Package 'd3po'

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Title D3 Prototype Options

Version 0.0.1

Description A collection of scripts to create common d3 diagrams using r2d3.

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Imports jsonlite (>= 1.6.1), r2d3 (>= 0.2.3), webshot (>= 0.5.2)

Suggests dplyr (>= 1.0.0), knitr (>= 1.20), rcorpora (>= 2.0.0), Rdpack (>= 0.10.1), rmarkdown (>= 1.10)

VignetteBuilder knitr

License GPL-3

Encoding UTF-8

LazyData true

RoxygenNote 7.1.0

NeedsCompilation no

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R topics documented:

chord *Chord diagram*

Description

Creates chord diagram from edgelist data.frame.

Usage

```
chord(
  df,
  source.column = "source",
  target.column = "target",
  value.column = "value",
  adjacency.matrix = NULL,
  labels = NULL,
  edge.color = c("path", "input", "output", "none"),
  color.scheme = c("Spectral", d3po::color.schemes),
  width = NULL,
  height = NULL,
  viewer = c("internal", "external", "browser")
)
```

Arguments

df	data.frame containing edgelist data.
source.column	Name of column containing source nodes. Defaults to "source".
target.column	Name of column containing target nodes. Defaults to "target".
value.column	Name of column containing edge values. Defaults to "value".
adjacency.matrix	Adjancency matrix of edge weights, as an alternative to edge list.
labels	Node names corresponding to rows/columns of adjacency.matrix.
edge.color	Method of coloring edges. The value "path" will create a gradient between two nodes. Defaults to "path".
color.scheme	Color scheme to use in visualization. See ?d3po::color.schemes for more details.
width	Desired width for output widget.
height	Desired height for output widget.
viewer	"internal" to use the RStudio internal viewer pane for output; "external" to display in an external RStudio window; "browser" to display in an external browser.

Details

Utilizes a script similar to https://observablehq.com/@d3/chord-diagram adapted to work with r2d3.

Value

A d3 object as returned by r2d3::r2d3.

Examples

```
labels = c("spam", "eggs", "foo", "bar")

df = data.frame(source = rep(labels, each = 4),
                target = rep(labels, times = 4),
                value = c(11975, 5871, 8916, 2868,
                          1951, 10048, 2060, 6171,
                          8010, 16145, 8090, 8045,
                          1013, 990, 940, 6907))

chord(df)
```

`choropleth.county` *County level choropleth*

Description

Creates choropleth at the U.S. county level.

Usage

```
choropleth.county(
  df,
  state.column = "state",
  county.column = "county",
  id.column = "id",
  value.column = "value",
  legend.title = "",
  legend.text.size = 20,
  scale.text.size = 16,
  color.domain = NULL,
  num.legend.ticks = 5,
  color.scheme = c("Blues", d3po::color.schemes),
  width = NULL,
  height = NULL,
  viewer = c("internal", "external", "browser")
)
```

Arguments

`df`	data.frame containing value data by county.
`state.column`	Name of column containing state names. Defaults to "state". All values in this column must match d3po::us.counties$state.
`county.column`	Name of column containing county names. Defaults to "county". All values in this column must match d3po::us.counties$county.
`id.column`	Name of column containing identifiers for states/counties. Defaults to "id". All values in this column must match d3po::us.counties$id.
`value.column`	Name of column containing values by county. Defaults to "value".
`legend.title`	Title of legend, e.g., units. Defaults to "".

`legend.text.size`
: Size of text (in points) for legend title. Defaults to 20.

`scale.text.size`
: Size of text (in points) for the scale values. Defaults to 16.

`color.domain`
: Range of values for the color scale. Defaults to c(min(df[,value.column]), max(df[,value.column])). Length greater than two results in a multi-point gradient.

`num.legend.ticks`
: Number of breaks in legend scale. Defaults to 5.

`color.scheme`
: Color scheme to use in visualization. See ?d3po::color.schemes for more details.

`width`
: Desired width for output widget.

`height`
: Desired height for output widget.

`viewer`
: "internal" to use the RStudio internal viewer pane for output; "external" to display in an external RStudio window; "browser" to display in an external browser.

Details

Utilizes a script similar to https://observablehq.com/@d3/choropleth adapted to work with r2d3.

Value

A d3 object as returned by r2d3::r2d3.

Examples

```
## Not run:
data(unemployment.county)

choropleth.county(unemployment.county,
                  state.column = "state",
                  county.column = "county",
                  id.column = "id",
                  value.column = "rate",
                  legend.title = "Unemployment rate (%)")

## End(Not run)
```

---

choropleth.state *State level choropleth*

Description

Creates choropleth at the U.S. state level.

