Package 'summarytools'

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Type Package

Title Tools to Quickly and Neatly Summarize Data

Version 0.9.9

Author Dominic Comtois [aut, cre]

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

Description Data frame summaries, cross-tabulations, weight-enabled frequency tables and common descriptive (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 base64enc, checkmate, dplyr, grDevices, htmltools, lubridate, magick, matrixStats, methods, pander, pryr, rapportools, stats, tcltk, tibble, tidyr, utils

Suggests forcats, kableExtra, knitr, magrittr, rmarkdown, rstudioapi

Depends R (>= 2.10)

VignetteBuilder knitr

LazyData true

License GPL-2

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

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

Encoding UTF-8

RoxygenNote 7.1.1

NeedsCompilation no

Repository CRAN

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R topics documented:

`summarytools-package` *Tools to Quickly and Neatly Summarize Data*

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 descriptive (univariate) statistics can be produced in a straightforward manner. Users with little to no prior R programming experience but who are familiar with popular commercial statistical software such as SAS, SPSS and Stata should feel right at home.

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.

Author(s)

Maintainer: Dominic Comtois <dominic.comtois@gmail.com>

See Also

Useful links:

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

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`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 = TRUE, silent = FALSE, verbose = FALSE)
```

Arguments

`all`	Logical. When `TRUE` (default), all temporary summarytools files are deleted. When `FALSE`, only the latest file is.
`silent`	Logical. Hide confirmation messages (`FALSE` by default).
`verbose`	Logical. Display a message for every file that is deleted. `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.

Usage

```
ctable(
  x,
  y,
  prop = st_options("ctable.prop"),
  useNA = "ifany",
  totals = st_options("ctable.totals"),
  style = st_options("style"),
  round.digits = 1,
  justify = "right",
  plain.ascii = st_options("plain.ascii"),
  headings = st_options("headings"),
  display.labels = st_options("display.labels"),
  split.tables = Inf,
  dnn = c(substitute(x), substitute(y)),
  chisq = FALSE,
  OR = FALSE,
  RR = FALSE,
  weights = NA,
  rescale.weights = FALSE,
  ...
)
```

Arguments

x	First categorical variable - values will appear as row names.
y	Second categorical variable - values will appear in as column names.
prop	Proportions to display; "r" for *rows* (default), "c" for *columns*, "t" for *total*, or "n" for *none*. This option can be set globally; see st_options.
useNA	Argument passed on to table; One of "ifany" (default), "no", or "always".
totals	Logical. Should row and column totals be displayed? Defaults to TRUE. To change this default value globally, see st_options.
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.
round.digits	Number of significant digits to display. Defaults to 1. To change this default value globally, see st_options.

justify	String indicating alignment of columns; one of "l" (left) "c" (center), or "r" (right). Defaults to "r".
plain.ascii	Logical. pander argument; when TRUE, no markup characters will be used (useful when printing to console). Defaults to TRUE unless style = 'rmarkdown', in which case it will be set to FALSE automatically. To change the default value globally, use st_options.
headings	Logical. Set to FALSE to omit heading section. Can be set globally via st_options.
display.labels	Logical. Should variable / data frame label be displayed in the title section? Default is TRUE. To change this default value globally, use st_options.
split.tables	Pander argument that specifies how many characters wide a table can be. Inf by default.
dnn	Names to be used in output table. Vector of two strings; By default, the character values for arguments x and y are used.
chisq	Logical. Display chisq statistic along with p-value.
OR	Logical or numeric. Display odds ratio with the specified confidence level (typically .95). Can be set to TRUE, in which case 95 interval is given. Confidence intervals are calculated using Wald's method (normal approximation).
RR	Logical or numeric. Display risk ratio (also called relative risk) with the specified confidence level (typically .95). Can be set to TRUE, in which case 95 calculated using Wald's method (normal approximation).
weights	Vector of weights; must be of the same length as x.
rescale.weights	Logical parameter. When set to TRUE, the total count will be the same as the unweighted x. FALSE by default.
...	Additional arguments passed to pander.

Details

Rmarkdown does not, to this day, support multi-header tables. Therefore, until such support is available, the recommended way to display cross-tables in .Rmd documents is to use 'method=render' with the 'print()' or 'view()' functions. See package vignettes for examples.

Value

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

Author(s)

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

See Also

table, xtabs

Examples

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

# Use with() to simplify syntax
with(tobacco, ctable(smoker, diseased))

# Show column proportions, without totals
with(tobacco, ctable(smoker, diseased, prop = "c", totals = FALSE))

# Simple 2 x 2 table with odds ratio and risk ratio
with(tobacco, ctable(gender, smoker, totals = FALSE, headings = FALSE, prop = "n",
                     OR = TRUE, RR = TRUE))

# Grouped cross-tabulations
with(tobacco, stby(list(x = smoker, y = diseased), gender, ctable))


## Not run:
ct <- ctable(tobacco$gender, tobacco$smoker)

# Show html results in browser
print(ct, method = "browser")

# Save results to html file
print(ct, file = "ct_gender_smoker.html")

# Save results to text file
print(ct, file = "ct_gender_smoker.txt")

## End(Not run)
```

