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Angry Children 2 🔖

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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 ith 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 ith 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

Current Buffer (saved locally, editable)   ⑂ ↺   Java 7   ⌄   ⤢ ⚙

```java
 8  import java.io.*;
 9  import java.util.*;
10  import java.text.*;
11  import java.math.*;
12  import java.util.regex.*;
13
14  public class Solution {
15
16      public static void solve(int[] arr, int N, int K) {
17
18      }
19
20      public static void main(String[] args)  throws Exception {
21         BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
22          int N = Integer.parseInt(br.readLine());
23          int K = Integer.parseInt(br.readLine());
24          int [] arr = new int[N];
25          for(int i = 0; i < N; i++)
26           arr[i] = Integer.parseInt(br.readLine());
27          solve(arr, N, K);
28      }
29  }
30
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ Test against custom input   Run Code   Submit Code