WEEK-9 JAVASCRIPT

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REG: 2020CA089

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

```
<!DOCTYPE html>
<html>

<head>
    <title>
        Scientific Calculator using HTML, CSS and Js
    </title>

    <style>
        body{
            background: #672ebd;
        }
        .calc{
            padding-left: 50px;
            padding-right: 50px;
            padding-top: 50px;
            padding-bottom: 50px;
        }
        .calcu{
            margin-left: auto;
            margin-right: auto;
            align-items: center;
            margin-top: 7%;
            border-radius: 50px;
            width: fit-content;
            border-radius: 50px;
background: #9078b5;
box-shadow:  20px 20px 60px #7a669a,
             -20px -20px 60px #a68ad0;
        }
        #btn {
            width: 100%;
            height: 40px;
```

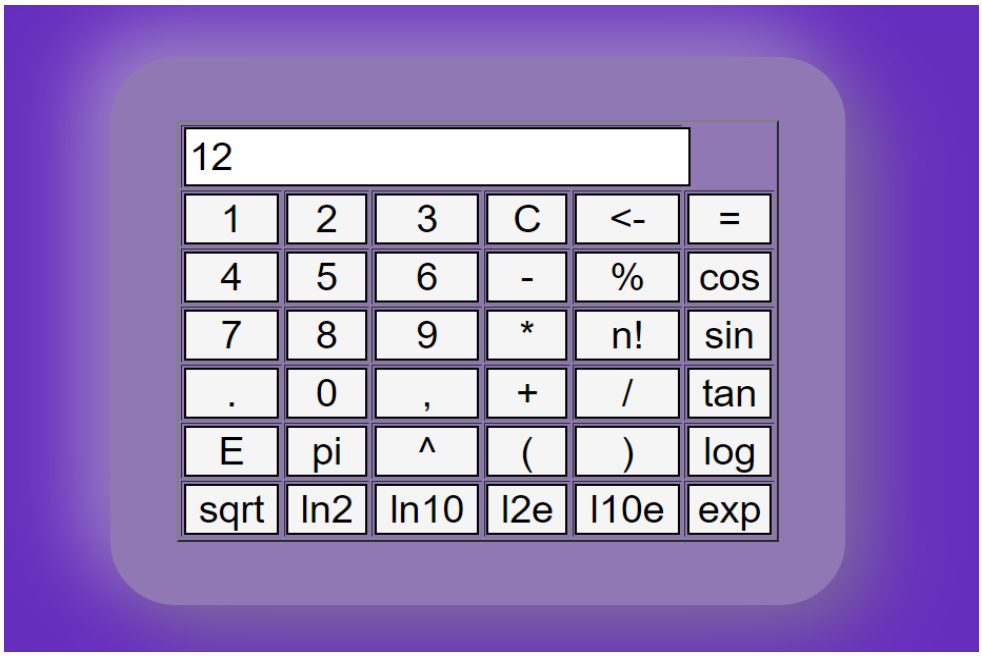
```
            font-size: 30px;
        }

        input[type="button"] {
            background-color:whitesmoke;
            color: black;
            border: solid black 2px;
            width:100%
        }

        /* Set input textarea */
        input[type="text"] {
            background-color:white;
            border: solid black 2px;
            width:100%
        }
    </style>

    <script>
        function backspace(calc) {
            size = calc.display.value.length;
            calc.display.value = calc.display.value.substring(0, size-1);
        }
        function calculate(calc) {
            if(calc.display.value.includes("!")) {

                size = calc.display.value.length;
                n = Number(calc.display.value.substring(0, size-1));
                f = 1;

                for(i = 2; i <= n; i++)
                    f = f*i;
                calc.display.value = f;
            }

            else if(calc.display.value.includes("%")) {

                size = calc.display.value.length;
                n = Number(calc.display.value.substring(0, size-1));
                calc.display.value = n/100;
            }

            else

                calc.display.value = eval(calc.display.value);
```

```
        }
    </script>
</head>

<body>
<center><h2 >Scientific Calculator</h2></center>
    <div class="calcu">

    <form name = "calc" class="calc">

    <table id = "calc" border = 2>

    <tr>
        <td colspan=5><input id="btn" name="display"
            onkeypress="return event.charCode >= 48
            && event.charCode <= 57" type="text">
        </td>
    </tr>

    <tr>
        <td><input id="btn" type="button" value="1"
                OnClick="calc.display.value+='1'">
        </td>

        <td><input id="btn" type="button" value="2"
                OnClick="calc.display.value+='2'">
        </td>

        <td><input id="btn" type="button" value="3"
                OnClick="calc.display.value+='3'">
        </td>

        <td><input id="btn" type="button" value="C"
                OnClick="calc.display.value=''">
        </td>
        <td><input id="btn" type="button" value="<-"
                OnClick="backspace(this.form)">
        </td>
        <td><input id="btn" type="button" value="="
                OnClick="calculate(this.form)">
        </td>
    </tr>

    <tr>
        <td><input id="btn" type="button" value="4"
```

```
                OnClick="calc.display.value+='4'">
        </td>

        <td><input id="btn" type="button" value="5"
                OnClick="calc.display.value+='5'">
        </td>

        <td><input id="btn" type="button" value="6"
                OnClick="calc.display.value+='6'">
