Replicants' IDs P73645_en

Los Angeles. Dr. Eldon Tyrell from Tyrell Corporation has decided to identify each replicant with a number. He has chosen a set of prime numbers, and has given instructions to the workers at the factory to use as ID for a new replicant the smallest available number that can be obtained by multiplying the numbers of the set.

Given the set of prime numbers, can you compute the ID of the m-th replicant produced?

Input

Input consists of several cases. Every case begins with an integer number $m \geq 1$, followed by a number n, followed by n different prime numbers. Assume $1 \leq n \leq 10^4$.

Output

For every case, print the ID of the m-th replicant. This number will be smaller than 2^{31}.

Sample input 1

```
1   1  2
2   1  2
3   1  2
5   4  2 5 7 3
11  4  2 5 7 3
19  4  2 5 7 3
```

Sample output 1

```
2
4
8
6
14
27
```

Problem information

Author: Albert Graells

Generation: 2026-01-25T11:45:40.851Z