacement method for signature 'SpatialNetwork,numeric'
graph.legend.ncol(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = numeric: method for SpatialNetwork objects.

graph.legend.ncol<- *Set the legend number of columns of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the legend number of columns of a SpatialNetwork object.

Usage

```
graph.legend.ncol(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric.

graph.legend.print *Get the legend print (yes/no) status of a* SpatialNetwork *object*

Description

This generic method intends to extract the legend print (yes/no) status of a SpatialNetwork object.

Usage

```
graph.legend.print(object)

## S4 method for signature 'SpatialNetwork'
graph.legend.print(object)

## S4 replacement method for signature 'SpatialNetwork,logical'
graph.legend.print(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a logical.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork,value = logical: method for SpatialNetwork objects.

graph.legend.print<- *Set the legend print (yes/no) status of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the legend print (yes/no) status of a SpatialNetwork object.

Usage

```
graph.legend.print(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a logical.

graph.map *Get the map to a* SpatialNetwork *object*

Description

This generic method intends to extract the map object. Currently only SpatialPolygons from the sp package are supported.

Usage

```
graph.map(object)

## S4 method for signature 'SpatialNetwork'
graph.map(object)

## S4 replacement method for signature 'SpatialNetwork,SpatialPolygons'
graph.map(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to get the map.
value	the map.

Methods (by class)

- SpatialNetwork: method for SpatialPolygons objects.
- object = SpatialNetwork,value = SpatialPolygons: method for SpatialPolygons objects.

graph.map.plot.position *Plot a map labelled with the ID numbering*

Description

The graph.map.plot.position function allows to plot maps defined as for example SpatialNetwork or SpatialPolygons objects, and render the ID numbering.

Usage

```
graph.map.plot.position(x, label = "", ...)

## S4 method for signature 'SpatialPolygons'
graph.map.plot.position(x, label = "", ...)

## S4 method for signature 'SpatialNetwork'
graph.map.plot.position(x, label = "", ...)
```

Arguments

x	an object for which a graph.map.plot.position method is defined.
label	a character of length 1 for prefixing seat numbering.
...	other arguments to pass to the plot function. The main usage is setting the cex value.

Methods (by class)

- SpatialPolygons: method for SpatialPolygons objects.
- SpatialNetwork: method for SpatialNetwork objects.

See Also

Other res: SpatialNetwork-class

Examples

```
## The world map
data(world.map.simplified, package = "spnet")

graph.map.plot.position(world.map.simplified)
graph.map.plot.position(world.map.simplified, cex = 0.4)
graph.map.plot.position(world.map.simplified, label = 'ID ', cex = 0.3)
```

graph.map<- *Set the map to a* SpatialNetwork *object*

Description

This generic method intends to set or replace the map object. Currently only SpatialPolygons from the sp package are supported.

