BRNO UNIVERSITY OF TECHNOLOGY

Faculty of information technology

USER GUIDE

IVSCD CALCULATOR

TEAM CoreDumped

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Content

1. Introduction

This document is a manual for users of IVSCD Calculator. It includes installation procedure and explains the functions with examples.

1.1. Supported platform

Application was tested and works on Ubuntu 64-bit.

1.2. License

This program is provided under GNU General Public License v2.0.

2. Installation & Uninstallation

You can install or uninstall this program either through terminal or the Package Installer on your computer, whichever you prefer.

2.1. Installation through terminal

Make sure you are in the ivscd directory which contains all necessary files.

2.1.1. Debian package

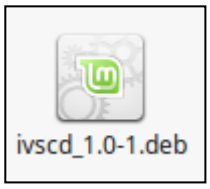
```
$ cd src       # cd to source
$ qmake        # generate makefile
$ make deb     # create debian package
$ sudo dpkg -i ivs_1.0-1.deb     # install with dpkg
```

2.1.2. Direct installation

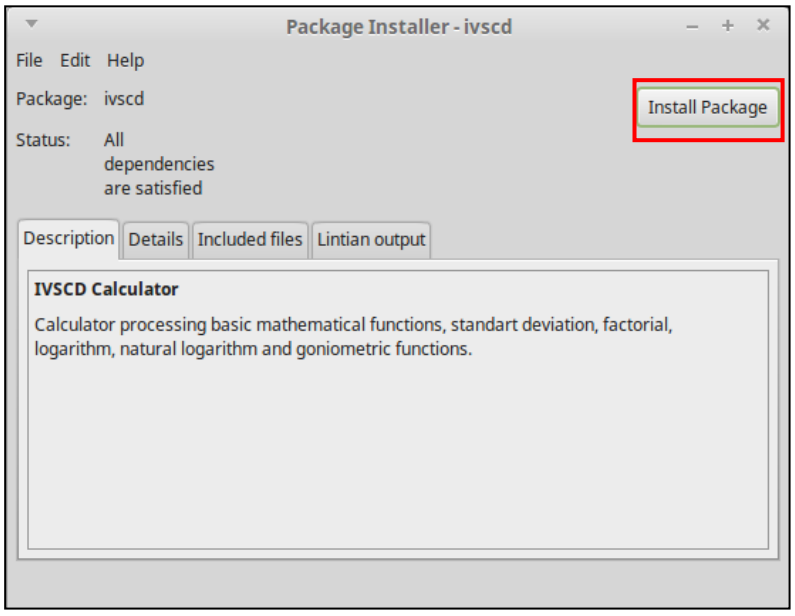
```
$ cd src        # cd to source
$ qmake         # generate makefile
$ make install  # install app (make unistall to remove)
```

2.2. Installation through Package Installer

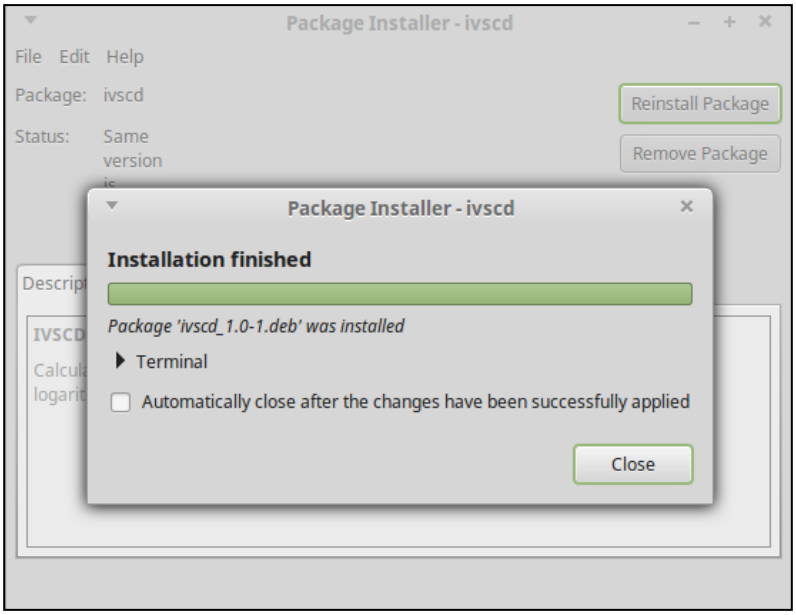
Installing through package installer is really easy. Start by double-clicking on the *ivscd_1.0-1.deb* icon.