Usage

```
choropleth.state(
  df,
  state.column = "state",
  value.column = "value",
  legend.title = "",
  legend.text.size = 20,
  scale.text.size = 16,
  color.domain = NULL,
  num.legend.ticks = 5,
  color.scheme = c("Blues", d3po::color.schemes),
  width = NULL,
  height = NULL,
  viewer = c("internal", "external", "browser")
)
```

Arguments

df	data.frame containing value data by state.
state.column	Name of column containing state names. Defaults to "state". All values in this column must match c(datasets::state.name, "District of Columbia").
value.column	Name of column containing values by state. Defaults to "value".
legend.title	Title of legend, e.g., units. Defaults to "".
legend.text.size	Size of text (in points) for legend. Defaults to 20.
scale.text.size	Size of text (in points) for the scale values. Defaults to 16.
color.domain	Range of values for the color scale. Defaults to c(min(df[,value.column]), max(df[,value.column])). Length greater than two results in a multi-point gradient.
num.legend.ticks	Number of breaks in legend scale. Defaults to 5.
color.scheme	Color scheme to use in visualization. See ?d3po::color.schemes for more details.
width	Desired width for output widget.
height	Desired height for output widget.
viewer	"internal" to use the RStudio internal viewer pane for output; "external" to display in an external RStudio window; "browser" to display in an external browser.

Details

Utilizes a script similar to https://observablehq.com/@d3/state-choropleth adapted to work with r2d3.

Value

A d3 object as returned by r2d3::r2d3.

Examples

```
data(unemployment.state)

choropleth.state(unemployment.state,
                 state.column = "name",
                 value.column = "rate",
                 legend.title = "Unemployment rate (%)")
```

`cloud` *Word cloud diagram*

Description

Creates word cloud diagram text and value data.frame.

Usage

```
cloud(
  df,
  text.column = "text",
  value.column = "value",
  group.column = "group",
  text.color = c("group", "word", "none"),
  color.scheme = c("Spectral", d3po::color.schemes),
  width = NULL,
  height = NULL,
  viewer = c("internal", "external", "browser")
)
```

Arguments

`df`	data.frame containing text, value, and group data.
`text.column`	Name of column containing text. Defaults to "text".
`value.column`	Name of column containing edge values. Defaults to "value".
`group.column`	Name of column containing group data. Defaults to "group". If group.column is not found in df, a new column with a single group will be created.
`text.color`	How to color text; "group" (default) colors by group, "word" colors by word, and "none" colors all words black.
`color.scheme`	Color scheme to use in visualization. See ?d3po::color.schemes for more details.
`width`	Desired width for output widget.
`height`	Desired height for output widget.
`viewer`	"internal" to use the RStudio internal viewer pane for output; "external" to display in an external RStudio window; "browser" to display in an external browser.

Details

Utilizes a script similar to https://observablehq.com/@d3/word-cloud adapted to work with r2d3.

Value

A d3 object as returned by r2d3::r2d3.

Examples

```
df = data.frame(text = c("foo", "bar", "spam", "eggs"),
                value = c(0.5, 10, 1, 10),
                group = c("Not Python", "Not Python", "Python", "Python"))

cloud(df)
```

---

color.schemes *Compatible D3 Color Schemes*

Description

Vector of color schemes available. Most/all d3po functions use d3.interpolate<scheme>. See https://github.com/d3/d3-scale-chromatic for more details on scales.

Usage

```
color.schemes
```

Format

An object of class `character` of length 38.

---

df.to.adjacency *Conversion from data.frame to adjacency matrix*

Description

Creates an adjacency matrix from an edge list data.frame.

Usage

```
df.to.adjacency(
  df,
  source.column = "source",
  target.column = "target",
  value.column = "value"
)
```

Arguments

`df`	data.frame containing edge data
`source.column`	Name of column containing source nodes. Defaults to "source".
`target.column`	Name of column containing target nodes. Defaults to "target".
`value.column`	Name of column containing edge values. Defaults to "value".

Details

Utilizes a script similar to https://observablehq.com/@d3/chord-diagram adapted to work with r2d3.

Value

A list with two components:

matrix	Adjacency matrix
labels	Names of nodes, in same order as rows/columns of adjacency matrix

Examples

```
labels = c("spam", "eggs", "foo", "bar")

df = data.frame(source = rep(labels, each = 4),
                target = rep(labels, times = 4),
                value = c(11975, 5871, 8916, 2868,
                          1951, 10048, 2060, 6171,
                          8010, 16145, 8090, 8045,
                          1013, 990, 940, 6907))

df.to.adjacency(df)
```

---

energy *Energy Sources and Sinks*

Description

Dataset describing energy generation and consumption as a directed network. Data come from the Department of Energy & Climate Change via Tom Counsell. See http://www.decc.gov.uk/en/content/cms/tackling/2050/calculator_on/calculator_on.aspx.

Usage

```
energy
```

Format

An object of class data.frame with 68 rows and 3 columns.

