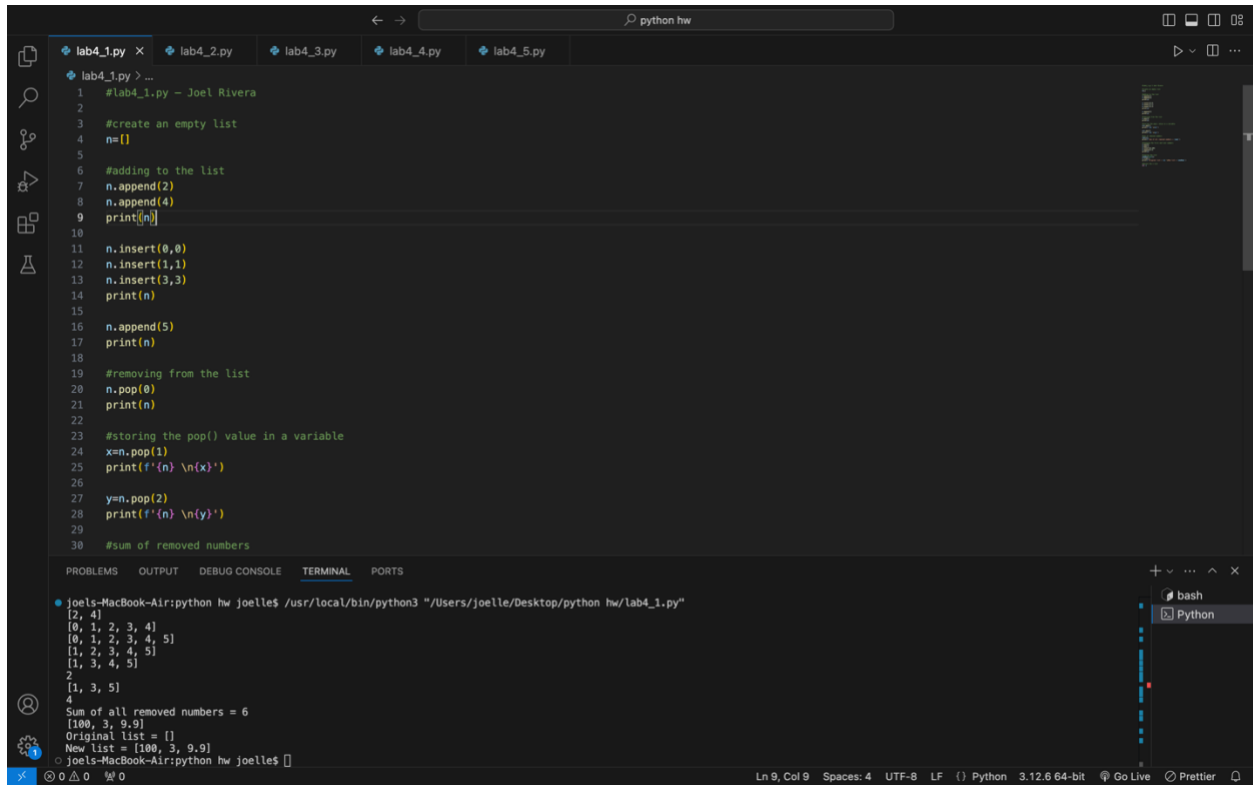


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Et-574 F2F4L

Lab 4

9/29/24



The screenshot shows a Visual Studio Code editor window with a Python file named `lab4_1.py` open. The file contains a script that demonstrates list operations in Python. The script includes comments and code for creating a list, adding elements, inserting elements at specific indices, removing elements, and printing the results at various stages.

```
1 #lab4_1.py - Joel Rivera
2
3 #create an empty list
4 n=[]
5
6 #adding to the list
7 n.append(2)
8 n.append(4)
9 print(n)
10
11 n.insert(0,0)
12 n.insert(1,1)
13 n.insert(3,3)
14 print(n)
15
16 n.append(5)
17 print(n)
18
19 #removing from the list
20 n.pop(0)
21 print(n)
22
23 #storing the pop() value in a variable
24 x=n.pop(1)
25 print(f'{n} \n(x)')
26
27 y=n.pop(2)
28 print(f'{n} \n(y)')
29
30 #sum of removed numbers
```

