

Package ‘venneuler’

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Title Venn and Euler Diagrams

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Depends rJava

Description Calculates and displays Venn and Euler Diagrams.

SystemRequirements Java 1.5 or higher

License MPL-1.1

URL <https://www.rforge.net/venneuler/>,
<https://www.cs.uic.edu/~wilkinson/>

NeedsCompilation no

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plot.VennDiagram	plot <i>method for Venn diagrams</i>
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Description

Plots the Venn diagram returned by [venneuler](#).

Usage

```
## S3 method for class 'VennDiagram'  
plot(x, col, col.fn = function(col) hcl(col * 360, 130, 60),  
      alpha = 0.3, main = NULL, edges = 200, border = NA, col.txt = 1,  
      cex = 1, lwd = 1, lty = 1, font = NULL, family = "", ...)
```

Arguments

<code>x</code>	object of the class <code>VennDiagram</code> as returned from the <code>venneuler()</code> function.
<code>col</code>	optional, vector of colors (as accepted by the graphics system) to use. The colors are recycled if necessary (so passing a scalar will result in all circles having the same color). If not specified, colors are obtained by calling <code>col.fn</code> on the <code>colors</code> component of the <code>x</code> object.
<code>col.fn</code>	function taking one argument (numeric vector of values between 0 and 1), returning a vector of colors of the same length. It is not used if the <code>col</code> argument is specified.
<code>alpha</code>	numeric, value of the alpha channel(s) for the colors (hence their opacity). It will override any alpha channel information in the color specification, recycling as needed. If set to <code>NA</code> then no alpha adjustment to the colors is performed.
<code>main</code>	passed to <code>title()</code>
<code>edges</code>	integer scalar, specifies the number of edges to use when drawing circles
<code>border</code>	color of the border for each circle (recycled) or <code>NULL</code> if no border is to be drawn
<code>lwd</code>	line width used to draw borders of the circles
<code>lty</code>	line type used to draw borders of the circles
<code>col.txt</code>	passed as <code>col</code> to <code>text()</code> for text labels in the circle centers
<code>cex</code>	passed to <code>text()</code> for text labels in the circle centers
<code>font</code>	passed to <code>text()</code> for text labels in the circle centers
<code>family</code>	passed to <code>text()</code> for text labels in the circle centers
<code>...</code>	any further arguments passed to <code>title()</code>

Value

Returns `NULL` invisibly.

Author(s)

Simon Urbanek

See Also

[venneuler](#)

Examples

```
vd <- venneuler(c(A=0.3, B=0.3, C=1.1, "A&B"=0.1, "A&C"=0.2, "B&C"=0.1, "A&B&C"=0.1))
plot(vd, border=1, lwd = c(1,1,3), cex=2)
```

venneuler	<i>Calculates Venn and Euler Diagram</i>
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Description

venneuler calculates a Venn diagram from a set specification.

Usage

```
venneuler(combinations, weights, ...)
```

Arguments

`combinations` This can be one of:

- a character vector (specifies disjoint class combinations as class names separated by the ampersand & character – e.g. `c("A", "B", "A&B")`)
- a named numeric vector (names specify class combinations and values specify weights – e.g. `c(A=1, B=2, `A&B`=0.5)`)
- a character matrix of two columns (specifies mapping of elements to sets – elements in the first column and set names in the second column, `weights` argument is ignored)
- a logical or numeric matrix whose columns represent sets and co-occurrence is defined by non-zero (rep. `TRUE`) values in rows (weight for a row being 1 for logical matrices or the row sum for numeric matrices).

For convenience data frames can be passed instead of matrices and they will be coerced using `as.matrix()`.

`weights` If `combinations` is a character vector then this argument specifies the associated weights. It is ignored in all other cases.

`...` Additional arguments (currently unused).

Value

An object of the class `VennDiagram` with following components:

<code>centers</code>	centers of the circles (columns are <code>x</code> and <code>y</code> coordinates)
<code>diameters</code>	diameters of the circles
<code>colors</code>	colors of the circles as values between 0 and 1
<code>labels</code>	labels of the circles
<code>residuals</code>	residuals (percentage difference between input intersection area and fitted intersection area)
<code>stress</code>	stress value for solution
<code>stress01</code>	.01 critical value for stress based on random data
<code>stress05</code>	.05 critical value for stress based on random data

Author(s)

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See Also[plot.VennDiagram](#)**Examples**

```
vd <- venneuler(c(A=0.3, B=0.3, C=1.1, "A&B`=0.1, "A&C`=0.2, "B&C`=0.1, "A&B&C`=0.1))
plot(vd)
# same as c(A=1, `A&B&C`=1, C=1)
m <- data.frame(elements=c("1", "2", "2", "2", "3"), sets=c("A", "A", "B", "C", "C"))
v <- venneuler(m)
plot(v)
m <- as.matrix(data.frame(A=c(1.5, 0.2, 0.4, 0, 0),
                          B=c(0, 0.2, 0, 1, 0),
                          C=c(0, 0, 0.3, 0, 1)))

# without weights
v <- venneuler(m > 0)
plot(v)
# with weights
v <- venneuler(m)
plot(v)
```

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