

BRNO UNIVERSITY OF TECHNOLOGY

Faculty of Information Technology

PRACTICAL ASPECTS OF SOFTWARE DESIGN

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User documentation

team: presou

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1 Introduction

This documentation provides detailed instructions for installing and using the **Simple Calculator** and **Standard Deviation** applications, both of which were developed as part of a team project. These applications allow users to perform basic arithmetic operations and calculate the standard deviation of a given set of numbers. Below, you'll find step-by-step guidelines to help you easily set up and start using each of these applications.

2 Installation

The calculator and standard deviation applications are currently supported only on the **Windows** operating system. To install the applications, follow the steps below:

2.1 Prerequisites

- at least 45 MB of free space on your drive
- a stable internet connection
- administrator rights

2.2 Download the repository

Choose the installation method that best suits your needs: use git clone for terminal-based setup or download the repository as a ZIP file for a browser-based installation.

2.2.1 via Terminal

- 1) Open terminal and type:
`git clone https://github.com/jakkkubbb/ivs_projekt_2.git`
- 2) Wait until cloning is complete
- 3) Navigate to the folder where you cloned the repository
- 4) Open the folder in your file explorer

2.2.2 via Web Browser

- 1) Visit the GitHub repository: https://github.com/jakkkubbb/ivs_projekt_2
- 2) On the repository page, click the green Code button at the top-right.
- 3) From the dropdown menu, select Download ZIP.
- 4) Once the ZIP file is downloaded, extract it to a directory on your computer.

2.3 Install the applications

1. Open the extracted folder and navigate to the src directory.
2. Inside the src folder, open the setup directory.
3. In the setup directory, you will find the following installer files:
 - calculator_setup.exe (for the calculator)
 - stddev_setup.exe (for the standard deviation application)

Launch the installer by running the file [**calculator_setup.exe**](#) for the calculator, or [**stddev_setup.exe**](#) for the standard deviation application.

```
ivs_projekt_2 > src > setup
```

Figure 1: Path to find installer files

```
+ calculator_setup
+ stddev_setup
```

Figure 2: Installer files

2.4 Language selection

When you run the installer, a language selection window will appear where you can choose your preferred language from the available options and then click "OK" to continue.

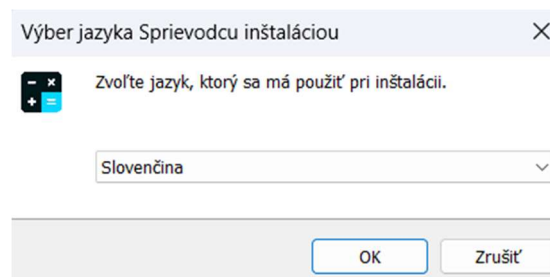


Figure 3: Language selection window

2.5 Finalization

The installation procedure is **identical** for both the Calculator and Standard Deviation applications. Continue through the installation as shown in the screenshots.

