PROBLEM 2

Level Ground

Time and Memory Limits: 1 second, 1 GB

The Australian Marathon Team is planning a race in the Great Dividing Range. The range is divided into N segments. The ith segment has an altitude of A_i kilometres.

The race must take place over a single connected block of segments. Each segment of the race **must have the same altitude**.

Longer races and races at high altitude are more intense. The *intensity* of a race is the product of its length and altitude. For example, a race with 3 segments each with an altitude of 2 kilometres has an intensity of $3 \times 2 = 6$. What is the highest intensity that can be achieved?

Input

- The first line of input contains the integer N.
- The second line of input contains N integers describing the altitudes. The ith of these is A_i.

Output

Your program must output one integer: the highest intensity that can be achieved.

Sample Input 1

```
7
3 2 1 2 2 2 1
```

Sample Output 1

```
6
```

Sample Input 2

```
3
10 10 10
```

Sample Output 2

```
30
```

Sample Input 3

```
4
1 1 1 4
```

Sample Output 3

```
4
```

Explanation

In the first sample input, the highlighted race has an intensity of $3 \times 2 = 6$.

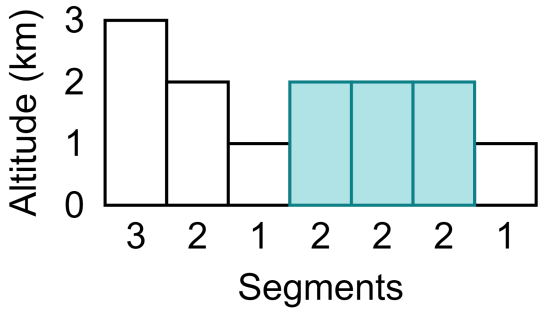

Figure 1: Sample Input 1.

In the second sample input, the highlighted race has an intensity of $3 \times 10 = 30$.

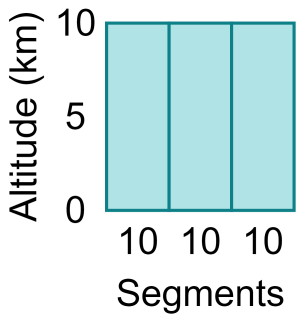

Figure 2: Sample Input 2.

In the third sample input, the highlighted race has an intensity of $1 \times 4 = 4$.

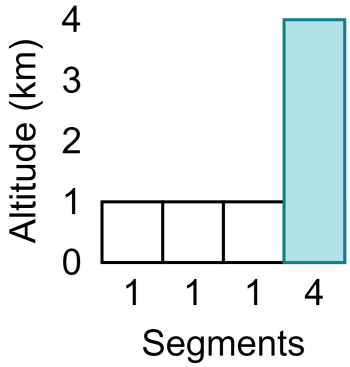

Figure 3: Sample Input 3.

Subtasks & Constraints

For all subtasks:

- $2 \leq N \leq 100\,000$.
- $1 \leq A_i \leq 10\,000$ for all i.

Additionally:

- For Subtask 1 (50 marks), $N \leq 1000$.
- For Subtask 2 (50 marks), no special constraints apply.