

B. Preparing Olympiad

time limit per test: 2 seconds
 memory limit per test: 256 megabytes
 input: standard input
 output: standard output

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, \dots, 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 |
| 3 5 6 1 1 2 3 |
| output |
| 2 |
| input |
| 4 40 50 10 10 20 30 25 |
| output |
| 2 |
| input |
| 5 25 35 10 10 10 20 10 20 |
| output |
| 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.

Codeforces Round #306 (Div. 2)

Finished

→ 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 ACM-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

→ Problem tags

bitmasks brute force

No tag edit access

→ Contest materials

- Announcement 
- Tutorial 