



Marwadi University
Faculty of Engineering & Technology
Department of Information and Communication Technology

Subject: Programming With Python (01CT1309)	Aim: Write a python program to create, append and remove lists in python.	
Experiment No: 04	Date:25-8-25	Enrollment No:92400133108

Aim: Write a python program to create, append and remove lists in python.

IDE:

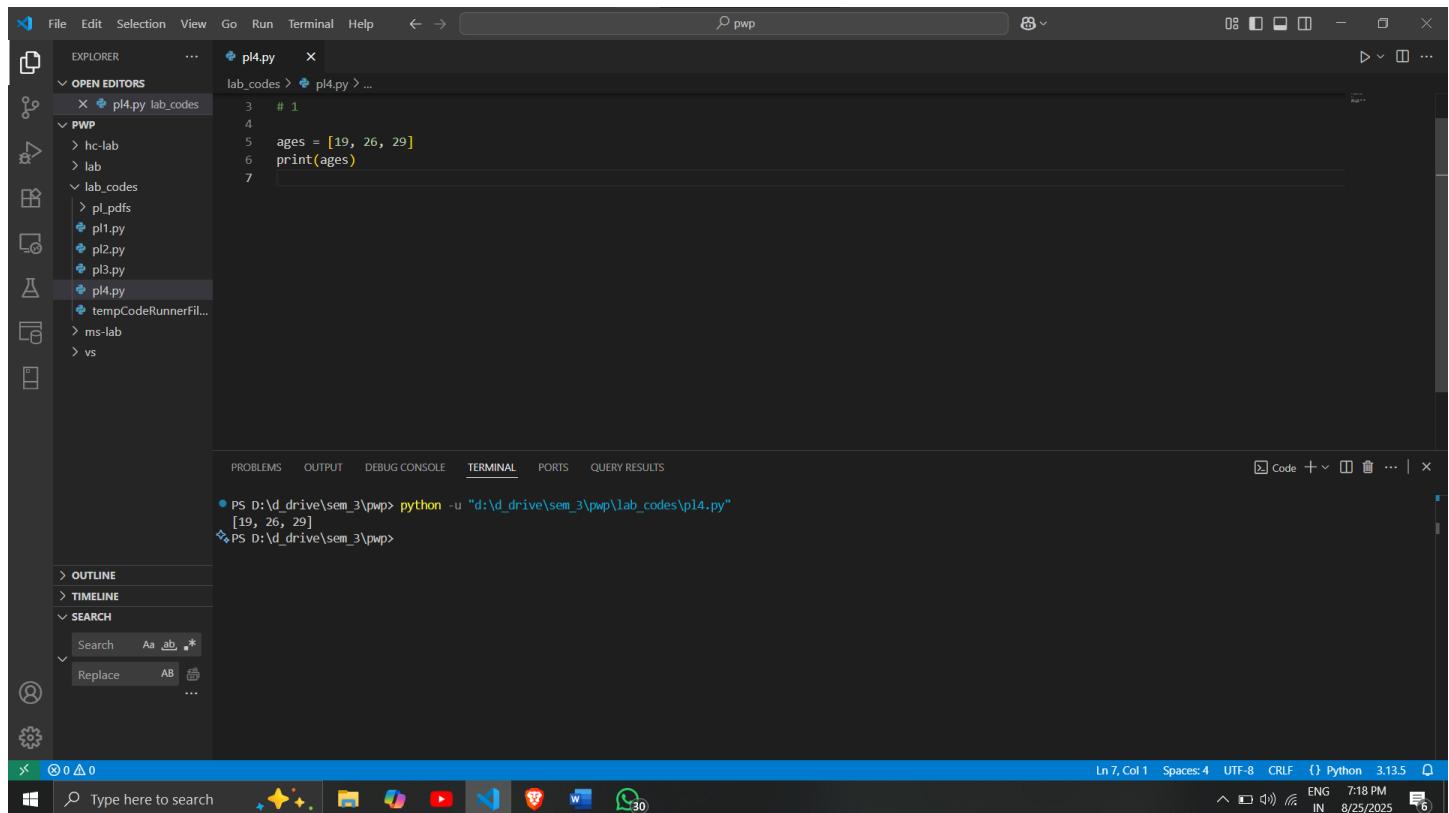
A collection of items can be managed and stored in an ordered sequence using a Python list, a flexible and robust data structure. Because lists may hold components of several data types—integers, texts, and even other lists—they are incredibly versatile for various computer applications. You can quickly add, remove, and alter elements from Python lists and carry out operations like sorting and slicing.

Example of List in Python

```
ages = [19, 26, 29]
```

```
print(ages)
```

Output:



```
# 1
2
3 ages = [19, 26, 29]
4
5 print(ages)
6
7
```

Task:

```
a = list(range(5))
print(a)
```



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Output:

The screenshot shows the Microsoft Visual Studio Code (VS Code) interface. The left sidebar displays the file structure under 'OPEN EDITORS' and 'PWP'. The main editor area contains the following Python code:

```
8 # 2
9
10 a = list(range(5))
11 print(a)
12
```

The terminal at the bottom shows the output of running the code:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
[0, 1, 2, 3, 4]
PS D:\d_drive\sem_3\pwp>
```

The status bar at the bottom right indicates the code is in Python 3.13.5 mode.

b = list(range(5,10))

print(b)

Output:



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```
# 3
b = list(range(5,10))
print(b)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS

PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
[5, 6, 7, 8, 9]
PS D:\d_drive\sem_3\pwp>

```
c = list(range(0,10,2))
print(c)
output:
```



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```
# 4
c = list(range(0,10,2))
print(c)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS

PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
[0, 2, 4, 6, 8]
PS D:\d_drive\sem_3\pwp>

Ln 22, Col 1 Spaces: 4 UTF-8 CRLF Python 3.13.5

```
d = list(range(10,0,-2))
print(d)
output:
```



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```
# 5
d = list(range(10,0,-2))
print(d)
```

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
[10, 8, 6, 4, 2]
PS D:\d_drive\sem_3\pwp>
```

Add Elements to a Python List

1. Python append() Method

Adds element to the end of a list.

```
List = ['Mathematics', 'chemistry', 1997, 2000]
```

```
List.append(20544)
```

```
print(List)
```

```
output
```



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```
File Edit Selection View Go Run Terminal Help ⏪ ⏩ 🔍 pwp
EXPLORER OPEN EDITORS PWP
lab_codes > pl4.py lab_codes
27
28 # 6
29
30 List = ['Mathematics', 'chemistry', 1997, 2000]
31 List.append(20544)
32 print(List)
33

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS
PS D:\d_drive\sem_3\pwp> python -u "D:\d_drive\sem_3\pwp\lab_codes\pl4.py"
['Mathematics', 'chemistry', 1997, 2000, 20544]
PS D:\d_drive\sem_3\pwp>
OUTLINE TIMELINE SEARCH
Search Aa ab, *
Replace AB ...
Ln 33, Col 1 Spaces: 4 UTF-8 CRLF Python 3.13.5
Type here to search ⏪ ⏩ 🔍 ENG 7:22 PM IN 8/25/2025 6
```

2. Python insert() Method

Inserts an element at the specified position.

```
List = ['Mathematics', 'chemistry', 1997, 2000]
```

```
# Insert at index 2 value 10087
```

```
List.insert(2, 10087)
```

```
print(List)
```

```
output
```



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```
# Insert at index 2 value 10087
List = ['Mathematics', 'chemistry', 1997, 2000]
List.insert(2, 10087)
print(List)
```

The screenshot shows the Visual Studio Code interface. The left sidebar displays the file structure with 'pl4.py' selected. The main editor window contains the provided Python code. The terminal tab at the bottom shows the command 'python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"' being run, with the output showing the modified list: ['Mathematics', 'chemistry', 10087, 1997, 2000]. The status bar at the bottom right indicates the code is in Python 3.13.5.

3. Python extend() Method

Adds items of an iterable(list.) to the end of a list.

