Problem

You are given an array of numbers A_i which contains positive as well as negative numbers . The cost of the array can be defined as $C(X)$

$C(x) = |A_1 + T_1| + |A_2 + T_2| + \ldots\ldots\ldots |A_n + T_n|$, where T is the transfer array which contains *N* zeros initially.

You need to minimize this cost . You can transfer value from one array element to another if and only if the distance between them is at most *K*.

Also, transfer value can't be transferred further.

Say array contains $3, -1, -2$ and $K = 1$

if we transfer 3 from 1^{st} element to 2^{nd} , the array becomes

Original Value $3, -1, -2$

Transferred value $-3, 3, 0$

$C(x) = |3 - 3| + | - 1 + 3| + \ldots\ldots\ldots | - 2 + 0| = 4$ which is minimum in this case

Note :

Only positive value can be transferred

It is not necessary to transfer whole value i.e partial transfer is also acceptable. This means that if you have $A[i] = 5$ then you can distribute the value 5 across many other array elements provided that they finally sum to a number less than equal to 5. For example 5 can be transferred in chunks of smaller values say 2 , 3 but their sum should not exceed 5.

Input:

First line contains *N* and *K* separated by space

Second line denotes an array of size *N*

Output

Minimum value of $C(X)$

Constraints

$1 \leq N, K \leq 10^5$

$-10^9 \leq A_i \leq 10^9$

Sample Input	Sample Output
3 2 3 -1 -2	0

Time Limit: 1

Memory Limit: 256

Source Limit: