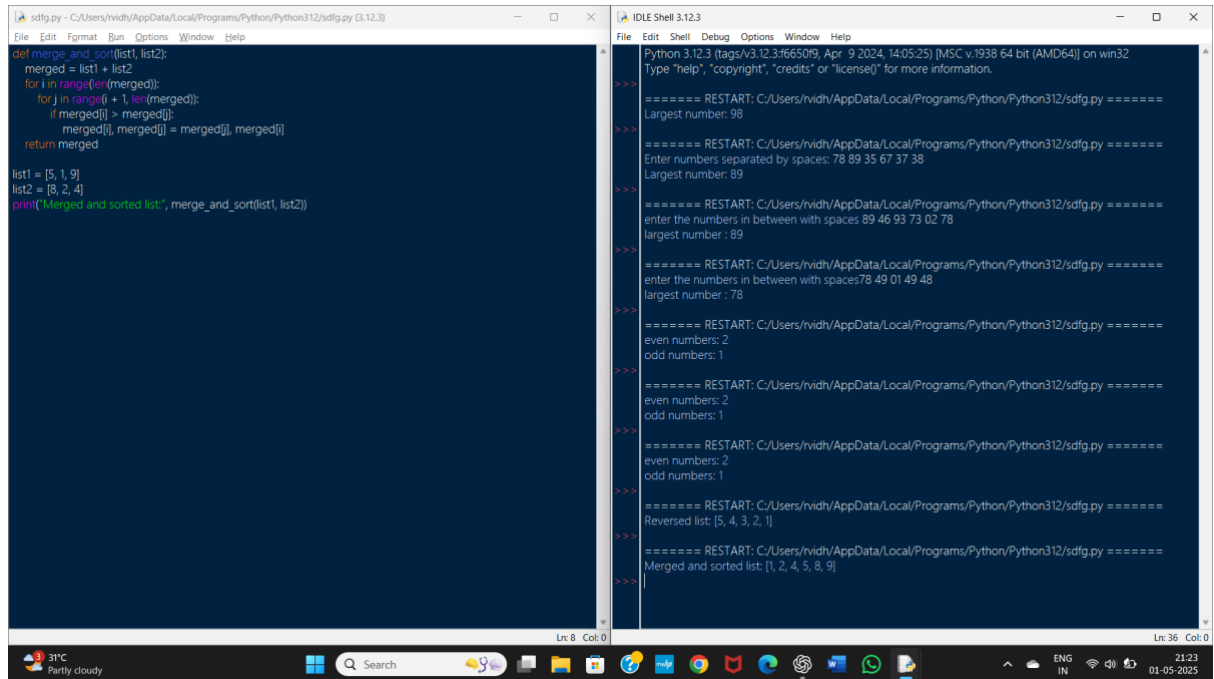


ASHVATHAMAN PYTHON

ASSIGNMENT 2

1. Find the Largest Number in a List



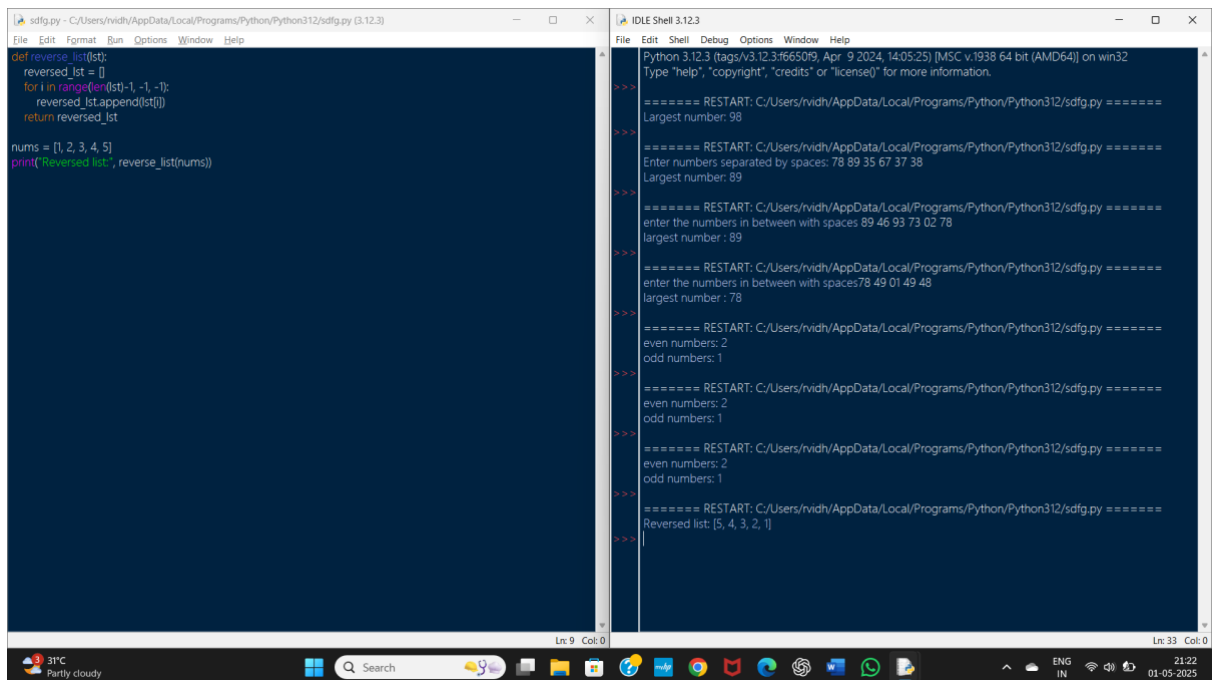
The screenshot shows a Python IDE with two windows. The left window displays a Python script for a merge sort algorithm. The right window shows the output of the script, which includes the largest number in a list and the sorted list.

```
def merge_and_sort(list1, list2):  
    merged = list1 + list2  
    for i in range(len(merged)-1):  
        for j in range(i+1, len(merged)):  
            if merged[i] > merged[j]:  
                merged[i], merged[j] = merged[j], merged[i]  
    return merged  
  
list1 = [5, 1, 9]  
list2 = [8, 2, 4]  
print("Merged and sorted list:", merge_and_sort(list1, list2))
```

Output:

```
Python 3.12.3 (tags/v3.12.3:6650f9, Apr 9 2024, 14:05:25) [MSC v.1938 64 bit (AMD64)] on win32  
Type "help", "copyright", "credits" or "license()" for more information.  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
Largest number: 98  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
Enter numbers separated by spaces: 78 89 35 67 37 38  
Largest number: 89  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
enter the numbers in between with spaces 89 46 93 73 02 78  
largest number : 89  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
enter the numbers in between with spaces 78 49 01 49 48  
largest number : 78  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
even numbers: 2  
odd numbers: 1  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
even numbers: 2  
odd numbers: 1  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
even numbers: 2  
odd numbers: 1  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
Reversed list: [5, 4, 3, 2, 1]  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
Merged and sorted list: [1, 2, 4, 5, 8, 9]
```

