

Package ‘spork’

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Type Package

Title Generalized Label Formatting

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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', 'latex', and 'html'. Greek symbols and a multiplication symbol are explicitly supported. See ?as_spork and ?as_previews.

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Encoding UTF-8

Imports ggplot2, png, latexpdf

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Suggests testthat (>= 2.1.0), magrittr, dplyr

NeedsCompilation no

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as_html.spar	<i>Convert One Spork to Html</i>
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Description

Converts one spork to html. See description for [as_spork](#). By default, unrecognized tokens are returned literally. However, Greek symbols and html metacharacters are escaped. See [htmlToken](#).

Usage

```
## S3 method for class 'spar'
as_html(
  x,
  newline = getOption("html_newline", "<br/>"),
  unrecognized = getOption("html_unrecognized", "htmlToken"),
  token_open = getOption("html_token_open", ""),
  token_close = getOption("html_token_close", ""),
  math_open = getOption("html_math_open", ""),
  math_close = getOption("html_math_close", ""),
  label_open = getOption("html_label_open", ""),
  label_close = getOption("html_label_close", ""),
  ...
)
```

Arguments

x	spar
newline	value to replace '\n'
unrecognized	function to process unrecognized tokens: default htmlToken
token_open, token_close	these wrap text-like portions of the label; the defaults try to give upright characters (non-italic); also passed to htmlToken
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 htmlToken
label_open, label_close	these wrap the entire label
...	passed to unrecognized; see htmlToken

Details

Experimental support is implemented for the newline character ('\n'). Default behavior is to introduce linebreaks (
) into the resulting html.

Value

html

See Also

Other interface: [as.expression.plotmath\(\)](#), [as_html.spork\(\)](#), [as_latex.default\(\)](#), [as_latex.spar\(\)](#), [as_latex.spork\(\)](#), [as_plotmath.spar\(\)](#), [as_plotmath.spork\(\)](#), [as_previews.spork\(\)](#), [as_spork.character\(\)](#), [htmlToken\(\)](#), [latexToken\(\)](#), [plotmathToken\(\)](#)

Other html: [\[.html\(\)\]](#), [\[\[.html\(\)\]](#), [as_html.spork\(\)](#), [as_html\(\)](#), [htmlToken\(\)](#)

Examples

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

as_html.spork

Convert Spork to Html

Description

Converts spork to html. Vectorized version of [as_html.spar](#).

Usage

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

Arguments

x spork
... passed to [as_html.spar](#)

Value

html

See Also

Other html: [.html()], [[.html()], as_html.spar(), as_html(), htmlToken()

Other spork: [.spork()], [[.spork()], as.list.spork(), as.png.spork(), as_latex.default(), as_latex.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_html.spar(), as_latex.default(), as_latex.spar(), as_latex.spork(), as_plotmath.spar(), as_plotmath.spork(), as_previews.spork(), as_spork.character(), htmlToken(), latexToken(), plotmathToken()

Examples

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

as_latex.default *Convert Default to Latex*

Description

Converts anything to latex by adding class 'latex'.

Usage

```
## Default S3 method:
as_latex(x, ...)
```

Arguments

x	object
...	ignored

Value

latex

See Also

Other latex: [\[.latex\(\)\]](#), [\[\[.latex\(\)\]](#), [as_latex.spar\(\)](#), [as_latex.spork\(\)](#), [as_latex\(\)](#), [concatenate.latex\(\)](#), [latexToken\(\)](#)

Other spork: [\[.spork\(\)\]](#), [\[\[.spork\(\)\]](#), [as.list.spork\(\)](#), [as.png.spork\(\)](#), [as.html.spork\(\)](#), [as_latex.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.html.spar\(\)](#), [as.html.spork\(\)](#), [as_latex.spar\(\)](#), [as_latex.spork\(\)](#), [as_plotmath.spar\(\)](#), [as_plotmath.spork\(\)](#), [as_previews.spork\(\)](#), [as_spork.character\(\)](#), [htmlToken\(\)](#), [latexToken\(\)](#), [plotmathToken\(\)](#)

Examples

```
as_latex('text')
```

as_latex.spar	<i>Convert One Spork to Latex</i>
---------------	-----------------------------------

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.html.spar\(\)](#), [as.html.spork\(\)](#), [as_latex.default\(\)](#), [as_latex.spork\(\)](#), [as_plotmath.spar\(\)](#), [as_plotmath.spork\(\)](#), [as_previews.spork\(\)](#), [as_spork.character\(\)](#), [htmlToken\(\)](#), [latexToken\(\)](#), [plotmathToken\(\)](#)

