

# Learning by Doing Project: JavaScript Objects Playground

## Project Overview:

Create a simple web page where users can interact with different JavaScript objects (Number, String, Math, Boolean, Date) through a set of interactive features.

## Features:

### Number Object: Basic Calculator

- Create an input form with two fields for entering numeric values.
- Include buttons for addition, subtraction, multiplication, and division.
- Display the result dynamically on the webpage using the Number object.

### String Object: String Manipulation

- Provide an input field for users to enter a string.
- Include buttons to perform string concatenation and display the result.

### Math Object: Random Number Generator

- Add a button that generates a random number between 1 and 100 using the Math object.
- Display the random number on the webpage.

### Boolean Object: Logical Operations

- Include checkboxes or radio buttons with boolean values.
- Add a button to perform logical operations (AND, OR, NOT) on the selected values and display the result.

### Date Object: Age Calculator

- Create a form with an input field for the user's birth year.
- Include a button to calculate and display their age using the Date object.

## Project Structure:

- index.html:
  - Structure the HTML with input fields, buttons, and result display areas.

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>

  <meta charset="UTF-8">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>JavaScript Objects Playground</title>

</head>

<body>

  <!-- Number Object: Basic Calculator -->

  <div>

    <h3>Number Object: Basic Calculator</h3>

    <!-- Add your input fields, buttons, and result display area here -->

    <h3>Number Object: Basic Calculator</h3>
    <label for="num1">Number 1:</label>
    <input type="number" id="num1">
    <label for="num2">Number 2:</label>
    <input type="number" id="num2">
    <button onclick="performCalculation()">Add</button>
    <p id="resultAdd"></p>

  </div>

  <!-- String Object: String Manipulation -->

  <div>

    <h3>String Object: String Manipulation</h3>

    <!-- Add your input fields, buttons, and result display area here -->

  </div>
```

**<!-- Math Object: Random Number Generator -->**

**<div>**

**<h3>Math Object: Random Number Generator</h3>**

**<!-- Add your button and result display area here -->**

**</div>**

**<!-- Boolean Object: Logical Operations -->**

**<div>**

**<h3>Boolean Object: Logical Operations</h3>**

**<!-- Add your checkboxes/radio buttons, button, and result display area here -->**

**</div>**

**<!-- Date Object: Age Calculator -->**

**<div>**

**<h3>Date Object: Age Calculator</h3>**

**<!-- Add your input field, button, and result display area here -->**

**</div>**

**<script src="script.js"></script>**

**</body>**

</html>

script.js:

- Write JavaScript code to handle user interactions and implement the specified features.

**Project Tips:**

- Use `document.getElementById` to access HTML elements in your JavaScript code.
- Attach event listeners to buttons to trigger the desired functionality.
- Display results by updating the content of HTML elements dynamically.

Script.js

// Number Object: Basic Calculator

```
function performCalculation() {  
    const num1 = parseFloat(document.getElementById('num1').value);  
    const num2 = parseFloat(document.getElementById('num2').value);  
  
    if (!isNaN(num1) && !isNaN(num2)) {  
        const result = num1 + num2;  
        document.getElementById('resultAdd').innerText = `Result: ${result}`;  
    } else {  
        document.getElementById('resultAdd').innerText = 'Invalid input. Please enter  
numbers.';  
    }  
}
```