Random Remainders

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	1024 megabytes

You are given a sequence of n **random** positive integers: $a_1, a_2, \ldots, a_n$. Your task is to compute the following sum:

$$\sum_{i=1}^{n}\sum_{j=1}^{n}(a_i \bmod a_j)^2$$

Input

The first line of input contains the number of test cases: Z ($1 \leq Z \leq 1000$). The descriptions of the test cases follow.

The first line of a test case contains the length of the sequence n ($1 \leq n \leq 200\,000$). The second line contains the sequence – n positive integers separated by spaces. Each of them was pseudo-randomly generated, uniformly from range $[1, 10^{12}]$.

The sum of n over all test cases does not exceed 400 000.

Output

For each test case print the required sum modulo 998244353.

Example

standard input	standard output
1 2 3 5	13

Note

$(3 \bmod 3)^2 + (5 \bmod 3)^2 + (3 \bmod 5)^2 + (5 \bmod 5)^2 = 0 + 4 + 9 + 0 = 13$.