Projects-SVB\Calculator-JS\Calculator-JS.html

```html
<!doctype html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>Calculator - JS</title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.0-beta1/dist/css/bootstrap.min.css" rel="stylesheet">
    <link rel="stylesheet" href="./Calculator-JS.css">
</head>
  <body>
    <div class="container d-flex justify-content-center align-item-center vh-100 overflow-hidden mx-auto my-0">
        <div class="card">
            <div class="card-header d-flex justify-content-center align-item-center">
              <div class="header-content Header">
                Calculator
              </div>
            </div>
            <div class="card-body">
              <label  class="Label"> First Number: </label>
              <input type="number" placeholder="Enter the 1st Number..." id="Num1" class="FormText my-2 p-1 form-control">
              <br>
              <label class="Label">Second Number: </label> <input type="number" placeholder="Enter the 2nd Number..." id="Num2" class="FormText my-2 p-1 form-control">
              <button type="button" onclick="Calculator('Addition')" class="CalBtn mx-2 my-4">
                Addition
              </button>
              <button type="button" onclick="Calculator('Subtraction')" class="CalBtn mx-2 my-4">
                Subtraction
              </button>
              <button type="button" onclick="Calculator('Multiplication')" class="CalBtn mx-2 my-4">
                Multiplication
              </button>
              <button type="button" onclick="Calculator('Division')" class="CalBtn mx-2 my-4">
                Division
              </button>
              <label class="d-flex justify-content-center align-item-center mt-4 ResultInp">
        Result
       </label>
       <div id="Result" class="d-flex justify-content-center align-item-center Output">
       </div>
      </div>
      <div class="card-footer d-flex justify-content-center align-item-center">
       <div class="footer-content Footer">
        Calculator By Shreya Vinod Barad
       </div>
      </div>
    </div>
  </div>
  <script>
   function Calculator(operator)
   {
    const n1 = +document.getElementById("Num1").value
    const n2 = +document.getElementById("Num2").value
    const Result = document.getElementById("Result")
    switch(operator)
    {
     case "Addition":
      Result.innerHTML = `<div>${n1 + n2}</div>`;
      break;
     case "Subtraction":
      Result.innerHTML = `<div>${n1 - n2}</div>`;
      break;
     case "Multiplication":
      Result.innerHTML = `<div>${n1 * n2}</div>`;
      break;
     case "Division":
      Result.innerHTML = `<div>${n1 / n2}</div>`;
      break;
     default:
      break;
    }
   }
  </script>
  <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>
  <script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.11.8/dist/umd/popper.min.js"></script>
  <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>
 </body>
</html>
```

HTML Calculator Structure

```
<!doctype html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>Calculator - JS</title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.0-beta1/dist/css/bootstrap.min.css" rel="stylesheet">
    <link rel="stylesheet" href="./Calculator-JS.css">
</head>
  <body>
    <div class="container d-flex justify-content-center align-item-center vh-100 overflow-hidden mx-auto my-0">
        <div class="card">
            <div class="card-header d-flex justify-content-center align-item-center">
              <div class="header-content Header">
                Calculator
              </div>
            </div>
            <div class="card-body">
              <label  class="Label"> First Number: </label>
              <input type="number" placeholder="Enter the 1st Number..." id="Num1" class="FormText my-2 p-1 form-control">
              <br>
              <label class="Label">Second Number: </label> <input type="number" placeholder="Enter the 2nd Number..." id="Num2" class="FormText my-2 p-1 form-control">
              <button type="button" onclick="Calculator('Addition')" class="CalBtn mx-2 my-4">
                Addition
              </button>
              <button type="button" onclick="Calculator('Subtraction')" class="CalBtn mx-2 my-4">
                Subtraction
              </button>
              <button type="button" onclick="Calculator('Multiplication')" class="CalBtn mx-2 my-4">
                Multiplication
              </button>
              <button type="button" onclick="Calculator('Division')" class="CalBtn mx-2 my-4">
                Division
              </button>
              <label class="d-flex justify-content-center align-item-center mt-4 ResultInp">
                Result
              </label>
              <div id="Result" class="d-flex justify-content-center align-item-center Output">
              </div>
            </div>
            <div class="card-footer d-flex justify-content-center align-item-center">
              <div class="footer-content Footer">
                Calculator By Shreya Vinod Barad
              </div>
            </div>
        </div>
    </div>
    <script>
     function Calculator(operator)
     {
        const n1 = +document.getElementById("Num1").value
        const n2 = +document.getElementById("Num2").value
        const Result = document.getElementById("Result")
        switch(operator)
        {
         case "Addition":
            Result.innerHTML = `<div>${n1 + n2}</div>`;
            break;
         case "Subtraction":
            Result.innerHTML = `<div>${n1 - n2}</div>`;
            break;
         case "Multiplication":
            Result.innerHTML = `<div>${n1 * n2}</div>`;
            break;
         case "Division":
            Result.innerHTML = `<div>${n1 / n2}</div>`;
            break;
         default:
            break;
        }
     }
    </script>
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>
    <script
  src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.11.8/dist/umd/popper.min.js">
  </script>
    <script
  src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js">
  </script>
   </body>
  </html> explain code line by line
```

