M - 560. Subarray Sum Equals K

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

Constraints:
1 <= nums.length <= 2 * 104
-1000 <= nums[i] <= 1000
-107 <= k <= 107

Solution:

```
class Solution {
    public int subarraySum(int[] nums, int k) {
        int sum=0,count=0;
        for(int i=0;i<nums.length;i++){
            sum=0;
            for(int j=i;j<nums.length;j++){
                sum+=nums[j];
                if(sum==k)
                    count++;
            }
        }
        return count;
    }
}
```

Optimal Solution:

```
class Solution {
    public int subarraySum(int[] nums, int k) {
        int preSum=0,count=0;
        HashMap<Integer,Integer> hashmap=new HashMap<>();
        hashmap.put(0,1);

        for(int i=0;i<nums.length;i++){
            preSum+=nums[i];
            if(hashmap.containsKey(preSum-k)){
                count+=hashmap.get(preSum-k);
            }
            hashmap.put(preSum,hashmap.getOrDefault(preSum,0)+1);
        }
        return count;
    }
}
```