Exercise 4

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

Show the question: "Please input the Pokemon you like (1=pikachu, 2=bulbasaur, 3=charmander, 4=squirtle, 5=random):" with default value 1.
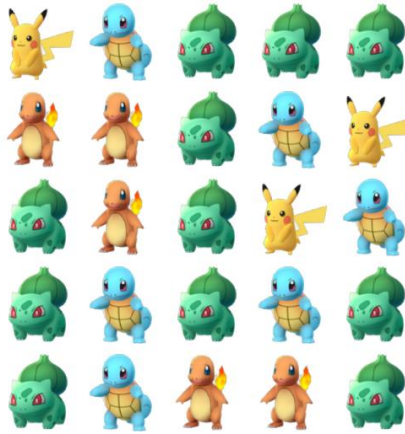

Show the question: "Please input the side length (>=1 and <=10):" with default value 5.

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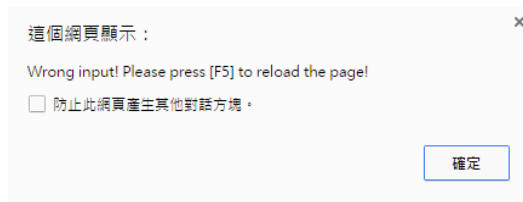

If the user chooses 5 (i.e. random), the square is composed of random images of Pokemons.

If the user inputs a wrong data, please show an alarm message "Wrong input! Please press [F5] to reload the page!" in a popup window.

(Wrong data: not 1~5 for the first question, and not 1~10 for the second question)

The file names of Pokemon 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

2. Please develop a webpage to let users perform the four fundamental arithmetic operations: addition, subtraction, multiplication, and division.

(1) Please show the following message to let the user choose the operator:

"請輸入算數運算元：1 代表加(+)、2 代表減(-)、3 代表乘(*)、4 代表除(/):"

> 這個網頁顯示
>
> 請輸入算數運算元：1代表加(+)、2代表減(-)、3代表乘(*)、4代表除(/):
>
> 3
>
> 確定　取消

If the user input is not valid options, please show an error message "輸入有誤！選項自動設為 1。" using a popup window and set the option to 1.

> 這個網頁顯示
>
> 輸入有誤！選項自動設為1。
>
> 確定

(2) Let the user input two numbers:

> 這個網頁顯示
>
> 請輸入第一個數字:
>
> 11
>
> 確定　取消

If the input value is not valid number, please show an error message "輸入有誤！數值自動設定為 0。" using a popup window and set the first number to 1.

> 這個網頁顯示
>
> 輸入有誤！數值自動設定為0。
>
> 確定

> 這個網頁顯示
>
> 請輸入第二個數字:
>
> 111
>
> 確定　取消

Again, if the input value is not valid number, please show an error message "輸入有誤！數值自動設定為 0。" using a popup window and set the second number to 1.

> 這個網頁顯示
>
> 輸入有誤！數值自動設定為0。
>
> 確定

(3) Finally, the webpage shows the results of the arithmetic operation:

四則運算結果：

11 * 111 = 1221

Other requirements:

Please modify the CSS in ex-4-2-ui.html to (1) add a solid **border** in *dodgerblue* for numbers and (2) let all elements display **side-by-side**.

Hint:

- Please study how to set values to HTML elements using DOM (document object model).
- "Side-by-side" is easy to realize by a CSS property.
- isFinite(): https://www.w3schools.com/jsref/jsref_isfinite.asp.