

CCSC:MW Programming Competition

Number of Leaps

Consider an array of length N . Now you plan to leap from a certain index to any other index following a certain rule. You are allowed to leap from an index i to another index j if $A[j] - A[i] \geq D$, for $j > i$. Find the length of the longest sequence of leaps that you can take without violating the property. Please note, you can start at any index.

Input

First line contains an integer D .

Second line contains the integer N .

Third line contains N space separated integers

Output

Print the required length.

Example 1

Input:

2

7

1 3 1 4 5 7 10

Output:

5

Explanation

1 3 5 7 10 - Length 5

Example 2

Input:

76

10

6661 31326 16262 17504 25617 14519 9287 22269 2269 22185

Output:

4