Package 'spork'

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Type Package

Title Generalized Label Formatting

Version 0.1.6

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Description The 'spork' syntax describes label formatting concisely, supporting mixed nesting of subscripts and superscripts to arbitrary depth. It intends to be easy to read and write in plain text, and easy to convert to equivalent presentations in 'plotmath' and 'latex'. Greek symbols and a multiplication symbol are explicitly supported. See ?as_spork and ?as_previews.

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Encoding UTF-8

LazyData true

Imports ggplot2, png, latexpdf

RoxygenNote 7.0.2

Suggests testthat (>= 2.1.0), magrittr, dplyr

NeedsCompilation no

Repository CRAN

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R topics documented:

`as_latex.spar` *Convert One Spork to Latex*

Description

Converts one spork to latex. See description for `as_spork`. By default, unrecognized tokens are returned literally. However, Greek symbols and latex metacharacters are escaped. See `latexToken`.

Usage

```
## S3 method for class 'spar'
as_latex(x, newline = getOption("latex_newline", "\n"),
  unrecognized = getOption("latex_unrecognized", "latexToken"),
  token_open = getOption("latex_token_open", "\\textrm{"),
  token_close = getOption("latex_token_close", "}"),
  math_open = getOption("latex_math_open", "\\mathrm{"),
  math_close = getOption("latex_math_close", "}"),
  label_open = getOption("latex_label_open", "$"),
  label_close = getOption("latex_label_close", "$"),
  enforce_math = getOption("latex_enforce_math", TRUE), ...)
```

Arguments

`x`	spar
`newline`	value to replace `'\n'`
`unrecognized`	function to process unrecognized tokens: default `latexToken`
`token_open, token_close`	these wrap text-like portions of the label; the defaults try to give upright characters (non-italic); also passed to `latexToken`
`math_open, math_close`	these wrap math-like portions of the label; the defaults try to give upright characters (non-italic) which may not work for Greek symbols; also passed to `latexToken`
`label_open, label_close`	these wrap the entire label; defaults invoke traditional math mode
`enforce_math`	whether to enforce math mode for nested expression: `latexToken`
`...`	passed to `unrecognized`; see `latexToken`

Details

Experimental support is implemented for the newline character (`'\n'`). Default behavior is to introduce literal newline characters into the resulting tex. This may have no effect on the typeset result. It may be possible to achieve other effects by using non-default values of helper arguments and perhaps additional latex packages.

Value

latex

See Also

Other interface: `as.expression.plotmath`, `as_latex.spork`, `as_plotmath.spar`, `as_plotmath.spork`, `as_previews.spork`, `as_spork.character`, `latexToken`, `plotmathToken`

Other latex: `[.latex`, `[[.latex`, `as_latex.spork`, `as_latex`, `concatenate.latex`, `latexToken`

Examples

```
library(magrittr)
'V_c./F' %>% as_spork %>% as_latex
'AUC_ss' %>% as_spork %>% as_latex
'C_max_ss' %>% as_spork %>% as_latex
'var^eta_j' %>% as_spork %>% as_latex
'& % $ # \_ { } ~ \^ \\' %>% as_spork %>% as_latex
'one joule (Omega) ~ 1 kg*m^2./s^2' %>% as_spork %>% as_latex
```

---

as_latex.spork *Convert Spork to Latex*

Description

Converts spork to latex. Vectorized version of `as_latex.spar`.

Usage

```
## S3 method for class 'spork'
as_latex(x, ...)
```

Arguments

x	spork
...	passed to `as_latex.spar`

Value

latex

See Also

Other latex: [.latex, [[.latex, as_latex.spar, as_latex, concatenate.latex, latexToken

Other spork: [.spork, [[.spork, as.list.spork, as.png.spork, as_plotmath.spork, as_previews.spork, as_spar.spork, as_spork.character, as_spork.factor, as_spork.spork, as_spork, ggplot.spork

Other interface: as.expression.plotmath, as_latex.spar, as_plotmath.spar, as_plotmath.spork, as_previews.spork, as_spork.character, latexToken, plotmathToken

Examples

```
x <- c(
  'V_c./F',
  'AUC_ss',
  'C_max_ss',
  'var^eta_j'
)
x <- as_spork(x)
as_latex(x)
as_latex(as_spork('gravitational force (kg\\.m/s^2.)'))
```

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as_plotmath.spar *Convert One Spork to Plotmath*

Description

Converts one spork to plotmath. See description for as_spork. By default, unrecognized tokens are returned unmodified if they are parseable. Otherwise, backslashes and single quotes are escaped, and the result is wrapped in single quotes. See plotmathToken.

