Angry Children 2

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 a fight between the children, he would like to pick **K** out of **N** packets such that the 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

$$\sum_{1 \le i < j \le k} |X_i - X_j|$$

where |a| denotes the absolute value of a.

Input Format
The first line contains an integer N.
The second line contains an integer K.
N lines follow each integer containing the candy in the i^{th} packet.

Output Format
A single integer which will be minimum unfairness.

Constraints
2<=N<=10^5
2<=K<=N
0<= number of candies in each packet <=10^9

Sample Input #00

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

Sample Output #00

```
40
```

Explanation #00

Bill Gates will choose packets having 10, 20 and 30 candies.So unfairness will be |10-20| + |20-30| + |10-30| = 40. We can verify that it will be minimum in this way.

Sample Input #01

```
10
4
1
2
3
```

```
4
10
20
30
40
100
200
```

Sample Output #01

```
10
```

Explanation #01

Bill Gates will choose 4 packets having 1,2,3 and 4 candies. So, unfairness will be |1-2| + |1-3| + |1-4| + |2-3| + |2-4| + |3-4| = 10