---

define_keywords *Modify Keywords Used In Outputs*

Description

As an alternative to use_custom_lang, this allows temporarily modifying the keywords used in the outputs.

Usage

```
define_keywords(...)
```

Arguments

...	one or more pairs of keywords and their new values see *Details*.

Details

On systems with GUI capabilities, a window will pop-up, allowing the modification of the *custom* column. The changes will be active as long as the package is loaded. A dialog will show up prompting the user to save the modified set of keywords in a custom csv language file.

Here is the full list of modifiable keywords. Check out the *language_template.csv* file in the package's *includes* directory.

title.freq main heading for `freq()`

title.freq.weighted main heading for `freq()` (weighted)

title.ctable main heading for `ctable()`

title.ctable.weighted main heading `ctable()` (weighted)

title.ctable.row indicates what proportions are displayed

title.ctable.col indicates what proportions are displayed

title.ctable.tot indicates what proportions are displayed

title.descr main heading for `descr()`

title.descr.weighted main heading for `descr()` (weighted)

title.dfSummary main heading for `dfSummary()`

n heading item used in `descr()`

dimensions heading item used in `dfSummary()`

duplicates heading item used in `dfSummary()`

data.frame heading item (all functions)

label heading item (all functions) & column name in `dfSummary()`

variable heading item (all functions) & column name in `dfSummary()`

group heading item (all functions when used with `stby()`

by heading item for `descr()` when used with stby()

weights heading item - `descr()` & `freq()`

type heading item for `freq()`

logical heading item - type in `freq()`

character heading item - type in `freq()`

numeric heading item - type in `freq()`

factor heading item - type in `freq()`

factor.ordered heading item - type in `freq()`

date heading item - type in `freq()`

datetime heading item - type in `freq()`

freq column name in `freq()`

pct column name in `freq()` when `report.nas=FALSE`

pct.valid.f column name in `freq()`

pct.valid.cum column name in `freq()`

pct.total column name in `freq()`

pct.total.cum column name in `freq()`

pct.cum column name in `freq()`

valid column name in `freq()` and `dfSummary()` & column content in `dfSummary()`

invalid column content in `dfSummary()` (emails)

total column grouping in `freq()`, html version

mean row name in `descr()`

sd.long row name in `descr()`

sd cell content (dfSummary)

min row name in `descr()`

q1 row name in `descr()` - 1st quartile

med row name in `descr()`

q3 row name in `descr()` - 3rd quartile

max row name in `descr()`

mad row name in `descr()` - Median Absolute Deviation

iqr row name in `descr()` - Inter-Quartile Range

cv row name in `descr()` - Coefficient of Variation

skewness row name in `descr()`

se.skewness row name in `descr()` - Std. Error for Skewness

kurtosis row name in `descr()`

n.valid row name in `descr()` - Count of non-missing values

pct.valid row name in `descr()` - pct. of non-missing values

no column name in `dfSummary()` - position of column in the data frame

stats.values column name in `dfSummary()`

freqs.pct.valid column name in `dfSummary()`

graph column name in `dfSummary()`

missing column name in `dfSummary()`

distinct.value cell content in `dfSummary()` - singular form

distinct.values cell content in `dfSummary()` - plural form

all.nas cell content in `dfSummary()` - column has only NAs

all.empty.str cell content in `dfSummary()` - column has only empty strings

all.empty.str.nas cell content in `dfSummary()` - col. has only NAs and empty strings

