Gayla's Garden

Gayla is a nature enthusiast with a beautiful small flower garden consisting of several flower boxes. She wishes to automate the watering process by installing a water system with multiple automated showers at appropriate locations in the garden. This way, she can schedule the showers to water the plants daily with the appropriate amount of water. However, she faces a problem of minimizing the number of showers needed to be installed near the plants to automate the process. Each shower has a fixed range of K distance it can eject water to the plants.

To solve this problem, we can model Gayla's garden as a one-dimensional row of flower boxes. Each flower bucket has a specific location on the row. It's important to note that each shower must be installed near a flower plant and that every flower must be within the range of at least one water shower. We need to calculate the minimum number of showers to be installed near the plants in her garden.

Input Format

The first line contains the two space separated integers n and k denote the number of flower plant and the range of the showers.

The second line contains the n space separated integers denoting the coordinates of each flower buckets x_i

Note: there may be more than one flower bucket at each location

Constraints

- $1 <= n, k <= 10^5$
- $1 <= x_i <= 10^5$

Output Format

Print a single integer denoting the minimum number of showers needed for the garden to cover all flower buckets.

Sample Input 0

```
8 2
2 2 2 2 1 1 1 1
```

Sample Output 0

```
1
```