ITW1

PYTHON ASSIGNMENT1

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1. **Write a Python program to get a string made of the first 2 and the last 2 chars from a given a string. If the string length is less than 2, return instead of the empty string.**

   Sample String : 'a1resource'

   Expected Result : 'a1ce'

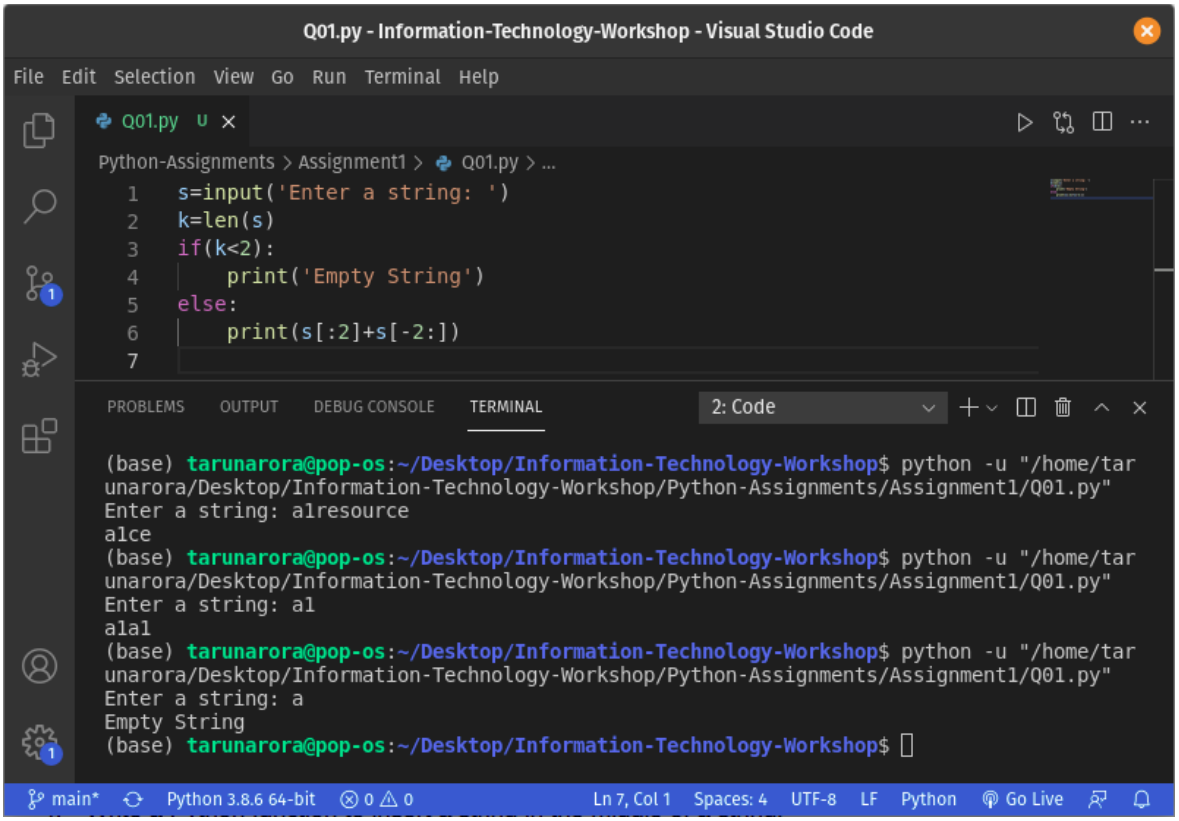
   Sample String : 'a1'

   Expected Result : 'a1a1'

   Sample String : ' a'

   Expected Result : Empty String

Solution: -

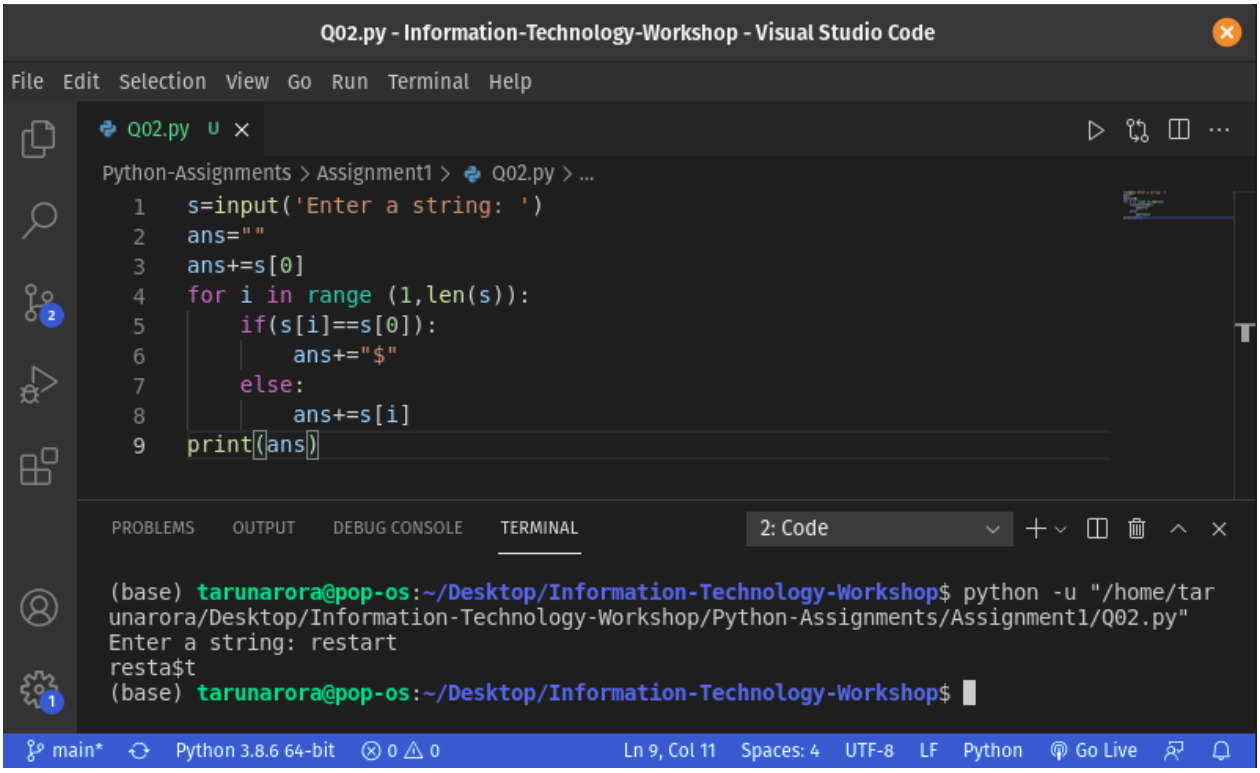


2. **Write a Python program to get a string from a given string where all occurrences of its first char have been changed to '$', except the first char itself.**

