Learner Assignment Submission Format

Learner Details

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- **Enrollment Number:SU625MR015**
- **Batch / Class:MERN Stack**
- **Assignment:Calculator**
- **Date of Submission:16/07/2025**

Problem Solving Activity 1.1

1. Program Statement

Create a calculator using javascript function

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2. Algorithm

- 1. Define functions for basic arithmetic operations (add, subtract, multiply, divide)
- 2. Get input values for num1 and num2 from the user
- 3. Get the selected operation from the user
- 4. Check if num1 and num2 are valid numbers
- 5. If valid, perform the selected operation and store the result
- 6. If invalid, display an error message
- 7. Display the result

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3. Pseudocode

```
BEGIN
  DEFINE add(a, b) = a + b
  DEFINE subtract(a, b) = a - b
  DEFINE multiply(a, b) = a * b
  DEFINE divide(a, b) = IF b == 0 THEN "Cannot divide by zero" ELSE a / b
  GET num1 FROM user input
```

GET num2 FROM user input

GET operation FROM user selection

IF num1 IS NOT a number OR num2 IS NOT a number THEN

DISPLAY "Please enter valid numbers."

ELSE

SWITCH operation

CASE "add" = add(num1, num2)

CASE "subtract" = subtract(num1, num2)

CASE "multiply" = multiply(num1, num2)

CASE "divide" = divide(num1, num2)

DISPLAY result

END

---

4. Program Code

```
<!DOCTYPE html>
<html>
<head>
  <title>Simple Calculator</title>
  <style>
    body {
      font-family: Arial, sans-serif;
      display: flex;
      justify-content: center;
      align-items: center;
      height: 500px;
      background-color: #f4f4f4;
```

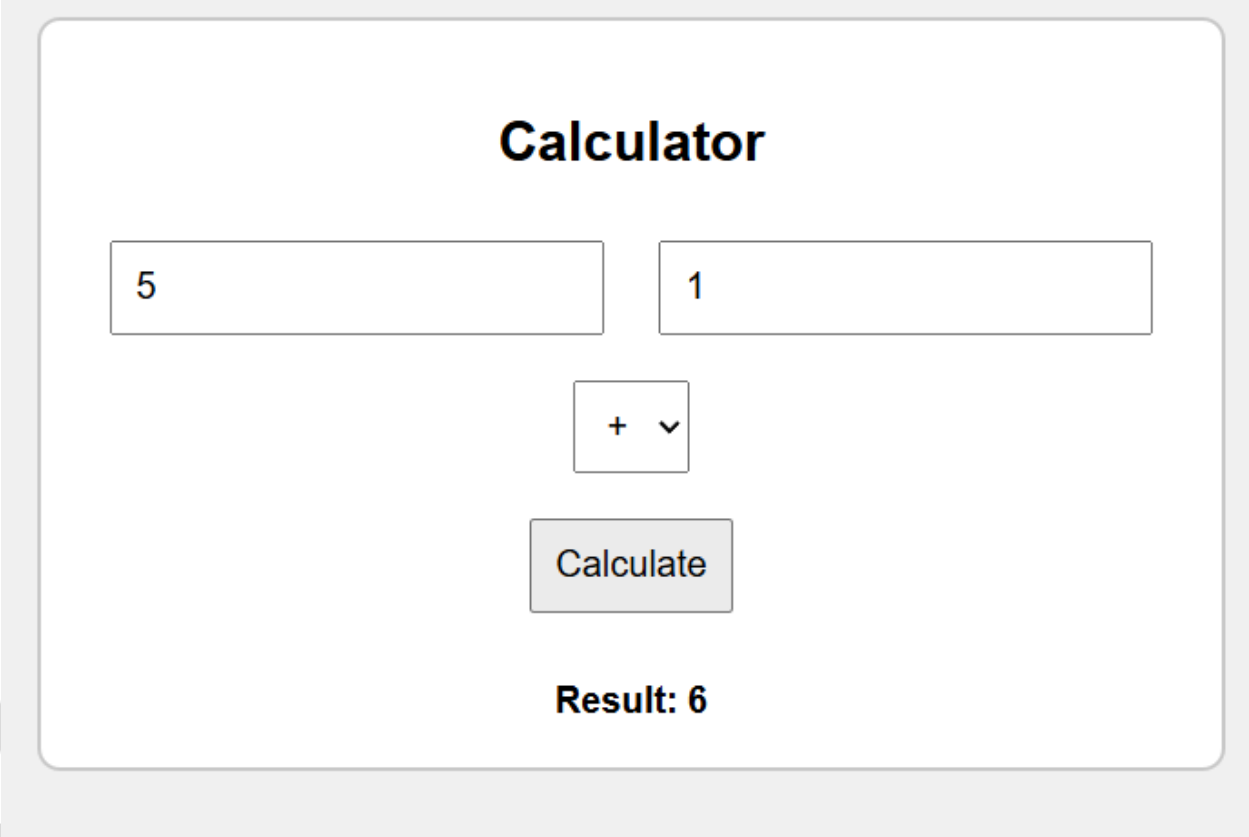
```
    }
    .calculator {
      background: #fff;
      padding: 20px;
      border: 2px solid #ccc;
      border-radius: 10px;
      text-align: center;
    }
    input, select, button {
      margin: 10px;
      padding: 10px;
      font-size: 16px;
    }
    #result {
      margin-top: 20px;
      font-weight: bold;
    }
  </style>
</head>
<body>

<div class="calculator">
  <h2>Calculator</h2>
  <input type="number" id="num1" placeholder="Number 1">
  <input type="number" id="num2" placeholder="Number 2">
```

```
  <br>

  <select id="operation">
    <option value="add">+</option>
    <option value="subtract">-</option>
    <option value="multiply">×</option>
    <option value="divide">÷</option>
  </select>

  <br>

  <button onclick="calculate()">Calculate</button>

  <div id="result"></div>
</div>

<script>
  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) return 'Cannot divide by zero';
  return a / b;
}

function calculate() {
  const num1 = parseFloat(document.getElementById("num1").value);
  const num2 = parseFloat(document.getElementById("num2").value);
  const operation = document.getElementById("operation").value;
  let result;

  if (isNaN(num1) || isNaN(num2)) {
    result = "Please enter valid numbers.";
  } else {
    switch (operation) {
      case "add":
        result = add(num1, num2);
        break;
      case "subtract":
        result = subtract(num1, num2);
        break;
      case "multiply":
        result = multiply(num1, num2);
```

```
          break;
        case "divide":
          result = divide(num1, num2);
          break;
      }
    }

    document.getElementById("result").textContent = "Result: " + result;
  }
</script>

</body>
</html>
```

6. Screenshots of Output



7. Observation / Reflection

The given JavaScript code is a simple calculator that performs basic arithmetic operations. The code is well-structured and easy to understand. Here are some reflections:

- The code uses a modular approach by defining separate functions for each arithmetic operation, making it easy to maintain and extend.

- The code handles invalid input by checking if num1 and num2 are valid numbers, and displays an error message if not.

- The code uses a switch statement to perform the selected operation, making it easy to add or remove operations in the future.

- The code displays the result in a clear and concise manner.