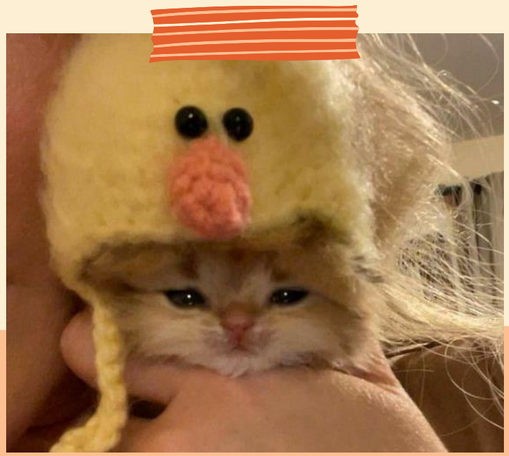
WELCOME TO OUR PRESENTATION

GOLDEN CALCULATOR

Small Golden Cock (SGC) Team

Our team

Maksim Kalutski



"Testing, GUI, Math, Documentation, Presentation"

Volodymyr Kaznacheiev

"Math, GUI, Installer"

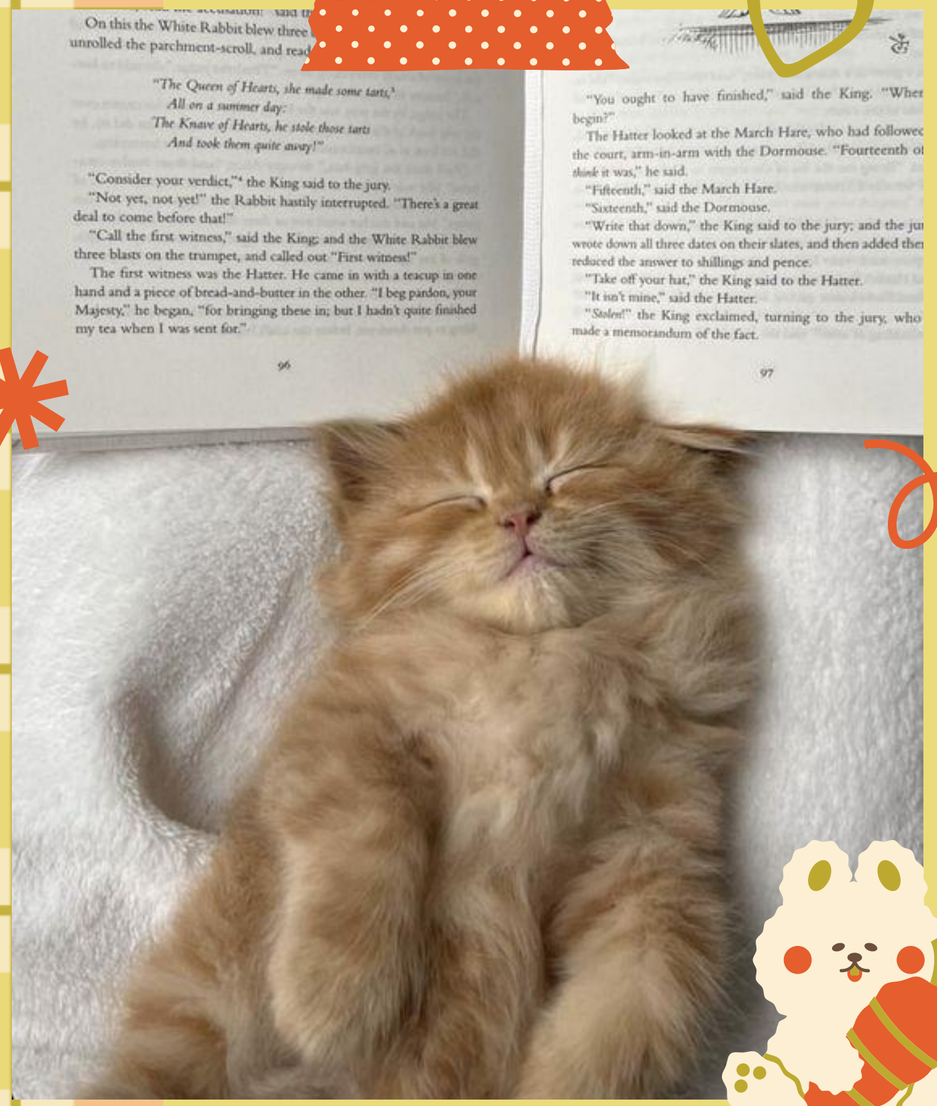
Murad Mikogaziev

"Math, Profiling, Makefile"