no.levels.defined cell content in `dfSummary()` - factor has no levels defined

int.sequence cell content in `dfSummary()`

rounded cell content in `dfSummary()` - note appearing in Stats/Values

others cell content in `dfSummary()` - nbr of values not displayed

codes cell content in `dfSummary()` - When UPC codes are detected

mode cell content in `dfSummary()` - mode = most frequent value

med.short cell content in `dfSummary()` - median (shortened term)

start cell content in `dfSummary()` - earliest date for date-type cols

end cell content in `dfSummary()` - latest date for data-type cols

emails cell content in `dfSummary()`

generated.by footnote content

version footnote content

date.fmt footnote - date format (see `strptime`)

Examples

```
## Not run:
define_keywords(n = "Nb. Obs.")

## End(Not run)
```

`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,
  var = NULL,
  stats = st_options("descr.stats"),
  na.rm = TRUE,
  round.digits = st_options("round.digits"),
  transpose = st_options("descr.transpose"),
  order = "sort",
  style = st_options("style"),
  plain.ascii = st_options("plain.ascii"),
  justify = "r",
  headings = st_options("headings"),
  display.labels = st_options("display.labels"),
  split.tables = 100,
  weights = NA,
  rescale.weights = FALSE,
  ...
)
```

Arguments

x	A numerical vector or a data frame.
var	Unquoted expression referring to a specific column in x. Provides support for piped function calls (e.g. df %>% descr(some_var).
stats	Which stats to produce. Either "all" (default), "fivenum", "common" (see Details), 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").
order	Character. One of "sort" (or simply "s"), "preserve" (or "p"), or a vector of all variable names in the desired order. Defaults to "sort".
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.
plain.ascii	Logical. pander argument; when TRUE, no markup characters will be used (useful when printing to console). Defaults to TRUE unless style = 'rmarkdown', in which case it will be set to FALSE automatically. To change the default value globally, see st_options.
justify	Alignment of numbers in cells; "l" for left, "c" for center, or "r" for right (default). Has no effect on *html* tables.
headings	Logical. Set to FALSE to omit heading section. Can be set globally via st_options. TRUE by default.
display.labels	Logical. Should variable / data frame labels be displayed in the title section? Default is TRUE. To change this default value globally, see st_options.
split.tables	Pander argument that specifies how many characters wide a table can be. 100 by default.
weights	Vector of weights having same length as x. NA (default) indicates that no weights are used.
rescale.weights	Logical. When set to TRUE, the total count will be the same as the unweighted x. FALSE by default.
...	Additional arguments passed to pander.

Value

An object having 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")

# All stats for all numerical variabls
descr(exams)

# Only common statistics
descr(exams, stats = "common")

# Arbitrary selection of statistics, transposed
descr(exams, stats = c("mean", "sd", "min", "max"), transpose = TRUE)

# Rmarkdown-ready
descr(exams, plain.ascii = FALSE, style = "rmarkdown")

# Grouped statistics
data("tobacco")
with(tobacco, stby(BMI, gender, descr))

# Grouped statistics, transposed
with(tobacco, stby(BMI, age.gr, descr, stats = "common", transpose = TRUE))

## Not run:
# Show in Viewer (or browser if not in RStudio)
view(descr(exams))

# Save to html file with title
print(descr(exams),
      file = "descr_exams.html",
      report.title = "BMI by Age Group",
      footnote = "<b>Schoolyear:</b> 2018-2019<br/><b>Semester:</b> Fall")


## End(Not run)
```

