



HOME TOP CONTESTS GYM PROBLEMSET GROUPS RATING API HELP KOTLIN HEROES Z DASHA Z CALENDAR

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS HACKS ROOM STANDINGS CUSTOM INVOCATION

F. Bits And Pieces

time limit per test: 2 seconds memory limit per test: 256 megabytes input: standard input output: standard output

You are given an array a of n integers.

You need to find the maximum value of $a_i|(a_j\&a_k)$ over all triplets (i,j,k) such that i< j< k.

Here & denotes the bitwise AND operation, and | denotes the bitwise OR operation.

Input

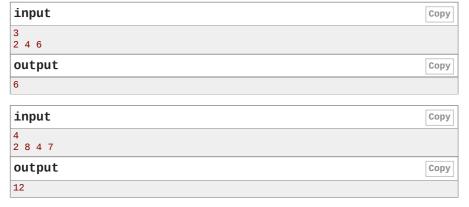
The first line of input contains the integer n ($3 \le n \le 10^6$), the size of the array a.

Next line contains n space separated integers a_1 , a_2 , ..., a_n ($0 \le a_i \le 2 \cdot 10^6$), representing the elements of the array a.

Output

Output a single integer, the maximum value of the expression given in the statement.

Examples



Note

In the first example, the only possible triplet is (1,2,3). Hence, the answer is 2|(4&6)=6.

In the second example, there are 4 possible triplets:

- 1. (1, 2, 3), value of which is 2|(8&4) = 2.
- 2. (1,2,4), value of which is 2|(8&7)=2.
- 3. (1,3,4), value of which is 2|(4&7)=6.
- 4. (2,3,4), value of which is 8|(4&7)=12.

The maximum value hence is 12.

Manthan, Codefest 19 (open for everyone, rated, Div. 1 + Div. 2) 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

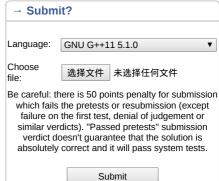
→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest





→ Contest materials	
Announcement (en)Tutorial (en)	×



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