This window will show on your screen. Click the Install Package button.



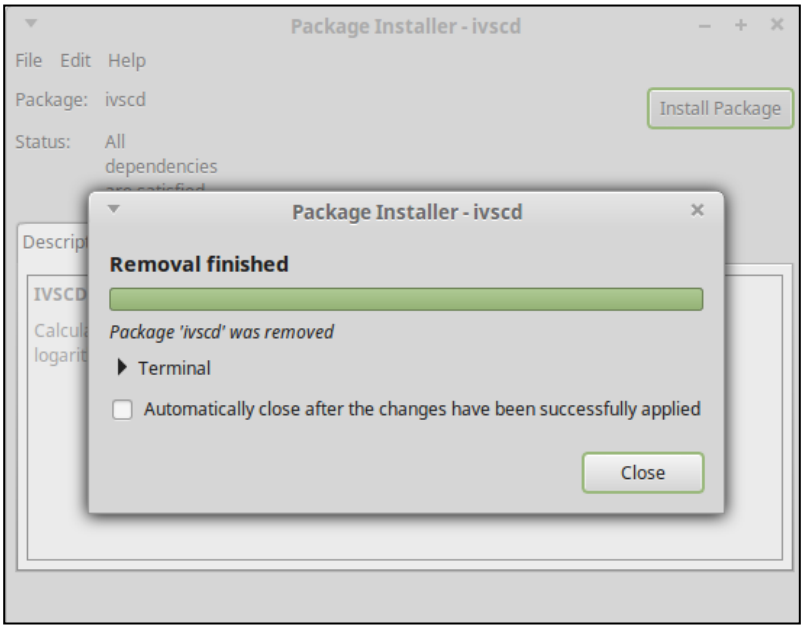
After a moment the package should be installed and this message should show. Now you can close the package installer and run the application.



2.3. Uninstallation through Package Installer

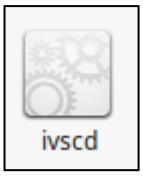
You can uninstall the program exactly like you installed it, except now instead of the *Install Package* you will press the *Remove Package*.

After successfully uninstalling the program, this message will show.



3. Graphical interface

You can start the application by double-clicking on the *ivscd* icon.



On the top of the left panel are three main buttons – basic calculator (Image 1), input through text (Image 2) and standart deviation (Image 3).

