OLA 5: HTML & CSS & JavaScript & PHP

Due date: 11:59pm April/4th/2023 (Tuesday)

You are working for a IT Company and your boss wants you to develop a web-based scientific calculator, where the user can enter a mathematical expression using clickable buttons for the digits 0-9, decimal point, and operators (+, -, *, /). When the user clicks the "=" button, the form will be submitted using the POST method to the php script part, and the result will be displayed. Please add fancy style to the calculator. Please finish all steps by following instructions.

Step 1: Create your PHP file.(80 points)

Please create your PHP file, name it as **index.php** . Please remember the extension should be .php. And then add the following parts to your HTML file.

1. Create a basic structure HTML.

```
Declaration line.
<html></html>
<head></head>
<title></title>
<body></body>
```

2. Create a <div id="calculator"></div> section

In the <div id="calculator"></div> section, there is a input form:

★ A <form> to display calculator buttons:
  ☆ **Numbers** : 0-9
  ☆ **Operators:** +,-,*,/,=
  ★ **Clear button**

```
<form method="POST" action="<?php echo htmlspecialchars($_SERVER['PHP_SELF']);?>">
<input type="text" name="display" id="display">
<button type="button" onclick="addToDisplay('7')">7</button>
<button type="button" onclick="addToDisplay('8')">8</button>
<button type="button" onclick="addToDisplay('9')">9</button>
<button type="button" onclick="addToDisplay('+')">+</button>
//please finish form part here
//put your code here
<button type="submit" name="submit">=</button>
</form>
```

2. Create a JavaScript section

```
<script>
    function addToDisplay(value) {
        document.getElementById("display").value += value;
    }

    function clearDisplay() {
        // please finsh clearDisplay function
        // put your code here
    }
</script>
```

3. Create a PHP section

```
<?php
if($_SERVER["REQUEST_METHOD"] == "POST"){

    //Please finsh your PHP code here
    //Put your code here: retrieve mathematical expression using id display and assign it to variable $expression

    // Remove any unwanted characters
    $expression = preg_replace('/[^0-9+\-*.\/\^\(\)\s]/', '', $expression);
    // Evaluate the expression and display the result
    if (!empty($expression)) {
        eval("\$result = ($expression);");
    }
}else{
    $result="";
}
?>
```

3: You can add a heading title at the top of your page, eg: "Welcome to my Calculator!"

4: The above sections are required, besides these, you can add additional sections for your webpage based on your design.

Step 2: Create your CSS file. (20 points)

★ Please create your CSS file, name it as cal.css. Please remember the extension should be .css.
★ Design your own CSS style.
★ Link your CSS file to HTML file by using <link></link>
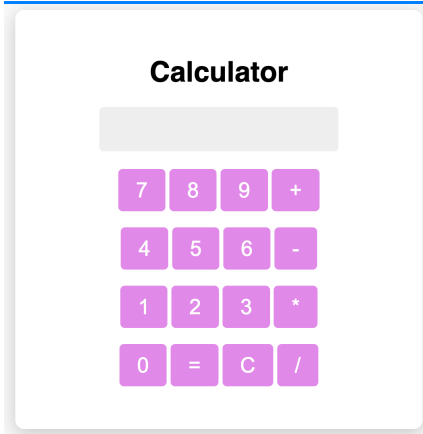
```
<link type="text/css" rel="stylesheet" href="cal.css" />
```

Step 3: Please submit your OLA5 in replit!

Demo

Calculator

7	8	9	+
4	5	6	-
1	2	3	*
0	=	C	/

Grading

There are 100 points in total. Here is the grading scale:

Part	Points
HTML	30 Points
CSS	20 Points
JavaScript	10 Points
PHP	40 Points

If you have any question, email me at Xin.Yang@mtsu.edu or stop by my office at KOM301G.