Mikhail Pushkarev

"No task assigned"

GUI


On this the White Rabbit blew three
unrolled the parchment-scroll, and read
"The Queen of Hearts, she made some tarts,
All on a summer day:
The Knave of Hearts, he stole those tarts
And took them quite away!"
"Consider your verdict," the King said to the jury.
"Not yet, not yet!" the Rabbit hastily interrupted. "There's a great deal to come before that!"
"Call the first witness," said the King; and the White Rabbit blew three blasts on the trumpet, and called out "First witness!"
The first witness was the Hatter. He came in with a teacup in one hand and a piece of bread-and-butter in the other. "I beg pardon, your Majesty," he began, "for bringing these in; but I hadn't quite finished my tea when I was sent for."
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"You ought to have finished," said the King. "When
begin?"
The Hatter looked at the March Hare, who had followed
the court, arm-in-arm with the Dormouse. "Fourteenth of
think it was," he said.
"Fifteenth," said the March Hare.
"Sixteenth," said the Dormouse.
"Write that down," the King said to the jury; and the ju
wrote down all three dates on their slates, and then added the
reduced the answer to shillings and pence.
"Take off your hat," the King said to the Hatter.
"It isn't mine," said the Hatter.
"Stolen!" the King exclaimed, turning to the jury, who
made a memorandum of the fact.
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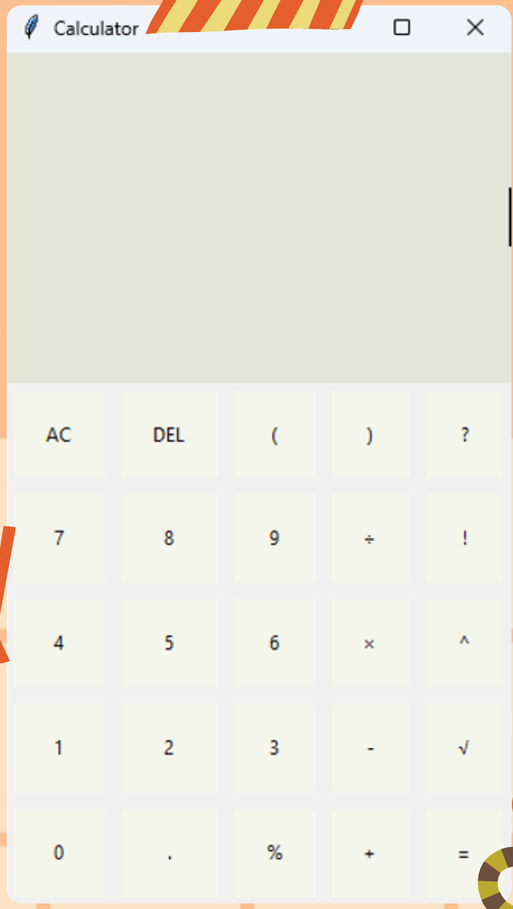
Design

Mockup

Final



Tkinter

GUI Module

- tkinter window
- display
- current expression
- buttons grid

Help

Help

Calculator Usage Instructions:

Use the numeric keys to enter values.
Press 'AC' to clear the display.
Press 'DEL' to delete the last entry.
To use the square root, press '√' followed by the number (e.g., '√9').
To calculate an nth root, type the degree followed by '√' and the number (e.g., '3√8').
If no number precedes '√', it defaults to square root.

