

Sansa and XOR



Sansa has an array. She wants to find the value obtained by XOR-ing the contiguous subarrays, followed by XOR-ing the values thus obtained. Can you help her in this task?

Note : $[5, 7, 5]$ is contiguous subarray of $[4, 5, 7, 5]$ while $[4, 7, 5]$ is not.

Input Format

First line contains an integer T , number of the test cases.

The first line of each test case contains an integer N , number of elements in the array.

The second line of each test case contains N integers that are elements of the array.

Constraints

$$1 \leq T \leq 5$$

$$2 \leq N \leq 10^5$$

$$1 \leq \text{numbers in array} \leq 10^8$$

Output Format

Print the answer corresponding to each test case in a separate line.

Sample Input

```
2
3
1 2 3
4
4 5 7 5
```

Sample Output

```
2
0
```

Explanation

Test case #00:

$$1 \oplus 2 \oplus 3 \oplus (1 \oplus 2) \oplus (2 \oplus 3) \oplus (1 \oplus 2 \oplus 3) = 2$$

Test case #01:

$$4 \oplus 5 \oplus 7 \oplus 5 \oplus (4 \oplus 5) \oplus (5 \oplus 7) \oplus (7 \oplus 5) \oplus (4 \oplus 5 \oplus 7) \oplus (5 \oplus 7 \oplus 5) \oplus (4 \oplus 5 \oplus 7 \oplus 5) = 0$$