

Subset Sums

Given a sequence of N ($1 \leq N \leq 34$) numbers S_1, \dots, S_N ($-20,000,000 \leq S_i \leq 20,000,000$), determine how many subsets of S (including the empty one) have a sum between A and B ($-500,000,000 \leq A \leq B \leq 500,000,000$), inclusive.

Input

The first line of standard input contains the three integers N , A , and B . The following N lines contain S_1 through S_N , in order.

Output

Print a single integer to standard output representing the number of subsets satisfying the above property. Note that the answer may overflow a 32-bit integer.

Example

Input:

```
3 -1 2
1
-2
3
```

Output:

```
5
```

The following 5 subsets have a sum between -1 and 2:

- $0 = 0$ (the empty subset)
- $1 = 1$
- $1 + (-2) = -1$
- $-2 + 3 = 1$
- $1 + (-2) + 3 = 2$