Angry Children

Problem Statement

Bill Gates is on one of his philanthropic journeys to a village in Utopia. He has *N* packets of candies and would like to distribute one packet to each of the *K* children in the village (each packet may contain different number of candies). To avoid any fighting among the children, he would like to pick *K* out of *N* packets, such that *unfairness* is minimized.

Suppose the *K* packets have $(x_1, x_2, x_3,....x_k)$ candies in them, where x_i denotes the number of candies in the i^{th} packet, then we define *unfairness* as

$max(x_1,x_2,...x_k) - min(x_1,x_2,...x_k)$

where *max* denotes the highest value amongst the elements, and *min* denotes the least value amongst the elements. Can you figure out the minimum *unfairness* and print it?

Input Format

The first line contains an integer *N*.
The second line contains an integer *K*. *N* lines follow. Each line contains an integer that denotes the candy in the n^{th} $(1 \leq n \leq N)$ packet.

Output Format

An integer that denotes the minimum possible value of *unfairness*.

Constraints

$1<=N<=10^5$
$1<=K<=N$
$0<=$ number of candies in any packet $<=10^9$

Sample Input #00

```
7
3
10
100
300
200
1000
20
30
```

Sample Output #00

```
20
```

Explanation #00

Here *K* = 3. We can choose packets that contain 10,20,30 candies. The unfairness is

```
max(10,20,30) - min(10,20,30) = 30 - 10 = 20
```

Sample Input #01

```
10
```

```
4
1
2
3
4
10
20
30
40
100
200
```

Sample Output #01

```
3
```

Explanation #01

Here $K = 4$. We can choose the packets that contain 1,2,3,4 candies. The unfairness is

```
max(1,2,3,4) - min(1,2,3,4) = 4 - 1 = 3
```