**Project Report: Simple Calculator**

**Introduction:**

The "Simple Calculator" project represents a console application developed using C++ as an internship task for CodeSoft. The primary objective of this project is to create a user-friendly calculator capable of performing fundamental arithmetic operations, including addition, subtraction, multiplication, and division. The application provides an interactive platform for users to input two operands and an operator to execute desired calculations.

**Project Scope:**

This project's scope revolves around the creation of a straightforward and intuitive calculator application. Its core functionality lies in performing arithmetic calculations and presenting the computed outcomes to users. The calculator accommodates essential operations such as addition, subtraction, multiplication, and division.

**Features:**

**1. Interactive Console Interface:**

The application provides a user-friendly console interface that allows users to interact with the calculator effortlessly.

**2. Arithmetic Operations:**

The calculator supports basic arithmetic operations:

* Addition: Combining two numbers.
* Subtraction: Finding the difference between two numbers.
* Multiplication: Calculating the product of two numbers.
* Division: Determining the quotient of two numbers, with error handling for division by zero.

**3. Continuation Option:**

Users have the choice to continue performing calculations or exit the application after each computation.

**Implementation:**

The project is implemented using the C++ programming language. The key steps of its implementation include:

* Displaying a welcoming title and message.
* Utilizing a `do-while` loop to enable users to perform calculations iteratively.
* Prompting users to select an arithmetic operation (+, -, \*, /).
* Collecting two operands from users for the chosen operation.
* Executing the selected operation and displaying the result.
* Providing users with the option to continue or exit the program.

**Code Structure:**

The code's structure is organized into the following segments:

* Displaying a welcoming title and message.
* Employing a `do-while` loop for the core calculation process.
* Gathering user input for the operator and operands.
* Using a `switch` statement to carry out arithmetic operations.
* Incorporating error handling for division by zero.
* Offering users the choice to continue or terminate the program.
* Concluding with a farewell message.

**Conclusion:**

The "Simple Calculator" project demonstrates a basic implementation of a calculator application using C++. It effectively showcases the utilization of fundamental programming concepts such as user input, control structures, and essential arithmetic operations. Although the project's scope is modest, it lays a solid foundation for constructing more sophisticated calculator applications featuring additional features and functionalities.

**Acknowledgments:**

This project was conceived and executed by Maryam Siddiqui during her internship at CodeSoft. Gratitude is extended to mentors and guides for their invaluable support and guidance during the project's development.

**Contact Information:**

For inquiries or feedback regarding this project, kindly reach out to:

Maryam Siddiqui

Note: This project report provides a concise overview and can be expanded as per the specific requirements and details of the actual project.

**Source code :**

#include <iostream>

using namespace std;

int main() {

char option;

char op;

float num1, num2;

cout<<endl;

// Welcome message and title

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* ";

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* " ;

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* " <<endl;

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* WELCOME TO SIMPLE CALCULATOR \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*" <<endl;

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* " <<endl;

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* " ;

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* " << endl;

cout << endl << endl;

do {

// Prompt user to choose an operation

cout << " Choose Any Basic Operation From Below For Calculation:" << endl;

cout << " Enter operator: +, -, \*, /: ";

cin >> op; // user enters any operator for further operations

cout << endl;

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* " <<endl;

cout << " Enter operand 1: ";

cin >> num1;

cout<<endl<<endl;

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* " ;

cout << endl;

cout << " Enter operand 2: "<;

cin >> num2;

cout << endl;

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* " <<endl;

cout<<endl;

// Display the result of the operation based on the chosen operator

cout << " Result displayed: ";

switch (op) {

case '+':

cout << num1 << " + " << num2 << " = " << num1 + num2;

break;

case '-':

cout << num1 << " - " << num2 << " = " << num1 - num2;

break;

case '\*':

cout << num1 << " \* " << num2 << " = " << num1 \* num2;

break;

case '/':

if (num2 != 0) {

cout << num1 << " / " << num2 << " = " << num1 / num2;

} else {

cout << " Error! Division by zero is not allowed.";

}

break;

default:

// If the operator is other than +, -, \* or /, an error message is shown

cout << " Error! Operator is not correct" << endl << endl;

break;

}

cout<<endl<<endl;

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* " ;

cout << endl << endl;

cout << " Do you want to continue? (y/n): ";

cin >> option;

cout << endl;

} while (option == 'y' || option == 'Y');

cout<<endl<<endl;

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* " ;

cout << " Thanks for visiting! Hope you have a great day! See you next time!" << endl;

cout<<endl<<endl;

cout << " \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* " ;

return 0;

}

**//Created by Maryam Siddiqui**

**//For Internship Task Simple alculator**

**//For @softcode**

**Output:**