Package 'strex'

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Title Extra String Manipulation Functions

Version 2.0.1

Description There are some things that I wish were easier with the 'stringr' or 'stringi' packages. The foremost of these is the extraction of numbers from strings. 'stringr' and 'stringi' make you figure out the regular expression for yourself; 'strex' takes care of this for you. There are many other handy functionalities in 'strex'. Contributions to this package are encouraged; it is intended as a miscellany of string manipulation functions that cannot be found in 'stringi' or 'stringr'.

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URL https://rorynolan.github.io/strex/, https://github.com/rorynolan/strex

BugReports https://github.com/rorynolan/strex/issues

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Contents

`before-and-after` *Extract text before or after* `nth` *occurrence of pattern.*

Description

Extract the part of a string which is before or after the `nth` occurrence of a specified pattern, vectorized over the string.

Usage

```
str_after_nth(string, pattern, n)

str_after_first(string, pattern)

str_after_last(string, pattern)

str_before_nth(string, pattern, n)
```

```
str_before_first(string, pattern)

str_before_last(string, pattern)
```

Arguments

string	A character vector.
pattern	The pattern to look for. The default interpretation is a regular expression, as described in stringi::about_search_regex. To match a without regular expression (i.e. as a human would), use coll(). For details see stringr::regex().
n	A vector of integerish values. Must be either length 1 or have length equal to the length of string. Negative indices count from the back: while n = 1 and n = 2 correspond to first and second, n = -1 and n = -2 correspond to last and second-last. n = 0 will return NA.

Details

- str_after_first(...) is just str_after_nth(..., n = 1).
- str_after_last(...) is just str_after_nth(..., n = -1).
- str_before_first(...) is just str_before_nth(..., n = 1).
- str_before_last(...) is just str_before_nth(..., n = -1).

Value

A character vector.

See Also

Other bisectors: str_before_last_dot()

Examples

```
string <- "abxxcdxxdexxfgxxh"
str_after_nth(string, "xx", 3)
str_before_nth(string, "e", 1:2)
str_before_nth(string, "xx", -3)
str_before_nth(string, ".", -3)
str_before_nth(rep(string, 2), "..x", -3)
str_before_first(string, "d")
str_before_last(string, "x")
string <- c("abc", "xyz.zyx")
str_after_first(string, ".") # using regex
str_after_first(string, coll(".")) # using human matching
str_after_last(c("xy", "xz"), "x")
```

currency *Extract currency amounts from a string.*

Description

The currency of a number is defined as the character coming before the number in the string. If nothing comes before (i.e. if the number is the first thing in the string), the currency is the empty string, similarly the currency can be a space, comma or any manner of thing.

Usage

```
str_extract_currencies(string)

str_nth_currency(string, n)

str_first_currency(string)

str_last_currency(string)
```

Arguments

string	A character vector.
n	A vector of integerish values. Must be either length 1 or have length equal to the length of string. Negative indices count from the back: while n = 1 and n = 2 correspond to first and second, n = -1 and n = -2 correspond to last and second-last. n = 0 will return NA.

Details

These functions are vectorized over string and n.

str_extract_currencies() extracts all currency amounts.

str_nth_currency() just gets the nth currency amount from each string. str_first_currency(string) and str_last_currency(string) are just wrappers for str_nth_currency(string, n = 1) and str_nth_currency(string, n = -1).

"-$2.00" and "$-2.00" are interpreted as negative two dollars.

If you request e.g. the 5th currency amount but there are only 3 currency amounts, you get an amount and currency symbol of NA.

Value

A data frame with 4 columns: string_num, string, curr_sym and amount. Every extracted currency amount gets its own row in the data frame detailing the string number and string that it was extracted from, the currency symbol and the amount.

Examples

```
string <- c("ab3 13", "$1", "35.00 $1.14", "abc5 $3.8", "stuff")
str_extract_currencies(string)
str_nth_currency(string, n = 2)
str_nth_currency(string, n = -2)
str_nth_currency(string, c(1, -2, 1, 2, -1))
str_first_currency(string)
str_last_currency(string)
```

---

strex *strex: extra string manipulation functions*

Description

There are some things that I wish were easier with the `stringr` or `stringi` packages. The foremost of these is the extraction of numbers from strings. `stringr` makes you figure out the regex for yourself; `strex` takes care of this for you. There are many more useful functionalities in `strex`. In particular, there's a `match_arg()` function which is more flexible than the base `match.arg()`. Contributions to this package are encouraged: it is intended as a miscellany of string manipulation functions which cannot be found in `stringi` or `stringr`.

Author(s)

Maintainer: Rory Nolan <rorynoolan@gmail.com> (ORCID)

References

Rory Nolan and Sergi Padilla-Parra (2017). filesstrings: An R package for file and string manipulation. The Journal of Open Source Software, 2(14). doi:10.21105/joss.00260.