   Sample String : 'restart'

   Expected Result : 'resta$t'

Solution: -



3. **Write a Python program to find the first appearance of the substring 'not' and 'poor' from a given string, if 'not' follows the 'poor', replace the whole 'not'...'poor' substring with 'good'. Return the resulting string.**

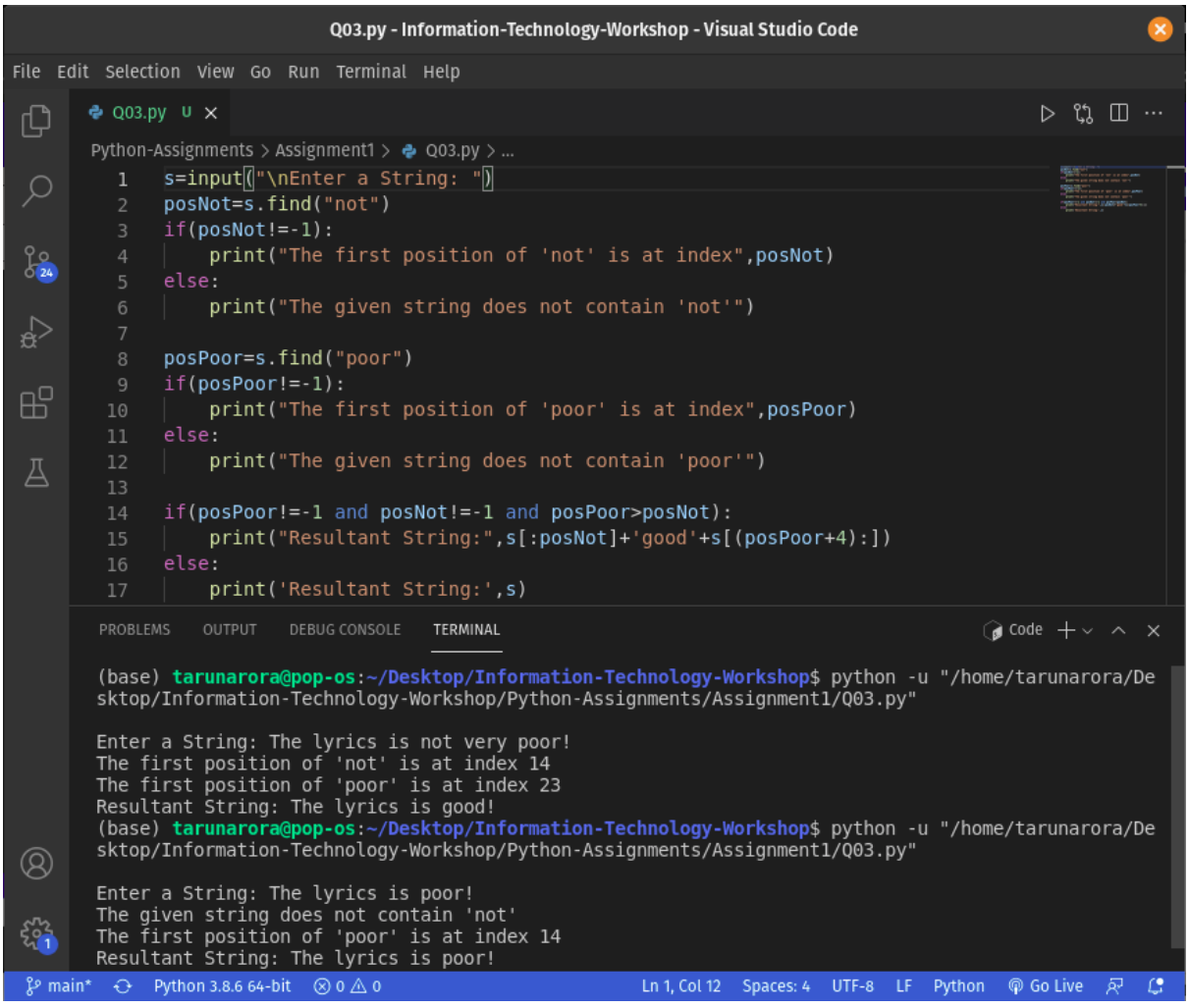
Sample String : 'The lyrics is not that poor!'

'The lyrics is poor!'

Expected Result : 'The lyrics is good!'

'The lyrics is poor!'

