

Sequence

Input file: **standard input**
Output file: **standard output**
Time limit: 1.5 seconds
Memory limit: 512 megabytes

Anton is under pressure — he has to submit all the assignments. As often happens — he cannot extend the deadline...

You are given a sequence a of n integers, and two integers l and r . You need to find the longest subsequence b of the sequence a such that $l \leq b_i + b_{i+1} \leq r$ ($1 \leq i < |b|$). Here, $|b|$ denotes the number of elements in the sequence b . In other words, you need to select a subsequence such that the sum of any two adjacent numbers is not less than l and not greater than r .

A subsequence of an array is a sequence that can be obtained by deleting several (possibly none) elements from the original sequence.

Input

The first line contains three integers n, l, r ($1 \leq n \leq 5 \cdot 10^5, 1 \leq l \leq r \leq 10^{17}$).

The second line contains n integers a_i ($1 \leq a_i \leq r$) — the description of the sequence.

Output

Output a single integer — the maximum length of such a subsequence b .

Scoring

1. (1 point): all a_i are the same;
2. (3 points): $a_i = a_{i+2}$ for all $1 \leq i \leq n - 2$;
3. (9 points): $n \leq 20$;
4. (8 points): $n \leq 5000$;
5. (9 points): $r - l \leq 10$;
6. (10 points): $l = 1, r \leq 10^6$;
7. (13 points): $r \leq 10^6$;
8. (10 points): $l = 1$;
9. (24 points): $n \leq 10^5$;
10. (13 points): no additional constraints.

Examples

standard input	standard output
5 2 6 1 3 4 2 5	3
2 1 1 1 1	1

Note

In the first example, you can select the subsequence $[1, 3, 2]$. $2 \leq 1 + 3 \leq 6$. $2 \leq 3 + 2 \leq 6$.

You can also select $[1, 4, 2]$.