See Also

Useful links:

- https://rorynolan.github.io/strex/
- https://github.com/rorynolan/strex
- Report bugs at https://github.com/rorynolan/strex/issues

str_alphord_nums *Make string numbers comply with alphabetical order.*

Description

If strings are numbered, their numbers may not *comply* with alphabetical order, e.g. "abc2" comes after `"abc10"` in alphabetical order. We might (for whatever reason) wish to change them such that they come in the order *that we would like*. This function alters the strings such that they comply with alphabetical order, so here `"abc2"` would be renamed to "abc02". It works on file names with more than one number in them e.g. `"abc01def3"` (a string with 2 numbers). All the strings in the character vector `string` must have the same number of numbers, and the non-number bits must be the same.

Usage

```
str_alphord_nums(string)
```

Arguments

`string`	A character vector.

Value

A character vector.

Examples

```
string <- paste0("abc", 1:12)
print(string)
str_alphord_nums(string)
str_alphord_nums(c("abc9def55", "abc10def7"))
str_alphord_nums(c("01abc9def55", "5abc10def777", "99abc4def4"))
str_alphord_nums(1:10)
## Not run:
str_alphord_nums(c("abc9def55", "abc10xyz7")) # error

## End(Not run)
```

str_before_last_dot *Extract the part of a string before the last period.*

Description

This is usually used to get the part of a file name that doesn't include the file extension. It is vectorized over `string`. If there is no period in `string`, the input is returned.

Usage

```
str_before_last_dot(string)
```

Arguments

string	A character vector.

Value

A character vector.

See Also

Other bisectors: before-and-after

Examples

```
str_before_last_dot(c("spreadsheet1.csv", "doc2.doc", ".R"))
```

---

str_can_be_numeric *Check if a string could be considered as numeric.*

Description

After padding is removed, could the input string be considered to be numeric, i.e. could it be coerced to numeric. This function is vectorized over its one argument.

Usage

```
str_can_be_numeric(string)
```

Arguments

string	A character vector.

Value

A logical vector.

Examples

```
str_can_be_numeric("3")
str_can_be_numeric("5 ")
str_can_be_numeric(c("1a", "abc"))
```

`str_detect_all` *Detect any or all patterns.*

Description

Vectorized over `string`.

Usage

```
str_detect_all(string, pattern, negate = FALSE)

str_detect_any(string, pattern, negate = FALSE)
```

Arguments

`string`	A character vector.
`pattern`	A character vector. The patterns to look for. Default is `stringi`-style regular expression. `stringr::coll()` and `stringr::fixed()` are also permissible.
`negate`	A flag. If `TRUE`, inverts the result.

Value

A character vector.

Examples

```
str_detect_all("quick brown fox", c("x", "y", "z"))
str_detect_all(c(".", "-"), ".")
str_detect_all(c(".", "-"), coll("."))
str_detect_all(c(".", "-"), coll("."), negate = TRUE)
str_detect_all(c(".", "-"), c(".", ":"))
str_detect_all(c(".", "-"), coll(c(".", ":")))
str_detect_all("xyzabc", c("a", "c", "z"))
str_detect_all(c("xyzabc", "abcxyz"), c(".b", "^x"))

str_detect_any("quick brown fox", c("x", "y", "z"))
str_detect_any(c(".", "-"), ".")
str_detect_any(c(".", "-"), coll("."))
str_detect_any(c(".", "-"), coll("."), negate = TRUE)
str_detect_any(c(".", "-"), c(".", ":"))
str_detect_any(c(".", "-"), coll(c(".", ":")))
str_detect_any(c("xyzabc", "abcxyz"), c(".b", "^x"))
```

str_elem *Extract a single character from a string, using its index.*

Description

If the element does not exist, this function returns the empty string. This is consistent with `stringr::str_sub()`. This function is vectorised over both arguments.

Usage

```
str_elem(string, index)
```

Arguments

`string`	A character vector.
`index`	An integer. Negative indexing is allowed as in `stringr::str_sub()`.

Value

A one-character string.

See Also

Other single element extractors: `str_elems()`, `str_paste_elems()`

Examples

```
str_elem(c("abcd", "xyz"), 3)
str_elem("abcd", -2)
```

str_elems *Extract several single elements from a string.*

Description

Efficiently extract several elements from a string. See `str_elem()` for extracting single elements. This function is vectorized over the first argument.

Usage

```
str_elems(string, indices, byrow = TRUE)
```

Arguments

string	A character vector.
indices	A vector of integerish values. Negative indexing is allowed as in stringr::str_sub().
byrow	Should the elements be organised in the matrix with one row per string (byrow = TRUE, the default) or one column per string (byrow = FALSE). See examples if you don't understand.