Solution: -

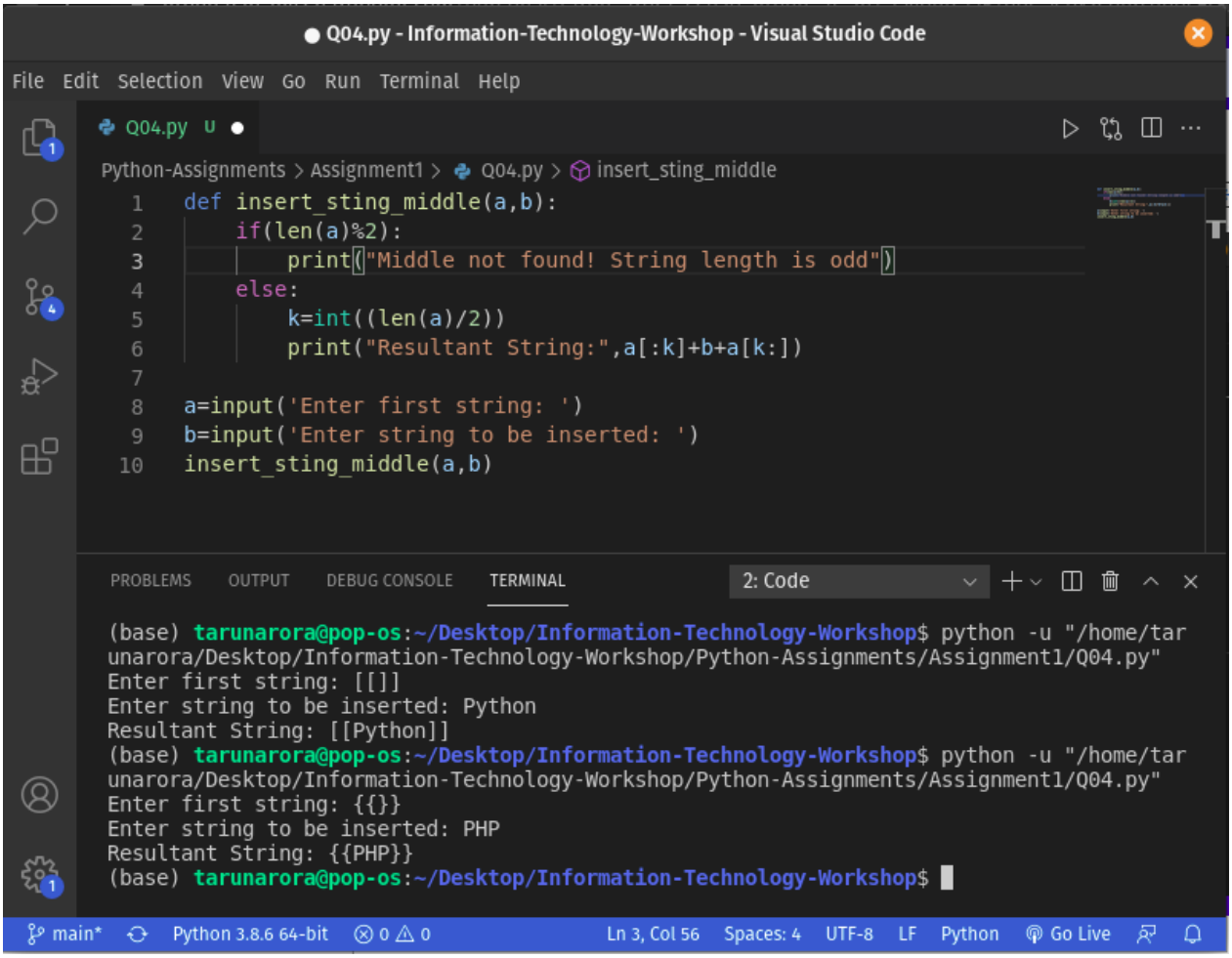


4. **Write a Python function to insert a string in the middle of a string. Sample function and result :**

   insert_sting_middle('[[]]', 'Python') -> [[Python]]

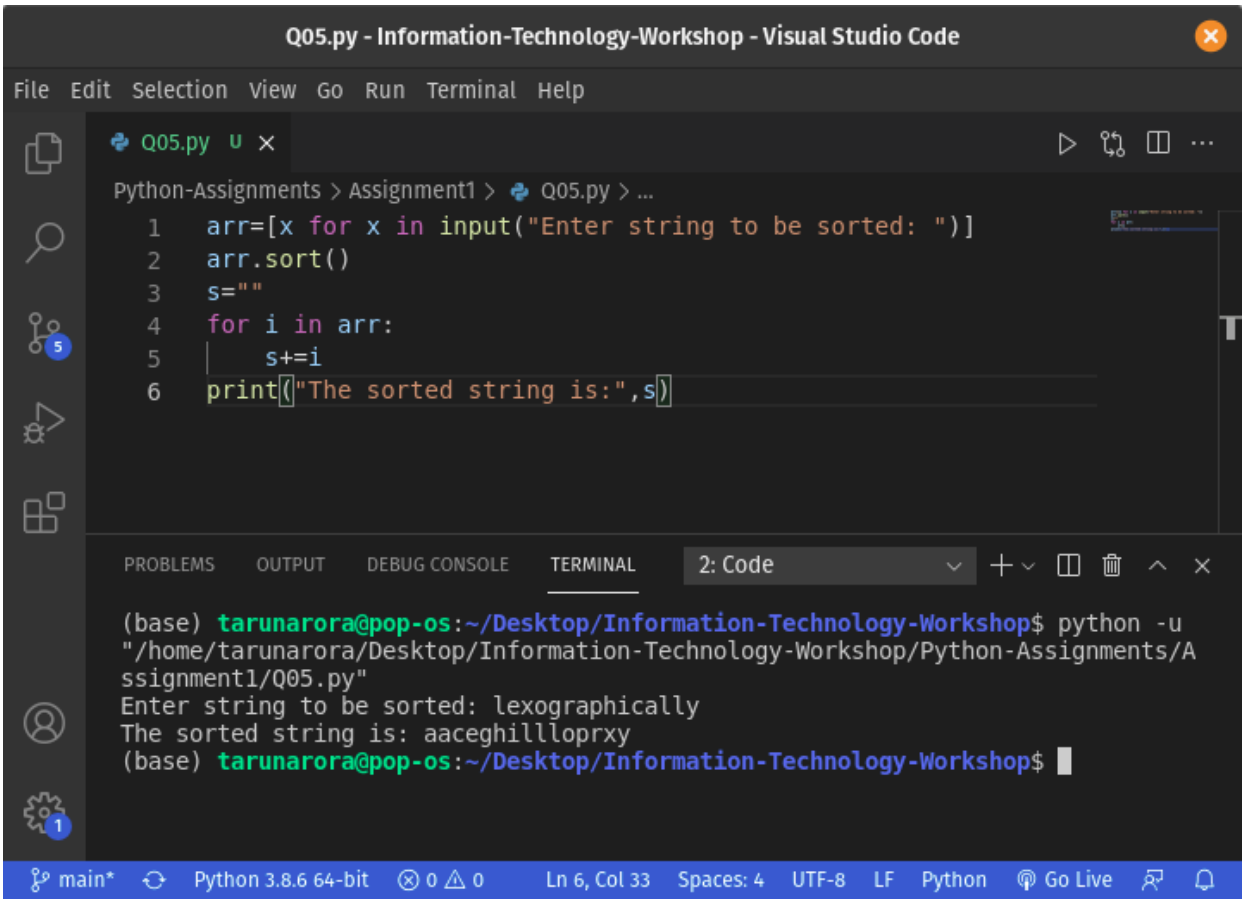
   insert_sting_middle('{{}}', 'PHP') -> {{PHP}}

Solution: -



5. **Write a Python program to sort a string lexicographically.**

Solution: -



6. Write a Python program to count repeated characters in a string. Sample string: 'thequickbrownfoxjumpsoverthelazydog'

Expected output :

