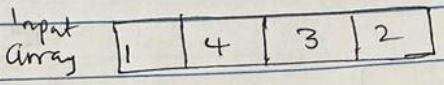
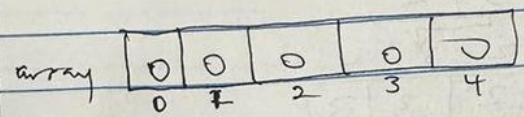
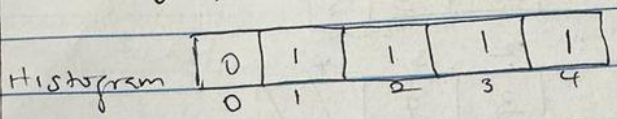
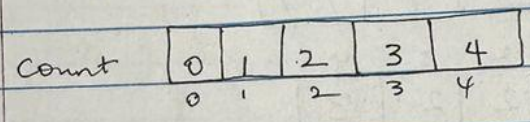
① Counting sort

1) 1, 4, 3, 2

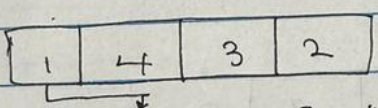


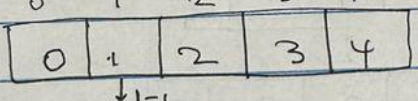


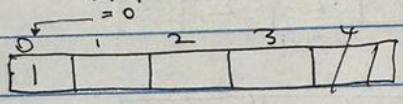


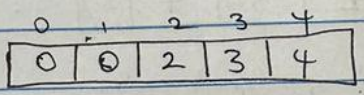


Cycle 1

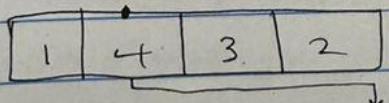


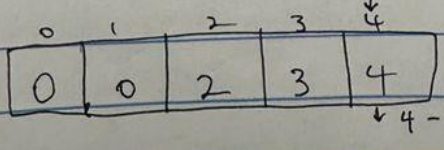


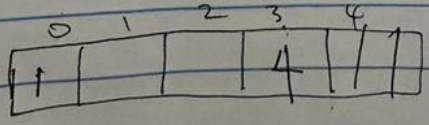


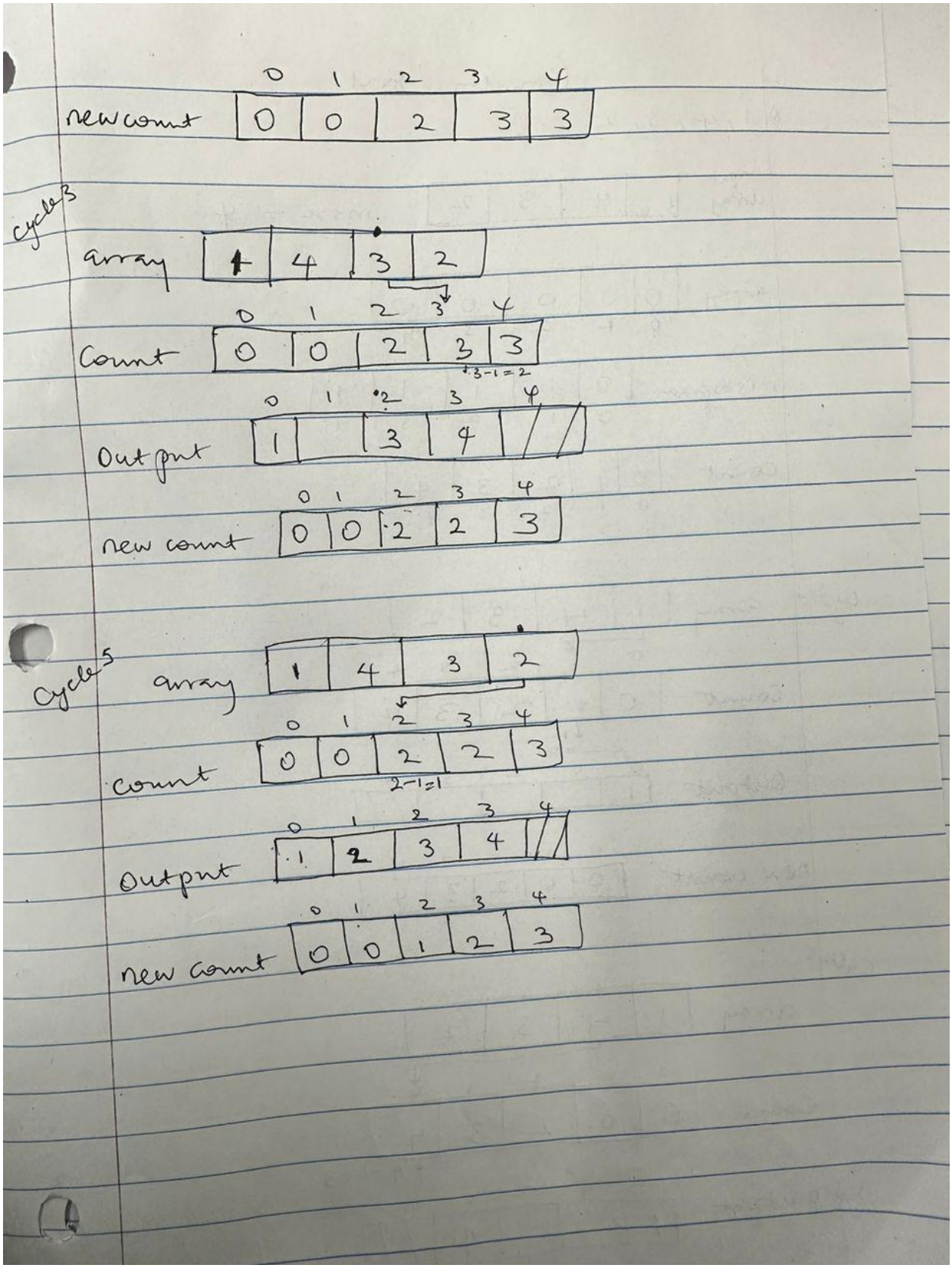


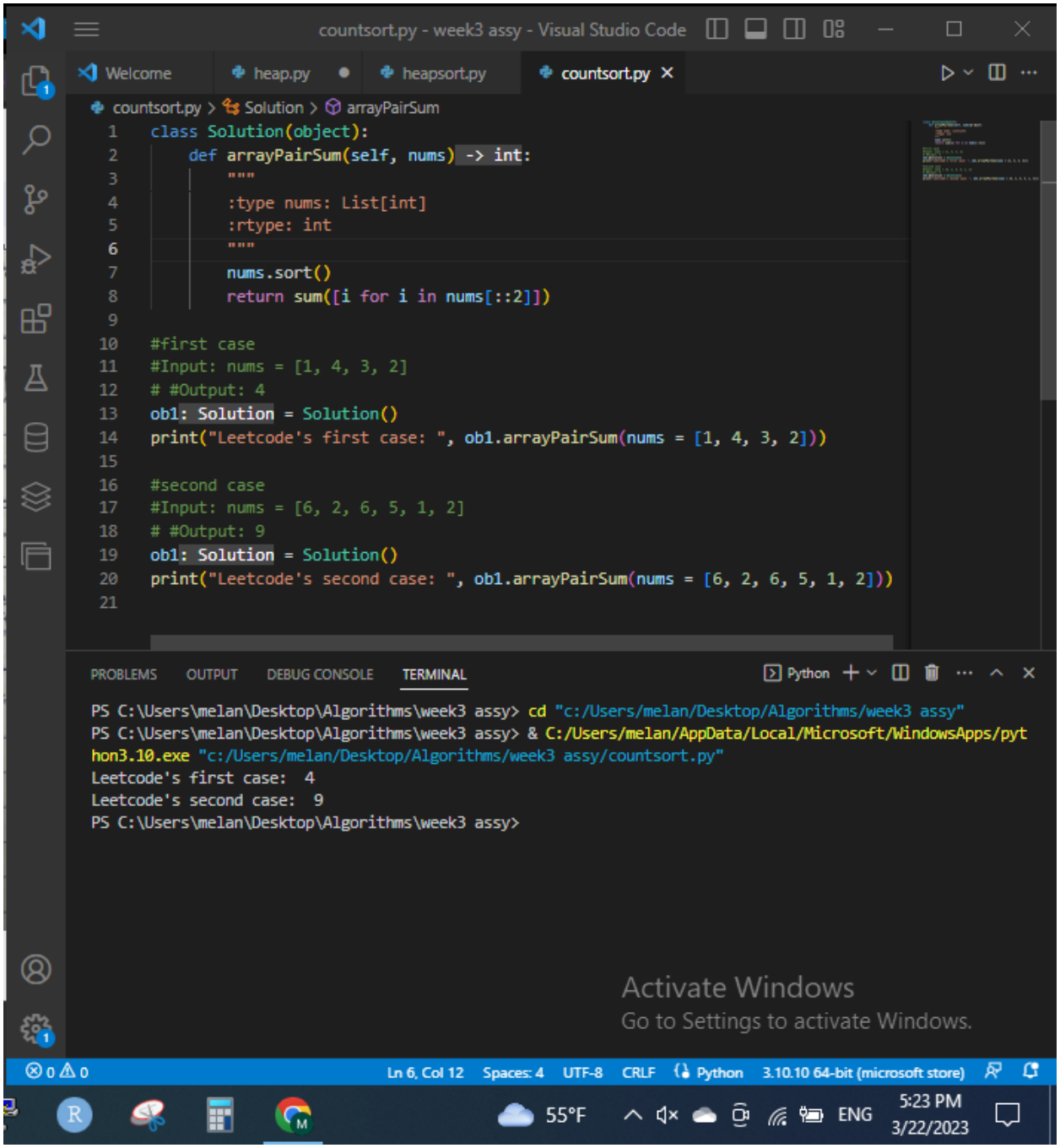
Cycle 2








0 1 2 3 4
new count 0 0 2 3 3
cycle 3
array 1 4 3 2
0 1 2 3 4
Count 0 0 2 3 3
3-1=2
0 1 2 3 4
Output 1 3 4
0 1 2 3 4
new count 0 0 2 2 3
cycle 5
array 1 4 3 2
0 1 2 3 4
count 0 0 2 2 3
2-1=1
0 1 2 3 4
Output 1 2 3 4
0 1 2 3 4
new count 0 0 1 2 3


