

# Project Ratulator

2. IVS Project

FIT BUT



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# 1 Introduction

The aim of this project was to create a fully functional simple graphical calculator with pre-set math functions and documentation.

## 2 Installation

Installation was tested on Arch Linux 6.2.12 x86\_64 and Ubuntu 22.04.2 LTS x64.

### 2.1 Installing from source

```
git clone --recursive https://github.com/Zeftax/ivs2-calculator
cd ivs2-calculator/src && sudo make calc-install
```

The program will be installed to the `/usr/bin` directory.

If you wish to install it elsewhere, set `-DCMAKE_INSTALL_PREFIX:PATH` to your desired destination.

#### 2.1.1 Updating submodules

In the project root directory:

```
git pull && git submodule update --recursive
```

In the respective submodule directory (e.g. `src/extern/ivs2-mathlib`):

```
git pull
```

#### 2.1.2 Uninstalling

```
sudo make calc-uninstall
```

### 2.2 Installing using a deb package

If you're on a Debian-based system, you can use a `.deb` package provided in releases.

Right-click the package and install it using the **Ubuntu Software Centre** or via **terminal**:

```
sudo dpkg -i <package_name.deb>
```

#### 2.2.1 Uninstalling

```
sudo dpkg -r ivs-ratulator
```

### 2.3 Additional targets

Run math library tests:

```
make test
```

Compile profiler:

```
make profile
```

Executable will be located in `_bin` directory.

Generate documentation:

```
make doc
```

## 3 Usage

### 3.1 Buttons

0-9	Number entry
+	Addition
-	Subtraction
*	Multiplication
/	Division
$x \wedge y$	y-th exponent of x
$y\sqrt{x}$	y-th root of x
x!	Factorial of x
(y)log(x)	Logarithm with base y of x
ANS	Use result from the last operation
CE	Clears input and result
←	Deletes the last digit
=	Calculates result
.	Adds a decimal sign

### 3.2 Using mouse

All buttons can be controlled using the mouse.

### 3.3 Using keyboard

0-9	Number entry
+	Addition
-	Subtraction
*	Multiplication
/	Division
l or L	Logarithm
r or R	Root
e or E	Exponent
f or F	Factorial
a or A	ANS
. or ,	Decimal sign
=	Calculates result
Backspace	Deletes the last digit
Delete or c or C	Deletes the whole input

### 3.4 Limitations

Not possible to divide by 0.

Factorial and exponent must be natural numbers.

Root with negative n can't be used on negative x.

Root with positive even n can't be used on negative x.

Log can't be used on numbers 0 and lower.

## 4 Conclusion

The package Ratulator was created by the **The FitnessGram Pacer test is a multistage aerobic capacity test that progressively gets more difficult as it continues. The 20 meter Pacer test will begin in 30 seconds. Line up at the start.** team as the 2. project for IVS in the academic year 2022/2023 at FIT BUT.

### 4.1 Team

Zdeněk Borovec  
Tomáš Krejčí  
Jan Lozrt  
Jakub Mitrenga

### 4.2 Licence

Copyright (C) <2023> <xborov08, xkrejc84, xlozrt00, xmitre07>

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### 4.3 Sources

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