2302. Count Subarrays With Score Less Than K

Description

The **score** of an array is defined as the **product** of its sum and its length.

- For example, the score of `[1, 2, 3, 4, 5]` is `(1 + 2 + 3 + 4 + 5) * 5 = 75`.

Given a positive integer array `nums` and an integer `k`, return *the **number of non-empty subarrays** of `nums` whose score is **strictly less** than `k`*.

A **subarray** is a contiguous sequence of elements within an array.

Example 1:

```
Input: nums = [2,1,4,3,5], k = 10
Output: 6
Explanation:
The 6 subarrays having scores less than 10 are:
- [2] with score 2 * 1 = 2.
- [1] with score 1 * 1 = 1.
- [4] with score 4 * 1 = 4.
- [3] with score 3 * 1 = 3.
- [5] with score 5 * 1 = 5.
- [2,1] with score (2 + 1) * 2 = 6.
Note that subarrays such as [1,4] and [4,3,5] are not considered because their scores are 10 and 36 respectively, while we need scores strictly less than 10.
```

Example 2:

```
Input: nums = [1,1,1], k = 5
Output: 5
Explanation:
Every subarray except [1,1,1] has a score less than 5.
[1,1,1] has a score (1 + 1 + 1) * 3 = 9, which is greater than 5.
Thus, there are 5 subarrays having scores less than 5.
```

Constraints:

- `1 <= nums.length <= 10^5`
- `1 <= nums[i] <= 10^5`
- `1 <= k <= 10^15`