o 4

e 3

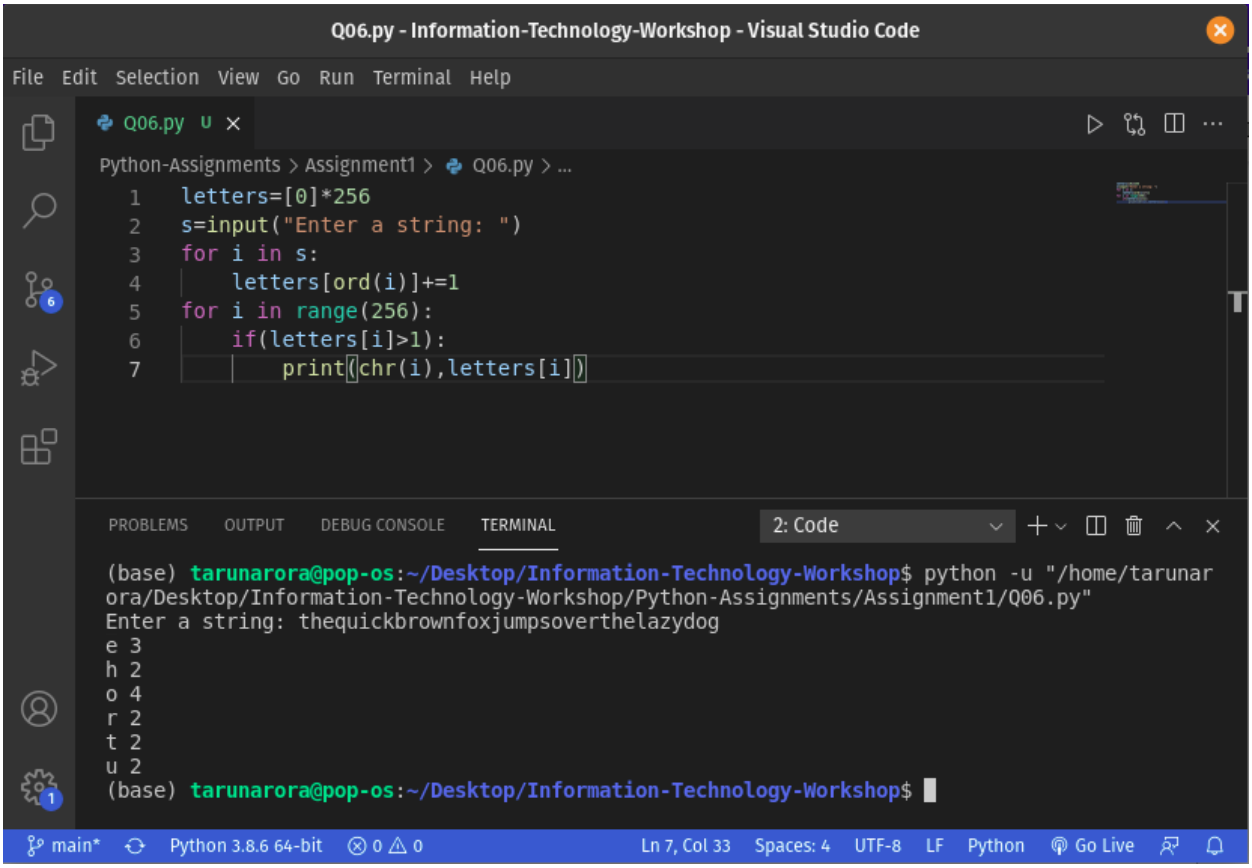
u 2

h 2

r 2

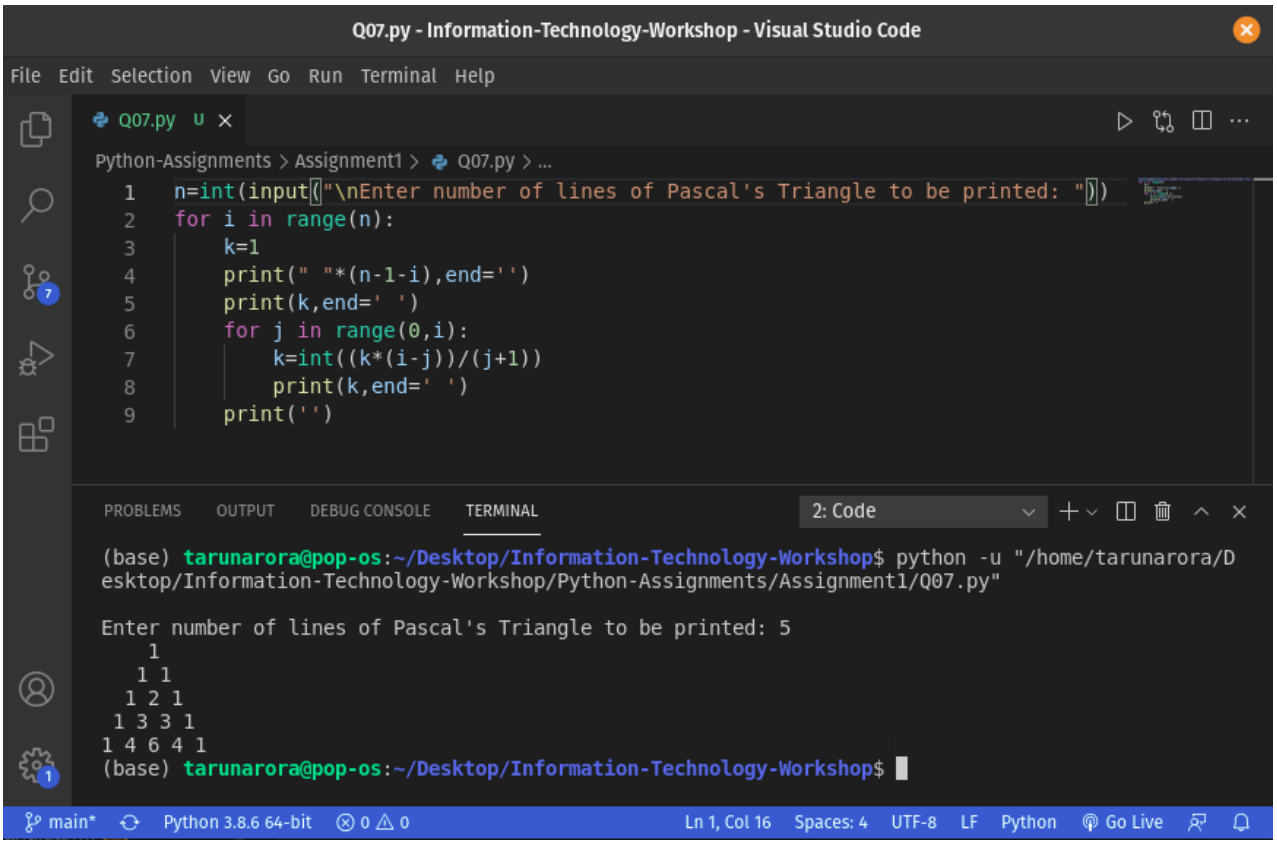
t 2

Solution: -



7. Write a Python function that prints out the first 'n' rows of Pascal's triangle. 'n' is user input.

Solution: -

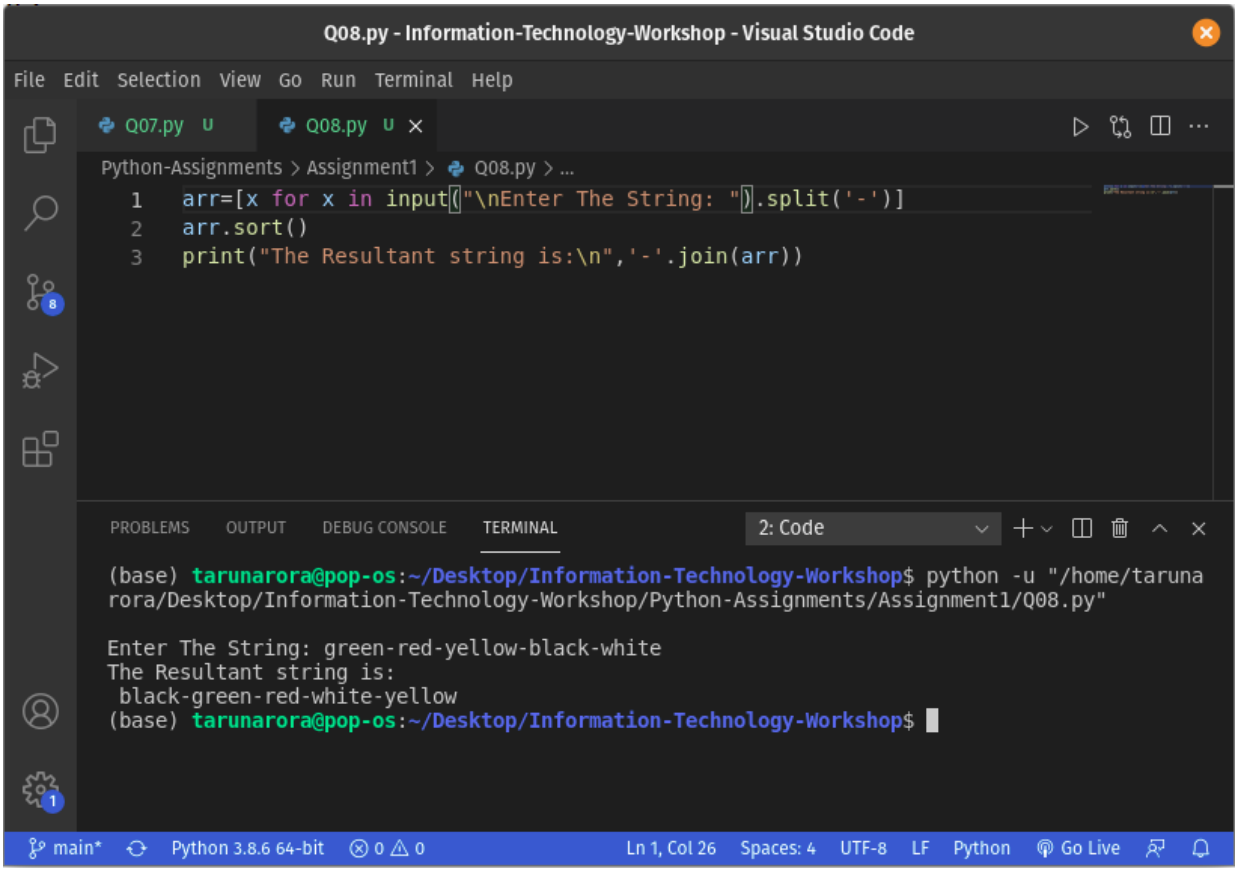


8. **Write a Python function that accepts a hyphen-separated sequence of words as input