

B. Chaya Calendar

time limit per test: 2 seconds  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

The Chaya tribe believes that there are  $n$  signs of the apocalypse. Over time, it has been found out that the  $i$ -th sign occurs every  $a_i$  years (in years  $a_i, 2 \cdot a_i, 3 \cdot a_i, \dots$ ).

According to the legends, for the apocalypse to happen, the signs must occur sequentially. That is, first they wait for the first sign to occur, then strictly after it, the second sign will occur, and so on. That is, if the  $i$ -th sign occurred in the year  $x$ , the tribe starts waiting for the occurrence of the  $(i + 1)$ -th sign, starting from the year  $x + 1$ .

In which year will the  $n$ -th sign occur and the apocalypse will happen?

Input

The first line of the input contains a single integer  $t$  ( $1 \leq t \leq 1000$ ) — the number of test cases. Then follow the descriptions of the test cases.

The first line of each test case contains a single integer  $n$  ( $1 \leq n \leq 100$ ) — the number of signs.

The second line of each test case contains  $n$  integers  $a_1, a_2, a_3, \dots, a_n$  ( $1 \leq a_i \leq 10^6$ ) — the periodicities of the signs.

Output

For each test case, output a single integer — the year in which all  $n$  signs will occur.

Example

input	Copy
4 6 3 2 4 5 9 18 5 1 2 3 4 5 5 1 1 1 1 1 6 50 30 711 200 503 1006	
output	Copy
36 5 5 2012	

Note

In the first set of input data of the example:

- The tribe will wait for the first sign in the 3-rd year;
- the tribe will wait for the second sign in the 4-th year (since year 2 have already passed);
- the tribe will wait for the third sign in the 8-th year (since the second sign has already occurred in the 4-th year);
- the tribe will wait for the fourth sign in the 10-th year (since year 5 have already passed);
- the tribe will wait for the fifth sign in the 18-th year (since year 9 have already passed);
- the tribe will wait for the sixth sign in the 36-th year (since the fifth sign has already occurred in the 18-th year).

Codeforces Round 927 (Div. 3)

Finished

Practice

→ Virtual participation

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: Python 3.8.10  
Almost always, if you send a solution on PyPy, it works much faster

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
<a href="#">254012232</a>	Mar/30/2024 03:03	Accepted

→ Problem tags

number theory \*1100

No tag edit access

→ Contest materials

Announcement

Tutorial

The only programming contests Web 2.0 platform

Server time: Mar/30/2024 05:34:30<sup>UTC+5.5</sup> (j1).

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