Usage

```
graph.map(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to set the map.
value	the map.

graph.network.arrow.color
Get the arrow color of a given network of a SpatialNetwork *object*

Description

This generic method intends to extract the arrow color of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.color(object, network.name)

## S4 method for signature 'SpatialNetwork,character'
graph.network.arrow.color(object,
  network.name)


  ## S4 replacement method for signature 'SpatialNetwork,character,character'
graph.network.arrow.color(object,
  network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow color.

Methods (by class)

- object = SpatialNetwork,network.name = character: method for SpatialNetwork objects.
- object = SpatialNetwork,network.name = character,value = character: method for SpatialNetwork objects.

---

graph.network.arrow.color<-

Set the arrow color of a given network of a SpatialNetwork *object*

Description

This generic method intends to set or replace the arrow color of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.color(object, network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow color.

---

graph.network.arrow.head.lth

Get the arrow head length of a given network of a SpatialNetwork *object*

Description

This generic method intends to extract the arrow head length of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.head.lth(object, network.name)

## S4 method for signature 'SpatialNetwork,character'
graph.network.arrow.head.lth(object,
  network.name)


  ## S4 replacement method for signature 'SpatialNetwork,character,numeric'
graph.network.arrow.head.lth(object,
  network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow head length.

Methods (by class)

- object = SpatialNetwork,network.name = character: method for SpatialNetwork objects.
- object = SpatialNetwork,network.name = character,value = numeric: method for SpatialNetwork objects.

---

graph.network.arrow.head.lth<-

Set the arrow head length of a given network of a SpatialNetwork *object*

Description

This generic method intends to set or replace the arrow head length of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.head.lth(object, network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow head length.

---

graph.network.arrow.head.type

Get the arrow head type of a given network of a SpatialNetwork *object*

Description

This generic method intends to extract the arrow head type of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.head.type(object, network.name)

## S4 method for signature 'SpatialNetwork,character'
graph.network.arrow.head.type(object,
  network.name)


  ## S4 replacement method for signature 'SpatialNetwork,character,character'
graph.network.arrow.head.type(object,
  network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	type of arrowhead to draw, one of "simple", "curved", "triangle", "circle", "ellipse" or "T". See Arrows for details.

Methods (by class)

- object = SpatialNetwork,network.name = character: method for SpatialNetwork objects.
- object = SpatialNetwork,network.name = character,value = character: method for SpatialNetwork objects.

---

graph.network.arrow.head.type<-

Set the arrow head type of a given network of a SpatialNetwork *object*

Description

This generic method intends to set or replace the arrow head type of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.head.type(object, network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	type of arrowhead to draw, one of "simple", "curved", "triangle", "circle", "ellipse" or "T". See Arrows for details.

graph.network.arrow.line.type
Get the arrow line type of a given network of a SpatialNetwork *object*

Description

This generic method intends to extract the arrow line type of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.line.type(object, network.name)

## S4 method for signature 'SpatialNetwork,character'
graph.network.arrow.line.type(object,
  network.name)


  ## S4 replacement method for signature 'SpatialNetwork,character,numeric'
graph.network.arrow.line.type(object,
  network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	a numeric; the arrow line type.

Methods (by class)

- object = SpatialNetwork,network.name = character: method for SpatialNetwork objects.
- object = SpatialNetwork,network.name = character,value = numeric: method for SpatialNetwork objects.

graph.network.arrow.line.type<-
Set the arrow line type of a given network of a SpatialNetwork *object*

Description

This generic method intends to set or replace the arrow line type of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.line.type(object, network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	a numeric; the arrow line type.

---

graph.network.arrow.opacity

Get the arrow opacity of a given network of a SpatialNetwork *object*

Description

This generic method intends to extract the arrow opacity of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.opacity(object, network.name)

## S4 method for signature 'SpatialNetwork,character'
graph.network.arrow.opacity(object,
  network.name)


  ## S4 replacement method for signature 'SpatialNetwork,character,numeric'
graph.network.arrow.opacity(object,
  network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow opacity.

Methods (by class)

- object = SpatialNetwork,network.name = character: method for SpatialNetwork objects.
- object = SpatialNetwork,network.name = character,value = numeric: method for SpatialNetwork objects.

---

graph.network.arrow.opacity<-

Set the arrow opacity of a given network of a SpatialNetwork *object*

Description

This generic method intends to set or replace the arrow opacity of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.opacity(object, network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow opacity.

---

graph.network.arrow.shift.x

Get the arrow shift on the x axis of a given network of a SpatialNetwork *object*

Description

This generic method intends to extract the arrow shift on the x axis of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.shift.x(object, network.name)

## S4 method for signature 'SpatialNetwork,character'
graph.network.arrow.shift.x(object,
  network.name)


  ## S4 replacement method for signature 'SpatialNetwork,character,numeric'
graph.network.arrow.shift.x(object,
  network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow shift on the x axis.

Methods (by class)

- object = SpatialNetwork,network.name = character: method for SpatialNetwork objects.
- object = SpatialNetwork,network.name = character,value = numeric: method for SpatialNetwork objects.

---

graph.network.arrow.shift.x<-

Set the arrow shift on the x axis of a given network of a SpatialNetwork *object*

Description

This generic method intends to set or replace the arrow shift on the x axis of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.shift.x(object, network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow shift on the x axis.

---

graph.network.arrow.shift.y

Get the arrow shift on the y axis of a given network of a SpatialNetwork *object*

Description

This generic method intends to extract the arrow shift on the y axis of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.shift.y(object, network.name)

## S4 method for signature 'SpatialNetwork,character'
graph.network.arrow.shift.y(object,
  network.name)


  ## S4 replacement method for signature 'SpatialNetwork,character,numeric'
graph.network.arrow.shift.y(object,
  network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow shift on the y axis.

Methods (by class)

- object = SpatialNetwork,network.name = character: method for SpatialNetwork objects.
- object = SpatialNetwork,network.name = character,value = numeric: method for SpatialNetwork objects.

---

graph.network.arrow.shift.y<-

Set the arrow shift on the y axis of a given network of a SpatialNetwork *object*

Description

This generic method intends to set or replace the arrow shift on the y axis of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.shift.y(object, network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow shift on the y axis.

graph.network.arrow.shorten

Get the arrow shortening of a given network of a SpatialNetwork *object*

Description

This generic method intends to extract the arrow shortening of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.shorten(object, network.name)

## S4 method for signature 'SpatialNetwork,character'
graph.network.arrow.shorten(object,
  network.name)


  ## S4 replacement method for signature 'SpatialNetwork,character,numeric'
graph.network.arrow.shorten(object,
  network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow shortening.

Methods (by class)

- object = SpatialNetwork,network.name = character: method for SpatialNetwork objects.
- object = SpatialNetwork,network.name = character,value = numeric: method for SpatialNetwork objects.

graph.network.arrow.shorten<-

Set the arrow shortening of a given network of a SpatialNetwork *object*

Description

This generic method intends to set or replace the arrow shortening of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.shorten(object, network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow shortening.

---

graph.network.arrow.thickness

Get the arrow thickness of a given network of a SpatialNetwork *object*

Description

This generic method intends to extract the arrow thickness of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.thickness(object, network.name)

## S4 method for signature 'SpatialNetwork,character'
graph.network.arrow.thickness(object,
  network.name)


  ## S4 replacement method for signature 'SpatialNetwork,character,numeric'
graph.network.arrow.thickness(object,
  network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow thickness.

Methods (by class)

- object = SpatialNetwork,network.name = character: method for SpatialNetwork objects.
- object = SpatialNetwork,network.name = character,value = numeric: method for SpatialNetwork objects.

graph.network.arrow.thickness<-

Set the arrow thickness of a given network of a SpatialNetwork *object*

Description

This generic method intends to set or replace the arrow thickness of a given network of a SpatialNetwork object.

Usage

