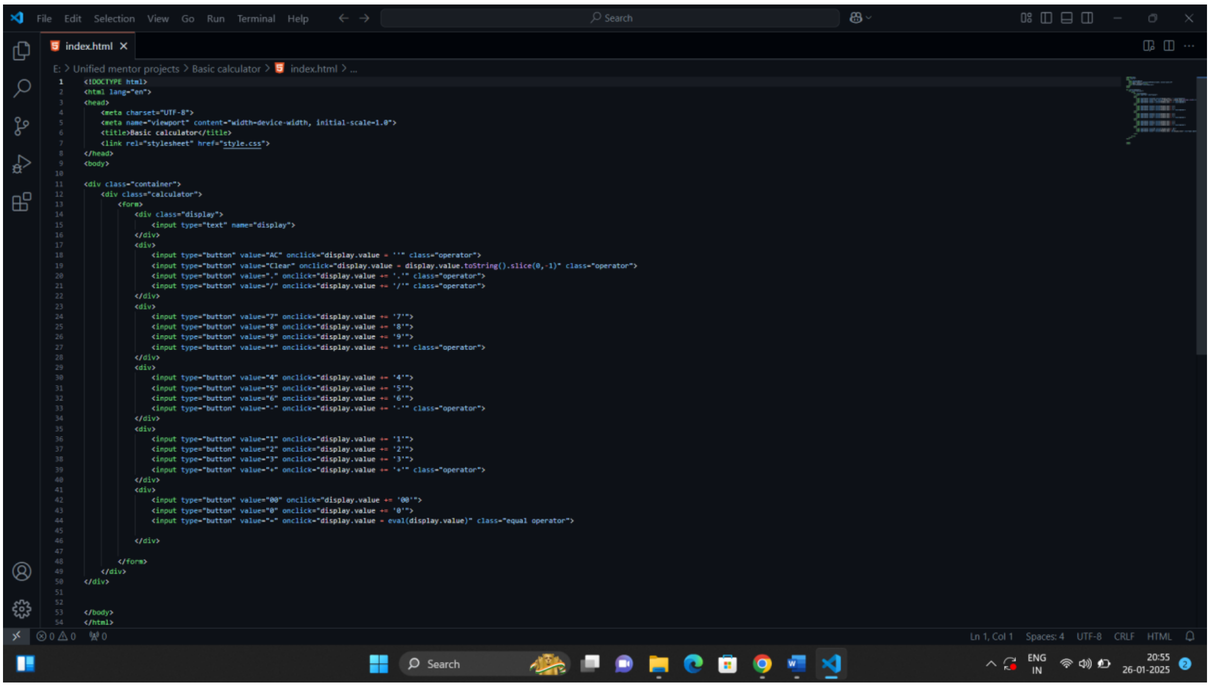
Project Report: Basic Calculator

Objective:
This project aims to create a simple and visually appealing calculator that performs basic arithmetic operations, including addition, subtraction, multiplication, and division.

