**DESCRIPTION ON MODULAR CALCULATOR PROGRAM**

**//add.h**

int add(int a, int b);

int add(int a, int b);: Declares a function prototype for the addition function. It takes two integers a and b as parameters and returns an integer result.

**//add.c**

#include "add.h"  
  
int add(int a, int b) {  
 return a + b;  
}

#include "add.h": Includes the header file add.h, which contains the function prototype for the addition function.

int add(int a, int b) {: Begins the definition of the addition function. It takes two integer parameters a and b.

return a + b;: Returns the result of adding a and b.

}: Ends the function definition.

**//sub.h:**

int subtract(int a, int b);

This header file (sub.h) follows a similar structure to add.h, but it declares a function prototype for the subtraction function instead.

**//sub.c:**

#include "sub.h"  
  
int subtract(int a, int b) {  
 return a - b;

}

This source file (sub.c) defines the subtraction function. It follows a similar structure to add.c, but it implements the subtraction operation instead.

**//mul.h:**

int multiply(int a, int b);

This header file (mul.h) declares a function prototype for the multiplication function, following a similar structure to add.h and sub.h.

**//mul.c:**

#include "mul.h"  
  
int multiply(int a, int b) {  
 return a \* b;  
}

This source file (mul.c) defines the multiplication function, following a similar structure to add.c and sub.c.

**//div.h:**

int divide(int a, int b);

This header file (div.h) declares a function prototype for the division function, following a similar structure to the previous header files.

**//div.c:**

#include "div.h"  
  
int divide(int a, int b) {  
 if (b != 0) {  
 return a / b;  
 } else {  
 return 0; // You may handle division by zero differently  
 }  
}

This source file (div.c) defines the division function. It includes error handling for division by zero, returning 0 in such cases.

//main.c:

#include <stdio.h>  
#include "add.h"  
#include "sub.h"  
#include "mul.h"  
#include "div.h"  
  
int main() {  
 int num1 = 10, num2 = 5;  
  
 printf("Addition: %d\n", add(num1, num2));  
 printf("Subtraction: %d\n", subtract(num1, num2));  
 printf("Multiplication: %d\n", multiply(num1, num2));  
 printf("Division: %d\n", divide(num1, num2));  
  
 return 0;  
}

This source file (main.c) includes the standard input/output header (<stdio.h>) and the headers for each arithmetic operation.

The main() function performs arithmetic operations (addition, subtraction, multiplication, division) using functions defined in the respective files.

It then prints the results of each operation using printf().

Finally, it returns 0 to indicate successful termination.

//main.h

#include "add.h"

#include "sub.h"

#include "mul.h"

#include "div.h"

In this main.h file:

We use include guards (#ifndef, #define, #endif) to prevent multiple inclusions of the header file.

We include the necessary header files (add.h, sub.h, mul.h, div.h) that contain the function prototypes for arithmetic operations.

We can also declare additional function prototypes if needed for the main.c file.