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Junior Group

Task B3. SEQUENCES

Let $x_1 < x_2 < \ldots < x_n$ be positive integers and let x_1 and x_2 be relatively prime (i.e. the only positive integer that evenly divides both of them is 1).

We consider all infinite sequences of integers, which are strictly increasing with first member 0, for which the difference between any two adjacent members is equal to one of the integers $x_1, x_2, \ldots, x_n$. For example, if $n = 2,\ x_1 = 4$ and $x_2 = 7,$ then the first nine members of such a sequence are possible to be 0, 4, 8, 15, 19, 26, 33, 40, 44.

Write program **`sequence`** that determines the largest integer that cannot be found in any of these sequences.

Input

The integer n ($1 < n < 6$) is given on the first line of the standard input. There are n integers on the second line: $x_1, x_2, \ldots, x_n$.

Output

On a line of the standard output the program have to write the sought integer.

Example

Input

```
2
4 7
```

Output

```
17
```

Subtask 1 (40 points)

$1 < n < 6,\ x_1 > 1,\ x_n < 1000$

Subtask 2 (24 points)

$n = 2,\ x_1 > 1,\ x_n < 10^9$

Subtask 3 (36 points)

$1 < n < 6,\ 1 < x_1 < 10^{6-n},\ x_2 > 10^{n+11},\ x_n < 10^{n+12}$

You will get points for each subtask, if you pass all test cases in that subtask.