

Lab1: Calculator

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Problem Statement:

Build a web-based calculator similar to that of windows.

- The buttons should be web buttons.
- No need for fancy styling.
- Calculation should be done on the server side.
- For simplicity, you can ignore the difference between the C and CE buttons.
- Repeating pressing the = button does not issue new calculations Handle exceptions such as dividing by 0, by displaying an E.

Website Composition:

1. Front-end developed using Vue components.
2. Calculations are done on back-end server using Spring boot.

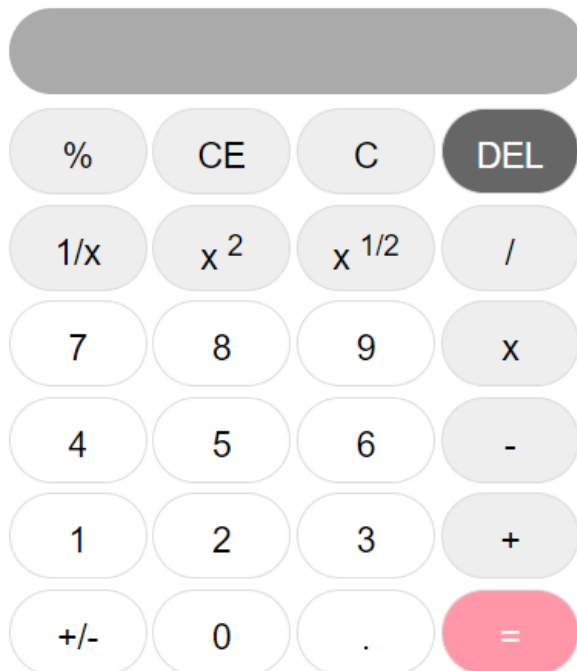
Assumptions:

1. Calculations are done like the windows calculator, so adding a second operator means first operation will be calculated beforehand and result is considered first operand to second operator: $5+3 \rightarrow 5+3x$ (intermediate) $\rightarrow 8x$
2. % works exactly like the one implemented in windows.
3. In case any error is produced, "E" is displayed on screen and user has to restart using C or CE

Corner-cases handled:

1. Division by zero \rightarrow displays "E"
2. Getting square root of a negative number \rightarrow displays "E"
3. Using 2 operators after one another, ex: $5x/ \rightarrow$ displays "E"

Website Interface:

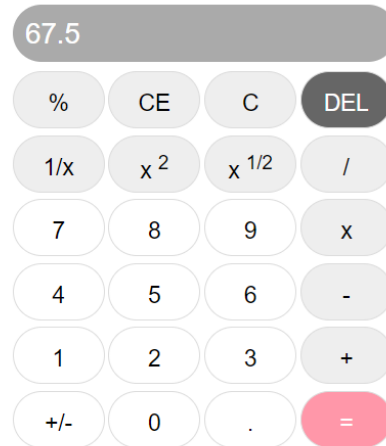
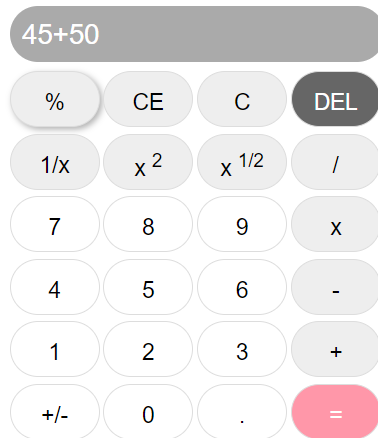


% Case Explanation:

% in windows calculator works as taking % of first operand

Ex:

$$- \quad 45+50\% \rightarrow 45+ 50\%*45 \rightarrow 45+0.5*45 \rightarrow 45+22.5 \rightarrow 67.5$$



Note: Error cases are all handled in the demo video.