

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))
```

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 1.py =====  
ada  
racecar  
>>> |
```

Ln 8 Col 0

Ln 5 Col 15

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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]
```

IDLE Shell 3.11.9

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>>>

===== RESTART: C:/Users/Veera Vaishnavi/daa 2.py =====

[2, 1]

[3, 4]

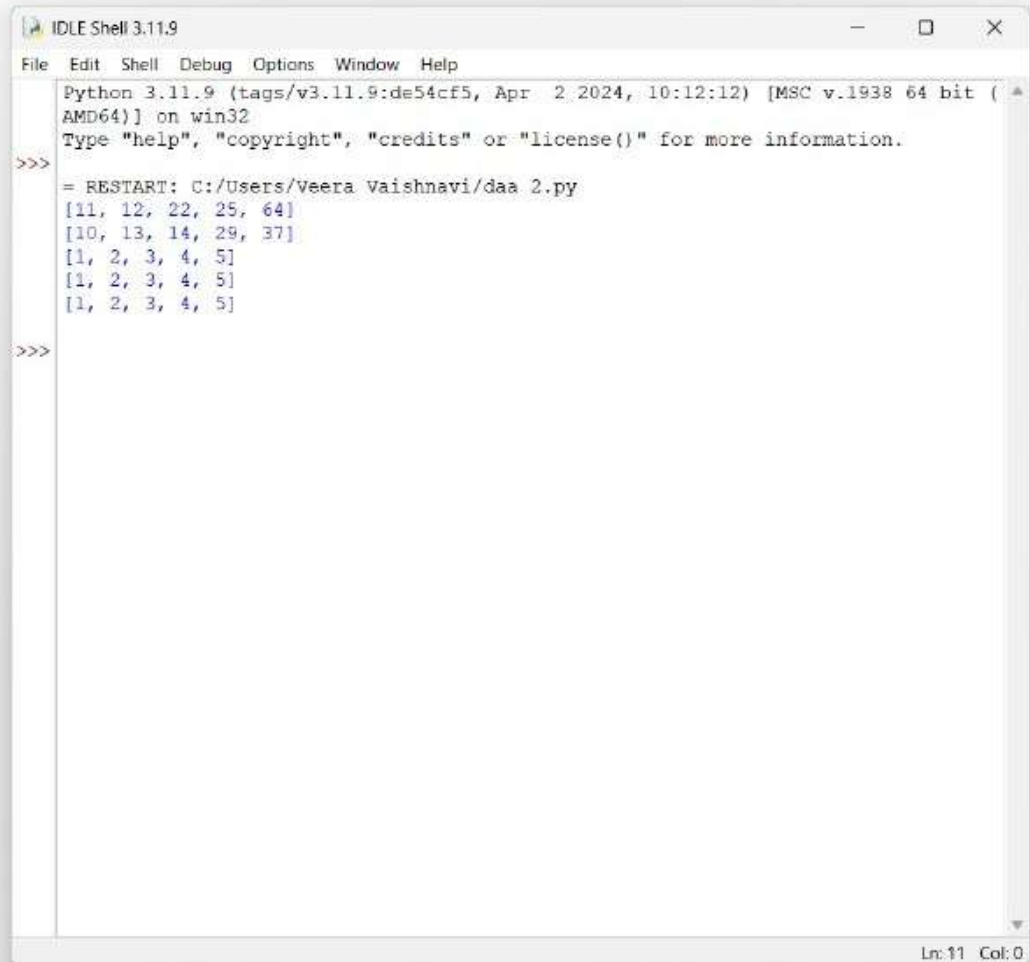
>>>

Ln: 7 Col: 0

Ln: 11 Col: 0

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```
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]))
```



The screenshot shows the IDLE Shell 3.11.9 window. The title bar is "IDLE Shell 3.11.9". The menu bar includes "File", "Edit", "Shell", "Debug", "Options", "Window", and "Help". The shell displays the following text:

```
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]  
>>>
```

The status bar at the bottom right of the window shows "Ln: 11 Col: 0".