`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 = 1,
```

```
  varnumbers = st_options("dfSummary.varnumbers"),
  labels.col = st_options("dfSummary.labels.col"),
  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 = st_options("dfSummary.style"),
  plain.ascii = st_options("plain.ascii"),
  justify = "l",
  col.widths = NA,
  headings = st_options("headings"),
  display.labels = st_options("display.labels"),
  max.distinct.values = 10,
  trim.strings = FALSE,
  max.string.width = 25,
  split.cells = 40,
  split.tables = Inf,
  tmp.img.dir = st_options("tmp.img.dir"),
  silent = st_options("dfSummary.silent"),
  ...
)
```

Arguments

x	A data frame.
round.digits	Number of significant digits to display. Defaults to 1.
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. TRUE by default, but the *labels* column is only shown if at least one column has a defined label. This option can also be set globally; see st_options, option "dfSummary.labels.col".
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 *html* 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. Default to 1. 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".

`col.widths` Numeric or character. Vector of column widths. If numeric, values are assumed to be numbers of pixels. Otherwise, any CSS-supported units can be used. NA by default, meaning widths are calculated automatically.

`headings` Logical. Set to FALSE to omit headings. To change this default value globally, see st_options.

`display.labels` Logical. Should data frame label be displayed in the title section? Default is TRUE. To change this default value globally, see st_options.

`max.distinct.values` 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.

`trim.strings` Logical; for character variables, should leading and trailing white space be removed? Defaults to FALSE. See *details* section.

`max.string.width` Limits the number of characters to display in the frequency tables. Defaults to 25.

`split.cells` A numeric argument passed to pander. It is the number of characters allowed on a line before splitting the cell. Defaults to 40.

`split.tables` **pander** argument which determines the maximum width of a table. Keeping the default value (Inf) is recommended.

`tmp.img.dir` Character. Directory used to store temporary images when rendering dfSummary() with 'method = "pander"', 'plain.ascii = TRUE' and 'style = "grid"'. See *Details*.

`silent` Logical. Hide console messages. FALSE by default. To change this value globally, see st_options.

`...` Additional arguments passed to pander.

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.

Specifying `tmp.img.dir` allows producing results consistent with pandoc styling while also showing *png* graphs. Due to the fact that in Pandoc, column widths are determined by the length of cell contents **even if said content is merely a link to an image**, we cannot use the standard R temporary directory to store the images. We need a shorter path; on Mac OS and Linux, using "/tmp" is a sensible choice, since this directory is cleaned up automatically on a regular basis. On Windows however, there is no such convenient directory and the user will have to choose a directory and cleanup the temporary images manually after the document has been rendered. Providing a relative path such as "img" is recommended. The maximum length for this parameter is set to 5 characters. It can be set globally using st_options; for example: `st_options(tmp.img.dir = ".")`.

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")
saved_x11_option <- st_options("use.x11")
st_options(use.x11 = FALSE)
dfSummary(tobacco)

# Exclude some columns
dfSummary(tobacco, varnumbers = FALSE, valid.col = FALSE)

# Limit number of categories to be displayed for factors / categorical data
dfSummary(tobacco, max.distinct.values = 5, style = "grid")

# Using stby()
stby(tobacco, tobacco$gender, dfSummary)

st_options(use.x11 = saved_x11_option)

## Not run:

# Show in Viewer or browser (view: no capital V!)
view(dfSummary(iris))

# Rmarkdown-ready
dfSummary(tobacco, style = "rmarkdown", plain.ascii = TRUE,
```

```
          varnumbers = FALSE, valid.col = FALSE, tmp.img.dir = "./img")

# Using group_by()
tobacco %>% group_by(gender) %>% dfSummary()

## End(Not run)
```

