Project Ratulator

2. IVS Project

FIT BUT

Contents

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
$\leftarrow$	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
. or ,	Decimal sign
$=$ or "enter" or "return"	Calculates result
"backspace" or "delete"	Deletes the last digit

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

4.3 Sources

```
Rat emoji clipart - Author: Twitter, CC4.0
https://creazilla.com/nodes/54650-rat-emoji-clipart
```