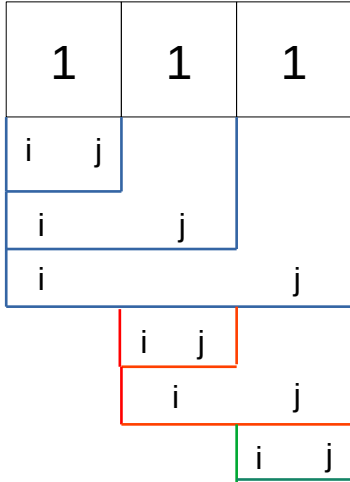


LeetCode #560

Subarray Sum Equals K

Brute Force



$K = 2$

res = 3

Explanation:

subarrays 0..1 and 1..2

have sum equals k

Prefix sum with Hash table

1	-1	1	1	1	1
---	----	---	---	---	---

$K = 3$

↑
i

The empty prefix, which has a sum of zero,
is equal to 1

Prefix Sum	Count
0	1

1	-1	1	1	1	1
---	----	---	---	---	---

$K = 3$



i

Sum = 1

Key = sum - k = -2

Res += prefix_sum[key] = 0

Prefix Sum	Count
0	1
1	1

1	-1	1	1	1	1
---	----	---	---	---	---

$K = 3$

↑
i

$\text{Sum} += \text{nums}[i] = 0$

$\text{Key} = \text{sum} - k = -3$

$\text{Res} += \text{prefix_sum}[\text{key}] = 0$

Prefix Sum	Count
0	2
1	1

1	-1	1	1	1	1
---	----	---	---	---	---

$K = 3$

↑
i

$\text{Sum} += \text{nums}[i] = 1$

$\text{Key} = \text{sum} - k = -2$

$\text{Res} += \text{prefix_sum}[\text{key}] = 0$

Prefix Sum	Count
0	2
1	2

1	-1	1	1	1	1
---	----	---	---	---	---

$K = 3$



i

$\text{Sum} += \text{nums}[i] = 2$

$\text{Key} = \text{sum} - k = -1$

$\text{Res} += \text{prefix_sum}[\text{key}] = 0$

Prefix Sum	Count
0	2
1	2
2	1

1	-1	1	1	1	1
---	----	---	---	---	---

$K = 3$



i

$\text{Sum} += \text{nums}[i] = 3$

$\text{Key} = \text{sum} - k = 0$

$\text{Res} += \text{prefix_sum}[\text{key}] = 2$

Prefix Sum	Count
0	2
1	2
2	1
3	1

1	-1	1	1	1	1
---	----	---	---	---	---

$K = 3$

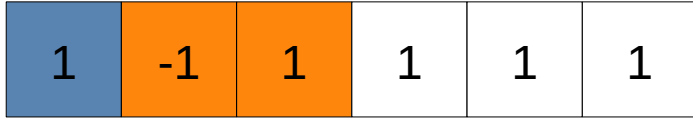
↑
i

$\text{Sum} += \text{nums}[i] = 4$

$\text{Key} = \text{sum} - k = 1$

$\text{Res} += \text{prefix_sum}[\text{key}] = 4$

Prefix Sum	Count
0	2
1	2
2	1
3	1
4	1



$K = 3$

$\text{Sum} += \text{nums}[i] = 4$

$\text{Key} = \text{sum} - k = 1$

$\text{Res} += \text{prefix_sum}[\text{key}] = 4$

It works because we have two subarrays
with the prefix sum which equals 2

Prefix Sum	Count
0	2
1	2
2	1
3	1
4	1