Value

A character matrix.

See Also

Other single element extractors: str_elem(), str_paste_elems()

Examples

```
string <- c("abc", "def", "ghi", "vwxyz")
str_elems(string, 1:2)
str_elems(string, 1:2, byrow = FALSE)
str_elems(string, c(1, 2, 3, 4, -1))
```

---

str_extract_non_numerics

Extract non-numbers from a string.

Description

Extract the non-numeric bits of a string where numbers are optionally defined with decimals, scientific notation and thousand separators.

Usage

```
str_extract_non_numerics(
  string,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  commas = FALSE
)
```

Arguments

string	A string.
decimals	Do you want to include the possibility of decimal numbers (TRUE) or not (FALSE, the default).
leading_decimals	Do you want to allow a leading decimal point to be the start of a number?
negs	Do you want to allow negative numbers? Note that double negatives are not handled here (see the examples).
sci	Make the search aware of scientific notation e.g. 2e3 is the same as 2000.
big_mark	A character. Allow this character to be used as a thousands separator. This character will be removed from between digits before they are converted to numeric. You may specify many at once by pasting them together e.g. big_mark = ",_" will allow both commas and underscores. Internally, this will be used inside a [] regex block so e.g. "a-z" will behave differently to "az-". Most common separators (commas, spaces, underscores) should work fine.
commas	Deprecated. Use big_mark instead.

Details

- str_first_non_numeric(...) is just str_nth_non_numeric(..., n = 1).
- str_last_non_numeric(...) is just str_nth_non_numeric(..., n = -1).

See Also

Other non-numeric extractors: str_nth_non_numeric()

Examples

```
strings <- c(
  "abc123def456", "abc-0.12def.345", "abc.12e4def34.5e9",
  "abc1,100def1,230.5", "abc1,100e3,215def4e1,000"
)
str_extract_non_numerics(strings)
str_extract_non_numerics(strings, decimals = TRUE, leading_decimals = FALSE)
str_extract_non_numerics(strings, decimals = TRUE)
str_extract_non_numerics(strings, big_mark = ",")
str_extract_non_numerics(strings,
  decimals = TRUE, leading_decimals = TRUE,
  sci = TRUE
)
str_extract_non_numerics(strings,
  decimals = TRUE, leading_decimals = TRUE,
  sci = TRUE, big_mark = ",", negs = TRUE
)
str_extract_non_numerics(c("22", "1.2.3"), decimals = TRUE)
```

`str_extract_numbers` *Extract numbers from a string.*

Description

Extract the numbers from a string, where decimals, scientific notation and thousand separators are optionally allowed.

Usage

```
str_extract_numbers(
  string,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)
```

Arguments

`string`	A string.
`decimals`	Do you want to include the possibility of decimal numbers (`TRUE`) or not (`FALSE`, the default).
`leading_decimals`	Do you want to allow a leading decimal point to be the start of a number?
`negs`	Do you want to allow negative numbers? Note that double negatives are not handled here (see the examples).
`sci`	Make the search aware of scientific notation e.g. 2e3 is the same as 2000.
`big_mark`	A character. Allow this character to be used as a thousands separator. This character will be removed from between digits before they are converted to numeric. You may specify many at once by pasting them together e.g. `big_mark = ",_"` will allow both commas and underscores. Internally, this will be used inside a `[]` regex block so e.g. `"a-z"` will behave differently to `"az-"`. Most common separators (commas, spaces, underscores) should work fine.
`leave_as_string`	Do you want to return the number as a string (`TRUE`) or as numeric (`FALSE`, the default)?
`commas`	Deprecated. Use `big_mark` instead.

Details

If any part of a string contains an ambiguous number (e.g. `1.2.3` would be ambiguous if `decimals = TRUE` (but not otherwise)), the value returned for that string will be `NA` and a `warning` will be issued.

With scientific notation, it is assumed that the exponent is not a decimal number e.g. `2e2.4` is unacceptable. Thousand separators, however, are acceptable in the exponent.

Numbers outside the double precision floating point range (i.e. with absolute value greater than 1.797693e+308) are read as `Inf` (or `-Inf` if they begin with a minus sign). This is what `base::as.numeric()` does.

Value

For `str_extract_numbers` and `str_extract_non_numerics`, a list of numeric or character vectors, one list element for each element of `string`. For `str_nth_number` and `str_nth_non_numeric`, a numeric or character vector the same length as the vector `string`.

