413. Arithmetic Slices

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An integer array 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.

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

A **subarray** is a contiguous subsequence of the array.

Example 1:

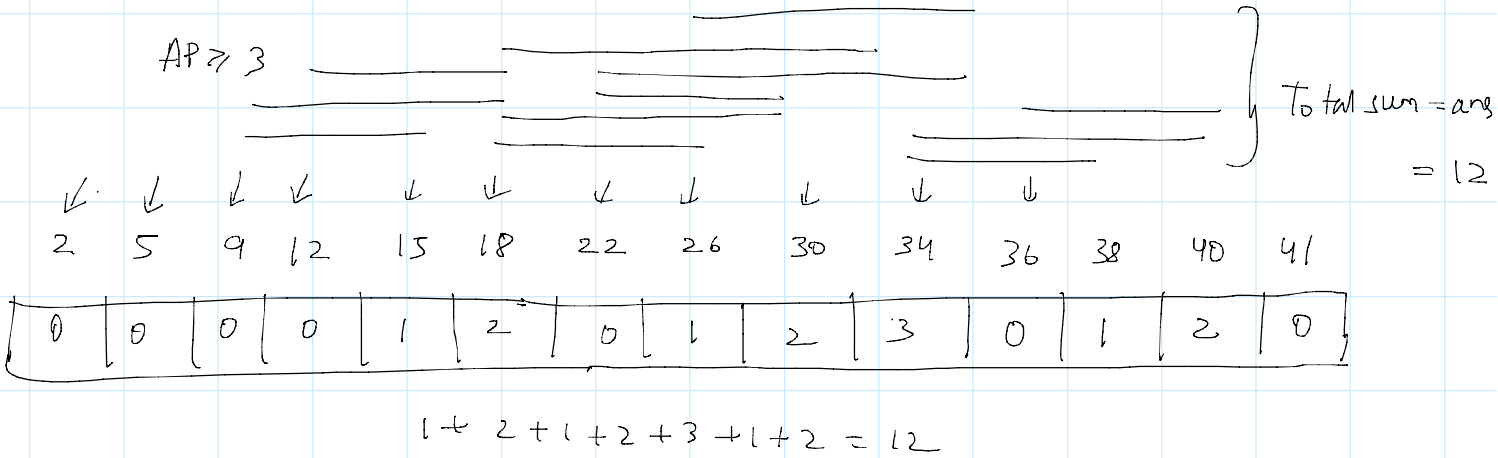
```
Input: nums = [1,2,3,4]
Output: 3
Explanation: We have 3 arithmetic slices in nums: [1, 2, 3],
[2, 3, 4] and [1,2,3,4] itself.
```

Example 2:

```
Input: nums = [1]
Output: 0
```

Constraints:

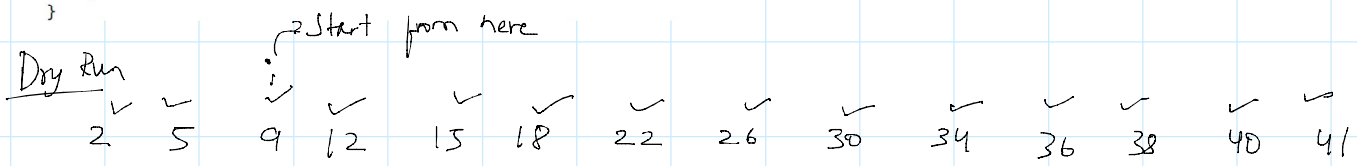
- `1 <= nums.length <= 5000`
- `-1000 <= nums[i] <= 1000`

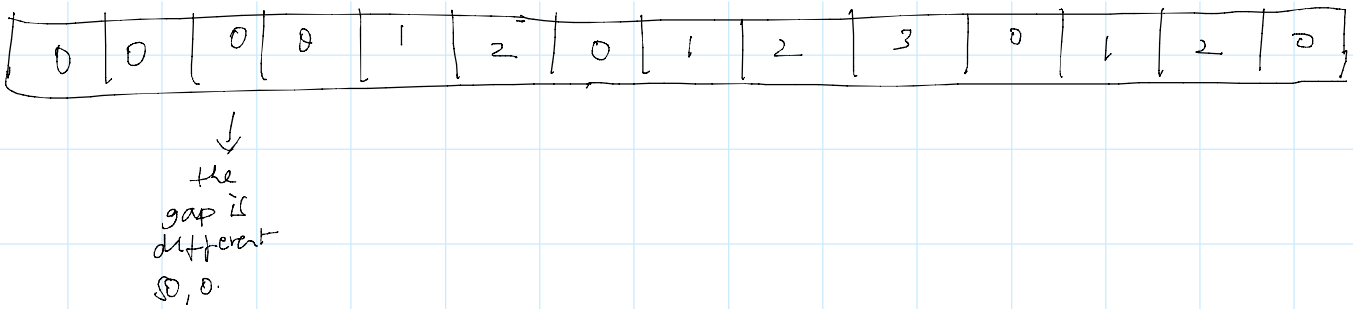



```java
class Solution {
    public int numberOfArithmeticSlices(int[] nums) {
        int[] dp = new int[nums.length];
        int res = 0;

        for(int i = 2; i < nums.length; i++){

            if(nums[i] - nums[i-1] == nums[i-1] - nums[i-2]){
                dp[i] = dp[i-1] + 1;
                res += dp[i];
            }
        }
        return res;
    }
}
```






```java
public int numberOfArithmeticSlices(int[] A) {
    int curr = 0, sum = 0;
    for (int i=2; i<A.length; i++)
        if (A[i]-A[i-1] == A[i-1]-A[i-2]) {
            curr += 1;
            sum += curr;
        } else {
            curr = 0;
        }
    return sum;
}
```