```
List1 = [1, 2, 3]
List2 = [2, 3, 4, 5]
# Add List2 to List1
List1.extend(List2)
print(List1)
```

output:



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```
File Edit Selection View Go Run Terminal Help ← → 🔍 pwp 🌐
EXPLORER OPEN EDITORS PWP
lab_codes > pl4.py lab_codes
pl4.py
hc-lab
lab
lab_codes
pl_pdfs
pl1.py
pl2.py
pl3.py
pl4.py
tempCodeRunnerFile...
ms-lab
vs

41: List1 = [1, 2, 3]
42: List2 = [2, 3, 4, 5]
43: # Add List2 to List1
44: List1.extend(List2)
45: print(List1)
46:
47:
48: |
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS

PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
[1, 2, 3, 2, 3, 4, 5]
PS D:\d_drive\sem_3\pwp>

OUTLINE TIMELINE SEARCH
Search Aa ab, *
Replace AB ⚡...

Ln 48, Col 1 Spaces: 4 UTF-8 CRLF Python 3.13.5 Q

Type here to search

Important Functions of the Python List

1. Python sum() Method

Calculates the sum of all the elements of the List.

List = [1, 2, 3, 4, 5]

print(sum(List))

output



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The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The left sidebar displays a file tree with several Python files (pl4.py, pl1.py, pl2.py, pl3.py) and other project-related files. The main editor area contains the following Python code:

```
49 # 9
50
51 List = [1, 2, 3, 4, 5]
52 print(sum(List))
53
```

Below the editor is a terminal window showing command-line output:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
15
PS D:\d_drive\sem_3\pwp>
```

The status bar at the bottom right indicates the code is in Python 3.13.5 mode, with line 50, column 1, and other system details like date and time.

Task:

```
List = ['gfg', 'abc', 3]
```

```
print(sum(List))
```

```
output
```



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The screenshot shows a Microsoft Visual Studio Code interface. On the left is the Explorer sidebar with a tree view of files and folders, including 'OPEN EDITORS' (pl4.py), 'PWP' (hc-lab, lab, lab_codes (pl1.py, pl2.py, pl3.py), pl4.py, tempCodeRunnerFile...), and 'ms-lab'. The main area is a code editor with the file 'pl4.py' open, containing the following code:

```
54 # 10
55
56 List = ['gfg', 'abc', 3]
57 print(sum(List))
58
```

The terminal tab at the bottom shows a command-line session:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
Traceback (most recent call last):
  file "d:\d_drive\sem_3\pwp\lab_codes\pl4.py", line 57, in <module>
    print(sum(List))
           ~~~~~~
TypeError: unsupported operand type(s) for +: 'int' and 'str'
```

The status bar at the bottom right indicates the code is in Python 3.13.5 mode.

2. Python count() Method

Calculates the total occurrence of a given element of the List.

```
List = [1, 2, 3, 1, 2, 1, 2, 3, 2, 1]
print(List.count(1))
```

```
List = ['a','b','c','d','a']
print(List.count('a'))
output:
```



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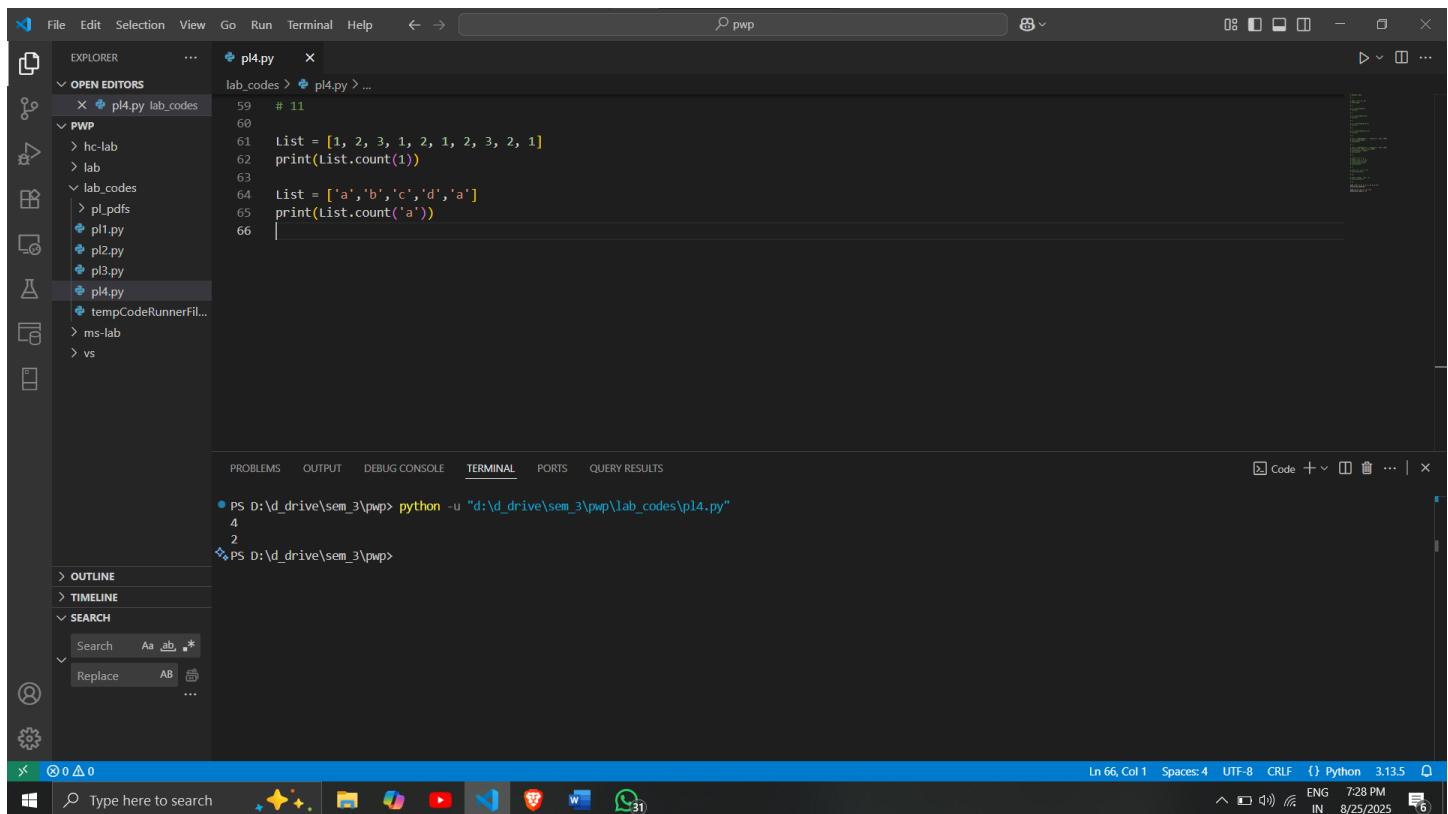
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```
# 11
List = [1, 2, 3, 1, 2, 1, 2, 3, 2, 1]
print(List.count(1))

List = ['a','b','c','d','a']
print(List.count('a'))
```

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The left sidebar displays a file tree with several Python files (pl4.py, pl1.py, pl2.py, pl3.py) and a folder named lab_codes. The main editor area shows a Python script named pl4.py. The terminal at the bottom shows the output of running the script with Python 3.13.5, which prints the counts of 1 and 'a' from the list. The status bar at the bottom right indicates the current file is Python 3.13.5.

3. Python len() Method

Calculates the total length of the List.

```
List = [1, 2, 3, 1, 2, 1, 2, 3, 2, 1]
print(len(List))
output
```



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```
# 12
List = [1, 2, 3, 1, 2, 1, 2, 3, 2, 1]
print(len(List))

PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
10
PS D:\d_drive\sem_3\pwp>
```

4. Python index() Method

Returns the index of the first occurrence. The start and end indexes are not necessary parameters.

```
List = [1, 2, 3, 1, 2, 1, 2, 3, 2, 1]
print(List.index(2))
output
```



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The screenshot shows the Visual Studio Code (VS Code) interface. The left sidebar displays a file tree with several Python files (pl4.py, pl1.py, pl2.py, pl3.py) under the PWP folder. The main editor area shows a Python script named pl4.py with the following code:

```
72 # 13
73
74 List = [1, 2, 3, 1, 2, 1, 2, 3, 2, 1]
75 print(List.index(2))
76
```

Below the editor is a terminal window showing the output of running the script:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
1
PS D:\d_drive\sem_3\pwp>
```

The status bar at the bottom right indicates the code is in Python 3.13.5 mode.