Sure, let's go through the HTML and JavaScript code step by step:

HTML Structure

html

```html
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <title>Calculator - JS</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.0-
beta1/dist/css/bootstrap.min.css" rel="stylesheet">
  <link rel="stylesheet" href="./Calculator-JS.css">
</head>
<body>
```

- `<!doctype html>`: Defines the document type and version of HTML.

- `<html lang="en">`: Specifies the language of the document.
- `<head>`: Contains meta-information about the document, such as character set, viewport settings, title, and external stylesheets.
- `<meta charset="utf-8">`: Sets the character encoding for the document to UTF-8.
- `<meta name="viewport" content="width=device-width, initial-scale=1">`: Configures the viewport for responsive design.
- `<title>Calculator - JS</title>`: Sets the title of the HTML document.
- `<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.0-beta1/dist/css/bootstrap.min.css" rel="stylesheet">`: Links the Bootstrap CSS framework from a CDN to style the page.
- `<link rel="stylesheet" href="./Calculator-JS.css">`: Links a local CSS file (`Calculator-JS.css`) for additional styling.

Body Content

```html
<div class="container d-flex justify-content-center align-item-center vh-100 overflow-hidden mx-auto my-0">
  <div class="card">
    <div class="card-header d-flex justify-content-center align-item-center">
      <div class="header-content Header">
        Calculator
      </div>
    </div>
    <div class="card-body">
      <label class="Label"> First Number: </label>
      <input type="number" placeholder="Enter the 1st Number..." id="Num1" class="FormText my-2 p-1 form-control">
      <br>
      <label class="Label">Second Number: </label>
      <input type="number" placeholder="Enter the 2nd Number..." id="Num2" class="FormText my-2 p-1 form-control">
      <button type="button" onclick="Calculator('Addition')" class="CalBtn mx-2 my-4">
        Addition
      </button>
      <!-- Other calculation buttons omitted for brevity -->
      <label class="d-flex justify-content-center align-item-center mt-4 ResultInp">
        Result
      </label>
      <div id="Result" class="d-flex justify-content-center align-item-center Output">
      </div>
    </div>
    <div class="card-footer d-flex justify-content-center align-item-
center">
      <div class="footer-content Footer">
        Calculator By Shreya Vinod Barad
      </div>
    </div>
  </div>
</div>
```

- `<div class="container d-flex justify-content-center align-item-center vh-100 overflow-hidden mx-auto my-0">`: Creates a centered container that spans the entire viewport height (`vh-100`) and hides overflow.
- `<div class="card">`: Uses Bootstrap's card component for a styled card layout.
- Inside the card:
  - `<div class="card-header d-flex justify-content-center align-item-center">`: Header section with centered content.
  - `<div class="header-content Header">`: Styles the header content.
  - `<div class="card-body">`: Main body of the card.
    - Input fields for two numbers (`Num1` and `Num2`) with placeholders and Bootstrap styling.
    - Buttons for different arithmetic operations (`Addition`, `Subtraction`, etc.), each calling the `Calculator` function with the respective operation.
    - A result display area (`Result`) where the result of calculations will be shown.
  - `<div class="card-footer d-flex justify-content-center align-item-center">`: Footer section with centered content.
    - `<div class="footer-content Footer">`: Styles the footer content.

JavaScript

html

```html

  <script>
    function Calculator(operator) {
      const n1 = +document.getElementById("Num1").value;  // Gets the value
  of Num1 input and converts it to a number.
      const n2 = +document.getElementById("Num2").value;  // Gets the value
  of Num2 input and converts it to a number.
      const Result = document.getElementById("Result");    // Gets the
  element where the result will be displayed.

      switch (operator) {
        case "Addition":
```

```
        Result.innerHTML = `<div>${n1 + n2}</div>`;
        break;
      case "Subtraction":
        Result.innerHTML = `<div>${n1 - n2}</div>`;
        break;
      case "Multiplication":
        Result.innerHTML = `<div>${n1 * n2}</div>`;
        break;
      case "Division":
        Result.innerHTML = `<div>${n1 / n2}</div>`;
        break;
      default:
        break;
    }
  }
</script>
```

- **`function Calculator(operator) { ... }`**: Defines a JavaScript function **`Calculator`** that takes an **`operator`** parameter.
- **`const n1 = +document.getElementById("Num1").value;`**: Retrieves and converts the value of the **`Num1`** input field to a number.
- **`const n2 = +document.getElementById("Num2").value;`**: Retrieves and converts the value of the **`Num2`** input field to a number.
- **`const Result = document.getElementById("Result");`**: Retrieves the element where the result will be displayed.
- **`switch (operator) { ... }`**: Switch statement based on the **`operator`** parameter passed to the function:
  - Updates the **`Result`** element's HTML content based on the chosen operation (**`Addition`**, **`Subtraction`**, **`Multiplication`**, **`Division`**).

