Problem B. Big Sieve Game

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	256 mebibytes

After mastering the sieve of Eratosthenes, Alice excitedly created a puzzle game that made use of it. The rules of the puzzle game are as follows:

- An array $p_1, p_2, \ldots, p_n$ is given. Initially, all p_i are 0.
- A target array $t_1, t_2, \ldots, t_n$ is given.
- The player can perform the following two types of operations:
  - Choose i and increase p_j by 1 for every j divisible by i.
  - Choose i and decrease p_j by 1 for every j divisible by i.
- The puzzle is solved when $p = t$ after applying zero or more operations.

Alice aims to solve the puzzle using the fewest operations, showcasing her puzzle-solving skills. Please help Alice find the minimum number of operations to solve the puzzle.

Input

The first line contains a single integer n ($1 \le n \le 2 \cdot 10^5$).

The second line contains n space-separated integers t_i: the elements of the array t ($-10^9 \le t_i \le 10^9$).

Output

Print the minimum number of operations to solve the puzzle. If the puzzle is unsolvable, print `-1`.

Examples

standard input	*standard output*
4 1 1 1 0	2
7 0 1 1 1 0 2 -1	3