**Justin\_Array\_0031.**  **Next Permutation**

**Concept:**

從後面搜尋到第一個變小的數字 x

跟 x 後面最小的數字 y 交換 (y 必須 > x)

交換完後，y 後面的數字在作排序，即為結果

[1,7,6,3,5,4,2]

x = 3

y = 4

交換 ==> [1,7,6,4,5,3,2]

4 後面作排序 ==> [1,7,6,4,2,3,5] ==> result

如果是最後一個狀況(ex: [5,4,3,2,1] or [11,9,6,4,2])

則直接.sort()

**Code:**

class Solution:

def nextPermutation(self, nums: List[int]) -> None:

"""

Do not return anything, modify nums in-place instead.

"""

temp\_max = nums[-1]

temp\_min = float("inf")

temp\_swap = float("inf")

swap\_a = 0

swap\_b = 0

islast = 1

for i in range(2, len(nums)+1):

if nums[-i] > temp\_max:

temp\_max = nums[-i]

elif nums[-i] < temp\_max:

islast = 0

temp\_min = nums[-i]

swap\_a = len(nums)-i

for j in range(len(nums)-i, len(nums)):

if temp\_min < nums[j] and nums[j] < temp\_swap:

temp\_swap = nums[j]

swap\_b = j

break

if islast == 1:

nums.sort()

else:

nums[swap\_a], nums[swap\_b] = nums[swap\_b], nums[swap\_a]

temp\_list = nums[swap\_a+1:]

temp\_list.sort()

nums[swap\_a+1:] = temp\_list