CALCULATOR

PROJECT1

📌 Project Description:

A Calculator is a simple application designed to perform basic arithmetic operations: addition, subtraction, multiplication, and division. It includes a user-friendly interface that allows users to enter numbers and operations, displaying results instantly.

🎯 Objectives:

Build a graphical user interface (GUI)Implement basic arithmetic logic Learn event handling and input validation Provide a responsive and intuitive user experience

🔧 Core Features:

1.Number Input Buttons (0–9)

2. Operation Buttons: +, -, ×, ÷

3. Clear Button: C or AC (to reset)

4. Equals Button: =

5. Display Area: Shows current input and results

💡 Optional Features (Stretch Goals):

- Keyboard input support
- Decimal operations
- Percentage (%) functionality
- Backspace (⌫)
- Error handling (e.g., divide by zero)

🛠️ Tools & Technologies:

Choose based on your preference

Web-based:

HTML, CSS, JavaScript (Vanilla or frameworks like React)

📷 Sample UI Layout:

```
------------------

|    12 + 7       |   <- Display

------------------

| 7 | 8 | 9 |  ÷  |

| 4 | 5 | 6 |  ×  |

| 1 | 2 | 3 |  −  |

| 0 | . | = |  +  |

|    AC           |

------------------
```

HTML CODE:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Simple Calculator</title>
  <link rel="stylesheet" href="style.css">
</head>
<body>
  <div class="calculator">
    <input type="text" id="display" disabled />
    <div class="buttons">
      <button onclick="clearDisplay()" class="clear">C</button>
      <button onclick="appendValue('(')">(</button>
      <button onclick="appendValue(')')">)</button>
      <button onclick="appendValue('/')">÷</button>
      <button onclick="appendValue('7')">7</button>
```

```
        <button onclick="appendValue('8')">8</button>
        <button onclick="appendValue('9')">9</button>
        <button onclick="appendValue('*')">×</button>
        <button onclick="appendValue('4')">4</button>
        <button onclick="appendValue('5')">5</button>
        <button onclick="appendValue('6')">6</button>
        <button onclick="appendValue('-')">-</button>

        <button onclick="appendValue('1')">1</button>
        <button onclick="appendValue('2')">2</button>
        <button onclick="appendValue('3')">3</button>
        <button onclick="appendValue('+')">+</button>
        <button onclick="appendValue('0')">0</button>
        <button onclick="appendValue('.')">.</button>
        <button onclick="calculate()" class="equal">=</button>
    </div>
    </div>
     <script src="scrift.js"></script>
</body>
</html>
```

CSS CODE:

```css
body
{
  font-family: Arial, sans-serif;
  display: flex;
  justify-content: center;
  align-items: center;
  height: 100vh;
  background-color: #f4f4f4;
}
.calculator
{
  background: #ffffff;
  padding: 20px;
  border-radius: 10px;
  box-shadow: 0 0 10px rgba(0,0,0,0.1);
}
```

```css
#display
{
  width: 100%;
  height: 50px;
  font-size: 24px;
  margin-bottom: 10px;
  text-align: right;
  padding: 10px;
  border: 1px solid #ccc;
  border-radius: 5px;
}
.buttons
 {
  display: grid;
  grid-template-columns: repeat(4, 60px);
  gap: 10px;
}
```

```
Button
 {
  padding: 15px;
  font-size: 18px;
  cursor: pointer;
  border: none;
  background-color: #f0f0f0;
  border-radius: 5px;
  transition: background-color 0.2s;
}
button:hover
{
  background-color: #ddd;
}
.equal
{
  background-color: #4CAF50;
  color: white;
}
.clear
{
  background-color: #f44336;
  color: white;
}
```

JS CODE:

```
const display = document.getElementById('display');
function appendValue(value){
  if (value === '.' && display.value.includes('.')) return;
  display.value += value;
}
function clearDisplay() {
  display.value = '';
}
function calculate() {
  try {
    const result = new Function('return ' + display.value)();
    if (typeof result === 'number' && isFinite(result))
 {
      display.value = result;
    }
else {
      throw new Error('Invalid calculation');
    }
  } catch (e) {
    display.value = 'Error';
  }
}
```