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

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.