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Lab 8 Deliverable: Simple Calculator App

1. HTML (index.html)

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Lab 8 - JavaScript Basics Calculator</title>
  <link rel="stylesheet" href="style.css">
</head>
<body>
  <div class="container">
    <h1>Simple Calculator</h1>
    <div class="calculator">
      <input type="number" id="num1" placeholder="Enter first number">
      <input type="number" id="num2" placeholder="Enter second
number">
      <div class="buttons">
        <button id="addBtn">+</button>
        <button id="subtractBtn">-</button>
        <button id="multiplyBtn">×</button>
        <button id="divideBtn">÷</button>
      </div>
      <p id="result">Result: <span>0</span></p>
    </div>
  </div>
  <script src="script.js"></script>
</body>
</html>
```

2. CSS (style.css)

```
body {
  font-family: Arial, sans-serif;
  background-color: #f0f4f8;
  display: flex;
  justify-content: center;
  align-items: center;
  height: 100vh;
}
```

```

.container {
    background: white;
    padding: 30px;
    border-radius: 10px;
    box-shadow: 0 4px 10px rgba(0,0,0,0.1);
    text-align: center;
    width: 300px;
}
input {
    width: 80%;
    padding: 10px;
    margin: 10px 0;
    font-size: 1em;
}
.buttons button {
    padding: 10px 15px;
    margin: 5px;
    font-size: 1.2em;
    cursor: pointer;
}
#result {
    margin-top: 15px;
    font-size: 1.1em;
    font-weight: bold;
}

```

3. JavaScript (script.js)

```

const num1 = document.getElementById('num1');
const num2 = document.getElementById('num2');
const result = document.querySelector('#result span');
function add(a, b) {
    return a + b;
}
function subtract(a, b) {
    return a - b;
}
function multiply(a, b) {
    return a * b;
}
function divide(a, b) {
    if (b === 0) {

```

```
    alert('Cannot divide by zero!');
    console.error('Attempted to divide by zero.');
    return 'Error';
}
return a / b;
}
document.getElementById('addBtn').addEventListener('click', () =>
calculate('add'));
document.getElementById('subtractBtn').addEventListener('click', () =>
calculate('subtract'));
document.getElementById('multiplyBtn').addEventListener('click', () =>
calculate('multiply'));
document.getElementById('divideBtn').addEventListener('click', () =>
calculate('divide'));
function calculate(operation) {
    const a = parseFloat(num1.value);
    const b = parseFloat(num2.value);
    if (isNaN(a) || isNaN(b)) {
        alert('Please enter valid numbers!');
        console.warn('Invalid input detected.');
        return;
    }
    let output;
    switch (operation) {
        case 'add':
            output = add(a, b);
            break;
        case 'subtract':
            output = subtract(a, b);
            break;
        case 'multiply':
            output = multiply(a, b);
            break;
        case 'divide':
            output = divide(a, b);
            break;
        default:
            console.error('Unknown operation');
            return;
    }
    result.textContent = output;
    console.log(`Operation: ${operation}, Result: ${output}`);
}
```

Output:

Simple Calculator

5

10

+

-

×

÷

Clear

Result: 15

Last: $5 + 10 = 15$