Image 1

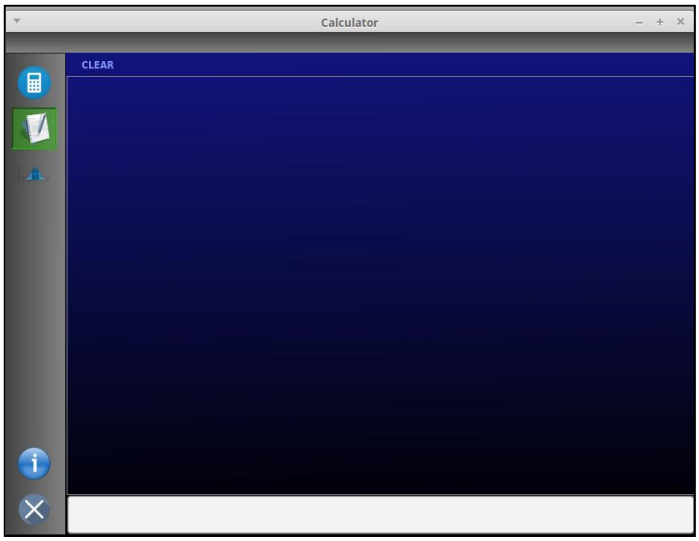


Image 2

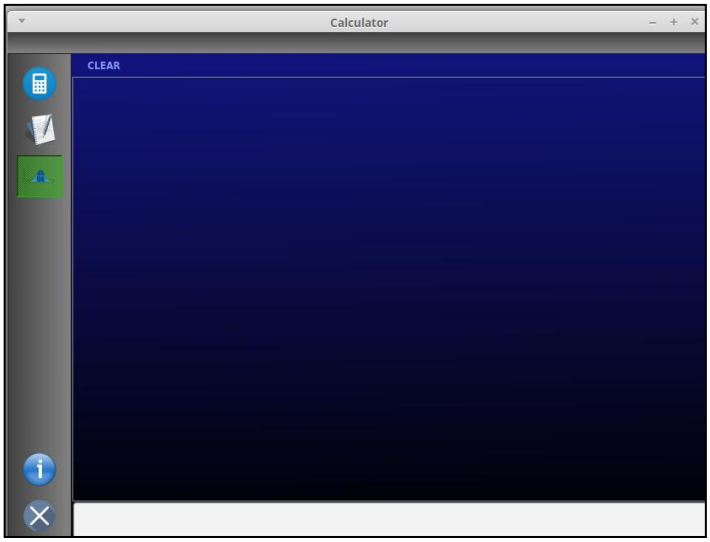


Image 3

3.1. Basic calculator

Values can be entered by pressing buttons on screen or through keyboard.

3.1.1. Numeric values and clear buttons

Buttons 0-9 are used to insert numerical values. If you want to insert a negative number, push the key ‘s’ on your keyboard or push the button ± . Use the point button to enter the decimal part of a number.

If you wish to erase the last value entered, push the C button. If you only want to erase one digit or operator, push the button ⌫ . To wipe any previous equations push the AC button.

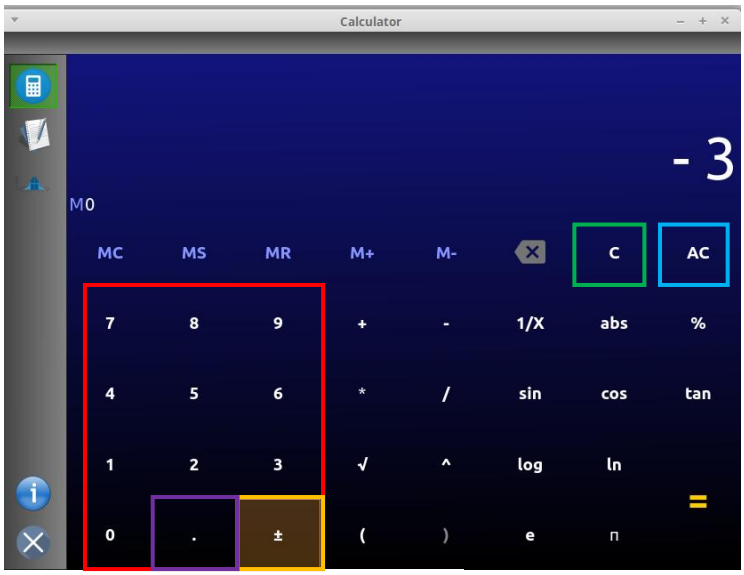


Image 4

3.1.2. Basic functions +,-,*,/,√, ^ and brackets

Basic functions work just as they would on your normal pocket calculator. After entering an equation, press = to get the result. If you want the square root of a number, first push the √ button, then enter the number. *(Image 6)*

