

# Calculator User Manual



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# Installation\*

To successfully install calculator, follow these steps:

1. Download installer file "calculator-1.0-linux-x64-installer.run"
2. Open downloaded file "calculator-1.0-linux-x64-installer.run", double click on said file to initiate the installation process\*\*
3. A popup will appear to initiate the installation process, click "forward"
4. By clicking forward you will be taken to a next prompt: "user agreement"
5. To be able to install "calculator" you must accept the user agreement by selecting "I accept the agreement"
6. After accepting "user agreement", continue by pressing forward
7. You will have an option to choose where you want "calculator" to be installed, the default is the location of the installer, but you can select other locations if you enter the path to that location
8. Press forward and you will be taken to the last prompt before installation
9. Press forward again to begin installation
10. Once the installation is complete you can hit finish which will then exit the installer
11. A readme file will pop up, but you can close it
12. You have now successfully installed "calculator"

\*a minimum of python3.10 is required

# Uninstallation

To successfully uninstall "calculator", follow these steps:

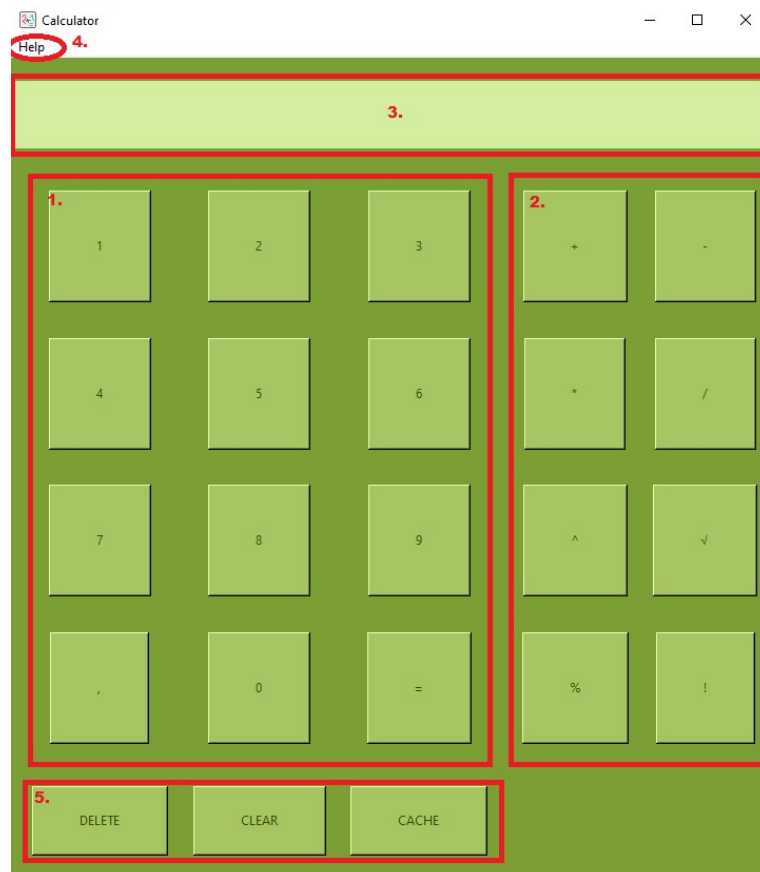
1. Navigate to the folder that contains "calculator" (You have selected the location of this folder during the installation process. This folder should be named "calculator-1.0")
2. Inside this folder you have a couple of files one of them is named "uninstall" (note that there are three uninstall files, but the one we want you to use is the one simply named "uninstall" not "uninstall.dat" or "Uninstallcalculator.desktop" or any other file that is not just "uninstall")
3. To uninstall calculator doubleclick on "uninstall"
4. A pop up will appear asking you if you really want to uninstall, to continue press "YES" to continue
5. Now another popup will show telling you that the uninstallation has been successful, you can close that pop up
6. You have now successfully uninstalled "calculator"

\*\*if the file won't open try (in terminal) "sudo chmod +x calculator-1.0-linux-x64-installer.run" and run it again

# GUI (Graphic User Interface)

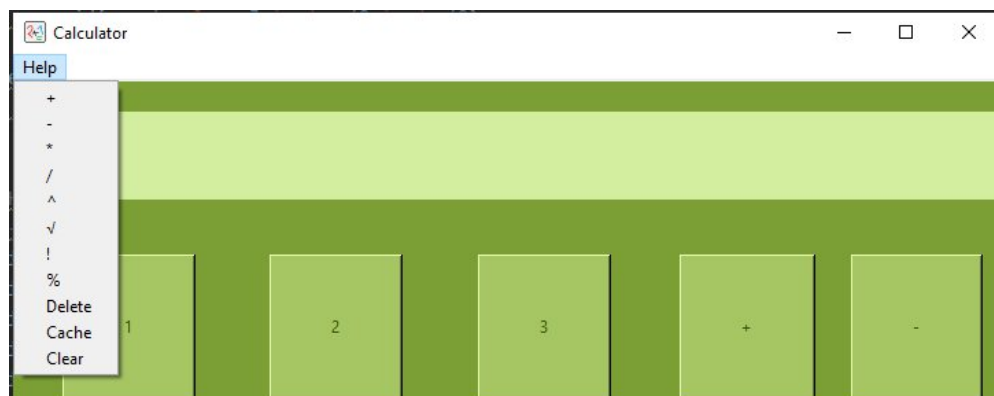
Starting the program opens a window consisting of five sections.

