

Calculator App Documentation

Overview

The Calculator App is a simple web-based calculator that allows users to perform basic arithmetic calculations. It provides a user interface to input numbers and operators, calculates the result, and displays it in a text input field. The app also includes a history feature that stores previous calculations for reference.

Features

- **Basic Arithmetic Operations:** The calculator supports addition, subtraction, multiplication, and division operations.
- **Clear Button (C):** Clears the input field.
- **Delete Button (DEL):** Deletes the last character from the input field.
- **Equals Button (=):** Calculates the result based on the entered expression.
- **History:** Keeps track of previous calculations and displays them in a separate section.

Usage

1. Launch the Calculator App in a web browser.
2. The calculator interface will appear, consisting of a text input field for displaying the result and a grid of buttons for input.
3. Enter numerical values and operators using the provided buttons or keyboard input. The input will appear in the text input field.
4. To perform a calculation, click the "=" button or press the Enter key.
5. The result will be displayed in the text input field.
6. The history section on the right side of the calculator will show the calculation history.
7. To clear the history, click the "Clear History" button.

Error Handling

The calculator app incorporates basic error handling for certain scenarios:

- **Syntax Error:** If there is a syntax error in the entered expression, such as mismatched parentheses or invalid operators, the input field will display "Syntax Error".
- **Eval Error:** If there is an evaluation error during the calculation, the input field will display "Eval Error".
- **Division by Zero:** If there is an attempt to divide a number by zero, the input field will display "Error: Division by zero".
- **Other Errors:** For any other errors encountered during the calculation, the input field will display "Error".

History Persistence

The calculator app stores the calculation history using cookies. The history is maintained even after refreshing or closing the browser. However, clearing browser cookies will delete the history.

Limitations

The Calculator App has a few limitations:

- **Complex Operations:** The app only supports basic arithmetic operations and does not handle complex mathematical functions or expressions.
- **Precision:** The app performs calculations based on JavaScript's `eval()` function, which may result in precision limitations inherent to JavaScript's number representation.

Future Enhancements

Possible future enhancements for the Calculator App could include:

- **Scientific Calculator Mode:** Adding scientific functions such as square root, exponentiation, trigonometric functions, etc.
- **Memory Feature:** Allowing users to store and recall values from memory.
- **Theme Options:** Providing different themes or customizable styles for the calculator interface.

For more detailed information, code analysis, or specific customization, further examination of the HTML, CSS, and JavaScript code may be necessary.