

Package ‘summarytools’

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Type Package

Title Tools to Quickly and Neatly Summarize Data

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Description Data frame summaries, cross-tabulations, weight-enabled frequency tables and common univariate statistics in concise tables available in a variety of formats (plain ASCII, Markdown and HTML). A good point-of-entry for exploring data, both for experienced and new R users.

Imports grDevices, htmltools, lubridate, matrixStats, methods, pander, pryr, rapportools, RCurl, utils

Suggests rstudioapi, knitr, rmarkdown

VignetteBuilder knitr

LazyData true

License GPL-2

URL <https://github.com/dcomtois/summarytools>

BugReports <https://github.com/dcomtois/summarytools/issues>

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summarytools-package *Extensive Summarizing Tools With Flexible Output*

Description

summarytools provides users with functions to neatly and quickly summarize numerical and categorical data. Data frame summaries, frequency tables and cross-tabulations, as well as common univariate statistics can be produced in a straightforward manner. Users with little to no prior R programming experience but who are familiar with the concepts (and maybe with some procedures coming from other software packages) should find their way easily.

Details

These are the four core functions:

dfSummary Extensive yet legible data frame summaries.

freq Frequency tables supporting weights and displaying proportions of valid and of total data, including cumulative proportions.

descr All common univariate descriptive stats for single vectors or for all numerical vectors in a data frame.

ctable Cross-tabulations for two categorical vectors or factors. Choose between *Total*, *Columns* or *Rows* proportions.

Output formats are:

plain ascii Ideal when looking at results in the console.

rmarkdown Ideal when writing short papers or presentations.

html This format is well integrated in *RStudio* (but will work with any browser). Use the `view()` function to see results appear directly in *RStudio's Viewer* or in your default Web Browser.

See Also

Useful links:

- <https://github.com/dcomtois/summarytools>
- Report bugs at <https://github.com/dcomtois/summarytools/issues>

cleartmp

Delete Temporary Html Files

Description

Delete temporary files created when using generic print method with method='browser' or method='viewer', or when calling view() function.

Usage

```
cleartmp(all = FALSE, silent = FALSE)
```

Arguments

all	Logical. When TRUE, all temporary summarytools are deleted. When FALSE (default), only the latest is.
silent	Hide confirmation messages (FALSE by default).

Details

All temporary files are deleted automatically when R session is ended. This function is thus an overkill in most circumstances.

Author(s)

Dominic Comtois, <dominic.comtois@gmail.com>>

ctable

Cross-Tabulation

Description

Cross-tabulation for a pair of categorical variables (or factors) with either row, column, or total proportions, as well as marginal sums.

Author(s)

Dominic Comtois, <dominic.comtois@gmail.com>

See Also

[table](#), [xtabs](#)

Examples

```
data("tobacco")
ctable(tobacco$gender, tobacco$smoker)
```

descr

Univariate Statistics for Numerical Data

Description

Calculates mean, sd, min, Q1*, median, Q3*, max, MAD, IQR*, CV, skewness*, SE.skewness*, and kurtosis* on numerical vectors. (*) Not available when using sampling weights.

Usage

```
descr(x, stats = st_options("descr.stats"), na.rm = TRUE,
      round.digits = st_options("round.digits"),
      transpose = st_options("descr.transpose"),
      style = st_options("style"), plain.ascii = st_options("plain.ascii"),
      justify = "right", omit.headings = st_options("omit.headings"),
      display.labels = st_options("display.labels"), split.tables = 100,
      weights = NA, rescale.weights = FALSE, ...)
```

Arguments

x	A numerical vector or a data frame.
stats	Which stats to produce. Either “all” (default), or a selection of : “mean”, “sd”, “min”, “q1”, “med”, “q3”, “max”, “mad”, “iqr”, “cv”, “skewness”, “se.skewness”, “kurtosis”, “n.valid”, and “pct.valid”. This can be set globally via st_options (“descr.stats”).
na.rm	Argument to be passed to statistical functions. Defaults to TRUE. Can be set globally; see st_options .
round.digits	Number of significant digits to display. Defaults to 2, and can be set globally (see st_options).
transpose	Logical. Makes variables appears as columns, and stats as rows. Defaults to FALSE. To change this default value, see st_options (option “descr.transpose”).
style	Style to be used by pander when rendering output table; One of “simple” (default), “grid”, or “rmarkdown” This option can be set globally; see st_options .

