CSE 110
B1
Bitwise Operators and Dynamic Memory Allocation

Full Marks: 20 **Time: 50 minutes**

Problem #1 (10 marks)

Write a program C that takes two matrices as input, add the matrices, save the result in a separate matrix, and output the summation of the matrices. First of all, the program takes the dimension of the matrices followed by the elements of the matrices. Then the program calculates the resultant matrix, save it and print it. Note that, dimension of the two matrices will always be same, so you have to take dimension for first matrix only.

Constraints:

1. **You have to use dynamic memory allocation (malloc), i.e., you are not allowed to use static array.**

Sample Input(s)	Corresponding Output(s)
3 4 1 2 3 4 4 5 6 2 7 8 9 1 1 2 3 8 -5 10 9 1 6 8 8 1	2 4 6 12 -1 15 15 3 13 16 17 2

Problem #2 (10 marks)

Write a C program that takes two unsigned integer numbers as input followed by another number n (where $1 \leq n \leq 32$). You have to consider n bits of each two inputs starting from LSB, and print how many positions are there among n bits where both numbers contain 1. For example, if the numbers are 254 (11111110) and 5 (00000101), and n=4, then considering 4 rightmost bits of each number we find 1 position where both number contains 1.

Constraints:

You CANNOT use any array or dynamic memory allocation.

Sample Input(s)	**Corresponding Output(s)**
254 5 4	1
15 15 3	3