You are given a **0-indexed** array of n integers differences, which describes the **differences**between each pair of **consecutive**integers of a **hidden** sequence of length (n + 1). More formally, call the hidden sequence hidden, then we have that differences[i] = hidden[i + 1] - hidden[i].

You are further given two integers lower and upper that describe the **inclusive** range of values [lower, upper] that the hidden sequence can contain.

* For example, given differences = [1, -3, 4], lower = 1, upper = 6, the hidden sequence is a sequence of length 4 whose elements are in between 1 and 6 (**inclusive**).
  + [3, 4, 1, 5] and [4, 5, 2, 6] are possible hidden sequences.
  + [5, 6, 3, 7] is not possible since it contains an element greater than 6.
  + [1, 2, 3, 4] is not possible since the differences are not correct.

Return *the number of****possible****hidden sequences there are.* If there are no possible sequences, return 0.

**Example 1:**

**Input:** differences = [1,-3,4], lower = 1, upper = 6

**Output:** 2

**Explanation:** The possible hidden sequences are:

- [3, 4, 1, 5]

- [4, 5, 2, 6]

Thus, we return 2.

**Example 2:**

**Input:** differences = [3,-4,5,1,-2], lower = -4, upper = 5

**Output:** 4

**Explanation:** The possible hidden sequences are:

- [-3, 0, -4, 1, 2, 0]

- [-2, 1, -3, 2, 3, 1]

- [-1, 2, -2, 3, 4, 2]

- [0, 3, -1, 4, 5, 3]

Thus, we return 4.

**Example 3:**

**Input:** differences = [4,-7,2], lower = 3, upper = 6

**Output:** 0

**Explanation:** There are no possible hidden sequences. Thus, we return 0.

**Constraints:**

* n == differences.length
* 1 <= n <= 105
* -105 <= differences[i] <= 105
* -105 <= lower <= upper <= 105