

Periodic Doors

Timelimit: 1 sec

Problem description

Ubiquitous in old sci-fi movies (and some new ones as well) there are n doors along an aisle through which you have to pass. The i th door has a *periodicity* $p_i > 0$. If the periodicity of a door is k then the door is closed during the first $k - 1$ seconds and then open for one second. This cycle repeats and goes on forever.

You can move infinitely fast. In which second can you reach the end of the aisle?

You can wait between doors (and are not smashed by them).

Input

A number n ($n \leq 1000$) followed by n numbers $1 \leq p_1, \dots, p_n \leq 1000$.

Output

The solution, i.e., a single number denoting the second you reach the end of the aisle.

Sample input/output

Input	Output
3 3 4 3	6

The first door is closed in the seconds 1, 2, and open in second 3, so you get to second door in second 3. The second door opens in second 4, so you reach the third door in second 4. The last door is closed in seconds 1, 2, 4, 5, 7, 8 and open in seconds 3, 6, 9. Hence, you pass in the sixth second the last door.