

# Lab4-5

## Question 1

Take two integers (i1, i2) and two float values (f1, f2) as input from the user and print the following:

1. Average of floating numbers.
2. Bitwise-OR and Bitwise-AND of integer numbers.
3. Left-shift i1 by 2 places and Right-shift i2 by 1 place and print out the result. (Note that left shift multiplies the number by 2 and right shift divides it by 2)

```
#include <stdio.h>

int main() {
    int i1, i2;
    float f1, f2;

    printf("Enter two integers: ");
    scanf("%d %d", &i1, &i2);

    printf("Enter two float values: ");
    scanf("%f %f", &f1, &f2);

    // 1. Average of floating numbers
    printf("Average of floats: %.2f\n", (f1 + f2) / 2);

    // 2. Bitwise OR and AND
    printf("Bitwise OR: %d\n", i1 | i2);
    printf("Bitwise AND: %d\n", i1 & i2);

    // 3. Left-shift i1 by 2, Right-shift i2 by 1
    printf("i1 left-shifted by 2: %d\n", i1 << 2);
    printf("i2 right-shifted by 1: %d\n", i2 >> 1);

    return 0;
}
```

```
• abhishek@laptop:~/Desktop/College-Work/LAB4$ gcc question1.c
• abhishek@laptop:~/Desktop/College-Work/LAB4$ ./a.out
Enter two integers: 2 3
Enter two float values: 8.0 9.0
Average of floats: 8.50
Bitwise OR: 3
Bitwise AND: 2
i1 left-shifted by 2: 8
i2 right-shifted by 1: 1
```

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## Question 1-a

The least common multiple (LCM) of two integers a and b is the smallest positive integer that is divisible by both a and b. If either a or b is 0, LCM of a and b is undefined. Write a C function lcm that accepts two integers and returns their LCM. Write a C program (that includes the function lcm) which accepts two integers and prints their LCM.

```
#include <stdio.h>

// Function to calculate LCM
int lcm(int a, int b) {
    if (a == 0 || b == 0)
        return 0; // LCM undefined for zero
    int max = (a > b) ? a : b;
    while (1) {
        if (max % a == 0 && max % b == 0)
            return max;
        max++;
    }
}

int main() {
    int a, b;
    printf("Enter two integers: ");
    scanf("%d %d", &a, &b);

    int result = lcm(a, b);
    if (result == 0)
        printf("LCM is undefined for zero input.\n");
    else
        printf("LCM of %d and %d is %d\n", a, b, result);
}
```

```
    return 0;  
}
```

```
• abhishek@laptop:~/Desktop/College-Work/LAB4$ gcc question1-a.c  
• abhishek@laptop:~/Desktop/College-Work/LAB4$ ./a.out  
Enter two integers: 3 4  
LCM of 3 and 4 is 12
```