

Longest Subarray with Sum K

Given an array `arr[]` containing integers and an integer `k`, your task is to find the length of the longest subarray where the sum of its elements is equal to the given value `k`. If there is no subarray with sum equal to `k`, return `0`.

Examples:

Input: `arr[] = [10, 5, 2, 7, 1, -10]`, `k = 15`

Output: 6

Explanation: Subarrays with sum = 15 are [5, 2, 7, 1], [10, 5] and [10, 5, 2, 7, 1, -10]. The length of the longest subarray with a sum of 15 is 6.

Input: `arr[] = [-5, 8, -14, 2, 4, 12]`, `k = -5`

Output: 5

Explanation: Only subarray with sum = -5 is [-5, 8, -14, 2, 4] of length 5.

Input: `arr[] = [10, -10, 20, 30]`, `k = 5`

Output: 0

Explanation: No subarray with sum = 5 is present in `arr[]`.

Constraints:

$1 \leq \text{arr.size()} \leq 10^5$

$-10^4 \leq \text{arr}[i] \leq 10^4$

$-10^9 \leq k \leq 10^9$