



HOME TOP CATALOG CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

D. Grouping

time limit per test: 2 seconds memory limit per test: 256 megabytes

A group of numbers is called good if

- the size of the set (the amount of numbers) does not exceed k;
- the difference between the minimum and maximum number does not exceed M;

The group may contain duplicate values — for example, the size of the group (2, 7, 3, 7) is 4, and the difference between the minimum and maximum number is 7 - 2 = 5.

Given an array of integers a. Split its elements into the minimum number of good groups.

Input

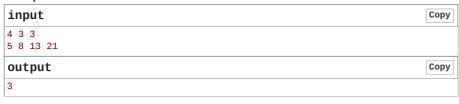
The first line contains integers n, M, k ($1 \le n$, $k \le 10^5$, $0 \le M \le 10^9$) — the number of elements in the array, the maximum difference between the numbers in the set, and the maximum size of the set, respectively.

The second line contains n integers $a_1, a_2, ..., a_n$ $(1 \le a_i \le 10^9)$ — the elements of the array.

Output

In a single line, output the minimum possible number of good groups into which the given array can be split.

Examples





Note

The second test example

The array can be split, for example, into the following groups:

- (1, 4, 6) maximum difference 5;
- (2, 5) maximum difference 3;
- (4, 8) maximum difference 4;
- (10, 12, 15) maximum difference 5.

2024-2025 ICPC NERC, Kyrgyzstan Qualification Contest

Finished

→ About Contest

Contest website

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Practice?

Want to solve the contest problems after the official contest ends? Just register for practice and you will be able to submit solutions.

Register for practice

→ Contest materials

<u>Editorial (EN) (en)</u> <u>Разбор (RU) (ru)</u>

Codeforces (c) Copyright 2010-2025 Mike Mirzayanov
The only programming contests Web 2.0 platform
Server time: Jul/10/2025 14:44:46^{UTC-3} (l1).
Desktop version, switch to mobile version.
Privacy Policy | Terms and Conditions

Supported by