Usage

```
## S3 method for class 'spar'
as_plotmath(x,
  unrecognized = getOption("plotmath_unrecognized", "plotmathToken"),
  ...)
```

Arguments

x	spar
unrecognized	function to process unrecognized tokens: default plotmathToken
...	passed to unrecognized; see plotmathToken

Details

Experimental support is implemented for the newline character ('\n'). It trys to break the expression at the point indicated, and stack the results. Active subscripts and superscripts are closed in advance, preventing these from breaking across lines.

Value

character atop(',

See Also

Other interface: as.expression.plotmath, as_latex.spar, as_latex.spork, as_plotmath.spork, as_previews.spork, as_spork.character, latexToken, plotmathToken

Other plotmath: [.plotmath, [[.plotmath, as.expression.plotmath, as.png.plotmath, as_plotmath.spork, as_plotmath, concatenate.plotmath, ggplot.plotmath, goodToken, plotmathToken

Other spar: as_spar.spork, as_spar

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as_plotmath.spork *Convert Spork to Plotmath*

Description

Converts spork to plotmath. See plotmath. Vectorized version of as_plotmath.spar.

Usage

```
## S3 method for class 'spork'
as_plotmath(x, ...)
```

Arguments

x	spork
...	passed to as_plotmath.spar

Value

plotmath

See Also

Other plotmath: [.plotmath, [[.plotmath, as.expression.plotmath, as.png.plotmath, as_plotmath.spar, as_plotmath, concatenate.plotmath, ggplot.plotmath, goodToken, plotmathToken

Other spork: [.spork, [[.spork, as.list.spork, as.png.spork, as_latex.spork, as_previews.spork, as_spar.spork, as_spork.character, as_spork.factor, as_spork.spork, as_spork, ggplot.spork

Other interface: as.expression.plotmath, as_latex.spar, as_latex.spork, as_plotmath.spar, as_previews.spork, as_spork.character, latexToken, plotmathToken

Examples

```
library(magrittr)
'V_c./F' %>% as_spork %>% as_plotmath
'AUC_ss' %>% as_spork %>% as_plotmath
'C_max_ss' %>% as_spork %>% as_plotmath
'var^eta_j' %>% as_spork %>% as_plotmath
'one joule (Omega) ~ 1 kg*m^2./s^2' %>% as_spork %>% as_plotmath
```

---

as_previews.spork *Compare Previews of Spork*

Description

Compares plotmath and latex previews of spork Generates png for both, and overlays latex above plotmath.

Usage

```
## S3 method for class 'spork'
as_previews(x, wide = 70, long = 20, width = 3,
  height = 1, ...)
```

Arguments

x	length-one spork
wide	width in mm of the latex image
long	length in mm of the latex image
width	width (default: inches) of the plotmath image
height	height (default: inches) of the plotmath image
...	passed arguments

Value

invisible list of filepaths

See Also

Other preview: as.png.plotmath, as.png.spork, as_preview.latex, as_preview.plotmath, as_previews, as_preview, ggplot.plotmath, ggplot.spork

Other interface: as.expression.plotmath, as_latex.spar, as_latex.spork, as_plotmath.spar, as_plotmath.spork, as_spork.character, latexToken, plotmathToken

Other spork: [.spork, [[.spork, as.list.spork, as.png.spork, as_latex.spork, as_plotmath.spork, as_spar.spork, as_spork.character, as_spork.factor, as_spork.spork, as_spork, ggplot.spork

Examples

```
library(magrittr)
specials <- '& % $ # \_ { } ~ \^ \\'

specials %>% as_spork %>% as_previews
specials %>% gsub(' ','',.) %>% as_spork %>% as_previews
'one joule (Omega) ~ 1 kg*m^2./s^2' %>% as_spork %>% as_previews

# disambiguation for plotmath and latex (see \code{\link[grDevices]{plotmath}}):

'epsilon.varepsilon' %>% as_spork %>% as_previews
'rho.varrho' %>% as_spork %>% as_previews
'Upsilon.Upsilon1' %>% as_spork %>% as_previews
'phi.phi1.varphi' %>% as_spork %>% as_previews
'sigma.sigma1.varsigma.stigma' %>% as_spork %>% as_previews
'theta.vartheta.theta1' %>% as_spork %>% as_previews
'omega.omega1.pi.varpi' %>% as_spork %>% as_previews
```

---

as_spar.spork *Parse Spork*

Description

Parses spork. Converts length-one character to vector of tokens. Explicit tokens include `*._^` and any of these escaped with backslash, e.g. `'\*'`. Backslash-n is an explicit token (`'\n'`). One or more consecutive whitespace characters are a single token, as are one or more consecutive octothorpes (#). Any string of characters delimited by one or more of the above is implicitly a token as well.

