Problem B – Bytelandia's stones

In the mystical Academy of Bytelandia, an archmage is studying a line of n enchanted stones, each with a power value $a_1, a_2, \ldots, a_n$.

A query spell is defined as follows: for two indices L and R ($1 \leq L \leq R \leq n$), the spell reveals the total power of the stones from position L to R:

$$S(L, R) = \sum_{i=L}^{R} a_i$$

The oracle wonders: what is the total sum of the answers of all possible queries?

Formally, compute:

$$\left(\sum_{L=1}^{N} \sum_{R=L}^{N} S(L, R) \right)$$

Input

The first line contains an integer n ($1 \leq n \leq 10^5$) — the number of stones.

The second line contains n integers $a_1, a_2, \ldots, a_n$ ($1 \leq a_i \leq 10^3$) — the values of the stones.

Output

Print a single integer: the total sum of all queries.

Sample input 1	**Sample output 1**
3 1 2 3	20

Sample input 2	**Sample output 2**
5 3 4 7 1 3	133

Sample input 3	**Sample output 3**
3 1 10 100	343