Interview

This placement season , Avinash is preparing for his upcoming interviews in multinational companies . He is trying to solve a problem which was previously asked in many companies. There is an array named arr. He is supposed to find the maximum value of (arr[a] ^ arr[a + 1] ^ arr[a + 2] ..... arr[b]) + (arr[c] ^ arr[c + 1] ^ arr[c + 2] ..... arr[d]) where 1 <= a <= b <= c <= d <= N , where N is the size of the array. Help him to find an optimal solution.

Constraints:

0 <= element of array <= 10^9

1 <= N <= 10^5

Input Format:

First line of the test case will be the length of array N .

Then on the next line you will be given N space separated integers.

Output Format:

The output contains a single integer denoting the maximum value of expression

Sample Input

4

1 2 6 8

Sample Output

17

Difficulty

Hard

Explanation

Here in the given a=1, b= 2, c= 3, d=4 , so (1 ^ 2) + (6 ^ 8) = 3 + 14 = 17.