File Edit Format Run Options Window Help

```python
def findMax(nums):
    return max(nums)
print(findMax([1, 2, 3, 4, 5]))
print(findMax([7, 7, 7, 7, 7]))
print(findMax([-10, 2, 3, -4, 5]))
```

IDLE Shell 3.12.5

File Edit Shell Debug Options Window Help

```
Python 3.12.5 (tags/v3.12.5:ff3bc82, Aug  6 2024, 20:45:27) [MSC v.1940 64 bit (AMD64)] on wi
n32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/monisha D/AppData/Local/Programs/Python/Python312/111111111111111111.py
5
7
5
>>>
```

Ln: 8 Col: 0

Ln: 5 Col: 36

File Edit Format Run Options Window Help

```python
def sumOfSquaresOfDistinctCounts(nums):
    n = len(nums)
    result = 0
    for i in range(n):
        unique_elements = set()
        for j in range(i, n):
            unique_elements.add(nums[j])
            distinct_count = len(unique_elements)
            result += distinct_count ** 2
    return result
nums1 = [1, 2, 1]
print(sumOfSquaresOfDistinctCounts(nums1))
nums2 = [1, 1]
print(sumOfSquaresOfDistinctCounts(nums2))
```

IDLE Shell 3.12.5

File Edit Shell Debug Options Window Help

```
Python 3.12.5 (tags/v3.12.5:ff3bc82, Aug  6 2024, 20:45:27) [MSC v.1940 64 bit (AMD6
4)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/monisha D/AppData/Local/Programs/Python/Python312/11111111111111
1111.py
15
3
>>>
```

File Edit Format Run Options Window Help

```python
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))
```

IDLE Shell 3.12.5

File Edit Shell Debug Options Window Help

```
Python 3.12.5 (tags/v3.12.5:ff3bc82, Aug  6 2024, 20:45:27) [MSC v.1940 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/monisha D/AppData/Local/Programs/Python/Python312/111111111111111111.py
ada
racecar
>>>
```

Ln: 7 Col: 0

Ln: 9 Col: 31

File Edit Format Run Options Window Help

```python
def binary_search(arr, key):
    arr.sort()
    left, right = 0, len(arr) - 1
    while left <= right:
        mid = (left + right) // 2
        if arr[mid] == key:
            return mid
        elif arr[mid] < key:
            left = mid + 1
        else:
            right = mid - 1
    return -1
arr1 = [3, 4, 6, -9, 10, 8, 9, 30]
key1 = 10
result1 = binary_search(arr1, key1)
print(f"Element {key1} is found at position {result1}" if result1 != -1 else f"Element {key1} is not found")
arr2 = [3, 4, 6, -9, 10, 8, 9, 30]
key2 = 100
result2 = binary_search(arr2, key2)
print(f"Element {key2} is found at position {result2}" if result2 != -1 else f"Element {key2} is not found")
```

IDLE Shell 3.12.5

File Edit Shell Debug Options Window Help

```
Python 3.12.5 (tags/v3.12.5:ff3bc82, Aug  6 2024, 20:45:27) [MSC v.1940 64 bit (AMD64)
] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/monisha D/AppData/Local/Programs/Python/Python312/1111111111111111
11.py
Element 10 is found at position 6
Element 100 is not found
>>>
```

```
daa.py - C:/Users/monisha D/AppData/Local/Programs/Python/Python312/daa.py (3.12.5)
File  Edit  Format  Run  Options  Window  Help
def findCommonIndices(nums1, nums2):
    set_nums2 = set(nums2)
    set_nums1 = set(nums1)
    answer1 = sum(1 for num in nums1 if num in set_nums2)
    answer2 = sum(1 for num in nums2 if num in set_nums1)
    return [answer1, answer2]
nums1 = [2, 3, 2]
nums2 = [1, 2]
print(findCommonIndices(nums1, nums2))
nums1 = [4, 3, 2, 3, 1]
nums2 = [2, 2, 5, 2, 3, 6]
print(findCommonIndices(nums1, nums2))
```

```
IDLE Shell 3.12.5
File  Edit  Shell  Debug  Options  Window  Help
Python 3.12.5 (tags/v3.12.5:ff3bc82, Aug  6 2024, 20:45:27) [MSC v.1940 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/monisha D/AppData/Local/Programs/Python/Python312/daa.py
[2, 1]
[3, 4]
>>>
```

