DAA 1.py - C:/Users/Veera Vaishnavi/DAA 1.py (3.11.9)

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```
def firstPalindrome(words):
    for word in words:
        if word == word[::-1]:
            return word
    return ""
words1 = ["abc","car","ada","racecar","cool"]
print(firstPalindrome(words1))
words2 = ["notapalindrome","racecar"]
print(firstPalindrome(words2))
words3 = ["hello", "world"]
print(firstPalindrome(words3))
```

Ln: 5 Col: 15

IDLE Shell 3.11.9

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```
Python 3.11.9 (tags/v3.11.9:de54cf5, Apr  2 2024, 10:12:12) [MSC v.1938 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:/Users/Veera Vaishnavi/DAA 1.py ==========
ada
racecar

>>>
```

Ln: 8 Col: 0

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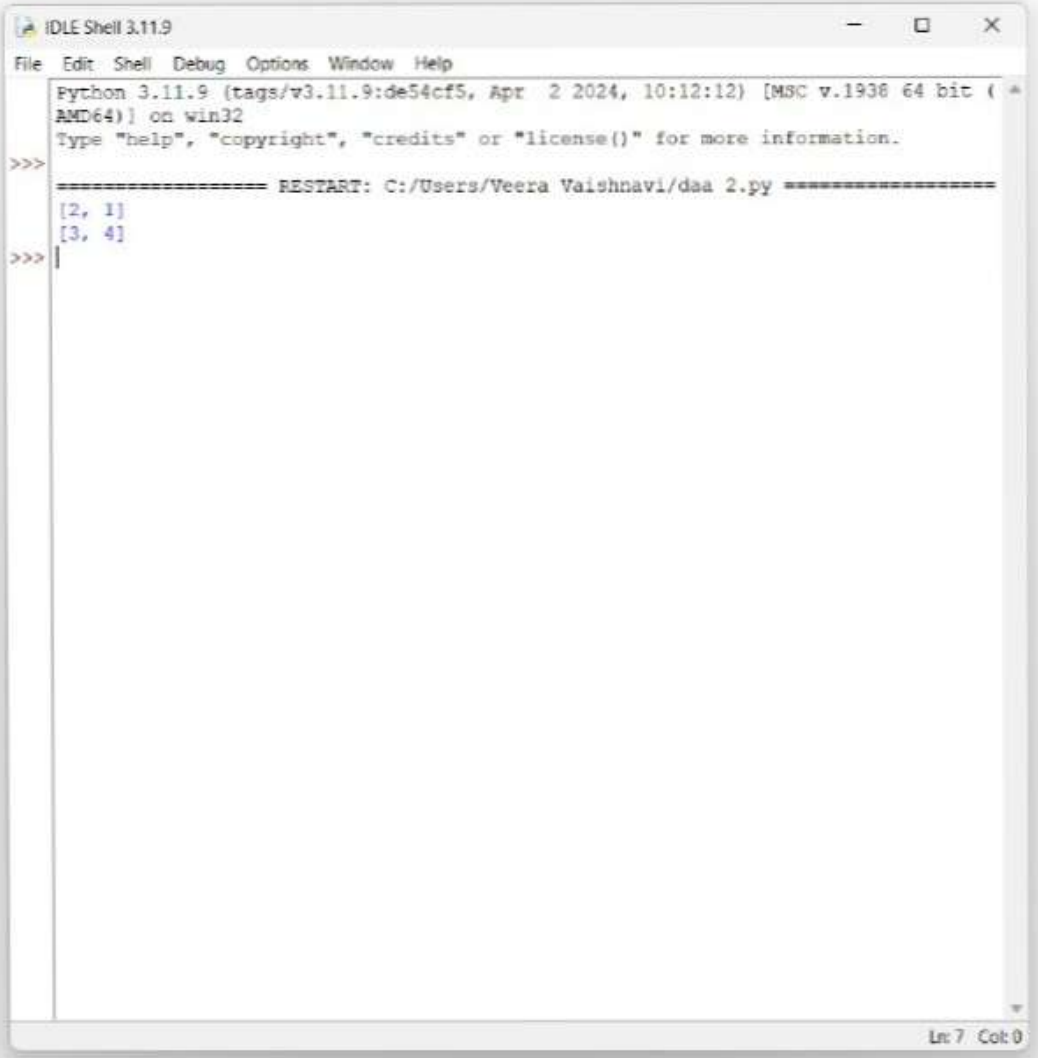
```
def findAnswers(nums1, nums2):
    answer1 = sum(1 for x in nums1 if x in nums2)
    answer2 = sum(1 for x in nums2 if x in nums1)
    return [answer1, answer2]

# Example 1
print(findAnswers([2,3,2], [1,2]))  # Output: [2,1]

# Example 2
print(findAnswers([4,3,2,3,1], [2,2,5,2,3,6]))  # Output: [3,4]
```