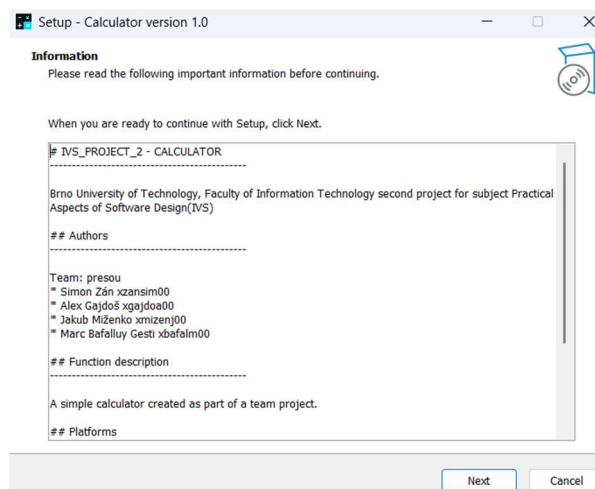


Figure 4: Information window

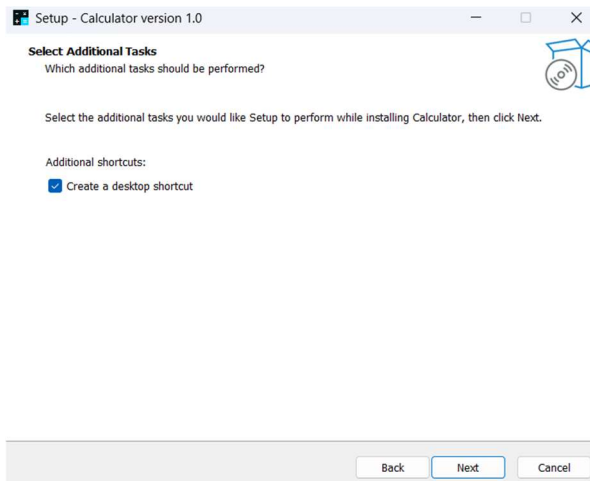


Figure 5: Possibility of creating a desktop shortcut

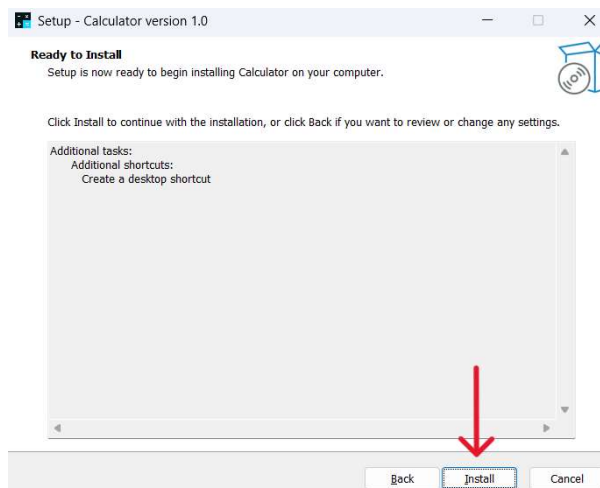


Figure 6: Calculator is ready to install

You should now have the calculator application successfully installed on your device. If you selected the option to create a desktop shortcut during installation, you will find the application icon on your desktop for quick access.

3 Usage - calculator

You can perform calculations by either clicking the buttons on the screen or by typing on your keyboard.

If you are uncertain about any feature or need a reminder about functionality, the **Help section** is always available.

For example:

1. Enter a number
2. Select an operation (+, -, *, /)
3. Enter another number
4. Press '=' or 'Enter' to get the result

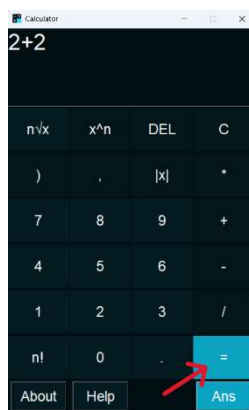


Figure 7: Basic calculation – press '='

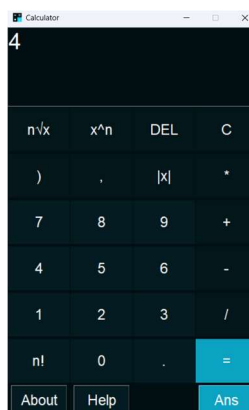


Figure 8: Result of the basic calculation

3.1 Detailed calculation

We will now demonstrate a more advanced calculation example that requires familiarity with the application's syntax. If you are unsure how to enter certain operations into the calculator, you will find a reference table below that explains everything about usage, including available keyword shortcuts for greater efficiency.

Task: $\sqrt{9} + |-2|$

Answer:

1. For the square root ($\sqrt{9}$):
 - Click the root button $n\sqrt{x}$ or press 'r' on your keyboard. This will display `sqrt(` on screen.
 - You must enter it in the exact format: `sqrt(base,root_exponent)`
 - For our case: type 2 (base), comma (separator), then 9 (root exponent)
 - **Crucial:** Don't forget the closing parenthesis `)`
2. For the absolute value ($|-2|$):
 - Click the `|x|` button or press 'a' on keyboard
 - Enter -2 inside the function
 - **Remember:** Close it with `)`
3. Final execution:
 - Press Enter/=
 - Correct result must be 5