---

examens *Bulletin de notes (donnees 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,
  var = NULL,
  round.digits = st_options("round.digits"),
  order = "default",
  style = st_options("style"),
  plain.ascii = st_options("plain.ascii"),
  justify = "default",
  cumul = st_options("freq.cumul"),
  totals = st_options("freq.totals"),
  report.nas = st_options("freq.report.nas"),
  rows = numeric(),
  missing = "",
  display.type = TRUE,
  display.labels = st_options("display.labels"),
  headings = st_options("headings"),
  weights = NA,
  rescale.weights = FALSE,
  ...
)
```

Arguments

x	Factor or vector, or data frame when *var* is also provided, usually in a piped call.
var	Unquoted expression referring to a specific column in x. Provides support for piped function calls (e.g. `df %>% freq(some_var)`.
round.digits	Number of significant digits to display. Defaults to 2 and can be set globally; see st_options.
order	Ordering of rows in frequency table; "name" (default for non-factors), "level" (default for factors), or "freq" (from most frequent to less frequent). To invert the order, place a minus sign before or after the word. "-freq" will thus display the items starting from the lowest in frequency to the highest, and so forth.
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.
plain.ascii	Logical. pander argument; when TRUE, no markup characters will be used (useful when printing to console). Defaults to TRUE unless `style = 'rmarkdown'`, in which case it will be set to FALSE automatically. To change the default value globally, see st_options.
justify	String indicating alignment of columns. By default ("default"), "right" is used for text tables and "center" is used for *html* tables. You can force it to one of "left", "center", or "right".
cumul	Logical. Set to FALSE to hide cumulative proportions from results. TRUE by default. To change this value globally, see st_options.
totals	Logical. Set to FALSE to hide totals from results. TRUE by default. To change this value globally, see st_options.

report.nas	Logical. Set to FALSE to turn off reporting of missing values. To change this default value globally, see st_options.
rows	Character or numeric vector allowing subsetting of the results. The order given here will be reflected in the resulting table. If a single string is used, it will be used as a regular expression to filter row names.
missing	Characters to display in NA cells. Defaults to "".
display.type	Logical. Should variable type be displayed? Default is TRUE.
display.labels	Logical. Should variable / data frame labels be displayed? Default is TRUE. To change this default value globally, see st_options.
headings	Logical. Set to FALSE to omit heading section. Can be set globally via st_options.
weights	Vector of weights; must be of the same length as x.
rescale.weights	Logical parameter. When set to TRUE, the total count will be the same as the unweighted x. FALSE by default.
...	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)

# Ignore NA's, don't show totals, omit headings
freq(tobacco$gender, report.nas = FALSE, totals = FALSE, headings = FALSE)

# In .Rmd documents, use the two following arguments, minimally
freq(tobacco$gender, style="rmarkdown", plain.ascii = FALSE)

# Grouped Frequencies
with(tobacco, stby(diseased, smoker, freq))
```

```
(fr_smoker_by_gender <- with(tobacco, stby(smoker, gender, freq)))

# Print html Source
print(fr_smoker_by_gender, method = "render", footnote = NA)

# Order by frequency (+ to -)
freq(tobacco$age.gr, order = "freq")

# Order by frequency (- to +)
freq(tobacco$age.gr, order = "-freq")

# Use the 'rows' argument to display only the 10 most common items
freq(tobacco$age.gr, order = "freq", rows = 1:10)

## Not run:
# Display rendered html results in RStudio's Viewer
# notice 'view()' is NOT written with capital V
# If working outside RStudio, Web browser is used instead
# A temporary file is stored in temp dir
view(fr_smoker_by_gender)

# Display rendered html results in default Web browser
# A temporary file is stored in temp dir here too
print(fr_smoker_by_gender, method = "browser")

# Write results to text file (.txt, .md, .Rmd) or html file (.html)
print(fr_smoker_by_gender, method = "render", file = "fr_smoker_by_gender.md)
print(fr_smoker_by_gender, method = "render", file = "fr_smoker_by_gender.html)

## End(Not run)
```

`label` *Get or Set Variable or Data Frame Labels*

Description

Assigns a label to a vector or data frame, or returns value stored in the object's `label` attribute (or `NA` if none exists).

Usage

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

Arguments

`x`	An R object to extract labels from.

all	Logical. When x is a data frame, setting this argument to TRUE will make the function return all variable labels. By default, its value is FALSE, so that if x is a data frame, it is the data frame's label that will be returned.
fallback	a logical value indicating if labels should fallback to object name(s). Defaults to FALSE.
simplify	When x is a data frame and all = TRUE, coerce results to a vector and remove NA's. Default is FALSE.
value	String to be used as label. To clear existing labels, use NA or NULL.

Note

Loosely based on Gergely Daróczi's label function.

Author(s)

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

---

print.list *Print Method for Objects of Class "list"*

Description

Displays a list comprised of summarytools objects created with lapply.