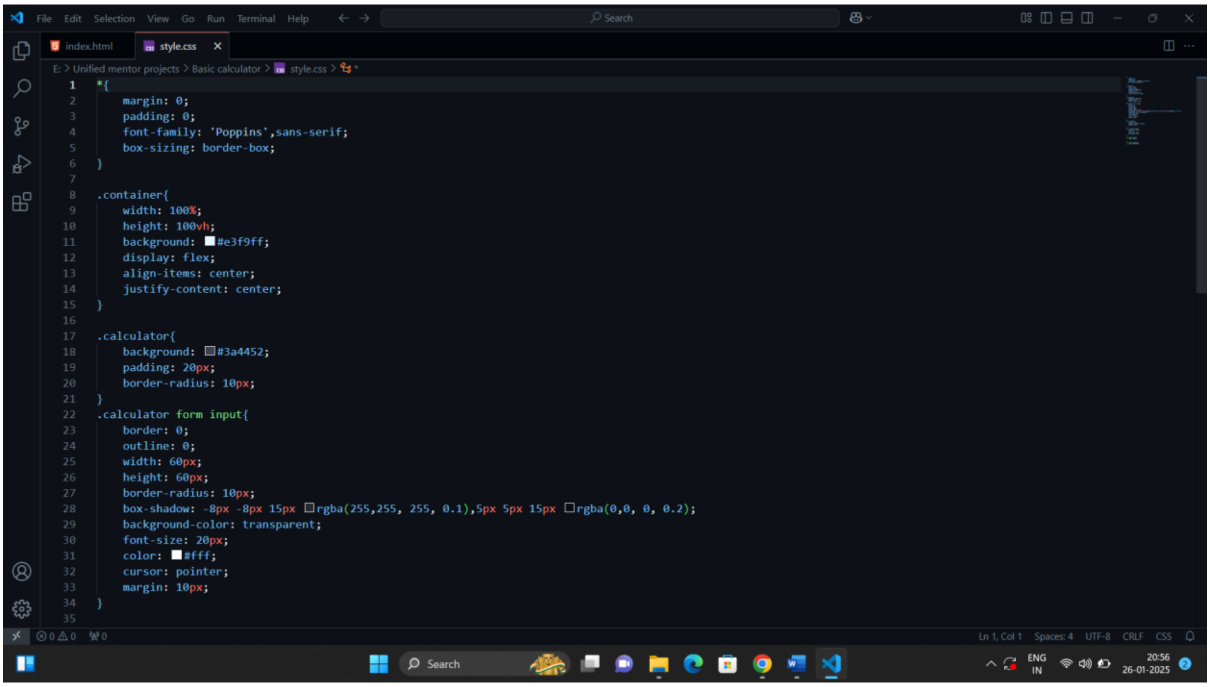


```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Basic calculator</title>
    <link rel="stylesheet" href="style.css">
</head>
<body>

<div class="container">
    <div class="calculator">
        <form>
            <div class="display">
                <input type="text" name="display">
            </div>
            <div>
                <input type="button" value="AC" onclick="display.value = ''" class="operator">
                <input type="button" value="Clear" onclick="display.value = display.value.toString().slice(0,-1)" class="operator">
                <input type="button" value="." onclick="display.value += '.'" class="operator">
                <input type="button" value="/" onclick="display.value += '/'" class="operator">
            </div>
            <div>
                <input type="button" value="7" onclick="display.value += '7'">
                <input type="button" value="8" onclick="display.value += '8'">
                <input type="button" value="9" onclick="display.value += '9'">
                <input type="button" value="*" onclick="display.value += '*'" class="operator">
            </div>
            <div>
                <input type="button" value="4" onclick="display.value += '4'">
                <input type="button" value="5" onclick="display.value += '5'">
                <input type="button" value="6" onclick="display.value += '6'">
                <input type="button" value="-" onclick="display.value += '-'" class="operator">
            </div>
            <div>
                <input type="button" value="1" onclick="display.value += '1'">
                <input type="button" value="2" onclick="display.value += '2'">
                <input type="button" value="3" onclick="display.value += '3'">
                <input type="button" value="+" onclick="display.value += '+'" class="operator">
            </div>
            <div>
                <input type="button" value="00" onclick="display.value += '00'">
                <input type="button" value="0" onclick="display.value += '0'">
                <input type="button" value="=" onclick="display.value = eval(display.value)" class="equal operator">

            </div>

        </form>
    </div>
</div>


</body>
</html>
```

