E. Empire Strikes Back

time limit per test: 5 seconds
memory limit per test: 512 megabytes
input: standard input
output: standard output

In a far away galaxy there is war again. The treacherous Republic made k precision strikes of power a_i on the Empire possessions. To cope with the republican threat, the Supreme Council decided to deal a decisive blow to the enemy forces.

To successfully complete the conflict, the confrontation balance after the blow should be a positive integer. The balance of confrontation is a number that looks like , where $p = n!$ (n is the power of the Imperial strike), . After many years of war the Empire's resources are low. So to reduce the costs, n should be a minimum positive integer that is approved by the commanders.

Help the Empire, find the minimum positive integer n, where the described fraction is a positive integer.

Input

The first line contains integer k $(1 \le k \le 10^6)$. The second line contains k integers $a_1, a_2, ..., a_k$ $(1 \le a_i \le 10^7)$.

Output

Print the minimum positive integer n, needed for the Empire to win.

Please, do not use the `%lld` to read or write 64-but integers in C++. It is preferred to use the `cin`, `cout` streams or the `%I64d` specificator.

Examples

input
2 1000 1000

output
2000

input
1 2

output
2