2. Count Even and Odd Numbers in a List



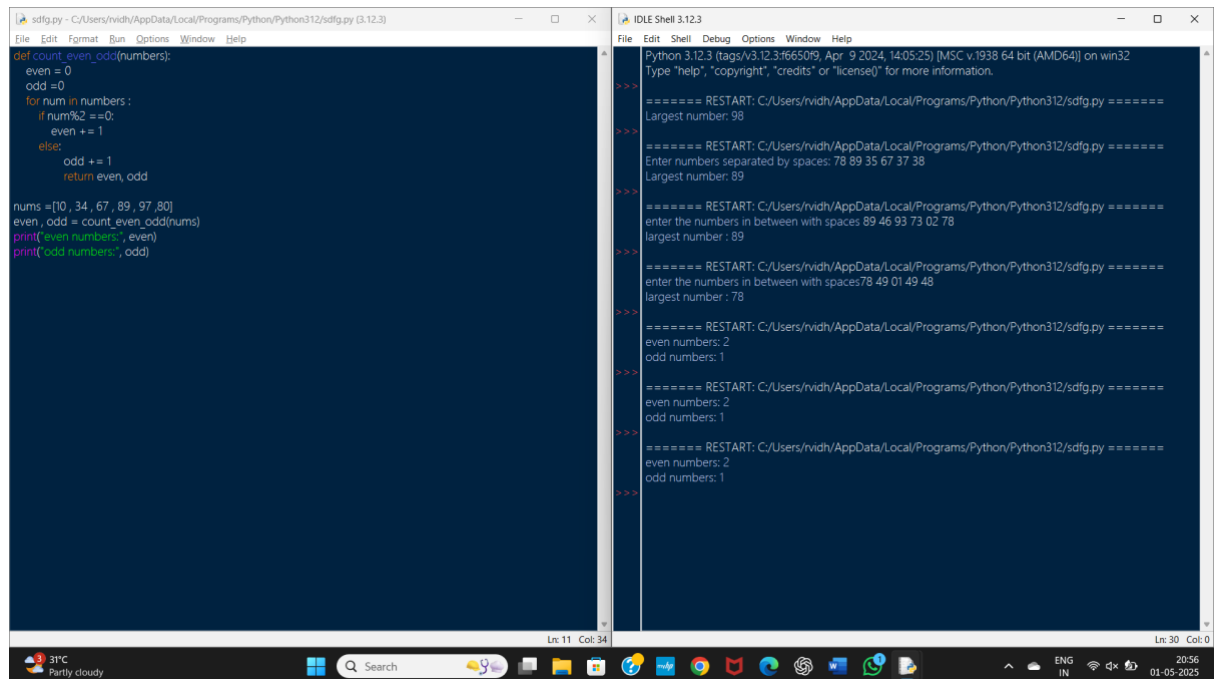
The screenshot shows a Python IDE with two windows. The left window displays a Python script for a function that counts even and odd numbers in a list. The right window shows the output of the script, which includes the count of even and odd numbers and the reversed list.

```
def reverse_list(lst):  
    reversed_list = []  
    for i in range(len(lst)-1, -1, -1):  
        reversed_list.append(lst[i])  
    return reversed_list  
  
nums = [1, 2, 3, 4, 5]  
print("Reversed list:", reverse_list(nums))
```

Output:

```
Python 3.12.3 (tags/v3.12.3:6650f9, Apr 9 2024, 14:05:25) [MSC v.1938 64 bit (AMD64)] on win32  
Type "help", "copyright", "credits" or "license()" for more information.  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
Largest number: 98  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
Enter numbers separated by spaces: 78 89 35 67 37 38  
Largest number: 89  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
enter the numbers in between with spaces 89 46 93 73 02 78  
