***WORKING CALCULATOR***

**A PROJECT REPORT**

submitted by

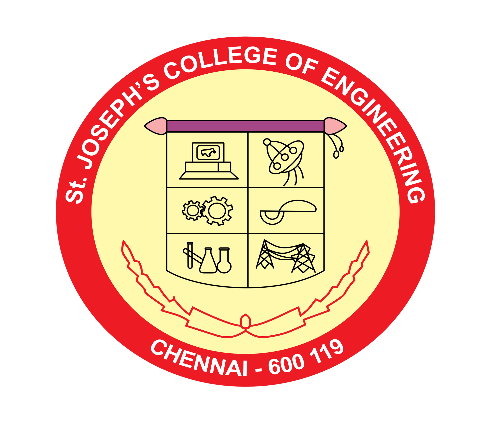
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***Of***

***BACHELOR OF TECHNOLOGY***

***In***

***DEPARTMENT OF INFORMATION TECHNOLOGY***

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**ST. JOSEPH’S COLLEGE OF ENGINEERING**

**(An Autonomous Institution)**

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**OMR, Chennai- 600119**

**ANNA UNIVERSITY: CHENNAI**

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**CERTIFICATE OF EVALUATION**

**COLLEGE NAME :** St. Joseph’s College of Engineering, Chennai- 600119

**BRANCH :** B.TECH., Department of Information Technology

**SEMESTER :** IV

The report of the project work submitted by the above students in partial fulfillment for semester internal marks assignment was confirmed to be the report of the work done by the above students and then evaluated.

Submitted the report on November 2024

**INTERNAL EXAMINER EXTERNAL EXAMINER**

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**COGNITIX CALCULATOR**

1. ***Abstract:***
2. *Define the Calculator's Functions*

* *Step 1: Define the Calculator's Functions*
* *Addition: Function to add two numbers.*
* *Subtraction: Function to subtract one number from another.*
* *Multiplication: Function to multiply two numbers.*
* *Division: Function to divide one number by another (handle division by zero).*

1. *Create a User Interface (Text-Based)*
2. *Capture User Input*
3. *Perform the Calculation*
4. *Run and Test the Program*

*Try running the program, entering different operations and numbers, and verify that the results are accurate.*

*This setup provides the basis for a simple working calculator. You can expand this further by adding more functions (like modulus, exponentiation) or adding a loop to allow multiple calculations in one session.*

1. ***Introduction:***
2. *The Calculator Program is a basic web-based calculator application designed to perform arithmetic operations. This program utilizes HTML for structure, CSS for styling, and JavaScript for functionality. The calculator allows users to perform simple mathematical calculations, including addition, subtraction, multiplication, and division.*
3. *The objective of this program is to create a user-friendly and functional calculator that can be accessed through a web browser. The calculator aims to provide a simple and efficient way to perform everyday mathematical calculations.*
4. *This introduction provides a brief overview of the Calculator Program's purpose, features, and technical requirements.*
5. ***Implementation:***

