# 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)
- C03: diggit2: 0C04: 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()**. As all relevant variable are set by now (diggit1, operator, diggit2) we are ready to finalize our calculation
- G03: Display the result of the variable **result** on the screen.

## **Solution**

#### Lösung

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# **Vocabulary**

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



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