Practical 4

index.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>Calculator in HTML CSS & JavaScript</title>
    <link rel="stylesheet" href="styles.css" />
  </head>
  <body>
    <div class="calculator-container">
      <h1 class="title">Calculator</h1> <!-- Title Section -->
      <div class="container">
        <input type="text" class="display" />

        <div class="buttons">
          <button class="operator" data-value="AC">AC</button>
          <button class="operator" data-value="DEL">DEL</button>
          <button class="operator" data-value="%">%</button>
          <button class="operator" data-value="/">/</button>

          <button data-value="7">7</button>
          <button data-value="8">8</button>
          <button data-value="9">9</button>
          <button class="operator" data-value="*">*</button>

          <button data-value="4">4</button>
          <button data-value="5">5</button>
          <button data-value="6">6</button>
          <button class="operator" data-value="-">-</button>

          <button data-value="1">1</button>
          <button data-value="2">2</button>
          <button data-value="3">3</button>
          <button class="operator" data-value="+">+</button>

          <button data-value="0">0</button>
          <button data-value="00">00</button>
          <button data-value=".">.</button>
          <button class="operator" data-value="=">=</button>
        </div>
      </div>
    </div>

    <script src="script.js"></script>
  </body>
</html>
```

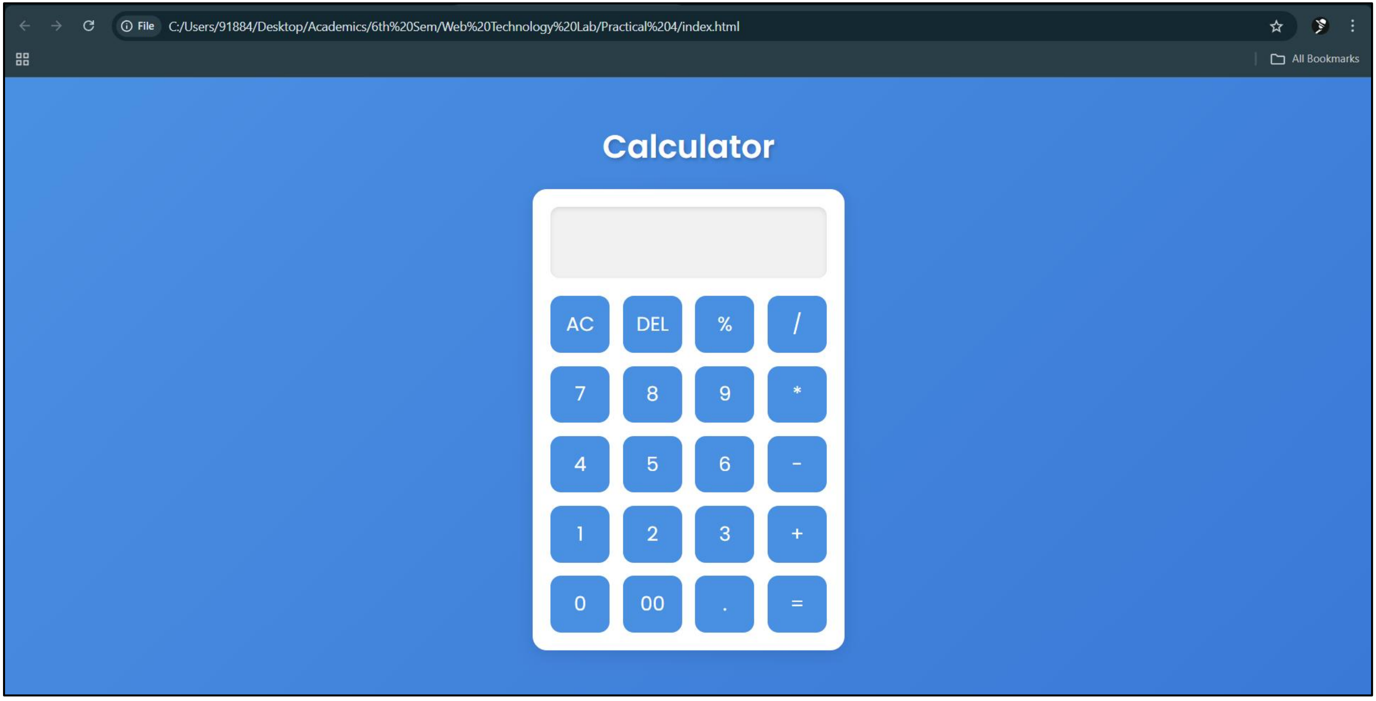
style.css