The terminal output shows the execution of the script, displaying the state of the list `n` after each major operation:

```
joels-MacBook-Air:python hw joelles /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab4_1.py"
[2, 4]
[0, 1, 2, 3, 4]
[0, 1, 2, 3, 4, 5]
[1, 2, 3, 4, 5]
[1, 3, 4, 5]
2
[1, 3, 5]
4
Sum of all removed numbers = 6
[100, 3, 9, 9]
Original list = []
New list = [100, 3, 9, 9]
joels-MacBook-Air:python hw joelles
```

The status bar at the bottom indicates the current file is `lab4_1.py`, line 9, column 9, with 4 spaces, UTF-8 encoding, LF line endings, Python 3.12.6 64-bit, and the Go Live extension is active. The Prettier extension is also installed.

```
python hw

lab4_1.py x lab4_2.py lab4_3.py lab4_4.py lab4_5.py

lab4_1.py > ...
28 print(f'{n} \n(y)')
29
30 #sum of removed numbers
31 sum=x+y
32 print(f'Sum of all removed numbers = {sum}')
33
34 #changing the first and last numbers
35 n.pop(0)
36 n.pop(1)
37 n.insert(0,100)
38 n.append(9.9)
39 print(n)
40
41 #copying the list
42 newNum=list(n)
43 n.clear()
44 print(f'Original List = {n} \nNew List = {newNum}')
45
46 #delete the n list
47 del n

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

joels-MacBook-Air:python hw joelles /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab4_1.py"
[2, 4]
[0, 1, 2, 3, 4]
[0, 1, 2, 3, 4, 5]
[1, 2, 3, 4, 5]
[1, 3, 4, 5]
2
[1, 3, 5]
4
Sum of all removed numbers = 6
[100, 3, 9.9]
Original list = []
New list = [100, 3, 9.9]
joels-MacBook-Air:python hw joelles
```

```
python hw

lab4_1.py lab4_2.py x lab4_3.py lab4_4.py lab4_5.py

lab4_2.py > ...
1 #lab4_2.py - Joel Rivera
2
3 #create an empty list
4 grades=[]
5 grades.extend([56,65,100,58,87])
6 print(f'Current List: {grades}')
7
8 #calculating grades
9 total=sum(grades)
10 average=total/len(grades)
11 print(f'Average: {average:.2f}')
12
13 #using two different methods to remove failing grades
14 grades.remove(56)
15 grades.pop(2)
16 total2=sum(grades)
17 average2=total2/len(grades)
18 print(f'Updated list: {grades} \nUpdated Average: {average2:.3f}')

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

joels-MacBook-Air:python hw joelles /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab4_2.py"
['ET-506', 'ET-704', 'ET-574', 'HIST-110']
['ET-506', 'ET-704', 'ET-574']
Current List: [56, 65, 100, 58, 87]
Average: 73.20
Updated list: [65, 100, 87]
Updated Average: 84.000
joels-MacBook-Air:python hw joelles
```

```
python hw

lab4_1.py lab4_2.py lab4_3.py x lab4_4.py lab4_5.py

lab4_3.py > ...
1 #lab4_3.py - Joel Rivera
2
3 #creating a list called courses
4 courses=['MA-121','ET-506', 'ET-704', 'ET-574', 'HIST-110']
5 print(f'{courses}')
6
7 #using the len() method to print my courses
8 print(f'I am taking {len(courses)} courses.')
9
10 #using indexing to print 1st and last items
11 print(f'{courses[0]}\t{courses[-1]}')
12
13 #using slicing to print classes
14 print(f'{courses[:4]}')
15 print(f'{courses[-4:]}')
16 print(f'{courses[1:4]}')

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

joels-MacBook-Air:python hw joelles /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab4_3.py"
['MA-121', 'ET-506', 'ET-704', 'ET-574', 'HIST-110']
I am taking 5 courses.
MA-121 HIST-110
['MA-121', 'ET-506', 'ET-704', 'ET-574']
['ET-506', 'ET-704', 'ET-574', 'HIST-110']
['ET-506', 'ET-704', 'ET-574']
joels-MacBook-Air:python hw joelles
```

