

Consider an array of n integers, $A = [a_1, a_2, \dots, a_n]$. Find and print the total number of (i, j) pairs such that $a_i \times a_j \leq \max(a_i, a_{i+1}, \dots, a_j)$ where $i < j$.

Input Format

The first line contains an integer, n , denoting the number of elements in the array.
The second line consists of n space-separated integers describing the respective values of a_1, a_2, \dots, a_n .

Constraints

- $1 \leq n \leq 5 \times 10^5$
- $1 \leq a_i \leq 10^9$

Scoring

- $1 \leq n \leq 1000$ for **25%** of the test cases.
- $1 \leq n \leq 10^5$ for **50%** of the test cases.
- $1 \leq n \leq 5 \times 10^5$ for **100%** of the test cases.

Output Format

Print a long integer denoting the total number (i, j) pairs satisfying $a_i \times a_j \leq \max(a_i, a_{i+1}, \dots, a_j)$ where $i < j$.

Sample Input

```
5
1 1 2 4 2
```

Sample Output

```
8
```

Explanation

There are eight pairs of indices satisfying the given criteria: $(1, 2)$, $(1, 3)$, $(1, 4)$, $(1, 5)$, $(2, 3)$, $(2, 4)$, $(2, 5)$, and $(3, 5)$. Thus, we print **8** as our answer.