Rescaling Sequence (`rescaling`)

Giorgio is working on a new research paper, this time about integer sequences. Today, he's looking for a specific kind of sequence: the *rescaling sequence*.

A rescaling sequence is a sequence of integers such that, for each pair of adjacent elements, one of the following statements is true:

- The second element is smaller than the first element.
- The second element is a multiple of the first element.

So, this is a rescaling sequence: $4, 8, 7, 21, 19$. This however is *not*: $4, 8, 7, 20, 19$ because 20 is not a multiple of 7.

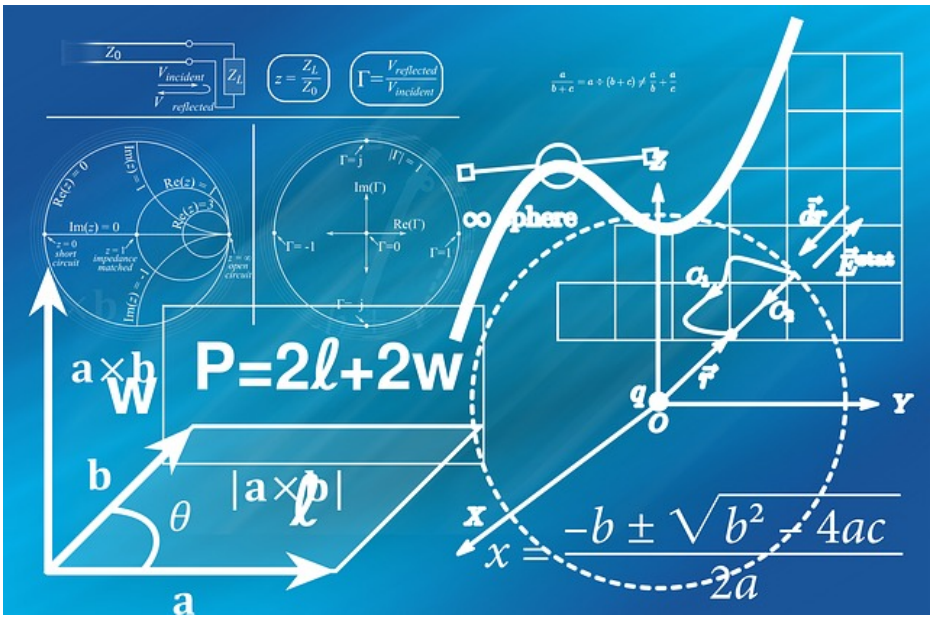

Figure 1: What Giorgio's whiteboard looks like.

You are given a sequence of N integers. Giorgio can delete some elements from the sequence, but he wants to delete as few as possible of them (possibly zero!). Help Giorgio obtain a rescaling sequence by computing the minimum number of elements to be deleted.

☞ Among the attachments of this task you may find a template file `rescaling.*` with a sample incomplete implementation.

Input

The first line contains the only integer N. The second line contains N integers S_i.

Output

You need to write a single line with an integer: the minimum number of elements to delete.

Constraints

- $1 \leq N \leq 5000$.
- $1 \leq S_i \leq 1\,000\,000$ for each $i = 0 \ldots N-1$.

Scoring

Your program will be tested against several test cases grouped in subtasks. In order to obtain the score of a subtask, your program needs to correctly solve all of its test cases.

- **Subtask 1** [**5 points**]: Examples.
- **Subtask 2** [**25 points**]: $N \leq 10$.
- **Subtask 3** [**30 points**]: $N \leq 100$.
- **Subtask 4** [**20 points**]: All the elements of the sequence are *prime numbers*.
- **Subtask 5** [**20 points**]: No additional limitations.

Examples

input.txt	output.txt
5 4 8 7 21 19	0
5 4 8 7 20 19	2

Explanation

The **first sample case** is the one described above.

In the **second sample case**, it is sufficient to erase either $8, 7$ or $20, 19$.