

JAVASCRIPT DAY 15

complete calculator by adding some validations

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Calculator with Validations</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      text-align: center;
      background: #f4f4f4;
      padding: 20px;
    }

    .calculator {
      display: inline-block;
      padding: 20px;
      background: #fff;
      border-radius: 10px;
      box-shadow: 0 4px 6px rgba(0, 0, 0, 0.1);
    }

    .calculator input {
      width: 100%;
      padding: 10px;
      margin-bottom: 10px;
      font-size: 16px;
      border: 1px solid #ddd;
      border-radius: 5px;
    }

    .buttons {
      display: grid;
      grid-template-columns: repeat(4, 1fr);
      gap: 10px;
    }

    .buttons button {
      padding: 10px;
      font-size: 18px;
      background: #007bff;
      color: #fff;
      border: none;
      border-radius: 5px;
      cursor: pointer;
    }
  </style>
</head>
<body>
  <div class="calculator">
    <input type="text"/>
    <div class="buttons">
      <button>C</button>
      <button>CE</button>
      <button>MC</button>
      <button>M</button>
      <button>1</button>
      <button>2</button>
      <button>3</button>
      <button>4</button>
      <button>5</button>
      <button>6</button>
      <button>7</button>
      <button>8</button>
      <button>9</button>
      <button>0</button>
      <button>+</button>
      <button>-</button>
      <button>*</button>
      <button>/</button>
      <button>=</button>
    </div>
  </div>
</body>
</html>
```

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.buttons button:hover {
  background: #0056b3;
}

.output {
  font-size: 20px;
  font-weight: bold;
  margin-top: 15px;
}

.error {
  color: red;
  font-size: 14px;
  margin-top: 10px;
}
</style>
</head>
<body>
  <h1>Calculator</h1>
  <div class="calculator">
    <input type="text" id="number1" placeholder="Enter first number">
    <input type="text" id="number2" placeholder="Enter second number">
    <div class="buttons">
      <button onclick="performCalculation('+')">+</button>
      <button onclick="performCalculation('-')">-</button>
      <button onclick="performCalculation('*')">*</button>
      <button onclick="performCalculation('/')">/</button>
      <button onclick="clearFields()">Clear</button>
    </div>
    <div id="output" class="output"></div>
    <div id="error" class="error"></div>
  </div>

  <script>
    function performCalculation(operator) {
      const num1 = document.getElementById('number1').value.trim();
      const num2 = document.getElementById('number2').value.trim();
      const outputElement = document.getElementById('output');
      const errorElement = document.getElementById('error');

      // Clear previous messages
      outputElement.textContent = '';
      errorElement.textContent = '';

      // Validate inputs
      if (num1 === '' || isNaN(num1)) {
        errorElement.textContent = 'Please enter a valid first number.';
      }
    }
  </script>

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        return;
    }
    if (num2 === '' || isNaN(num2)) {
        errorElement.textContent = 'Please enter a valid second number.';
        return;
    }

    const number1 = parseFloat(num1);
    const number2 = parseFloat(num2);

    // Perform calculation with validations
    let result;
    switch (operator) {
        case '+':
            result = number1 + number2;
            break;
        case '-':
            result = number1 - number2;
            break;
        case '*':
            result = number1 * number2;
            break;
        case '/':
            if (number2 === 0) {
                errorElement.textContent = 'Division by zero is not allowed.';
                return;
            }
            result = number1 / number2;
            break;
        default:
            errorElement.textContent = 'Invalid operation.';
            return;
    }

    outputElement.textContent = `Result: ${result}`;
}

// Clear input fields and messages
function clearFields() {
    document.getElementById('number1').value = '';
    document.getElementById('number2').value = '';
    document.getElementById('output').textContent = '';
    document.getElementById('error').textContent = '';
}
</script>
</body>
</html>

```