Task:

List = [1, 2, 3, 1, 2, 1, 2, 3, 2, 1]

print(List.index(2, 2))

output



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```
File Edit Selection View Go Run Terminal Help ← → 🔍 pwp 🌐
EXPLORER ... pl4.py ✎
OPEN EDITORS lab_codes > pl4.py ...
PWP hc-lab
lab
lab_codes
pl_pdfs
pl1.py
pl2.py
pl3.py
pl4.py
tempCodeRunnerFil...
ms-lab
vs

77 # 14
78
79 List = [1, 2, 3, 1, 2, 1, 2, 3, 2, 1]
80 print(List.index(2, 2))
81

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
4
PS D:\d_drive\sem_3\pwp>
OUTLINE
TIMELINE
SEARCH
Search Aa ab, *
Replace AB ⚙️ ...
Ln 81, Col 1 Spaces: 4 UTF-8 CRLF Python 3.13.5
Type here to search ⚙️ ...
Windows Taskbar icons: File Explorer, Edge, YouTube, VS Code, WPS Office, GitHub
ENG 7:37 PM IN 8/25/2025 6
```

5. Python min() Method

Calculates minimum of all the elements of List.

```
numbers = [5, 2, 8, 1, 9]
print(min(numbers))
output
```



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The screenshot shows a Microsoft Visual Studio Code interface. On the left is the Explorer sidebar with a tree view of files and folders. The main area is the Editor, showing a Python script named 'pl4.py' with the following code:

```
81
82 # 15
83
84 numbers = [5, 2, 8, 1, 9]
85 print(min(numbers))
86
```

Below the editor is the Terminal tab, which displays the output of running the script:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
1
```

The status bar at the bottom right shows the file is 3.13.5 Python, and the current date and time are 8/25/2025 7:38 PM.

6. Python max() Method

Calculates the maximum of all the elements of the List.

```
numbers = [5, 2, 8, 1, 9]
```

```
print(max(numbers))
```

```
output
```



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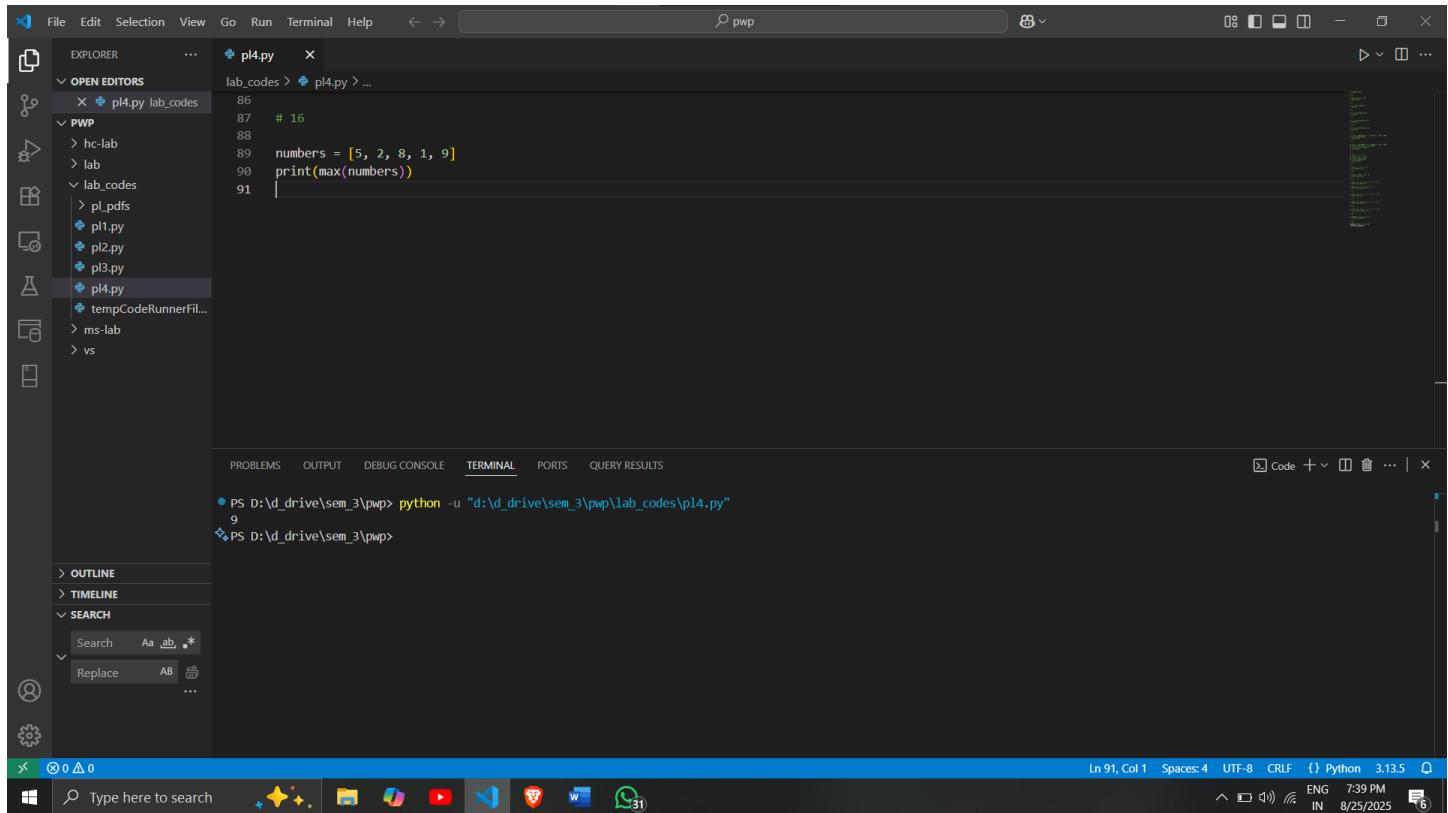
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```
86 # 16
87
88 numbers = [5, 2, 8, 1, 9]
89 print(max(numbers))
90
91
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
9
PS D:\d_drive\sem_3\pwp>
```

Ln 91, Col 1 Spaces: 4 UTF-8 CRLF Python 3.13.5

7. Python sort() Method

Sort the given data structure (both tuple and list) in ascending order.

List = [2.3,4.445,3,5.33,1.054,2.5]

List.sort()

print(List)

output



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The screenshot shows a Microsoft Visual Studio Code interface. The code editor displays a Python script named 'pl4.py' with the following content:

```
92 # 17
93
94 List = [2.3,4.445,3,5.33,1.054,2.5]
95 List.sort()
96 print(List)
97 
```

The terminal tab shows the output of running the script:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
[1.054, 2.3, 2.5, 3, 4.445, 5.33]
PS D:\d_drive\sem_3\pwp>
```

The file explorer on the left shows a project structure with files like 'pl4.py', 'pl1.py', 'pl2.py', and 'pl3.py' in the 'lab_codes' folder.

```
List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]
#Reverse flag is set True
List.sort(reverse=True)
print(List)
output
```



