B. Maximum of Maximums of Minimums

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

You are given an array $a_1, a_2, ..., a_n$ consisting of n integers, and an integer k. You have to split the array into exactly k non-empty subsegments. You'll then compute the minimum integer on each subsegment, and take the maximum integer over the k obtained minimums. What is the maximum possible integer you can get?

Definitions of subsegment and array splitting are given in notes.

Input

The first line contains two integers n and k ($1 \le k \le n \le 10^5$) — the size of the array a and the number of subsegments you have to split the array to.

The second line contains n integers $a_1, a_2, ..., a_n$ ($-10^9 \le a_i \le 10^9$).

Output

Print single integer — the maximum possible integer you can get if you split the array into k non-empty subsegments and take maximum of minimums on the subsegments.

Examples

input
5 2 1 2 3 4 5

output
5

input
5 1 -4 -5 -3 -2 -1

output
-5

Note

A subsegment $[l, r]$ ($l \le r$) of array a is the sequence $a_l, a_{l+1}, ..., a_r$.

Splitting of array a of n elements into k subsegments $[l_1, r_1], [l_2, r_2], ..., [l_k, r_k]$ ($l_1 = 1, r_k = n, l_i = r_{i-1} + 1$ for all $i > 1$) is k sequences $(a_{l_1}, ..., a_{r_1}), ..., (a_{l_k}, ..., a_{r_k})$.

In the first example you should split the array into subsegments $[1, 4]$ and $[5, 5]$ that results in sequences $(1, 2, 3, 4)$ and (5). The minimums are $min(1, 2, 3, 4) = 1$ and $min(5) = 5$. The resulting maximum is $max(1, 5) = 5$. It is obvious that you can't reach greater result.

In the second example the only option you have is to split the array into one subsegment $[1, 5]$, that results in one sequence $(-4, -5, -3, -2, -1)$. The only minimum is $min(-4, -5, -3, -2, -1) = -5$. The resulting maximum is -5.