WebTechnology

Assignment 4

Implement an application in Java Script using following: a) Design UI of application using HTML, CSS etc. b) Include Java script validation c) Use of prompt and alert window using Java Script e.g., Design and implement a simple calculator using Java Script for operations like addition, multiplication, subtraction, division, square of number etc. a) Design calculator interface like text field for input and output, buttons for numbers and operators etc. b) Validate input values c) Prompt/alerts for invalid values etc.

Code:

index.html

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta name="viewport" content="width=device-width, initial-scale=1.0"
/>
    <title>Calculator by Supriya Chaudhari</title>
    <link
href="https://fonts.googleapis.com/css2?family=Roboto+Mono:wght@500&displa
y=swap"
      rel="stylesheet"
    />

    <link rel="stylesheet" href="style.css"/>
  </head>
  <body >
      <h2> CALCULATOR</h2>
    <div class="calculator">

    <div class="display">

     <input type="text" placeholder="0" id="input" disabled />
      </div>
      <div class="buttons">
        <input type="button" value="C" id="clr" />

        <input type="button" value="DEL" id="del" />

        <input type="button" value="/" class="input-button" />
```

```
        <input type="button" value="*" class="input-button" />

        <input type="button" value="7" class="input-button" />

        <input type="button" value="8" class="input-button" />

        <input type="button" value="9" class="input-button" />

        <input type="button" value="-" class="input-button" />

        <input type="button" value="6" class="input-button" />

        <input type="button" value="5" class="input-button" />

        <input type="button" value="4" class="input-button" />

        <input type="button" value="+" class="input-button" />

        <input type="button" value="1" class="input-button" />

        <input type="button" value="2" class="input-button" />

        <input type="button" value="3" class="input-button" />

        <input type="button" value="=" id="equal" />

        <input type="button" value="0" class="input-button" />

        <input type="button" value="." class="input-button" />
      </div>
    </div>

          <script src="calculator.js"></script>
  </body>

</html>
```

style.css

```
h2 {
```

```
font-family: 'Segoe UI', Tahoma, Geneva, Verdana, sans-serif;
color: rgb(8, 8, 8);
font-size: x-large;
font-weight: bold;
text-align:center;
text-shadow: 2px 2px #9490ac;
text-decoration-color: #9490ac;

 }
 body {
   height: 100px;
   background: linear-gradient(
     to right,rgb(253, 77, 77) 0%,rgb(250, 165, 68) 50%,rgb(250, 170, 79)
50%,rgb(226, 196, 115) 100%
   );

 }

* {
    padding: 0;
    margin: 0;
    box-sizing: border-box;
    font-family: "Roboto Mono", monospace;
  }

  .calculator {
    width: 400px;
    background-color: #212224;
    padding: 50px 30px;
    position: absolute;
    transform: translate(-50%, -50%);
    top: 50%;
    left: 50%;
    border-radius: 8px;
    border-color: aqua;
    box-shadow: 0 20px 50px rgba(149, 164, 238, 0.4);
  }
  .display {
    width: 100%;
  }
```

```css
.display input {
  width: 100%;
  padding: 15px 10px;
  text-align: right;
  border: none;
  background-color: transparent;
  color: #ffffff;
  font-size: 35px;
}
.display input::placeholder {
  color: #9490ac;
}
.buttons {
  display: grid;
  grid-template-columns: repeat(4, 1fr);
  grid-gap: 20px;
  margin-top: 40px;
}
.buttons input[type="button"] {
  font-size: 20px;
  padding: 17px;
  border: none;
  background-color: transparent;
  color: #ffffff;
  cursor: pointer;
  border-radius: 5px;
}
.buttons input[type="button"]:hover {
  box-shadow: 0 8px 25px #000d2e;
}
input[type="button"]#equal {
  grid-row: span 2;
  background-color: #78787a;
}
input[type="button"][value="0"] {
  grid-column: span 2;
}
```

calculator.js

```js
let equal_pressed = 0;
```

```
let button_input = document.querySelectorAll(".input-button");

let input = document.getElementById("input");
let equal = document.getElementById("equal");
let clr = document.getElementById("clr");
let del = document.getElementById("del");

window.onload = () => {
  input.value = "";
};

button_input.forEach((button_class) => {
  button_class.addEventListener("click", () => {
    if (equal_pressed == 1) {
      input.value = "";
      equal_pressed = 0;
    }

    input.value += button_class.value;
  });
});
//operation =
equal.addEventListener("click", () => {
  equal_pressed = 1;
  let inp_val = input.value;
  try {
    //evaluate user's input
    let solution = eval(inp_val);
    //True for natural numbers
    //false for decimals
    if (Number.isInteger(solution)) {
      input.value = solution;
    } else {
      input.value = solution.toFixed(2);
    }
  } catch (err) {
    //If user has entered invalid input
    alert("Invalid Input");
  }
});
```

```
//opearation clear
clr.addEventListener("click", () => {
  input.value = "";
});

//operation delete
del.addEventListener("click", () =>
 {
  input.value = input.value.substr(0, input.value.length - 1);
});
```

Output: