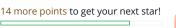
Wet Shark and Two Subsequences ☆



Rank: 992106 | Points: 86/100



Problem Submissions Leaderboard Editorial 🖰

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 $A=\{x_{a_1},x_{a_2},\ldots,x_{a_n}\}$ and $B=\{x_{b_1},x_{b_2},\ldots,x_{b_n}\}$

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

Please help Wet Shark determine how many possible subsequences $m{A}$ and $m{B}$ 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; 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, \ldots, x_m , representing the elements of X.

Constraints

- $1 \le m \le 100$
- $0 \le r, s \le 2000$
- $1 \le x_i \le 2000$

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 $10^9 + 7 = 10000000007$

Sample Input 0

4 5 3 1 1 1 4

Sample Output 0

3

Explanation 0

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



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

```
Change Theme
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                                                                                                               ™ K X ∰
  1
      import java.io.*;
  2
      import java.math.*;
  3
      import java.text.*;
      import java.util.*;
      import java.util.regex.*;
  5
  6
  7
      public class Solution {
  8
  9
  10
            * Complete the twoSubsequences function below.
 11
 12
           static int twoSubsequences(int[] x, int r, int s) {
 13
                * Write your code here.
  14
  15
 16
 17
 18
           private static final Scanner scanner = new Scanner(System.in);
 19
 20
 21
           public static void main(String[] args) throws IOException {
 22
               BufferedWriter bufferedWriter = new BufferedWriter(new FileWriter(System.getenv
       ("OUTPUT_PATH")));
 23
               String[] mrs = scanner.nextLine().split(" ");
 24
 25
 26
               int m = Integer.parseInt(mrs[0].trim());
 27
               int r = Integer.parseInt(mrs[1].trim());
 28
 29
 30
               int s = Integer.parseInt(mrs[2].trim());
 31
 32
               int[] x = new int[m];
                                                                                                             Line: 1 Col: 1
                   ☐ Test against custom input
↑ <u>Upload Code as File</u>
                                                                                               Run Code
                                                                                                             Submit Code
```

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