#include <iostream>

#include <iomanip> // For setw()

using namespace std;

void displayMenu();

int addition(int a, int b);

int subtraction(int a, int b);

int multiplication(int a, int b);

float division(int a, int b);

int calculateModulus(int a, int b);

int main() {

char choice;

int num1, num2;

int result;

do {

cout << "MENU" << endl;

cout << setw(20) << setfill('-') << "" << endl;

displayMenu();

cout << setw(20) << setfill('-') << "" << endl;

cout << "Enter your choice (1-5): ";

cin >> choice;

cout << "Enter integer number 1: ";

cin >> num1;

cout << "Enter integer number 2: ";

cin >> num2;

if(choice == '1') {

result = addition(num1, num2);

cout << "Result: " << result << endl;

} else if(choice == '2') {

result = subtraction(num1, num2);

cout << "Result: " << result << endl;

} else if(choice == '3') {

result = multiplication(num1, num2);

cout << "Result: " << result << endl;

} else if(choice == '4') {

if(num2 == 0) {

cout << "The Second integer is zero, divide by zero" << endl;

} else {

float divResult = division(num1, num2);

cout << "Result: " << divResult << endl;

}

} else if(choice == '5') {

result = calculateModulus(num1, num2);

cout << "Result: " << result << endl;

} else {

cout << "Invalid choice!" << endl;

}

cout << setw(20) << setfill('-') << "" << endl;

cout << "Press y or Y to continue: ";

cin >> choice;

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

return 0;

}

void displayMenu() {

cout << "Menu:" << endl;

cout << "1. Addition" << endl;

cout << "2. Subtraction" << endl;

cout << "3. Multiplication" << endl;

cout << "4. Division" << endl;

cout << "5. Modulus" << endl;

}

int addition(int a, int b) {

return a + b;

}

int subtraction(int a, int b) {

return a - b;

}

int multiplication(int a, int b) {

return a \* b;

}

float division(int a, int b) {

return static\_cast<float>(a) / b;

}

int calculateModulus(int a, int b) {

if (b == 0) {

cout << "Cannot perform modulus operation with divisor 0" << endl;

return 0;

}

return a % b;

}