"OR Sum

You have been given an array of length N.

Find the sum of bitwise OR for all the subsequences i.e. take all possible subsequences and find bitwise OR for that subsequence.

Print the sum of all bitwise OR.

Note

[1, 7], [4, 6], and [1, 4, 7] are some of possible subsequences of [1, 4, 6, 7].

Remember, not all the possible subsequences are mentioned here.

Function Description

In the provided code snippet, implement the provided orSum(...) method using the variables to print the sum of all bitwise OR. You can write code in the given space below the phrase “WRITE YOUR LOGIC HERE”.

There will be multiple test cases running so the Input and Output should match exactly as provided.

Input Format

The first line of input contains one integer N denoting the size of the array.

The third line of input contains N integers of array A [A1, A2, ..., AN].

Sample Input

2 --denotes N

1 3 --denotes N integers of the array

Constraints

N ( 1 ≤ N ≤ 12 )

Ai ( 1 ≤ Ai ≤ 20)

Output Format

The output contains a single integer denoting the sum of all bitwise OR.

Sample Output

7

Explanation

There are 3 subsequences possible for [1, 3]:

[1], [3], [1, 3]

Bitwise OR of [1] is 1.

Bitwise OR of [3] is 3.

Bitwise OR of [1, 3] is 1 or 3 = 3

Sum = 1 + 3 + 3 = 7.

Hence, the ouput is 7."