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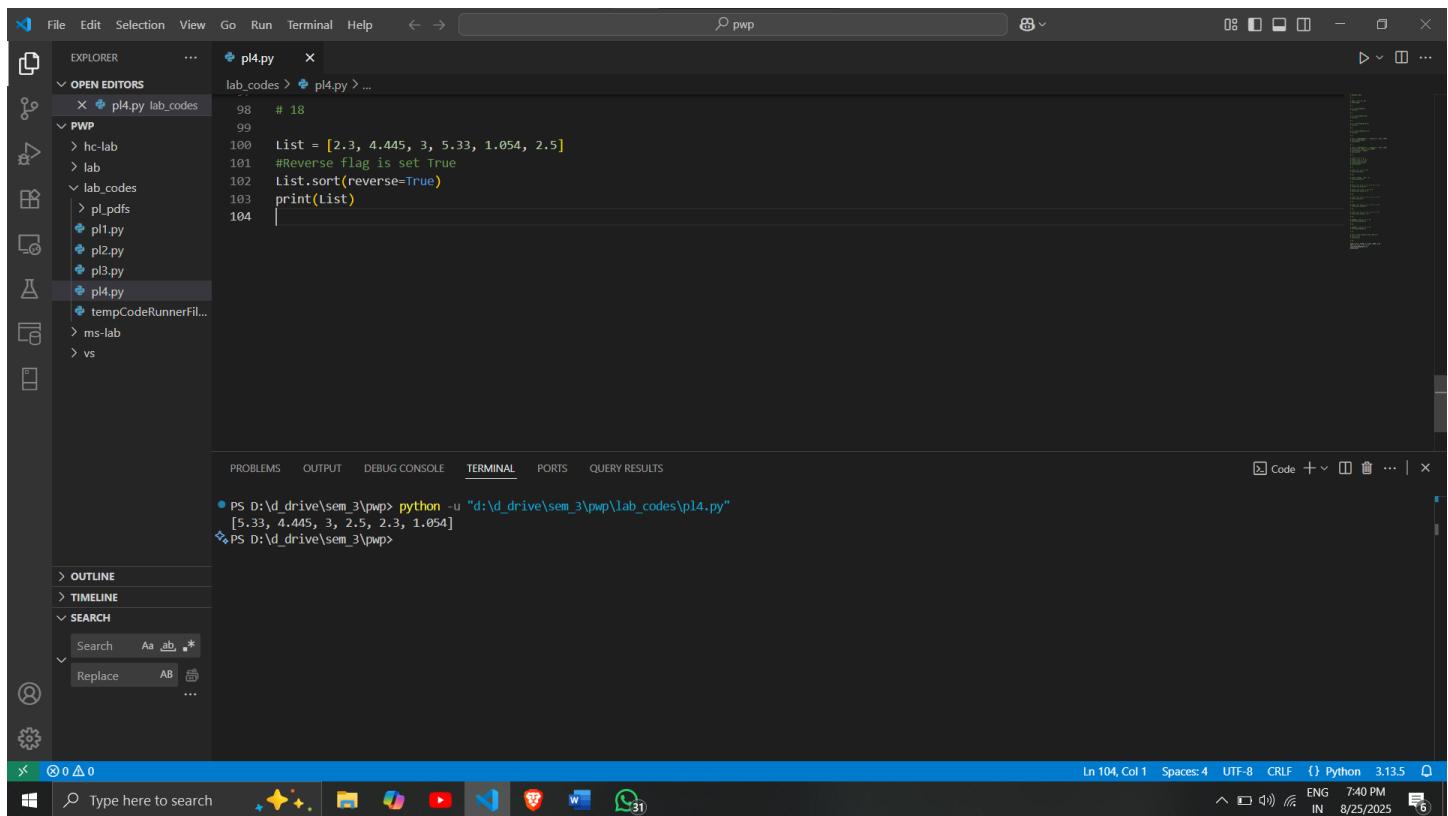
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```
# 18
List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]
List.sort(reverse=True)
print(list)
```

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The left sidebar displays a file tree with several Python files (pl4.py, pl1.py, pl2.py, pl3.py) under a folder named 'lab_codes'. The main editor area contains a Python script named 'pl4.py' with the following code:

```
# 18
List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]
List.sort(reverse=True)
print(list)
```

The terminal tab at the bottom shows the output of running the script:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
[5.33, 4.445, 3, 2.5, 2.3, 1.054]
PS D:\d_drive\sem_3\pwp>
```

The status bar at the bottom right indicates the code is in Python 3.13.5 mode, with line 104, column 1, and other system details like date and time.

8. Python reverse() Method

reverse() function reverses the order of list.

```
# creating a list
list = [1,2,3,4,5]
#reversing the list
list.reverse()
#printing the list
print(list)
```



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```
105 # 19
106
107 # creating a list
108 list = [1,2,3,4,5]
109 #reversing the list
110 list.reverse()
111 #printing the list
112 print(list)
113
114
115
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
[5, 4, 3, 2, 1]
PS D:\d_drive\sem_3\pwp>
```

Ln 113, Col 1 Spaces: 4 CRLF Python 3.13.5

Deletion of List Elements

To Delete one or more elements, i.e. remove an element, many built-in Python list functions can be used, such as `pop()` and `remove()` and keywords such as `del`.

1. Python `pop()` Method

Removes an item from a specific index in a list.

List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]

print(List.pop())

output



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```
114 # 20
115
116 List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]
117 print(List.pop(0))
118
119
120
```

The terminal tab at the bottom shows the command line output of running the script:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
2.5
PS D:\d_drive\sem_3\pwp>
```

The status bar at the bottom right indicates the code is in Python 3.13.5 mode.

```
List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]
```

```
print(List.pop(0))
```

```
output
```



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```
File Edit Selection View Go Run Terminal Help ← → 🔍 pwp
EXPLORER OPEN EDITORS PWP
lab_codes > pl4.py ...
121 List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]
122 print(List.pop(0))
123
124
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
2.3
PS D:\d_drive\sem_3\pwp>
OUTLINE TIMELINE SEARCH
Search Aa ab *
Replace AB ...
Ln 123, Col 1 Spaces: 4 UTF-8 CRLF Python 3.13.5
Type here to search
Windows Taskbar icons
ENGLISH 7:43 PM IN 8/25/2025
```

2. Python del() Method

Deletes an element from the list using it's index.

List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]

```
del List[0]
print(List)
output
```



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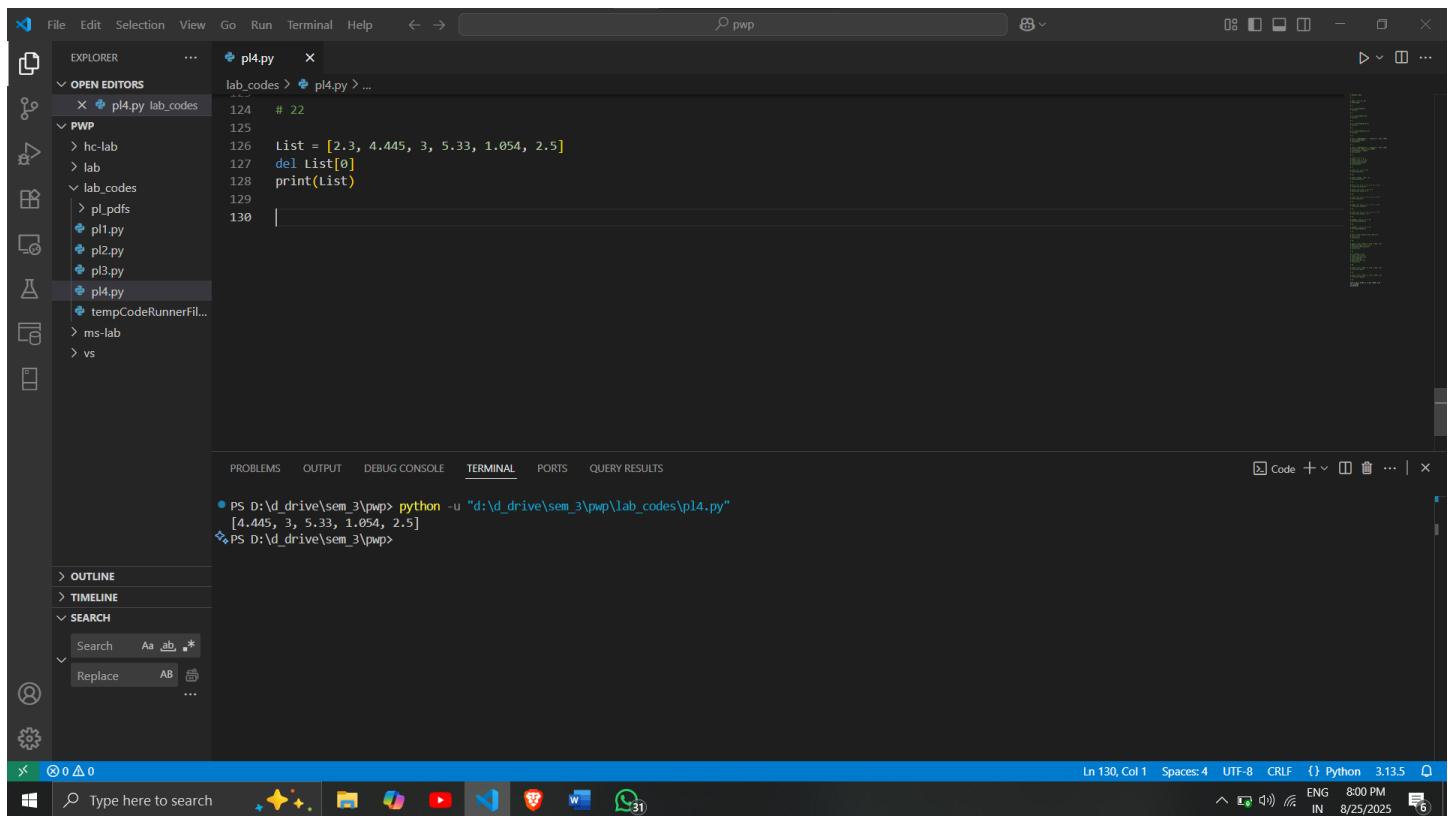
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```
124 # 22
125
126 List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]
127 del List[0]
128 print(List)
129
130 |
```

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. On the left is the Explorer sidebar, which displays a file tree with several Python files like pl4.py, pl1.py, pl2.py, and pl3.py. The main editor area shows a Python script named pl4.py with the following code:

