Angry Children

Problem Statement

Given a list of N integers, your task is to select K integers from the list such that its *unfairness* is minimized.

if $(x_1, x_2, x_3, \ldots, x_k)$ are K numbers selected from the list N, the unfairness is defined as

$$max(x_1, x_2, \ldots, x_k) - min(x_1, x_2, \ldots, x_k)$$

where *max* denotes the largest integer among the elements of K, and *min* denotes the smallest integer among the elements of K.

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 belongs to the list N.

Note

Integers in the list N may not be unique.

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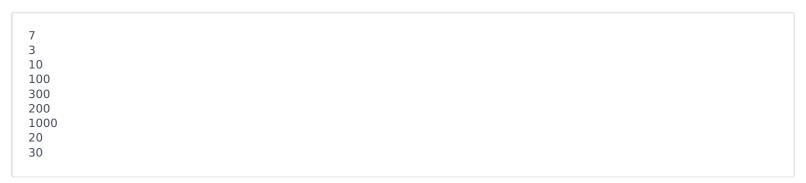An integer that denotes the minimum possible value of *unfairness*.

Constraints
$2 \le N \le 10^5$
$2 \le K \le N$
$0 \le integer\ in\ N\ \le 10^9$

Sample Input #00

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

Sample Output #00

```
20
```

Explanation #00
Here $K = 3$, selecting the 3 integers such that $K = 10, 20, 30$ 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 $K = 4$, selecting the 4 integers $1, 2, 3, 4$. The unfairness is

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

Sample Input #02

```
6
3
10
20
30
100
101
102
```

Sample Output #02

```
2
```

Explanation #02

Here $K = 3$, 3 integers such that the difference between the maximum and the minimum is smallest is $100, 101, 102$

```
max(100, 101, 102) - min(100, 101, 102) = 102 - 100 = 2
```