

6098. Count Subarrays With Score Less Than K

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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.

User Accepted:	0
User Tried:	0
Total Accepted:	0
Total Submissions:	0
Difficulty:	Hard

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

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:

- $1 \leq \text{nums.length} \leq 10^5$
- $1 \leq \text{nums}[i] \leq 10^5$
- $1 \leq k \leq 10^{15}$

JavaScript

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```
1 const countSubarrays = (a, k) => {
2   let n = a.length, i = 0, j = 0, res = 0, sum = a[0];
3   while (i < n && j < n) {
4     let len = j - i + 1;
5     if (sum * len < k) {
6       j++;
7     }
8     if (j >= i) {
9       res += j - i;
10      if (j < n) sum += a[j];
11    } else {
12      sum -= a[i];
13      i++;
14    }
15  }
16  return res;
17 };
```

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