Usage

```
## S3 method for class 'list'
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'), collapse = 0,
  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 *RStudio*, "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 *html* 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 *Bootstrap css* classes can be used. It also allows user-defined classes (see custom.css parameter). See *details* 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 *html* 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.
collapse	Numeric. 0 by default. Set to 1 to make freq() sections collapsible (when clicking on the variable name). Future versions might provide alternate collapsing 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 *Pandoc*. 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 *Details* section.

---

print.stby *Print Method for Objects of Class "stby"*

Description

Displays a list comprised of summarytools objects created with stby.

Usage

```
## S3 method for class 'stby'
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'), ...)
```

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 *RStudio*, "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 *html* 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 *Bootstrap css* classes can be used. It also allows user-defined classes (see custom.css parameter). See *details* 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 *html* 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 *Pandoc*. 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 *Details* section.

---

print.summarytools *print.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'), max.tbl.height = Inf,
   collapse = 0, 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 *RStudio*, "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 *html* 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 *Bootstrap css* classes can be used. It also allows user-defined classes (see custom.css parameter). See *details* 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 *html* 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.
max.tbl.height	Maximum table height (in pixels) allowed in rendered dfSummary() tables. When this argument is used, results will show up in a with the specified height and a scroll bar. Intended to be used in *Rmd* documents. Has no effect when method is "pander". Inf by default.
collapse	Numeric. 0 by default. Set to 1 to make freq() sections collapsible (when clicking on the variable name). Future versions might provide alternate collapsing 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 *Pandoc*. 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 *Details* section.

Details

Plain ascii and *rmarkdown* tables are generated via pander. See *References* section for a list of all available *pander* options.

The following additional arguments can be used to override formatting 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)
- plain.ascii
- justify
- headings
- display.labels
- varnumbers (dfSummary objects)
- labels.col (dfSummary objects)
- graph.col (dfSummary objects)
- valid.col (dfSummary objects)
- na.col (dfSummary objects)
- col.widths (dfSummary objects)
- split.tables
- report.nas (freq objects)
- display.type (freq objects)
- missing (freq objects)
- totals (freq and ctable objects)
- caption (freq and ctable objects)

The following additional arguments can be used to override heading elements to be printed:

- Data.frame
- Data.frame.label
- Variable
- Variable.label
- Group
- date
- Weights (freq & descr objects)
- Data.type (freq objects)
- Row.variable (ctable objects)
- Col.variable (ctable objects)

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 in 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), headings = FALSE)
```

---

stby *Obtain Grouped Statistics With summarytools*

Description

This is essentially the base by function, except for the class of the returned object.

Usage

```
stby(data, INDICES, FUN, ..., simplify = TRUE)
```

Arguments

data	an R object, normally a data frame, possibly a matrix.
INDICES	a grouping variable or a list of grouping variables, each of length nrow(data).
FUN	a function to be applied to (usually data-frame) subsets of data.
...	Further arguments to FUN.
simplify	Logical. Essentially a placeholder to maintain full compatibility with base by. For more details, see tapply.

Value

An object having classes “list” and “summarytools”.

See Also

by, tapply

Examples

```
data("tobacco")
with(tobacco, stby(BMI, gender, descr))
```

---

st_css *Include* **summarytools**' css *Into Active Document*

Description

Generates the *css* needed by **summarytools** in *Rmarkdown* documents.

Usage

```
st_css(main = TRUE, global = FALSE, bootstrap = FALSE, style.tag = TRUE, ...)
```

Arguments

main	Logical. Include *summarytools.css* file. TRUE by default. Affects only **summarytools** objects.
global	Logical. Include the additional *summarytools-global.css* file, which affects all content in the document. Provides control over objects that were not *html-rendered*; in particular, table widths and vertical alignment are modified to improve layout. FALSE by default.
bootstrap	Logical. Include *bootstrap.min.css*. FALSE by default.
style.tag	Logical. Includes the opening and closing <style> tags. TRUE by default.
...	Character. Path to additional *css* file(s) to include.

Details

Typically the function is called right after the initial setup chunk of an *Rmarkdown* document, in a chunk having options echo=FALSE and results="asis".

Author(s)

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

st_options *Query and set summarytools global options*

Description

To list all summarytools global options, call without arguments. To display the value of one or several options, enter the name(s) of the option(s) in a character vector as sole argument. To **reset** all options, use single unnamed argument 'reset' or `0`.

