Nested Sum (Easy Version)

Input file:	`standard input`
Output file:	`standard output`
Time limit:	3 seconds
Memory limit:	256 megabytes

Given an array of n integers $a_1, a_2, \ldots, a_n$, find the value of

$$\sum_{i=1}^{n} \sum_{j=i+1}^{n} a_i a_j$$

Input

The first line of input contains an integer t ($1 \le t \le 10^4$), the number of test cases.

The first line of each test case contains an integer n ($1 \le n \le 10^5$), the size of the array.

The second line of each test case contains n integers $a_1, a_2, \ldots, a_n$ ($1 \le a_i \le 10^4$), the elements of the array.

The sum of n over all test cases doesn't exceed $5 \cdot 10^5$.

Output

For each test case output one line containing one integer, the value of the sum described in the problem.

Please note, that the answer for some test cases won't fit into 32-bit integer type, so you should use at least 64-bit integer type in your programming language (like `long long` for `C++`).

Scoring

Group 1: (30 points)

$1 \le n \le 2000$, the sum of n over all test cases doesn't exceed 10^4.

Group 2: (70 points)

No additional constraints.

Example

standard input	standard output
3 3 1 1 1 4 1 2 3 4 5 5 4 3 1 2	3 35 85