See Also

Other numeric extractors: `str_nth_number()`, `str_nth_number_after_mth()`, `str_nth_number_before_mth()`

Examples

```
strings <- c(
  "abc123def456", "abc-0.12def.345", "abc.12e4def34.5e9",
  "abc1,100def1,230.5", "abc1,100e3,215def4e1,000"
)
str_extract_numbers(strings)
str_extract_numbers(strings, decimals = TRUE)
str_extract_numbers(strings, decimals = TRUE, leading_decimals = TRUE)
str_extract_numbers(strings, big_mark = ",")
str_extract_numbers(strings,
  decimals = TRUE, leading_decimals = TRUE,
  sci = TRUE
)
str_extract_numbers(strings,
  decimals = TRUE, leading_decimals = TRUE,
  sci = TRUE, big_mark = ",", negs = TRUE
)
str_extract_numbers(strings,
  decimals = TRUE, leading_decimals = FALSE,
  sci = FALSE, big_mark = ",", leave_as_string = TRUE
)
str_extract_numbers(c("22", "1.2.3"), decimals = TRUE)
```

str_give_ext *Ensure a file name has the intended extension.*

Description

Say you want to ensure a name is fit to be the name of a csv file. Then, if the input doesn't end with ".csv", this function will tack ".csv" onto the end of it. This is vectorized over the first argument.

Usage

```
str_give_ext(string, ext, replace = FALSE)
```

Arguments

string	The intended file name.
ext	The intended file extension (with or without the ".").
replace	If the file has an extension already, replace it (or append the new extension name)?

Value

A string: the file name in your intended form.

Examples

```
str_give_ext(c("abc", "abc.csv"), "csv")
str_give_ext("abc.csv", "pdf")
str_give_ext("abc.csv", "pdf", replace = TRUE)
```

str_locate_braces *Locate the braces in a string.*

Description

Give the positions of (,), [,], \{, \} within a string.

Usage

```
str_locate_braces(string)
```

Arguments

string	A character vector

Value

A data frame with 4 columns: `string_num`, `string`, `position` and `brace`. Every extracted brace amount gets its own row in the tibble detailing the string number and string that it was extracted from, the position in its string and the brace.

See Also

Other locators: `str_locate_nth()`

Examples

```
str_locate_braces(c("a{](kkj)})", "ab(]c{}"))
```

`str_locate_nth` *Locate the indices of the* `n`*th instance of a pattern.*

Description

The `n`th instance of an pattern will cover a series of character indices. These functions tell you which indices those are. These functions are vectorised over all arguments.

Usage

```
str_locate_nth(string, pattern, n)

str_locate_first(string, pattern)

str_locate_last(string, pattern)
```

Arguments

`string`	A character vector.
`pattern`	The pattern to look for. The default interpretation is a regular expression, as described in stringi::about_search_regex. To match a without regular expression (i.e. as a human would), use coll(). For details see `stringr::regex()`.
`n`	A vector of integerish values. Must be either length 1 or have length equal to the length of `string`. Negative indices count from the back: while `n = 1` and `n = 2` correspond to first and second, `n = -1` and `n = -2` correspond to last and second-last. `n = 0` will return `NA`.

Details

- `str_locate_first(...)` is just `str_locate_nth(..., n = 1)`.
- `str_locate_last(...)` is just `str_locate_nth(..., n = -1)`.

Value

A two-column matrix. The ith row of this matrix gives the start and end indices of the nth instance of `pattern` in the ith element of `string`.

See Also

Other locators: `str_locate_braces()`

Examples

```
str_locate_nth(c("abcdabcxyz", "abcabc"), "abc", 2)
str_locate_nth(
  c("This old thing.", "That beautiful thing there."),
  "\\w+", c(2, -2)
)
str_locate_nth("abc", "b", c(0, 1, 1, 2))
str_locate_first("abcxyzabc", "abc")
str_locate_last("abcxyzabc", "abc")
```

`str_match_arg` *Argument Matching.*

Description

Match `arg` against a series of candidate `choices`. `arg` *matches* an element of `choices` if `arg` is a prefix of that element.

Usage

```
str_match_arg(
  arg,
  choices = NULL,
  index = FALSE,
  several_ok = FALSE,
  ignore_case = FALSE
)

match_arg(
  arg,
  choices = NULL,
  index = FALSE,
  several_ok = FALSE,
  ignore_case = FALSE
)
```

Arguments

arg	A character vector (of length one unless several_ok = TRUE).
choices	A character vector of candidate values.
index	Return the index of the match rather than the match itself?
several_ok	Allow arg to have length greater than one to match several arguments at once?
ignore_case	Ignore case while matching. If this is TRUE, the returned value is the matched element of choices (with its original casing).

Details

ERRORs are thrown when a match is not made and where the match is ambiguous. However, sometimes ambiguities are inevitable. Consider the case where choices = c("ab", "abc"), then there's no way to choose "ab" because "ab" is a prefix for "ab" and "abc". If this is the case, you need to provide a full match, i.e. using arg = "ab" will get you "ab" without an error, however arg = "a" will throw an ambiguity error.

