

Package ‘vdmR’

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Type Package

Title Visual Data Mining Tools

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Description This provides web-based visual data-mining tools by adding interactive functions to 'ggplot2' graphics. Brushing and linking between the multiple plots is one of the main feature of this package. Currently scatter plots, histograms, parallel coordinate plots and choropleth maps are supported.

VignetteBuilder knitr

Depends R (>= 3.0.0)

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vdmR-package

vdmR: Visual Data Mining Tools for R

Description

Visual Data Mining Tools for R

Details

This package provides web based visual data mining tools by adding interactive functions to ggplot2 graphics. Brushing and linking between the multiple plots is one of the main feature of this package. Currently scatter plot, histogram, parallel coordinate plot and choropleth map are supported in this package.

Author(s)

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References

Fujino T (2017). “vdmR: Generating Web-Based Visual Data Mining Tools with R.” *Journal of Statistical Software*, **82**(6), 1–16. doi: [10.18637/jss.v082.i06](https://doi.org/10.18637/jss.v082.i06).

kw2011

municipal waste in Kanto region, Japan in 2011 A dataset about municipal waste in Kanto region of Japan, which includes total amount of waste, the breakdown of them, such as waste from household and business activities, and recycle ratio.

- *pref. name of the prefecture*
 - *citycode. code of the municipality*
 - *population. population of the municipality*
 - *total.W. total amount of waste*
 - *life.W. amount of waste from household*
 - *industrial.W. amount of waste from business activities*
 - *RR. recycle ratio*
 - *cityname. cityname of the municipality*
-

Description

municipal waste in Kanto region, Japan in 2011

A dataset about municipal waste in Kanto region of Japan, which includes total amount of waste, the breakdown of them, such as waste from household and business activities, and recycle ratio.

- pref. name of the prefecture
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- population. population of the municipality
- total.W. total amount of waste
- life.W. amount of waste from household
- industrial.W. amount of waste from business activities
- RR. recycle ratio
- cityname. cityname of the municipality

Usage

```
data(kw2011)
```

Format

A data frame with 287 rows and 8 variables

References

http://www.env.go.jp/recycle/waste_tech/

vcmap

Generate choropleth map with interactive functions

Description

vcmap generates choropleth map with interactive functions.

Usage

```
vcmap(shapefile, data, mid, did, name, tag, path = tempdir(), fill = NULL,  
      ggyscale = NULL)
```

Arguments

shapefile	path to ESRI shapefile to draw choropleth map
data	data frame for default data set
mid	unique id in the attribute table of the shape file for linking the data frame data
did	unique id in the data frame data for linking the attribute table of the shape file
name	character for the name of the generated scatter plot
tag	character for the common name of a series of linked plots
path	character string of a directory for writing HTML and SVG files
fill	column name assigned to the color of polygons
ggscale	color scale generated by scale_fill_* function

Examples

```
data(vsfuk2012)
shp.path <- file.path(system.file(package="vdmR"), "etc/shapes/kitakyu2012.shp")
kk2012 <- dplyr::filter(vsfuk2012, CityCode<40110&CityCode>40100)
vcmap(shp.path, kk2012, "CityCode", "CityCode", "map1", "kk2012")
vlaunch(kk2012, "main", "kk2012", browse=FALSE)
```

vhist

Generate histogram with interactive functions

Description

vscat generates histogram of variable x of data frame data with interactive functions.

Usage

```
vhist(x, data, name, tag, path = tempdir(), ...)
```

Arguments

x	column name of data frame data for drawing histogram
data	data frame for default data set
name	character for the name of the generated histogram
tag	character for the common name of a series of linked plots
path	character string of a directory for writing HTML and SVG files
...	aesthetic mappings to be passed to ggplot2 methods

Examples

```
data(vsfuk2012)
vhist(FertilityRate, vsfuk2012, "hist1", "vsfuk2012", fill=Type)
vlaunch(vsfuk2012, "main", "vsfuk2012", browse=FALSE)
```

vlaunch

Generate main window for interactive plot windows

Description

vlaunch generates a main window which opens each pre-generated window including statistical plot with interactivity

