LeetCode #350

Intersection of Two Arrays II

Hash Table counting

The main idea for solving this problem is to count integers in the first array using a hash table. Then, we iterate through the second array and check weather an integer is in the hash table with a count greater than 0. If so, we add it to the result and decrement its count in the hash table.

nums1

1	2	2	1

nums2

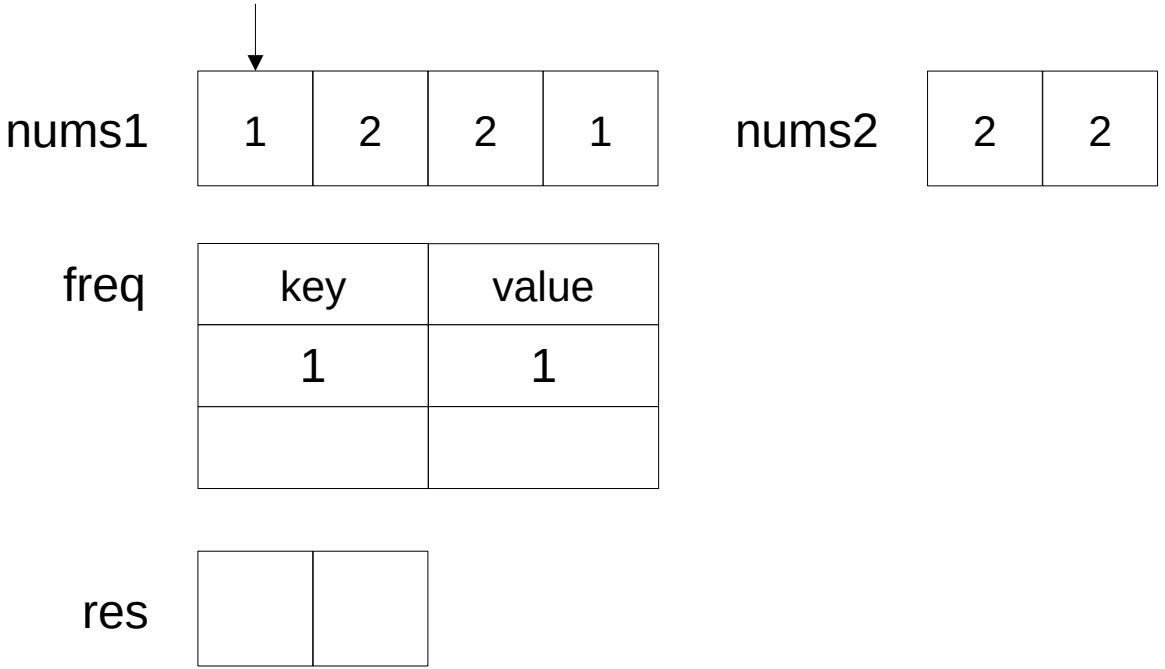
2	2

freq

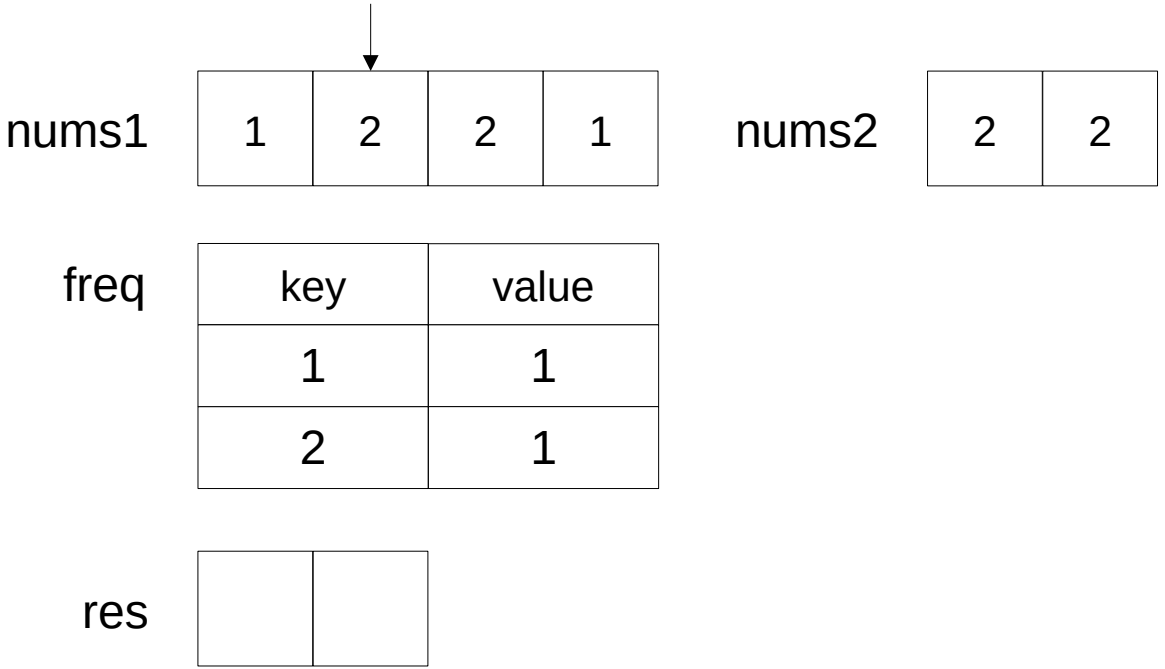
key	value

res

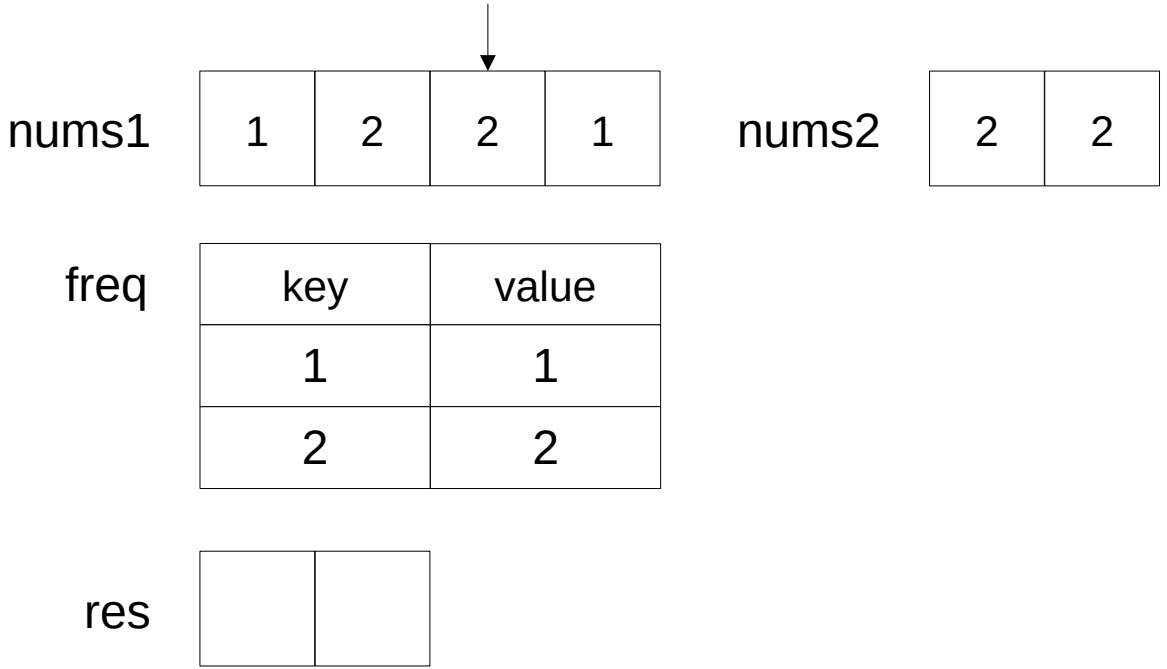
The first step, we iterate through the array nums1 and count each integer.