Usage

```
## S3 method for class 'spork'
as_spar(x, ...)
```

Arguments

x	length-one character using spork syntax
...	ignored arguments

Value

spar (character vector)

See Also

Other spar: `as_plotmath.spar`, `as_spar`

Other spork: `[.spork`, `[[.spork`, `as.list.spork`, `as.png.spork`, `as_latex.spork`, `as_plotmath.spork`, `as_previews.spork`, `as_spork.character`, `as_spork.factor`, `as_spork.spork`, `as_spork`, `ggplot.spork`

Examples

```
as_spar(as_spork('one joule (Omega) ~ 1 kg*m^2./s^2'))
```

`as_spork.character` *Coerce Character to Spork*

Description

Coerces character to class 'spork'. See description for `as_spork`.

Usage

```
## S3 method for class 'character'
as_spork(x, ...)
```

Arguments

x	character
...	ignored arguments

Value

spork

See Also

Other spork: `[.spork`, `[[.spork`, `as.list.spork`, `as.png.spork`, `as_latex.spork`, `as_plotmath.spork`, `as_previews.spork`, `as_spar.spork`, `as_spork.factor`, `as_spork.spork`, `as_spork`, `ggplot.spork`

Other interface: `as.expression.plotmath`, `as_latex.spar`, `as_latex.spork`, `as_plotmath.spar`, `as_plotmath.spork`, `as_previews.spork`, `latexToken`, `plotmathToken`

Other character: `concatenate.character`

Examples

```
as_spork('V_c./F')
```

latexToken *Process Latex Token*

Description

Pre-processes a latex token not recognized as spork. Escapes the common names for Greek letters and escapes latex metacharacters.

Usage

```
latexToken(x, unrecognized = latexToken,
  token_open = getOption("latex_token_open", "\\textrm{"),
  token_close = getOption("latex_token_close", "}"),
  math_open = getOption("latex_math_open", "\\mathrm{"),
  math_close = getOption("latex_math_close", "}"),
  label_open = getOption("latex_label_open", "$"),
  label_close = getOption("latex_label_close", "$"),
  enforce_math = getOption("latex_enforce_math", TRUE), ...)
```

Arguments

x	character
unrecognized	function to process unrecognized tokens
token_open, token_close	these wrap the entire token (used once); by default the token is text-like
math_open, math_close	these wrap math-like portions of the token; the defaults try to give upright characters (non-italic) which may not work for Greek symbols
label_open, label_close	these re-wrap math-like portions of the token if enforce_math is TRUE; defaults invoke traditional math mode
enforce_math	whether to enforce math mode for nested expression
...	ignored arguments

Value

latex

See Also

Other latex: [.latex, [[.latex, as_latex.spar, as_latex.spork, as_latex, concatenate.latex

Other interface: as.expression.plotmath, as_latex.spar, as_latex.spork, as_plotmath.spar, as_plotmath.spork, as_previews.spork, as_spork.character, plotmathToken

Examples

```
latexToken('foo')
latexToken('alpha')
latexToken('Alpha')
```

`plotmathToken` *Process Plotmath Token*

Description

Processes a plotmath token. Escapes single-quotes and wraps in single-quotes. Also maps 'varepsilon' to 'epsilon', since plotmath has only the latter; likewise 'varrho' maps to 'rho' and 'varpi' maps to 'omega1'.

Usage

```
plotmathToken(x, conditional = getOption("plotmath_conditional_quote",
  TRUE), unescape = getOption("plotmath_unescape", TRUE), ...)
```

Arguments

`x`	(length-one) character
`conditional`	if true, return good tokens (parseable) unmodified; see `goodToken`
`unescape`	whether to escape (unrecognized) backslash
`...`	ignored arguments

Value

plotmath

See Also

Other plotmath: `[.plotmath`, `[[.plotmath`, `as.expression.plotmath`, `as.png.plotmath`, `as_plotmath.spar`, `as_plotmath.spork`, `as_plotmath`, `concatenate.plotmath`, `ggplot.plotmath`, `goodToken`

Other interface: `as.expression.plotmath`, `as_latex.spar`, `as_latex.spork`, `as_plotmath.spar`, `as_plotmath.spork`, `as_previews.spork`, `as_spork.character`, `latexToken`

Examples

```
plotmathToken("can't")
plotmathToken("\\", unescape = TRUE)
plotmathToken("\\", unescape = FALSE)
plotmathToken("\n", conditional = TRUE)
plotmathToken("\n", conditional = FALSE)
```

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