Largest Rectangle

by shashank21j

Problem Submissions Leaderboard Discussions

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

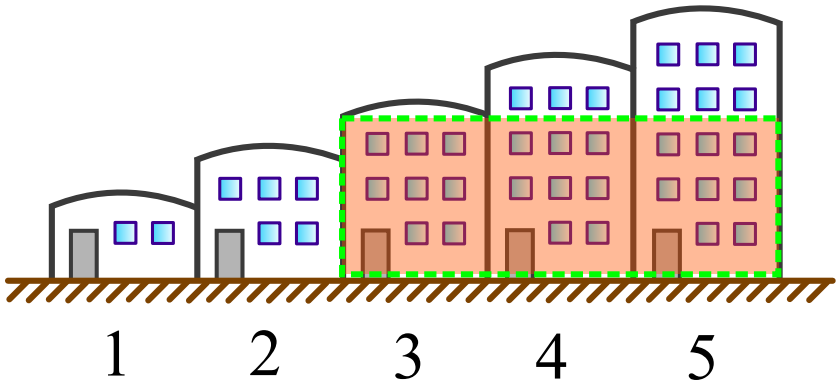
```
5
1 2 3 4 5
```

Sample Output

```
9
```

Explanation

An illustration of the test case follows.



Submissions: 5732

Max Score: 50

Difficulty: Difficult

More

Current Buffer (saved locally, editable)

C++

```
#include <cmath>
#include <cstdio>
#include <vector>
#include <iostream>
#include <algorithm>
using namespace std;


int main() {
    /* Enter your code here. Read input from STDIN. Print output to STDOUT */
    return 0;
}

```

Line: 1 Col: 1

Upload Code as File Test against custom input Run Code Submit Code

Join us on IRC at #hackerrank on freenode for hugs or bugs.

Contest Calendar | Blog | Scoring | Environment | FAQ | About Us | Support | Careers | Terms Of Service | Privacy Policy | Request a Feature