



Nullpointers calculator

USER GUIDE

Version 1.0
June 11, 2025

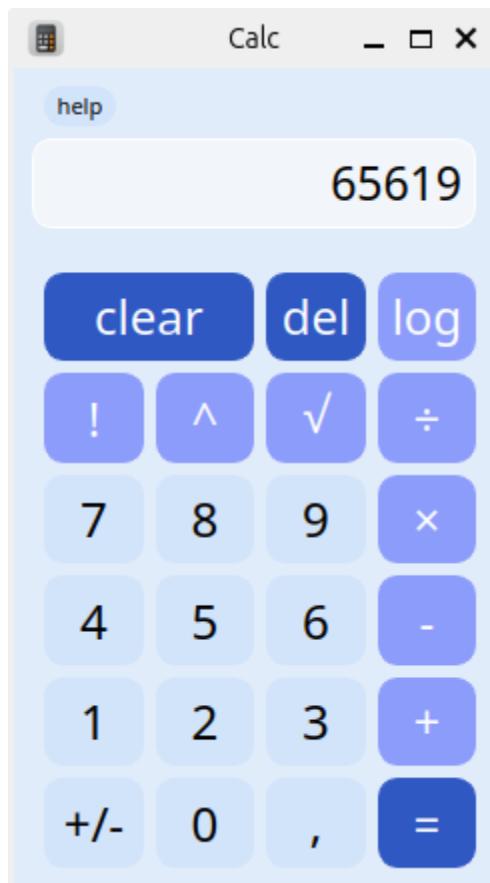


1. Getting started

This application is an advanced calculator with a graphical user interface that supports basic mathematical operations (+, -, *, /), factorial calculation, exponentiation with natural exponents, and the common square root.

Our calculator can be operated using the keyboard and includes built-in help.

The project includes user and program documentation and an installer allowing easy installation and uninstallation of the application.





2. Prerequisites

Before installing and running the calculator app, make sure your system meets the following requirements:

Supported operating systems

Ubuntu 18.04 or newer

Other Debian-based Linux distributions (e.g., Linux Mint, etc.)

Runtime dependencies

No manual installation is needed – all required libraries will be automatically installed when using the provided .deb package.

The app depends on the following system libraries:

- libc6 (>= 2.27)
- libqt5widgets5 (>= 5.15.0)
- libqt5gui5 (>= 5.15.0)
- libqt5core5a (>= 5.15.0)

The recommended free disk space is at least **100 MB**

Note: If you're installing the app on a non-Debian-based distribution or running a custom Linux setup, you may need to manually ensure that these libraries are installed on your system.



3. Installation

🛠 Installation guide (Linux - .deb Package)

To install the latest version of the calculator app, follow these steps:

1. Download the installer

Visit our official GitHub release page:

[🔗 Latest official release - v1.0.0](#)

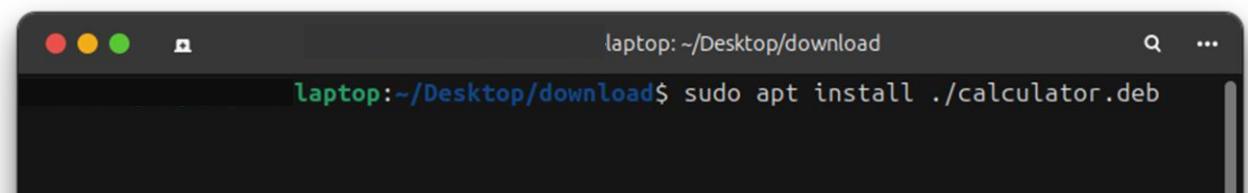
Download the file named `calculator.deb`.

2. Open terminal in the downloads folder

Once the download is complete, open your terminal and navigate to the folder where the .deb file is located (usually the Downloads folder).

3. Install the application

Run the following command to install the app:



A screenshot of a macOS-style terminal window. The title bar says "laptop: ~/Desktop/download". The main pane shows the command: `laptop:~/Desktop/download$ sudo apt install ./calculator.deb`. The terminal has a dark theme with light-colored text.

Enter your password when prompted to confirm the installation as an administrator.

4. Launch the calculator

After the installation finishes, you can find the calculator in your system's application menu.