```
124 # 22
125
126 List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]
127 del List[0]
128 print(List)
129
130 |
```

Below the editor is the Terminal tab, which contains the output of running the script:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
[4.445, 3, 5.33, 1.054, 2.5]
PS D:\d_drive\sem_3\pwp>
```

The status bar at the bottom right shows the current file is Python 3.13.5, and the terminal output includes system information like ENG, 800 PM, IN, and the date 8/25/2025.

3. Python remove() Method

Removes a specific element using it's value/name.

List = [2.3, 4.445, 3, 5.33, 1.054, 2.5]

List.remove(3)

print(List)

output



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Aim: Write a python program to create, append and remove lists in python.

Experiment No: 04

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```
File Edit Selection View Go Run Terminal Help ← → 🔍 pwp 🌐
EXPLORER ... pl4.py ✎
OPEN EDITORS lab_codes > pl4.py ...
PWP hc-lab
lab
lab_codes
pl_pdfs
pl1.py
pl2.py
pl3.py
pl4.py
tempCodeRunnerFil...
ms-lab
vs

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
[2.3, 4.445, 5.33, 1.054, 2.5]
PS D:\d_drive\sem_3\pwp>
Code + ⚡ ... 🔍
OUTLINE
TIMELINE
SEARCH
Search ab, *
Replace AB
...
```

```
# removing duplicates from a list using dictionaries
my_list_1 = [5, 2, 90, 24, 10, 2, 90, 34]
my_list_2 = ['a', 'a', 'a', 'b', 'c', 'd', 'd', 'e']
```

```
# removing duplicates from list 1
my_list_1 = list(dict.fromkeys(my_list_1))
print(my_list_1)
output
```



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The screenshot shows a Microsoft Visual Studio Code interface. The code editor on the left displays a Python file named 'pl4.py' with the following content:

```
136 # 24
137
138 my_list_1 = [5, 2, 90, 24, 10, 2, 90, 34]
139 my_list_2 = ['a', 'a', 'b', 'c', 'd', 'd', 'e']
140
141 # removing duplicates from list 1
142 my_list_1 = list(dict.fromkeys(my_list_1))
143
144 print(my_list_1)
```

The terminal tab at the bottom shows the output of running the script:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
[5, 2, 90, 24, 10, 34]
PS D:\d_drive\sem_3\pwp>
```

The status bar at the bottom right indicates the code is in Python 3.13.5 mode, with line 144, column 1, and other system details like battery level and network status.

```
# removing duplicates from list 2
my_list_2 = list(dict.fromkeys(my_list_2))
print(my_list_2)
output
```



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The screenshot shows a dark-themed instance of Visual Studio Code. In the center-right pane, there is an open editor window titled 'pl4.py'. The code within the editor is as follows:

```
136 # 24
137
138 my_list_1 = [5, 2, 90, 24, 10, 2, 90, 34]
139 my_list_2 = ['a', 'a', 'b', 'c', 'd', 'd', 'e']
140
141 # removing duplicates from list 1
142 # my_list_1 = list(dict.fromkeys(my_list_1))
143 # print(my_list_1)
144
145 # 25
146 my_list_2 = list(dict.fromkeys(my_list_2))
147 print(my_list_2)
148 |
```

The left sidebar displays the 'OPEN EDITORS' section, which includes 'pl4.py' and 'lab_codes'. Below this, under 'PWP', there are several sub-folders and files: 'hc-lab', 'lab', 'lab_codes' (containing 'pl_pdfs', 'pl1.py', 'pl2.py', 'pl3.py', 'pl4.py', and 'tempCodeRunnerfile...'), 'ms-lab', and 'vs'. The bottom status bar shows the file path 'lab_codes > pl4.py > ...', line 148, column 1, and the status 'Python 3.13.5'.

Combining lists

We can even combine lists with the help of the `zip()` function which results in a list of tuples. Here each item from list A is combined with corresponding elements from list B in the form of a tuple.

combining lists with the help of `zip()` function

```
my_list_1 = [5, 2, 90, 24, 10]
```

```
my_list_2 = [6, 3, 91, 25, 12]
```

```
# combined
```

```
my_combined_list = list(zip(my_list_1, my_list_2))
```

```
print(my_combined_list)
```

```
output
```



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```
149 # 26
150
151 # combining lists with the help of zip() function
152 my_list_1 = [5, 2, 90, 24, 10]
153 my_list_2 = [6, 3, 91, 25, 12]
154
155 # combined
156 my_combined_list = list(zip(my_list_1, my_list_2))
157 print(my_combined_list)
158 
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
[(5, 6), (2, 3), (90, 91), (24, 25), (10, 12)]
PS D:\d_drive\sem_3\pwp>
```

OUTLINE TIMELINE SEARCH

Type here to search

Ln 158, Col 1 Spaces: 4 CRLF Python 3.13.5

ENG 804 PM IN 8/25/2025

Finding the most common item

To find the most frequent element we make use of the set() function. The set() function removes all the duplicates from the list, and the max() function returns the most frequent element (which is found with the help of 'key'). The key is an optional single argument function.

```
# to find the most frequent element from the list
```

```
my_list = ['a', 'a', 'a', 'b', 'c', 'd', 'd', 'e']
most_frequent_value = max(set(my_list), key=my_list.count)
print("The most common element is:", most_frequent_value)
output
```



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The screenshot shows a Microsoft Visual Studio Code interface. On the left is the Explorer sidebar with a tree view of files and folders. The 'OPEN EDITORS' section shows 'pl4.py' is open. The 'PWP' section contains 'hc-lab', 'lab', and 'lab_codes' with sub-folders 'pl_pdfs', 'pl1.py', 'pl2.py', 'pl3.py', and 'pl4.py'. The 'TERMINAL' tab is active, displaying a command-line session:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
The most common element is: a
PS D:\d_drive\sem_3\pwp>
```

The status bar at the bottom right shows the code is on line 164, column 1, with 4 spaces, using CRLF line endings, and is written in Python 3.13.5. The taskbar at the bottom includes icons for File Explorer, Task View, Start, Taskbar settings, and other pinned applications.

Flatten a list of lists

Sometimes we encounter a list where each element in itself is a list. To convert a list of lists into a single list, we use list comprehension.

```
# to flatten a list_of_lists by using list comprehension
```

```
list_of_lists = [[1, 2],
```

```
    [3, 4],
```

```
    [5, 6],
```

```
    [7, 8]]
```

```
# using list comprehension
```

```
my_list = [item for List in list_of_lists for item in List]
```

```
print(my_list)
```

```
output
```



