shamelessad3

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Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

Shor the Duck is once again back at promoting his curated collection of the best uniquely-Codebreaker problems and a more beginner-friendly place for people in Singapore's Informatics Olympiad or Competitive Programming community to chat/discuss!

Discord Server link: https://discord.gg/G5W5yMAn3u
Group/Collection link: https://codebreaker.xyz/group/shorsgcollection

This time, he comes across a fenced area, made of N planks. All of the planks are placed vertically. They all have a width of 1 meter, and the i-th plank has a height of A_i meters. To spread word of his collection and Discord server, Shor intends to attach a rectangular advertisement to the fence. To make sure more people are able to see his advertisment, he wants to maximise the area of such an advertisement!

Note that **every** part of the advertisment must be contained within the fence, and the advertisment **cannot** be tilted.
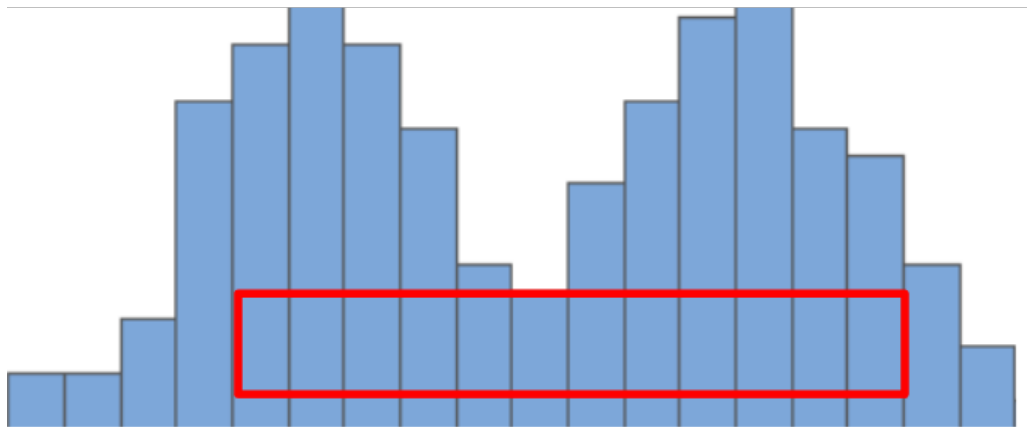
For example, the red area selected above is a valid way to place the advertisment, because every portion of the advertisment is backed up by a plank behind.
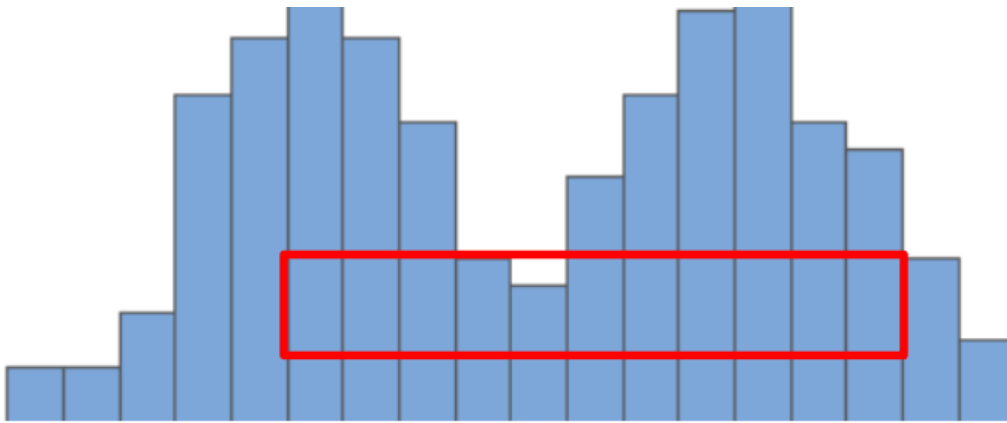
On the other hand, this is invalid, because there's some space of the advertisment that isn't covered by the planks.
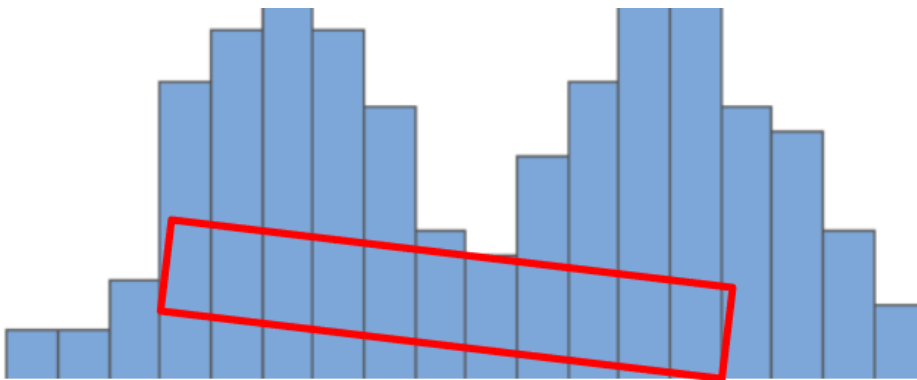
Likewise, this is invalid, because the advertisment has been tilted.

Input

The first line of input consists of an integer N.
The next line of input consists of N integers: $A_1, \ldots, A_N$, the height of each of the planks.

Output

Print a single integer, the maximum area of a rectangular advertisment that Shor can paste on the fences (in meter squares). You do **NOT** need to print m^2.

Scoring

For all test cases, it is guaranteed that:

- $1 \leq N \leq 2 \cdot 10^5$

- $1 \leq A_i \leq 10^9$ for all $1 \leq i \leq N$

Subtask	Score	Additional constraints
1	10	All A_i are equal
2	69	$N \leq 100$
3	20	$N \leq 10^4$
4	1	—
5	0	Sample test cases

Examples

standard input	standard output
6 2 4 4 9 4 9	20
6 200 4 4 9 4 9	200

Note

For the first sample, Shor can choose to make an advertisment of height 4 starting from plank 2 and ending at plank 6.

For the second sample, Shor can choose to make an advertisment of height 200 at the 1st plank.