

Problem N: Noncoprime Subsequences

- Time Limit: 2 sec

Problem Statement

Given a sequence $A = (A_1, A_2, \dots, A_N)$, a **good subsequence** of A is defined as a subsequence, that is not necessarily contiguous, where adjacent elements in the subsequence are not coprime.

Find the maximum length L of a **good subsequence** of A . Also, determine the number of **good subsequences** of length L , modulo **998,244,353**.

Input

The input is given in the following format:

N
 $A_1 A_2 \dots A_N$

- $1 \leq N \leq 200,000$
- $1 \leq A_i \leq 10^6$
- All input values are integers.

Output

Output 2 lines. On the first line, output L . On the second line, output the number of **good subsequences** of length L of A , modulo **998,244,353**.

Sample Input 1	Sample Output 1
3 2 3 6	2 2
Sample Input 2	Sample Output 2
5 1 1 1 1 1	1 5
Sample Input 3	Sample Output 3
10 631932 735902 895728 78537 723857 330739 286918 329211 539679 238506	7 2