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```python
def optimized_bubble_sort(arr):
    n = len(arr)
    for i in range(n):
        swapped = False
        for j in range(0, n-i-1):
            if arr[j] > arr[j+1]:
                arr[j], arr[j+1] = arr[j+1], arr[j]
                swapped = True
        if not swapped:  # Stop if no swap in pass
            break
    return arr

# Test cases
print(optimized_bubble_sort([64,25,12,22,11]))
print(optimized_bubble_sort([29,10,14,37,13]))
print(optimized_bubble_sort([3,5,2,1,4]))
print(optimized_bubble_sort([1,2,3,4,5]))
print(optimized_bubble_sort([5,4,3,2,1]))
```

Ln: 19 Col: 0

IDLE Shell 3.11.9

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```
Python 3.11.9 (tags/v3.11.9:de54cf5, Apr  2 2024, 10:12:12) [MSC v.1938 64 bit (
AMD64)] on win32
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>>>
= RESTART: C:/Users/Veera Vaishnavi/daa 2.py
[11, 12, 22, 25, 64]
[10, 13, 14, 29, 37]
[1, 2, 3, 4, 5]
[1, 2, 3, 4, 5]
[1, 2, 3, 4, 5]

>>>
```

Ln: 11 Col: 0

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```
def selection_sort(arr):
    n = len(arr)
    for i in range(n):
        min_idx = i
        for j in range(i+1, n):
            if arr[j] < arr[min_idx]:
                min_idx = j
        arr[i], arr[min_idx] = arr[min_idx], arr[i]
    return arr

print(selection_sort([5,2,9,1,5,6]))
print(selection_sort([10,8,6,4,2]))
print(selection_sort([1,2,3,4,5]))
```

Ln: 14 Col: 0

IDLE Shell 3.11.9

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```
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AMD64)] on win32
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>>>
= RESTART: C:/Users/Veera Vaishnavi/daa 2.py
[1, 2, 5, 5, 6, 9]
[2, 4, 6, 8, 10]
[1, 2, 3, 4, 5]
>>>
```

Ln: 8 Col: 0

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```python
def champagne_tower(poured, query_row, query_glass):
    tower = [[0]*101 for _ in range(101)]
    tower[0][0] = poured
    for r in range(query_row+1):
        for c in range(r+1):
            if tower[r][c] > 1:
                excess = tower[r][c]-1
                tower[r][c] = 1
                tower[r+1][c] += excess/2
                tower[r+1][c+1] += excess/2
    return tower[query_row][query_glass]

print(champagne_tower(1,1,1))  # 0.0
print(champagne_tower(2,1,1))  # 0.5
```

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```
Python 3.11.9 (tags/v3.11.9:de54cf5, Apr  2 2024, 10:12:12) [MSC v.1938 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Veera Vaishnavi/daa 2.py
0
0.5
>>>
```

Ln: 7 Col: 0

Ln: 15 Col:

