
Clac Manual

Eero Tamminen
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1 Name

Cli — a command line interface for *Clac*().

2 Synopsis

clac [*- options*] [*@filename* | *expression*]

3 Description

Clac is a C-function for expression evaluation. *Cli* acts as an user interface for it.

Cli has three modes of operation:

- An expression is parsed from arguments.
- Without a filename or expression *Cli* enters interactive mode. Expressions are evaluated as they are entered.
- Expressions are read from a file.

If file named 'cli.ini' exists in the current directory, it's executed before anything else is done.

You can exit from interactive mode by giving *Cli* an empty line.

4 Options

Command line options recognized by *Cli*.

- d: Output result in decimals. Default.
- b: Output result in binary decimals.
- o: Output result in octal decimals.
- h: Output result in hex decimals.
- r: Trigonometric arguments in radians. Default.
- g: Trigonometric arguments in degrees.
- c: Complex numbers are output as real and imaginary components 'a+bi'. Default.
- v: Complex numbers are output as vectors '(x, y)'. Default.
- p: Complex numbers are output in polar co-ordinates '(magnitude, direction)'. Trigonometric mode defines whether the direction is in degrees or radians.

5 Characters and Operators

Possible characters and operators in *Cli*:

- All the operators and functions that *Clac* supports.
- Assignment operator '='. Eg. 'test = 3.5'.
- Mode change operator ':'. Look under 'OPTIONS' for available modes. Eg. use ':b' to switch on binary output.
- Variable 'E', containing a transcendental number e ($= \lim_{n \rightarrow \infty} (1 + \frac{1}{n})^n$).
- Variable 'PI', containing a transcendental number π (the ratio of the circumference of a circle to its diameter).
- '?' gives a brief overview of the operators and functions that *Cli* & *Clac* currently support.

You can change the values of all variables including E and Pi (if you're one of those people that insist on π being 3).

6 Limitations

255 character limit for expressions (do you need more?).

7 Examples

◇ *From a command line:*

```
clac '$FF.8 - (("ET * 12) + 5) / 3.7 + (-1)'
```

◇ *Interactively:*

```
clac -g
```

```
Expression: foo = sin(90) + 1
```

```
2.0
```

```
Expression: foo + 2
```

```
4.0
```

```
Expression: a = 1 + 2i
```

```
1.0 + 2.0i
```

```
Expression: b = 2 + 1i
```

```
2.0 + 1.0i
```

```
Expression: a / b
```

```
0.8 + 0.6i
```

Remember to quote needed characters if running *Clac* from command line.

8 Hints

- Use variables.
- Your shell's history buffer could be used to replace *Cli*'s missing history function.

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10 Copyright

Eero Tamminen / puujalka (irc), t150315@cc.tut.fi.

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11 Check also

Sketches of Spain (Miles Davis).