countsort.py - week3 assy - Visual Studio Code
Welcome
heap.py
heapsort.py
countsort.py
countsort.py > Solution > arrayPairSum
class Solution(object):
def arrayPairSum(self, nums) -> int:
"""
:type nums: List[int]
:rtype: int
"""
nums.sort()
return sum([i for i in nums[::2]])
#first case
#Input: nums = [1, 4, 3, 2]
#Output: 4
ob1: Solution = Solution()
print("Leetcode's first case: ", ob1.arrayPairSum(nums = [1, 4, 3, 2]))
#second case
#Input: nums = [6, 2, 6, 5, 1, 2]
#Output: 9
ob1: Solution = Solution()
print("Leetcode's second case: ", ob1.arrayPairSum(nums = [6, 2, 6, 5, 1, 2]))
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
Python
PS C:\Users\melan\Desktop\Algorithms\week3 assy> cd "c:/Users/melan/Desktop/Algorithms/week3 assy"
PS C:\Users\melan\Desktop\Algorithms\week3 assy> & C:/Users/melan/AppData/Local/Microsoft/WindowsApps/python3.10.exe "c:/Users/melan/Desktop/Algorithms/week3 assy/countsort.py"
Leetcode's first case: 4
Leetcode's second case: 9
PS C:\Users\melan\Desktop\Algorithms\week3 assy>
Activate Windows
Go to Settings to activate Windows.
Ln 6, Col 12
Spaces: 4
UTF-8
CRLF
Python
3.10.10 64-bit (microsoft store)
55°F
ENG
5:23 PM
3/22/2023

CODE

```
class Solution(object):
    def arrayPairSum(self, nums):
        """
        :type nums: List[int]
        :rtype: int
        """
        nums.sort()
        return sum([i for i in nums[::2]])

#first case
#Input: nums = [1, 4, 3, 2]
# #Output: 4
ob1 = Solution()
print("Leetcode's first case: ", ob1.arrayPairSum(nums = [1, 4, 3, 2]))

#second case
#Input: nums = [6, 2, 6, 5, 1, 2]
# #Output: 9
ob1 = Solution()
print("Leetcode's second case: ", ob1.arrayPairSum(nums = [6, 2, 6, 5, 1, 2]))
```