

BRNO UNIVERSITY OF TECHNOLOGY

Faculty of Information Technology



Practical Aspects of Software Design

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User manual

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Introduction

- Calcu-lajda is a calculator developed by xcsirim00, xgajduv00, xlajdat00 and xvalapm00.
- Distributed under a GNU General Public License v3.0.
- Developed primarily for Ubuntu 22.04 operating system.
- The calculator not only allows you to perform basic arithmetic operations (addition, subtraction, multiplication and division), but also various other, more advanced operations (division modulo, square root, nth power, factorial, absolute value).
- This guide contains instructions on how to install the application, how to uninstall it and how to work with the calculator.
- In addition to the calculator, the installation also includes a program for calculating the sample standard deviation from a sequence of numbers, which the program reads from the standard input according to the following formula:

$$s = \sqrt{\frac{1}{N-1} \left(\sum_{i=1}^N x_i^2 - N\bar{x}^2 \right)} \quad \bar{x} = \frac{1}{N} \sum_{i=1}^N x_i$$

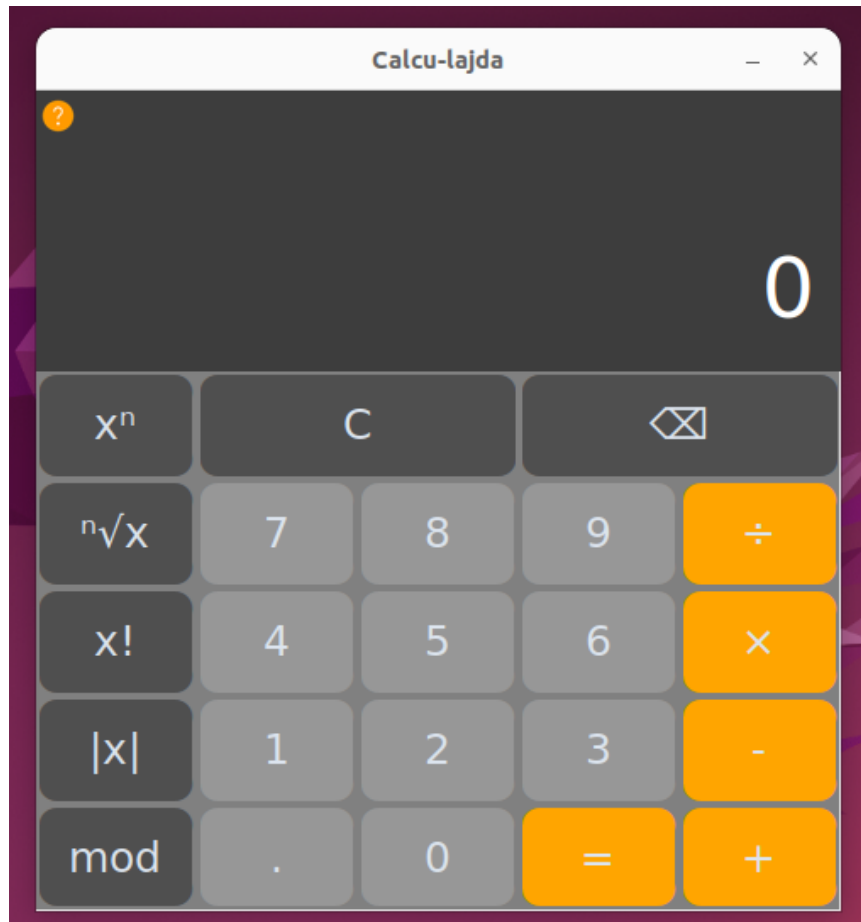
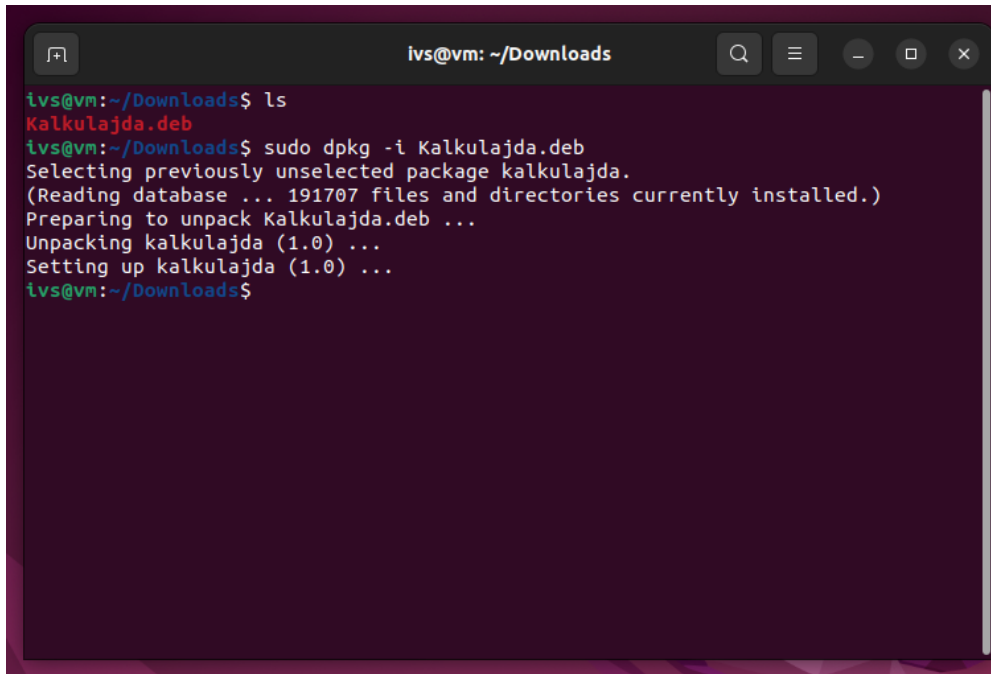