Usage

```
st_options(
  option = NULL,
  value = NULL,
  style = "simple",
  plain.ascii = TRUE,
  round.digits = 2,
  headings = TRUE,
  footnote = "default",
  display.labels = TRUE,
  bootstrap.css = TRUE,
  custom.css = NA,
  escape.pipe = FALSE,
  char.split = 12,
  freq.cumul = TRUE,
  freq.totals = TRUE,
  freq.report.nas = TRUE,
  freq.ignore.threshold = 25,
  freq.silent = FALSE,
  ctable.prop = "r",
  ctable.totals = TRUE,
  descr.stats = "all",
  descr.transpose = FALSE,
  descr.silent = FALSE,
  dfSummary.style = "multiline",
  dfSummary.varnumbers = TRUE,
  dfSummary.labels.col = TRUE,
  dfSummary.valid.col = TRUE,
  dfSummary.na.col = TRUE,
  dfSummary.graph.col = TRUE,
  dfSummary.graph.magnif = 1,
  dfSummary.silent = FALSE,
  tmp.img.dir = NA,
  subtitle.emphasis = TRUE,
  lang = "en",
  use.x11 = TRUE
)
```

Arguments

option	option(s) name(s) to query (optional). Can be a single string or a vector of strings to query multiple values.
value	The value you wish to assign to the option specified in the first argument. This is for backward-compatibility, as all options can now be set via their own parameter. That is, instead of `st_options('plain.ascii',FALSE)`, use `st_options(plain.ascii = FALSE)`.
style	Character. One of "simple" (default), "rmarkdown", or "grid". Does not apply to `dfSummary`.
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. Note however that its value will automatically be set to `FALSE` whenever `style` is set to "rmarkdown").
round.digits	Numeric. Defaults to 2.
headings	Logical. Set to `FALSE` to remove all headings from outputs. Only the tables will be printed out, except when `by` or `lapply` are used. In that case, the variable or the group will still appear before the tables. `FALSE` by default.
footnote	Character. When the default value "default" is used, the package name & version, as well as the R version number are displayed below *html* outputs. Set no `NA` to omit the footnote, or provide a custom string. Applies only to *html* outputs.
display.labels	Logical. `TRUE` by default. Set to `FALSE` to omit data frame and variable labels in the headings section.
bootstrap.css	Logical. Specifies whether to Include *Bootstrap css* in *html* reports' *head* section. Defaults to `TRUE`. Set to `FALSE` when using the "render" method inside a `shiny` app to avoid interacting with the app's layout.
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.
char.split	Numeric. Maximum number of characters allowed in a column heading for `descr` and `ctable` *html* outputs. Any variable name having more than this number of characters will be split on two or more lines. Defaults to 12.
freq.cumul	Logical. Corresponds to the `cumul` parameter of `freq`. `TRUE` by default.
freq.totals	Logical. Corresponds to the `totals` parameter of `freq`. `TRUE` by default.
freq.report.nas	Logical. Corresponds to the `display.nas` parameter of `freq`. `TRUE` by default.
freq.ignore.threshold	Numeric. Number of distinct values above which numerical variables are ignored when calling `freq` with a whole data frame as main argument. Defaults to 25.
freq.silent	Logical. Hide console messages. `FALSE` by default.
ctable.prop	Character. Corresponds to the `prop` parameter of `ctable`. Defaults to "r" (*r*ow).
ctable.totals	Logical. Corresponds to the `totals` parameter of `ctable`. `TRUE` by default.

`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.

`descr.silent` Logical. Hide console messages. `FALSE` by default.

`dfSummary.style`
Character. "multiline" by default. Set to "grid" for *Rmarkdown* documents.

`dfSummary.varnumbers`
Logical. In `dfSummary`, display variable numbers in the first column. Defaults to `TRUE`.

`dfSummary.labels.col`
Logical. In `dfSummary`, display variable labels Defaults to `TRUE`.

`dfSummary.valid.col`
Logical. In `dfSummary`, include column indicating count and proportion of valid (non-missing). `TRUE` by default.

`dfSummary.na.col`
Logical. In `dfSummary`, include column indicating count and proportion of missing (NA) values. `TRUE` by default.

`dfSummary.graph.col`
Logical. Display barplots / histograms column in `dfSummary` *html* reports. `TRUE` by default.

`dfSummary.graph.magnif`
Numeric. Magnification factor, useful if `dfSummary` graphs show up too large (then use a value between 0 and 1) or too small (use a value > 1). Must be positive. Default to `1`.

`dfSummary.silent`
Logical. Hide console messages. `FALSE` by default.

`tmp.img.dir` Character. Directory used to store temporary images. See *Details* section of `dfSummary`. `NA` by default.