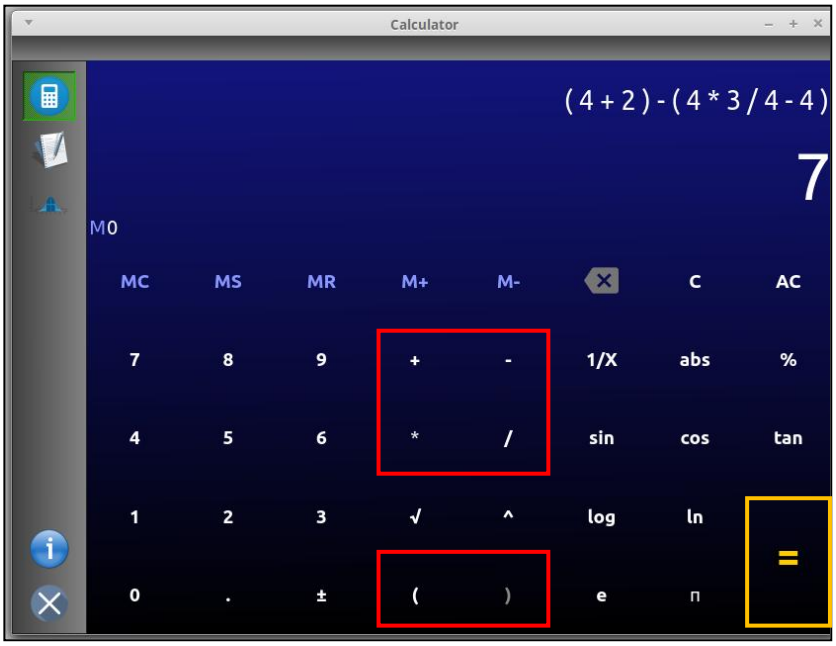


Image 5

Image 6

3.1.3. Functions $\frac{1}{x}$, abs, %

To get the reciprocal of a number, first enter the number, then push the 1/x button, then push = .

Image 7

Function % works as modulus – divides two numbers and returns only the remainder. Function abs returns absolute (positive) value of a number. First push the abs button, then enter the number.

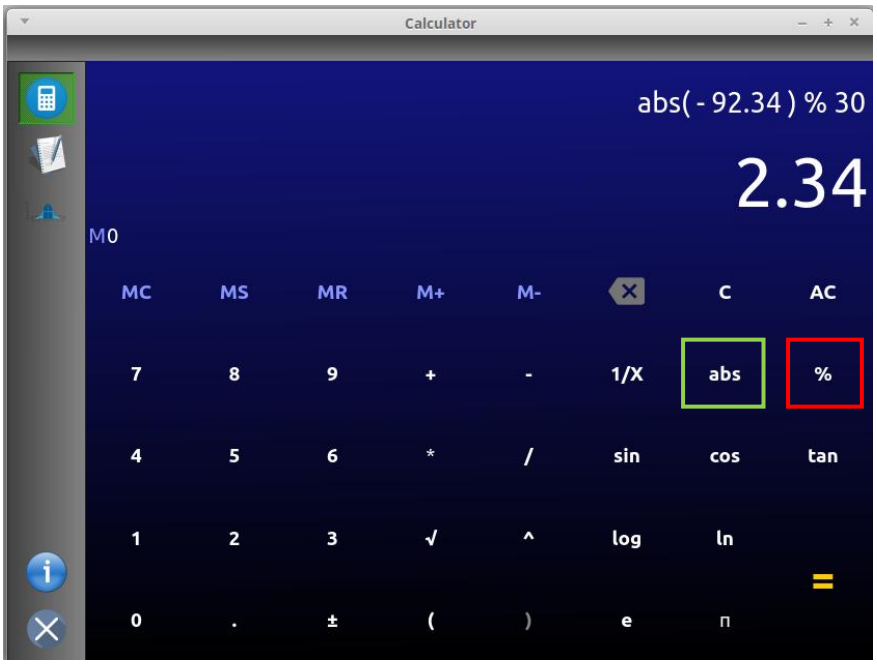


Image 8

3.1.4. Functions *sin, cos, tan, log, ln*

All these functions work the same way. First push the wanted function (sine, cosine, tangent, common logarithm, natural logarithm), then enter the value that the function should process. Common logarithm is the logarithm base 10, natural logarithm is the logarithm base *e*.