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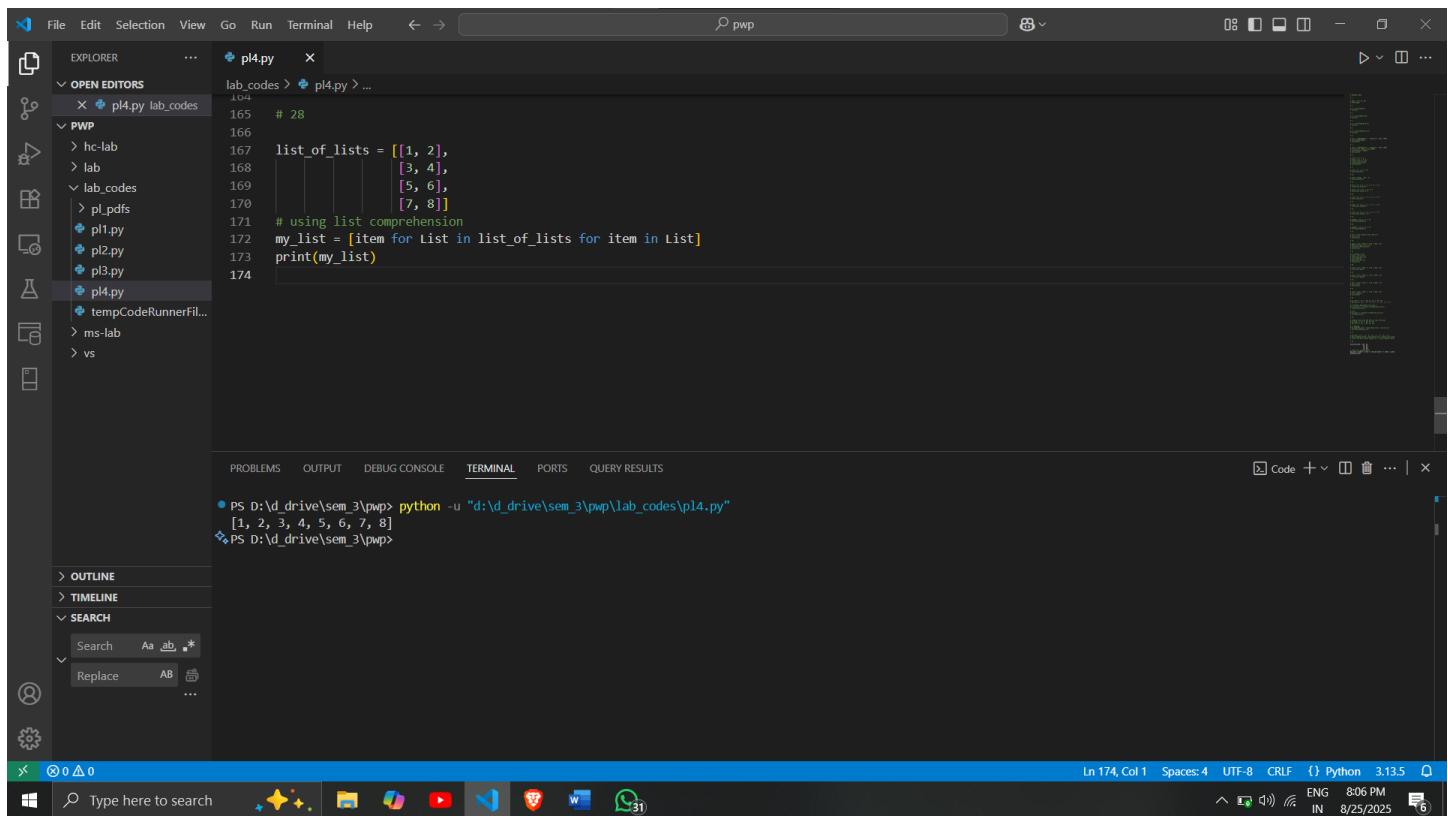
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```
165 # 28
166
167 list_of_lists = [[1, 2],
168             [3, 4],
169             [5, 6],
170             [7, 8]]
171 # using list comprehension
172 my_list = [item for List in list_of_lists for item in List]
173 print(my_list)
174
```

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The left sidebar displays a file tree with several Python files (pl4.py, pl1.py, pl2.py, pl3.py) and a folder named PWP containing sub-folders hc-lab, lab, and lab_codes. The main editor window contains the provided Python code. Below the editor, the terminal tab shows command-line output from running the script: "PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py" [1, 2, 3, 4, 5, 6, 7, 8]". The bottom status bar indicates the code is in Python 3.13.5. The taskbar at the bottom includes icons for File Explorer, Task View, Taskbar settings, Start button, and system status.

Post Lab Exercise:



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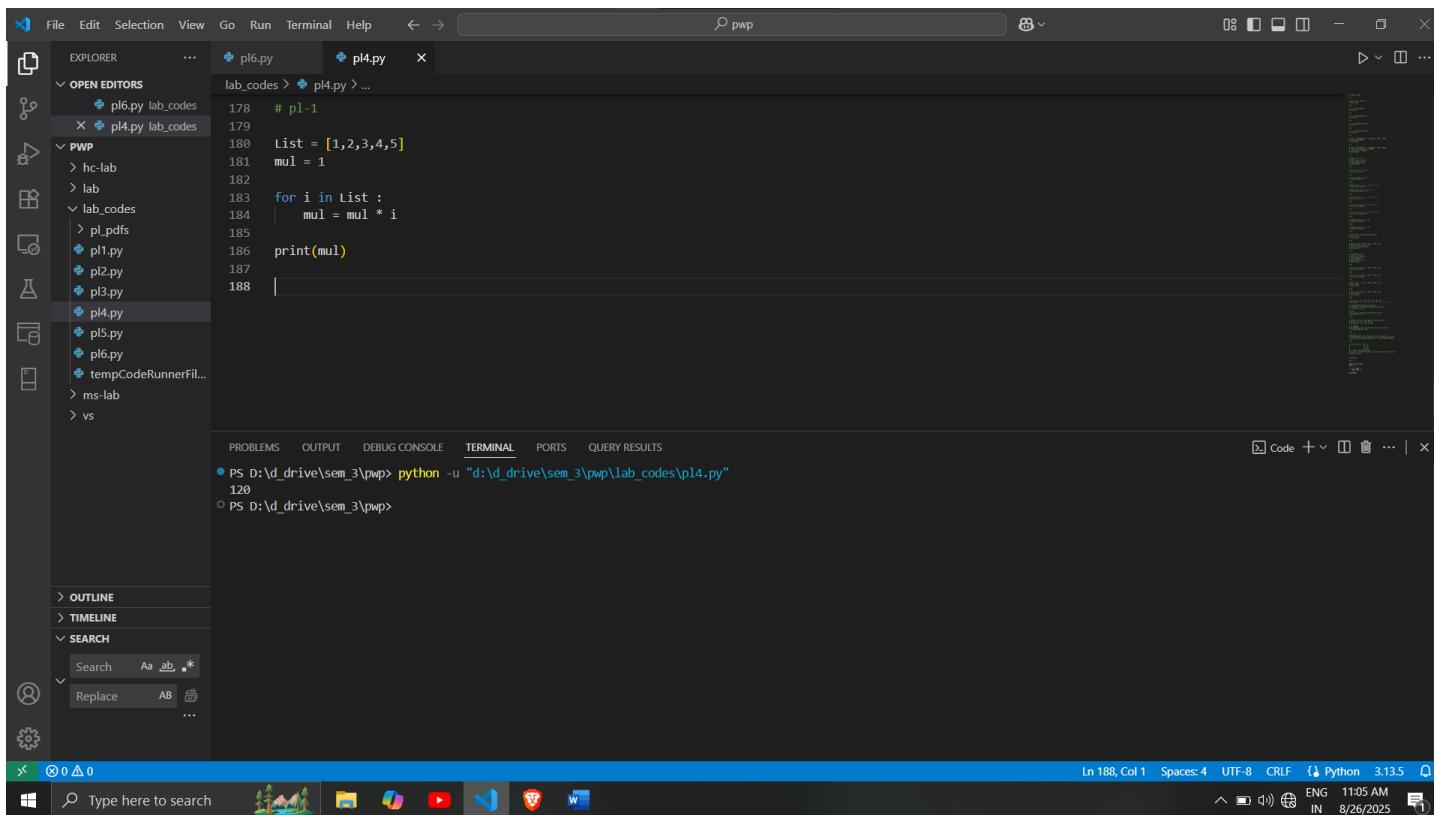
Aim: Write a python program to create, append and remove lists in python.

Experiment No: 04

Date:25-8-25

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- a. Write a Python program to multiply all the items in a list.



The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. On the left is the Explorer sidebar, which lists several Python files: p1.py, p2.py, p3.py, p4.py, p5.py, p6.py, and tempCodeRunnerFile.py. The p4.py file is currently open in the main editor area. The code in p4.py is as follows:

```
178 # p1-1
179
180 List = [1,2,3,4,5]
181 mul = 1
182
183 for i in List :
184     mul = mul * i
185
186 print(mul)
187
188 |
```

Below the editor, the terminal tab is active, showing the command and output of running the script:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\p14.py"
120
```

The status bar at the bottom right indicates the current line (Ln 188), column (Col 1), spaces (Spaces: 4), encoding (UTF-8), and file type (Python 3.13.5). The taskbar at the bottom of the screen also shows icons for various applications like File Explorer, Task View, and Edge browser.