4. Uninstallation

>If you ever need to remove the calculator app from your system, follow these steps:

1. Open a system terminal

No need to have it open in a specific folder

2. Run the following command:

You will need administrator rights to remove the application

A screenshot of a dark-themed terminal window. At the top, there are three colored window control buttons (red, yellow, green) and a title bar with the text 'laptop: ~/Desktop/download'. In the main area, the command 'laptop:~/Desktop/download\$ sudo apt remove calculator' is typed in blue text. A small white terminal icon is visible on the right side of the window.

3. Confirm the removal

(when prompted) by typing Y and pressing Enter.

After a few seconds, the application should be removed

That's it! The app will be uninstalled from your system.

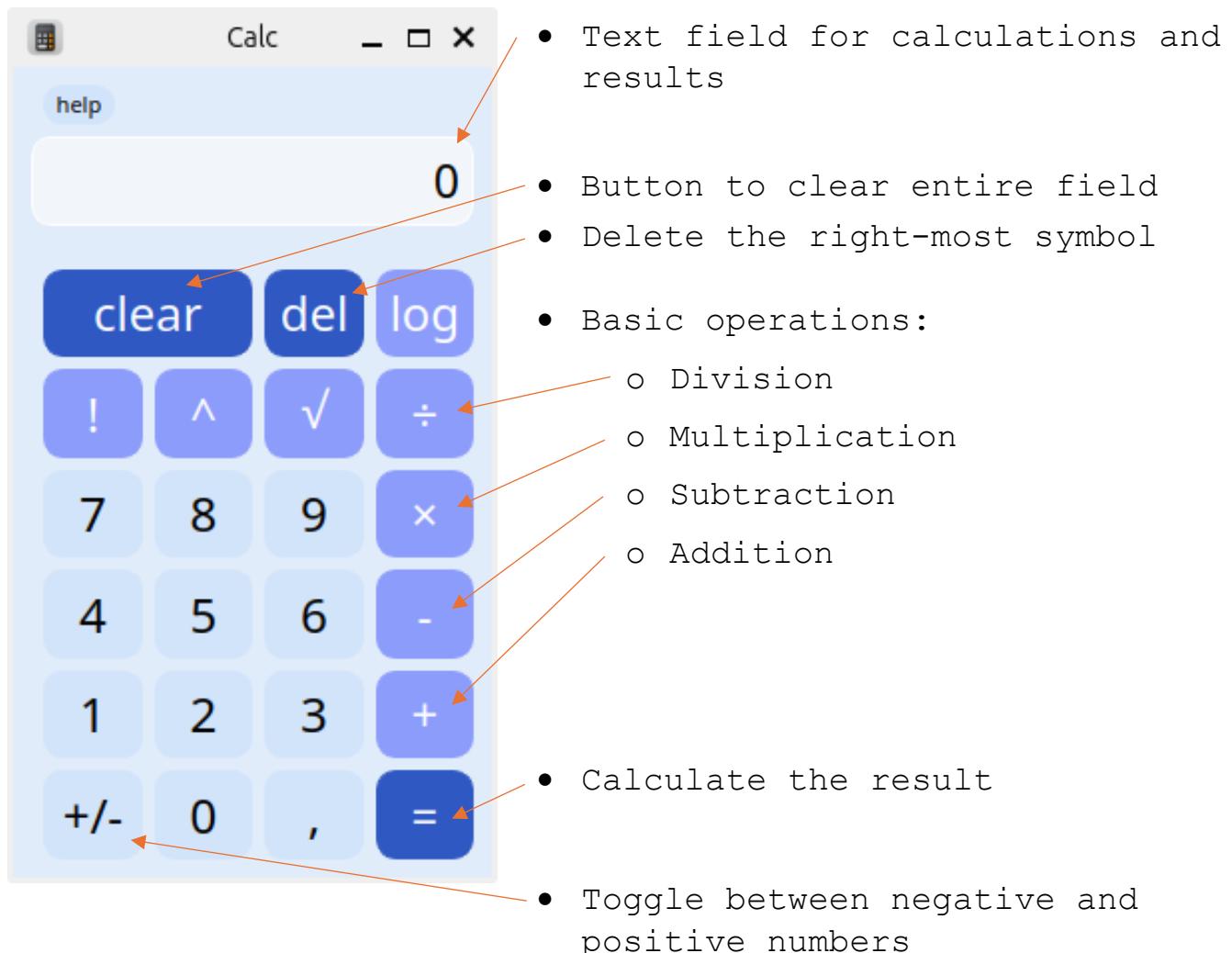


5. User interface

Once you open the app, a clean and simple window pops up.

