A. Points on the line

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

We've got no test cases. A big olympiad is coming up. But the problemsetters' number one priority should be adding another problem to the round.

The **diameter** of a multiset of points on the line is the largest distance between two points from this set. For example, the diameter of the multiset $\{1, 3, 2, 1\}$ is 2.

Diameter of multiset consisting of one point is 0.

You are given n points on the line. What is the minimum number of points you have to remove, so that the diameter of the multiset of the remaining points will not exceed d?

Input

The first line contains two integers n and d ($1 \le n \le 100, 0 \le d \le 100$) — the amount of points and the maximum allowed diameter respectively.

The second line contains n space separated integers ($1 \le x_i \le 100$) — the coordinates of the points.

Output

Output a single integer — the minimum number of points you have to remove.

Examples

input
3 1 2 1 4
output
1

input
3 0 7 7 7
output
0

input
6 3 1 3 4 6 9 10
output
3

Note

In the first test case the optimal strategy is to remove the point with coordinate 4. The remaining points will have coordinates 1 and 2, so the diameter will be equal to $2 - 1 = 1$.

In the second test case the diameter is equal to 0, so its is unnecessary to remove any points.

In the third test case the optimal strategy is to remove points with coordinates 1, 9 and 10. The remaining points will have coordinates 3, 4 and 6, so the diameter will be equal to $6 - 3 = 3$.