

Package: picosatire (via r-universe)

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Type Package

Title SAT Solver using 'PicoSAT'

Version 1.0.0.9000

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URL <https://github.com/coolbutuseless/picosatire>

BugReports <https://github.com/coolbutuseless/picosatire/issues>

Description A solver for Boolean satisfiability problems ('SAT') using the 'PicoSAT' library. For this solver, 'SAT' problems can be formulated in two ways; using integer literals, or using logical expressions specified with the 'satire' package.

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Encoding UTF-8

RoxygenNote 7.3.2

Imports satire (>= 1.0.0.9000)

Suggests knitr, glue, purrr, ggplot2, rmarkdown, testthat (>= 3.0.0)

Config/testthat/edition 3

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Remotes coolbutuseless/satire

VignetteBuilder knitr

Config/pak/sysreqs libicu-dev

Repository <https://coolbutuseless.r-universe.dev>

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pico_solve_literals *Solve simple using literals*

Description

Solve simple using literals

Usage

```
pico_solve_literals(literals, max_solutions = 1)
```

Arguments

literals integer literals
max_solutions limit number of solutions

Value

Return NULL if problem is unsatisfiable. Otherwise return a list of integer sequences of literals - each sequence is a solution.

Examples

```
pico_solve_literals(c(1, 2, 0, 2, -3, 0))
```

pico_solve_satire *Solve simple using 'satire'*

Description

Solve simple using 'satire'

Usage

```
pico_solve_satire(sat, max_solutions = 1, remove = "^dummy")
```

Arguments

sat	SAT problem definition as created by <code>satire::sat_new()</code> or <code>satire::read_dimacs()</code>
max_solutions	limit number of solutions
remove	regular expression for variables to remove when blocking solutions and assembling values to return. Default: <code>"^dummy"</code> will block all variables starting with the word "dummy" (as this is how the 'satire' package automatically creates dummy variables.) If NULL no variables will be removed.

Value

Return NULL if problem is unsatisfiable. Otherwise return a data.frame of solutions where each column represents a named variable in the problem and each row is a solution.

Examples

```
sat <- satire::sat_new()
satire::sat_add_exprs(sat, "a -> (b & c)")
pico_solve_satire(sat, max_solutions = 10)
satire::sat_solve_naive(sat)
satire::sat_solve_dpll(sat, max_solutions = 10)
```

pico_version

Return a list of version information of the PicoSAT library

Description

Return a list of version information of the PicoSAT library

Usage

```
pico_version()
```

Value

Named list of version information. `PICOSAT_API_VERSION` is the internal C API version, and `release` is the numbering of the software release tarball.

Examples

```
pico_version()
```

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