# User Documentation for TBD Calculator

This document provides information on the (un)installation of the software and provides information and tutorial on how to use its functions.

# Installation

1. **Download the package:** Navigate to
   [https://github.com/terez01/IVS_projekt2/releases/latest](https://github.com/terez01/IVS_projekt2/releases/latest) and download the
   `tbd-calculator.deb` package.
   (Direct link: [https://github.com/terez01/IVS_projekt2/releases/latest/download/tbd-calculator.deb](https://github.com/terez01/IVS_projekt2/releases/latest/download/tbd-calculator.deb))

2. **Install the package:** Open a terminal and navigate to the directory where you downloaded the `tbd-calculator.deb` package. Then, run the following command as root or using sudo:

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

   ## Uninstalling

   You can uninstall the program by running the following command as root / using sudo:

   ```
   sudo apt remove tbd-calculator
   ```

# Manual Installation

1. **Clone the install branch of repository:**
   ```
   $ git clone -b install https://github.com/terez01/IVS_projekt2.git
   ```

2. **Install program dependencies:** Change directory to /src and run make
   ```
   $ cd IVS_projekt2/src
   $ make
   ```

3. **Generate executable:** Generate an executable using pyinstaller
   a. **Install pyinstaller:** `$ pip install pyinstaller`
   b. **Run pyinstaller:** `$ pyinstaller --onefile --name tbd-calculator window.py --add-data=resources:resources`
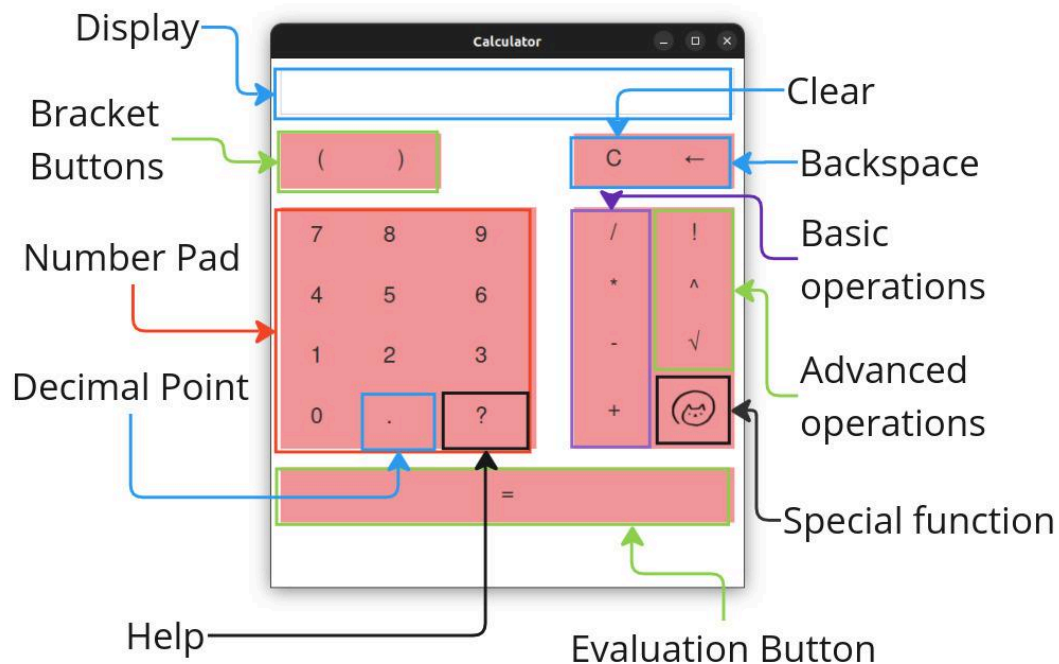
4. **Make program available system wide:**

a. **Move executable:** `# mv dist/tbd-calculator /bin`
b. **Change directory:** `$ cd ../install/`
c. **Copy .desktop file:**
   ```
   # cp
   tbd-calculator/deb/usr/share/applications/tbd-calculator.desktop
   /usr/share/applications
   ```
d. **Copy icon:** `# cp`
   `tbd-calculator/deb/usr/share/pixmaps/tbd-calculator.png`
   `/usr/share/pixmaps`

## Uninstalling

1. **Delete executable:** `# rm /bin/tbd-calculator`
2. **Delete .desktop file:** `# rm /usr/share/applications/tbd-calculator.desktop`
3. **Delete icon:** `# rm /usr/share/pixmaps/tbd-calculator.png`

# Usage

## Window overview



It is possible to input whole mathematical expressions using the **Bracket Buttons**

The **Help** button toggles visibility of usage tips (displayed on button hover) directly in the window.

The **Special Function** will play a meow sound on click

This calculator uses decimal points not commas. No delimiter is displayed to separate character groups (for example the number 1000 will not display as 1.000 nor 1,000)

# Basic Operations

## Division

**A / B**
Division is defined for whole number division as well as decimal. Division by zero will lead to "Error"

## Multiplication

**A * B**
Multiplication is defined for whole numbers as well as decimals.

## Subtraction

**A - B**
Subtraction is defined for whole numbers as well as decimals.
**- A**
The "-" button can be used as a unary minus operator when entering negative numbers.

## Addition

**A + B**
Addition is defined for whole numbers as well as decimals.

# Advanced Operations

## Factorial

**N !**
Calculates the factorial of N. N must be a whole number greater than 0 or "Error" occurs

## Power

**N ^ M**
Returns the Nth power of M

## Root

**N √ M**

Returns the Nth root of M. For positive N decimal values are accepted for the degree(N) as well as for radicant(M). For negative N the degree(N) must be a whole number. For negative M, N must be an odd whole number. Any input not in line with these cases will lead to "Error".

## Clear and Backspace

Clear button "C" clears the whole display. Backspace "←"deletes only the last inputted character