E. Enemy is weak

time limit per test: 5 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

The Romans have attacked again. This time they are much more than the Persians but Shapur is ready to defeat them. He says: "A lion is never afraid of a hundred sheep".

Nevertheless Shapur has to find weaknesses in the Roman army to defeat them. So he gives the army a weakness number.

In Shapur's opinion the weakness of an army is equal to the number of triplets i, j, k such that $i < j < k$ and $a_i > a_j > a_k$ where a_x is the power of man standing at position x. The Roman army has one special trait — powers of all the people in it are distinct.

Help Shapur find out how weak the Romans are.

Input

The first line of input contains a single number n ($3 \le n \le 10^6$) — the number of men in Roman army.
Next line contains n different positive integers a_i ($1 \le i \le n$, $1 \le a_i \le 10^9$) — powers of men in the Roman army.

Output

A single integer number, the weakness of the Roman army.

Please, do not use `%lld` specificator to read or write 64-bit integers in C++. It is preffered to use `cout` (also you may use `%I64d`).

Examples

input
3 3 2 1

output
1

input
3 2 3 1

output
0

input
4 10 8 3 1

output
4

input
4 1 5 4 3

output

```
1
```