Figure 1: GUI of the Calcu-lajda calculator

Installation

1. Navigate to folder where downloaded 'Kalkulajda.deb' is located
2. Use the following command to install the calculator: `'sudo dpkg -i Kalkulajda.deb'`

A terminal window titled 'ivs@vm: ~/Downloads' with standard window controls. The terminal output shows the user running 'ls' to see 'Kalkulajda.deb', then 'sudo dpkg -i Kalkulajda.deb'. The system responds with status messages: 'Selecting previously unselected package kalkulajda.', '(Reading database ... 191707 files and directories currently installed.)', 'Preparing to unpack Kalkulajda.deb ...', 'Unpacking kalkulajda (1.0) ...', and 'Setting up kalkulajda (1.0) ...'. The prompt returns to 'ivs@vm:~/Downloads\$'.

```
ivs@vm:~/Downloads$ ls
Kalkulajda.deb
ivs@vm:~/Downloads$ sudo dpkg -i Kalkulajda.deb
Selecting previously unselected package kalkulajda.
(Reading database ... 191707 files and directories currently installed.)
Preparing to unpack Kalkulajda.deb ...
Unpacking kalkulajda (1.0) ...
Setting up kalkulajda (1.0) ...
ivs@vm:~/Downloads$
```

Figure 2: Installation process

Usage

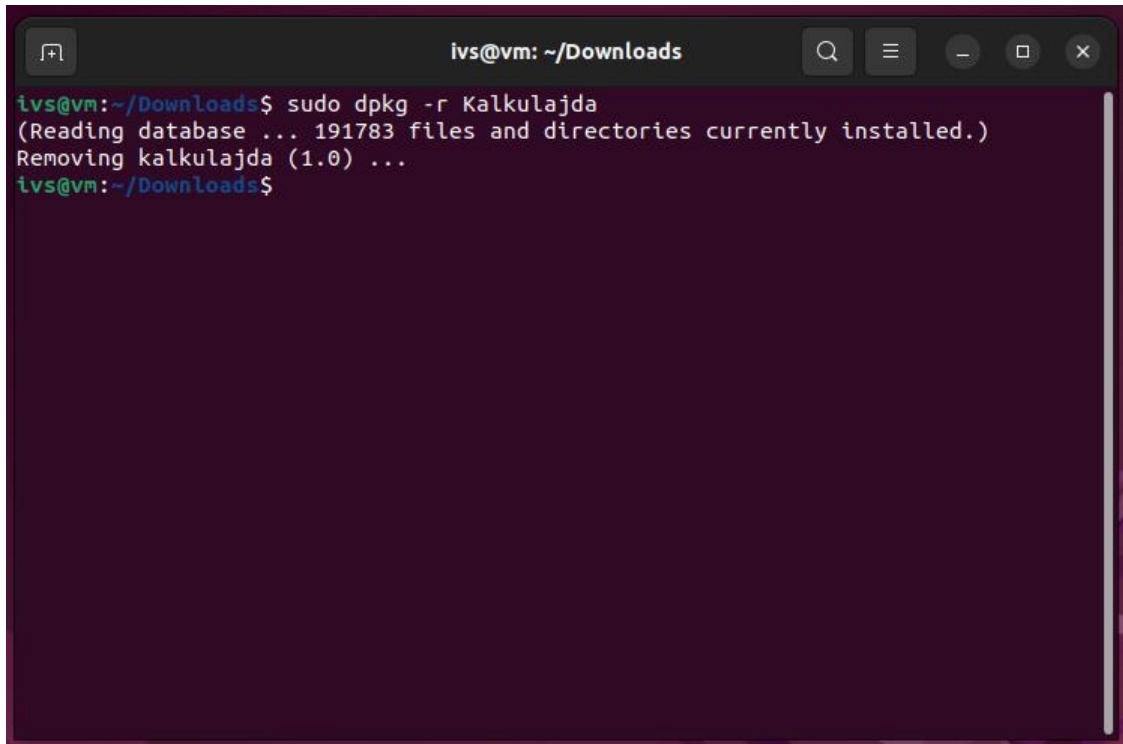
To run the **calculator** from anywhere use command: `'kalkulajda'` – for more info open 'help menu' in the top left corner

You can enter input into the calculator using mouse and buttons in the graphical interface or keyboard.

To run **standard deviation computation program** from anywhere use command: `'kalkulajda_stddev'` (program reads from the standard input)

Uninstallation

1. Uninstall calculator using following command: *'sudo dpkg -r Kalkulajda'*

A terminal window with a dark purple background and a title bar that reads 'ivs@vm: ~/Downloads'. The terminal shows the command 'sudo dpkg -r Kalkulajda' being executed. The output consists of three lines: '(Reading database ... 191783 files and directories currently installed.)', 'Removing kalkulajda (1.0) ...', and a final prompt 'ivs@vm:~/Downloads\$'.

```
ivs@vm:~/Downloads$ sudo dpkg -r Kalkulajda
(Reading database ... 191783 files and directories currently installed.)
Removing kalkulajda (1.0) ...
ivs@vm:~/Downloads$
```

Figure 3: Uninstallation process