OK

Testing

Pytest

pytest

Test Case Coverage

Test Results 0 ms

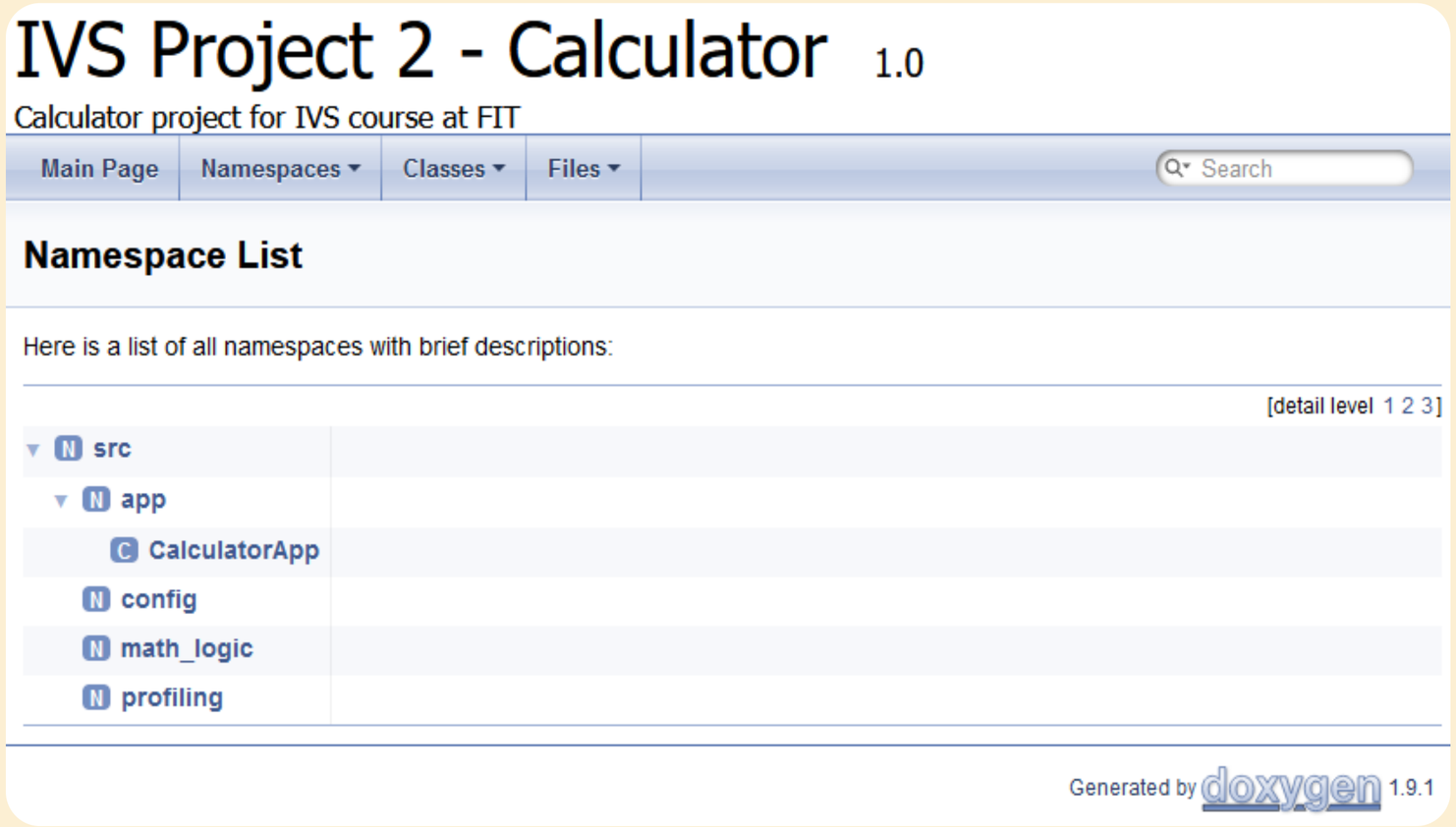
Tests passed: 134 of 134 tests – 0 ms

```
calc_test.py::test_complex_expressions[0.33333 + 0.66667-1.0] PASSED     [ 91%]
calc_test.py::test_complex_expressions[1.000001 - 0.000001-1.0] PASSED   [ 91%]
calc_test.py::test_complex_expressions[2.000001 * 1.999999-4.000002] PASSED [ 92%]
calc_test.py::test_complex_expressions[(3! + 4) * 2-20] PASSED           [ 93%]
calc_test.py::test_complex_expressions[2 ^ 3! + 4-68] PASSED             [ 94%]
calc_test.py::test_complex_expressions[1 / 0-Error: Division by zero] PASSED [ 94%]
calc_test.py::test_complex_expressions[2 ^ 0-1] PASSED                   [ 95%]
calc_test.py::test_complex_expressions[(-2) ^ 2-4] PASSED                [ 96%]
calc_test.py::test_complex_expressions[(-2) ^ 3--8] PASSED               [ 97%]
calc_test.py::test_complex_expressions[8 ^ (1/3)-2] PASSED               [ 97%]
calc_test.py::test_complex_expressions[9 ^ (1/2)-3] PASSED               [ 98%]
calc_test.py::test_complex_expressions[27 ^ (-1/3)-0.3333333333333333] PASSED [ 99%]
calc_test.py::test_complex_expressions[16 ^ 0.5-4] PASSED                [100%]

============================== 134 passed in 0.23s ==============================

Process finished with exit code 0
```