largest number : 89  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
enter the numbers in between with spaces 78 49 01 49 48  
largest number : 78  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
even numbers: 2  
odd numbers: 1  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
even numbers: 2  
odd numbers: 1  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
even numbers: 2  
odd numbers: 1  
>>> ===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====  
Reversed list: [5, 4, 3, 2, 1]
```

3. Reverse a List Without Using Built-in Reverse



The screenshot shows a Python IDE with two windows. The left window displays the source code for a program that counts even and odd numbers in a list. The right window shows the program's output, which includes several restarts and user inputs.

```
def count_even_odd(numbers):
    even = 0
    odd = 0
    for num in numbers:
        if num % 2 == 0:
            even += 1
        else:
            odd += 1
    return even, odd

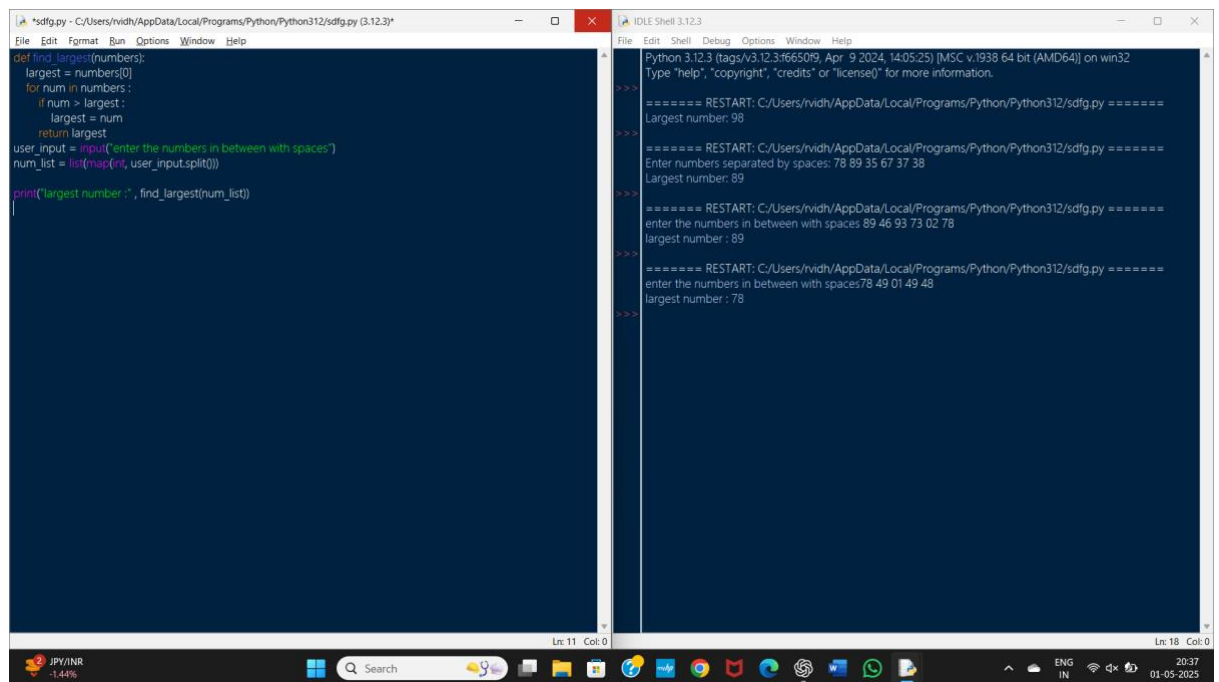
nums = [10, 34, 67, 89, 97, 80]
even, odd = count_even_odd(nums)
print("even numbers:", even)
print("odd numbers:", odd)
```

