[B - Quadruples of XOR](https://vjudge.net/problem/HackerRank-si-quadruples-of-xor" \t "_blank)

 You are given 4 arrays - A, B, C, D of integers. You have to find the number of quadruples (i, j, k, l) such that A[i]^B[j]^C[k]^D[l] = 0, where ^ is the bitwise XOR operator.

**Input Format**

First line of input contains T - number of test cases. Its followed by 5T lines, the first line contains N - the size of the array. The next 4 lines contains the elements of the arrays A, B, C and D respectively.

**Constraints**

10 points  
1 <= T <= 100  
1 <= N <= 20  
1 <= A[i] <= 100

20 points  
1 <= T <= 100  
1 <= N <= 100  
1 <= A[i] <= 100

70 points  
1 <= T <= 100  
1 <= N <= 500  
1 <= A[i] <= 100

**Output Format**

For each test case, print the total number of quadruples, separated by new line.

**Sample Input 0**

3

4

31 8 28 10

18 7 22 5

16 25 20 14

39 9 34 19

2

27 21

39 40

64 77

36 5

8

49 73 58 30 72 44 78 23

9 40 65 92 42 87 3 27

29 40 12 3 69 9 57 60

33 99 78 16 35 97 26 12

**Sample Output 0**

2

0

36

**Explanation 0**

Test Case 1  
There are only 2 quadruples with XOR=0: 28^22^25^19 and 28^5^16^9.

Test Case 2  
None of the quadruples has XOR=0.