

Contest Duration: 2025-05-10(Sat) 08:00 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250510T2100&p1=248>) - 2025-05-10(Sat) 09:40 (<http://www.timeanddate.com/worldclock/fixedtime.html?iso=20250510T2240&p1=248>) (local time) (100 minutes)

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C - Sum of Product

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Time Limit: 2 sec / Memory Limit: 1024 MB

Score : 300 points

Problem Statement

You are given a length- N integer sequence $A = (A_1, A_2, \dots, A_N)$.

Compute the value of $\sum_{1 \leq i < j \leq N} A_i A_j$.

Constraints

- $2 \leq N \leq 3 \times 10^5$
- $1 \leq A_i \leq 10^4$
- All input values are integers.

Input

The input is given from Standard Input in the following format:

```
N
A1 A2 ... AN
```

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Output

Output the answer.

Sample Input 1

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```
3
4 2 3
```

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Sample Output 1

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```
26
```

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We have $\sum_{1 \leq i < j \leq N} A_i A_j = A_1 A_2 + A_1 A_3 + A_2 A_3 = 4 \cdot 2 + 4 \cdot 3 + 2 \cdot 3 = 26.$

Sample Input 2

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```
2
9 45
```

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Sample Output 2

[Copy](#)

```
405
```

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Sample Input 3

[Copy](#)

```
10
7781 8803 8630 9065 8831 9182 8593 7660 7548 8617
```

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Sample Output 3

[Copy](#)

```
3227530139
```

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Language

Python (CPython 3.11.4)



Source Code

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1 |

* at most 512 KiB

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