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## Problem F Maximum Subset

Let us define the value of a multiset of integers is the minimum difference between any two distinct elements. If a multiset contains two elements with the same value, then the two elements are considered different elements thus the value of the multiset is 0.

Given a multiset of integers  $A$  consisting of  $N$  elements, we want to find the value of the subset of  $A$  consisting of  $K$  elements which has the maximum value.

### Input

The first line contains two integers:  $N$   $K$  ( $2 \leq K \leq N \leq 100,000$ ) in a line denoting the number of elements of  $A$  and the number of elements of the subset of  $A$  we are looking for. The second line contains  $N$  integers:  $A_1, A_2, \dots, A_N$  ( $0 \leq A_i \leq 1,000,000,000$ ) representing the elements of set  $A$ .

### Output

The output contains the value of the subset of  $A$  consisting of  $K$  elements which has the maximum value, in a line.

Sample Input	Output for Sample Input
4 2 1 2 4 10	9
4 3 1 2 4 10	3
4 4 1 2 4 10	1

#### *Explanation for 1<sup>st</sup> sample case*

On the first sample, the optimal subset is  $\{1, 10\}$ . The value is  $10 - 1 = 9$ .

#### *Explanation for 2<sup>nd</sup> sample case*

On the second sample, the optimal subset is  $\{1, 4, 10\}$ . The value is  $4 - 1 = 3$ .

#### *Explanation for 3<sup>rd</sup> sample case*

On the third sample, the optimal subset is  $\{1, 2, 4, 10\}$ . The value is  $2 - 1 = 1$ .



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