```
@import url("https://fonts.googleapis.com/css2?family=Poppins:wght@300;400;500;600;700&display=swap");

* {
  margin: 0;
  padding: 0;
  box-sizing: border-box;
  font-family: "Poppins", sans-serif;
}

body {
  height: 100vh;
  display: flex;
  align-items: center;
  justify-content: center;
  background: linear-gradient(135deg, #4a90e2, #3b79d7); /* Blueish gradient background */
}

.container {
  position: relative;
  max-width: 350px;
  width: 100%;
  border-radius: 16px;
  padding: 20px;
  background: #ffffff;
  box-shadow: 0 5px 20px rgba(0, 0, 0, 0.1); /* Softer shadow for elegance */
}

.display {
  height: 80px;
  width: 100%;
  outline: none;
  border: none;
  text-align: right;
  margin-bottom: 20px;
  font-size: 30px;
  color: #2d2d2d; /* Darker text for better readability */
  background: #f1f1f1; /* Light gray background for display */
  border-radius: 10px;
  padding: 15px;
  box-shadow: inset 0 2px 5px rgba(0, 0, 0, 0.1); /* Inner shadow for depth */
}

.buttons {
  display: grid;
  grid-gap: 15px;
  grid-template-columns: repeat(4, 1fr);
}

.buttons button {
  padding: 15px;
  border-radius: 12px;
  border: none;
  font-size: 22px;
  cursor: pointer;
  background-color: #4a90e2; /* Blue buttons */
  color: white; /* White text on buttons */
  transition: transform 0.1s ease-in-out, background-color 0.2s ease; /* Smooth button animation */
}

.buttons button:active {
  transform: scale(0.98);
}

.buttons button:hover {
  background-color: #3578b7; /* Slightly darker blue on hover */
}

.operator {
  background-color: #ff184e; /* Red operator buttons */
  color: white;
}

.operator:hover {
  background-color: #d01b46; /* Darker red for hover effect */
}
.title {
    font-size: 36px;
    font-weight: 600;
    color: white;
    margin-bottom: 20px;
    text-shadow: 2px 2px 4px rgba(0, 0, 0, 0.2); /* Shadow for effect */
    text-align: center;
  }
```

script.js

```
const display = document.querySelector(".display");
const buttons = document.querySelectorAll("button");
const specialChars = ["%", "*", "/", "-", "+", "="];
let output = "";

// Define function to calculate based on button clicked.
const calculate = (btnValue) => {
  display.focus();

  // If the button is "=" and there is an output, evaluate the expression.
  if (btnValue === "=" && output !== "") {
    // Check for divide by zero
    if (output.includes("/0")) {
      alert("Error: Cannot divide by zero!");
      output = ""; // Reset output after the error
    } else {
      // If output has '%', replace with '/100' before evaluating.
      output = eval(output.replace("%", "/100"));
    }
  } else if (btnValue === "AC") {
    output = ""; // Clear output
  } else if (btnValue === "DEL") {
    // If DEL button is clicked, remove the last character from the output.
    output = output.toString().slice(0, -1);
  } else {
    // If output is empty and the button is a special character, return
    if (output === "" && specialChars.includes(btnValue)) return;
    output += btnValue; // Add the button value to the output
  }

  display.value = output; // Display the updated output
};

