

# Package ‘vdmR’

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**Type** Package

**Title** Visual Data Mining Tools for R

**Version** 0.2.4

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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)

**Imports** ggplot2, plyr, gridSVG, grid, rjson, GGally, Rook, dplyr, broom, rgdal, maptools, rgeos, sp

**Suggests** testthat, knitr

**License** GPL-2

**NeedsCompilation** no

**RoxygenNote** 6.0.1

**Repository** CRAN

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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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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
- 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

### Usage

```
data(kw2011)
```

### Format

A data frame with 287 rows and 8 variables

### References

[http://www.env.go.jp/recycle/waste\\_tech/](http://www.env.go.jp/recycle/waste_tech/)

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vcmap

*Generate choropleth map with interactive functions*

---

### Description

vcmap generates choropleth map with interactive functions.

### Usage

```
vcmap(shapefile, data, mid, did, name, tag, 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
fill	column name assigned to the color of polygons
ggyscale	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, ...)
```

**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
...	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**

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

**Usage**

```
vlaunch(data, name, tag, 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
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 parallel 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, 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
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	<i>Generate scatter plot with interactive functions</i>
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**Description**

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

**Usage**

```
vscat(x, y, data, name, tag, ...)
```

**Arguments**

x, y	column name of data frame data for x-axis and y-axis of scatter plot
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
...	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)
```

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vsfuk2012	<i>Vital Statistics of Fukuoka pref. from 2008 to 2012</i>
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**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**

[http://www.e-stat.go.jp/SG1/estat/GL08020103.do?\\_toGL08020103\\_](http://www.e-stat.go.jp/SG1/estat/GL08020103.do?_toGL08020103_)

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