

2020 02 08 – Contiguous Arrays

Q1. Subarray Sum Equals K

Link: <https://leetcode.com/problems/subarray-sum-equals-k/>

Given an array of integers and an integer k, you need to find the total number of continuous subarrays whose sum equals to k.

Example 1

Input: nums = [1,1,1], k = 2
Output: 2

Example 2

Input: nums = [1,7,6,2,3,3,2], k = 8
Output: 4

Q2. Continuous Subarray Sum

Link: <https://leetcode.com/problems/continuous-subarray-sum/>

Given a list of non-negative numbers and a target integer k, write a function to check if the array has a continuous subarray of size at least 2 that sums up to a multiple of k, that is, sums up to $n*k$ where n is also an integer.

Example 1:

Input: [23,2,4,6,7], k=6

Output: True

Explanation: Because [2, 4] is a continuous subarray of size 2 and sums up to 6.

Q3. Contiguous Array

Link: <https://leetcode.com/problems/contiguous-array/>

Given a binary array, find the maximum length of a contiguous subarray with equal number of 0 and 1.

Example 1:

Input: [0,1]

Output: 2

Explanation: [0, 1] is the longest contiguous subarray with equal number of 0 and 1.

Q4. Subarray Sums Divisible by K

Link: <https://leetcode.com/problems/subarray-sums-divisible-by-k/>

Given an array A of integers, return the number of (contiguous, non-empty) subarrays that have a sum divisible by K.

Example 1:

Input: A = [4,5,0,-2,-3,1], K = 5

Output: 7

Explanation: There are 7 subarrays with a sum divisible by K = 5:

[4, 5, 0, -2, -3, 1], [5], [5, 0], [5, 0, -2, -3], [0], [0, -2, -3], [-2, -3]

Note:

1. $1 \leq A.length \leq 30000$
2. $-10000 \leq A[i] \leq 10000$
3. $2 \leq K \leq 10000$