Documentation

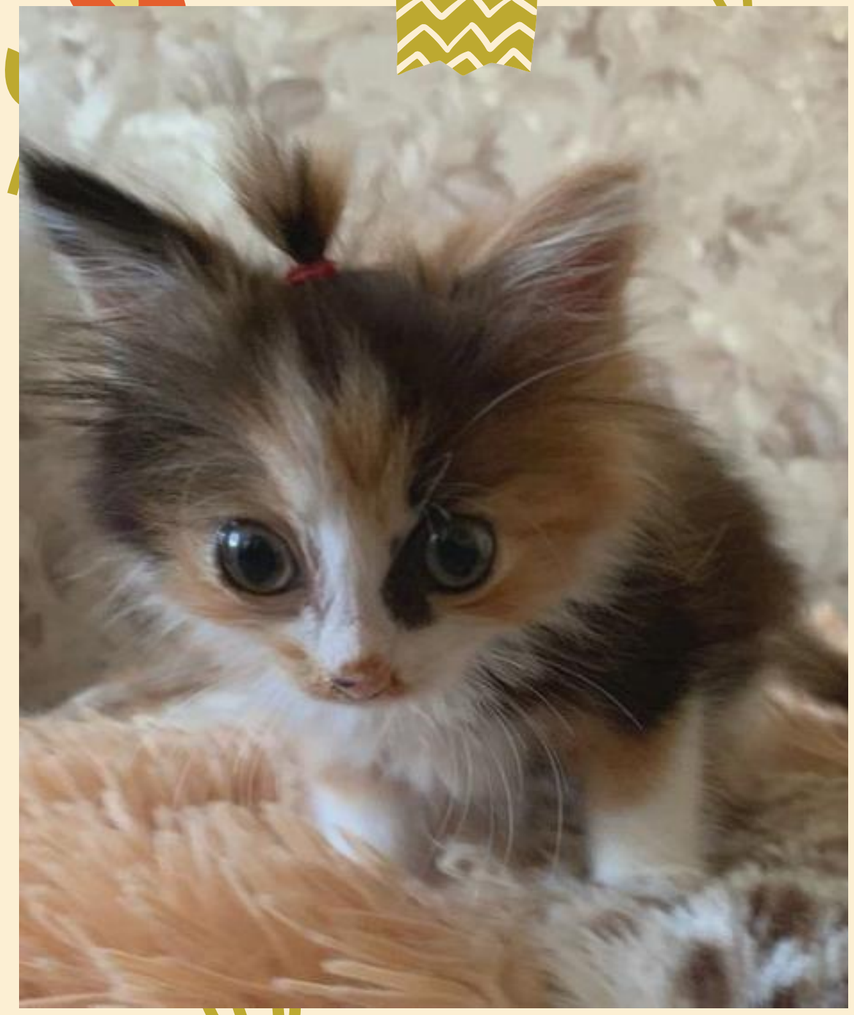
10/25

DOXYGEN


IVS Project 2 - Calculator 1.0
Calculator project for IVS course at FIT
Main Page
Namespaces
Classes
Files
Search
Namespace List
Here is a list of all namespaces with brief descriptions:
[detail level 1 2 3]
N src
N app
C CalculatorApp
N config
N math_logic
N profiling
Generated by doxygen 1.9.1

