Progra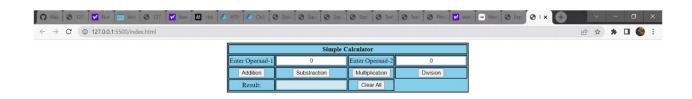m-1: Write a JavaScript to design a simple calculator to perform the following operations: sum, product, difference and quotient.

```html
<!DOCTYPE html>
<html>
<head>
        <title>Experiment-1</title>
        <style type="text/css">
table, td, th{                    border: 2px solid;
                text-align: center;
background-color: skyblue;
                    margin: auto;
                }

                input{
                        text-align: center;
                }

        </style>
        <script type="text/javascript">
                function calc(clicked_id)
                        {
                          var v1=parseFloat(document.getElementById("value1").value);
                          var v2=parseFloat(document.getElementById("value2").value);
                        if(isNaN(v1) || isNaN(v2))
        alert("Please enter a valid number");
else if(clicked_id=="add")
                                document.getElementById("answer").value=v1+v2;
                else if(clicked_id=="sub")
                                document.getElementById("answer").value=v1-v2;
                else if(clicked_id=="mul")
document.getElementById("answer").value=v1*v2;                            else
if(clicked_id=="div")
                        {
                        if(v2==0)
                        {
                                alert("Please Enter a Non Zero Denominator");
                location.reload();
                        }
                        Else
                                document.getElementById("answer").value=v1/v2;
                        }
```

```html
                }

                function cls()
                {
                        value1.value="0";
value2.value="0";
                        answer.value="";
                }
        </script>
</head>
<body>
        <table>
                <tr>
                        <th colspan="4"> Simple Calculator </th>
                </tr>
                <tr>
                        <td>Enter Operand-1</td>
                        <td> <input type="text" id="value1" value="0"/></td>
                        <td>Enter Operand-2</td>
                        <td><input type="text"  id="value2" value="0"/></td>
                </tr>
                <tr>
                        <td><input type="button" value="Addition" id="add"
onclick="calc(this.id)"/> </td>
                        <td><input type="button" value="Substraction" id="Sub"
onclick="calc(this.id)"/> </td>
                        <td><input type="button" value="Multiplication" id="mul"
onclick="calc(this.id)"/> </td>
  <td colspan="2"><input type="button" value="Division" id="div" onclick="calc(this.id)"/>
</td>
                </tr>
                <tr>
                        <td> Result: </td>
                        <td> <input type="text" id="answer" value="" disabled/></td>
                        <td><input type="button" value="Clear All" id="cls"
onclick="cls(this.id)"/> </td>
                </tr>
        </table>
</body>
</html>
```

Output:

4. Test cases:

Test No.	Input Parameters	Expected Output	Obtained Output	Remarks
1.	value1=50.56 value2=24.39	Addition =74.95 Subtraction =26.17 Multiplication=1233.1584 Division=2.072980729807298	Addition =74.95 Subtraction =26.17 Multiplication=1233.1584 Division=2.072980729807298	PASS
2.	value1= 0 value2= 45	Addition =45 Subtraction =-45 Multiplication=0 Division=0	Addition =45 Subtraction =-45 Multiplication=0 Division=0	PASS
3.	value1= 45 value2= 0	Addition =45 Subtraction =45 Multiplication=0 Division=Infinity	Addition =45 Subtraction =45 Multiplication=0 Division=Infinity	PASS
4.	value1 = abc value2 = 23	ENTER VALID NUMBER	ENTER VALID NUMBER	PASS
5	value1 = 50 value2 =xyz	ENTER VALID NUMBER	ENTER VALID NUMBER	PASS

Case1: value1=50.56   value2=24.39

Addition:

Simple Calculator			
Enter Operand-1	50.56	Enter Operand-2	24.39
Addition	Substraction	Multiplication	Division
Result:	74.95	Clear All	

Subtraction:

Simple Calculator			
Enter Operand-1	50.56	Enter Operand-2	24.39
Addition	Substraction	Multiplication	Division
Result:	26.17	Clear All	

Multiplication:

Simple Calculator			
Enter Operand-1	50.56	Enter Operand-2	24.39
Addition	Substraction	Multiplication	Division
Result:	1233.1584	Clear All	

Division:

Simple Calculator			
Enter Operand-1	50.56	Enter Operand-2	24.39
Addition	Substraction	Multiplication	Division
Result:	2.072980729807298	Clear All	

Case 2: value1= 0   value2= 45

Addition:

Simple Calculator			
Enter Operand-1	0	Enter Operand-2	45
Addition	Substraction	Multiplication	Division
Result:	45	Clear All	

Subtraction:

Simple Calculator			
Enter Operand-1	0	Enter Operand-2	45
Addition	Substraction	Multiplication	Division
Result:	-45	Clear All	

Multiplication:

Simple Calculator			
Enter Operand-1	0	Enter Operand-2	45
Addition	Substraction	Multiplication	Division
Result:	0	Clear All	

Division:

Simple Calculator			
Enter Operand-1	0	Enter Operand-2	45
Addition	Substraction	Multiplication	Division
Result:	0	Clear All	

Case 3:   value1= 45   value2= 0

Addition:

Simple Calculator			
Enter Operand-1	45	Enter Operand-2	0
Addition	Substraction	Multiplication	Division
Result:	45	Clear All	

Subtraction:

Simple Calculator			
Enter Operand-1	45	Enter Operand-2	0
Addition	Substraction	Multiplication	Division
Result:	45	Clear All	

Multiplication:

Simple Calculator			
Enter Operand-1	45	Enter Operand-2	0
Addition	Substraction	Multiplication	Division
Result:	0	Clear All	

Division:

127.0.0.1:5500 says

Please Enter a Non Zero Denominator

OK

Case 4:   value1= abc   value2=23

Simple Calculator			
Enter Operand-1	abc	Enter Operand-2	23
Addition	Substraction	Multiplication	Division
Result:		Clear All	

Output:

127.0.0.1:5500 says

Please enter a valid number

OK

Case 5:   value1 = 50   value2 = xyz

Simple Calculator			
Enter Operand-1	50	Enter Operand-2	xyz
Addition	Substraction	Multiplication	Division
Result:		Clear All	

Output:

127.0.0.1:5500 says

Please enter a valid number

OK