

713. Subarray Product Less Than K

Given an array of integers `nums` and an integer `k`, return *the number of contiguous subarrays where the product of all the elements in the subarray is strictly less than `k`*.

Example 1:

Input: `nums = [10,5,2,6]`, `k = 100`

Output: 8

Explanation: The 8 subarrays that have product less than 100 are:

[10], [5], [2], [6], [10, 5], [5, 2], [2, 6], [5, 2, 6]

Note that [10, 5, 2] is not included as the product of 100 is not strictly less than `k`.

Example 2:

Input: `nums = [1,2,3]`, `k = 0`

Output: 0

Constraints:

- $1 \leq \text{nums.length} \leq 3 \times 10^4$
- $1 \leq \text{nums}[i] \leq 1000$
- $0 \leq k \leq 10^6$

```
class Solution {  
  
    public int numSubarrayProductLessThanK(int[] nums, int k) {  
  
        int s = 0, e = 0, prod = 1, ans = 0;  
  
        while(e < nums.length) {  
  
            prod *= nums[e++]; // include  
  
            while(s < e && prod ≥ k) {  
  
                prod /= nums[s++]; // exclude start  
  
            }  
  
            if(prod < k) {  
  
                ans += e-s; // add to answer if it is valid  
  
            }  
  
        }  
  
    }  
}
```

```
    }  
  
    return ans;  
}  
  
}
```