        </td>

        <td><input id="btn" type="button" value="-"
                OnClick="calc.display.value='-'">
        </td>

        <td><input id="btn" type="button" value="%"
                OnClick="calc.display.value+='%'">
        </td>

        <td><input id="btn" type="button" value="cos"
                OnClick="calc.display.value='Math.cos('">
        </td>
    </tr>

    <tr>
        <td><input id="btn" type="button" value="7"
                OnClick="calc.display.value+='7'">
        </td>

        <td><input id="btn" type="button" value="8"
                OnClick="calc.display.value+='8'">
        </td>

        <td><input id="btn" type="button" value="9"
                OnClick="calc.display.value+='9'">
        </td>

        <td><input id="btn" type="button" value="*"
                OnClick="calc.display.value+='*'">
        </td>

        <td><input id="btn" type="button" value="n!"
                OnClick="calc.display.value+='!'">
        </td>
```

```
        <td><input id="btn" type="button" value="sin"
                OnClick="calc.display.value='Math.sin('">
        </td>
    </tr>

    <tr>
        <td><input id="btn" type="button" value="."
                OnClick="calc.display.value+='.'">
        </td>

        <td><input id="btn" type="button" value="0"
                OnClick="calc.display.value+='0'">
        </td>

        <td><input id="btn" type="button" value=","
                OnClick="calc.display.value+=','">
        </td>

        <td><input id="btn" type="button" value="+"
                OnClick="calc.display.value+='+'">
        </td>

        <td><input id="btn" type="button" value="/"
                OnClick="calc.display.value+='/'">
        </td>

        <td><input id="btn" type="button" value="tan"
                OnClick="calc.display.value='Math.tan('">
        </td>
    </tr>

    <tr>
        <td><input id="btn" type="button" value="E"
                OnClick="calc.display.value+='Math.E'">
        </td>

        <td><input id="btn" type="button" value="pi"
                OnClick="calc.display.value+='Math.PI'">
        </td>

        <td><input id="btn" type="button" value="^"
                OnClick="calc.display.value+='Math.pow('">
        </td>

        <td><input id="btn" type="button" value="("
```

```
                OnClick="calc.display.value+='('">
        </td>

        <td><input id="btn" type="button" value=")"
                OnClick="calc.display.value+=')'">
        </td>

        <td><input id="btn" type="button" value="log"
                OnClick="calc.display.value='Math.log('">
        </td>
    </tr>

    <tr>
        <td><input id="btn" type="button" value="sqrt"
                OnClick="calc.display.value+='Math.sqrt('">
        </td>

        <td><input id="btn" type="button" value="ln2"
                OnClick="calc.display.value+='Math.LN2'">
        </td>

        <td><input id="btn" type="button" value="ln10"
                OnClick="calc.display.value+='Math.Log10'">
        </td>

        <td><input id="btn" type="button" value="l2e"
                OnClick="calc.display.value+='Math.LOG2E'">
        </td>

        <td><input id="btn" type="button" value="l10e"
                OnClick="calc.display.value+='Math.log10'">
        </td>

        <td><input id="btn" type="button" value="exp"
                OnClick="calc.display.value='Math.exp('">
        </td>
    </tr>
    </table>
    </form>
</div>
</body>

</html>
```



- Write a JavaScript that calculates the squares and cubes of the numbers from 0 to 10 and outputs HTML text that displays the resulting values in an HTML table format.

