LAP 2 OOP

Requirements:

- The buttons of the calculator is web buttons.
- All calculation done on the server side.
- There is no difference between the C and CE buttons.
- All exceptions are handled.
- Repeating pressing the = button does not issue new calculations for the current operation.
- The style of the calculator is user friendly.
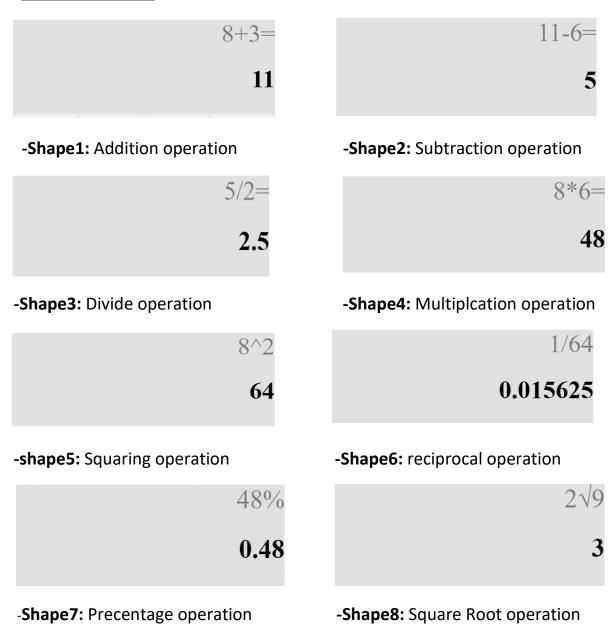
Assumptions:

- The calculator has unlimited decimal number operands (Up to BigDecimal library).
- All Uni operations can be made unlimited time (until the BigDecimal has been fill then it output INFINTY).
- Repeating pressing the = button does not issue new calculations unless you entered new operation then this operation would be done on the result and new operand.
- The operator % is divide the operand by one hundred.
- When any error done such as (the reciprocal of zero, divide on zero or sqrt of negative number) then it output ERROR.
- The CE and C delete all operations done (resetting calculator).
- The result which is unlimited fraction is limited to precision of 14
- When an error happen the calculator stop until CE,C button pressed

The calculator design UI:

			0
%	CE	C	DEL
1/x	x^2	2√x	÷
7	8	9	X
4	5	6	-
1	2	3	+
+/-	0	.	=

The calculator design UI:

Snippets

- ## Operations

$8+3=$ **11**	$11-6=$ **5**

-Shape1: Addition operation   **-Shape2:** Subtraction operation

$5/2=$ **2.5**	$8*6=$ **48**

-Shape3: Divide operation   **-Shape4:** Multiplcation operation

$8\char`^2$ **64**	$1/64$ **0.015625**

-shape5: Squaring operation   **-Shape6:** reciprocal operation

48% **0.48**	$2\sqrt{9}$ **3**

-Shape7: Precentage operation   **-Shape8:** Square Root operation

- ## Errors

-Shape10: Division by zero error

-Shape11: reciprcol of zero error

-Shape12: Square root of negative number error

How-To

- First you open frontend file and install NPM by the npm install command.
- Then you should run the frontend file by the ng serve command.
- The calculator design would be viewed
- Then you should open backend file and run it.
- Thus the calculator would be functional and does all its operation effectively.

Code Link

https://drive.google.com/file/d/14wCVSaXi3w6Fw1W_FbYs_AK2WNQffSXj/view?usp=sharing

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