I Inquiry I

The Bureau for Artificial Problems in Competitions wants you to solve the following problem:
Given n positive integers $a_1, \ldots, a_n$, what is the maximal value of

$$\left(a_1^2 + \cdots + a_k^2\right) \cdot (a_{k+1} + \cdots + a_n)?$$

Input

- A single line containing an integer $2 \leq n \leq 10^6$.

- Then follow n lines, the ith of which contains the integer $1 \leq a_i \leq 100$.

Output

Output the maximal value of the given expression.

Sample Input 1	Sample Output 1
5 2 1 4 3 5	168

Sample Input 2	Sample Output 2
2 1 1	1

Sample Input 3	Sample Output 3
10 8 5 10 9 1 4 12 6 3 13	10530