<code>plain.ascii</code>	Logical. pander argument; when TRUE, no markup characters will be used (useful when printing to console). Defaults to TRUE unless <code>style = 'rmarkdown'</code> , in which case it will be set to FALSE automatically. To change the default value globally, see st_options .
<code>justify</code>	Alignment of numbers in cells; “l” for left, “c” for center, or “r” for right (default). Has no effect on <i>html</i> tables.
<code>omit.headings</code>	Logical. Set to TRUE to omit heading section. Can be set globally via st_options .
<code>display.labels</code>	Logical. Should variable / data frame labels be displayed in the title section? Default is TRUE. To change this default value globally, see st_options .
<code>split.tables</code>	Pander argument that specifies how many characters wide a table can be. 100 by default.
<code>weights</code>	Vector of weights having same length as x. NA (default) indicates that no weights are used.
<code>rescale.weights</code>	Logical. When set to TRUE, the total count will be the same as the unweighted x. FALSE by default.
<code>...</code>	Additional arguments passed to pander .

Value

A nn object of classes `matrix` and `summarytools` containing the statistics, with extra attributes used by [print](#) method.

Author(s)

Dominic Comtois, <dominic.comtois@gmail.com>

Examples

```
data(exams)
descr(exams)
descr(exams, stats = c("mean", "sd", "min", "max"), transpose = TRUE)
data(tobacco)
with(tobacco, view(by(BMI, gender, descr), method = "pander"))
```

dfSummary

Data frame Summary

Description

Summary of a data frame consisting of: variable names, labels if any, factor levels, frequencies and/or numerical summary statistics, and valid/missing observation counts.

Usage

```
dfSummary(x, round.digits = st_options("round.digits"),
  varnumbers = st_options("dfSummary.varnumbers"),
  labels.col = length(label(x, all = TRUE)) > 0,
  valid.col = st_options("dfSummary.valid.col"),
  na.col = st_options("dfSummary.na.col"),
  graph.col = st_options("dfSummary.graph.col"),
  graph.magnif = st_options("dfSummary.graph.magnif"),
  style = "multiline", plain.ascii = st_options("plain.ascii"),
  justify = "left", omit.headings = st_options("omit.headings"),
  max.distinct.values = 10, trim.strings = FALSE,
  max.string.width = 25, split.cells = 40, split.tables = Inf, ...)
```

Arguments

x	A data frame.
round.digits	Number of significant digits to display. Defaults to 2 and can be set globally; see st_options .
varnumbers	Logical. Should the first column contain variable number? Defaults to TRUE. Can be set globally; see st_options , option “dfSummary.varnumbers”.
labels.col	Logical. If TRUE, variable labels (as defined with rapportools , Hmisc or summarytools ’ label functions) will be displayed. By default, the <i>labels</i> column is shown if at least one column has a defined label.
valid.col	Logical. Include column indicating count and proportion of valid (non-missing) values. TRUE by default, but can be set globally; see st_options , option “dfSummary.valid.col”.
na.col	Logical. Include column indicating count and proportion of missing (NA) values. TRUE by default, but can be set globally; see st_options , option “dfSummary.na.col”.
graph.col	Logical. Display barplots / histograms column in <i>html</i> reports. TRUE by default, but can be set globally; see st_options , option “dfSummary.graph.col”.
graph.magnif	Numeric. Magnification factor, useful if the graphs show up too large (then use a value < 1) or too small (use a value > 1). Must be positive. Can be set globally; see st_options , option “dfSummary.graph.magnif”.
style	Style to be used by pander when rendering output table. Defaults to “multiline”. The only other valid option is “grid”. Style “simple” is not supported for this particular function, and “rmarkdown” will fallback to “multiline”.
plain.ascii	Logical. pander argument; when TRUE, no markup characters will be used (useful when printing to console). Defaults to TRUE. Set to FALSE when in context of markdown rendering. To change the default value globally, see st_options .
justify	String indicating alignment of columns; one of “l” (left) “c” (center), or “r” (right). Defaults to “l”.
omit.headings	Logical. Set to TRUE to omit headings. To change this default value globally, see st_options .

<code>max.distinct.values</code>	The maximum number of values to display frequencies for. If variable has more distinct values than this number, the remaining frequencies will be reported as a whole, along with the number of additional distinct values. Defaults to 10.
<code>trim.strings</code>	Logical; for character variables, should leading and trailing white space be removed? Defaults to FALSE. See <i>details</i> section.
<code>max.string.width</code>	Limits the number of characters to display in the frequency tables. Defaults to 25.
<code>split.cells</code>	A numeric argument passed to <code>pander</code> . It is the number of characters allowed on a line before splitting the cell. Defaults to 40.
<code>split.tables</code>	pander argument which determines the maximum width of a table. Keeping the default value (Inf) is recommended.
<code>...</code>	Additional arguments passed to <code>pander</code> .

