LU07.A09 - Basic caluclator with methods

Prerequisites

- Work type: Individual
- Means of aid: only teaching materials, no websearch, no use of ai.
- Timeframe: 50 Minutes
- Expected result: A browser based calulator which can sum up 2 digits in the easiest way.

Source

Take the solution of LU06.S08source-code and extend it

Assignment

In LU06.S08 we were programming a basic calulator by manipulation the values directly when clicking the buttons. This is convenient, but limits the possibilities of the calculator significantly. For example handling the divided-by-zero operation can hardly be handled with events only.

Thus, it is basically a similar assignment, but this time by using methods:

- to set values of diggit1, diggit2 and the operator
- to calulate the result
- to reset all values of the variables

Assignment A - 3'

- A01: Copy the solution of LU06.s08 and name it **LU07.s09.html**
- A02: Make sure to have
  - the assignmen number in <h1> and
  - the description in <h3>-format
- A03: Safe it.

Assignment B - Required methods - 16'

- B01: method **setDiggit1(number)**: It sets the value of the variable **diggit1** to the clicked number (diggit-block 1).
- B02: method **setDiggit2(number)**: It sets the value of the variable **diggit2** to the clicked number (diggit-block 2).
- B03: method **setOperator(op)**: It sets the value of the variable **operator** to the clicked operation, e.g **+**. Hint: further operations are possible.
- B04: method **calcResult(op)**: Performes the calculation correspondigly to the chosen operation, e.g. **+**.

- B05: method **reset()**: Sets all variables to the initial values.

Assignment C - Variables - 1'

- C01: A basic calculation, e.g. **3 + 3 = 6**, compraises several variables and their initial values:
- C02: Set in the data-area: * diggit1: 0
- C03: operator: '+' (default operation is an addition)
- C04: diggit2: 0
- C05: result: 0

Assignment D - Button for diggit 1 - 10'

- D01: When clicking on the diggit keys of block one the content will be saved in the variable **diggit1**
- D02: But unlike in the previous task, this time the click triggers a method **setDiggit1(dig1)**
- D03: Continue with the other three buttons in the same fashion.
- D04: Check the result by displaying the content of the variable **diggit1** on the display.

Assignment E - Button the operation - 5'

- E01: When clicking the **+**-button the content will be saved in the variable **operator**
- E02: Check the result by displaying the content of the variable **operator** on the screen.
- **Hint:** The other three basic operations (subtraktion, multiplication, division) are conducted in the same way.

Assignment F - Button for diggit 2 - 5'

- F01: When clicking on the button in diggit2-block, the content will be saved in the variable **diggit2**
- F02: But unlike in the previous task, this time the click triggers a method **setDiggit2(dig2)**
- F03: Continue with the other three buttons in the same fashion.
- F04: Check the result by displaying the content of the variable **diggit2** on the display.

Assignment G: Implementation of the calculation - 10'

- G01: To execute our addition-operation we finally need a button **ENTER**. This triggers the method **caldResult()**.
- G02: All relevant variables (diggit1, operator, diggit2) are set know, we are ready to finalize our calculation.
- G03: In the method **calcResult** we need to execute the calculation bases on the provided **operator**.
    - If the operator is a **+** we calculate our result as **this.result = this.diggit1 + this.diggit2„ * And subsequently, if the calculator is a minus**- **the result is calculated as** this.result = dthis.diggit1 - this.diggit2 *** The Multiplication and the division a conducted in the same fashion. * G04: Finally have the** result** displayed on the screen to check the correctness of your efforts.

Solution

Lösung

Vocabulary

English	German
diggit	Ziffer
initial values	Startwerte
to conduct	umsetzten
respectively	beziehungsweise
to compraise	umfassen