

## A. Distinct Xor Subsequences

time limit per test: 1 second  
memory limit per test: 256 megabytes

You are given a sequence of  $n$  integers  $a_1, a_2, \dots, a_n$ .

Count the **distinct** numbers you can produce by choosing any subsequence from  $a$  and calculate their bitwise XOR. The chosen subsequence can be empty.

### Input

The first line of input contains a single integer  $n$  ( $1 \leq n \leq 10^5$ ).

Then, the second line contains  $n$  integers  $a_1, \dots, a_n$  ( $0 \leq a_i < 2^{60}$ ).

### Output

Print a line of a single integer denoting the answer.

### Examples

input	Copy
4	
7 2 1 5	
output	Copy
8	

  

input	Copy
7	
1 1 1 1 1 1 1	
output	Copy
2	

### Introductory Problems: XOR Basis

Finished
Practice

### → Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

### → Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

### → Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

### → Last submissions

Submission	Time	Verdict
<a href="#">325906186</a>	Jun/24/2025 19:52	Accepted
<a href="#">325905920</a>	Jun/24/2025 19:50	Time limit exceeded on test 12
<a href="#">325903613</a>	Jun/24/2025 19:34	Runtime error on test 12
<a href="#">325903423</a>	Jun/24/2025 19:32	Runtime error on test 12

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