We designed each button to be as intuitive as possible, so you can jump straight into calculations without any hesitation.

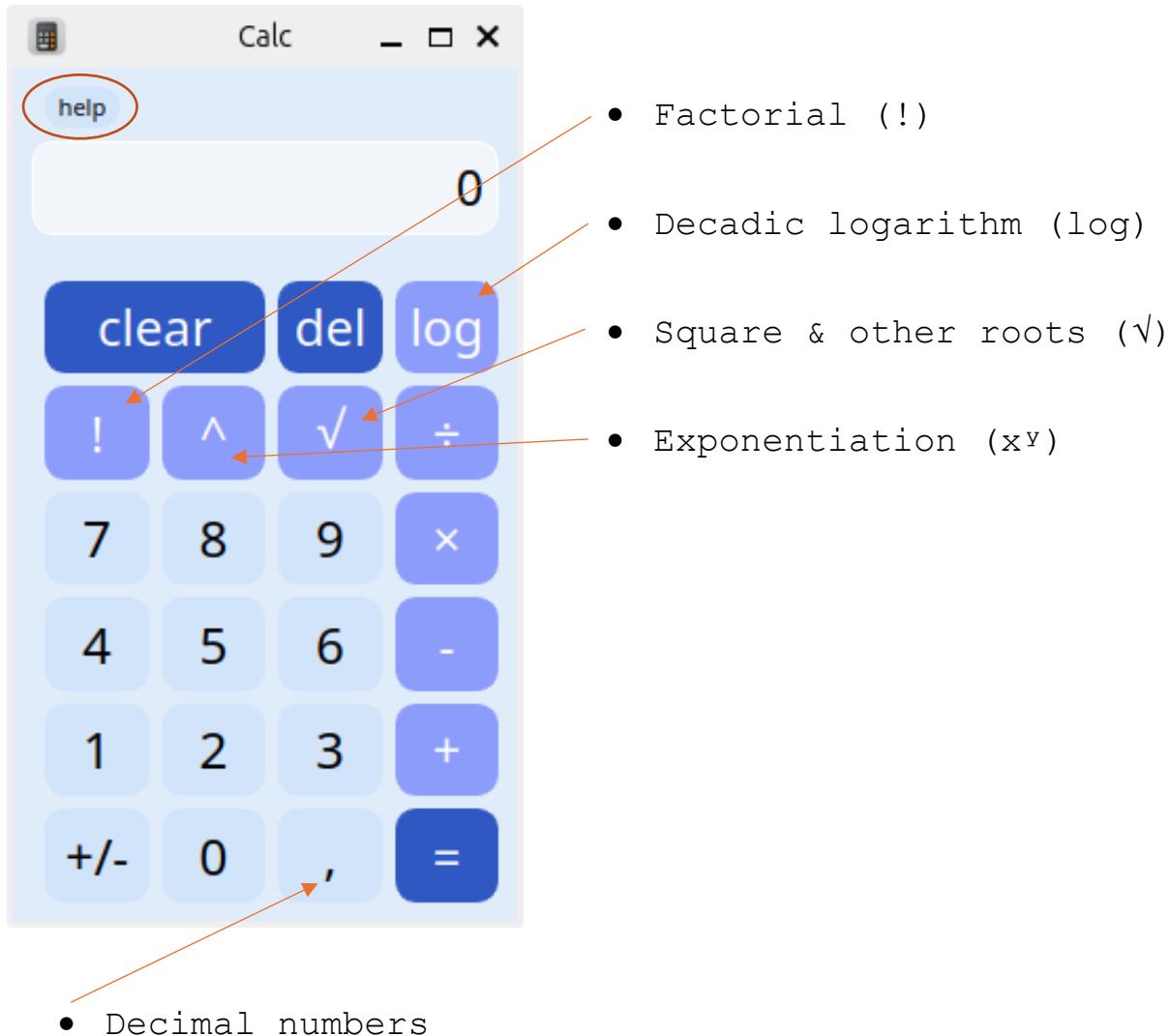
In addition to the standard number pad, the following functions and buttons are what make our calculator stand out.





