Sum of XOR of All Subarrays

Problem Statement

Given an array containing **N positive integers**, the task is to **find the sum of XOR of all subarrays** of the array.

A *subarray* is any contiguous part of the array.

Input

- The first line contains an integer N, the number of elements in the array.
- The second line contains N positive integers representing the array.

Output

- Print a single integer: **the sum of XOR of all subarrays**.

Example Test Cases

Input	Output
6 1 3 7 9 8 7	128
3 3 8 13	46

Explanation for the Second Test Case

Given the array:

- **XOR of = 3**
- **XOR of = 3 ^ 8 = 11**
- **XOR of = 3 ^ 8 ^ 13 = 6**
- **XOR of = 8**
- **XOR of = 8 ^ 13 = 5**

- **XOR of = 13**

Sum = 3 + 11 + 6 + 8 + 5 + 13 = 46

Sample Input/Output

Sample Input:

```
3
3 8 13
```

Sample Output:

```
46
```

1.