**LAB EXERCISES**

**EX.NO:09**

**EVENT HANDLING**

**AIM:**

**To write a JavaScript program to develop a simple calculator (with basic arithmetic operations like add, subtract, multiply, divide, equal to) by getting two numbers in two text boxes, buttons for operations and display the result in the third text box.**

**PROCEDURE:**

1. **Start the HTML page with the standard structure (<!DOCTYPE html>, <html>, <head>, and <body>).**
2. **Create three input boxes:**

* **One for the first number**
* **One for the second number**
* **One for displaying the result (make it read-only)**

1. **Add four buttons for arithmetic operations:**

* **Add (+)**
* **Subtract (-)**
* **Multiply (×)**
* **Divide (÷)**

1. **Assign onclick event handlers to each button to trigger specific JavaScript functions.**
2. **Inside each JavaScript function:**

* **Convert the values from strings to numbers using parse Float().**
* **Use document. Get Element By Id() to get the values from the two number input fields.**

1. **Perform the selected arithmetic operation (e.g., addition, subtraction, etc.) using appropriate operators (+, -, \*, /).**
2. **Display the result in the third input box by setting its .value property.**
3. **Handle division errors like divide-by-zero by showing a message such as “Cannot divide by zero”.**
4. **Use basic form validation to check if both inputs are filled and are valid numbers before performing the operation.**
5. **Test all operations in a browser to ensure the calculator performs as expected for various input combinations.**

**PROGRAM:**

**<!DOCTYPE html>**

**<html>**

**<head>**

**<meta charset="UTF-8">**

**<title>Simple Calculator</title>**

**<style>**

**body {**

**font-family: Arial, sans-serif;**

**margin: 30px;**

**}**

**input, button {**

**margin: 10px;**

**}**

**</style>**

**</head>**

**<body>**

**<h1>Simple Calculator</h1>**

**<input type="number" id="n1" placeholder="Enter first number">**

**<input type="number" id="n2" placeholder="Enter second number">**

**<br>**

**<button onclick="calculate('+')">+</button>**

**<button onclick="calculate('-')">-</button>**

**<button onclick="calculate('\*')">\*</button>**

**<button onclick="calculate('/')">/</button>**

**<br>**

**<input type="text" id="result" placeholder="Result" readonly>**

**<script>**

**function calculate(operation) {**

**const n1 = parseFloat(document.getElementById('n1').value);**

**const n2 = parseFloat(document.getElementById('n2').value);**

**let result;**

**if (isNaN(n1) || isNaN(n2)) {**

**result = "Invalid input";**

**} else {**

**switch (operation) {**

**case '+':**

**result = n1 + n2;**

**break;**

**case '-':**

**result = n1 - n2;**

**break;**

**case '\*':**

**result = n1 \* n2;**

**break;**

**case '/':**

**result = n2 !== 0 ? n1 / n2 : 'Cannot divide by zero';**

**break;**

**default:**

**result = "Unknown operation";**

**}**

**}**

**document.getElementById('result').value = result;**

**}**

**</script>**

**</body>**

**</html>**

**RESULT:**

**Thus the above HTML Code is executed and the output is obtained.**