

## D. "Or" Game

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

You are given  $n$  numbers  $a_1, a_2, \dots, a_n$ . You can perform at most  $k$  operations. For each operation you can multiply one of the numbers by  $x$ . We want to make as large as possible, where denotes the bitwise OR.

Find the maximum possible value of after performing at most  $k$  operations optimally.

### Input

The first line contains three integers  $n, k$  and  $x$  ( $1 \leq n \leq 200\,000, 1 \leq k \leq 10, 2 \leq x \leq 8$ ).

The second line contains  $n$  integers  $a_1, a_2, \dots, a_n$  ( $0 \leq a_i \leq 10^9$ ).

### Output

Output the maximum value of a bitwise OR of sequence elements after performing operations.

### Examples

input
3 1 2 1 1 1
output
3

input
4 2 3 1 2 4 8
output
79

### Note

For the first sample, any possible choice of doing one operation will result the same three numbers 1, 1, 2 so the result is .

For the second sample if we multiply 8 by 3 two times we'll get 72. In this case the numbers will become 1, 2, 4, 72 so the OR value will be 79 and is the largest possible result.