User interface

The Nullpointers calculator app also supports some more advanced features, such as:



Help dialog

Feeling stuck? Click the Help button in the top part of the window to open a dialog window with tips on how to use each function.



6. Calculator usage

Our calculator is designed with clarity and control in mind. It supports binary operations, meaning calculations happen one step at a time – giving you full control over each operation.

Below is a complete guide to all available features and how to use them (→ symbolizes AND/next action):

⊕ **Binary operations**

After entering the first operation (e.g. 2 + 2), press = or Enter to get the result.

To continue calculating, use the result as the first operand. For example:

2 → + → 2 → Enter → result: 4

then press + 3 → Enter → result: 7

! **Factorial (! or "!" key)**

Pressing the factorial button computes the result immediately

Supports only whole numbers up to 12

5 → ! → result: 120

♾ **Exponentiation (^ or "^^" key)**

Raise a number to a power by typing the base, then press ^, then the exponent.

2 → ^ → 3 → = → result: 8



Calculator usage

💡 Roots ($\sqrt{}$ or **r** key)

Calculate integer roots of numbers.

3 → $\sqrt{}$ → 125 → = → result: 5

💡 Logarithm (log or **l** key)

Calculates the decadic logarithm (log base 10).

Just type a number, then press log.

1000 → log → result: 3

— Toggle sign (+/- / -)

Press the toggle [+/-] button while a number is displayed to toggle its sign.

22 → [+/-] → now it's -22

Pressing [+/-] again will flip it back to positive.

✍ Clear (clear button or **c** key)

Clears the entire input.

Any input → C → input is erased

☒ Delete (del button or backspace key)

Erases only the last character of your input.

123 → DEL → becomes 12

„,” Decimal point (, button or , key)

Allows input of decimal numbers.

3 → , → 5 → becomes 3,5

Close the app by clicking on the X window button in the top right corner



7. Tips and tricks

Make the most out of your calculator with these handy features:

Keyboard controls

You can operate the calculator entirely from your keyboard: great for speed and accessibility!

Just type numbers and operators as you would normally and hit Enter to evaluate.

Lost? Tap Help

If you're unsure what a button does, or need to refresh on the calculator's features:

- Click the Help button in the top left corner.
- A pop-up will guide you through available operations and layout.

Resize to Your preference

Need a better view? You can freely resize the window to match your screen size or workflow setup.



8. Manual installation

Manual installation from source code

If you prefer to build the calculator manually from source, follow the steps below. This is useful for advanced users or contributors who want to explore or modify the codebase.

Prerequisites

Ensure that the following packages and tools are installed on your system:

- g++ (version 9 or newer)
- cmake (version 3.16 or newer)
- make
- Qt5 with the following modules:
 - Core
 - Gui
 - Widgets
 - libc6
- cpack (usually bundled with CMake – for .deb packages)

Installation process

1. Download and extract the repository archive to your desired location, e.g. (~/Desktop/Calculator)
2. Navigate to the Source Directory

```
cd ~/Calculator/src
```

3. Build the Project by running

```
make
```

If the compilation fails, double-check that all dependencies are correctly installed and compatible.

4. Run the Calculator

After a successful build, navigate to the build directory:

```
cd ../build
```



9. FAQs

Is a Windows version supported?

No, the calculator is currently only available for Linux (Debian-based distributions). However, a Windows version is planned for future releases – stay tuned!

Why does my app fail to install?

Here are a few common reasons:

- Missing dependencies
- Unsupported Linux version (Ubuntu 18.04 or newer required)
- Not using sudo during installation
- Make sure to run:

```
sudo apt install ./calculator.deb
```

Can I use logarithms of any base?

Not at the moment – only decadic logarithms (\log_{10}) are supported in this version.

Why doesn't the factorial of 15 work?

The factorial function is limited to 12 due to integer size constraints.

Why don't chained expressions like 1 + 2 + 3 work?

Currently, the calculator only supports single binary operations at a time (e.g., $1 + 2$). Good news: This feature is planned for a future update!



10. Contact & Support

If You have any questions, feedback, or encounter any bugs or issues while using the app, feel free to reach out. We'd love to hear from you!

✉️ **Email:** contact@nullpointers.ivs

Whether it's a bug report, a feature request, or just a suggestion to make the app better, we value all types of feedback.

👤 Authors

This project was developed under the GNU (GPL-3.0) licence by **Team Nullpointers**:

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Thank you for using our calculator app!