Calculator Code Documentation

Your Name

November 9, 2023

1 Overview

This document provides documentation for the calculator program written in C. The program includes basic arithmetic operations, trigonometric functions, logarithmic functions, and other mathematical operations.

2 Global Variables

- `intResult`: A global variable to hold integer results.
- `k`: A global variable used as a flag for certain operations.
- `result`: A global variable to hold floating-point results.

3 Functions

3.1 `menu`

```
int menu();
```

This function displays a menu of operations and takes user input to determine the chosen operation.

3.2 `addition`

```
void addition();
```

Performs addition of two numbers or adds a single number to the result, depending on the value of `k`.

3.3 `subtraction`

```
void subtraction();
```

Performs subtraction of two numbers or subtracts a single number from the result, depending on the value of `k`.

3.4 `multiplication`

```
void multiplication();
```

Performs multiplication of two numbers or multiplies the result by a single number, depending on the value of `k`.

3.5 `division`

```
void division();
```

Performs division of two numbers or divides the result by a single number, depending on the value of `k`.

3.6 sine

void sine();

Calculates the sine of an angle in radians.

3.7 cosine

void cosine();

Calculates the cosine of an angle in radians.

3.8 tangent

void tangent();

Calculates the tangent of an angle in radians.

3.9 logBasee

void logBasee();

Calculates the natural logarithm (base e) of a number.

3.10 logBase10

void logBase10();

Calculates the logarithm (base 10) of a number.

3.11 squareRoot

void squareRoot();

Calculates the square root of a number.

3.12 power

void power();

Calculates the power of a number.

3.13 clear

void clear();

Resets global variables (`intResult`, `result`, and `k`) to clear previous data.

4 Main Program

void main();

The main program contains a loop that continuously displays a menu, performs the chosen operation, and waits for user input to continue. Calculator Code Output Your Name November 9, 2023

5 Output

```
    Old Decimal Result = 0.000000
    Old Integer Result = 0

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Sine
6. Cosine
7. Tangent
8. log(base e)
9. log(base 10)
10. SquareRoot
11. Power
12. Clear
13. Exit
Enter your choice: 1
Enter two numbers: 5 3
Result = 8.000000
Press any button to continue......

    Old Decimal Result = 8.000000
    Old Integer Result = 0

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Sine
6. Cosine
7. Tangent
8. log(base e)
9. log(base 10)
10. SquareRoot
11. Power
12. Clear
13. Exit
Enter your choice: 5
Enter angle in radians: 1.5708
Result = 1.000000
Press any button to continue......

    Old Decimal Result = 1.000000
    Old Integer Result = 0

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Sine
6. Cosine
7. Tangent
8. log(base e)
9. log(base 10)
10. SquareRoot
11. Power
```

```
12. Clear
13. Exit
Enter your choice: 12
Old Data Cleared
Press any button to continue......

    Old Decimal Result = 0.000000
    Old Integer Result = 0

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Sine
6. Cosine
7. Tangent
8. log(base e)
9. log(base 10)
10. SquareRoot
11. Power
12. Clear
13. Exit
Enter your choice: 13
```