CLI Calculator Manual

(github.com/majestic53/Cli-Calc)

Version 0.1.2

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02/10/12

I. Introduction

CLI Calculator is a small terminal based calculator utility which can be used in conjunction with other terminal based utilities to perform various mathematical operations. CLI Calculator supports alpha-numeric variables as well as a variety of mathematical functions. CLI Calculator can take expressions as input, or if no input is given, the calculator enters an interactive mode.

II. Installation

Instructions for compiling CLI Calc from source code

- **Requirements** (tested on):
  - libmpfr 3 or newer
  - libgmp 3 or newer
  - g++ 4.4.3 or newer
  - make 3.8 or newer

- For Debian:
  - sudo apt-get install build-essential libgmp3-dev libmpfr-dev make

- **Install**:
  - make
  - make install

  (might require administrator privileges)

- **Uninstall**:
  - make uninstall

  (might require administrator privileges)

III. How to Use

In a terminal window, type:

`cli-calc <expression>...` (to evaluate a series of expressions)

or

`cli-calc` (to enter interactive mode)

Once in interactive mode, a prompt (“>> “) will be given. At this point the user can issue expressions, which will be evaluated when the user hits return:

```
>> (2 + 2) * 4 / float 5
3.2
>>
```

Alpha-numeric variables are supported, as well as a variety of mathematical functions (see the section below for a complete list of functions):

```
>> make x fact 10
```
(assign the variable x the value of 10!)

```
>> state
```
(view the contents of the global state)

```
x - - > 3628800
>>
```

(The global state can be reset by issuing the command 'reset')

IV. Functions

When in interactive mode, the user can issue the command 'help' for a full list of available functions.

about	--	print credits
abs	--	absolute value
acos	--	arc cosine
asin	--	arc sine
atan	--	arc tangent
ceiling	--	ceiling (maintains type)
constants	--	e, pi
cos	--	cosine
cosh	--	hyperbolic cosine
fact [n]	--	factorial
fib [n]	--	Fibonacci sequence
float	--	cast to floating-point
floor	--	floor (maintains type)
int	--	cast to integer
ln	--	natural log (log-base-e)
log2	--	log-base-2
log10	--	log-base-10
make	--	assign an id to an expression
rand	--	normalized random numbers (0-1)
reset	--	resets the global state
round	--	round to nearest integer (maintains type)
sin	--	sine
sinh	--	hyperbolic sine
sqr	--	square
sqrt	--	square root
state	--	prints the global state
tan	--	tangent
tanh	--	hyperbolic tangent

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