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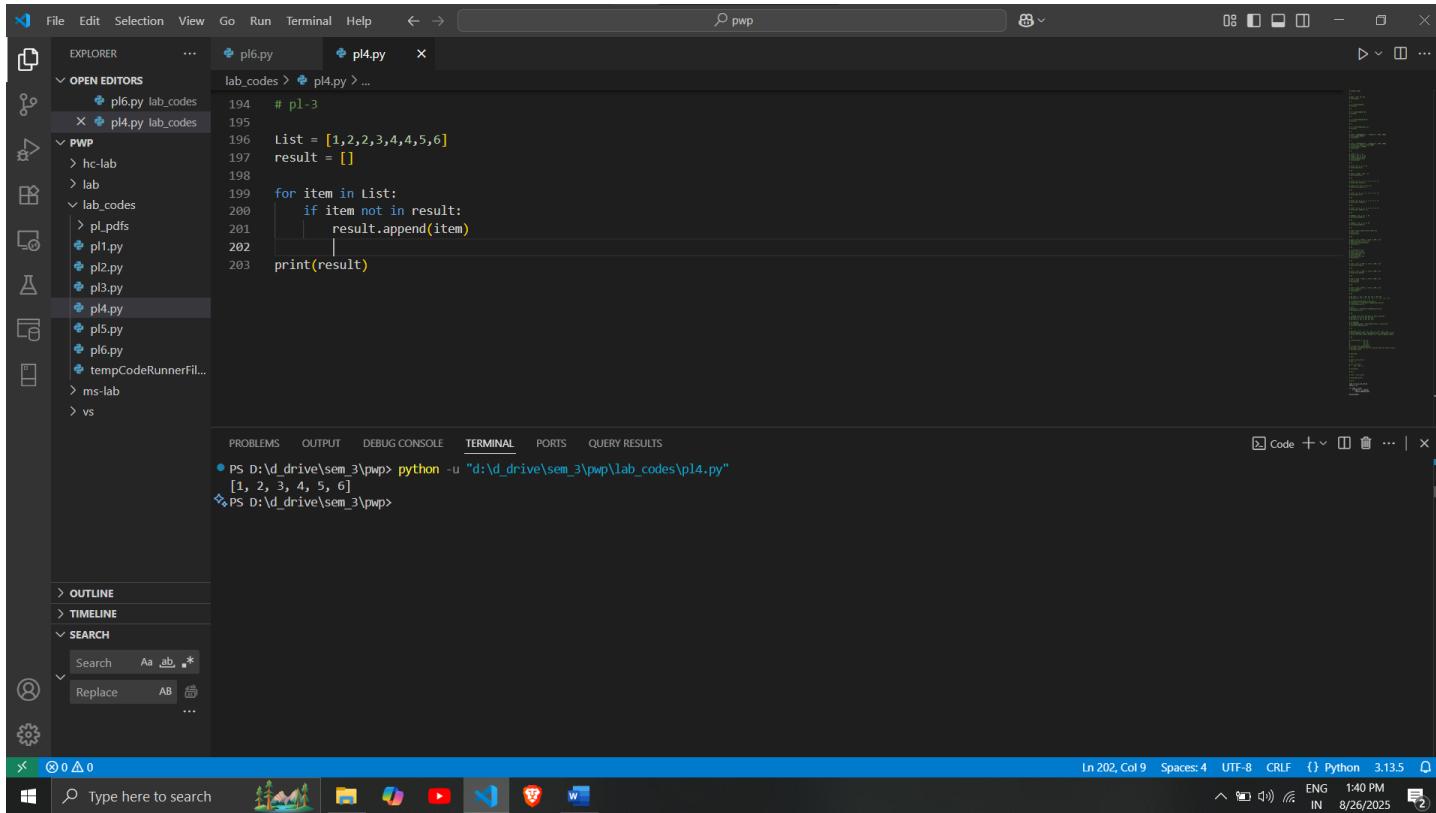
- b. Write a Python program to get the largest number from a list.

```
# pl-2
List = [1,2,3,4,5]
print(max(List))
```

The screenshot shows the Microsoft Visual Studio Code interface. On the left is the Explorer sidebar showing files like pl6.py, pl4.py, and others. The main editor area has the code above. Below it is the Terminal tab showing command-line output for running the script. The bottom status bar shows system information.

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- c. Write a Python program to remove duplicates from a list.



```

File Edit Selection View Go Run Terminal Help ← → 🔍 pwp
EXPLORER ... p6.py p4.py x
OPEN EDITORS
PWP
lab_codes > p4.py ...
194 # pl-3
195
196 List = [1,2,2,3,4,4,5,6]
197 result = []
198
199 for item in List:
200     if item not in result:
201         result.append(item)
202     |
203 print(result)

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS
PS D:\d\_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\p14.py"
[1, 2, 3, 4, 5, 6]
PS D:\d_drive\sem_3\pwp>

```

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The left sidebar displays the file structure of a project named 'pwp'. Inside the 'lab_codes' folder, there are several Python files: p1.py, p2.py, p3.py, p4.py, p5.py, and p6.py. The file 'p4.py' is currently open in the editor. The code in 'p4.py' is a Python script that defines a list 'List' with elements [1, 2, 2, 3, 4, 4, 5, 6]. It initializes an empty list 'result' and then iterates through 'List'. For each item in 'List', it checks if the item is already in 'result'. If not, it adds the item to 'result'. Finally, it prints the 'result' list, which contains unique elements: [1, 2, 3, 4, 5, 6]. Below the code editor, the terminal window shows the command 'python -u "d:\d_drive\sem_3\pwp\lab_codes\p14.py"' being run, followed by the output '[1, 2, 3, 4, 5, 6]'. The status bar at the bottom right indicates the line number (Ln 202), column number (Col 9), spaces (Spaces: 4), encoding (UTF-8), line endings (CRLF), language (Python), version (3.13.5), and date/time (8/26/2025, 1:40 PM).



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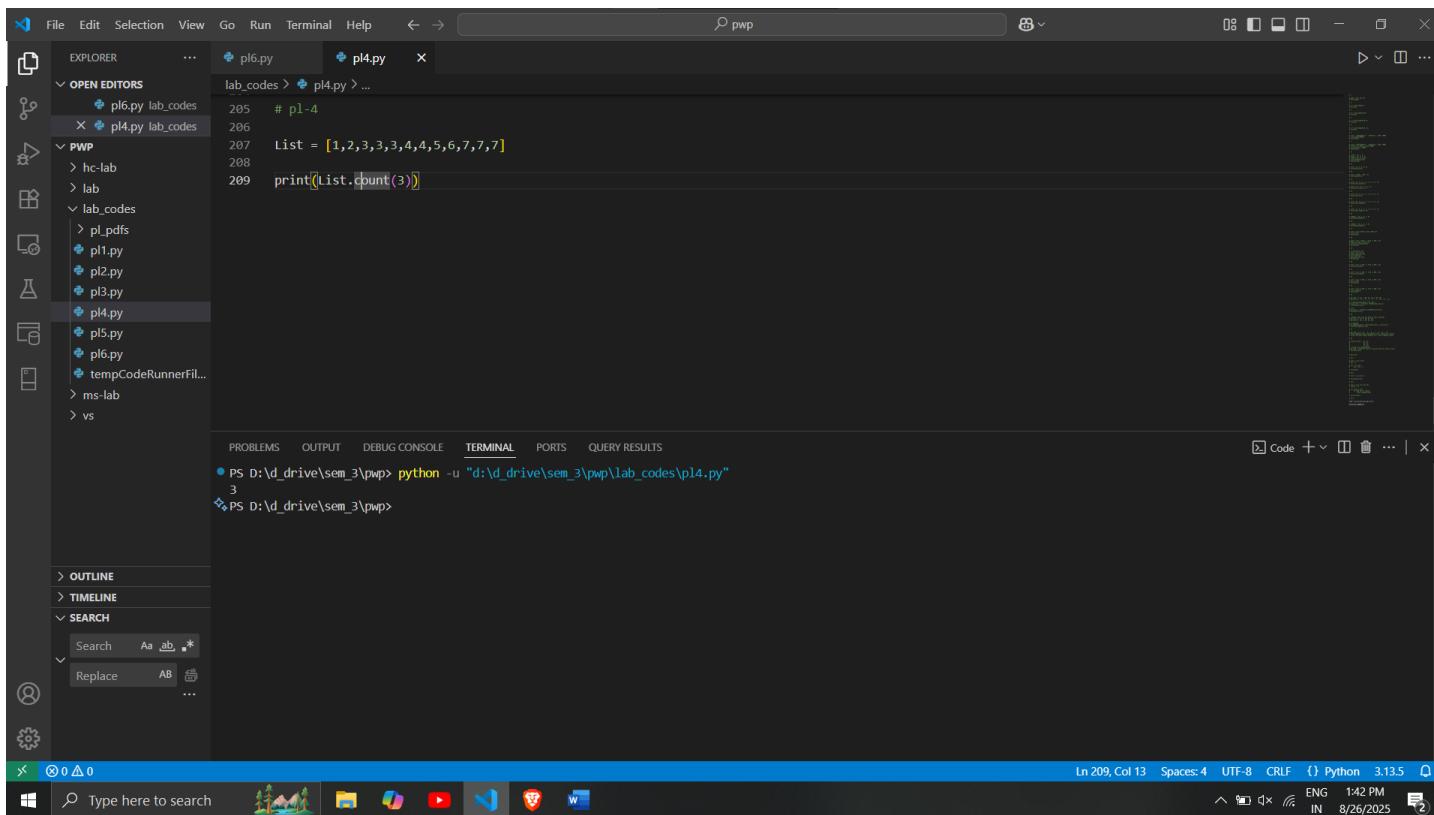
Aim: Write a python program to create, append and remove lists in python.

