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**Covering with intervals****P76554\_en**

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Given a natural  $k$  and several numbers  $x_1, \dots, x_n$ , we want to find the smallest possible set of closed intervals of length  $k$  that cover those numbers. In other words, we must find a set of intervals  $\{[y_1, y_1 + k], \dots, [y_m, y_m + k]\}$  such that

- for every  $x_i$ , there exists some  $j$  such that  $x_i \in [y_j, y_j + k]$ ;
- $m$  is minimum.

For instance, if  $k = 10$  and the  $x_i$ 's are 14, 19, 23 and 27, a possible solution is  $\{[12, 22], [1.8, 2.8]\}$ , since every  $x_i$  belongs to (at least) one of the two intervals, and it is not possible to cover the four numbers with a single interval.

**Input**

Input consists of several cases, each of which starts with  $k$ , followed by  $n$ , followed by  $n$  different numbers. All numbers in the input are integers. Assume  $1 \leq k, n \leq 10^5$ .

**Output**

For every case, print the minimum number of closed intervals of length  $k$  that cover the given numbers.

**Sample input**

```
10 4 14 19 23 27
100 6 175 350 50 300 150 20
10 2 -25 -35
```

**Sample output**

```
2
3
1
```

**Problem information**

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