Other latex: [\[.latex\(\)\]](#), [\[\[.latex\(\)\]](#), [as_latex.default\(\)](#), [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.default\(\)](#), [as_latex.spar\(\)](#), [as_latex\(\)](#), [concatenate.latex\(\)](#), [latexToken\(\)](#)

Other spork: [\[.spork\(\)\]](#), [\[\[.spork\(\)\]](#), [as.list.spork\(\)](#), [as.png.spork\(\)](#), [as.html.spork\(\)](#), [as_latex.default\(\)](#), [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.html.spar\(\)](#), [as.html.spork\(\)](#), [as_latex.default\(\)](#), [as_latex.spar\(\)](#), [as_plotmath.spar\(\)](#), [as_plotmath.spork\(\)](#), [as_previews.spork\(\)](#), [as_spork.character\(\)](#), [htmlToken\(\)](#), [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.)'))
```

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 tries 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.html.spar\(\)](#), [as.html.spork\(\)](#), [as.latex.default\(\)](#), [as.latex.spar\(\)](#), [as.latex.spork\(\)](#), [as_plotmath.spork\(\)](#), [as_previews.spork\(\)](#), [as_spork.character\(\)](#), [htmlToken\(\)](#), [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\(\)](#)

as_plotmath.spork	<i>Convert Spork to Plotmath</i>
-------------------	----------------------------------

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_html.spork()`, `as_latex.default()`, `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_html.spar()`, `as_html.spork()`, `as_latex.default()`, `as_latex.spar()`, `as_latex.spork()`, `as_plotmath.spar()`, `as_previews.spork()`, `as_spork.character()`, `htmlToken()`, `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_html.spar\(\)](#), [as_html.spork\(\)](#), [as_latex.default\(\)](#), [as_latex.spar\(\)](#), [as_latex.spork\(\)](#), [as_plotmath.spar\(\)](#), [as_plotmath.spork\(\)](#), [as_spork.character\(\)](#), [htmlToken\(\)](#), [latexToken\(\)](#), [plotmathToken\(\)](#)

Other spork: [.spork\(\)](#), [\[.spork\(\)](#), [as.list.spork\(\)](#), [as.png.spork\(\)](#), [as_html.spork\(\)](#), [as_latex.default\(\)](#), [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.html.spork\(\)](#), [as_latex.default\(\)](#), [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.html.spork\(\)](#), [as.latex.default\(\)](#), [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.html.spar\(\)](#), [as.html.spork\(\)](#), [as.latex.default\(\)](#), [as.latex.spar\(\)](#), [as.latex.spork\(\)](#), [as.plotmath.spar\(\)](#), [as.plotmath.spork\(\)](#), [as.previews.spork\(\)](#), [htmlToken\(\)](#), [latexToken\(\)](#), [plotmathToken\(\)](#)

Other character: [concatenate.character\(\)](#)

Examples

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

```
htmlToken
```

```
Process Html Token
```

Description

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

Usage

```
htmlToken(
  x,
  token_open = getOption("html_token_open", ""),
  token_close = getOption("html_token_close", ""),
  math_open = getOption("html_math_open", ""),
  math_close = getOption("html_math_close", ""),
  label_open = getOption("html_label_open", ""),
  label_close = getOption("html_label_close", ""),
  ...
)
```

Arguments

x character
 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
 ... ignored arguments

Value

html

See Also

Other html: [.html(), [[.html(), as_html.spar(), as_html.spork(), as_html()
 Other interface: as.expression.plotmath(), as_html.spar(), as_html.spork(), as_latex.default(), as_latex.spar(), as_latex.spork(), as_plotmath.spar(), as_plotmath.spork(), as_previews.spork(), as_spork.character(), latexToken(), plotmathToken()

Examples

```
htmlToken('foo')
htmlToken('alpha')
htmlToken('Alpha')
```

latexToken	<i>Process Latex Token</i>
------------	----------------------------

Description

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

Usage

```
latexToken(
  x,
  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
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.default()`, `as_latex.spar()`, `as_latex.spork()`, `as_latex()`, `concatenate.latex()`

Other interface: `as.expression.plotmath()`, `as_html.spar()`, `as_html.spork()`, `as_latex.default()`, `as_latex.spar()`, `as_latex.spork()`, `as_plotmath.spar()`, `as_plotmath.spork()`, `as_previews.spork()`, `as_spork.character()`, `htmlToken()`, `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_html.spar\(\)](#), [as_html.spork\(\)](#), [as_latex.default\(\)](#), [as_latex.spar\(\)](#), [as_latex.spork\(\)](#), [as_plotmath.spar\(\)](#), [as_plotmath.spork\(\)](#), [as_previews.spork\(\)](#), [as_spork.character\(\)](#), [htmlToken\(\)](#), [latexToken\(\)](#)

Examples

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

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