D - Forbidden Difference   Editorial (/contests/abc403/tasks/abc403_d/editorial)

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Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 425 points

Problem Statement

You are given a length-N integer sequence $A = (A_1, A_2, \ldots, A_N)$ and a non-negative integer D. We wish to delete as few elements as possible from A to obtain a sequence B that satisfies the following condition:

- $|B_i - B_j| \neq D$ for all i, j $(1 \leq i < j \leq |B|)$.

Find the minimum number of deletions required.

Constraints

- $1 \leq N \leq 2 \times 10^5$
- $0 \leq D \leq 10^6$
- $0 \leq A_i \leq 10^6$
- All input values are integers.

Input

The input is given from Standard Input in the following format:

```
N  D
A_1  A_2  ...  A_N
```

Output

Print the answer.

Sample Input 1 [Copy]

```
5 2
3 1 4 1 5
```

Sample Output 1 [Copy]

```
1
```

Deleting $A_1 = 3$ yields $B = (1, 4, 1, 5)$, which satisfies $|B_i - B_j| \neq 2$ for all $i < j$.

Sample Input 2 [Copy]

```
4 3
1 6 1 8
```

Sample Output 2 [Copy]

```
0
```

The sequence A may already satisfy the condition.

Sample Input 3 [Copy]

```
10 3
1 6 2 10 2 3 2 10 6 4
```

Sample Output 3 [Copy]

```
2
```

#telegram)

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