`subtitle.emphasis`
Logical. Controls the formatting of the "subtitle" (the *data frame* or *variable* name, depending on context. When `TRUE` (default), "h4" is used, while with `FALSE`, "bold" / "strong" is used. Hence the default value gives it stronger emphasis.

`lang` Character. A 2-letter code for the language to use in the produced outputs. Currently available languages are: 'en', 'es', 'fr', 'pt', 'ru', and 'tr'.

`use.x11` Logical. TRUE by default. In console-only environments, setting this to `FALSE` will prevent errors occurring when `dfSummary` tries to generate *html* "Base64-encoded" graphs.

Details

To learn more about summarytools options, see the project's GitHub page.

Examples

```
## Not run:
# show all summarytools global options
st_options()

# show a specific option
st_options("round.digits")

# show two (or more) options
st_options(c("plain.ascii", "style", "footnote"))

# set one option
st_options(plain.ascii = FALSE)

# set one options, legacy way
st_options("plain.ascii", FALSE)

# set several options
st_options(plain.ascii = FALSE,
           style       = "rmarkdown",
           footnote    = NA)

# reset all
st_options('reset')
# ... or
st_options(0)

## 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 echantillonal (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".

---

tb *Convert Summarytools Objects into Tibbles*

Description

Make a tidy dataset out of freq() or descr() outputs

Usage

```
tb(x, order = 1, na.rm = FALSE, drop.var.col = FALSE)
```

Arguments

x	a freq() or descr() output object.
order	Integer. Useful for grouped results produced with stby or dplyr::group_by. When set to 1 (default), the ordering is done using the grouping variables first. When set to 2, the ordering is first determined by the variable column for descr or the column displaying the variable values for freq. When set to 3, the same ordering as with 2 is used, but columns are rearranged to reflect this sort order.
na.rm	Logical. For freq objects, remove <NA> rows (or (Missing) rows if NA values were made explicit with forcats::fct_explicit_na(). Has no effect on descr objects.
drop.var.col	Logical. For descr objects, drop the variable column. This is possible only when statistics are produced for a single variable; for multiple variables, this argument is ignored. FALSE by default.

Value

A tibble which is constructed following the *tidy* principles.

Examples

```
tb(freq(iris$Species))
tb(descr(iris))

data("tobacco")
tb(stby(tobacco, tobacco$gender, descr))
```

---

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").
- cigs.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 and 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

use_custom_lang *Import and use a custom language*

Description

If your language is not available or if you wish to customize the outputs' language to suit your preference, you can set up a translations file (see details) and import it with this function.

Usage

```
use_custom_lang(file)
```

Arguments

file	Character. The path to the translations file.

Details

To build the translations file, copy the *language_template.csv* file located in the installed package's *includes* directory and fill out the 'custom' column using a text editor, leaving column titles unchanged. The file must also retain its *UTF-8* encoding.

view *view*

Description

Visualize results in RStudio's Viewer or in Web Browser

Usage

```
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"),
  max.tbl.height = Inf,
  collapse = 0,
  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 *RStudio*, "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 *html* 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 *Bootstrap css* classes can be used. It also allows user-defined classes (see custom.css parameter). See *details* 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 *html* 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.

max.tbl.height	Maximum table height (in pixels) allowed in rendered dfSummary() tables. When this argument is used, results will show up in a with the specified height and a scroll bar. Intended to be used in *Rmd* documents. Has no effect when method is "pander". Inf by default.
collapse	Numeric. 0 by default. Set to 1 to make freq() sections collapsible (when clicking on the variable name). Future versions might provide alternate collapsing 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 *Pandoc*. 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 *Details* section.

Details

Creates *html* outputs and opens them in the Viewer, in a browser or renders the *html* code appropriate for *Rmarkdown* documents.

For objects of class "summarytools", this function is simply a wrapper around print.summarytools with *method* set to "viewer".

Objects of class "by" or "list" are dispatched to the present function, as it can manage multiple objects, whereas print.summarytools can only manage one object at a time.

---

what.is *Obtain Extended Properties of Objects*

Description

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

Usage

```
what.is(x, ...)
```

Arguments

x	Any object.
...	Included for backward-compatibility only. Has no real use.

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)

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

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)
```

Index