

# Simple Calculator Application

## Introduction:

- Project Name: Simple Calculator
- Developed By: Lov Gupta
- Branch: Computer Science
- Technology Stack: JavaScript, HTML, CSS
- Purpose: This project aims to develop a simple calculator that performs basic arithmetic operations like addition, subtraction, multiplication, and division. The user interface will be clean and responsive, ensuring smooth user interaction.

## Project Objectives:

- Create a calculator capable of performing arithmetic operations (Addition, Subtraction, Multiplication, Division).
- Develop a user-friendly interface using HTML and CSS.
- Implement JavaScript to handle button clicks and perform real-time calculations.

## Project Requirements:

- Frontend:
  - HTML for structuring the calculator layout.
  - CSS for styling and making the design responsive.
- JavaScript:
  - Handling user input and output display.
  - Perform calculations based on button clicks.

## System Design:

- **User Interface:** A clean design with buttons for digits (0-9), operations (+, -, \*, /), and a display screen.
- **Event Handling:** JavaScript event listeners for button clicks to perform operations and update the display.

## **Implementation:**

- **JavaScript Logic:** Write JavaScript functions to handle operations like addition, subtraction, etc.
- **User Interaction:** Capture user inputs through button clicks and display the result dynamically.
- **Testing:** Ensure the accuracy of calculations and the smoothness of UI interactions.

## **Features:**

- Arithmetic operations (Add, Subtract, Multiply, Divide).
- Clear button to reset the calculator.
- Real-time display of user input and output.

## **Challenges and Solutions:**

- **Handling complex inputs:** Solutions like chaining multiple operations without errors.
- **UI Responsiveness:** Ensured smooth performance on different screen sizes.

## **Future Scope:**

- Add advanced operations like square root, percentage, etc.
- Implement memory functionality to store previous calculations.
- Improve UI with themes and customizable options.

**Conclusion:** This calculator project successfully implements basic arithmetic operations using JavaScript and provides a foundation for further development with advanced features.