

Subarrays with sum K

Difficulty: Medium

Accuracy: 49.74%

Submissions: 68K+

Points: 4

Given an unsorted array of integers, find the number of continuous subarrays having sum exactly equal to a given number k .

Examples:

Input: $arr = [10, 2, -2, -20, 10]$, $k = -10$

Output: 3

Explanation: Subarrays: $arr[0...3]$, $arr[1...4]$, $arr[3...4]$ have sum exactly equal to -10.

Input: $arr = [9, 4, 20, 3, 10, 5]$, $k = 33$

Output: 2

Explanation: Subarrays: $arr[0...2]$, $arr[2...4]$ have sum exactly equal to 33.

Input: $arr = [1, 3, 5]$, $k = 0$

Output: 0

Explanation: No subarray with 0 sum.

```
1 // } Driver Code Ends
40 class Solution {
41     public int countSubarrays(int arr[], int k) {
42         HashMap<Integer, Integer> prefixSumMap = new HashMap<>();
43         int currentSum = 0;
44         int count = 0;
45         prefixSumMap.put(0, 1);
46         for (int num : arr) {
47             currentSum += num;
48             if (prefixSumMap.containsKey(currentSum - k)) {
49                 count += prefixSumMap.get(currentSum - k);
50             }
51             prefixSumMap.put(currentSum, prefixSumMap.getOrDefault(currentSum, 0) + 1);
52         }
53         return count;
54     }
55 }
```