Details

The default `plain.ascii = TRUE` option is there to make results appear cleaner in the console. When used in a context of *rmarkdown* rendering, set this option to FALSE.

When the `trim.strings` is set to TRUE, trimming is done *before* calculating frequencies, so those will be impacted accordingly.

The package vignette “Recommendations for Rmarkdown” provides valuable information for creating optimal *Rmarkdown* documents with `summarytools`.

Value

A data frame with additional class `summarytools` containing as many rows as there are columns in `x`, with attributes to inform `print` method. Columns in the output data frame are:

No Number indicating the order in which column appears in the data frame.

Variable Name of the variable, along with its class(es).

Label Label of the variable (if applicable).

Stats / Values For factors, a list of their values, limited by the `max.distinct.values` parameter. For character variables, the most common values (in descending frequency order), also limited by `max.distinct.values`. For numerical variables, common univariate statistics (mean, std. deviation, min, med, max, IQR and CV).

Freqs (% of Valid) For factors and character variables, the frequencies and proportions of the values listed in the previous column. For numerical vectors, number of distinct values, or frequency of distinct values if their number is not greater than `max.distinct.values`.

Text Graph An ascii histogram for numerical variables, and ascii barplot for factors and character variables.

Valid Number and proportion of valid values.

Missing Number and proportion of missing (NA and NAN) values.

Author(s)

Dominic Comtois, <dominic.comtois@gmail.com>

Examples

```
data(tobacco)
dfSummary(tobacco)
## Not run: view(dfSummary(iris))
```

examens

Bulletin de Notes (Donne simulees)

Description

Jeu de donnees simulees contenant les notes de 30 etudiants, avec les colonnes suivantes:

- etudiant Nom de l'etudiant.
- sexe Variable categorielle (facteur). Deux niveaux: "Fille", "Garcon".
- francais Note en francais (numerique).
- math Note en maths (numerique).
- geographie Note en geographie (numerique).
- histoire Note en histoire (numerique).
- economie Note en economie (numerique).
- anglais Note en anglais (numerique).

Usage

```
data(examens)
```

Format

Un data frame de 30 rangees et 8 colonnes

Details

Donnees simulees. Les notes de chaque etudiant sont centrees autour d'une moyenne personnelle et ecart-type randomises.

A copy of this dataset is **available in English** under the name "exams".

 exams

Report Cards - Simulated Data

Description

A simulated dataset with grades for hypothetical 30 students, with the following variables:

- student Student's name.
- gender Factor with 2 levels: "Girl", "Boy".
- french French Grade (numerical).
- math Math Grade (numerical).
- geography Geography Grade (numerical).
- history History Grade (numerical).
- economics Economics Grade (numerical).
- english English Grade (numerical).

Usage

```
data(exams)
```

Format

A data frame with 30 rows and 8 variables

Details

All names and grades are simulated. Grades for each student are centered around a personal randomized average and standard deviation.

A copy of this dataset is also **available in French** under the name "examens".

 freq

Frequency Tables for Factors and Other Discrete Data

Description

Displays weighted or unweighted frequencies, including <NA> counts and proportions.

Usage

```
freq(x, round.digits = st_options("round.digits"), order = "names",
     style = st_options("style"), plain.ascii = st_options("plain.ascii"),
     justify = "default", totals = st_options("freq.totals"),
     report.nas = st_options("freq.report.nas"), missing = "",
     display.type = TRUE, display.labels = st_options("display.labels"),
     omit.headings = st_options("omit.headings"), weights = NA,
     rescale.weights = FALSE, ...)
```

