B. "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, ..., *an*. You can perform at most *k* operations. For each operation you can multiply one of the numbers by *x*. We want to make http://codeforces.com/predownloaded/d4/b8/d4b868177a5e377be1efa030a14bc456aa7757c9.png as large as possible, where http://codeforces.com/predownloaded/85/1f/851f0de9066e03abe3b9d7ff4cc047d9743a0729.png denotes the bitwise OR.

Find the maximum possible value of http://codeforces.com/predownloaded/d4/b8/d4b868177a5e377be1efa030a14bc456aa7757c9.png after performing at most *k* operations optimally.

**Input**

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

The second line contains *n* integers *a*1, *a*2, ..., *an* (0 ≤ *ai* ≤ 109).

**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 http://codeforces.com/predownloaded/96/f8/96f8f89fe32580ed1969e2a9e02cd491f4e0892d.png.

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.