and prints the words in a hyphen-separated sequence after sorting them alphabetically.**

Sample Items : green-red-yellow-black-white

Expected Result : black-green-red-white-yellow

Solution: -

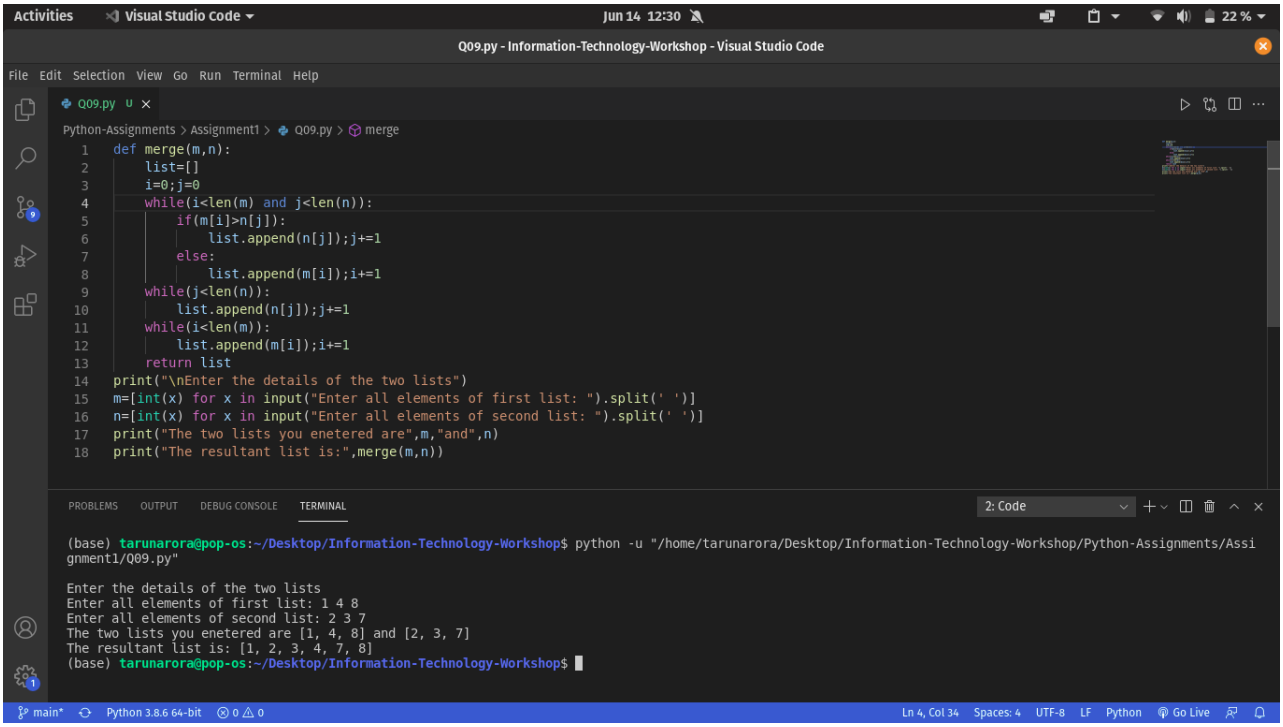


9. Write a Python function to merge two sorted arrays.

Sample Items : m=[1, 4, 8] n=[2, 3, 7]

Expected Output: mn=[1, 2, 3, 4, 7, 8]

