Big Trace

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	512 megabytes

You are given the sequence a_i of integers. Your task is to create the non-empty square matrix B_{ij} such as:

- If some integer x presents in the matrix B k times, then it presents in the sequence a at least k times.
- The value of the trace of the matrix B (i.e. the sum of all B_{ii}) is as big as possible.

Input

First line of the input contains one integer n ($1 \le n \le 10^5$) — the length of the sequence a. i-th of the following n lines contains one integer a_i — the i-th member of the sequence a ($-10^9 \le a_i \le 10^9$).

Output

Print one integer — the maximum possible value of the trace.

Example

standard input	standard output
6 31 10 2021 -11 0 0	2052