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1. Given list of numbers, output the list with list without containing the elements in list 2 and can in list1 for duplicates

list 1 = [1,2,3,3,3]
list = [2,3,3]
o/p = [1,3]

TC : O(n)
SC : O(n)

```
def removeList2Nums(nums1, nums2):
        list2_dict = {}
        res = []
        for num in nums2:
                if num in list2_dict:
                        list2_dict[num] += 1
                else:
                        list2_dict[num] = 1
        for num in nums2:
                if num in list2_dict or list2_dict[num] == 0:
                        res.append(num)
                else:
                        list2_dict[num] -= 1

        return res
```

Test Cases:
TC 1:
input: nums1 : [1,2,2,3,3,3,4,4,5]
nums2 = [2,3,3]
output : [1,2,3,4,4,5]

input : nums1 [] nums2 = [1]
output : []

input: nums1= [] nums2 = []
output : []

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given list of numbers, output the list with list 1 containing elements not in list 2

```
def removeList2Nums(nums1, nums2):
    res = []
    for num in nums1:
        if num not in set(nums2):
            res.append(num)

    return res

nums1 = [1,2,2,3,3,3,4,4,5]
nums2 = [2,3,3]
print(removeList2Nums(nums1, nums2))
```

Test Cases:
TC 1:
input: nums1 : [1,2,2,3,3,3,4,4,5]
nums2 = [2,3,3]
output : [1,4,4,5]

input : nums1 [] nums2 = [1]
output : []

input: nums1= [] nums2 = []
output : []

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2. Given list of Strings, output the list with list 1 containing elements not in list 2

TC : O(n)
SC : O(n)

```
def removeList2Strings(str1, str2):
    str2=[s.lower() for s in str2]
    res = []
    for str in str1:
        if str .lower() not in set(str2):
            res.append(str )

    return res

str1= ['red','green','Yellow']
```

```
str2= ['Red']
print(removeList2Strings(str1, str2))
```

Test Cases:
TC1:
input :str1=['red','green','Yellow']
str2= ['Red']
output: [‘green’, ‘Yellow’

TC2 :
input : str1 = []
str2 = []
output : []

TC3:
input : str1 = [‘Red’]
str2 = [‘red’]
output : []

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3.Given a list of numbers, return a list without duplicate numbers

```
TC = O(n)
SC = O(n)
def removeDuplicates(nums):
    return set(nums)

nums = [1,1,2,2]
```

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```
TC = O(n)
SC = O(1)
def removeDuplicates(nums):
    slow = 0
    for fast in range(len(nums)):
        if nums[slow] != nums[fast]:
            slow += 1
            nums[slow] = nums[fast]

    return nums[:slow+1]


nums = [1,1,2,2,3,5]
print(removeDuplicates(nums))
```

Test Cases:
TC 1:
input: [1,1,2,2,3,5]
output : [1,2,3,,5]

input : [1]
output : [1]

input: []
output : []