

Sansa and XOR



Problem Statement

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 : $[1, 2, 3]$ is contiguous subarray of $[1, 2, 3, 4]$ while $[1, 2, 4]$ 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.

Output Format

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

Constraints

$$1 \leq T \leq 5$$

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

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

Sample Input

```
1
3
1 2 3
```

Sample Output

```
2
```

Explanation

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