

Min Distance

Given an array of N integers, select K elements out of these N elements in such a way that the minimum difference between each of the K numbers is the largest. Your task is to print out the largest minimum difference after choosing any K elements.

Input

- The first line contains two integers N, K ($1 \leq N \leq 10^5, 2 \leq K \leq N$).
- The second line contains N integers.

All integers don't exceed 10^9

Output

The largest minimum difference after choosing K elements from N elements.

Sample

Input	Output
4 3 2 6 2 5	1
7 4 1 4 9 0 2 13 3	4

Note: 50% testcases have $K = 2, 3, \text{ or } 4$

Explanation

First sample:

- Select 3 elements 2, 2, 5 will result in minimum difference as 0.
- Select 2, 5, 6 will result in minimum difference as $6 - 5 = 1$ (since $5 - 2 = 3$ and $6 - 2 = 4$ are not the minimum difference), which is also the largest minimum difference.

Second sample:

- Select 0, 4, 9, 13 will result in minimum difference of 4, which is the largest minimum

difference possible.