

Count All Possible Routes

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 `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 -> 2 -> 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 is impossible to get from 0 to 2 using only 3 units of fuel since the shortest route needs 4 units of fuel.

Constraints:

- $2 \leq \text{locations.length} \leq 100$
- $1 \leq \text{locations}[i] \leq 10^9$
- All integers in locations are **distinct**.
- $0 \leq \text{start}, \text{finish} < \text{locations.length}$
- $1 \leq \text{fuel} \leq 200$