```
graph.network.arrow.thickness(object, network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the arrow thickness.

graph.network.data

Get the data of a given network of a SpatialNetwork *object*

Description

This generic method intends to extract the data of a given network of a SpatialNetwork object.

Usage

```
graph.network.data(object, network.name)

## S4 method for signature 'SpatialNetwork,character'
graph.network.data(object, network.name)

## S4 replacement method for signature 'SpatialNetwork,character,matrix'
graph.network.data(object,
  network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the network data. Currently only support a matrix object.

Methods (by class)

- object = SpatialNetwork,network.name = character: method for SpatialNetwork objects.
- object = SpatialNetwork,network.name = character,value = matrix: method for SpatialNetwork objects.

---

graph.network.data<- *Set the data of a given network of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the data of a given network of a SpatialNetwork object.

Usage

```
graph.network.data(object, network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the network data. Currently only support a matrix object.

---

graph.network.exists *Test if a network exist*

Description

This function tests if the network name given in parameter match the name of a network defined within a SpatialNetwork object.

Usage

```
graph.network.exists(object, network.name)
```

Arguments

object	a SpatialNetwork object.
network.name	a character; the name of the network.

graph.network.label *Get the label of a given network of a* SpatialNetwork *object*

Description

This generic method intends to extract the label of a given network of a SpatialNetwork object.

Usage

```
graph.network.label(object, network.name)

## S4 method for signature 'SpatialNetwork,character'
graph.network.label(object, network.name)

## S4 replacement method for signature 'SpatialNetwork,character,character'
graph.network.label(object,
  network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the network label.

Methods (by class)

- object = SpatialNetwork,network.name = character: method for SpatialNetwork objects.
- object = SpatialNetwork,network.name = character,value = character: method for SpatialNetwork objects.

graph.network.label<- *Set the label of a given network of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the label of a given network of a SpatialNetwork object.

Usage

```
graph.network.label(object, network.name) <- value
```

Arguments

object	a SpatialNetwork object.
network.name	character; the name of the network.
value	the network label.

---

graph.network.list *Get the list of all parameters of a given network of a* SpatialNetwork *object*

Description

This generic method intends to extract all parameters of a given network of a SpatialNetwork object.

Usage

