Python Course Midterm Exam

3. Write a program that takes two random integers as input and lists them from smallest to largest.

39. Use five print statements to output the following triangle shape.

```
#
##
###
####
#####
```

Python Course Midterm Exam

128. It's Christmas season. There are M street lamps placed along a long road of N meters. The distance is numbered from 1 to N with a 1-meter interval.
Each street lamp is located at a specific point on the road and can illuminate from left to K meters and from right to K meters brightly. In other words, if a street lamp is placed at point X on the road, it can brightly illuminate from point X - K to point X + K. Of course, multiple street lamps are not needed to illuminate a single point on the road. Also, there are no street lamps placed at the same location.
The problem is that not all points from 1 to N on the road are illuminated by the street lamps. Our task is to find the minimum number of additional street lamps needed to illuminate all points of the road brightly.

Input Form:
On the first line, one integer N (1≤N≤1,000) is given.
On the second line, one integer M (1≤M≤N) is given.
On the third line, one integer K (0≤K≤N) is given.
Starting from the fourth line, M lines are given, each containing an integer.
Each integer represents the position of a streetlight and is given in ascending order, indicating the locations of M streetlights.
There will be no duplicate positions, and the distance between consecutive streetlights will be between 1 and N (inclusive).

Output Form:
Print the minimum number of additional street lamps needed to illuminate all points of the road brightly.

Input Form	Output Form
5 2 2 1 5	0

Input Form	Output Form
13 2 10 1 2	1