

# COMPUTER PROGRAMMING

## LAB – 1

1. Write a program which will take 2 integer numbers as input from user and it will print output after performing addition, subtraction, multiplication, division and modulus operations.

Print each output in different line and give a tab between operation name and value calculated.

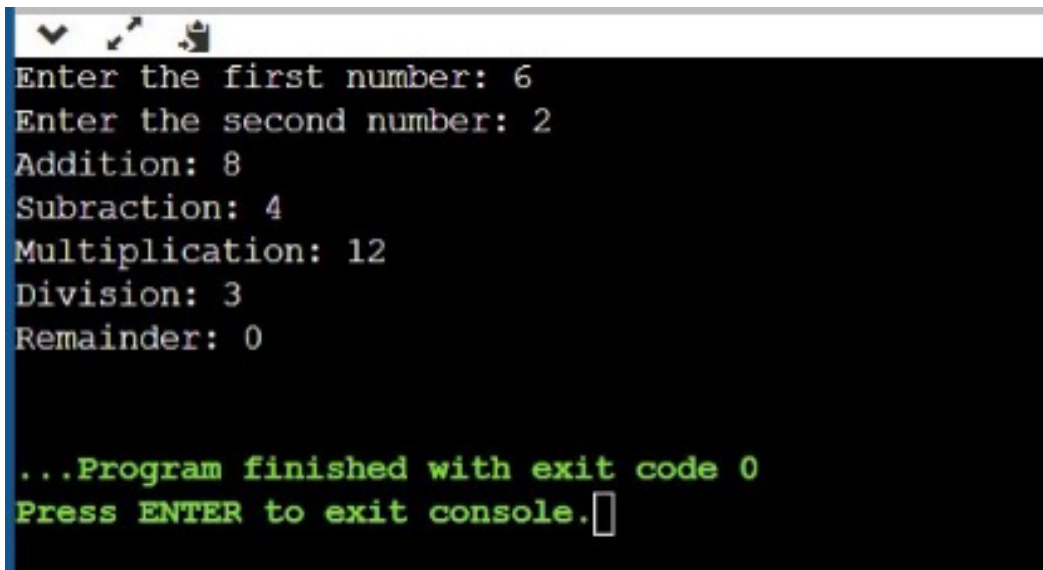
### Source Code:

```
#include <stdio.h>

int main()
{
    int num1, num2, sum, sub, mul, divi, mod;
    printf("Enter the first number: ");
    scanf("%d", &num1);
    printf("Enter the second number: ");
    scanf("%d", &num2);
    sum = num1+num2;
    printf("Addition: %d\n", sum);
    sub = num1-num2;
    printf("Subraction: %d\n", sub);
    mul = num1*num2;
    printf("Multiplication: %d\n", mul);
```

```
divi = num1/num2;
printf("Division: %d\n", divi);
mod = num1%num2;
printf("Remainder: %d\n", mod);
return 0;
}
```

Output:



```
Enter the first number: 6
Enter the second number: 2
Addition: 8
Subtraction: 4
Multiplication: 12
Division: 3
Remainder: 0

...Program finished with exit code 0
Press ENTER to exit console.
```

2. Repeat the above program with float numbers.

Source Code:

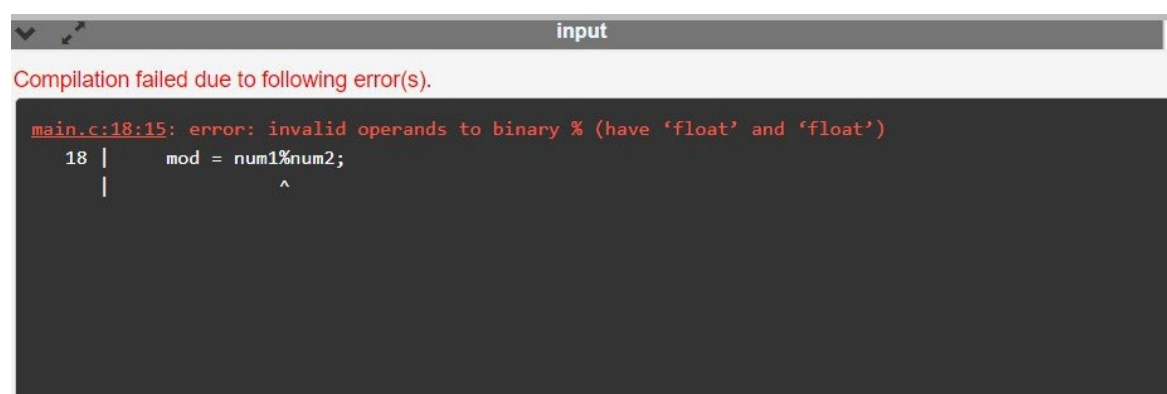
```
#include <stdio.h>
```

```
int main()
```

```
{
```

```
float num1, num2, sum, sub, mul, divi, mod;
printf("Enter the first number: ");
scanf("%f", &num1);
printf("Enter the second number: ");
scanf("%f", &num2);
sum = num1+num2;
printf("Addition: %f\n", sum);
sub = num1-num2;
printf("Subraction: %f\n", sub);
mul = num1*num2;
printf("Multiplication: %f\n", mul);
divi = num1/num2;
printf("Division: %f\n", divi);
mod = num1%num2;
printf("Remainder: %f\n", mod);
return 0;
}
```

### Output:



The screenshot shows a code editor window titled "input". It displays a compilation error message in red text: "Compilation failed due to following error(s)." Below this, the specific error is shown: "main.c:18:15: error: invalid operands to binary % (have 'float' and 'float')". The code snippet is: 

```
18 |     mod = num1%num2;
    |           ^
```

### Observation:

The error is because the modulus operator % cannot apply to float or double. It's meant to get the remainder when integer type x is divided by y. It does not have any meaning when you use it with float or double.

