

B. Micro-World

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

You have a Petri dish with bacteria and you are preparing to dive into the harsh micro-world. But, unfortunately, you don't have any microscope nearby, so you can't watch them.

You know that you have n bacteria in the Petri dish and size of the i -th bacteria is a_i . Also you know intergalactic positive integer constant K .

The i -th bacteria can swallow the j -th bacteria if and only if $a_i > a_j$ and $a_i \leq a_j + K$. The j -th bacteria disappear, but the i -th bacteria doesn't change its size. The bacteria can perform multiple swallows. On each swallow operation any bacteria i can swallow any bacteria j if $a_i > a_j$ and $a_i \leq a_j + K$. The swallow operations go one after another.

For example, the sequence of bacteria sizes $a = [101, 53, 42, 102, 101, 55, 54]$ and $K = 1$. The one of possible sequences of swallows is: $[101, 53, 42, 102, 101, 55, 54] \rightarrow [101, 53, 42, 102, 55, 54] \rightarrow [101, 42, 102, 55, 54] \rightarrow [42, 102, 55, 54] \rightarrow [42, 102, 55]$. In total there are 3 bacteria remained in the Petri dish.

Since you don't have a microscope, you can only guess, what the minimal possible number of bacteria can remain in your Petri dish when you finally will find any microscope.

Input

The first line contains two space separated positive integers n and K ($1 \leq n \leq 2 \cdot 10^5$, $1 \leq K \leq 10^6$) — number of bacteria and intergalactic constant K .

The second line contains n space separated integers a_1, a_2, \dots, a_n ($1 \leq a_i \leq 10^6$) — sizes of bacteria you have.

Output

Print the only integer — minimal possible number of bacteria can remain.

Examples

input
7 1 101 53 42 102 101 55 54
output
3

input
6 5 20 15 10 15 20 25
output
1

input
7 1000000 1 1 1 1 1 1 1
output
7

Note

The first example is clarified in the problem statement.

In the second example an optimal possible sequence of swallows is: $[20, 15, 10, 15, 20_ , 25] \rightarrow [20, 15, 10, 15_ , 25] \rightarrow [20, 15, 10_ , 25] \rightarrow [20, 15_ , 25] \rightarrow [20_ , 25] \rightarrow [25]$.

In the third example no bacteria can swallow any other bacteria.