Solution: -



10. Write a Python function that accepts a string and calculate the number of upper case letters and lowercase letters.

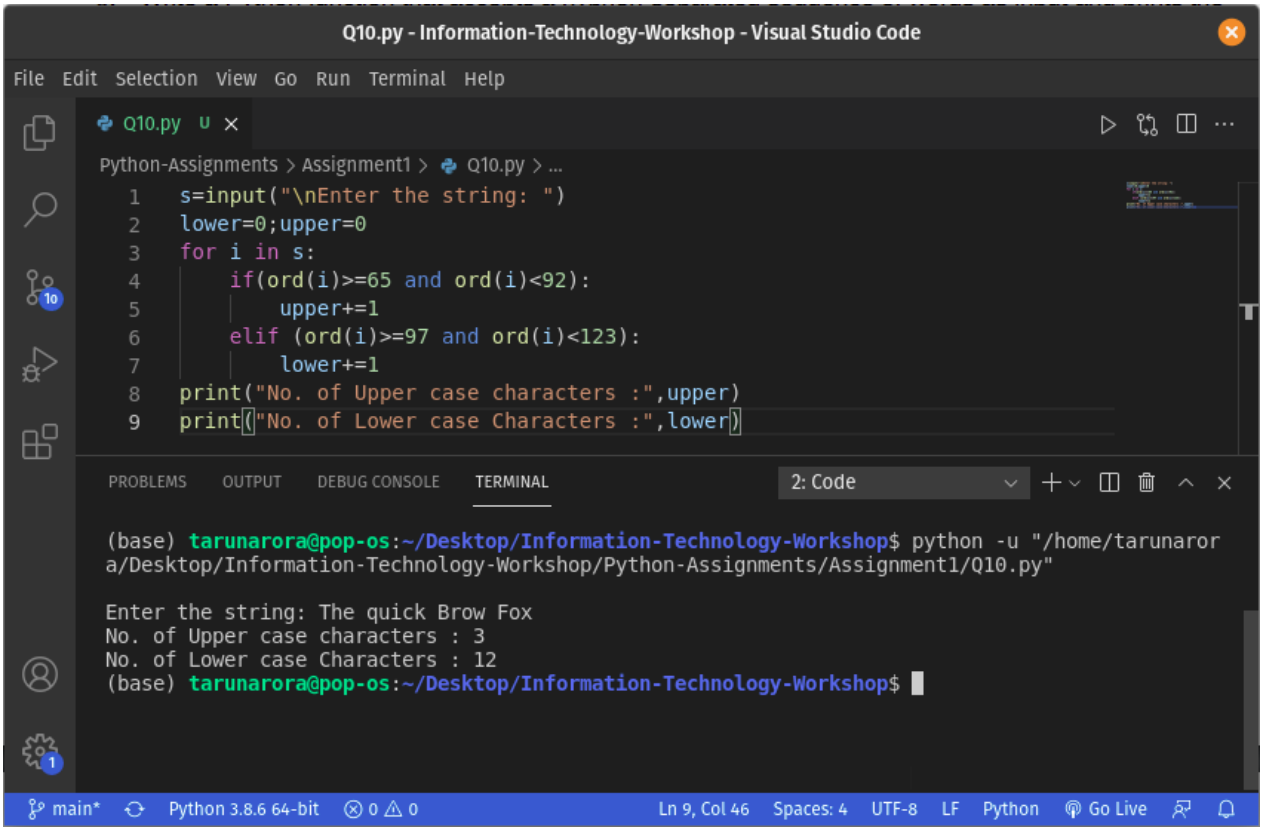
Sample String : 'The quick Brow Fox'

Expected Output :

No. of Upper case characters : 3

No. of Lower case Characters : 12

Solution: -

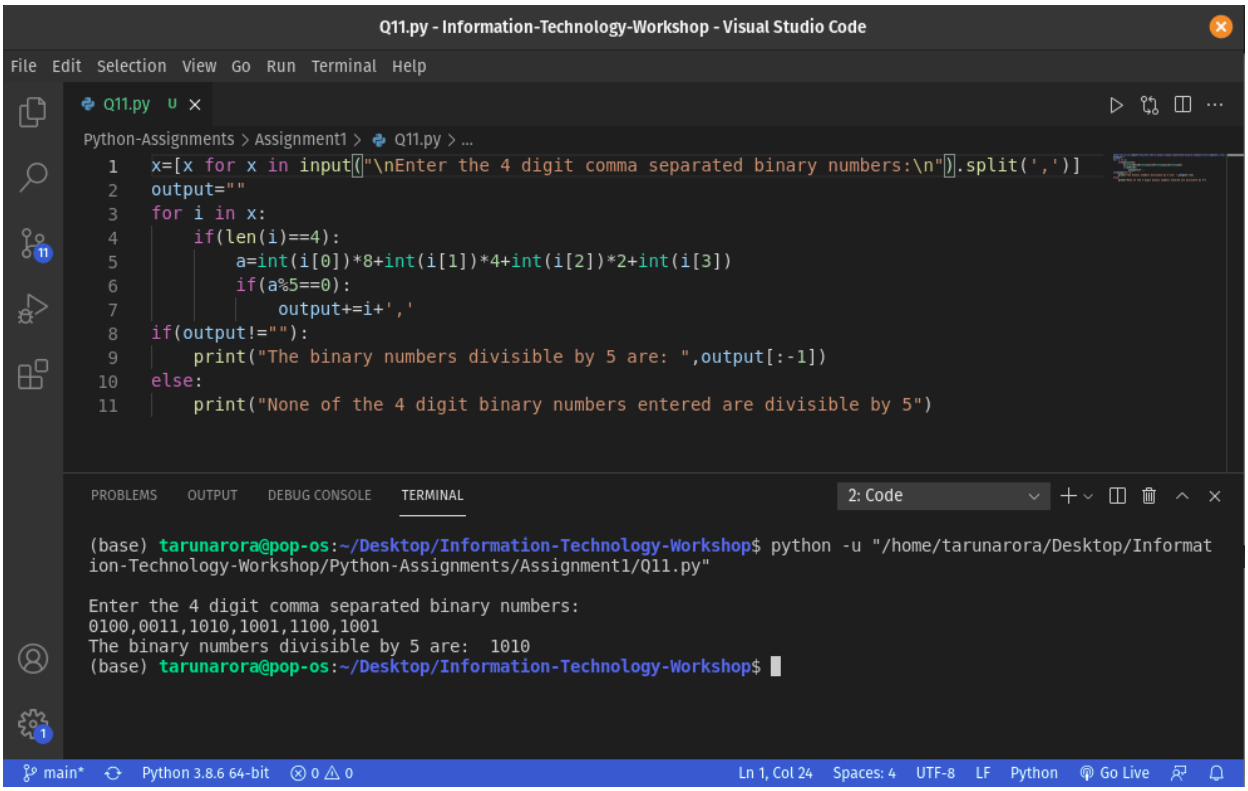


11. **Write a Python program which accepts a sequence of comma separated 4 digit binary numbers as its input and print the numbers that are divisible by 5 in a comma separated sequence.**