```
graph.network.list(object, network.name)

## S4 method for signature 'SpatialNetwork,character'
graph.network.list(object, network.name)

## S4 replacement method for signature 'SpatialNetwork,character,list'
graph.network.list(object,
  network.name) <- value
```

Arguments

object	the SpatialNetwork object for which we want to get parameters.
network.name	character; the name of the network.
value	a list of parameters.

Methods (by class)

- object = SpatialNetwork,network.name = character: method for SpatialNetwork objects.
- object = SpatialNetwork,network.name = character,value = list: method for SpatialNetwork objects.

graph.network.list<- *Set the list of all parameters of a given network of a* SpatialNetwork *object*

Description

This generic method intends to set or replace all parameters of a given network of a SpatialNetwork object.

Usage

```
graph.network.list(object, network.name) <- value
```

Arguments

object	the SpatialNetwork object for which we want to set parameters.
network.name	character; the name of the network.
value	a list of parameters.

graph.networks.add<- *Add a network*

Description

This function defines a new network item in a SpatialNetwork object.

Usage

```
graph.networks.add(object) <- value

## S4 replacement method for signature 'SpatialNetwork,character'
graph.networks.add(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a character; the name of the network.

graph.networks.list *Get the list of all networks parameters of a* SpatialNetwork *object*

Description

This generic method intends to extract networks parameters of a SpatialNetwork object.

Usage

```
graph.networks.list(object)

## S4 method for signature 'SpatialNetwork'
graph.networks.list(object)

## S4 replacement method for signature 'SpatialNetwork,list'
graph.networks.list(object) <- value

## S4 replacement method for signature 'SpatialNetwork,list'
graph.title.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to get parameters.
value	a list of parameters.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork,value = list: method for SpatialNetwork objects.
- object = SpatialNetwork,value = list: method for SpatialNetwork objects.

graph.networks.list<- *Set the list of all networks parameters of a* SpatialNetwork *object*

Description

This generic method intends to set or replace networks parameters of a SpatialNetwork object.

Usage

```
graph.networks.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to set parameters.
value	a list of parameters.

graph.networks.remove<- *Remove a network*

Description

This function remove a network item in a SpatialNetwork object.

Usage

```
graph.networks.remove(object) <- value

## S4 replacement method for signature 'SpatialNetwork,character'
graph.networks.remove(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a character; the name of the network.

graph.par.list *Get the list of all par parameters of a* SpatialNetwork *object*

Description

This generic method intends to extract par parameters of a SpatialNetwork object.

Usage

```
graph.par.list(object)

## S4 method for signature 'SpatialNetwork'
graph.par.list(object)

## S4 replacement method for signature 'SpatialNetwork,list'
graph.par.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to get parameters.
value	a list of parameters.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = list: method for SpatialNetwork objects.

graph.par.list<- *Set the list of all par parameters of a* SpatialNetwork *object*

Description

This generic method intends to set or replace par parameters of a SpatialNetwork object.

Usage

```
graph.par.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to set parameters.
value	a list of parameters.

graph.symbol.cex *Get the symbol cex parameter of a* SpatialNetwork *object*

Description

This generic method intends to extract the symbol cex parameter of a SpatialNetwork object.

Usage

```
graph.symbol.cex(object)

## S4 method for signature 'SpatialNetwork'
graph.symbol.cex(object)

## S4 replacement method for signature 'SpatialNetwork,numeric'
graph.symbol.cex(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new cex parameter.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = numeric: method for SpatialNetwork objects.

graph.symbol.cex<- *Set the symbol cex parameter of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the symbol cex parameter of a SpatialNetwork object.

Usage

```
graph.symbol.cex(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new cex parameter.

graph.symbol.color *Get the symbol color of a* SpatialNetwork *object*

Description

This generic method intends to extract the symbol color of a SpatialNetwork object.

Usage

```
graph.symbol.color(object)

## S4 method for signature 'SpatialNetwork'
graph.symbol.color(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.symbol.color(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the color.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork,value = character: method for SpatialNetwork objects.

graph.symbol.color<- *Set the symbol color of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the symbol color of a SpatialNetwork object.