When choices is NULL, the choices are obtained from a default setting for the formal argument arg of the function from which str_match_arg was called. This is consistent with base::match.arg(). See the examples for details.

When arg and choices are identical and several_ok = FALSE, the first element of choices is returned. This is consistent with base::match.arg().

This function inspired by RSAGA::match.arg.ext(). Its behaviour is almost identical (the difference is that RSAGA::match.arg.ext(..., ignore.case = TRUE) always returns in all lower case; strex::match_arg(..., ignore_case = TRUE) ignores case while matching but returns the element of choices in its original case). RSAGA is a heavy package to depend upon so strex::match_arg() is handy for package developers.

This function is designed to be used inside of other functions. It's fine to use it for other purposes, but the error messages might be a bit weird.

Examples

```
choices <- c("Apples", "Pears", "Bananas", "Oranges")
match_arg("A", choices)
match_arg("B", choices, index = TRUE)
match_arg(c("a", "b"), choices, several_ok = TRUE, ignore_case = TRUE)
match_arg(c("b", "a"), choices,
  ignore_case = TRUE, index = TRUE,
  several_ok = TRUE
)
myword <- function(w = c("abacus", "baseball", "candy")) {
  w <- match_arg(w)
  w
}
myword("b")
myword()
myword <- function(w = c("abacus", "baseball", "candy")) {
  w <- match_arg(w, several_ok = TRUE)
  w
```

```
}
myword("c")
myword()
```

`str_nth_non_numeric` *Extract the* nth *non-numeric substring from a string.*

Description

Extract the nth non-numeric bit of a string where numbers are optionally defined with decimals, scientific notation and thousand separators.

- `str_first_non_numeric(...)` is just `str_nth_non_numeric(..., n = 1)`.
- `str_last_non_numeric(...)` is just `str_nth_non_numeric(..., n = -1)`.

Usage

```
str_nth_non_numeric(
  string,
  n,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  commas = FALSE
)

str_first_non_numeric(
  string,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  commas = FALSE
)

str_last_non_numeric(
  string,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = ""
)
```

Arguments

string	A string.
n	A vector of integerish values. Must be either length 1 or have length equal to the length of string. Negative indices count from the back: while n = 1 and n = 2 correspond to first and second, n = -1 and n = -2 correspond to last and second-last. n = 0 will return NA.
decimals	Do you want to include the possibility of decimal numbers (TRUE) or not (FALSE, the default).
leading_decimals	Do you want to allow a leading decimal point to be the start of a number?
negs	Do you want to allow negative numbers? Note that double negatives are not handled here (see the examples).
sci	Make the search aware of scientific notation e.g. 2e3 is the same as 2000.
big_mark	A character. Allow this character to be used as a thousands separator. This character will be removed from between digits before they are converted to numeric. You may specify many at once by pasting them together e.g. big_mark = ",_" will allow both commas and underscores. Internally, this will be used inside a [] regex block so e.g. "a-z" will behave differently to "az-". Most common separators (commas, spaces, underscores) should work fine.
commas	Deprecated. Use big_mark instead.

See Also

Other non-numeric extractors: str_extract_non_numerics()

Examples

```
strings <- c(
  "abc123def456", "abc-0.12def.345", "abc.12e4def34.5e9",
  "abc1,100def1,230.5", "abc1,100e3,215def4e1,000"
)
str_nth_non_numeric(strings, n = 2)
str_nth_non_numeric(strings, n = -2, decimals = TRUE)
str_first_non_numeric(strings, decimals = TRUE, leading_decimals = FALSE)
str_last_non_numeric(strings, big_mark = ",")
str_nth_non_numeric(strings,
  n = 1, decimals = TRUE, leading_decimals = TRUE,
  sci = TRUE
)
str_first_non_numeric(strings,
  decimals = TRUE, leading_decimals = TRUE,
  sci = TRUE, big_mark = ",", negs = TRUE
)
str_first_non_numeric(c("22", "1.2.3"), decimals = TRUE)
```

str_nth_number *Extract the* nth *number from a string.*

Description

Extract the nth number from a string, where decimals, scientific notation and thousand separators are optionally allowed.

Usage

```
str_nth_number(
  string,
  n,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_first_number(
  string,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_last_number(
  string,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)
```

Arguments

string A string.

n	A vector of integerish values. Must be either length 1 or have length equal to the length of string. Negative indices count from the back: while n = 1 and n = 2 correspond to first and second, n = -1 and n = -2 correspond to last and second-last. n = 0 will return NA.
decimals	Do you want to include the possibility of decimal numbers (TRUE) or not (FALSE, the default).
leading_decimals	Do you want to allow a leading decimal point to be the start of a number?
negs	Do you want to allow negative numbers? Note that double negatives are not handled here (see the examples).
sci	Make the search aware of scientific notation e.g. 2e3 is the same as 2000.
big_mark	A character. Allow this character to be used as a thousands separator. This character will be removed from between digits before they are converted to numeric. You may specify many at once by pasting them together e.g. big_mark = ",_" will allow both commas and underscores. Internally, this will be used inside a [] regex block so e.g. "a-z" will behave differently to "az-". Most common separators (commas, spaces, underscores) should work fine.
leave_as_string	Do you want to return the number as a string (TRUE) or as numeric (FALSE, the default)?
commas	Deprecated. Use big_mark instead.

