560. Subarray Sum Equals K

⊙ Difficulty	medium
☑	☑
▦ Finished	@July 11, 2023
☰ Problem	array
☰ Previously asked company	Facebook Microsoft
⊙ website	leetcode

Question:

Given an array of integers `nums` and an integer `k`, return *the total number of subarrays whose sum equals to* `k`.

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

Example 1:

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

Example 2:

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

Optimal solution:

Time complexity: O(n)

Space complexity: O(n)

```python
class Solution(object):
    def subarraySum(self, nums, k):
        dict = { 0:1 }
        prefixSum, res = 0, 0

        for i in nums:
            prefixSum += i
            res += dict.get(prefixSum - k,0)
            dict[prefixSum] = 1 + dict.get(prefixSum,0)
        return res
```