# Problem 2488: Count Subarrays With Median K

## Problem Information

**Difficulty:** Hard
**Acceptance Rate:** 46.90%
**Paid Only:** No
**Tags:** Array, Hash Table, Prefix Sum

## Problem Description

You are given an array `nums` of size `n` consisting of **distinct** integers from `1` to `n` and a positive integer `k`.

Return _the number of non-empty subarrays in_`nums` _that have a**median** equal to _`k`.

**Note** :

* The median of an array is the **middle** element after sorting the array in **ascending** order. If the array is of even length, the median is the **left** middle element. * For example, the median of `[2,3,1,4]` is `2`, and the median of `[8,4,3,5,1]` is `4`. * A subarray is a contiguous part of an array.

**Example 1:**

**Input:** nums = [3,2,1,4,5], k = 4 **Output:** 3 **Explanation:** The subarrays that have a median equal to 4 are: [4], [4,5] and [1,4,5].

**Example 2:**

**Input:** nums = [2,3,1], k = 3 **Output:** 1 **Explanation:** [3] is the only subarray that has a median equal to 3.

**Constraints:**

* `n == nums.length` * `1 <= n <= 105` * `1 <= nums[i], k <= n` * The integers in `nums` are distinct.

## Code Snippets

### C++:

```
class Solution {
public:
int countSubarrays(vector<int>& nums, int k) {

}
};
```

### Java:

```
class Solution {
public int countSubarrays(int[] nums, int k) {

}
}
```

### Python3:

```
class Solution:
def countSubarrays(self, nums: List[int], k: int) -> int:
```