**Problem #2605: Form Smallest Number to Two Digit Arrays (Easy)**

<https://leetcode.com/problems/form-smallest-number-from-two-digit-arrays/description/>

**My Solutions:**

**Solution 1: Using concatenation of strings.**

1. Find the minimum of nums1 and save it in min\_nums1
2. Find the minimum of nums2 and save it in min\_nums2
3. If the minimum of nums1 and num2 are the same, then return minimum of nums1.
4. Convert min\_nums1 to a string and min\_nums2 to a string and concatenate them. Convert to an integer and let it be x.
5. Convert min\_nums2 to a string and min\_nums1 to a string and concatenate them. Convert to an integer and let it be y.
6. Convert nums1 to a set and num3 to a set and get the intersection of the two sets. Let it be z.
7. If the length of z is more than 0, i.e. z is not an empty set, then return the minimum of x, y and min of z).
8. Otherwise return the minimum of x and y.

class Solution:

def minNumber(self, nums1: List[int], nums2: List[int]) -> int:

min\_nums1 = min(nums1)

min\_nums2 = min(nums2)

if min\_nums1 == min\_nums2:

return min\_nums1

x = int(str(min\_nums1) + str(min\_nums2))

y = int(str(min\_nums2) + str(min\_nums1))

z = set(nums1).intersection(set(nums2))

if len(z) > 0:

return min(x, y, min(z))

return min(x, y)

**Solution 2: Using integers**

1. Convert nums1 to a set and num2 to a set and get the intersection of the two sets. Let it be x.
2. Get the minimum of nums1 and multiply by 10. To this add the minimum of nums2. Let this be y.
3. Get the minimum of nums2 and multiply by 10. To this add the minimum of nums1. Let this be z.
4. If the length of x is greater than 0, then return the minimum of min(x), y and z.
5. Otherwise return the minimum of y and z.

class Solution:

def minNumber(self, nums1: List[int], nums2: List[int]) -> int

x = set(nums1).intersection(set(nums2))

y = (10 \* (min(nums1))) + min(nums2)

z = (10 \* (min(nums2))) + min(nums1)

if len(x):

return min(min(x), y, z)

return min(y, z)