Problem B. Bus Stop

Input file:	*standard input*
Output file:	*standard output*
Time limit:	2 seconds
Memory limit:	512 mebibytes

You are waiting for a bus at a bus stop.

There are n bus routes passing through the bus stop. You know that buses of the i-th route arrive one by one with an interval of exactly d_i minutes. Nevertheless, you have no information about the exact moment of time when the next bus of any route arrives, so you expect the time until a bus of route i arrives to be a real number distributed between 0 and d_i minutes uniformly at random.

Find the expected value of time until a bus of any route arrives.

Input

The first line contains a single integer n ($1 \le n \le 10^5$), the number of routes.

The second line contains n integers $d_1, d_2, \ldots, d_n$ ($1 \le d_i \le 987\,654\,321$) separated by spaces, where d_i is the interval in minutes between consecutive buses of route i.

Output

It can be shown that the answer can be represented as an irreducible fraction $\frac{P}{Q}$, where P and Q are positive coprime integers and $Q \not\equiv 0 \pmod{998\,244\,353}$. Print a single integer $X = P \cdot Q^{-1} \pmod{998\,244\,353}$ ($0 \le X < 998\,244\,353$), where Q^{-1} is the inverse of Q modulo 998 244 353.

Examples

standard input	standard output
1 3	499122178
3 5 7 10	29709655

Note

The answers for the first and the second sample tests are $\frac{3}{2}$ and $\frac{275}{168}$, respectively.