Output:

```
Python 3.12.3 (tags/v3.12.3:f6650f9, Apr 9 2024, 14:05:25) [MSC v.1938 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====
Largest number: 98
>>>
===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====
Enter numbers separated by spaces: 78 89 35 67 37 38
Largest number: 89
>>>
===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====
enter the numbers in between with spaces 89 46 93 73 02 78
largest number : 89
>>>
===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====
enter the numbers in between with spaces 78 49 01 49 48
largest number : 78
>>>
===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====
even numbers: 2
odd numbers: 1
>>>
===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====
even numbers: 2
odd numbers: 1
>>>
===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====
even numbers: 2
odd numbers: 1
>>>
```

4. Merge and Sort Two List



The screenshot shows a Python IDE with two windows. The left window displays the source code for a program that finds the largest number in two lists. The right window shows the program's output, which includes several restarts and user inputs.

```
def find_largest(numbers):
    largest = numbers[0]
    for num in numbers:
        if num > largest:
            largest = num
    return largest

user_input = input("enter the numbers in between with spaces")
num_list = list(map(int, user_input.split()))

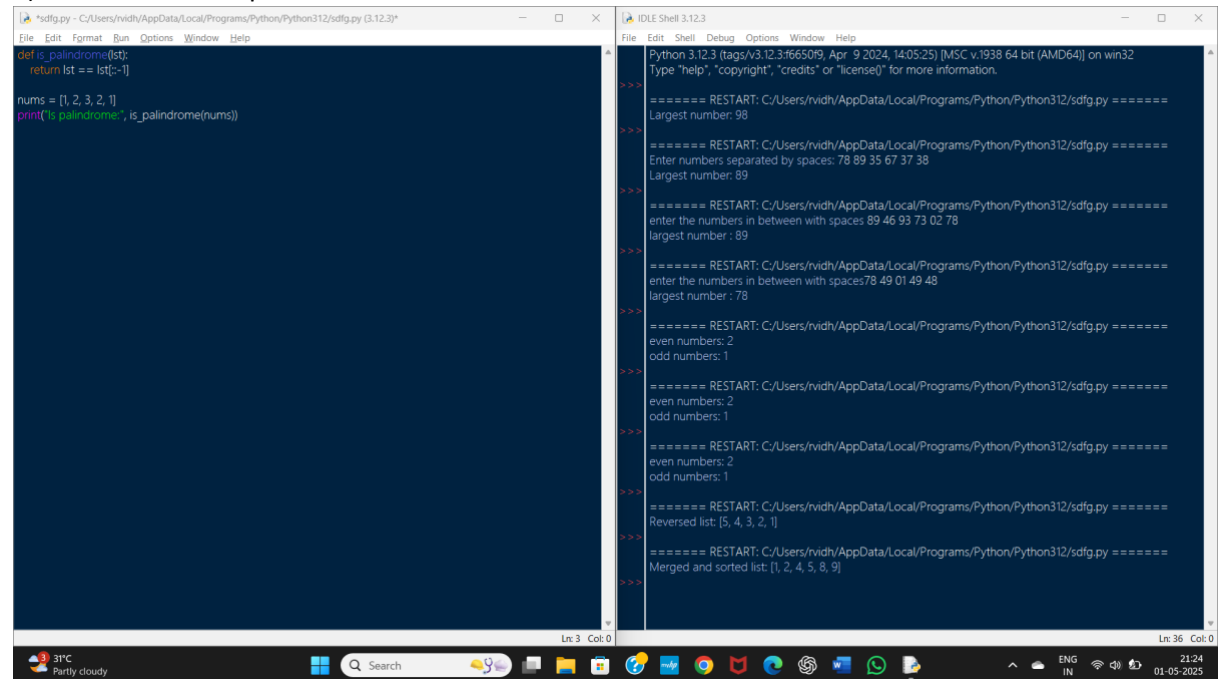
print("largest number :", find_largest(num_list))
```