Sample Data : 0100,0011,1010,1001,1100,1001

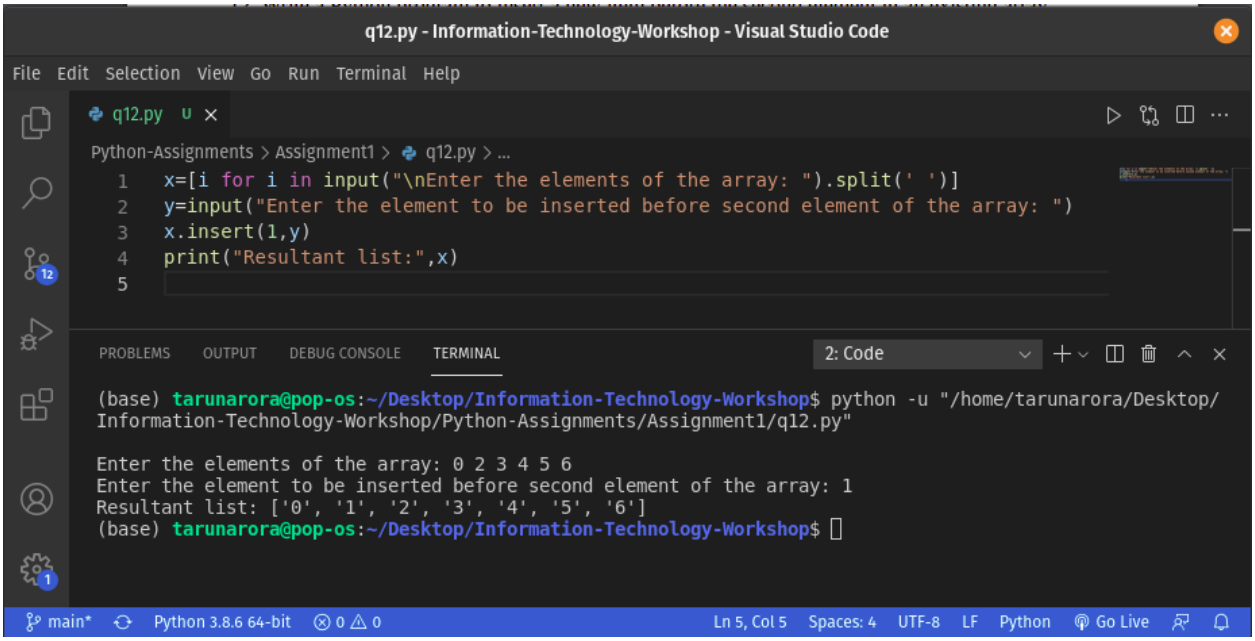
Expected Output : 1010

Solution: -



12. Write a Python program to insert a new item before the second element in an existing array.

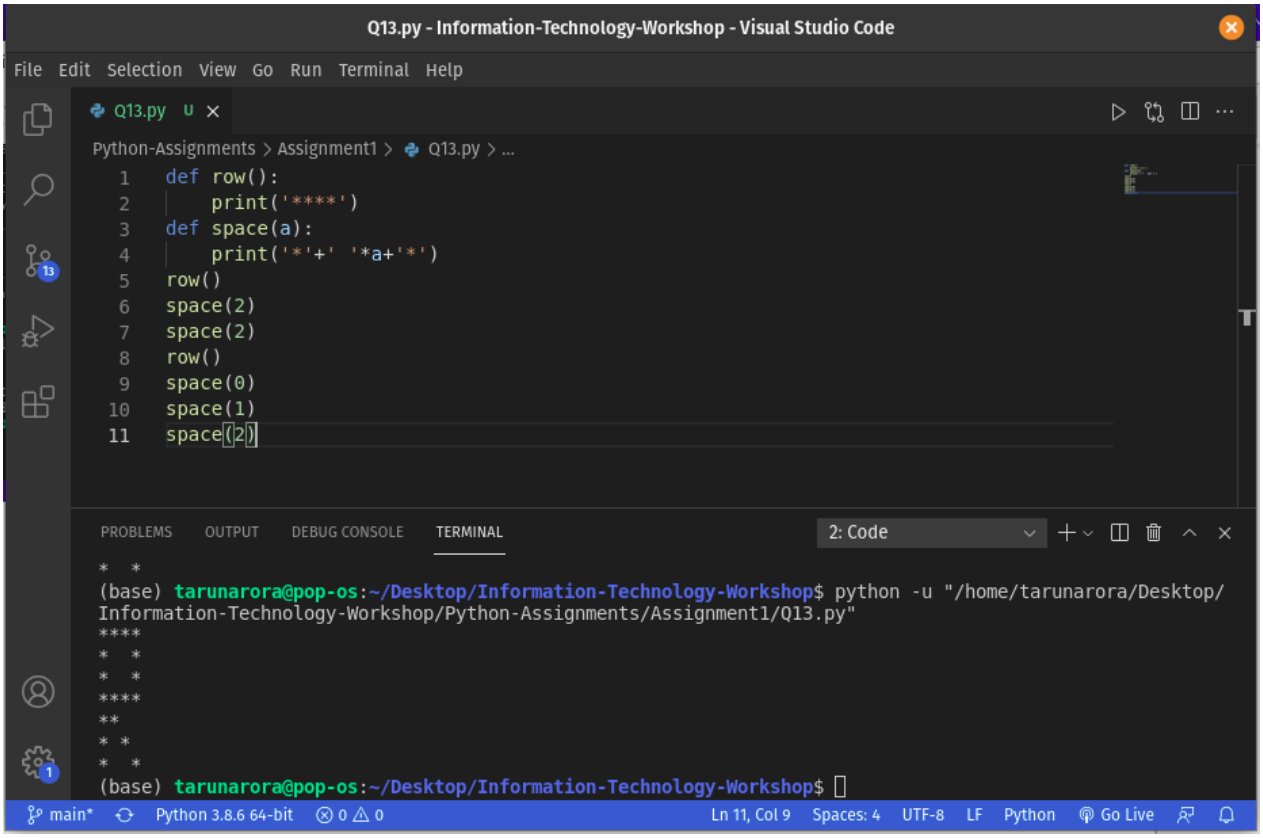
Solution: -