// Add event listener to buttons, call calculate() on click.
buttons.forEach((button) => {
  // Button click listener calls calculate() with dataset value as argument.
  button.addEventListener("click", (e) => calculate(e.target.dataset.value));
});
```

Output :



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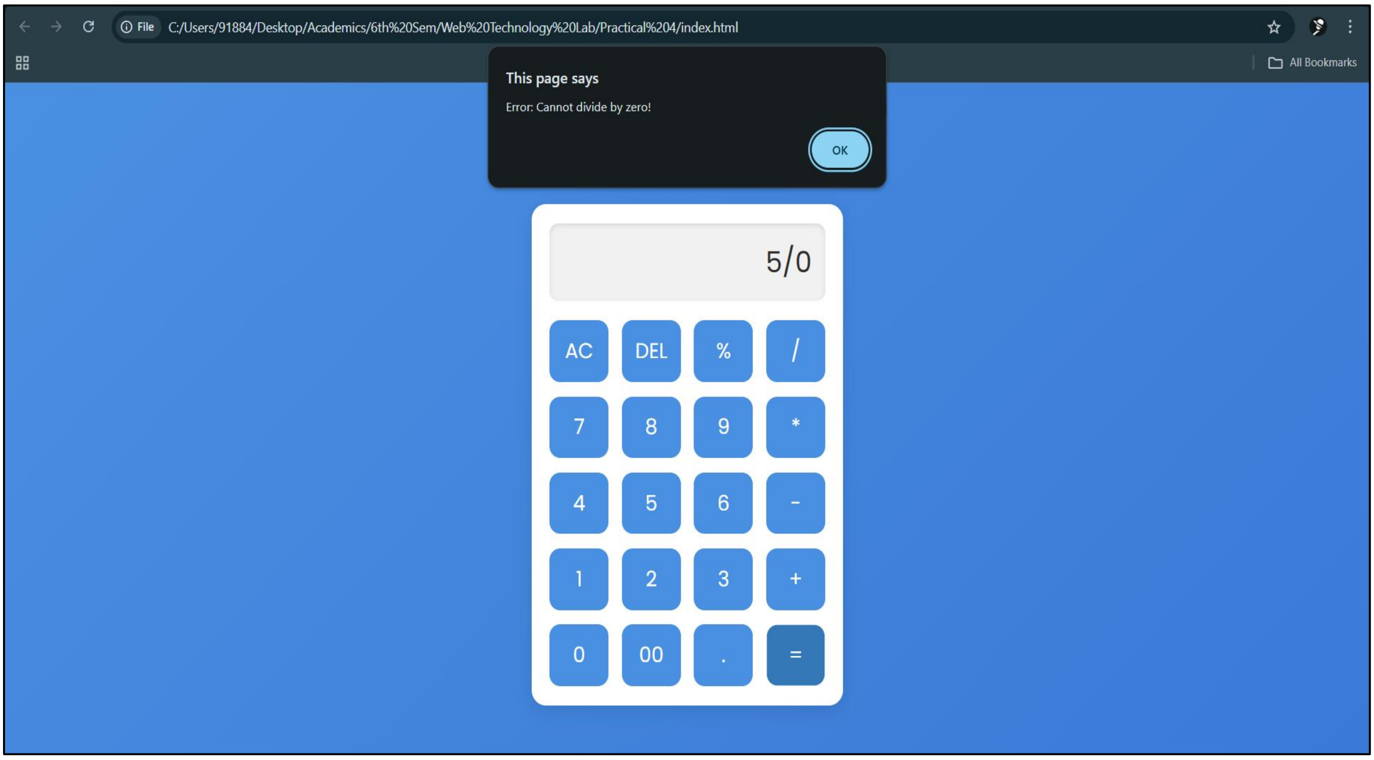
Calculator



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This page says

Error: Cannot divide by zero!

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