**TITLE:** CodTech IT Solutions Internship - Task Documentation: “SIMPLE CALCULATOR” USIG JAVA.

**INTERN INFORMATION:**

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**INTRODUCTION**

The Simple Calculator is a straightforward Java application developed to meet the basic arithmetic needs of users. With its intuitive interface and essential functionality, it serves as a handy tool for performing calculations quickly and accurately.

This documentation aims to provide an overview of the Simple Calculator project, outlining its purpose, features, usage instructions, implementation details, and potential future enhancements. Whether you're a developer seeking to understand the project structure or an end user looking to utilize the calculator effectively, this documentation will guide you through every aspect of the Simple Calculator's functionality.

From its inception to its current state, the Simple Calculator has undergone meticulous design and development to ensure simplicity, reliability, and ease of use. Whether you're performing simple addition or complex division, the Simple Calculator is here to streamline your arithmetic tasks and simplify your calculations.

Let's delve into the details of the Simple Calculator and explore how it can become a valuable asset in your computational endeavors.

**Implementation**

This implementation of a simple calculator allows the user to input two numbers and select one of the four basic arithmetic operations: addition, subtraction, multiplication, or division. The program then performs the selected operation and displays the result

**CODE EXPLAINATION**

**Import Statements:**

The code imports necessary classes from the java.awt and javax.swing packages to create the GUI components.

Class Declaration:

The calculator class is declared. It implements the ActionListener interface to handle button actions.

Member Variables:

JFrame frame: Represents the main window of the calculator.

JTextField textfield: Displays input and output.

JButton[] numberButtons: Array to store number buttons (0-9).

JButton[] functionButtons: Array to store function buttons (+, -, \*, /, =, ., Del, Clr, (-)).

JPanel panel: Container for number and function buttons.

double num1, num2, result: Variables to store numbers and calculation results.

char operator: Stores the current arithmetic operator.

**Constructor calculator():**

Initializes the GUI components, sets their properties (e.g., size, font), and adds action listeners.

**main() Method:**

Creates an instance of the calculator class to launch the calculator application.

**actionPerformed() Method:**

Handles button clicks and performs corresponding actions:

Appends clicked number buttons to the text field.

Handles decimal point button.

Stores the first number and selected operator.

Performs arithmetic operations when the equal button is clicked.

Clears the text field, deletes the last character, or toggles the sign based on button clicks.

**GUI Layout:**

Sets the layout of the main frame and adds components such as buttons and text fields to create the calculator interface.

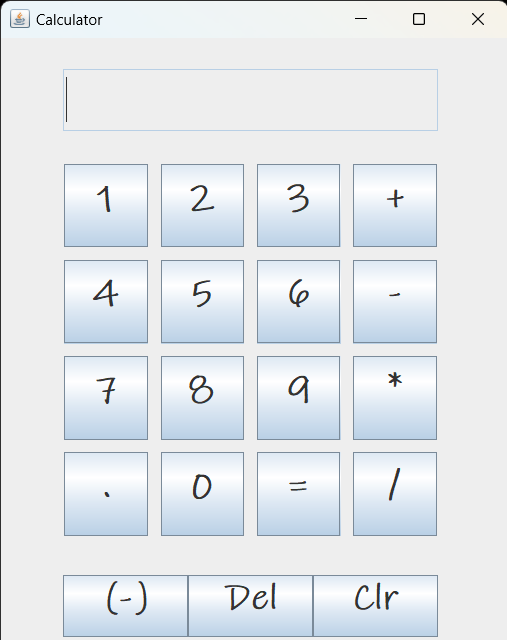
**USAGE**

Compile and run the calculator class to launch the calculator application.

Use the number buttons to input numbers and function buttons to perform arithmetic operations.Clear the input or delete characters as needed.

**CONCLUSION**

The provided code offers a functional and user-friendly calculator application implemented in Java Swing, enabling users to perform basic arithmetic calculations with ease.

**OUTPUT:**