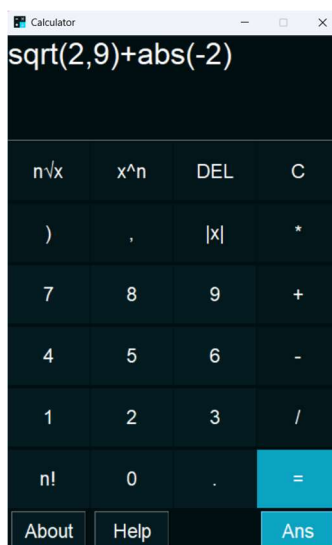


Figure 9: Correct syntax of detailed calculation

3.2 Table of usage

Function	Button	Shortcut	Syntax	Notes
Addition	+	+	$a + b$	
Subtraction	-	-	$a - b$	
Multiplication	*	×	$a * b$	
Division	/	/	a / b	Error if dividing by zero
Exponentiation	x^n	p	pow(base,exp)	
n-th Root	$n\sqrt{x}$	r	sqrt(base,root)	
Absolute Value	x	a	abs(x)	
Factorial	n!	!	fac(n)	Integers only
Decimal Separator	.	.	-	
Closing Bracket))	-	
Clear Entry	C	c	-	Clears current input
Delete Last Character	DEL	Backspace	-	
Last Result (Answer)	Ans	A	-	Uses previous result
Equals/Calculate	=	Enter	-	

4 Usage - stddev

When you start the application, a console window will open.

You can perform calculations by entering numbers separated by spaces.

After entering the numbers, press '**Enter**'.

The application will then display a message showing the calculated standard deviation.

Type '**exit**' to **exit** the application or start typing new numbers to perform another calculation.



Figure 10: Console window displaying user input.



Figure 11: Output after performing the calculations

5 Uninstallation

To remove either the Calculator or Standard Deviation application:

1. Via **Settings**:

- Open **Settings** → **Apps** → **Installed Apps**
- Locate "**Calculator version 1.0**" or "**stddev version 1.0**"
- Click **Uninstall**

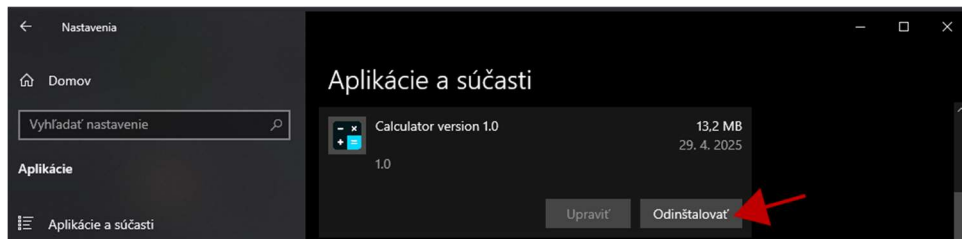


Figure 12: Uninstalling via Settings

2. Via **File Explorer**:

- Navigate to the folder where the application was installed. By default, it is located at **C:** → **Program Files** → "**Calculator**" or "**stddev**"
- Locate the "**unins000**" file.
- Run the uninstaller and confirm to remove the application.

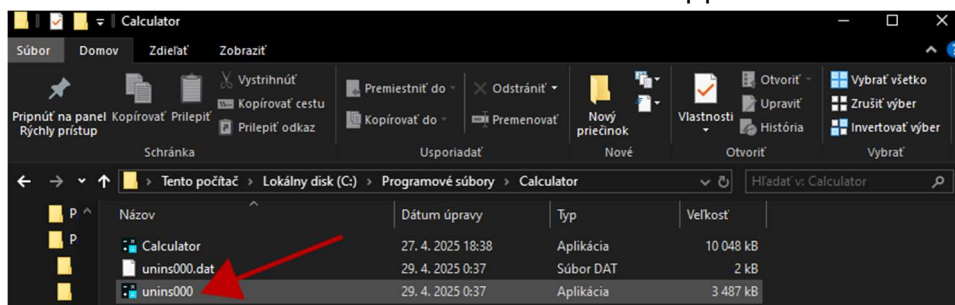


Figure 13: Uninstalling via File Explorer

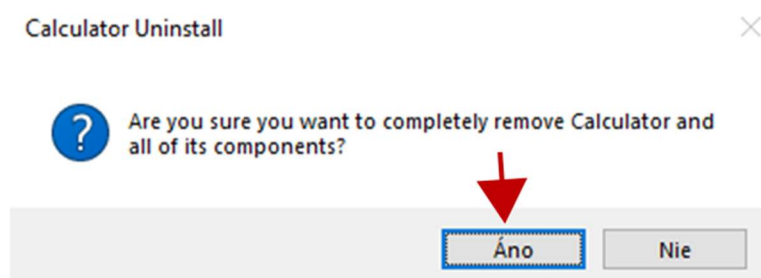


Figure 14: Confirm to remove the application