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d. Write a Python program to get the frequency of elements in a list.



The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. On the left is the Explorer sidebar, which lists several Python files in a folder named 'lab_codes'. The file 'pl4.py' is currently open in the editor. The code in 'pl4.py' is as follows:

```
205 # p1~4
206
207 List = [1,2,3,3,3,4,4,5,6,7,7,7]
208 print(List.count(3))
```

Below the editor is the Terminal panel, which shows the command line output of running the script:

```
PS D:\d_drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\pl4.py"
3
PS D:\d_drive\sem_3\pwp>
```

The status bar at the bottom right indicates the current line (Ln 209), column (Col 13), spaces (Spaces: 4), encoding (UTF-8), and file type (Python 3.13.5).



Subject: Programming With Python (01CT1309)

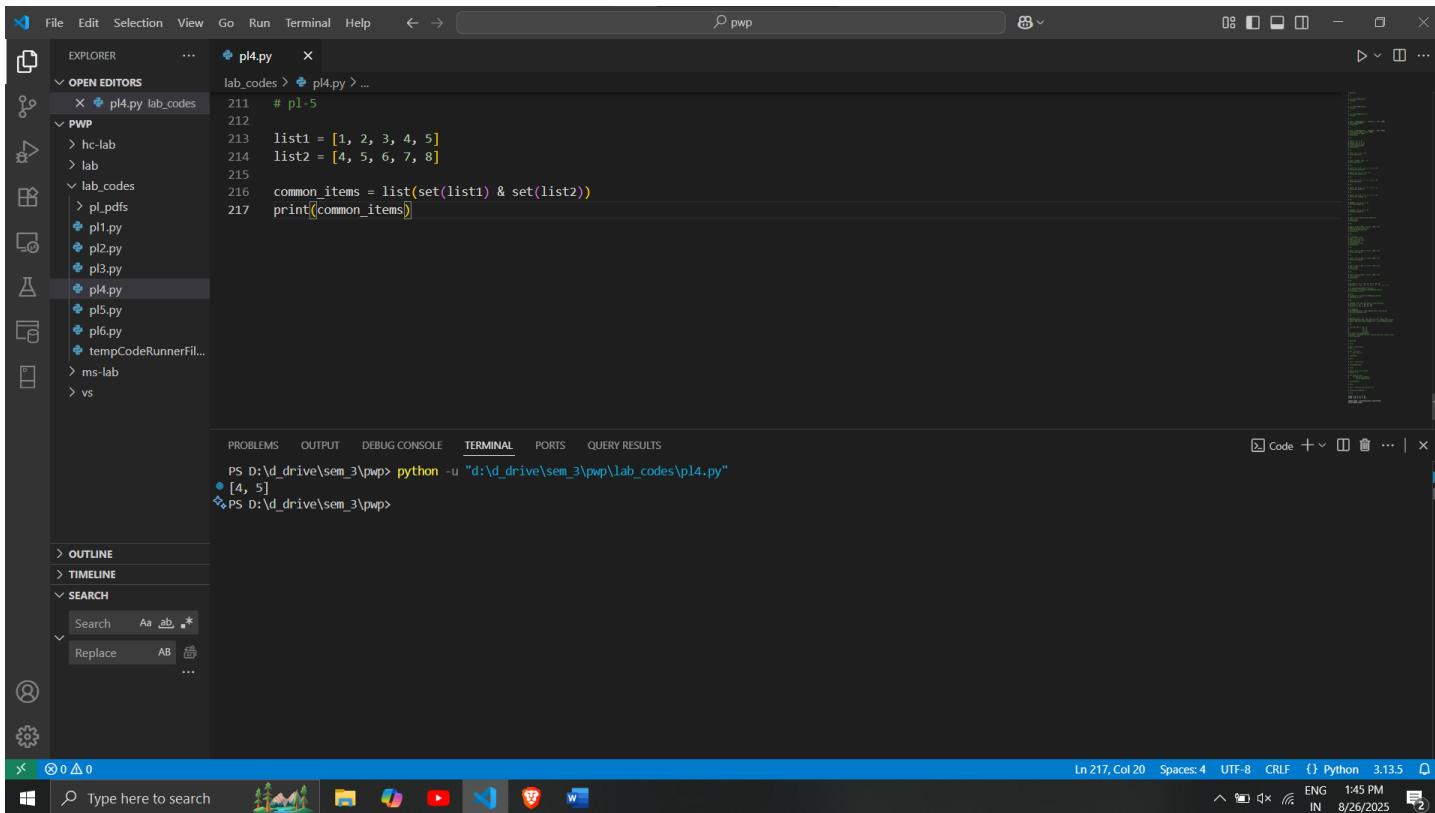
Aim: Write a python program to create, append and remove lists in python.

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Date:25-8-25

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e. Find common items from two lists



```
211 # p1.5
212
213 list1 = [1, 2, 3, 4, 5]
214 list2 = [4, 5, 6, 7, 8]
215
216 common_items = list(set(list1) & set(list2))
217 print(common_items)
```

The screenshot shows a Microsoft Visual Studio Code (VS Code) interface. The left sidebar displays a file tree with several Python files (p1.py, p2.py, p3.py, p4.py, p5.py, p6.py) and other files like hc-lab, lab, and lab_codes. The main editor area shows a Python script named p4.py with the following code:

```
211 # p1.5
212
213 list1 = [1, 2, 3, 4, 5]
214 list2 = [4, 5, 6, 7, 8]
215
216 common_items = list(set(list1) & set(list2))
217 print(common_items)
```

The terminal tab at the bottom shows the output of running the script:

```
PS D:\d\drive\sem_3\pwp> python -u "d:\d_drive\sem_3\pwp\lab_codes\p4.py"
[4, 5]
```

The status bar at the bottom right indicates the code is in Python 3.13.5 mode, with the date and time as 8/26/2025, 1:45 PM.



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f. Convert a list of multiple integers into a single integer

The screenshot shows the Microsoft Visual Studio Code interface. The left sidebar displays the file structure under 'EXPLORER' and 'PWP'. The main editor window shows a Python script named 'pl4.py' with the following code:

```
219 # pl-6
220
221 nums = [1,32, 3, 45]
222 ans = 0
223 for i in nums:
224     digits = len(str(i))
225     ans = ans * (10 ** digits) + i
226 print(ans)
```

The 'TERMINAL' tab at the bottom shows the command 'python -u "d:_drive\sem_3\pwp\lab_codes\pl4.py"' being run, resulting in the output '132345'. The status bar at the bottom right indicates the code is in Python 3.13.5.