Details

- str_first_number(...) is just str_nth_number(..., n = 1).
- str_last_number(...) is just str_nth_number(..., n = -1).

For a detailed explanation of the number extraction, see str_extract_numbers().

Value

A numeric vector (or a character vector if leave_as_string = TRUE).

See Also

Other numeric extractors: str_extract_numbers(), str_nth_number_after_mth(), str_nth_number_before_mth()

Examples

```
strings <- c(
  "abc123def456", "abc-0.12def.345", "abc.12e4def34.5e9",
  "abc1,100def1,230.5", "abc1,100e3,215def4e1,000"
)
str_nth_number(strings, n = 2)
str_nth_number(strings, n = -2, decimals = TRUE)
str_first_number(strings, decimals = TRUE, leading_decimals = TRUE)
str_last_number(strings, big_mark = ",")
str_nth_number(strings,
  n = 1, decimals = TRUE, leading_decimals = TRUE,
```

```
  sci = TRUE
)
str_first_number(strings,
  decimals = TRUE, leading_decimals = TRUE,
  sci = TRUE, big_mark = ",", negs = TRUE
)
str_last_number(strings,
  decimals = TRUE, leading_decimals = FALSE,
  sci = FALSE, big_mark = ",", negs = TRUE, leave_as_string = TRUE
)
str_first_number(c("22", "1.2.3"), decimals = TRUE)
```

`str_nth_number_after_mth` *Find the* `n`*th number after the* `m`*th occurrence of a pattern.*

Description

Given a string, a pattern and natural numbers `n` and `m`, find the `n`th number after the `m`th occurrence of the pattern.

Usage

```
str_nth_number_after_mth(
  string,
  pattern,
  n,
  m,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_nth_number_after_first(
  string,
  pattern,
  n,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
```

```
)

str_nth_number_after_last(
  string,
  pattern,
  n,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_first_number_after_mth(
  string,
  pattern,
  m,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_last_number_after_mth(
  string,
  pattern,
  m,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_first_number_after_first(
  string,
  pattern,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
```

```
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_first_number_after_last(
  string,
  pattern,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_last_number_after_first(
  string,
  pattern,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_last_number_after_last(
  string,
  pattern,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)
```

Arguments

string	A character vector.
pattern	The pattern to look for. The default interpretation is a regular expression, as described in stringi::about_search_regex. To match a without regular expression (i.e. as a human would), use coll(). For details see `stringr::regex()`.

n, m
: Vectors of integerish values. Must be either length 1 or have length equal to the length of `string`. Negative indices count from the back: while `1` and `2` correspond to first and second, `-1` and `-2` correspond to last and second-last. `0` will return `NA`.

`decimals`
: Do you want to include the possibility of decimal numbers (`TRUE`) or not (`FALSE`, the default).

`leading_decimals`
: Do you want to allow a leading decimal point to be the start of a number?

`negs`
: Do you want to allow negative numbers? Note that double negatives are not handled here (see the examples).

`sci`
: Make the search aware of scientific notation e.g. 2e3 is the same as 2000.

`big_mark`
: A character. Allow this character to be used as a thousands separator. This character will be removed from between digits before they are converted to numeric. You may specify many at once by pasting them together e.g. `big_mark = ",_"` will allow both commas and underscores. Internally, this will be used inside a `[]` regex block so e.g. `"a-z"` will behave differently to `"az-"`. Most common separators (commas, spaces, underscores) should work fine.

`leave_as_string`
: Do you want to return the number as a string (`TRUE`) or as numeric (`FALSE`, the default)?

`commas`
: Deprecated. Use `big_mark` instead.

Value

A numeric or character vector.

See Also

Other numeric extractors: `str_extract_numbers()`, `str_nth_number()`, `str_nth_number_before_mth()`

Examples

```
string <- c(
  "abc1abc2abc3abc4abc5abc6abc7abc8abc9",
  "abc1def2ghi3abc4def5ghi6abc7def8ghi9"
)
str_nth_number_after_mth(string, "abc", 1, 3)
str_nth_number_after_mth(string, "abc", 2, 3)
str_nth_number_after_first(string, "abc", 2)
str_nth_number_after_last(string, "abc", -1)
str_first_number_after_mth(string, "abc", 2)
str_last_number_after_mth(string, "abc", 1)
str_first_number_after_first(string, "abc")
str_first_number_after_last(string, "abc")
str_last_number_after_first(string, "abc")
str_last_number_after_last(string, "abc")
```

`str_nth_number_before_mth` *Find the* `n`*th number before the* `m`*th occurrence of a pattern.*

Description

Given a string, a pattern and natural numbers `n` and `m`, find the `n`th number that comes before the `m`th occurrence of the pattern.

