B. Good Sequences

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

Squirrel Liss is interested in sequences. She also has preferences of integers. She thinks n integers $a_1, a_2, ..., a_n$ are *good*.

Now she is interested in good sequences. A sequence $x_1, x_2, ..., x_k$ is called *good* if it satisfies the following three conditions:

- The sequence is strictly increasing, i.e. $x_i < x_{i+1}$ for each i $(1 \le i \le k - 1)$.
- No two adjacent elements are coprime, i.e. $gcd(x_i, x_{i+1}) > 1$ for each i $(1 \le i \le k - 1)$ (where $gcd(p, q)$ denotes the greatest common divisor of the integers p and q).
- All elements of the sequence are good integers.

Find the length of the longest good sequence.

Input

The input consists of two lines. The first line contains a single integer n $(1 \le n \le 10^5)$ — the number of good integers. The second line contains a single-space separated list of good integers $a_1, a_2, ..., a_n$ in strictly increasing order $(1 \le a_i \le 10^5; a_i < a_{i+1})$.

Output

Print a single integer — the length of the longest good sequence.

Examples

input
5 2 3 4 6 9
output
4

input
9 1 2 3 5 6 7 8 9 10
output
4

Note

In the first example, the following sequences are examples of good sequences: [2; 4; 6; 9], [2; 4; 6], [3; 9], [6]. The length of the longest good sequence is 4.