*+---------------------+*

*| Start |*

*+---------------------+*

*|*

*V*

*+---------------------+*

*| Display options: |*

*| 1. Add* |

*| 2. Subtract*  |

*| 3. Multiply*  |

*| 4. Divide*  |

*+---------------------+*

*|*

*V*

*+---------------------+*

*| Get user choice |*

*+---------------------+*

*|*

*V*

*+------------------------------+*

*| Is choice 1, 2, 3, or 4? |*

*+------------------------------+*

*| |*

*Yes | | No*

*v |*

*+-----------------+ Invalid Choice*

*| Get first and |<----------------*

*| second numbers |*

*+-----------------+*

*|*

*v*

*+------------------------------+*

*| Perform chosen operation: |*

*| - If choice is 1, call add() |*

*| - If choice is 2, call sub() |*

*| - If choice is 3, call mul() |*

*| - If choice is 4, call div() |*

*+------------------------------+*

*|*

*V*

*+---------------------+*

*| Display result |*

*+---------------------+*

*|*

*V*

*+-------------------------+*

*| End |*

*+-------------------------+*

***4.Cognitix Calculator:***

*Source Code:*

*HTML (index.html)*

*<!DOCTYPE html>*

*<html lang="en">*

*<head>*

*<meta charset="UTF-8">*

*<meta name="viewport" content="width=device-width, initial-scale=1.0">*

*<title>Calculator</title>*

*<link rel="stylesheet" href="style.css">*

*</head>*

*<body>*

*<div class="calculator">*

*<input type="text" id="display" disabled>*

*<div class="keys">*

*<button class="operator" onclick="clearDisplay()">C</button>*

*<button class="operator" onclick="deleteChar()">DEL</button>*

*<button class="operator" onclick="calculate()">=</button>*

*<button class="operator" onclick="addOperator('/')">/</button>*

*<button class="number" onclick="addNumber(7)">7</button>*

*<button class="number" onclick="addNumber(8)">8</button>*

*<button class="number" onclick="addNumber(9)">9</button>*

*<button class="operator" onclick="addOperator('\*')">\*</button>*

*<button class="number" onclick="addNumber(4)">4</button>*

*<button class="number" onclick="addNumber(5)">5</button>*

*<button class="number" onclick="addNumber(6)">6</button>*

*<button class="operator" onclick="addOperator('-')">-</button>*

*<button class="number" onclick="addNumber(1)">1</button>*

*<button class="number" onclick="addNumber(2)">2</button>*

*<button class="number" onclick="addNumber(3)">3</button>*

*<button class="operator" onclick="addOperator('+')">+</button>*

*<button class="number" onclick="addNumber(0)">0</button>*

*<button class="number" onclick="addNumber('.')">.</button>*

*</div>*

*</div>*

*<script src="script.js"></script>*

*</body>*

*</html>*

*CSS (style.css)*

*body {*

*font-family: Arial, sans-serif;*

*background-color: #f0f0f0;*

*}*

*.calculator {*

*width: 300px;*

*margin: 50px auto;*

*padding: 20px;*

*background-color: #fff;*

*border: 1px solid #ccc;*

*border-radius: 10px;*

*box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);*

*}*

*#display {*

*width: 100%;*

*height: 40px;*

*font-size: 24px;*

*padding: 10px;*

*border: none;*

*border-radius: 5px;*

*box-sizing: border-box;*

*}*

*.keys {*

*display: grid;*

*grid-template-columns: repeat(4, 1fr);*

*grid-gap: 10px;*

*margin-top: 20px;*

*}*

*button {*

*height: 40px;*

*font-size: 18px;*

*padding: 10px;*

*border: none;*

*border-radius: 5px;*

*cursor: pointer;*

*}*

*.operator {*

*background-color: #4CAF50;*

*color: #fff;*

*}*

*.number {*

*background-color: #f0f0f0;*

*color: #333;*

*}*

*.operator:hover {*

*background-color: #3e8e41;*

*}*

*.number:hover {*

*background-color: #e5e5e5;*

*}*

*JavaScript (script.js)*

*let display = document.getElementById('display');*

*let calculation = '';*

*function addNumber(num) {*

*calculation += num.toString();*

*display.value = calculation;*

*}*

*function addOperator(operator) {*

*calculation += operator;*

*display.value = calculation;*

*}*

*function clearDisplay() {*

*calculation = '';*

*display.value = '';*

*}*

*function deleteChar() {*

*calculation = calculation.slice(0, -1);*

*display.value = calculation;*

*}*

*function calculate() {*

*try {*

*const result = eval(calculation);*

*calculation = result.toString();*

*display.value = calculation;*

*} catch (error) {*

*calculation = 'Error';*

*display.value = calculation;*

*}*

*}*

***5.Output:***

*Calculator Interface*

*Display: 0*

*C | DEL | = | /*

*\*7 | 8 | 9 | \*\**

*4 | 5 | 6 | -*

*1 | 2 | 3 | +*

*0 | .*

*Example Calculations*

*1. Enter: 2 + 3 =*

*Display: 5*

*2. Enter: 10 / 2 =*

*Display: 5*

***6.Conclusion:***

*The calculator program developed using HTML, CSS, and JavaScript demonstrates a simple yet functional implementation of a basic calculator. This project showcases the capabilities of web development technologies in creating interactive and user-friendly applications.*

*Future Enhancements:*

*1. Advanced mathematical operations (exponents, logarithms)*

*2. Memory storage and recall*

*3. Scientific calculator functionality*

*4. Mobile app conversion*

*5. Integration with other web application*

*This calculator program serves as a foundation for more complex web development projects and demonstrates the potential of HTML, CSS, and JavaScript in creating interactive application.*

***7.References:***

*Here are some reference books for creating a working calculator program using HTML, CSS, and JavaScript:*

*HTML and CSS Books*

1. *Book: HTML and CSS: Design and Build Websites*

*Author: Jon Duckett*

*Publisher:*

1. *Book: HTML5 and CSS3*

*Author: Ben Forta*

1. *Book: CSS: The Definitive Guide*

*Author: Eric A. Meyer*