

Yet Another Xor Sequence

Fizz have an array A of n integers which ranges between $[1,5]$ inclusive. Let $f(i)$ denote number of times i occurs in the array.

Fizz wants to maximize the value of $\max(f(1),f(2),f(3),f(4),f(5))$. To achieve it, he can perform one operation in the array as many time as he likes.

In each step Fizz can choose two integers A_i and A_j such that:

- $i \neq j$
- $1 \leq (A_i \oplus A_j) \leq 5$ [\oplus is the symbol for bitwise xor]

After choosing the integers, Fizz will remove them from the array and he will insert a new element $(A_i \oplus A_j)$.

Fizz is very good in cricket but not so in programming, so please help him to find the maximum possible value of $\max(f(1),f(2),f(3),f(4),f(5))$.

Input Format:

First line will contain an integer $T(1 \leq T \leq 3000)$ denoting number of testcases. Each test case will contain two lines. First line will consist $n(1 \leq n \leq 1000)$ and second line will consist n space separated integers between 1 to 5.

Output Format:

For each case, print the case number and the expected answer.

Sample Input:

1

8

2 3 4 2 3 5 1 2

Sample Output

Case 1: 5