It is Advent season. There are *M* street lights in a street *N* metres long (the meters of the street are denoted with numbers from 1 to *N*). Each of the lights lights up the meter of the street it's located in and *K* meters to the left and to the right of that location. In other words, if the light is located at meter *X*, it lights up all metres of the street from *X* - *K* to *X* + *K*, inclusively. Of course, it is possible for a meter of the street to be lit up by multiple street lights. All lights have distinct locations.

The problem is that there is a possibility that the lights don't light up all *N* metres of the street. It is your task to determine the minimal amount of additional lights needed to be put up (at position from 1 to *N*) so that the entire street is lit up.

INPUT

The first line of input contains the number *N* ($1 \leq N \leq 1000$).
The second line of input contains the number *M* ($1 \leq M \leq N$).
The third line contains the number *K* ($0 \leq K \leq N$).
Each of the following *M* lines contains a number. The numbers are sorted in ascending order and represent the positions of each of the *M* street lights.
The positions will be distinct and from the interval [1, *N*].

OUTPUT

You must output the required number from the task.

SAMPLE TESTS

input	input	input
5 2 2 1 5	26 3 3 3 19 26	13 2 10 1 2
output	**output**	**output**
0	2	1

Clarification of the first test case:
It's not necessary to add lights to the street, since all *N* meters are already lit up.
Clarification of the third test case:
It is necessary to add one lamp, for example at location 13.