Valid Line

Problem Statement:

All people in Tunisia are given a unique identification number (UIN). Due to a recent government policy, all people are required to stand in a line to exchange their money. Moreover, people cannot just stand in any order in the lines, the sequence of their UIDs should be valid. A sequence $<a1, a_2, a_3, ..., a_k>$ of the UINs of citizens standing in a line (in that order) is valid, if:

1. The UINs of two adjacent citizens are not coprime, i.e. $gcd(a_i, a_{i+1}) > 1$ for each i $(1 \leq i \leq k - 1)$
2. The UIDs are strictly increasing, i.e. $a_i < a_{i+1}$ for each i $(1 \leq i \leq k - 1)$.

For a given set of UIDs, $x_1, x_2, ..., x_n$ find the length of the longest sequence of citizens that can stand in a line to exchange money.

Input Format:

The input consists of two lines. The first line contains a single integer n — the number of given UIDs. The second line contains a single-space separated list of UIDs $x_1, x_2, ..., x_n$ in strictly increasing order.

Output Format:

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

Constraints:

- $1 \leq n \leq 10^5$
- $1 \leq x_i \leq 10^5$
- $x_i < x_{i+1}$

Sample Input:
9

1 2 3 5 6 7 8 9 10

Sample Output: