Package: formulops (via r-universe)

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Title Mathematical Operations on R Formula

Version 0.5.0

Description Perform mathematical operations on R formula (add, subtract, multiply, etc.) and substitute parts of formula.

Depends R (>= 3.5)

License GPL-3

Encoding UTF-8

LazyData true

RoxygenNote 7.0.2

Suggests covr, testthat

URL https://github.com/billdenney/formulops

BugReports https://github.com/billdenney/formulops/issues

Repository https://billdenney.r-universe.dev

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```
formula.substituting_formula
```

Convert a substituting_formula object into a regular formula.

Description

Convert a substituting_formula object into a regular formula.

Usage

```
## S3 method for class 'substituting_formula'
formula(x, ...)
```

Arguments

х	the substituting_formula object
	Ignored

Value

A formula with values substituted.

formula_side	Extract formula parts

Description

Extract formula parts

Usage

get_lhs(x)

get_rhs(x)

Arguments ×

```
A formula (or something that can be coerced to a formula) to extract a part from
```

Value

The requested part of the formula as a name or call or NULL if it does not exist.

Functions

- get_lhs: Extract the left hand side (NULL for one-sided formula).
- get_rhs: Extract the right hand side.

modify_formula

Description

Modify a formula by finding some part of it and replacing it with a new value.

Usage

```
modify_formula(formula, find, replace, add_parens = FALSE)
```

Arguments

formula	The formula to modify (may also be a call)
find	A call or name (or list thereof) to search for within the formula
replace	A call or name (or list thereof) to replace the find values
add_parens	Add parentheses if replace is not a name or if it is not already something in parentheses?

Details

Replacement occurs at the first match, so if the replacement list would modify something in the find list, that change will not occur (make two calls to the function for that effect). See the "Replacement is not sequential" examples below.

A special call can be used to expand a formula. If an expansion of arguments is desired to change a single function argument to multiple arguments, 'formulops_expand()' can be used. (See the examples.)

Value

formula modified

Examples

```
modify_formula(a~b, find=quote(a), replace=quote(c))
modify_formula(a~b, find=quote(a), replace=quote(c+d))
modify_formula(a~b/c, find=quote(b/c), replace=quote(d))
# Replacement is not sequential
modify_formula(a~b/c, find=list(quote(b/c), quote(d)), replace=list(quote(d), quote(e)))
modify_formula(a~b/c+d, find=list(quote(b/c), quote(d)), replace=list(quote(d), quote(e)))
# Expanding arguments to functions is possible
modify_formula(a~b(c), find=quote(c), replace=quote(formulops_expand(d, e)))
```

op_formula

Description

Perform a mathematical operation on two formula

Usage

```
op_formula(op, e1, e2)
multiply_formula(e1, e2)
divide_formula(e1, e2)
add_formula(e1, e2)
subtract_formula(e1, e2)
## S3 method for class 'formula'
Ops(e1, e2)
## S3 method for class 'formula'
```

Math(x, ...)

Arguments

ор	The operation to perform either as a name or something that can be coerced into
	a name.
e1, e2, x	The formulae to operate on
	Ignored.

Details

The method for combination depends if the two formula are one- or two-sided.

If both formula are one-sided, the right hand side (RHS) of both are added together with additional parentheses added, if parentheses appear to be needed. If both formula are two-sided, the left hand side (LHS) and RHS are separately added. If one formula is one-sided and the other is two-sided, the LHS is selected from the two-sided formula and the RHS follows rules as though two one-sided formula were added.

multiply_formula Multiply two formula (identical to (a~b) * (c~d)

divide_formula Divide two formula (identical to (a~b) / (c~d)

add_formula Add two formula (identical to (a~b) + (c~d)

subtract_formula Multiply two formula (identical to (a~b) - (c~d)

Ops.formula Supports generic binary operators and a couple of unary operators (see ?Ops).

Math.formula Supports generic unary operators (see ?Math).

simplify_parens

Value

e1 and e2 combined by the operation with the environment from e1. See Details.

Examples

```
op_formula("+", a~b, c~d)
op_formula("+", a~b, ~d)
op_formula("+", ~b, c~d)
op_formula("+", ~b, ~d)
op_formula("-", a~b)
op_formula("-", -a~b) # Dumb, but accurate
op_formula("-", -a~b, c~-d) # Dumb, but accurate
```

log(a~b)

simplify_parens *Remove extraneous parentheses from a formula.*

Description

Remove extraneous parentheses from a formula.

Usage

simplify_parens(x)

Arguments

x The formula (or call) to simplify

Value

The simplified formula

Examples

simplify_parens(((a))~((b+c)))

substituting_formula A substituting formula helps clarify a formula where the parameters are more simply described in separate formulae.

Description

A substituting formula helps clarify a formula where the parameters are more simply described in separate formulae.

Usage

```
substituting_formula(x, ...)
```

as_substituting_formula(x, substitutions)

Arguments

Х	The base formula
	Supporting formula of the form $x1^x2+x3*x4$
substitutions	A list of supporting formula.

Details

Formula are substituted in order. Substitutions may not have the same left hand side.

Value

A substituting_formula object which may be coerced into a single formula with an as.formula() method or printed as a list of formulae.

Functions

• as_substituting_formula: Generate and check substituting_formula

Examples

```
foo <- substituting_formula(y~x1+x2, x1~x3*x4, x2~x5/x6+x7)
as.formula(foo)</pre>
```

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