Usage

```
vlaunch(data, name, tag, path = tempdir(), iframe = FALSE, browse = TRUE)
```

Arguments

data	data frame for default data set
name	character for the name of the generated scatter plot
tag	character for the common name of a series of linked plots
path	character string of a directory for writing HTML and SVG files
iframe	logical; if TRUE, all plot windows are displayed in the main window as inline frames
browse	logical; if TRUE, browse the main window by the default web browser through the local web server; if FALSE, generating only

Examples

```
data(vsfuk2012)
vscat(MarriageRate, DivorceRate, vsfuk2012, "scat1", "vsfuk2012", colour=Type)
vhist(FertilityRate, vsfuk2012, "hist1", "vsfuk2012", fill=Type)
vlaunch(vsfuk2012, "main", "vsfuk2012", browse=FALSE)
```

vpcp

Generate prallel coordinate plot with interactive functions

Description

vpcp generates parallel coordinate plot of specific data columns of data frame data with interactive functions.

Usage

```
vpcp(data, columns, name, tag, path = tempdir(), groupColumn = NULL,
      scale = "std", alphaLines = 0.5, missing = "exclude")
```

Arguments

data	data frame for default data set
columns	a vector of variables (either names or indices) to be axes in the plot
name	character for the name of the generated scatter plot
tag	character for the common name of a series of linked plots
path	character string of a directory for writing HTML and SVG files
groupColumn	a single variable to group (color) by
scale	method used to scale the variables
alphaLines	value of alpha scaler for the lines of the parcoord plot or a column name of the data
missing	method used to handle missing values

Examples

```
data(vsfuk2012)
vpcp(vsfuk2012, 4:17, "pcp1", "vsfuk2012", scale="uniminmax")
vlaunch(vsfuk2012, "main", "vsfuk2012", browse=FALSE)
```

vscat

Generate scatter plot with interactive functions

Description

vscat generates scatter plot of variable x and y of data frame data with interactive functions.

Usage

```
vscat(x, y, data, name, tag, path = tempdir(), ...)
```

Arguments

<code>x, y</code>	column name of data frame <code>data</code> for x-axis and y-axis of scatter plot
<code>data</code>	data frame for default data set
<code>name</code>	character for the name of the generated scatter plot
<code>tag</code>	character for the common name of a series of linked plots
<code>path</code>	character string of a directory for writing HTML and SVG files
<code>...</code>	aesthetic mappings to be passed to ggplot2 methods

Examples

```
data(vsfuk2012)
vscat(MarriageRate, DivorceRate, vsfuk2012, "scat1", "vsfuk2012", colour=Type)
vlaunch(vsfuk2012, "main", "vsfuk2012", browse=FALSE)
```

vsfuk2012

Vital Statistics of Fukuoka pref. from 2008 to 2012

Description

A dataset containing vital statistics such as population, fertility rate and mortality rate of 72 municipalities in Fukuoka prefecture, Japan from 2008 to 2012. The variables are as follows:

Usage

```
data(vsfuk2012)
```

Format

A data frame with 72 rows and 17 variables

Details

- `CityCode`. code of the municipality
- `CityName`. name of the municipality
- `Type`. municipality type, City, Town, Village or Ward
- `FertilityRate`. fertility rate: number of births per 1,000 population
- `MortalityRate`. mortality rate: number of deaths per 1,000 population
- `MR_male`. mortality rate of male
- `MR_female`. mortality rate of female
- `IMR`. infant mortality rate: number of deaths per 1,000 births
- `FDR_sp`. spontaneous fetal death rate: number of deaths per 1,000 births
- `FDR_artificial`. artificial fetal death rate: number of deaths per 1,000 births

- MarriageRate. marriage rate: number of marriages per 1,000 population
- DivorceRate. divorce rate: number of divorces per 1,000 population
- TFR. total fertility rate: average number of children that would be born to a woman over her lifetime
- SMR_male. standardized mortality ratio of male
- SMR_female. standardized mortality ratio of female
- pop_male. male population
- pop_female. female population

References

<https://www.e-stat.go.jp/stat-search/files?toukei=00450013>

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