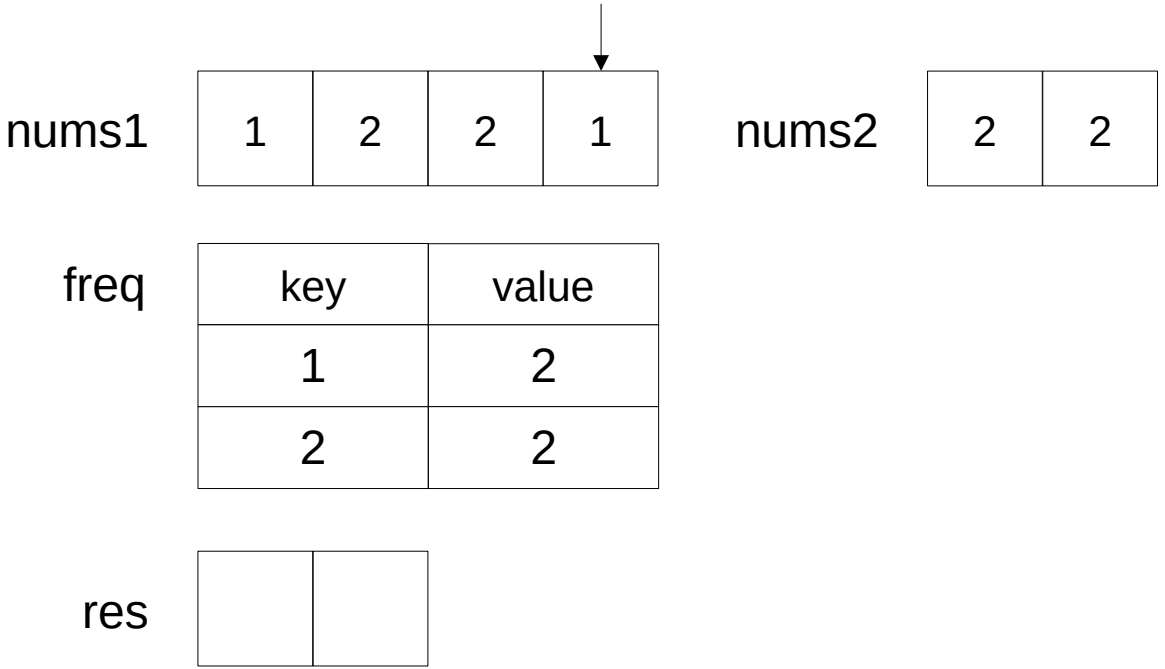
freq[nums1[i]] += 1 = freq[1] = 1



freq[nums1[i]] += 1 = freq[2] = 1



freq[nums1[i]] += 1 = freq[2] = 2



freq[nums1[i]] += 1 = freq[1] = 2

nums1

1	2	2	1

nums2

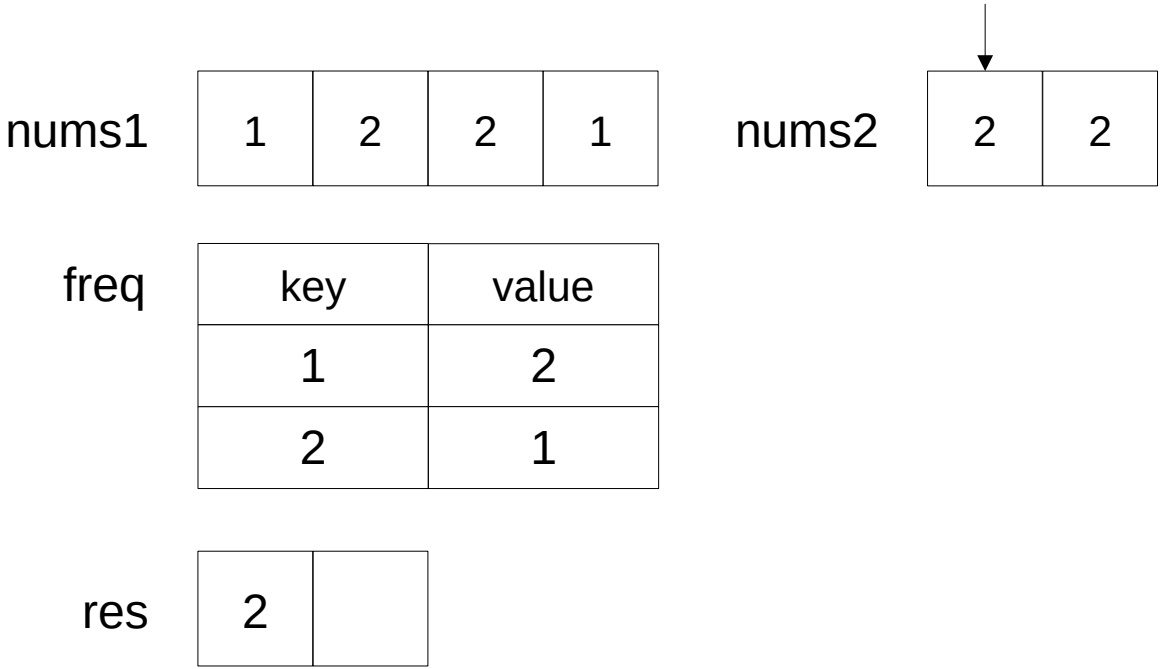
2	2

freq

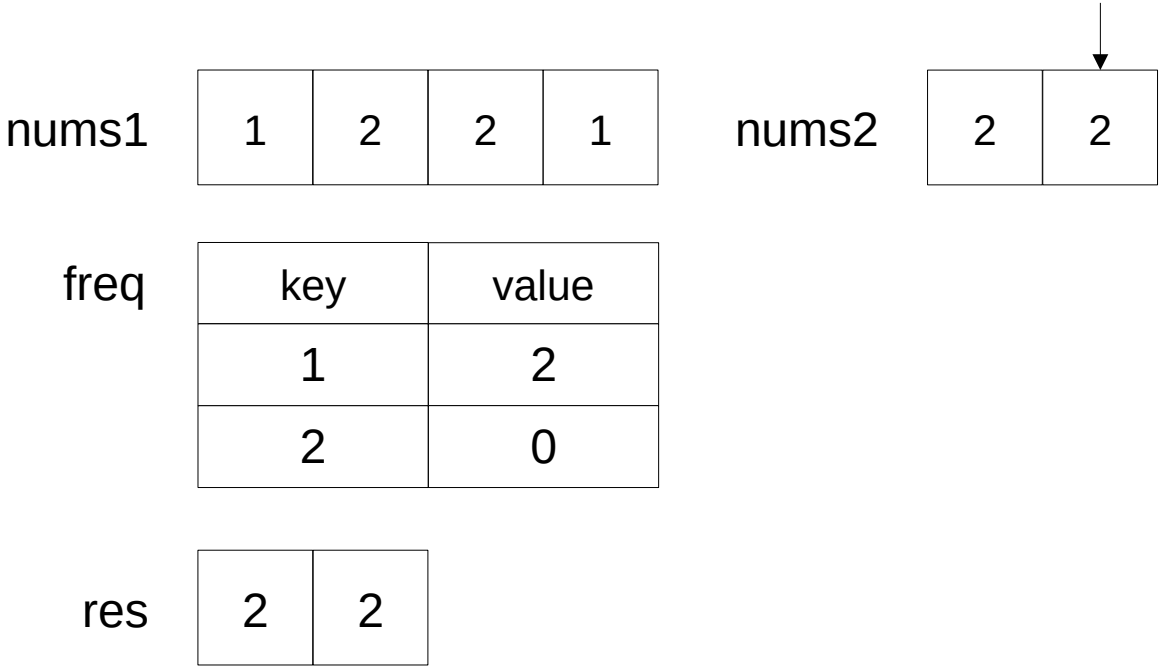
key	value
1	2
2	2

res

The second step, we iterate through the array nums2 and check whether an integer is present in freq. If it is and its count is greater than 0, we add it to the result array and decrement its count in freq.



If nums2[i] in freq:
freq[nums2[i]] -= 1 = freq[2] = 1
res += 2



If nums2[i] in freq:
freq[nums2[i]] -= 1 = freq[2] = 0
res += 2