Output:

```
Python 3.12.3 (tags/v3.12.3:f6650f9, Apr 9 2024, 14:05:25) [MSC v.1938 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.

>>>
===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====
Largest number: 98
>>>
===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====
Enter numbers separated by spaces: 78 89 35 67 37 38
Largest number: 89
>>>
===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====
enter the numbers in between with spaces 89 46 93 73 02 78
largest number : 89
>>>
===== RESTART: C:/Users/nvidh/AppData/Local/Programs/Python/Python312/sdfig.py =====
enter the numbers in between with spaces 78 49 01 49 48
largest number : 78
>>>
```

5) Check if the list is palindrome



The screenshot shows an IDE with two windows. The left window, titled `*sdfg.py - C:/Users/rvidh/AppData/Local/Programs/Python/Python312/sdfg.py (3.12.3)*`, contains the following Python code:

```
def is_palindrome(lst):  
    return lst == lst[::-1]  
  
nums = [1, 2, 3, 2, 1]  
print('is palindrome', is_palindrome(nums))
```

The right window, titled `IDLE Shell 3.12.3`, shows the execution output:

```
Python 3.12.3 (tags/v3.12.3:6650f9, Apr 9 2024, 14:05:25) [MSC v.1938 64 bit (AMD64)] on win32  
Type "help", "copyright", "credits" or "license()" for more information.  
  
>>> ===== RESTART: C:/Users/rvidh/AppData/Local/Programs/Python/Python312/sdfg.py =====  
Largest number: 98  
>>>  
  
>>> ===== RESTART: C:/Users/rvidh/AppData/Local/Programs/Python/Python312/sdfg.py =====  
Enter numbers separated by spaces: 78 89 35 67 37 38  
Largest number: 89  
>>>  
  
>>> ===== RESTART: C:/Users/rvidh/AppData/Local/Programs/Python/Python312/sdfg.py =====  
enter the numbers in between with spaces: 89 46 93 73 02 78  
largest number : 89  
>>>  
  
>>> ===== RESTART: C:/Users/rvidh/AppData/Local/Programs/Python/Python312/sdfg.py =====  
enter the numbers in between with spaces: 78 49 01 49 48  
largest number : 78  
>>>  
  
>>> ===== RESTART: C:/Users/rvidh/AppData/Local/Programs/Python/Python312/sdfg.py =====  
even numbers: 2  
odd numbers: 1  
>>>  
  
>>> ===== RESTART: C:/Users/rvidh/AppData/Local/Programs/Python/Python312/sdfg.py =====  
even numbers: 2  
odd numbers: 1  
>>>  
  
>>> ===== RESTART: C:/Users/rvidh/AppData/Local/Programs/Python/Python312/sdfg.py =====  
even numbers: 2  
odd numbers: 1  
>>>  
  
>>> ===== RESTART: C:/Users/rvidh/AppData/Local/Programs/Python/Python312/sdfg.py =====  
Reversed list: [5, 4, 3, 2, 1]  
>>>  
  
>>> ===== RESTART: C:/Users/rvidh/AppData/Local/Programs/Python/Python312/sdfg.py =====  
Merged and sorted list: [1, 2, 4, 5, 8, 9]  
>>>
```

The Windows taskbar at the bottom shows the system clock as 21:24 on 01-05-2025, and the weather as 31°C Partly cloudy.