3. Write a program to take principle, rate and time from user and print the simple interest as output

### Source Code:

```
#include <stdio.h>

int main()
{
    int principle, rate, tim, simple_interest;

    printf("Enter the principle: ");
    scanf("%d", &principle);

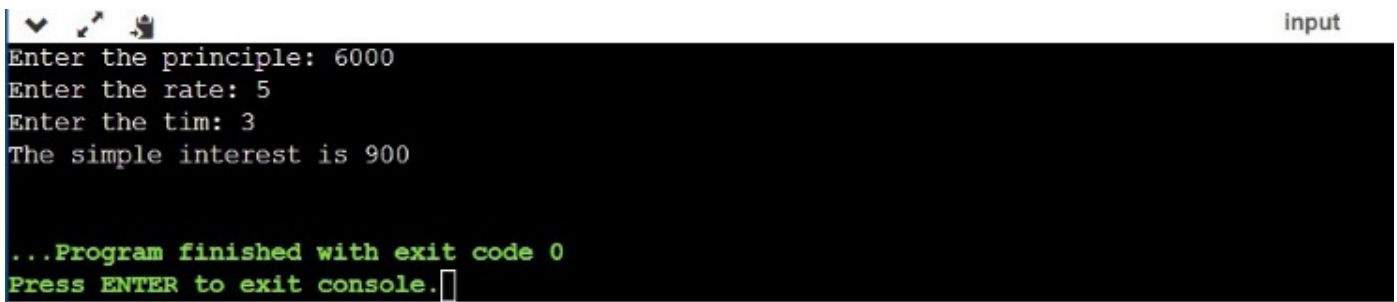
    printf("Enter the rate: ");
    scanf("%d", &rate);

    printf("Enter the tim: ");
    scanf("%d", &tim);

    simple_interest=((principle*rate*tim)/100);
    printf("The simple interest is %d\n", simple_interest);
```

```
    return 0;
}
```

### Output:

A screenshot of a console window with a black background and white text. The text shows the program's execution: it prompts for 'principle', 'rate', and 'tim', then outputs 'The simple interest is 900'. At the bottom, it shows '...Program finished with exit code 0' and 'Press ENTER to exit console.' with a cursor. The word 'input' is visible in the top right corner of the window.

```
Enter the principle: 6000
Enter the rate: 5
Enter the tim: 3
The simple interest is 900

...Program finished with exit code 0
Press ENTER to exit console.
```

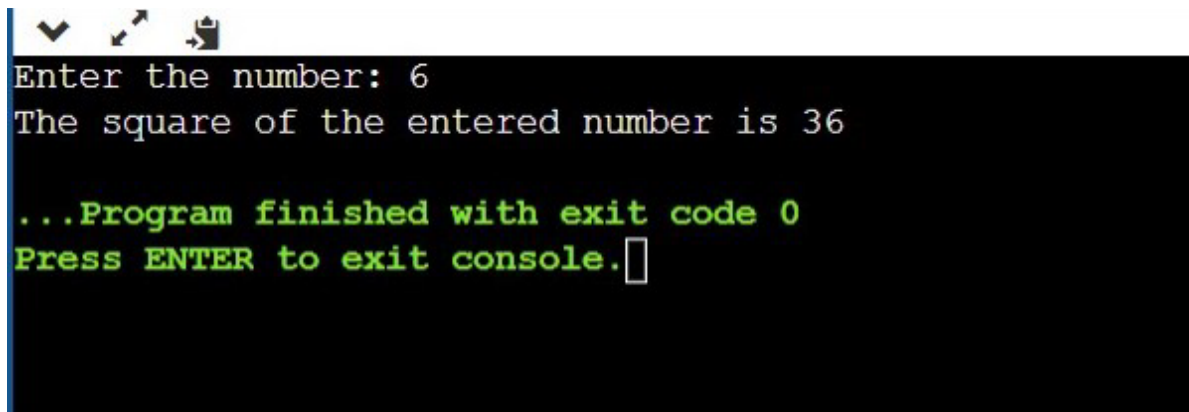
4. Take an integer from user and print square of it.

### Source Code:

```
#include <stdio.h>

int main()
{
    int num,sq_num;
    printf("Enter the number: ");
    scanf("%d", &num);
    sq_num = num * num;
    printf("The square of the entered number is %d", sq_num);
    return 0;
}
```

Output:

A screenshot of a console window with a black background and white and green text. At the top, there are three small icons: a checkmark, a cursor, and a clipboard. The text in the console reads: "Enter the number: 6", "The square of the entered number is 36", "...Program finished with exit code 0", and "Press ENTER to exit console." followed by a cursor icon.

```
Enter the number: 6
The square of the entered number is 36

...Program finished with exit code 0
Press ENTER to exit console.
```

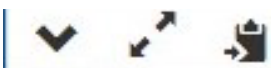
5. Take one float number and one integer from user and multiply and divide integer with float. Write down your observation. Try vice-versa also.

Source Code:

```
#include <stdio.h>

int main()
{
    int num1; float num2;
    printf("Enter the first number: ");
    scanf("%d", &num1);
    printf("\nEnter the second number: ");
    scanf("%f", &num2);
    printf("Multiplication = %f\n", num1*num2);
    printf("Division = %f", num1/num2);
    return 0;
}
```

Output:



```
Enter the first number: 10  
  
Enter the second number: 2  
Multiplication = 20.000000  
Division = 5.000000  
  
...Program finished with exit code 0  
Press ENTER to exit console. 
```