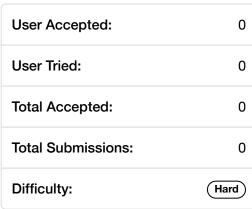
5494. Count All Possible Routes

My Submissions (/contest/biweekly-contest-34/problems/count-all-possible-routes/submissions/)

Back to Contest (/contest/biweekly-contest-34/)

You are given an array of **distinct** positive integers locations where locations [i] represents the position of city i. You are also given integers start, finish and fuel representing the starting city, ending city, and the initial amount of fuel you have, respectively.

At each step, if you are at city i, you can pick any city j such that j!= i and 0 <= j < locations.length and move to city <math>j. Moving from city i to city j reduces the amount of fuel you have by |locations[i] - locations[j]|. Please notice that |x| denotes the absolute value of x.



Notice that fuel **cannot** become negative at any point in time, and that you are **allowed** to visit any city more than once (including start and finish).

Return the count of all possible routes from start to finish.

Since the answer may be too large, return it modulo 10^9 + 7.

Example 1:

```
Input: locations = [2,3,6,8,4], start = 1, finish = 3, fuel = 5
Output: 4
Explanation: The following are all possible routes, each uses 5 units of fuel:
1 -> 3
1 -> 2 -> 3
1 -> 4 -> 3
1 -> 4 -> 3
```

Example 2:

```
Input: locations = [4,3,1], start = 1, finish = 0, fuel = 6
Output: 5
Explanation: The following are all possible routes:
1 -> 0, used fuel = 1
1 -> 2 -> 0, used fuel = 5
1 -> 2 -> 1 -> 0, used fuel = 5
1 -> 0 -> 1 -> 0, used fuel = 3
1 -> 0 -> 1 -> 0 -> 1 -> 0, used fuel = 5
```

Example 3:

Input: locations = [5,2,1], start = 0, finish = 2, fuel = 3
Output: 0

Explanation: It's impossible to get from 0 to 2 using only 3 units of fuel since the short

Example 4:

Input: locations = [2,1,5], start = 0, finish = 0, fuel = 3
Output: 2
Explanation: There are two possible routes, 0 and 0 -> 1 -> 0.

Example 5:

Input: locations = [1,2,3], start = 0, finish = 2, fuel = 40
Output: 615088286
Explanation: The total number of possible routes is 2615088300. Taking this number modulo

Constraints:

- 2 <= locations.length <= 100
- 1 <= locations[i] <= 10^9
- All integers in locations are distinct.
- 0 <= start, finish < locations.length
- 1 <= fuel <= 200

```
JavaScript
                                                                               砂
                                                                                      {oldsymbol{\mathcal{C}}}
 1 • /**
      * @param {number[]} locations
 2
      * @param {number} start
 3
 4
     * @param {number} finish
     * @param {number} fuel
 5
     * @return {number}
 6
 7
 8 var countRoutes = function(locations, start, finish, fuel) {
10
    };
```