Arguments

<code>x</code>	Factor or vector
<code>round.digits</code>	Number of significant digits to display. Defaults to 2 and can be set globally; see st_options .
<code>order</code>	Ordering of rows in frequency table; “names” (default for non-factors), “levels” (default for factors), or “freq” (from most frequent to less frequent).
<code>style</code>	Style to be used by pander when rendering output table; One of “simple” (default), “grid”, or “rmarkdown” This option can be set globally; see st_options .
<code>plain.ascii</code>	Logical. pander argument; when TRUE, no markup characters will be used (useful when printing to console). Defaults to TRUE unless <code>style = 'rmarkdown'</code> , in which case it will be set to FALSE automatically. To change the default value globally, see st_options .
<code>justify</code>	String indicating alignment of columns. By default (“default”), “right” is used for text tables and “center” is used for <i>html</i> tables. You can force it to one of “left”, “center”, or “right”.
<code>totals</code>	Logical. Set to FALSE to hide totals from results. To change this value globally, see st_options .
<code>report.nas</code>	Logical. Set to FALSE to turn off reporting of missing values. To change this default value globally, see st_options .
<code>missing</code>	Characters to display in NA cells. Defaults to “”.
<code>display.type</code>	Logical. Should variable type be displayed? Default is TRUE.
<code>display.labels</code>	Logical. Should variable / data frame labels be displayed? Default is TRUE. To change this default value globally, see st_options .
<code>omit.headings</code>	Logical. Set to TRUE to omit heading section. Can be set globally via st_options .
<code>weights</code>	Vector of weights; must be of the same length as <code>x</code> .
<code>rescale.weights</code>	Logical parameter. When set to TRUE, the total count will be the same as the unweighted <code>x</code> . FALSE by default.
<code>...</code>	Additional arguments passed to pander .

Details

The default `plain.ascii = TRUE` option is there to make results appear cleaner in the console. To avoid `rmarkdown` rendering problems, this option is automatically set to FALSE whenever `style = "rmarkdown"` (unless `plain.ascii = TRUE` is made explicit in the function call).

Value

A frequency table of class `matrix` and `summarytools` with added attributes used by `print` method.

Author(s)

Dominic Comtois, <dominic.comtois@gmail.com>

See Also[table](#)**Examples**

```
data(tobacco)
freq(tobacco$gender)
freq(tobacco$gender, totals = FALSE)
freq(tobacco$gender, display.nas = FALSE)
freq(tobacco$gender, style="rmarkdown")
with(tobacco, view(by(diseased, smoker, freq), method = "pander"))
```

label*Get or Set Variable or Data Frame Labels*

Description

Assign a label to a vector or data frame, or returns value previously stored in the object's label attribute (or NA if none found).

Usage

```
label(x, all = FALSE, fallback = FALSE, simplify = FALSE)
label(x) <- value
```

Arguments

<code>x</code>	An R object to extract labels from
<code>all</code>	Logical. When <code>x</code> is a data frame, setting this argument to <code>TRUE</code> will make the function return all variable labels. By default, its value is <code>FALSE</code> , so that if <code>x</code> is a data frame, it is the data frame's label that will be returned.
<code>fallback</code>	a logical value indicating if labels should fallback to object name(s). Defaults to <code>FALSE</code> .
<code>simplify</code>	When <code>x</code> is a data frame and <code>all = TRUE</code> , coerce results to a vector when <code>TRUE</code> , otherwise (default) return a named <code>list</code> containing only non-NULL/non-NA elements.
<code>value</code>	String to be used as label.

Note

Loosely based on Gergely Daróczi's [label](#) function.

Author(s)

Dominic Comtois, <dominic.comtois@gmail.com>.

```
print.summarytools
```

Print Method for Objects of Class summarytools.

Description

Display summarytools objects in the console, in Web Browser or in *RStudio*'s Viewer, or write content to file.

Usage

```
## S3 method for class 'summarytools'
print(x, method = "pander", file = "",
      append = FALSE, report.title = NA, table.classes = NA,
      bootstrap.css = st_options('bootstrap.css'),
      custom.css = st_options('custom.css'), silent = FALSE,
      footnote = st_options('footnote'),
      escape.pipe = st_options('escape.pipe'), ...)

view(x, method = "viewer", file = "", append = FALSE,
     report.title = NA, table.classes = NA,
     bootstrap.css = st_options('bootstrap.css'),
     custom.css = st_options('custom.css'), silent = FALSE,
     footnote = st_options('footnote'),
     escape.pipe = st_options('escape.pipe'), ...)
```

Arguments

x	A summarytools object that was generated with freq , descr , ctable or dfSummary .
method	One of “pander”, “viewer”, “browser”, or “render”. For print(), default is “pander”; for view(), default is “viewer”. If “viewer” is used outside <i>RStudio</i> , “browser” will be used instead. Use “render” if function is called from an Rmd document.
file	File name to write output to. Defaults to “”.
append	Logical. When file argument is supplied, this indicates whether to append output to existing file. FALSE by default.
report.title	For <i>html</i> reports, this goes into the <title> tag. Defaults to NA, in which case <title> will be generic.
table.classes	Character. Additional classes to assign to output tables. All <i>Bootstrap CSS</i> classes can be used. It also allows user-defined classes (see custom.css parameter). See <i>details</i> section. NA by default.
bootstrap.css	Logical. Set to FALSE to omit Bootstrap css. TRUE by default. To change this default value globally, see st_options .
custom.css	Path to a user-defined .css file. Classes defined in this file can be used in the table.classes parameter. NA by default. To change this default value globally, see st_options .