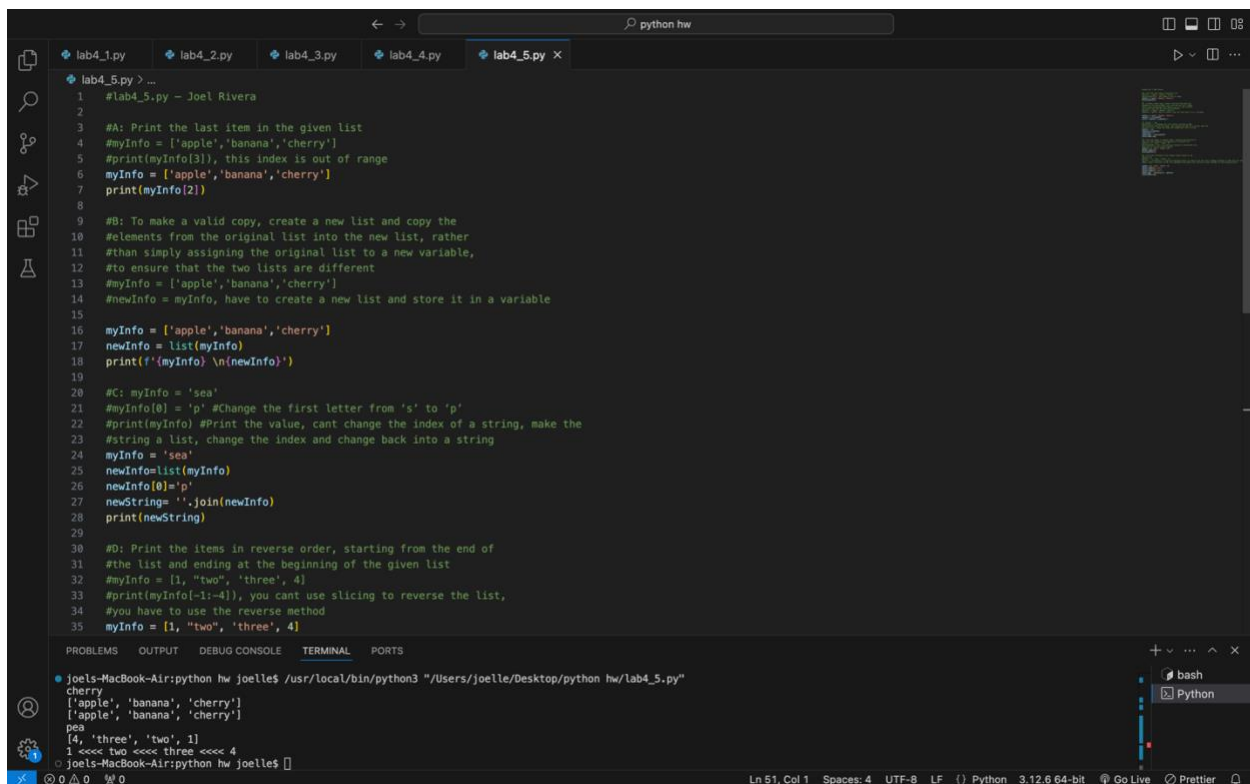
```
python hw

lab4_1.py lab4_2.py lab4_3.py lab4_4.py x lab4_5.py

lab4_4.py > ...
1 #lab4_4.py - Joel Rivera
2
3 #prompting a sentence
4 sentence=input('Enter a sentence: ')
5
6 #take the larger string and make substrings to count
7 newList=len(sentence.split())
8
9 print(f'Number of words: {newList}')

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

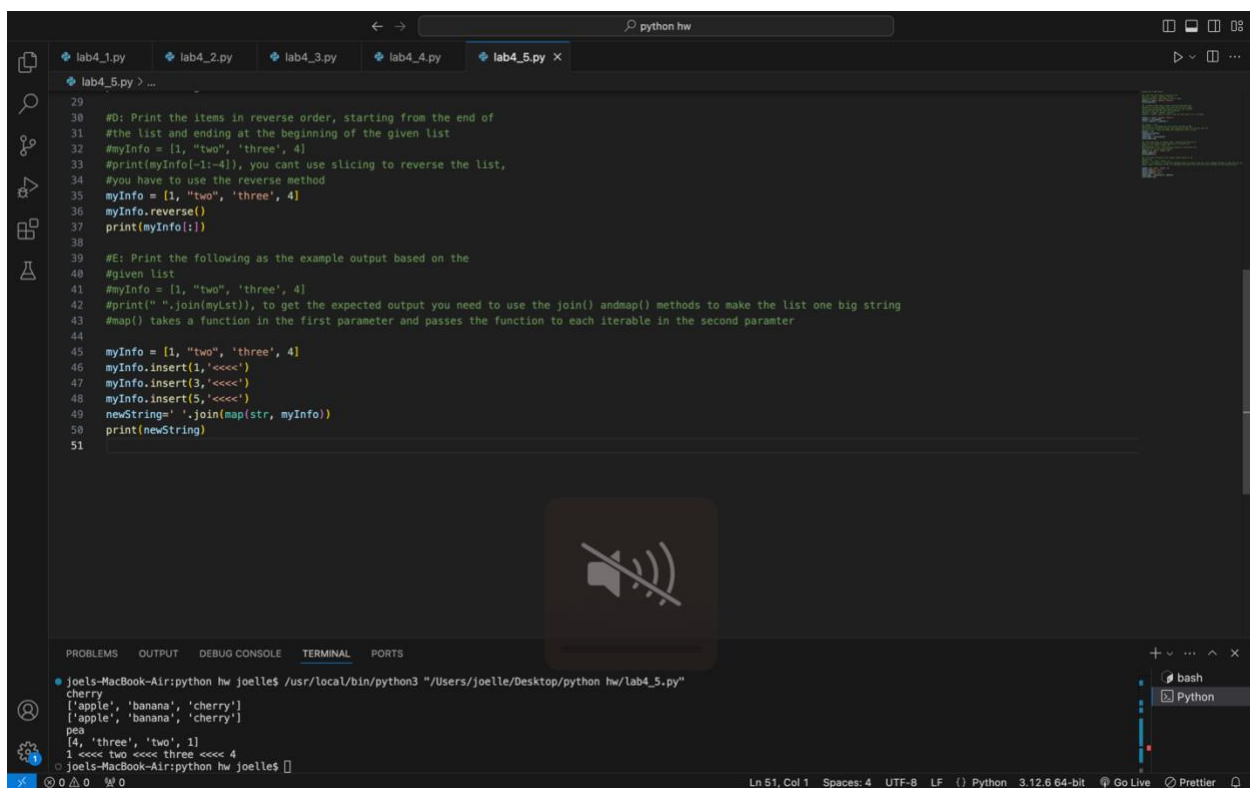
['apple', 'banana', 'cherry']
pea
[4, 'three', 'two', 1]
1 <<<< two <<<< three <<<< 4
joels-MacBook-Air:python hw joelles /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab4_4.py"
Enter a sentence: this is three
Number of words: 3
joels-MacBook-Air:python hw joelles
```



```
1 #lab4_5.py - Joel Rivera
2
3 #A: Print the last item in the given list
4 myInfo = ['apple','banana','cherry']
5 #print(myInfo[3]), this index is out of range
6 myInfo = ['apple','banana','cherry']
7 print(myInfo[2])
8
9 #B: To make a valid copy, create a new list and copy the
10 #elements from the original list into the new list, rather
11 #than simply assigning the original list to a new variable,
12 #to ensure that the two lists are different
13 myInfo = ['apple','banana','cherry']
14 newInfo = myInfo, have to create a new list and store it in a variable
15
16 myInfo = ['apple','banana','cherry']
17 newInfo = list(myInfo)
18 print(f'myInfo {myInfo} \nnewInfo {newInfo}')
19
20 #C: myInfo = 'sea'
21 myInfo[0] = 'p' #Change the first letter from 's' to 'p'
22 #print(myInfo) #Print the value, cant change the index of a string, make the