Usage

```
graph.symbol.color(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the color.

graph.symbol.legend *Get the symbol legend of a* SpatialNetwork *object*

Description

This generic method intends to extract the symbol legend of a SpatialNetwork object.

Usage

```
graph.symbol.legend(object)

## S4 method for signature 'SpatialNetwork'
graph.symbol.legend(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.symbol.legend(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new legend.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = character: method for SpatialNetwork objects.

graph.symbol.legend<- *Set the symbol legend of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the symbol legend of a SpatialNetwork object.

Usage

```
graph.symbol.legend(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new legend.

graph.symbol.list *Get the list of all symbol parameters of a* SpatialNetwork *object*

Description

This generic method intends to extract symbol parameters of a SpatialNetwork object.

Usage

```
graph.symbol.list(object)

## S4 method for signature 'SpatialNetwork'
graph.symbol.list(object)

## S4 replacement method for signature 'SpatialNetwork,list'
graph.symbol.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to get parameters.
value	a list of parameters.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork,value = list: method for SpatialNetwork objects.

graph.symbol.list<- *Set the list of all symbol parameters of a* SpatialNetwork *object*

Description

This generic method intends to set or replace symbol parameters of a SpatialNetwork object.

Usage

```
graph.symbol.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to set parameters.
value	a list of parameters.

graph.symbol.shift.x *Get the symbol shift on the x axis of a* SpatialNetwork *object*

Description

This generic method intends to extract the value of symbol shift on the x axis of a SpatialNetwork object.

Usage

```
graph.symbol.shift.x(object)

## S4 method for signature 'SpatialNetwork'
graph.symbol.shift.x(object)

## S4 replacement method for signature 'SpatialNetwork,numeric'
graph.symbol.shift.x(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric; the value of the shift.s

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork,value = numeric: method for SpatialNetwork objects.

graph.symbol.shift.x<- *Set the symbol shift on the x axis of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the value of symbol shift on the x axis of a SpatialNetwork object.

Usage

```
graph.symbol.shift.x(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric; the value of the shift.

graph.symbol.shift.y *Get the symbol shift on the y axis of a* SpatialNetwork *object*

Description

This generic method intends to extract the value of the symbol shift on the y of a SpatialNetwork object.

Usage

```
graph.symbol.shift.y(object)

## S4 method for signature 'SpatialNetwork'
graph.symbol.shift.y(object)

## S4 replacement method for signature 'SpatialNetwork,numeric'
graph.symbol.shift.y(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	a numeric; the value of the shift.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = numeric: method for SpatialNetwork objects.

`graph.symbol.shift.y<-` *Set the symbol shift on the y axis of a* `SpatialNetwork` *object*

Description

This generic method intends to set or replace the value of the symbol shift on the y axis of a `SpatialNetwork` object.

Usage

```
graph.symbol.shift.y(object) <- value
```

Arguments

`object`	a `SpatialNetwork` object.
`value`	a numeric; the value of the shift.

`graph.symbol.variable` *Get the symbol variable of a* `SpatialNetwork` *object*

Description

This generic method intends to extract the symbol variable of a `SpatialNetwork` object.

Usage

```
graph.symbol.variable(object)

## S4 method for signature 'SpatialNetwork'
graph.symbol.variable(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.symbol.variable(object) <- value
```

Arguments

`object`	a `SpatialNetwork` object.
`value`	the symbol variable.

Methods (by class)

- `SpatialNetwork`: method for `SpatialNetwork` objects.
- `object` = `SpatialNetwork`, `value` = `character`: method for `SpatialNetwork` objects.

graph.symbol.variable<- *Set the symbol variable of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the symbol variable of a SpatialNetwork object.

Usage

```
graph.symbol.variable(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the symbol variable.

graph.title.list *Get the list of all title parameters of a* SpatialNetwork *object*

Description

This generic method intends to extract title parameters of a SpatialNetwork object.

Usage

```
graph.title.list(object)

## S4 method for signature 'SpatialNetwork'
graph.title.list(object)
```

Arguments

object	the SpatialNetwork object for which we want to get parameters.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.

graph.title.list<- *Set the list of all title parameters of a* SpatialNetwork *object*

Description

This generic method intends to set or replace title parameters of a SpatialNetwork object.

Usage

```
graph.title.list(object) <- value
```

Arguments

object	the SpatialNetwork object for which we want to set parameters.
value	a list of parameters.

graph.title.main *Get the main title of a* SpatialNetwork *object*

Description

This generic method intends to extract the main title of a SpatialNetwork object.

Usage

```
graph.title.main(object)

## S4 method for signature 'SpatialNetwork'
graph.title.main(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.title.main(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new title.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = character: method for SpatialNetwork objects.

graph.title.main<- *Set the main title of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the main title of a SpatialNetwork object.