Math Logic

12/25



Infix to Postfix

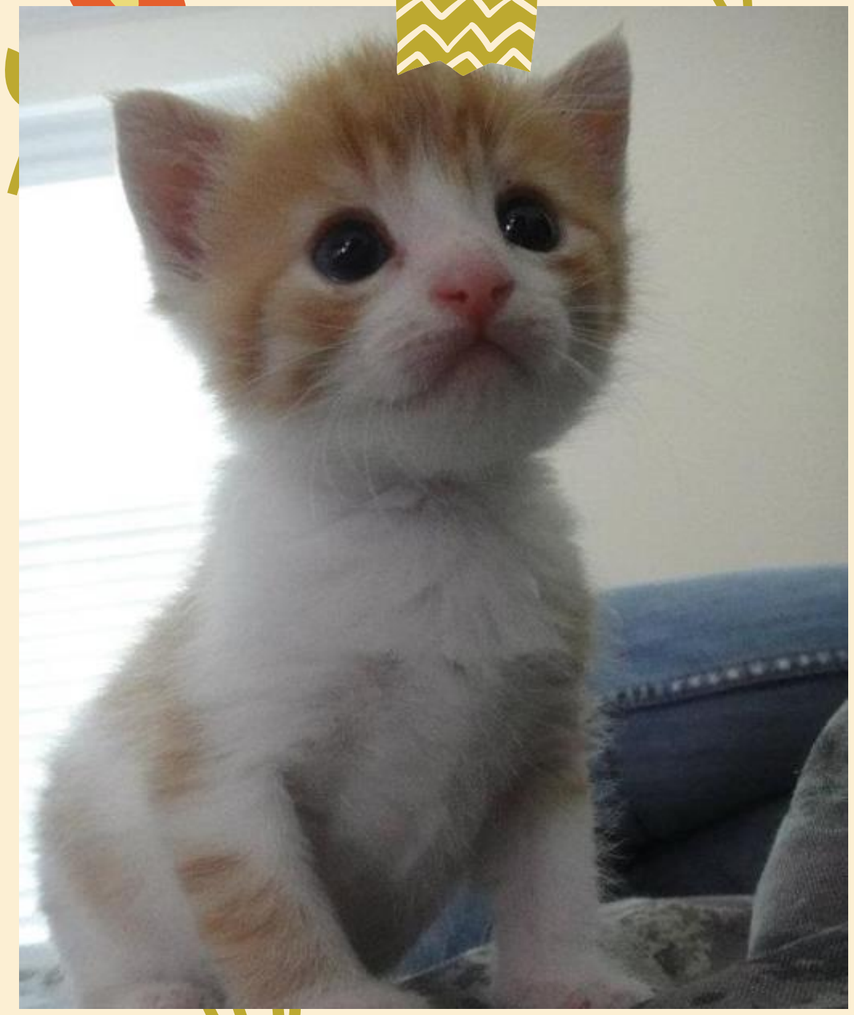
1 + 2 * 3 -> 1 2 3 * +

Arithmetic Functions

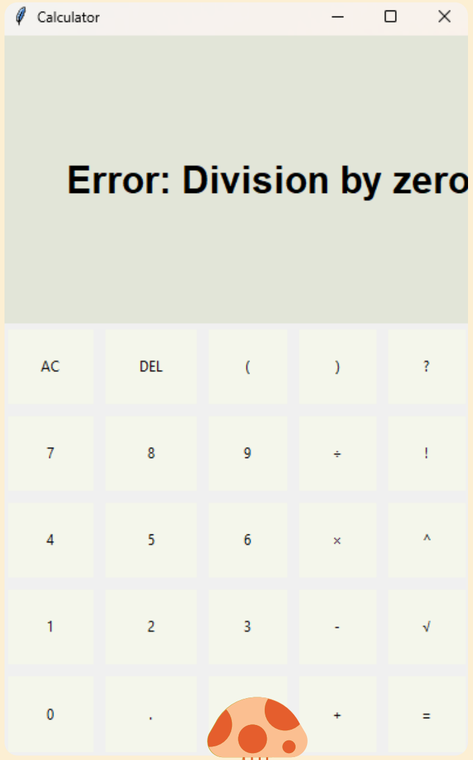
- addition
- subtraction
- multiplication
- division
- percentage