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```
def game_of_life(board):
    m, n = len(board), len(board[0])
    def count_live(i,j):
        dirs = [(-1,-1),(-1,0),(-1,1),(0,-1),(0,1),(1,-1),(1,0),(1,1)]
        return sum(0 <= i+dx < m and 0 <= j+dy < n and abs(board[i+dx][j+dy])==1 for dx,dy in dirs)
    for i in range(m):
        for j in range(n):
            live_neighbors = count_live(i,j)
            if board[i][j]==1 and (live_neighbors<2 or live_neighbors>3):
                board[i][j] = -1
            if board[i][j]==0 and live_neighbors==3:
                board[i][j] = 2
    for i in range(m):
        for j in range(n):
            if board[i][j]>0:
                board[i][j]=1
            else:
                board[i][j]=0
    return board

print(game_of_life([[0,1,0],[0,0,1],[1,1,1],[0,0,0]]))
print(game_of_life([[1,1],[1,0]]))
```

IDLE Shell 3.11.9

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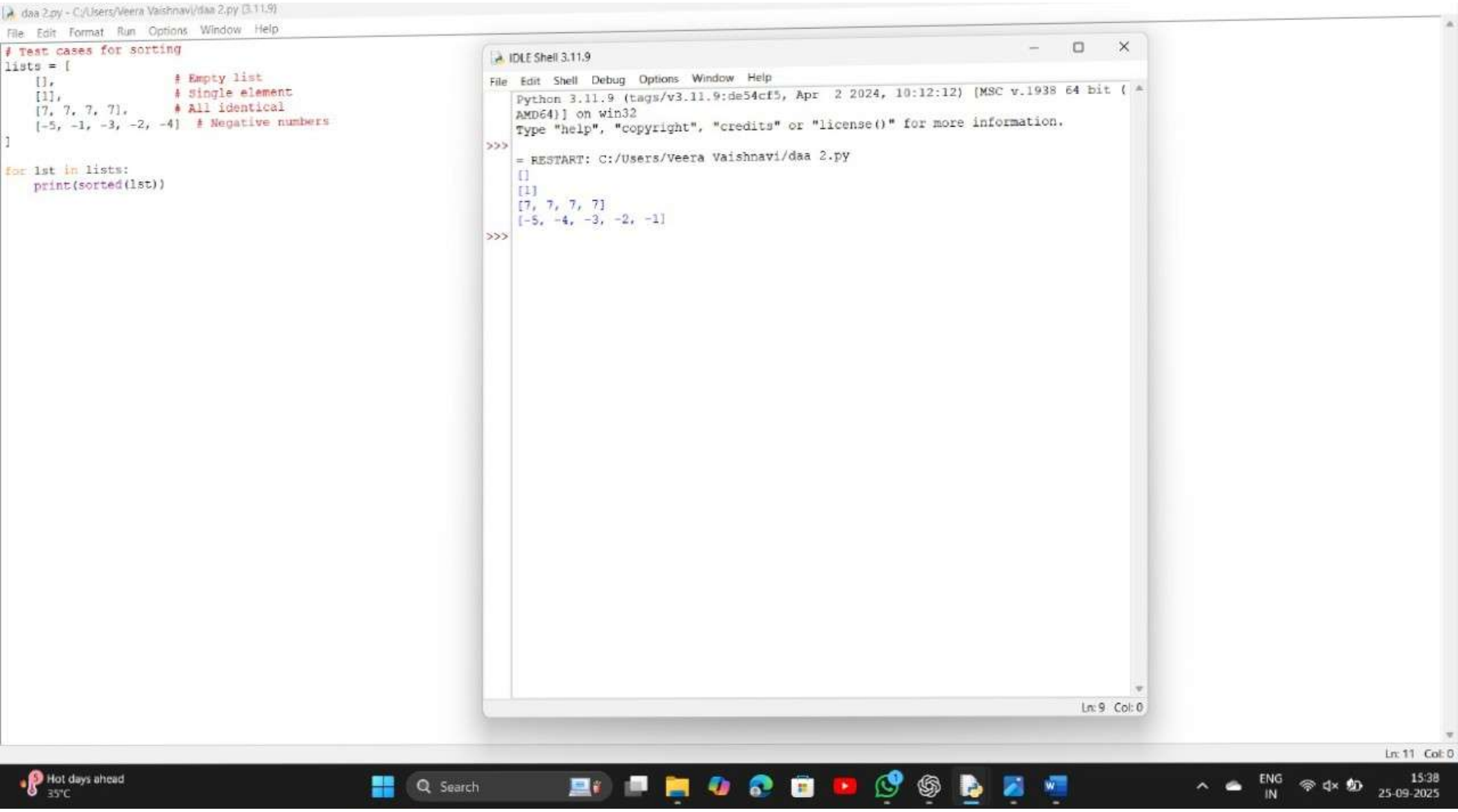