Usage

```
str_nth_number_before_mth(
  string,
  pattern,
  n,
  m,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_nth_number_before_first(
  string,
  pattern,
  n,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_nth_number_before_last(
  string,
  pattern,
  n,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
```

```
  leave_as_string = FALSE,
  commas = FALSE
)

str_first_number_before_mth(
  string,
  pattern,
  m,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_last_number_before_mth(
  string,
  pattern,
  m,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_first_number_before_first(
  string,
  pattern,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_first_number_before_last(
  string,
  pattern,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
```

```
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_last_number_before_first(
  string,
  pattern,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)

str_last_number_before_last(
  string,
  pattern,
  decimals = FALSE,
  leading_decimals = decimals,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  leave_as_string = FALSE,
  commas = FALSE
)
```

Arguments

`string`	A character vector.
`pattern`	The pattern to look for. The default interpretation is a regular expression, as described in stringi::about_search_regex. To match a without regular expression (i.e. as a human would), use coll(). For details see `stringr::regex()`.
`n, m`	Vectors of integerish values. Must be either length 1 or have length equal to the length of `string`. Negative indices count from the back: while `1` and `2` correspond to first and second, `-1` and `-2` correspond to last and second-last. `0` will return `NA`.
`decimals`	Do you want to include the possibility of decimal numbers (`TRUE`) or not (`FALSE`, the default).
`leading_decimals`	Do you want to allow a leading decimal point to be the start of a number?
`negs`	Do you want to allow negative numbers? Note that double negatives are not handled here (see the examples).

sci	Make the search aware of scientific notation e.g. 2e3 is the same as 2000.
big_mark	A character. Allow this character to be used as a thousands separator. This character will be removed from between digits before they are converted to numeric. You may specify many at once by pasting them together e.g. `big_mark = ",_"` will allow both commas and underscores. Internally, this will be used inside a `[]` regex block so e.g. `"a-z"` will behave differently to `"az-"`. Most common separators (commas, spaces, underscores) should work fine.
leave_as_string	Do you want to return the number as a string (`TRUE`) or as numeric (`FALSE`, the default)?
commas	Deprecated. Use `big_mark` instead.

Value

A numeric or character vector.

See Also

Other numeric extractors: `str_extract_numbers()`, `str_nth_number()`, `str_nth_number_after_mth()`

Examples

```
string <- c(
  "abc1abc2abc3abc4def5abc6abc7abc8abc9",
  "abc1def2ghi3abc4def5ghi6abc7def8ghi9"
)
str_nth_number_before_mth(string, "def", 1, 1)
str_nth_number_before_mth(string, "abc", 2, 3)
str_nth_number_before_first(string, "def", 2)
str_nth_number_before_last(string, "def", -1)
str_first_number_before_mth(string, "abc", 2)
str_last_number_before_mth(string, "def", 1)
str_first_number_before_first(string, "def")
str_first_number_before_last(string, "def")
str_last_number_before_first(string, "def")
str_last_number_before_last(string, "def")
```

---

str_paste_elems *Extract single elements of a string and paste them together.*

Description

This is a quick way around doing a call to `str_elems()` followed by a call of `apply(..., paste)`.

Usage

```
str_paste_elems(string, indices, sep = "")
```

Arguments

string	A character vector.
indices	A vector of integerish values. Negative indexing is allowed as in stringr::str_sub().
sep	A string. The separator for pasting string elements together.

Details

Elements that don't exist e.g. element 5 of "abc" are ignored.

Value

A character vector.

See Also

Other single element extractors: str_elem(), str_elems()

Examples

```
string <- c("abc", "def", "ghi", "vwxyz")
str_paste_elems(string, 1:2)
str_paste_elems(string, c(1, 2, 3, 4, -1))
str_paste_elems("abc", c(1, 5, 55, 43, 3))
```

---

str_remove_quoted *Remove the quoted parts of a string.*

Description

If any parts of a string are quoted (between quotation marks), remove those parts of the string, including the quotes. Run the examples and you'll know exactly how this function works.

Usage

```
str_remove_quoted(string)
```

Arguments

string	A character vector.

Value

A character vector.