Usage

```
graph.title.main(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new title.

graph.title.sub *Get the sub title of a* SpatialNetwork *object*

Description

This generic method intends to extract the sub title of a SpatialNetwork object.

Usage

```
graph.title.sub(object)

## S4 method for signature 'SpatialNetwork'
graph.title.sub(object)

## S4 replacement method for signature 'SpatialNetwork,character'
graph.title.sub(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new title.

Methods (by class)

- SpatialNetwork: method for SpatialNetwork objects.
- object = SpatialNetwork, value = character: method for SpatialNetwork objects.

graph.title.sub<- *Set the sub title of a* SpatialNetwork *object*

Description

This generic method intends to set or replace the sub title of a SpatialNetwork object.

Usage

```
graph.title.sub(object) <- value
```

Arguments

object	a SpatialNetwork object.
value	the new title.

SpatialNetwork-class *Class* "SpatialNetwork"

Description

Allow to store spatial networks, especially for rendering them

Slots

.Data object of class "list"
map object of class "SpatialPolygons"
networks object of class "list"
plot.title object of class "list"
plot.label object of class "list"
plot.color object of class "list"
plot.blackwhite object of class "list"
plot.symbol object of class "list"
plot.arrow object of class "list"
plot.barplot object of class "list"
plot.legend object of class "list"
plot.layout object of class "list"
plot.par object of class "list"
infos object of class "list"
meta object of class "list"
warnings object of class "list"
names object of class "character"
row.names object of class "data.frameRowLabels"
.S3Class object of class "character"

Objects from the Class

Objects can be created with the spnet function (official class builder).

See Also

Other res: graph.map.plot.position, graph.map.plot.position,SpatialNetwork-method, graph.map.plot.position,SpatialPolygons-method

Examples

```
people <- c("John", "Elsa", "Brian", "Kate")
position <- c(2,4,6,8)

net1.df <- data.frame(
  'NODE' = people,
  'POSITION' = position
)

net1 <- spnet.create(
  x = net1.df
)
net1

net2 <- spnet.create(
  x = people
)
net2
```

---

spnet *Plotting social networks on maps*

Description

The spnet package offers methods for dealing with spacial social networks. It allows to plot networks for which actors have a specific location on a map (participants in a political debate, cities, etc.). SpatialPolygons objects from the sp package are supported.

References

Rousseaux E., Deville M. and Ritschard G. (2014), "The SPNET package: Plotting social networks on maps with R", In 3èmes Rencontres R, Montpellier, France, June 25-27th.

spnet.create *Create a* SpatialNetwork *object*

Description

The spnet.create function is the official builder for creating SpatialNetwork objects.

Usage

```
spnet.create(x, map, networks, plot.title = list(main =
  "Untitled SPNET object", sub = "", cex = 2, col = "#333333"),
  plot.label = list(cex = 1, col = "#333333"), plot.color,
  plot.blackwhite = list(enable = FALSE, min = 0.02, max = 0.98), plot.symbol,
  plot.barplot = list(variable = "", bound.lower = c(-0.5, -0.5), bound.upper
  = c(0.5, -0.5), fgcolor = "#666666", bgcolor = "#eeeeee", width = 8),
  plot.arrow, plot.legend = list(print = TRUE, cex = 1, ncol = 1, horiz =
  FALSE, lwd = 1), plot.layout = list(ratios = c(title = 1/10, graphic = 7/10,
  legend = 2/10), mat = NULL, reset = TRUE), plot.par = list(mar = c(1, 1, 1,
  1)), infos, quiet = FALSE)
```

Arguments

x	a data.frame containing at least two columns: NODE and POSITION.
map	a SpatialPolygons object.
networks	a list of the networks to plot.
plot.title	a list of parameters for setting the title.
plot.label	a list of parameters to be passed to the text function for setting labels.
plot.color	a list of parameters for setting colors.
plot.blackwhite	a list of parameters for setting the black and white mode.
plot.symbol	a list of parameters for setting symbols.
plot.barplot	a list of parameters for setting barplots.
plot.arrow	a list of parameters for setting arrows.
plot.legend	a list of parameters for setting the legend.
plot.layout	a list of parameters for setting the layout.
plot.par	a list of graphical parameters.
infos	a list of meta information about the instance of the object.
quiet	= FALSE a logical, suppress all messages.