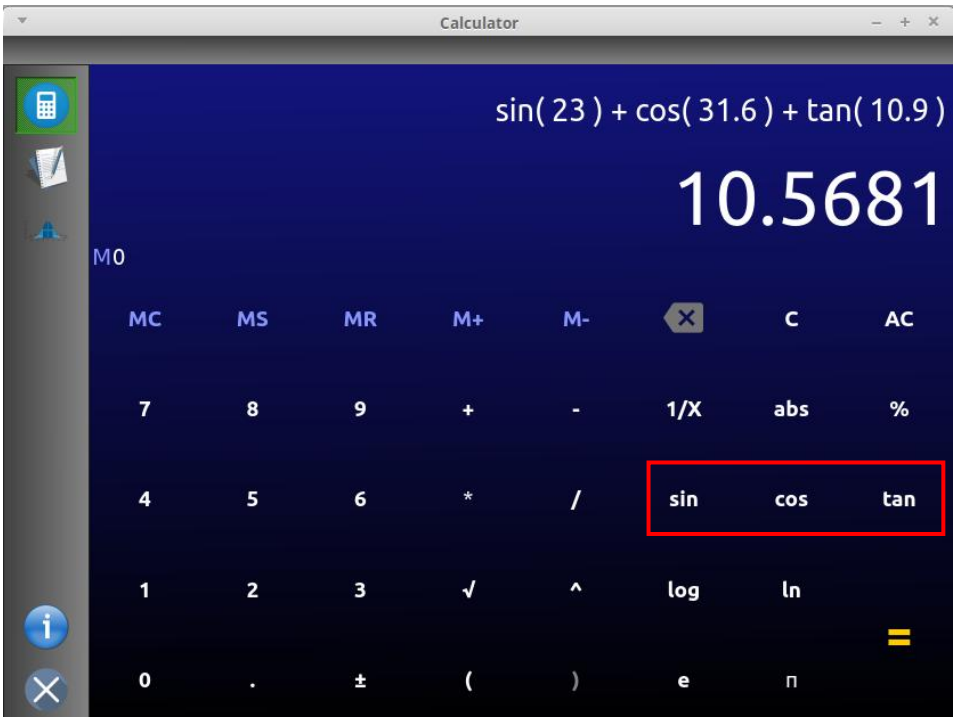


Image 9

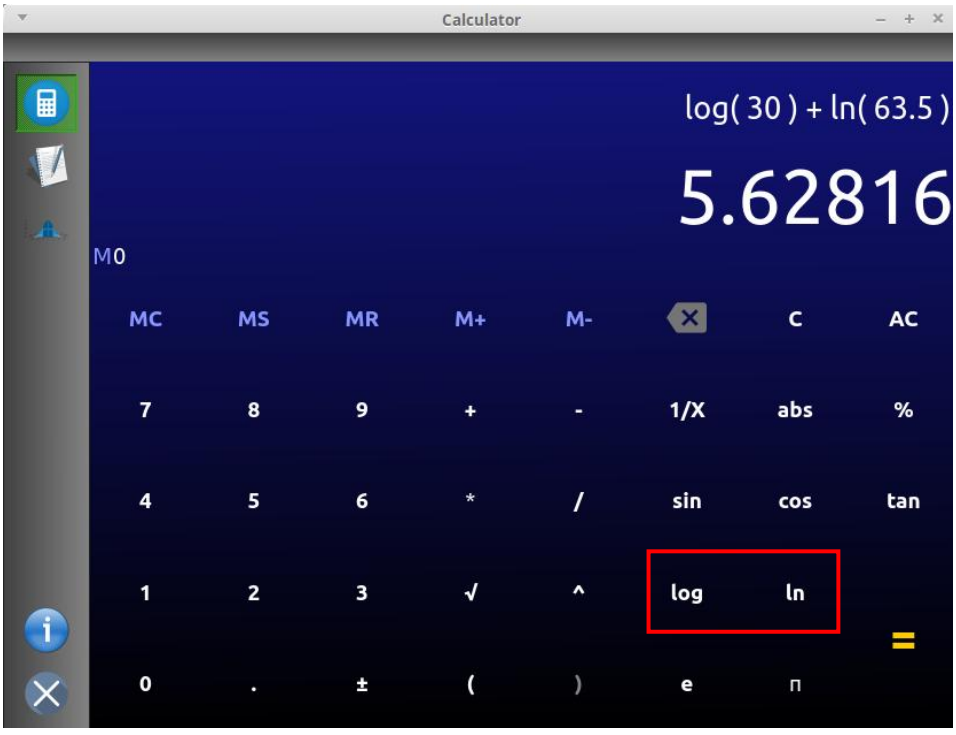


Image 10

3.1.5. Constants *e* and π

When you push *e* button, the Euler`s number ~ **2.71828** will show on screen.