JavaScript Libraries

```html
<script src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>
<script
src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.11.8/dist/umd/popper.min
</script>
<script
src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js'
</script>
```

- These **`<script>`** tags include jQuery, Popper.js, and Bootstrap JavaScript files. They enhance the functionality and styling of the page using these libraries.

Summary

This HTML file creates a simple calculator interface styled with Bootstrap. It uses JavaScript to perform arithmetic operations based on user input and displays the result dynamically on the page. The structure ensures responsiveness and uses external libraries for additional functionality and styling.

ChatGPT can make mistakes. Check important info.

CSS Code Explanation

```
html, body
{
   height: 100%;
   overflow: hidden;
   margin: 0;
   padding: 0;
}
body
{
   margin: 0;
   background-image:url(./Bg-Image/Bg-Image.jpg);
   background-size: cover;
   background-repeat: no-repeat;
}
.container
{
   height: 100vh;
   overflow: hidden;
   padding: 20px;
}
.Header
{
   font-size: 2.3rem;
}
.FormText
{
   font-size: 1.5rem;
}
.CalBtn
{
   font-size: 2rem;
}
.Label
```

```
{
   font-size: 1.5rem;
}
.Submit
{
   font-size: 2rem;

}
.ResultInp
{
   font-size: 2rem;
}
.Footer
{
   font-size: 1.5rem;
}
#Result
{
   font-size: 1.8rem;
}
.Output
{
   font-size: 2.5rem;
} Explain code line by line
```

Certainly! Let's go through the CSS code you've provided line by line to explain each part:

css

```css
html, body {
    height: 100%;
    overflow: hidden;
    margin: 0;
    padding: 0;
}
```

- `` `html, body` ``: Selects both the `` `<html>` `` and `` `<body>` `` elements.

- ``height: 100%;``: Sets the height of both ``<html>`` and ``<body>`` elements to 100% of the viewport height, ensuring they cover the entire viewport.
- ``overflow: hidden;``: Hides any content that overflows beyond the viewport boundaries.
- ``margin: 0; padding: 0;``: Removes default margins and paddings from both ``<html>`` and ``<body>`` to ensure a consistent starting point.

```css
body {
    margin: 0;
    background-image:url(./Bg-Image/Bg-Image.jpg);
    background-size: cover;
    background-repeat: no-repeat;
}
```

- ``body``: Selects the ``<body>`` element.
- ``margin: 0;``: Ensures there is no margin around the ``<body>`` element.
- ``background-image:url(./Bg-Image/Bg-Image.jpg);``: Sets the background image of the ``<body>`` using the URL ``./Bg-Image/Bg-Image.jpg``.
- ``background-size: cover;``: Scales the background image to cover the entire background area of the ``<body>``.
- ``background-repeat: no-repeat;``: Prevents the background image from repeating.

```css
.container {
    height: 100vh;
    overflow: hidden;
    padding: 20px;
}
```

- ``.container``: Selects elements with the class ``container``.
- ``height: 100vh;``: Sets the height of elements with class ``container`` to 100% of the viewport height (``vh``).
- ``overflow: hidden;``: Hides any content that overflows the container.
- ``padding: 20px;``: Adds 20 pixels of padding inside the container.

```css
.Header {
    font-size: 2.3rem;
}
.FormText {
    font-size: 1.5rem;
}
.CalBtn {
    font-size: 2rem;
}
.Label {
    font-size: 1.5rem;
}
.Submit {
    font-size: 2rem;
}
.ResultInp {
    font-size: 2rem;
}
.Footer {
    font-size: 1.5rem;
}
#Result {
    font-size: 1.8rem;
}
.Output {
    font-size: 2.5rem;
}
```

- **`.Header`**, **`.FormText`**, **`.CalBtn`**, **`.Label`**, **`.Submit`**, **`.ResultInp`**, **`.Footer`**, **`.Output`**: Each of these classes (and the **`#Result`** ID) sets specific font sizes for elements with corresponding class names or ID.
- **`font-size`**: Specifies the size of the font for each element.

In summary, this CSS code sets up a webpage with a full-height background image, specific font sizes for different elements, and containers with fixed padding and hidden overflow. Adjustments can be made based on the specific design and layout requirements of your web page.

ChatGPT can make mistakes. Check important info.