Author(s)

Emmanuel Rousseaux

Examples

```
people <- c("John", "Elsa", "Brian", "Kate")
position <- c(2,4,6,8)

net1.df <- data.frame(
  'NODE' = people,
  'POSITION' = position
)

net1 <- spnet.create(
  x = net1.df
)
net1

net2 <- spnet.create(
  x = people
)
net2
```

`spnet.example.basic` *Spnet basic examples*

Description

Create SpatialNetwork object examples for demonstration and testing purpose.

Usage

```
spnet.example.basic(map = TRUE, color = TRUE, symbol = TRUE,
  network1 = TRUE, network2 = TRUE, barplot = TRUE, title = TRUE)

spnet.example.basic.full()

spnet.example.basic.map()
```

Arguments

`map`	logical; if `TRUE` an example of map is provided.
`color`	logical; if `TRUE` an example of map colorization is provided.
`symbol`	logical; if `TRUE` an example of symbol use is provided.
`network1`	logical; if `TRUE` a first example of network is provided.
`network2`	logical; if `TRUE` a second example of network is provided.
`barplot`	logical; if `TRUE` a example of barplot rendering of a numeric variable is provided.
`title`	logical; if `TRUE` a example of title is provided.

Value

a SpatialNetwok object.

Examples

```
data(world.map.simplified, package = "spnet")
net1 <- spnet.example.basic()
plot(net1)
```

---

spnet.get.local.user.manual

Get the local copy of the spnet user manual

Description

This function copies the spnet user manual to a user defined directory.

Usage

```
spnet.get.local.user.manual(where = getwd(), overwrite = FALSE)
```

Arguments

where	the location where to copy the user manual. Default is the working directory.
overwrite	logical; should existing destination files be overwritten?

---

world.map.simplified

The TM_WORLD_BORDERS_SIMPL-0.3 world map.

Description

The simplified version of the world map provided by Bjorn Sandvik, thematicmapping.org.

Format

A SpatialPolygonsDataFrame.

Details

The map was imported in R as follows:

```
 require(maptools)
world.map.simplified <- readShapeSpatial("~/TM_WORLD_BORDERS_SIMPL-0.3/TM_WORLD_BORDERS_SIMPL-0.3.s
slot(world.map.simplified, 'data')[,'NAME'] <- iconv(slot(world.map.simplified, 'data')[,'NAME'], "I
 save(world.map.simplified, file="data/world.map.simplified.rda")
```

The result is a `SpatialPolygonsDataFrame` object. Its data slot contains a data frame with 246 observations and 11 variable:

- **FIPS.** FIPS 10-4 Country Code
- **ISO2.** ISO 3166-1 Alpha-2 Country Code
- **ISO3.** ISO 3166-1 Alpha-3 Country Code
- **UN.** ISO 3166-1 Numeric-3 Country Code
- **NAME.** Name of country/area
- **AREA.** Land area, FAO Statistics (2002)
- **POP2005.** Population, World Polulation Prospects (2005)
- **REGION.** Macro geographical (continental region), UN Statistics
- **SUBREGION.** Geographical sub-region, UN Statistics
- **LON.** Longitude
- **LAT.** Latitude

Note

Note from the TM_WORLD_BORDERS_SIMPL-0.3's README file:

- Use this dataset with care, as several of the borders are disputed.
- The original shapefile (world_borders.zip, 3.2 MB) was downloaded from the Mapping Hacks website: http://www.mappinghacks.com/data/. The dataset was derived by Schuyler Erle from public domain sources. Sean Gilles did some clean up and made some enhancements.

[*Extract or replace parts of a SpatialNetwork object*

Description

Extract or replace parts of a SpatialNetwork object

set parts of SpatialNetwork

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