See Also

Other removers: str_singleize(), str_trim_anything()

Examples

```
string <- "\"abc\"67a\'dk\'f"
cat(string)
str_remove_quoted(string)
```

`str_singleize` *Remove back-to-back duplicates of a pattern in a string.*

Description

If a string contains a given pattern duplicated back-to-back a number of times, remove that duplication, leaving the pattern appearing once in that position (works if the pattern is duplicated in different parts of a string, removing all instances of duplication). This is vectorized over string and pattern.

Usage

```
str_singleize(string, pattern)
```

Arguments

`string`	A character vector.
`pattern`	The pattern to look for. The default interpretation is a regular expression, as described in stringi::about_search_regex. To match a without regular expression (i.e. as a human would), use coll(). For details see `stringr::regex()`.

Value

A character vector.

See Also

Other removers: `str_remove_quoted()`, `str_trim_anything()`

Examples

```
str_singleize("abc//def", "/")
str_singleize("abababcabab", "ab")
str_singleize(c("abab", "cdcd"), "cd")
str_singleize(c("abab", "cdcd"), c("ab", "cd"))
```

`str_split_by_numbers` *Split a string by its numeric characters.*

Description

Break a string wherever you go from a numeric character to a non-numeric or vice-versa. Keep the whole string, just split it up. Vectorised over `string`.

Usage

```
str_split_by_numbers(
  string,
  decimals = FALSE,
  leading_decimals = FALSE,
  negs = FALSE,
  sci = FALSE,
  big_mark = "",
  commas = FALSE
)
```

Arguments

`string`	A string.
`decimals`	Do you want to include the possibility of decimal numbers (`TRUE`) or not (`FALSE`, the default).
`leading_decimals`	Do you want to allow a leading decimal point to be the start of a number?
`negs`	Do you want to allow negative numbers? Note that double negatives are not handled here (see the examples).
`sci`	Make the search aware of scientific notation e.g. 2e3 is the same as 2000.
`big_mark`	A character. Allow this character to be used as a thousands separator. This character will be removed from between digits before they are converted to numeric. You may specify many at once by pasting them together e.g. `big_mark = ",_"` will allow both commas and underscores. Internally, this will be used inside a `[]` regex block so e.g. `"a-z"` will behave differently to `"az-"`. Most common separators (commas, spaces, underscores) should work fine.
`commas`	Deprecated. Use `big_mark` instead.

Value

A list of character vectors.

See Also

Other splitters: `str_split_camel_case()`

Examples

```
str_split_by_numbers(c("abc123def456.789gh", "a1b2c344"))
str_split_by_numbers("abc123def456.789gh", decimals = TRUE)
str_split_by_numbers(c("22", "1.2.3"), decimals = TRUE)
```

`str_split_camel_case` *Split a string based on CamelCase.*

Description

Vectorized over `string`.

Usage

```
str_split_camel_case(string, lower = FALSE)
```

Arguments

`string`	A character vector.
`lower`	Do you want the output to be all lower case (or as is)?

Value

A list of character vectors, one list element for each element of `string`.

References

Adapted from Ramnath Vaidyanathan's answer at http://stackoverflow.com/questions/8406974/splitting-camelcase-in-r.

See Also

Other splitters: `str_split_by_numbers()`

Examples

```
str_split_camel_case(c("RoryNolan", "NaomiFlagg", "DepartmentOfSillyHats"))
str_split_camel_case(c("RoryNolan", "NaomiFlagg", "DepartmentOfSillyHats",
  lower = TRUE
))
```

str_to_vec *Convert a string to a vector of characters*

Description

Go from a string to a vector whose ith element is the ith character in the string.

Usage

```
str_to_vec(string)
```

Arguments

string	A character vector.

Value

A character vector.

Examples

```
str_to_vec("abcdef")
```

str_trim_anything *Trim something other than whitespace*

Description

The `stringi` and `stringr` packages let you trim whitespace, but what if you want to trim something else from either (or both) side(s) of a string? This function lets you select which pattern to trim and from which side(s).

Usage

```
str_trim_anything(string, pattern, side = "both")
```

Arguments

string	A character vector.
pattern	The pattern to look for. The default interpretation is a regular expression, as described in stringi::about_search_regex. To match a without regular expression (i.e. as a human would), use coll(). For details see `stringr::regex()`.
side	Which side do you want to trim from? `"both"` is the default, but you can also have just either `"left"` or `"right"` (or optionally the shortened `"b"`, `"l"` and `"r"`).

Value

A string.

See Also

Other removers: `str_remove_quoted()`, `str_singleize()`

Examples

```
str_trim_anything("..abcd.", ".", "left")
str_trim_anything("..abcd.", coll("."), "left")
str_trim_anything("-ghi--", "-", "both")
str_trim_anything("-ghi--", "-")
str_trim_anything("-ghi--", "-", "right")
str_trim_anything("-ghi--", "--")
str_trim_anything("-ghi--", "i-+")
```

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