Largest Rectangle

There are N buildings in a certain two-dimensional landscape. Each building has a height given by $h_i, i \in [1, N]$. If you join K adjacent buildings, they will form a solid rectangle of area $K \times min(h_i, h_{i+1}, \ldots, h_{i+k-1})$.

Given N buildings, find the greatest such solid area formed by consecutive buildings.

Input Format

The first line contains N, the number of buildings altogether.
The second line contains N space-separated integers, each representing the height of a building.

Constraints

$1 \leq N \leq 10^5$
$1 \leq h_i \leq 10^6$

Output Format

One integer representing the maximum area of rectangle formed.

Sample Input

```
5
1 2 3 4 5
```

Sample Output

```
9
```

Explanation

An illustration of the test case follows.