

Problem N. Nice Subsequences

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 1024 mebibytes

Given a sequence $a = (a_1, a_2, \dots, a_n)$, a *nice* subsequence of a is a subsequence (not necessarily contiguous) where adjacent elements in the subsequence are not coprime.

Find the maximum length ℓ of a nice subsequence of a . Also, determine the number of nice subsequences of length ℓ , modulo 998 244 353.

Input

The first line of the input contains a single integer n ($2 \leq n \leq 2 \cdot 10^5$).

The second line contains the sequence a and consists of n integers a_i ($1 \leq a_i \leq 10^6$).

Output

Print two lines. On the first line, print ℓ . On the second line, output the number of nice subsequences of length ℓ of a , modulo 998 244 353.

Examples

<i>standard input</i>
3 2 3 6
<i>standard output</i>
2 2
<i>standard input</i>
5 1 1 1 1 1
<i>standard output</i>
1 5
<i>standard input</i>
10 631932 735902 895728 78537 723857 330739 286918 329211 539679 238506
<i>standard output</i>
7 2