```
Python 3.11.9 (tags/v3.11.9:de54cf5, Apr  2 2024, 10:12:12) [MSC v.1938 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Veera Vaishnavi/daa 2.py
[[0, 0, 0], [1, 0, 1], [0, 1, 1], [0, 1, 0]]
[[1, 1], [1, 1]]
>>>
```

Ln: 7 Col: 0

Ln: 23 Col: 0


daa 2.py - C:/Users/Veera Vaishnavi/daa 2.py (3.11.9)
File Edit Format Run Options Window Help
# Test cases for sorting
lists = [
[], # Empty list
[1], # Single element
[7, 7, 7, 7], # All identical
[-5, -1, -3, -2, -4] # Negative numbers
]
for lst in lists:
print(sorted(lst))
IDLE Shell 3.11.9
File Edit Shell Debug Options Window Help
Python 3.11.9 (tags/v3.11.9:de54cf5, Apr 2 2024, 10:12:12) [MSC v.1938 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Veera Vaishnavi/daa 2.py
[]
[1]
[7, 7, 7, 7]
[-5, -4, -3, -2, -1]
>>>
Ln: 9 Col: 0
Ln: 11 Col: 0
Hot days ahead
35°C
Search
ENG
IN
15:38
25-09-2025

File Edit Format Run Options Window Help