1. Input Keypad
2. Operators keypad
3. Display
4. Dropdown Help-menu
5. Input Editing Key

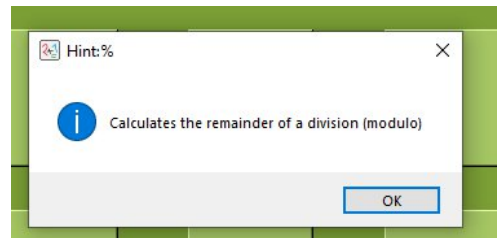
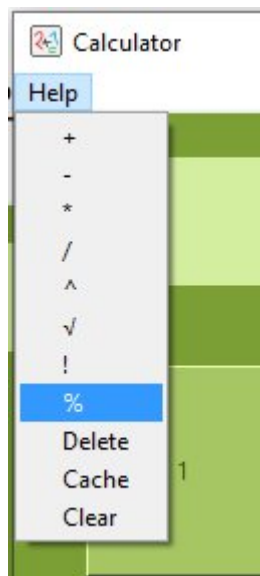


## Help Menu

Clicking on the Help button in the top-left corner. Prompts a dropdown window to appear.



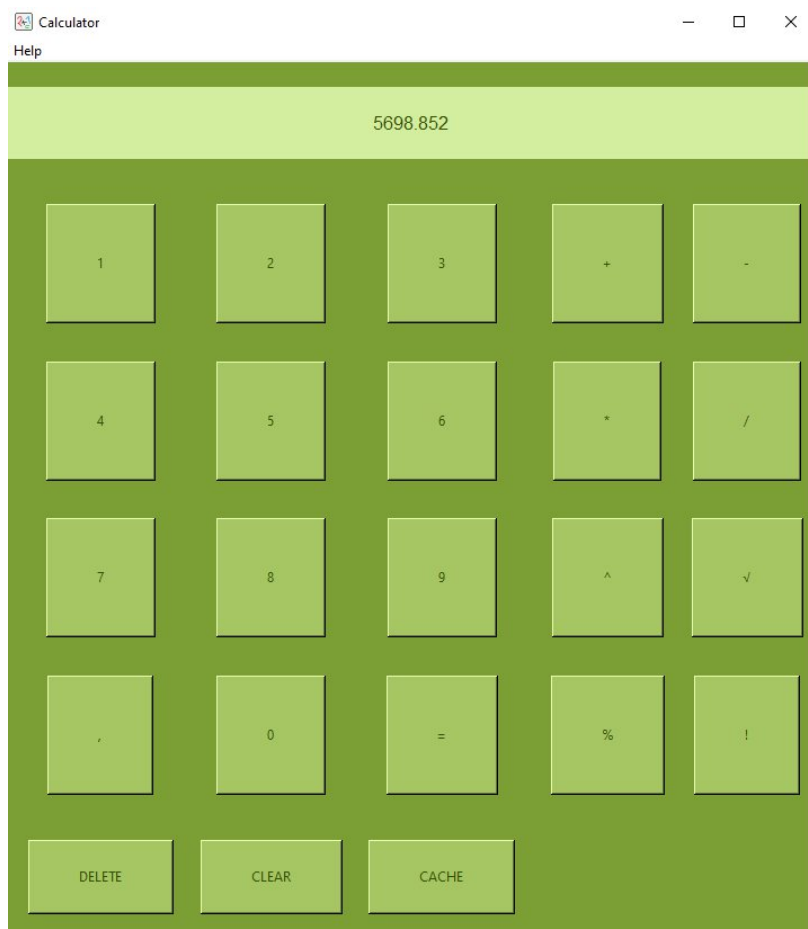
Selecting an option from this menu then opens a pop-up message window displaying a short explanation of the selected function.



## User Input

### Keypad

Clicking on keys (with the exception of the "=" button) will enter the selected number onto the display of the calculator.



## Operators

Clicking on an operator will add it to the user input on the display. In case of operators that require to have a number entered before them, if there was no number given by the user will fill in the position by a default value.

Each of the operators have slightly different input requirements explained below. Stating the default value that will be used and the formatting of the input.

### Addition

**Default value:** 0+

**Format:**  $n_1 + n_2$

### Subtraction

**Default value:** None

Subtraction can signify a negative number, thus has no default value

**Format:**  $n_1 - n_2$

### Multiplication

**Default value:** 0\*

**Format:**  $n_1 * n_2$

### Division

**Default value:** 0/

**Format:**  $n_1 \text{ (dividend)} / n_2 \text{ (divisor)}$

**Special requirements:**  $n_2$  cannot be 0

### The $n$ -th power

**Default value:** 0^

**Format:**  $n_1 ^ n_2$

### The $n$ -th root

**Default value:** 2√

**Format:**  $n_1 \sqrt[n_2]$

**Special requirements:** All numbers must be greater than 0

### Modulo

**Default value:** 0%

**Format:**  $n_1 \text{ (dividend)} \% n_2 \text{ (divisor)}$

**Special requirements:**  $n_2$  cannot be 0

### Factorial

**Default value:** 0!

**Format:**  $n !$

**Special requirements:**  $n$  must be an integer greater than 0

## Input using keyboard

The calculator also supports input through a computer's keyboard. Inputting an expression like this needs to follow the same rules as the input using the keys in the window.

# Calculation

Once a full expression is inputted by the user, pressing the “=” key will calculate the result. Inputting another operator will do the same as well as adding the operator to the input.

Once a result is calculated, it will be saved into “cache” and can be easily input back into the calculator by pressing the “cache” button.

## Special mathematical operations

### Modulo

Calculates the remainder after a division of two numbers.

### Factorial

Multiplies the number by all positive integers preceding it.

*Factorial is defined as:  $n! = n * (n - 1)!$*

# Errors

Errors in the GUI are being handled by pop-up error message boxes. These boxes will provide information about the problem and will stop the user from either inputting in the incorrect format or using operators that cannot be used given the input.

# Authors

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