6224. Number of Subarrays With GCD Equal to K

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Given an integer array `nums` and an integer `k`, return *the number of **subarrays** of* `nums` *where the greatest common divisor of the subarray's elements is* `k`.

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

The **greatest common divisor of an array** is the largest integer that evenly divides all the array elements.

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

Example 1:

```
Input: nums = [9,3,1,2,6,3], k = 3
Output: 4
Explanation: The subarrays of nums where 3 is the greatest common divisor of all the subarray's
- [9,3,1,2,6,3]
- [9,3,1,2,6,3]
- [9,3,1,2,6,3]
- [9,3,1,2,6,3]
```

Example 2:

```
Input: nums = [4], k = 7
Output: 0
Explanation: There are no subarrays of nums where 7 is the greatest common divisor of all the subarray's elements.
```

Constraints:

- `1 <= nums.length <= 1000`
- `1 <= nums[i], k <= 10^9`

JavaScript

```
const gcd = (a, b) => b == 0 ? a : gcd(b, a % b);
const gcdArray = (a) => { let res = 0; for (const x of a) { res = gcd(res, x); if (res == 1) return 1; } return res };

const subarrayGCD = (a, k) => {
    let n = a.length, res = 0;
    for (let i = 0; i < n; i++) {
        for (let j = i; j < n; j++) {
            let sub = a.slice(i, j + 1);
            let g = gcdArray(sub);
            if (g == k) res++;
        }
    }
    return res;
};
```

Custom Testcase Use Example Testcases

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