When you push π button, the value of Pi ~ **3.14159** will show on screen.

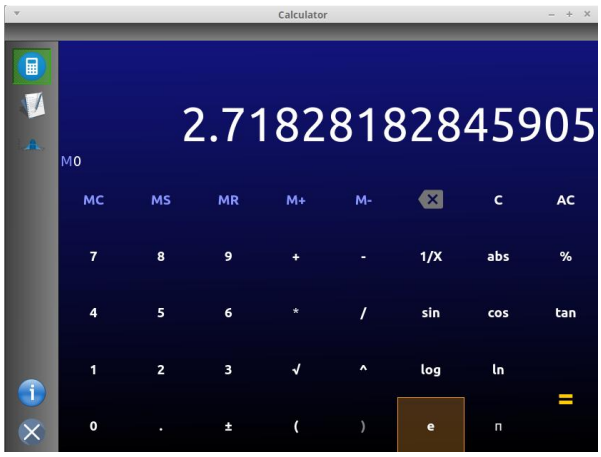


Image 11

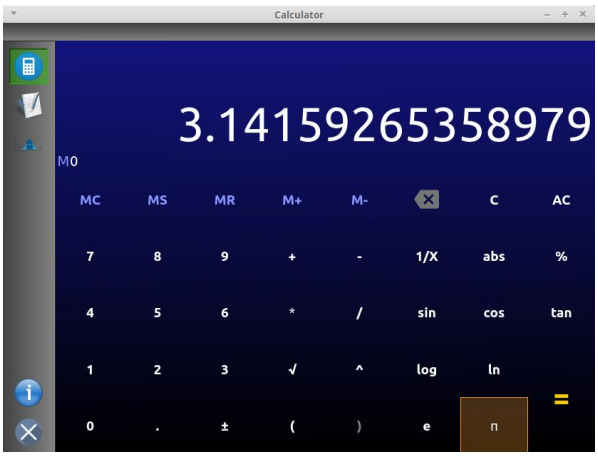


Image 12

3.1.6. Memory functions

MS = Memory Store puts the number on the display into the memory to save. This is useful if you have a number that always needs adding to an equation.

M+/M- = Memory Add (or Subtract) takes the number on the display, adds it to the memory, and puts the result into memory (or subtracts).

MC = Memory Clear will reset the memory to zero.

MR = Memory Recall uses the number in memory, acts as if you had keyed in that number yourself.

