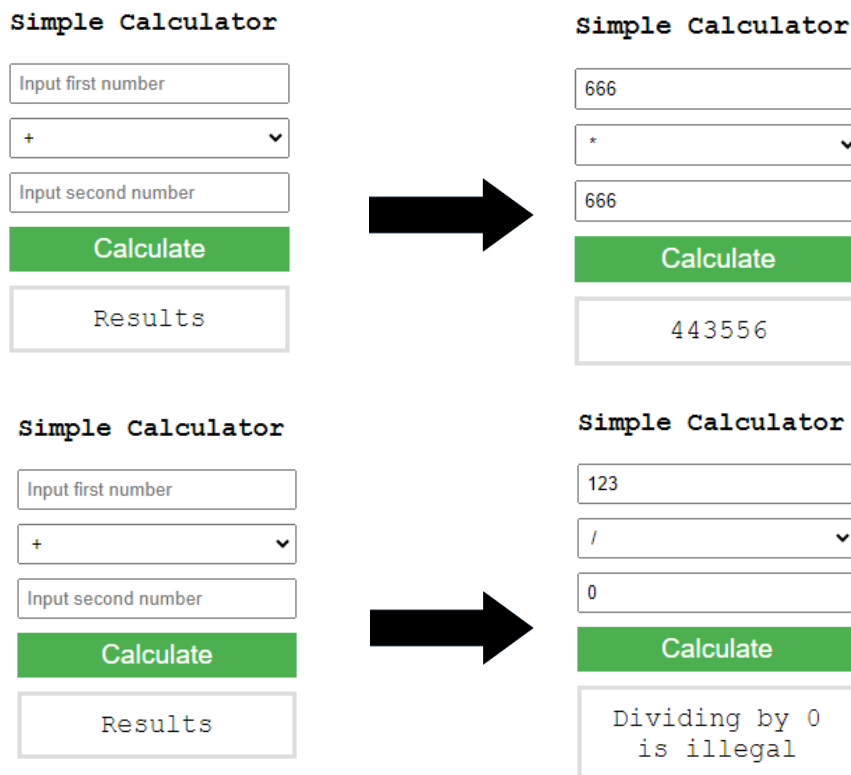


Exercise 5

1. Please create a simple calculator application that allows the user to input two numbers and select an operator (addition, subtraction, multiplication, division). Upon clicking the "Calculate" button, the application should display the result on the interface. The application should include the following features:
 - (1) Two input boxes for entering the operands.
 - (2) A select box (dropdown menu) is used to select the operator.
 - (3) A "Calculate" button that performs the computation when clicked.
 - (4) An area to display the calculation result, presented clearly.
 - (5) The "divide by 0" error should be detected.

Please use HTML, CSS, and JavaScript to accomplish this application, ensuring the code is well-structured, readable, and fully functional.

Expected User Interfaces:



Hint:

- Please check the provided CSS to write appropriate HTML and JavaScript.
- Please study how to get/set values from/to a DOM element.

2. Develop a JavaScript program that displays a "square" composed of images of assigned or random Pokemons based on the given side length and the image size. The expected initial user interfaces are as follows:

Pokémon Grid

Pokemon (1~5):
1-pikachu ▼

Side length (1~10):(預設5)
5

Image size (50~150):(預設100)
100

Draw

Clear

A compact form should sit at the top of the page, aligned in a single row. From left to right it includes: a labeled dropdown menu “Pokemon (1–5):” for choosing Pikachu, Bulbasaur, Charmander, Squirtle, or Random; a numeric input “Side length (1–10)” (default 5) for the grid dimension; and a numeric input “Image size” (default 100) for the pixel size of each image. To the right are two rounded buttons: Draw and Clear. Pressing Draw generates a square grid of Pokémon images below the form according to the selected options; Clear removes the grid.

If the user chooses 1~4, the square is composed of repeated images of the assigned Pokemon:

Pokémon Grid

Pokemon (1~5):

1-pikachu ▼

Side length (1~10):(預設5)

5

Image size (50~150):(預設100)

100

Draw

Clear



Pokémon Grid

Pokemon (1~5):

3-charmander ▼

Side length (1~10):(預設5)

8

Image size (50~150):(預設100)

60

Draw

Clear



If the user chooses 5 (i.e., random), the square comprises random images of Pokemons.

Pokémon Grid

Pokemon (1~5):

Side length (1~10):(預設5)

Image size (50~150):(預設100)

If the user inputs a wrong data, please show an alarm message in a popup window.

(Wrong data: not 1~10 for the side length and not 50~150 for the image size)

這個網頁顯示

You input an invalid side length! It will be reset to 5.

這個網頁顯示

Image size should be between 50 and 150! It will be reset to 100.

Note that the size of Pokémon images is set to 100(px)X100(px) by default.

The file names of Pokémon images are pikachu.png, bulbasaur.png, charmander.png, and squirtle.png.

Hint:

- Use `Math.random()` and `Math.floor()` to generate random numbers.

https://www.w3schools.com/jsref/jsref_random.asp

https://www.w3schools.com/jsref/jsref_floor.asp