Advanced Functions

- factorial
- power
- root

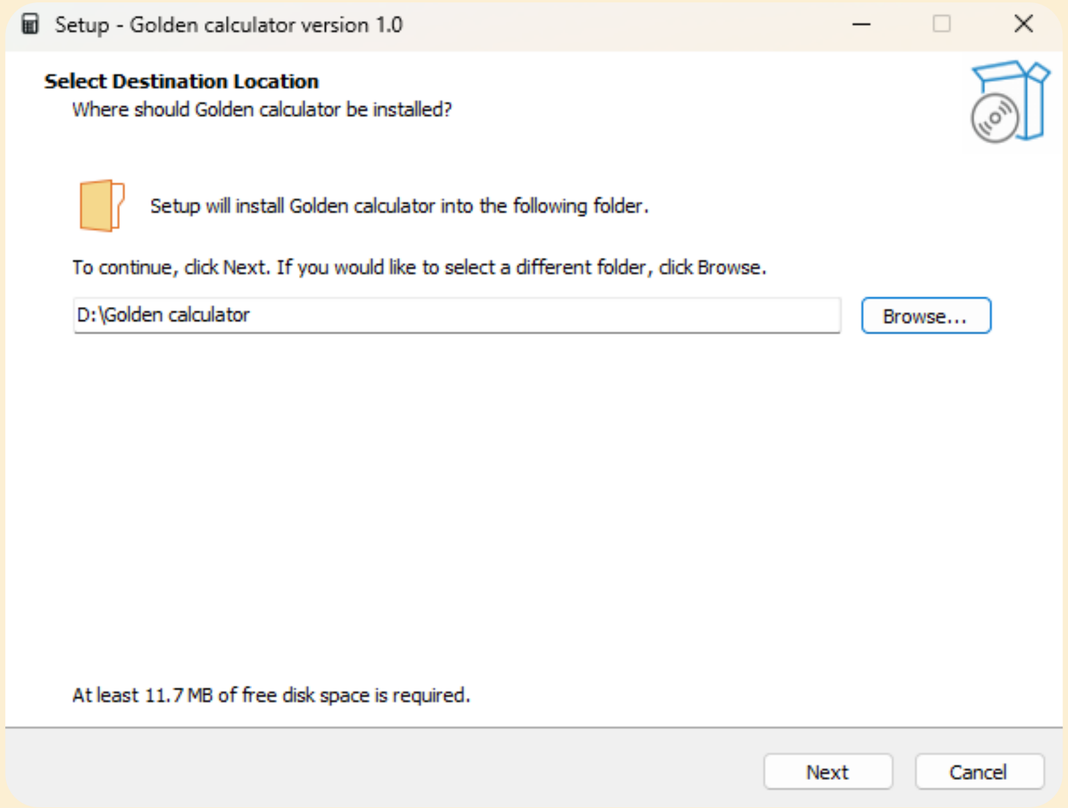


Error Handling

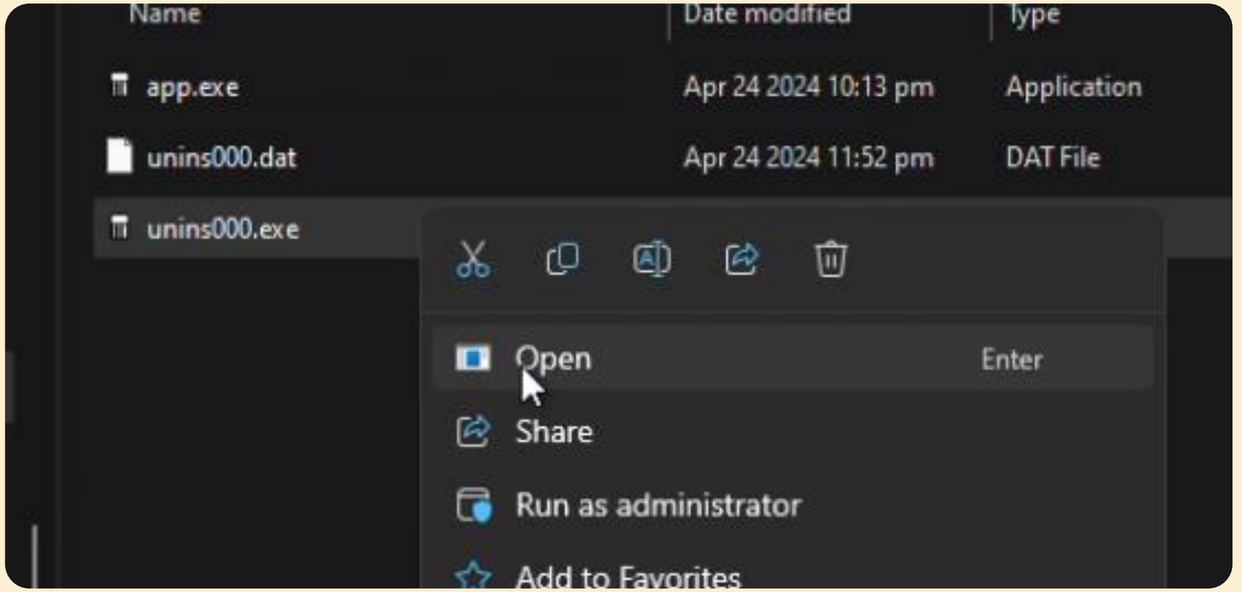


Installation and uninstallation

INSTALLING


Setup - Golden calculator version 1.0
Select Destination Location
Where should Golden calculator be installed?
Setup will install Golden calculator into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
D:\Golden calculator
Browse...
At least 11.7 MB of free disk space is required.
Next
Cancel

UNINSTALLING



Profiling

PROFILING

```
Mean: 15.0
         24 function calls in 0.001 seconds

   Ordered by: standard name

   ncalls  tottime  percall  cumtime  percall filename:lineno(function)
        1    0.000    0.000    0.001    0.001 <string>:1(<module>)
        2    0.000    0.000    0.000    0.000 math_logic.py:144(plus)
        4    0.000    0.000    0.000    0.000 math_logic.py:156(minus)
        2    0.000    0.000    0.000    0.000 math_logic.py:182(div)
        3    0.000    0.000    0.000    0.000 math_logic.py:195(power)
        1    0.000    0.000    0.000    0.000 math_logic.py:223(root)
        1    0.001    0.001    0.001    0.001 profiling.py:15(calculate_sample_std_deviation)
        4    0.000    0.000    0.000    0.000 profiling.py:33(<genexpr>)
        1    0.000    0.000    0.001    0.001 {built-in method builtins.exec}
        1    0.000    0.000    0.000    0.000 {built-in method builtins.len}
        1    0.000    0.000    0.000    0.000 {built-in method builtins.print}
        2    0.000    0.000    0.000    0.000 {built-in method builtins.sum}
        1    0.000    0.000    0.000    0.000 {method 'disable' of '_lsprof.Profiler' objects}
```

Standard deviation

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

$$\overline{x} = \frac{1}{N}\sum_{i=1}^{N} x_i$$

Makefile

- all
- pack
- clean
- test
- doc
- run
- profile

Thanks for listening folks!

Ben Fatto!