silent	Hide console messages (such as ignored variables or NaN to NA transformations).
footnote	footnote in <i>html</i> output. When set to “default”, this is the package name and version, R version, and current date). Has no effect when method is “pander”. Set to “default”, provide your own text, or set to NA to omit. To change this default value globally, see st_options .
escape.pipe	Logical. Set to TRUE when using style='grid' and file argument is supplied if the intent is to generate a text file that can be converted to other formats using <i>Pandoc</i> . To change this default value globally, see st_options .
...	Additional arguments can be used to override parameters stored as attributes in the object being printed. See <i>Details</i> section.

Details

Plain `ascii` and `rmarkdown` tables are generated via [pander](#). See *References* section for a list of all available *pander* options.

To print objects of class “by”, use [view](#). This function also makes it more practical to generate *html* files (see examples).

The following additional arguments can be used to override formatting and other attributes stored in the object to be printed. Refer to the function’s documentation for details on these arguments.

- style
- round.digits (except for [dfSummary](#) objects)
- justify
- plain.ascii
- missing
- Data.type
- Subset
- Group
- Weights
- date
- omit.headings
- split.tables
- Dataframe
- Dataframe.label
- Variable
- Variable.label
- display.labels
- display.type
- totals ([freq](#) and [ctable](#) objects)
- report.nas ([freq](#) objects only)
- Row.variable ([ctable](#) objects only)

- Col.variable (c
- Row.variable.subset (c
- Col.variable.subset (c
- Row.variable.label (c
- Col.variable.label (c

Value

NULL when method="pander"; a file path (returned invisibly) when method="viewer" or method="browser". In the latter case, the file path is also passed to shell.exec so the document is opened with default Web Browser.

Author(s)

Dominic Comtois, <dominic.comtois@gmail.com>

References

[Rstudio Summarytools on Github](#) [List of pander options on Github](#) [Bootstrap Cascading Stylesheets](#)

See Also

[pander](#)

Examples

```
## Not run:
data(tobacco)
view(dfSummary(tobacco), footnote = NA)

## End(Not run)
data(exams)
print(freq(exams$gender), style = 'rmarkdown')
print(descr(exams), omit.headings = TRUE)
```

st_options

Displaying and setting summarytools global options

Description

To list all summarytools global options, run this function without any parameters. To display the value of an option, use the first parameter only. To modify it, add the new value as a second parameter.

Usage

```
st_options(option, value)
```

Arguments

option	option name (string).
value	value to assign (optional)

Details

The following options are available:

- `style` Character. One of “simple” (default), “rmarkdown”, or “grid”.
- `plain.ascii` Logical. TRUE by default. Set to FALSE when using `summarytools` with a rendering tool such as `knitr` or when creating rmarkdown output files to be converted with Pandoc (although note that its value will automatically be set to FALSE whenever `style = “rmarkdown”`).
- `round.digits` Numeric. Defaults to 2.
- `omit.headings` Logical. Set to TRUE to remove all headings from outputs (only the tables will be printed out). FALSE by default.
- `footnote` Character. When the default value “default” is used, the package name, version, and R version are displayed below html outputs. Set to NA to omit the footnote, or provide a string to personalize it.
- `display.labels` Logical. TRUE by default. Set to FALSE to omit data frame and variable labels in the headings section.
- `freq.totals` Logical. Corresponds to the `totals` parameter of `freq`. TRUE by default.
- `freq.display.nas` Logical. Corresponds to the `display.nas` parameter of `freq()`. TRUE by default.
- `ctable.totals` Logical. Corresponds to the `totals` parameter of `ctable`. TRUE by default.
- `ctable.prop` Character. Corresponds to the `prop` parameter of `ctable`. Defaults to “r” (row).
- `descr.stats` Character. Corresponds to the `stats` parameter of `descr`. Defaults to “all”.
- `descr.transpose` Logical. Corresponds to the `transpose` parameter of `descr`. FALSE by default.
- `bootstrap.css` Logical. Include Bootstrap CSS in html outputs. Defaults to TRUE. Set to FALSE When using the “render” method inside a shiny app.
- `custom.css` Character. Path to an additional, user-provided, CSS file. NA by default.
- `escape.pipe` Logical. Set to TRUE if Pandoc conversion is your goal and you have unsatisfying results with grid or multiline tables. FALSE by default.