File Edit Format Run Options Window Help

```
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]))
```

IDLE Shell 3.11.9

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```
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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

Ln: 14 Col: 0

Hot weather
Now



Search



File Edit Format Run Options Window Help

```
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
```

IDLE Shell 3.11.9

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```
>>> = RESTART: C:/Users/Veera Vaishnavi/daa 2.py  
0
```

```
0.5
```

```
>>> |
```

Ln: 7 Col: 0

Ln: 15 Col: 0

File Edit Format Run Options Window Help

```
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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```
>>>
= 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)

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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

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>>>

= 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
```

IDLE Shell 3.11.9

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>>> = RESTART: C:/Users/Veera Vaishnavi/daa 2.py

28

3

>>>

Ln: 7 Col: 0

Ln: 11 Col: 0

85E 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
```

IDLE Shell 3.11.9

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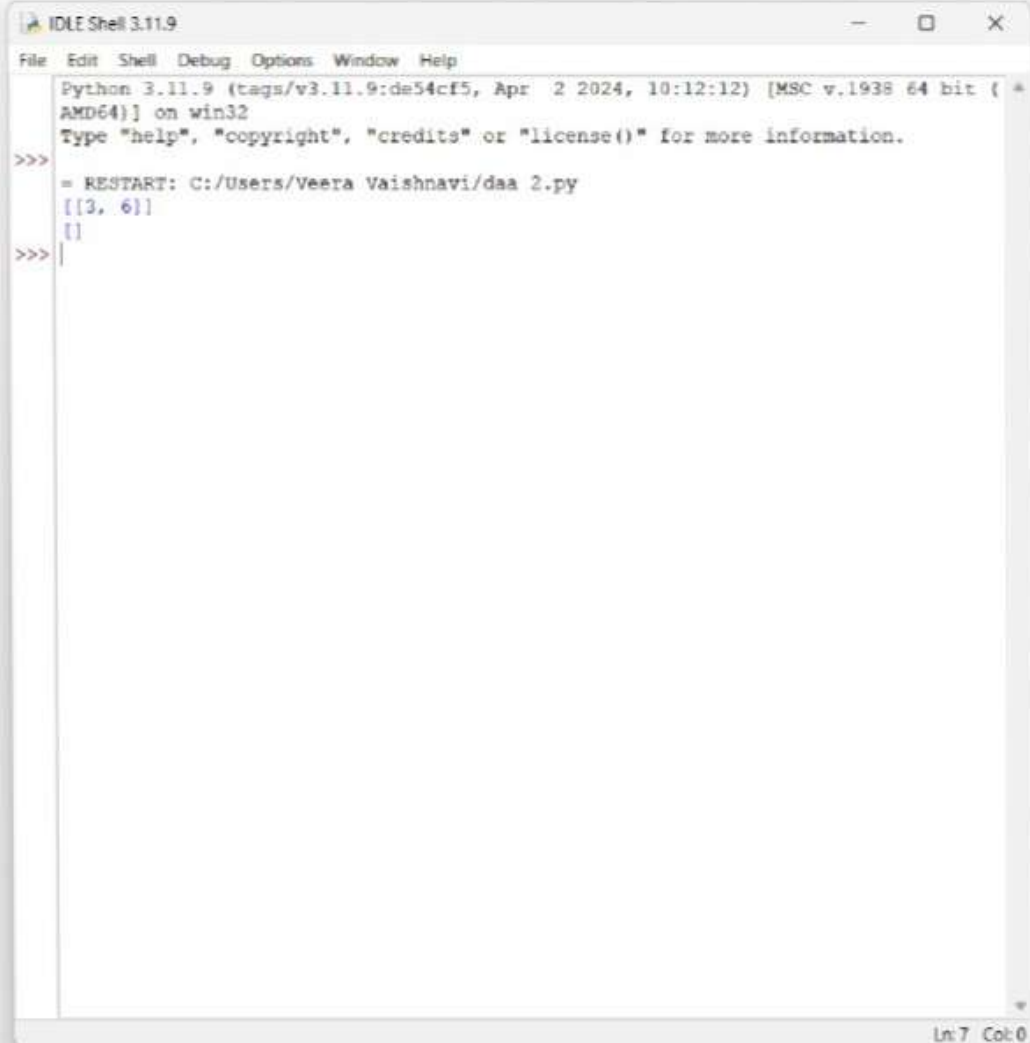
```
>>> = RESTART: C:/Users/Veera Vaishnavi/daa 2.py  
3  
4  
>>> |
```

Ln: 7 Col: 0

Ln: 14 Col: 0



```
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")) # []
```



The screenshot shows the Python IDLE Shell 3.11.9 window. The menu bar includes File, Edit, Shell, Debug, Options, Window, and Help. The shell displays the following text:

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>>>  
= RESTART: C:/Users/Veera Vaishnavi/daa 2.py  
[[3, 6]]  
[]  
>>>
```

The status bar at the bottom right of the shell window indicates "Ln: 7 Col: 0".