23 #string a list, change the index and change back into a string
24 myInfo = 'sea'
25 newInfo = list(myInfo)
26 newInfo[0] = 'p'
27 newString = ''.join(newInfo)
28 print(newString)
29
30 #D: Print the items in reverse order, starting from the end of
31 #the list ending at the beginning of the given list
32 myInfo = [1, "two", "three", 4]
33 #print(myInfo[-1:-4]), you cant use slicing to reverse the list,
34 #you have to use the reverse method
35 myInfo = [1, "two", "three", 4]
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
joels-MacBook-Air:python hw joells$ /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab4_5.py"
cherry
['apple', 'banana', 'cherry']
['apple', 'banana', 'cherry']
sea
[4, 'three', 'two', 1]
1 <<<< two <<<< three <<<< 4
joels-MacBook-Air:python hw joells$
```



```
29
30 #D: Print the items in reverse order, starting from the end of
31 #the list ending at the beginning of the given list
32 myInfo = [1, "two", "three", 4]
33 #print(myInfo[-1:-4]), you cant use slicing to reverse the list,
34 #you have to use the reverse method
35 myInfo = [1, "two", "three", 4]
36 myInfo.reverse()
37 print(myInfo[:])
38
39 #E: Print the following as the example output based on the
40 #given list
41 myInfo = [1, "two", "three", 4]
42 #print(" ".join(myInfo)), to get the expected output you need to use the join() andmap() methods to make the list one big string
43 #map() takes a function in the first parameter and passes the function to each iterable in the second paramter
44
