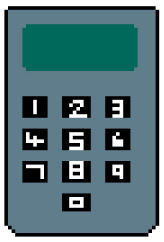
Calculator Project - Y1 Summer



Motivation:

- The purpose of this project is to combine and use all concepts students will learn in CS in Y1 Summer!

Objectives:

1. **The Basic 4:**
    - Create a calculator that processes at least the basic 4 symbols (Addition(+), Subtraction(-), Multiplication(*), and Division(/))
    - The calculator has to take as an input at least 2 numbers and 1 of the symbols in order to create an equation.
    - The calculator has to return the value of the given equation.
2. **Exponents:**
    - An exponent refers to the number of times a number is multiplied by *itself*.
        - For example, 2 to the 3rd (written like this: 2^3) means: 2 x 2 x 2 = 8.
    - The calculator has to process exponents as well.
        - For example, if the user writes `2**3`, it should return `8` as the result.
3. **Error Handling:**
    - What happens when you write:
        - An invalid equation. (For example: `3 - 4 +`)
        - A random string. (For example: `Potato` or `New York City`)
        - An unsupported symbol. (For example `,` or `@`)
    - Handle all of these resulting errors.
    - Make sure to cover all similar gaps in your application, to make sure it's as user friendly as possible!
4. **Menu:**
    - Include a menu of operations/actions options that is displayed when your application starts running.

    - This menu should serve as instructions to the user, to know how to use your application!
5. **Run Continuously:**
    - The program must run continuously until the user decides to stop/exit the application.
    - Think about a user-friendly way how this can be implemented.

Challenges: *(Extra)*

You can pick any/all of these if you like! In other words, you don't have to do them in order.

1. Take more than two numbers!
2. Take more than one symbol, and make sure that you calculate the right order of operations.
3. Add a history of operations list/dictionary!
4. Show the calculator results using turtle!
    - Something that looks like this:

Go Crazy: *(Extra)*

1. Full Functional Graphics! (Turtle)
    - Something that looks like this: