446. Arithmetic Slices II - Subsequence

Description

Given an integer array `nums`, return *the number of all the* ***arithmetic subsequences*** *of* `nums`.

A sequence of numbers is called arithmetic if it consists of **at least three elements** and if the difference between any two consecutive elements is the same.

- For example, `[1, 3, 5, 7, 9]`, `[7, 7, 7, 7]`, and `[3, -1, -5, -9]` are arithmetic sequences.
- For example, `[1, 1, 2, 5, 7]` is not an arithmetic sequence.

A **subsequence** of an array is a sequence that can be formed by removing some elements (possibly none) of the array.

- For example, `[2,5,10]` is a subsequence of `[1,2,1, 2 ,4,1, 5 , 10 ]`.

The test cases are generated so that the answer fits in **32-bit** integer.

Example 1:

```
Input: nums = [2,4,6,8,10]
Output: 7
Explanation: All arithmetic subsequence slices are:
[2,4,6]
[4,6,8]
[6,8,10]
[2,4,6,8]
[4,6,8,10]
[2,4,6,8,10]
[2,6,10]
```

Example 2:

```
Input: nums = [7,7,7,7,7]
Output: 16
Explanation: Any subsequence of this array is arithmetic.
```

Constraints:

- `1 <= nums.length <= 1000`
- `-2^31 <= nums[i] <= 2^31 - 1`