`marimekko` *Marimekko diagram*

Description

Creates Marimekko diagram from data.frame.

Usage

```
marimekko(
  df,
  x.column = "x",
  y.column = "y",
  value.column = "value",
  min.opacity = 0.25,
  max.opacity = 0.9,
  color.scheme = c("Spectral", d3po::color.schemes),
  width = NULL,
  height = NULL,
  viewer = c("internal", "external", "browser")
)
```

Arguments

`df`	data.frame containing horizontal category, vertical category, and value data.
`x.column`	Name of column containing horizontal category data. Defaults to "x".
`y.column`	Name of column containing vertical category data. Defaults to "y".
`value.column`	Name of column containing value data. Defaults to "value".
`min.opacity`	Minimum opacity value for area colors, between 0 and 1. Defaults to 0.25.
`max.opacity`	Maximum opacity value for area colors, between 0 and 1. Defaults to 0.9.
`color.scheme`	Color scheme to use in visualization. See ?d3po::color.schemes for more details.
`width`	Desired width for output widget.
`height`	Desired height for output widget.
`viewer`	"internal" to use the RStudio internal viewer pane for output; "external" to display in an external RStudio window; "browser" to display in an external browser.

Details

Utilizes a script similar to https://observablehq.com/@d3/marimekko-chart adapted to work with r2d3.

Value

A d3 object as returned by r2d3::r2d3.

Examples

```
data(sales)

marimekko(sales, x.column = "market", y.column = "segment")
```

sales *Synthetic Sales Data*

Description

Fictitious dataset describing sales of various products in various locales. Taken from https://observablehq.com/@d3/marimekko-chart.

Usage

```
sales
```

Format

An object of class `data.frame` with 16 rows and 3 columns.

sankey *Sankey diagram*

Description

Creates Sankey diagram from edge data.frame.

Usage

```
sankey(
  df,
  source.column = "source",
  target.column = "target",
  value.column = "value",
  text.align = c("outside", "inside"),
  margin.proportion = 0.2,
  edge.color = c("path", "input", "output", "none"),
  color.scheme = c("Spectral", d3po::color.schemes),
  width = NULL,
  height = NULL,
  viewer = c("internal", "external", "browser")
)
```

Arguments

`df`	data.frame containing edgelist data.
`source.column`	Name of column containing source nodes. Defaults to "source".
`target.column`	Name of column containing target nodes. Defaults to "target".
`value.column`	Name of column containing edge values. Defaults to "value".
`text.align`	Alignment of node labels. Defaults to "outside".

`margin.proportion`
: Proportion of image to devote to margins on both left and right side. Only effective when text.align is "outside". Defaults to 0.2, must be between 0 and 0.5.

`edge.color`
: Method of coloring edges. The value "path" will create a gradient between two nodes. Defaults to "path".

`color.scheme`
: Color scheme to use in visualization. See ?d3po::color.schemes for more details.

`width`
: Desired width for output widget.

`height`
: Desired height for output widget.

`viewer`
: "internal" to use the RStudio internal viewer pane for output; "external" to display in an external RStudio window; "browser" to display in an external browser.

Details

Utilizes a script similar to https://observablehq.com/@d3/sankey-diagram adapted to work with r2d3.

Value

A d3 object as returned by r2d3::r2d3.

Examples

```
data(energy)

sankey(energy)
```

---

save.d3 *Save d3 diagram as png*

Description

Saves d3 diagram as a png image using webshot.

Usage

```
save.d3(
  d3,
  file,
  width = 1000,
  height = 750,
  delay = 0.2,
  zoom = 1,
  background = "white",
  title = "D3 Visualization"
)
```

Arguments

d3	A d3 object.
file	Location to save image.
width	Width of image.
height	Height of image.
delay	Time to wait before taking screenshot, in seconds. Sometimes a longer delay is needed for all assets to display properly.
zoom	Zoom before screenshot.
background	Background color of diagram.
title	Title for HTML diagram.

Examples

```
## Not run:
data(energy)

d3 = sankey(energy)
f = tempfile()
save.d3(d3, f)

## End(Not run)
```

---

unemployment.county *County Unemployment*

Description

Unemployment rate by county, August 2016. Data: Bureau of Labor Statistics.

Usage

```
unemployment.county
```

Format

An object of class `data.frame` with 3219 rows and 4 columns.

unemployment.state *State Unemployment*

Description

Unemployment rate by state, July 2019. Data: Bureau of Labor Statistics.

Usage

```
unemployment.state
```

Format

An object of class `data.frame` with 51 rows and 3 columns.

us.counties *Counties in the U.S.*

Description

Contains a data.frame of all counties, their respective states, and an identifier that can be used with d3po::choropleth.county.

Usage

```
us.counties
```

Format

An object of class `data.frame` with 3219 rows and 3 columns.

Index