

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

D. Preparing Olympiad

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

You have n problems. You have estimated the difficulty of the i -th one as integer c_i . Now you want to prepare a problemset for a contest, using some of the problems you've made.

A problemset for the contest must consist of at least two problems. You think that the total difficulty of the problems of the contest must be at least l and at most r . Also, you think that the difference between difficulties of the easiest and the hardest of the chosen problems must be at least x .

Find the number of ways to choose a problemset for the contest.

Input

The first line contains four integers n, l, r, x ($1 \leq n \leq 15, 1 \leq l \leq r \leq 10^9, 1 \leq x \leq 10^6$) — the number of problems you have, the minimum and maximum value of total difficulty of the problemset and the minimum difference in difficulty between the hardest problem in the pack and the easiest one, respectively.

The second line contains n integers $c_1, c_2, ..., c_n$ ($1 \leq c_i \leq 10^6$) — the difficulty of each problem.

Output

Print the number of ways to choose a suitable problemset for the contest.

Examples

input	Copy
3 5 6 1 1 2 3	
output	Copy
2	

input	Copy
4 40 50 10 10 20 30 25	
output	Copy
2	

input	Copy
5 25 35 10 10 10 20 10 20	
output	Copy
6	

Note

In the first example two sets are suitable, one consisting of the second and third problem, another one consisting of all three problems.

In the second example, two sets of problems are suitable — the set of problems with difficulties 10 and 30 as well as the set of problems with difficulties 20 and 30.

In the third example any set consisting of one problem of difficulty 10 and one problem of difficulty 20 is suitable.

ICPC Assiut University Training - Juniors Phase 1 Sheets-2022

Public

Participant

→ Group Contests

- Juniors Phase 1 Practice #5 (Bitmask, Bitset, Bits)
- Juniors Phase 1 Practice #4 (Binary search , Two pointers)
- Juniors Phase 1 Practice #3 (STL 2)
- Juniors Phase 1 Practice #2 (STL 1)
- Juniors Phase 1 Practice #1 (Prefix sum , Frequency Array)

Juniors Phase 1 Practice #5 (Bitmask, Bitset, Bits)

Finished

Practice

→ About Time Scaling

This contest uses time limits scaling policy (depending on a programming language). The system automatically adjusts time limits by the following multipliers for some languages. Despite scaling (adjustment), the time limit cannot be more than 30 seconds. Read the details by the [link](#).

→ 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

→ Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

Submission	Time	Verdict
228261603	Oct/15/2023 11:02	Accepted
228154125	Oct/14/2023 13:38	Accepted
228153899	Oct/14/2023 13:36	Accepted