File Edit Format Run Options Window Help

```python
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))
```

IDLE Shell 3.12.5

File Edit Shell Debug Options Window Help

```
Python 3.12.5 (tags/v3.12.5:ff3bc82, Aug  6 2024, 20:45:27) [MSC v.1940 64 bit (AMD64)]
on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/monisha D/AppData/Local/Programs/Python/Python312/daa.py
ada
racecar
>>>
```

Ln: 9 Col: 30

111111111111111111.py - C:/Users/monisha D/AppData/Local/Programs/Python/Python312/111111111111111111.py (3.12.5)

File Edit Format Run Options Window Help

```python
nums=[5]
nums=sorted(nums)
maximum=max(nums)
print(nums)
print(maximum)
```

IDLE Shell 3.12.5

File Edit Shell Debug Options Window Help

```
Python 3.12.5 (tags/v3.12.5:ff3bc82, Aug  6 2024, 20:45:27) [MSC v.1940 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/monisha D/AppData/Local/Programs/Python/Python312/111111111111111111.py
[5]
5
>>>
```

Ln: 7 Col: 0

Ln: 5 Col: 14

File   Edit   Format   Run   Options   Window   Help

```python
def countPairs(nums, k):
    n = len(nums)
    count = 0
    for i in range(n):
        for j in range(i + 1, n):
            if nums[i] == nums[j] and (i * j) % k == 0:
                count += 1
    return count
nums1 = [3, 1, 2, 2, 2, 1, 3]
k1 = 2
print(countPairs(nums1, k1))
nums2 = [1, 2, 3, 4]
k2 = 1
print(countPairs(nums2, k2))
```

IDLE Shell 3.12.5

File   Edit   Shell   Debug   Options   Window   Help

```
Python 3.12.5 (tags/v3.12.5:ff3bc82, Aug  6 2024, 20:45:27) [MSC v.1940 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/monisha D/AppData/Local/Programs/Python/Python312/111111111111111111.py
4
0
>>>
```

File Edit Format Run Options Window Help

```python
def merge_sort(arr):
    if len(arr) > 1:
        mid = len(arr) // 2
        left_half = arr[:mid]
        right_half = arr[mid:]
        merge_sort(left_half)
        merge_sort(right_half)
        i = j = k = 0
        while i < len(left_half) and j < len(right_half):
            if left_half[i] < right_half[j]:
                arr[k] = left_half[i]
                i += 1
            else:
                arr[k] = right_half[j]
                j += 1
            k += 1
        while i < len(left_half):
            arr[k] = left_half[i]
            i += 1
            k += 1
        while j < len(right_half):
            arr[k] = right_half[j]
            j += 1
            k += 1
    return arr
nums = [3, 1, 4, 1, 5, 9, 2, 6, 5]
sorted_nums = merge_sort(nums)
print(sorted_nums)
```

IDLE Shell 3.12.5

File Edit Shell Debug Options Window Help

```
Python 3.12.5 (tags/v3.12.5:ff3bc82, Aug  6 2024, 20:45:27) [MSC v.1940 64 bit (
AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/monisha D/AppData/Local/Programs/Python/Python312/1111111111
11111111.py
[1, 1, 2, 3, 4, 5, 5, 6, 9]
>>>
```

File Edit Format Run Options Window Help

```python
def bubbleSort(arr):
    n = len(arr)
    for i in range(n):
        for j in range(0, n - i - 1):
            if arr[j] > arr[j + 1]:
                arr[j], arr[j + 1] = arr[j + 1], arr[j]
arr = [64, 34, 25, 12, 22, 11, 90]
bubbleSort(arr)
print("Sorted array is:", arr)
```

IDLE Shell 3.12.5

File Edit Shell Debug Options Window Help

```
Python 3.12.5 (tags/v3.12.5:ff3bc82, Aug  6 2024, 20:45:27) [MSC v.1940 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/monisha D/AppData/Local/Programs/Python/Python312/111111111111111111.py
Sorted array is: [11, 12, 22, 25, 34, 64, 90]
>>>
```