```
def unique_paths(m,n):
    dp = [[1]*n for _ in range(m)]
    for i in range(1,m):
        for j in range(1,n):
            dp[i][j] = dp[i-1][j]+dp[i][j-1]
    return dp[-1][-1]

print(unique_paths(7,3))  # 28
print(unique_paths(3,2))  # 3
```

Ln: 11 Col: 0

IDLE Shell 3.11.9

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```
Python 3.11.9 (tags/v3.11.9:de54cf5, Apr  2 2024, 10:12:12) [MSC v.1938 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Veera Vaishnavi/daa 2.py
28
3
>>>
```

Ln: 7 Col: 0

BSE midcap -0.85%

Search

ENG IN

15:34 25-09-2025

File Edit Format Run Options Window Help

```
def rob_linear(nums):
    prev = curr = 0
    for num in nums:
        prev, curr = curr, max(curr, prev+num)
    return curr

def rob(nums):
    if len(nums)==1:
        return nums[0]
    return max(rob_linear(nums[1:]), rob_linear(nums[:-1]))

print(rob([2,3,2]))    # 3
print(rob([1,2,3,1]))  # 4
```

Ln: 14 Col: 0

IDLE Shell 3.11.9

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```
Python 3.11.9 (tags/v3.11.9:de54cf5, Apr  2 2024, 10:12:12) [MSC v.1938 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Veera Vaishnavi/daa 2.py
3
4
>>>
```

Ln: 7 Col: 0

35°C Partly sunny

Search

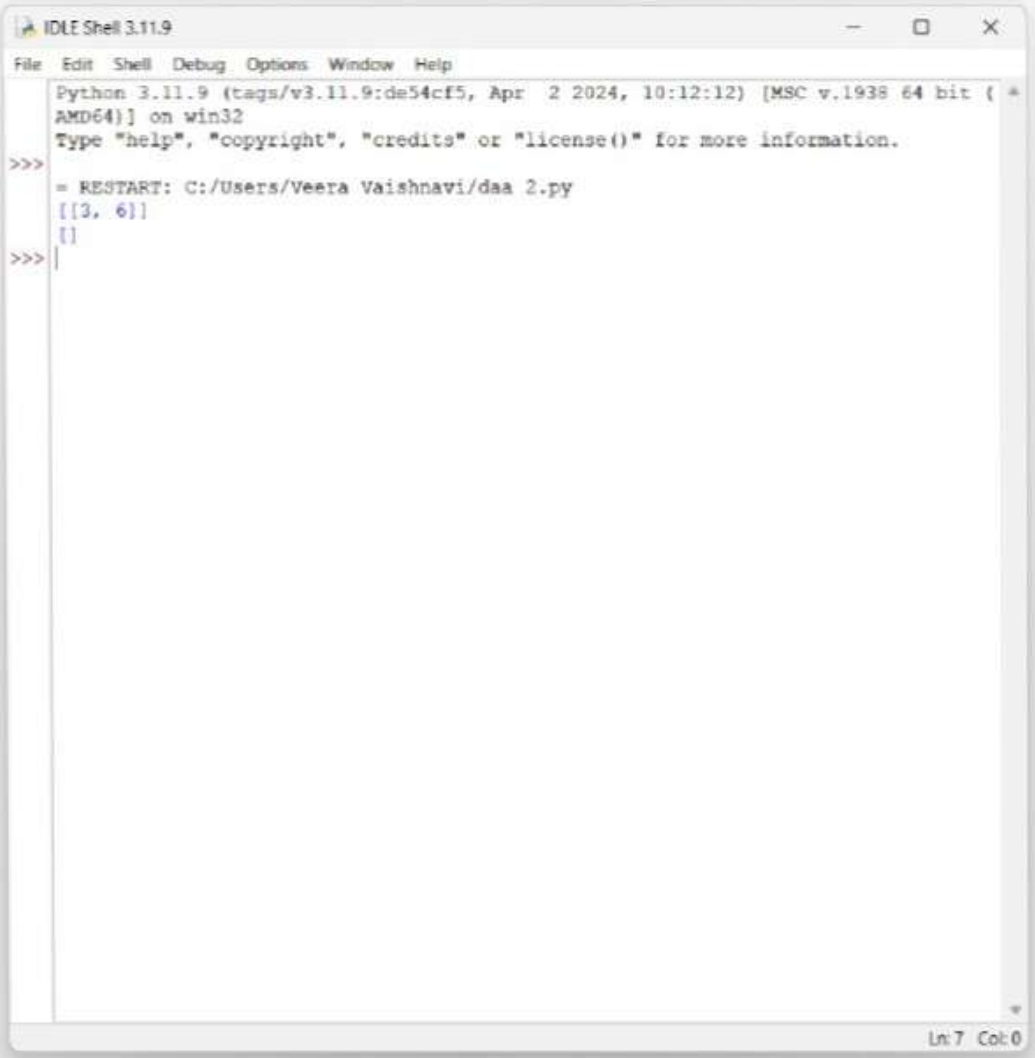
ENG IN

15:33 25-09-2025

File Edit Format Run Options Window Help

```
def large_groups(s):
    res = []
    i = 0
    while i < len(s):
        start = i
        while i+1 < len(s) and s[i]==s[i+1]:
            i += 1
        if i-start+1 >= 3:
            res.append([start,i])
        i += 1
    return res

print(large_groups("abbxxxxzzy"))  # [[3,6]]
print(large_groups("abc"))         # []
```



Ln: 15 Col: 0