

# Just Another Number Theory Problem

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

Given are  $n$  **prime** numbers  $1 < p_1 < p_2 < \dots < p_n < 10^{18}$  with  $p_1 \leq 100$ . We say that the number  $x$  is *good* if  $x$  is divisible by at least one  $p_i$ .

Take all *good* numbers  $a_1, a_2, \dots, a_m$  in  $[0, p_1 \cdot p_2 \cdot \dots \cdot p_n]$  and sort them in order ( $a_1 < a_2 < \dots < a_m$ ). Your task is to calculate  $\sum_{i=1}^{m-1} (a_{i+1} - a_i)^2$ . As the sum could be very large, you should output it modulo 998 244 353.

## Input

The first line of the input contains a single integer  $n$  ( $1 \leq n \leq 10^5$ ).

The next line of the input contains  $n$  integers  $p_1, p_2, \dots, p_n$  ( $1 < p_1 < p_2 < \dots < p_n < 10^{18}$ ). It is guaranteed that  $2 \leq p_1 < 100$  and each  $p_i$  ( $1 \leq i \leq n$ ) is a prime number.

## Output

Output a single line with a single integer, indicating the answer modulo 998 244 353.

## Examples

<i>standard input</i>	<i>standard output</i>
2 2 5	18
3 5 7 233	31275

## Note

In the first example, the list of good numbers is:

- $a_1 = 0$
- $a_2 = 2$
- $a_3 = 4$
- $a_4 = 5$
- $a_5 = 6$
- $a_6 = 8$
- $a_7 = 10$

Thus, the answer is  $(2 - 0)^2 + (4 - 2)^2 + (5 - 4)^2 + (6 - 5)^2 + (8 - 6)^2 + (10 - 8)^2 = 18$ .