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## Petrol stations

P40710\_en

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A car driver needs to plan a journey following a highway. With the tank full he can drive for at most  $x$  kms. Knowing the location of the  $n$  petrol stations on the road, which is the minimum number of refill stops necessary to travel for at least  $D$  kms? Assume that, initially, the tank of the car is full of gasoline.

### Input

Input is all natural numbers, and consists of several cases. Every case begins with  $x$  and  $D$ , followed by  $n$ , followed by the distances in kms from the departure point to each petrol station. Assume  $x > 0$ ,  $D > 0$ ,  $n \leq 10^5$ , and that all the given distances are different and between 1 and  $D - 1$ . For all the given cases, it is always possible to reach the km  $D$ .

### Output

For every case, print the minimum number of stops to travel for at least  $D$  kms.

#### Sample input

```
2 5
3 1 3 4
3 10
4 1 8 6 4
15 10
6 5 2 9 4 1 3
```

#### Sample output

```
2
4
0
```

### Problem information

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