

Experiment - 13 (MACROS in C)

Q. Write to define multiple macros to perform arithmetic functions.

```
#include <stdio.h>
#define ADD(a,b) ((a)+(b))
#define SUB(a,b) ((a)-(b))
#define MUL(a,b) ((a)*(b))
#define DIV(a,b) ((b) != 0 ? (a)/(b) : 0)
#define MOD(a,b) ((a) % (b))
```

int main () {

```
int x = 20, y = 6;
printf ("Addition : %.d + %.d = %.d\n", x, y, ADD(x,y));
printf ("Subtraction: %.d - %.d = %.d\n", x, y, SUB(x,y));
printf ("Multiplication: %.d * %.d = %.d\n", x, y, MUL(x,y));
printf ("Division: %.d / %.d = %.d\n", x, y, DIV(x,y));
printf ("Modulus : %.d %.d %.d = %.d\n", x, y, MOD(x,y));
```

return 0;

}

A screenshot of a computer monitor displaying a C programming project in a code editor (VS Code). The code editor shows a file named "C PROGRAMMING PROJECT.c" with the following content:

```
1 #include <stdio.h>
2
3 #define ADD(a, b) ((a) + (b))
4 #define SUB(a, b) ((a) - (b))
5 #define MUL(a, b) ((a) * (b))
6 #define DIV(a, b) ((b) != 0 ? (a) / (b) : 0)
7 #define MOD(a, b) ((a) % (b))
8
9 int main() {
10     int x = 20, y = 6;
11
12     printf("Addition: %d + %d = %d\n", x, y, ADD(x, y));
13     printf("Subtraction: %d - %d = %d\n", x, y, SUB(x, y));
14     printf("Multiplication: %d * %d = %d\n", x, y, MUL(x, y));
15     printf("Division: %d / %d = %d\n", x, y, DIV(x, y));
16     printf("Modulus: %d %d = %d\n", x, y, MOD(x, y));
17
18     return 0;
19 }
```

The terminal below the code editor shows the execution of the program and its output:

```
cd "/Users/rajatsingh/" && gcc tempCodeRunnerFile.c -o tempCodeRunnerFile && "/Users/rajatsingh/"tempCodeRunnerFile
Addition: 20 + 6 = 26
Subtraction: 20 - 6 = 14
Multiplication: 20 * 6 = 120
Division: 20 / 6 = 3
Modulus: 20 % 6 = 2
rajatsingh@Rajats-MacBook-Air ~ %
```

On the right side of the screen, there is a "Build with AI" feature panel with the following text:

Build with AI
AI responses may be included in your code.
Generate instructions to onboard the codebase.