You are given a list of N numbers $a_1, a_2, \ldots, a_n$. For each element at position i ($1 \leq i \leq N$), we define $Left(i)$ and $Right(i)$ as:
$Left(i)$ = closest index j such that j < i and $a_j > a_i$. If no such j exists then $Left(i)$ = 0.
$Right(i)$ = closest index k such that k > i and $a_k > a_i$. If no such k exists then $Right(i)$ = 0.

We define $IndexProduct(i) = Left(i) * Right(i)$. You need to find out the maximum $IndexProduct(i)$ among all i.

Input Format

The first line contains an integer N, the number of integers. The next line contains the N integers describing the list a[1..N].

Constraints

$1 \leq N \leq 10^5$
$1 \leq a_i \leq 10^9$

Output Format

Output the maximum $IndexProduct$ among all indices from 1 to N.

Sample Input

```
5
5 4 3 4 5
```

Sample Output

```
8
```

Explanation

We can compute the following:

$IndexProduct(1) = 0$
$IndexProduct(2) = 1 \times 5 = 5$
$IndexProduct(3) = 2 \times 4 = 8$
$IndexProduct(4) = 1 \times 5 = 5$
$IndexProduct(5) = 0$

The largest of these is 8, so it is the answer.