

Package ‘regreplace’

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Title String Matching and Replace Named Groups in Regular Expressions

Language en-US

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Description

Provides functions to match and replace strings based on named groups in regular expressions.

Suggests rmarkdown, knitr

VignetteBuilder knitr

Dependencies R (>= 3.1.0), nlme

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Encoding UTF-8

Imports R6

RoxygenNote 7.3.2

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groups	<i>Extract Named Groups from a String Using a Regex Pattern</i>
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Description

This function extracts named groups from a given string using the specified regex pattern. Named groups in the pattern are denoted using ‘(?P<group_name>...)’ syntax.

Usage

```
groups(pattern, s, ignore.case = F)
```

Arguments

pattern A character string containing the regex pattern with named groups.

s A character string where the pattern will be searched.

ignore.case Logical. If TRUE, the pattern matching is case-insensitive. Default is FALSE.

Value

A named list where names are the named groups and values are the extracted strings. If no matches are found, an empty list is returned.

Examples

```
pattern <- "(?P<name>\\w+) is (?P<age>\\d+)"
s <- "Jane is 25"
groups(pattern, s)
# $name
# [1] "Jane"
# $age
# [1] "25"
```

match_group

Extract a Specific Named Group from a String

Description

This function extracts the value of a specific named group from a string using the provided regex pattern.

Usage

```
match_group(pattern, s, group_name, ignore.case = F)
```

Arguments

pattern A character string containing the regex pattern with named groups.

s A character string where the pattern will be searched.

group_name The name of the group to extract from the match.

ignore.case Logical. If TRUE, the pattern matching is case-insensitive. Default is FALSE.

Value

The extracted value of the specified named group, or NULL if the group is not found.

Examples

```
pattern <- "(?P<name>\\w+) is (?P<age>\\d+)"
s <- "Jane is 25"
match_group(pattern, s, "name")
# [1] "Jane"
```

Replacer*Replacer Class for Regex Operations*

Description

The ‘Replacer’ class encapsulates regex operations using named groups. It allows matching and replacing based on named groups in a regex pattern.

Details

This class provides methods to match and replace parts of a string based on named groups in regular expressions.

Public fields

re A compiled regular expression pattern.

Methods**Public methods:**

- [Replacer\\$new\(\)](#)
- [Replacer\\$match\(\)](#)
- [Replacer\\$replace\(\)](#)
- [Replacer\\$clone\(\)](#)

Method new(): Create a new Replacer object with a regex pattern.

Usage:

```
Replacer$new(
  pattern = ".*?_(?P<date>\\d{8}-\\d{6}( \\(1\\))*)(?P<ext>\\..+)$"
)
```

Arguments:

pattern A character string with a regex pattern that includes named groups.

Returns: A new ‘Replacer’ object.

Examples:

```
r <- Replacer$new(pattern=".*?_(?P<date>\\d{8}-\\d{6}( \\(1\\))*)(?P<ext>\\..+)$")
```

Method match(): Match a string and extract a group by its name.

This method matches the string using the regex pattern and extracts the value of the group specified by ‘group_name’.

Usage:

```
Replacer$match(s, group_name)
```

Arguments:

s A character string to match against the regex pattern.

group_name The name of the group to extract from the match.

Returns: The matched value of the group or 'NULL' if not found.

Examples:

```
r <- Replacer$new(pattern=".*?_(?P<date>\\d{8}-\\d{6})(?P<ext>\\..+)$")
r$match("file_20230905-123456.txt", "date")
```

Method `replace()`: Replace the value of a matched group with a replacement string.

This method replaces the value of the matched group specified by 'group_name' with the 'replacement' string in the input string 's'.

Usage:

```
Replacer$replace(s, group_name, replacement)
```

Arguments:

s A character string to perform the replacement on.

group_name The name of the group to be replaced.

replacement The replacement string.

Returns: A modified string with the group replaced by the replacement.

Examples:

```
r <- Replacer$new(pattern=".*?_(?P<date>\\d{8}-\\d{6})(?P<ext>\\..+)$")
r$replace("file_20230905-123456.txt", "date", "20240905-123456")
```

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
Replacer$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

Examples

```
# Create a new Replacer object
r <- Replacer$new(pattern = ".*?_(?P<date>\\d{8}-\\d{6})(?P<ext>\\..+)$")

# Match a group within a string
r$match("file_20230905-123456.txt", "date")

# Replace the value of a matched group
r$replace("file_20230905-123456.txt", "date", "20240905-123456")

## -----
## Method `Replacer$new`
## -----

r <- Replacer$new(pattern=".*?_(?P<date>\\d{8}-\\d{6})( \\(1\\))* (?P<ext>\\..+)$")

## -----
## Method `Replacer$match`
## -----

r <- Replacer$new(pattern=".*?_(?P<date>\\d{8}-\\d{6})(?P<ext>\\..+)$")
```

```

r$match("file_20230905-123456.txt", "date")

## -----
## Method `Replacer$replace`
## -----

r <- Replacer$new(pattern=".*?_(?P<date>\\d{8}-\\d{6})(?P<ext>\\.\\.+)$")
r$replace("file_20230905-123456.txt", "date", "20240905-123456")

```

replace_group

Replace a Specific Named Group in a String

Description

This function replaces the value of a specific named group in a string using the provided regex pattern.

Usage

```
replace_group(pattern, s, group_name, replacer, ignore.case = F)
```

Arguments

pattern	A character string containing the regex pattern with named groups.
s	A character string where the pattern will be searched.
group_name	The name of the group to be replaced.
replacer	A string that will replace the matched value of the specified group.
ignore.case	Logical. If TRUE, the pattern matching is case-insensitive. Default is FALSE.

Value

A modified string where the matched value of the specified group has been replaced by the ‘replacer’.

Examples

```

pattern <- "(?P<name>\\w+) is (?P<age>\\d+)"
s <- "Jane is 25"
replace_group(pattern, s, "name", "John")
# [1] "John is 25"

```

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