45 myInfo = [1, "two", "three", 4]
46 myInfo.insert(1, '<<<<')
47 myInfo.insert(3, '<<<<')
48 myInfo.insert(5, '<<<<')
49 newString= ''.join(map(str, myInfo))
50 print(newString)
51
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
joels-MacBook-Air:python hw joells$ /usr/local/bin/python3 "/Users/joelle/Desktop/python hw/lab4_5.py"
cherry
['apple', 'banana', 'cherry']
['apple', 'banana', 'cherry']
sea
[4, 'three', 'two', 1]
1 <<<< two <<<< three <<<< 4
joels-MacBook-Air:python hw joells$
```

6. I faced two challenges from this weeks lab, the first being the 4th question. I couldn't figure out how to use the len() method to display the word count instead of character count

but then I realized I could split the input from being one string into multiple strings using the `split()` method and after splitting I could then use the `len()` method to count the amount of strings. The second challenge I faced was part E of the 5th question. I understood that I first needed to change all the items in the list into strings, then I understood I had to merge all the individual strings into one giant string but only after having used the `insert()` method when it was a list because that method doesn't work on strings. My issue was figuring out a way to take all the individual strings and merging them into a giant string in the output. I used w3 and there I found the `map()` method which allowed me to map a new list with all the iterables being strings, and combining that with the `join()` method allowed me to get the desired output.