

Wet Shark and Two Subsequences

One day, Wet Shark was given an array $X = \{x_1, x_2, \dots, x_m\}$. As always, he started playing with its [subsequences](#).

When you came to know about this habit, you presented him a task of finding all pairs of subsequences, (A, B) , which satisfies all of the following constraints. We will represent a pair of subsequence as $A = \{x_{a_1}, x_{a_2}, \dots, x_{a_n}\}$ and $B = \{x_{b_1}, x_{b_2}, \dots, x_{b_n}\}$

- A and B must be of same length, i.e., $|A| = |B|$.
- $\sum_{i=1}^n (x_{a_i} + x_{b_i}) = r$
- $\sum_{i=1}^n (x_{a_i} - x_{b_i}) = s$

Please help Wet Shark determine how many possible subsequences A and B can exist. Because the number of choices may be big, output your answer modulo $10^9 + 7 = 1000000007$.

Note:

- Two segments are different if there's exists at least one index i such that element x_i is present in exactly one of them.
- Both subsequences can overlap each other.
- Subsequences do not necessarily have to be distinct

Input Format

The first line consists of 3 space-separated integers m, r, s , where m denotes the length of the original array, X , and r and s are as defined above.

The next line contains m space-separated integers, x_1, x_2, \dots, x_m , representing the elements of X .

Constraints

$$\begin{aligned} 1 &\leq m \leq 100 \\ 0 &\leq r, s \leq 2000 \\ 1 &\leq x_i \leq 2000 \end{aligned}$$

Output Format

Output total number of pairs of subsequences, (A, B) , satisfying the above conditions. As the number can be large, output it's modulo $10^9 + 7 = 1000000007$

Sample Input

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4 5 3
1 1 1 4
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Sample Output

Explanation

For array $X = \{x_1, x_2, x_3, x_4\} = \{1, 1, 1, 4\}$ there are three pairs of subsequences:

1. $A = \{x_4\} = \{4\}; B = \{x_1\} = \{1\}$
2. $A = \{x_4\} = \{4\}; B = \{x_2\} = \{1\}$
3. $A = \{x_4\} = \{4\}; B = \{x_3\} = \{1\}$