Note

Loosely based on Gergely Daróczy’s `panderOptions` function.

Author(s)

Dominic Comtois, <dominic.comtois@gmail.com>.

Examples

```
## Not run:
st_options()           # show all summarytools global options
st_options('round.digits') # show a specific global option
st_options('round.digits', 1) # set an option
st_options('reset')     # reset all summarytools global options

## End(Not run)
```

tabagisme

Usage du Tabac et etat de Sante (Donnees simulees)

Description

Jeu de donnees simulees de 1000 sujets, avec les colonnes suivantes:

- sexe Variable categorielle (facteur), 2 niveaux: “F” et “M”. Environ 500 chacun.
- age Numerique.
- age.gr Groupe d’age - variable categorielle, 4 niveaux.
- IMC Indice de masse corporelle (numerique).
- fumeur Variable categorielle, 2 niveaux (“Oui” / “Non”).
- cigs.par.jour Nombre de cigarettes fumees par jour (numerique).
- malade Variable categorielle, 2 niveaux (“Oui” / “Non”).
- maladie Champs texte.
- ponderation Poids echantillonnel (numerique).

Usage

```
data(tabagisme)
```

Format

Un data frame de 1000 rangees et 9 colonnes

Details

Note sur la simulation des donnees: la probabilite pour un sujet de tomber dans la categorie “malade” est basee sur une fonction arbitraire faisant intervenir l’age, l’IMC et le nombre de cigarettes fumees par jour.

A copy of this dataset is **available in English** under the name “tobacco”.

tobacco

Tobacco Use and Health - Simulated Dataset

Description

A simulated datasets of 1,000 subjects, with the following variables:

Usage

```
data(tobacco)
```

Format

A data frame with 1000 rows and 9 variables

Details

- gender Factor with 2 levels: “F” and “M”, having roughly 500 of each.
- age Numerical.
- age.gr Factor with 4 age categories.
- BMI Body Mass Index (numerical).
- smoker Factor (“Yes” / “No”).
- cig.per.day Number of cigarettes smoked per day (numerical).
- diseased Factor (“Yes” / “No”).
- disease Character.
- samp.wgts Sampling weights (numerical).

A note on simulation: probability for an individual to fall into category “diseased” is based on an arbitrary function involving age, BMI and number of cigarettes per day.

A copy of this dataset is also **available in French** under the name “tabagisme”.

unlabel*Clear Variable or Data Frame Label(s)*

Description

Returns the object with all labels removed. Both the “label” attribute and **Hmisc**’s “labelled” class are removed.

Usage

```
unlabel(x)
```

Arguments

x An R object to remove labels from.

Author(s)

Dominic Comtois, <dominic.comtois@gmail.com>.

See Also

[label](#)

what.is *Obtain Extended Properties of Objects*

Description

Combination of most common “macro-level” functions that describe an object.

Usage

```
what.is(x, show.all = FALSE, ignore.size.warn = FALSE)
```

Arguments

x Any object.

show.all Logical. When TRUE, all logical results from the “is.” *identifier functions* will be displayed, with a warning message when the result applies only to the first element in the structure. FALSE by default.

ignore.size.warn Set to TRUE to force execution of the function for large (> 20 K-bytes) objects. Defaults to FALSE.

Details

An alternative to calling in turn [class](#), [typeof](#), [dim](#), and so on. A call to this function will readily give all this information at once.

Value

A list with following elements:

properties A data frame with the class(es), type, mode and storage mode of the object as well as the dim, length and object.size.

attributes.lengths A named character vector giving all attributes (*c.f.* “names”, “row.names”, “class”, “dim”, and so forth) along with their length.

extensive.is A character vector of all the *identifier functions*. (starting with “is.”) that yield TRUE when used with x as argument.

function.type When x is a function, results of [ftype](#) are added.

Author(s)

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See Also

[class](#), [typeof](#), [mode](#), [storage.mode](#), [dim](#), [length](#), [is.object](#), [otype](#), [object.size](#), [ftype](#)

Examples

```
what.is(1)
what.is(NaN)
what.is(iris3)
what.is(print)
what.is(what.is)
```

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