Competitive Programming and Contests

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Triplets

You are given an array $A[0..n-1]$ of positive integers smaller than $n-1$. The goal is to count the number of triplets i, j, k (with $i < j < k$) such that $A[i] < A[j] < A[k]$.

A trivial solution explicitly checks any possible triplet and, thus, runs in $\Theta(n^3)$ time.

The goal here is to find a faster solution. We point out that there exist

1. A $\Theta(n^2)$ time solution. If you find and implement this solution, your grade will be 25;
2. A $\Theta(n \log n)$ time solution. If you find and implement this solution, your grade will be 30.

Input. The first line contains the value of n. The next line consists in n integers, separated by a space.

Output. The number of triplets satisfying the required property.

Example

Input

```
5         // n
1 2 3 4 1  // A
```

Output

```
4
```