

NAME

nissy — a Rubik's cube solver and FMC assistant

SYNOPSIS

nissy

nissy *command* [*options...*] When run without any argument an interactive shell is launched, otherwise the provided *command* is executed and nissy terminates. The commands that can be run in the interactive shell are the same that can be run non-interactively and are provided below.

DESCRIPTION

nissy is a Rubik's Cube solver. Its optimal solver function uses Kociemba's one-step algorithm (huge optimal solver), and its performance is comparable to that of Kociemba's implementation in Cube Explorer. nissy can also solve different substeps of the Thistlethwaite's algorithm and more.

COMMANDS

The available *commands* are the following:

commands

List all available commands.

help [*command*]

Display help. If no *command* is given, a generic help message is printed, otherwise a specific help relative to *command* is returned.

print *scramble*

Display a text-only description of the cube obtained after applying *scramble*.

quit Quit nissy.**solve** *step* [*options*] *scramble*

Solve the given *step* on the given *scramble*. By default it finds only one (shortest) solution, without using niss, and it displays the number of moves at the end of the line. The options for the *solve* command are the following:

-m *min*

Only look for solution that are at least *min* moves long.

-M *MAX*

Only look for solution that are at most *MAX* moves long.

-s *n* Try to find *n* solutions.

-a Print all solutions: some solutions are filtered out by default for some steps, for examples EOs that finish with F', with this options they are not.

-n Allow use of NISS.

-o Only find solutions that require the minimum number of moves.

-p Plain style: do not print the number of moves.

-t *n* Use *n* CPU threads. By default nissy uses only 1 thread. Using more than one thread will improve performance, but the optimal number depends on your machine and operating system. Generally, using one less than the number of threads of your CPU works quite well.

-v Verbose mode: print some information during the search and print each solution as it is found instead of only printing them all together at the end.

steps List all available *steps* for the *solve* command.

version

Display version information.

ENVIRONMENT

Data is stored in the folder pointed to by **\$NISSYDATA**. If that variable is unset the folder **\$XDG_DATA_HOME/nissy** or **\$HOME/.nissy** is used instead. If none of this environment variables is defined (e.g. in a non-UNIX system), the current folder is used.

EXAMPLES

The command:

```
nissy solve -v "R'U'FD2L2FR2U2R2BD2LB2D'B2L'R'BD2BU2LU2R'U'F"
```

Returns:

```
Found 0 solutions, searching depth 0...
Found 0 solutions, searching depth 1...
(some more lines)
Found 0 solutions, searching depth 16...
D2 F' U2 D2 F' L2 D R2 D F B2 R' L2 F' U' D
D2 F' U2 D2 F' L2 D R2 D F B2 R' L2 F' U' D (16)
```

The command:

```
nissy solve eofb -m 4 -M 5 -n -s 6 "R'U'FD2L2 FR2 U2R2BD2 L B2 D' B2
L' R'"
```

Returns:

```
U B U' B (4)
U2 D2 B (B) (4)
U2 F R2 F (4)
U2 B U2 B (4)
U2 B (U B) (4)
U' B U B (4)
```

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SOURCE CODE

Source code is available at <https://github.com/sebastianotronto/nissy>