
Replicants' IDs

P73645_en

Sisè Concurs de Programació de la UPC - Semifinal (2008-06-28)

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 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

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

Problem information

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