Project task assignments

Calculator design (xpodho08)

Implement drafts in `/mock` using tkinter and special library for tkinter.

Requirements
Design implementation should be written in `/src/view/view.py`. Folder `view` has to contain all the necessary files for `view.py`.

- Interface must contain following buttons:
  - Operations:
    - plus (+)
    - minus (-)
    - multiply (*)
    - divide (/)
    - factorial (!)
    - exponentiation (^)
    - equals (=) *after clicking "equals" expression from display is sent to parser*
    - clear *clears display*
    - brackets (()) *both brackets should be separate buttons for now*
  - Tooltips
    - Implement button with question mark (in top left corner, circle) , which you can click to show tooltip for each button for 3 seconds.
- Keyboard
  - User should be able to type in any symbol using keyboard only.

Expression parser (xturyt00)

Parser implementation should be written in `/src/parser/parser.py`. Folder `parser` has to contain all the necessary files for `parser.py`.

Requirements
Parsing rules:
E -> E + E
E -> E - E
E -> -E
E -> E * E
E -> E / E
E -> E ^ E
E -> !E
E -> (E)
E -> e

Create priority table and parser. Parser must use functions implmented by `xkolia00`. After input is validated, parsed and calculated, return result back to view.

Math.py (xkolia00)

Math implementation should be written in `/src/math/math.py`. Folder `math` has to contain all the necessary files for `math.py`.

Requirements

- Implement functions:
  - plus (+)
  - minus (-)
  - multiply (*)
  - divide (/)
  - factorial (!)
  - exponentiation (^)

Each function takes parameters *a* and *b*, with type of number and returns result.
Test all math functions with various inputs, using unit testing in python. Test folder should be created next to `math.py`.

Profiling (xbuten00)

Profiling implementation should be written in `/src/profiling/profiling.py`. Folder `profiling` has to contain all the necessary files for `profiling.py`.

Requirements
Profiling must use math library, written by `xkolia00`. If it's not done yet, use your custom functions, then replace them.

Profiling takes sequence of random digits `1, 2, 3, 4, 5, 6 ...` min. 1000.
Using formula below, it outputs s.

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

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

User documentation (xbuten00)

Documentation will be written by xbuten00

Communication

Team uses for communication **Telegram** and **Discord**.

Version control system

As VCS, we use github.com

Repository access
Email to xturyt00@stud.fit.vutbr.cz with subject "repository access" and github username to get access to our repo.