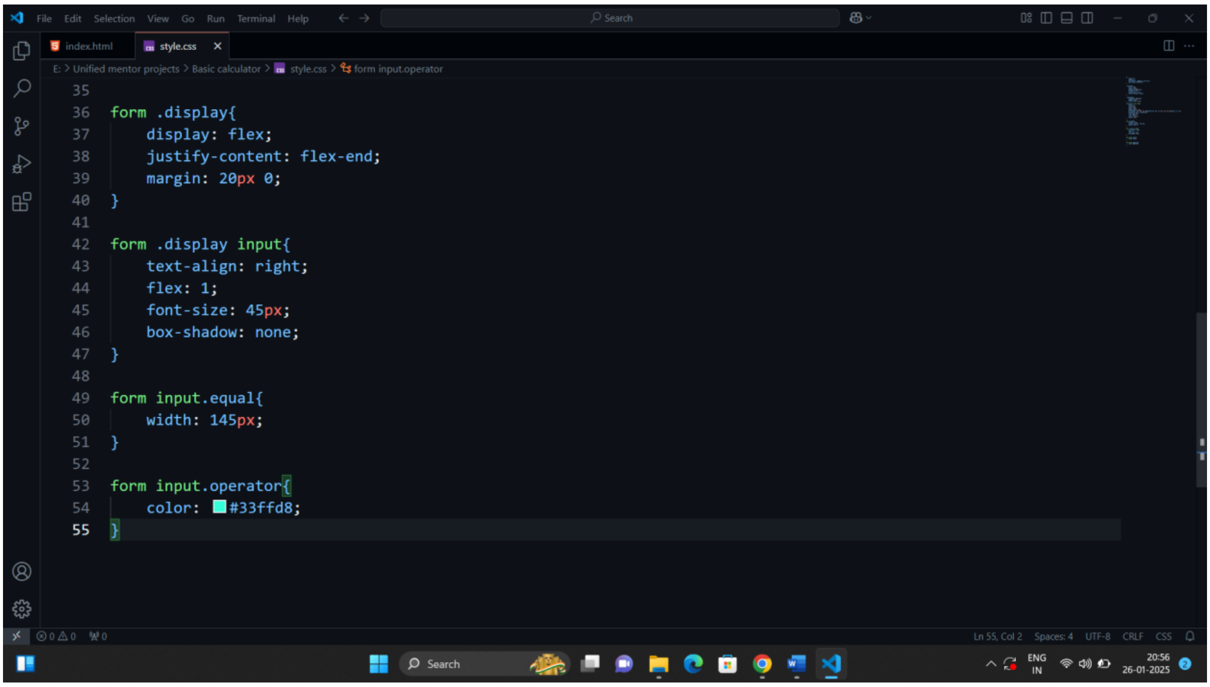
Implementation Details:

1. **HTML Structure**:

    - The index.html file defines the calculator's layout within a <div> container.
    - It includes an input field for displaying the calculation and buttons for numbers, operators, and functions like "AC" (clear all) and "Clear" (remove the last digit).
    - The form uses onclick attributes in buttons to define behavior for updating the display or performing operations like eval() for calculations.


index.html
style.css
E: > Unified mentor projects > Basic calculator > style.css > *

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

.container{
    width: 100%;
    height: 100vh;
    background: #e3f9ff;
    display: flex;
    align-items: center;
    justify-content: center;
}

.calculator{
    background: #3a4452;
    padding: 20px;
    border-radius: 10px;
}
.calculator form input{
    border: 0;
    outline: 0;
    width: 60px;
    height: 60px;
    border-radius: 10px;
    box-shadow: -8px -8px 15px rgba(255,255, 255, 0.1),5px 5px 15px rgba(0,0, 0, 0.2);
    background-color: transparent;
    font-size: 20px;
    color: #fff;
    cursor: pointer;
    margin: 10px;
}

```


index.html
style.css
E: > Unified mentor projects > Basic calculator > style.css > form input.operator

```css

form .display{
    display: flex;
    justify-content: flex-end;
    margin: 20px 0;
}

form .display input{
    text-align: right;
    flex: 1;
    font-size: 45px;
    box-shadow: none;
}

form input.equal{
    width: 145px;
}

form input.operator{
    color: #33ffd8;
}
```

1. **CSS Styling**:
    - The style.css file provides styling for the calculator.
    - Key design features include:
        - A full-page, centered layout (display: flex; align-items: center; justify-content: center).
        - A dark background for the calculator (#3a4452) with soft shadows for a modern look.

        - Buttons are styled with rounded corners, hover effects, and a neon-inspired color palette for operators.

2. **JavaScript Integration**:
    - Inline JavaScript handles all operations through button clicks.
    - The eval() function is used for calculating expressions, and custom onclick events manage clearing or updating the input.

Key Features:

- **User-Friendly Interface**: The calculator is responsive and provides a clean layout with readable fonts and appropriately sized buttons.
- **Basic Functionality**: Supports addition, subtraction, multiplication, division, and handling decimal points.
- **Error Handling**: The clear button and AC function allow easy correction of input errors.

Explanation:
When a button is clicked, its value is appended to the display field. Special buttons like "AC" and "Clear" perform actions like clearing or trimming input. The "=" button evaluates the input using eval(). The CSS enhances usability and visual appeal by aligning the calculator centrally with a sleek, shadowed design.