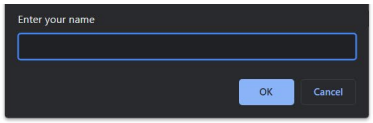
```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>ques2</title>
    <script>
        function loadData(){
            console.log("abc");
            var i=1;
            let table=document.getElementById("math");
            for(;i<=10;i++){
                var x = document.createElement("tr");
                var y1 = document.createElement("td");
                var t1 = document.createTextNode(i);
                y1.appendChild(t1);
                var y2=document.createElement("td");
                var t2=document.createTextNode(i*i);
                y2.appendChild(t2);
                var y3=document.createElement("td");
```

```
                var t3=document.createTextNode(i*i*i);
                y3.appendChild(t3);
                x.appendChild(y1);
                x.appendChild(y2);
                x.appendChild(y3);
                table.appendChild(x);
            }
        }
    </script>
</head>
<body>
    <table id="math" class="table table-borderless table-striped table-earning">
        <tr>
            <th>number</th>
            <th>square</th>
            <th>cube</th>
        </tr>

    </table>
    <script>loadData()</script>
</body>
</html>
```

number	square	cube
1	1	1
2	4	8
3	9	27
4	16	64
5	25	125
6	36	216
7	49	343
8	64	512
9	81	729
10	100	1000

- Write a Java script to prompt for user's name and display it on the screen.

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>ques3</title>
    <script>
        var userName=prompt("Enter your name");
        document.write(userName);
    </script>
</head>
<body>

</body>
</html>
```



- Develop and demonstrate a HTML5 file that includes JavaScript script that uses functions for the following problems:
    a) Parameter: A string
    b) Output: The position in the string of the left-most vowel

c) Parameter: A number

d) Output: The number with its digits in the reverse order

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>ques4</title>
    <script>
        function result(){
            var a=document.getElementById("s").value;
            var b=parseInt(document.getElementById("n").value);
            console.log(a + b);
            if(a==null)
                documment.write("empty string");
            else{
                for(var i=0;i<a.length;i++){
                    if(a[i]=='a'||a[i]=='e'||a[i]=='i'||a[i]=='o'||a[i]=='u'){
                        document.write(a+ " has a vowel " + a[i] + "  at " + i
+"<br>");
                        break;
                    }
                }
            }
            if(b>0){
                var rev=0;
                while(b!=0){
                    console.log(rev);
                    rev = rev*10 + b%10;
                    b=parseInt(b/10);
                }
                document.write("reverse of the number is : " + rev);
            }
            else{
                document.write("no number found");
            }
        }
    </script>
</head>

<body>
    <form onsubmit="result()">
        String: <input type="text" id="s">
        <br>
```

```
        Number: <input type="number" id="n">
        <input type="submit">
    </form>
</body>
</html>
```

counter strike has a vowel o at 1
reverse of the number is : 1234

- Write a java script program which compute, the average marks of the following Students then this average is used to determine the corresponding grade.

```
var students = [['A', 80], ['B', 77], ['C', 88],
                ['D', 95], ['E', 68]];

    var marks = 0;

    for (var i=0; i < students.length; i++) {
        marks += students[i][1];
    }

    var avg = (marks / students.length);

    console.log("Average Marks: " + avg);

    if (avg < 60)
    {
        console.log("Grade : F");
    }
    else if (avg < 70)
    {
        console.log("Grade : D");
    }
```

```
  else if (avg < 80)
  {
      console.log("Grade : C");
  }
  else if (avg < 90)
  {
      console.log("Grade : B");
  }
  else if (avg < 100)
  {
      console.log("Grade : A");
  }
```

```
Average Marks: 81.6
Grade : B

[Done] exited with code=0 in 0.696 seconds
```