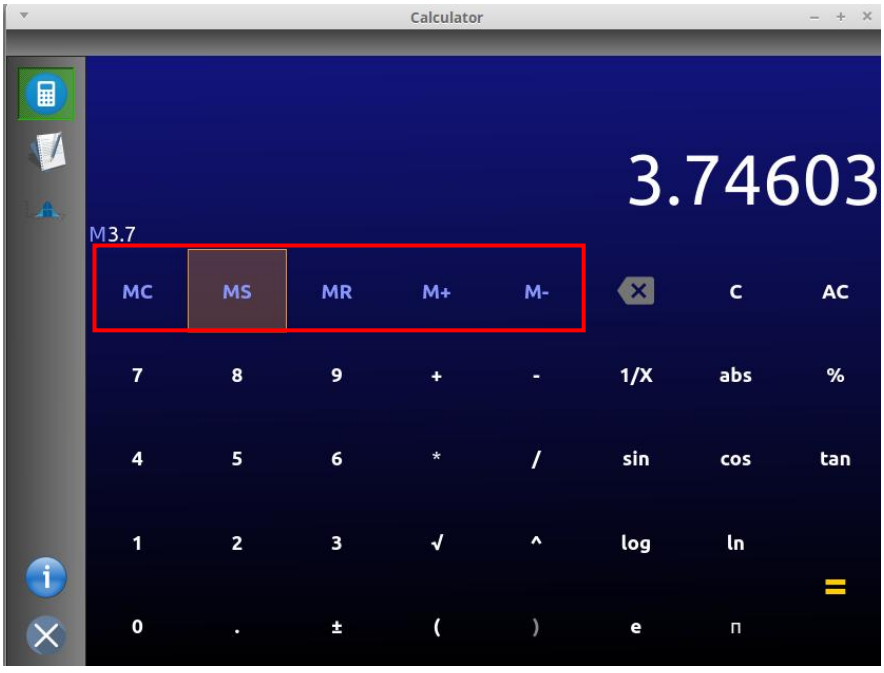


Image 13

3.2. Input through text

This interface works exactly like the graphical version, but you have to input the equations through your keyboard and then press *Enter*. It has one special feature, factorial.

3.2.1. Factorial

Factorial works by typing fact(n) into the command line. The factorial of a non-negative integer n, denoted by n!, is the product of all positive integers less than or equal to n.

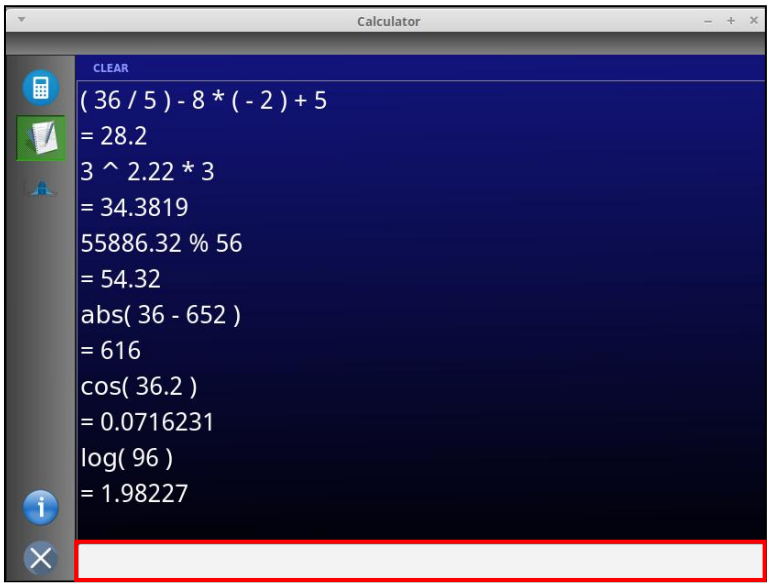


Image 14

3.3. Standart deviation

The standard deviation is a measure that is used to quantify the amount of variation or dispersion of a set of data values.

Tha data is entered as **an array of values separated by spaces**.

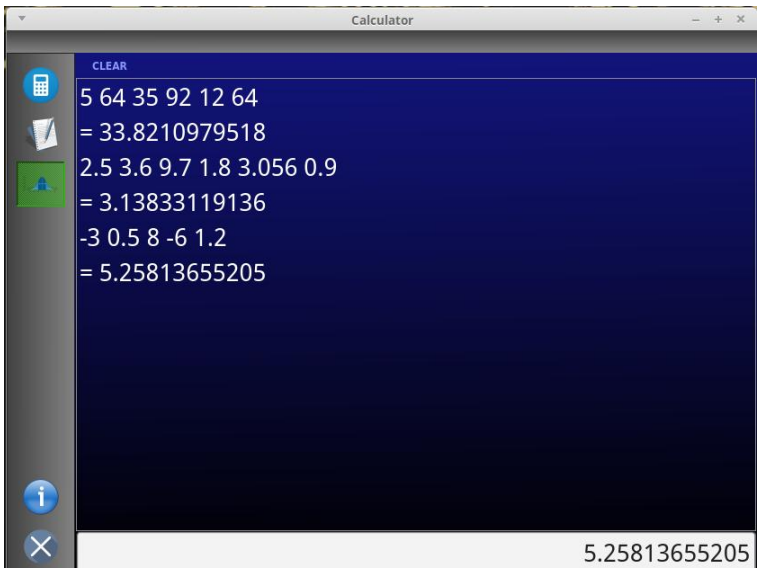


Image 15