13. Write a Python program to print alphabet pattern 'R'.

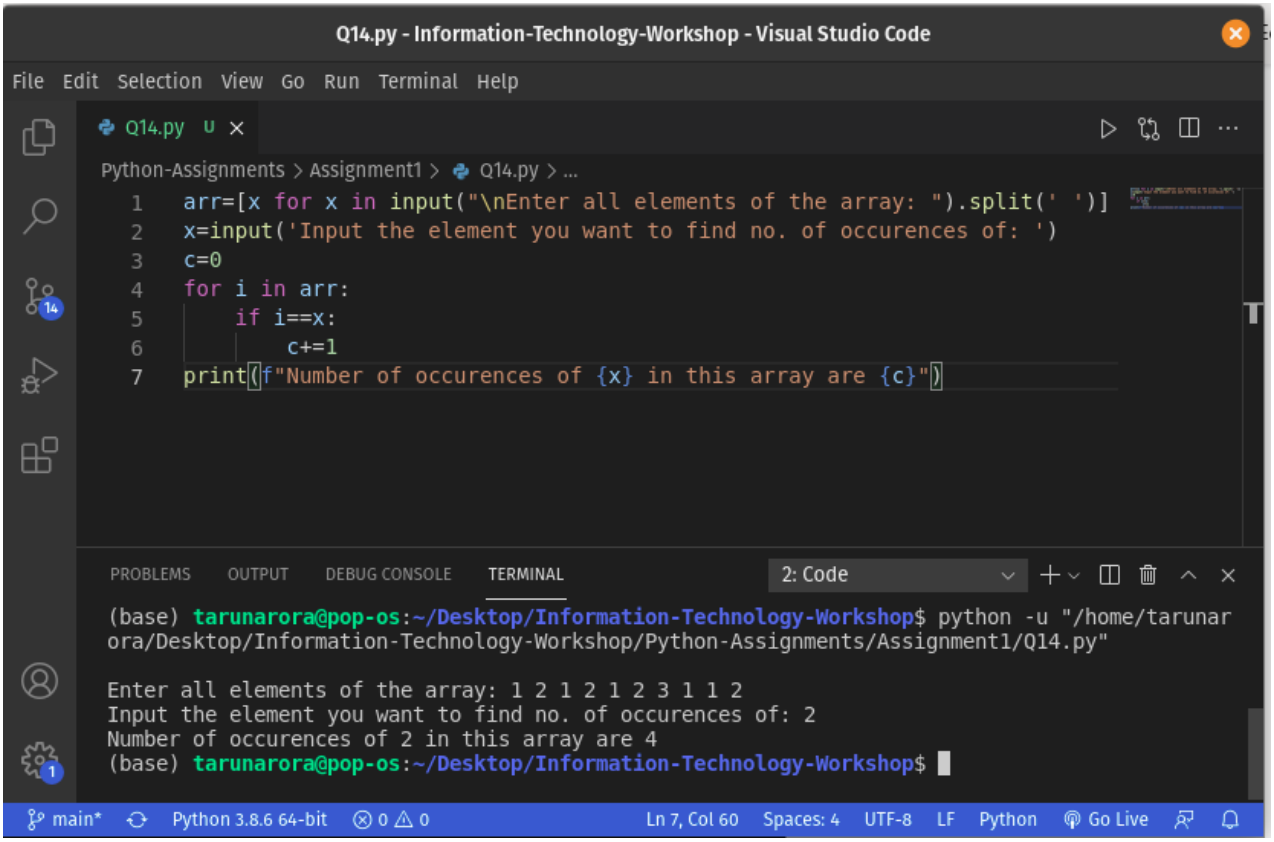
Expected Output:

```
****
*   *
*   *
****
**
* *
*   *
```



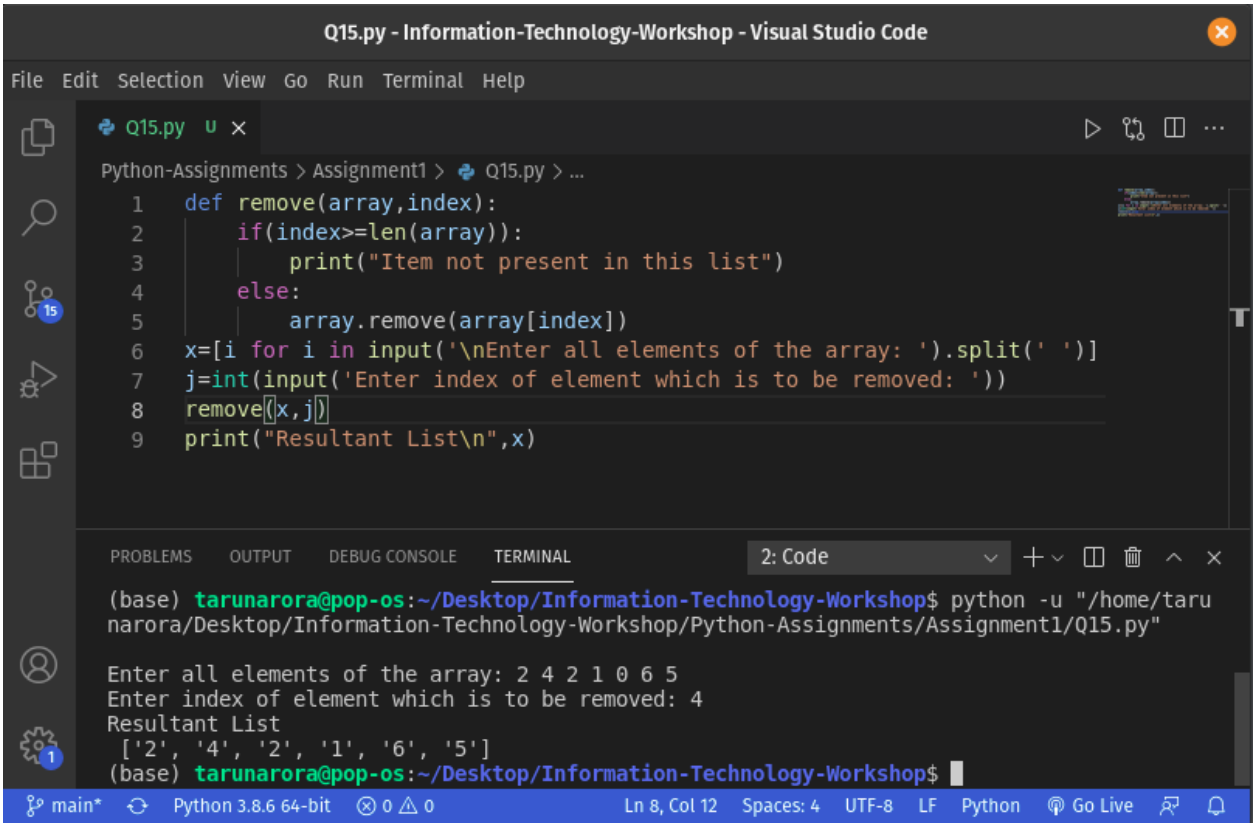
14. Write a Python program to get the number of occurrences of a specified element in an array

Solution: -



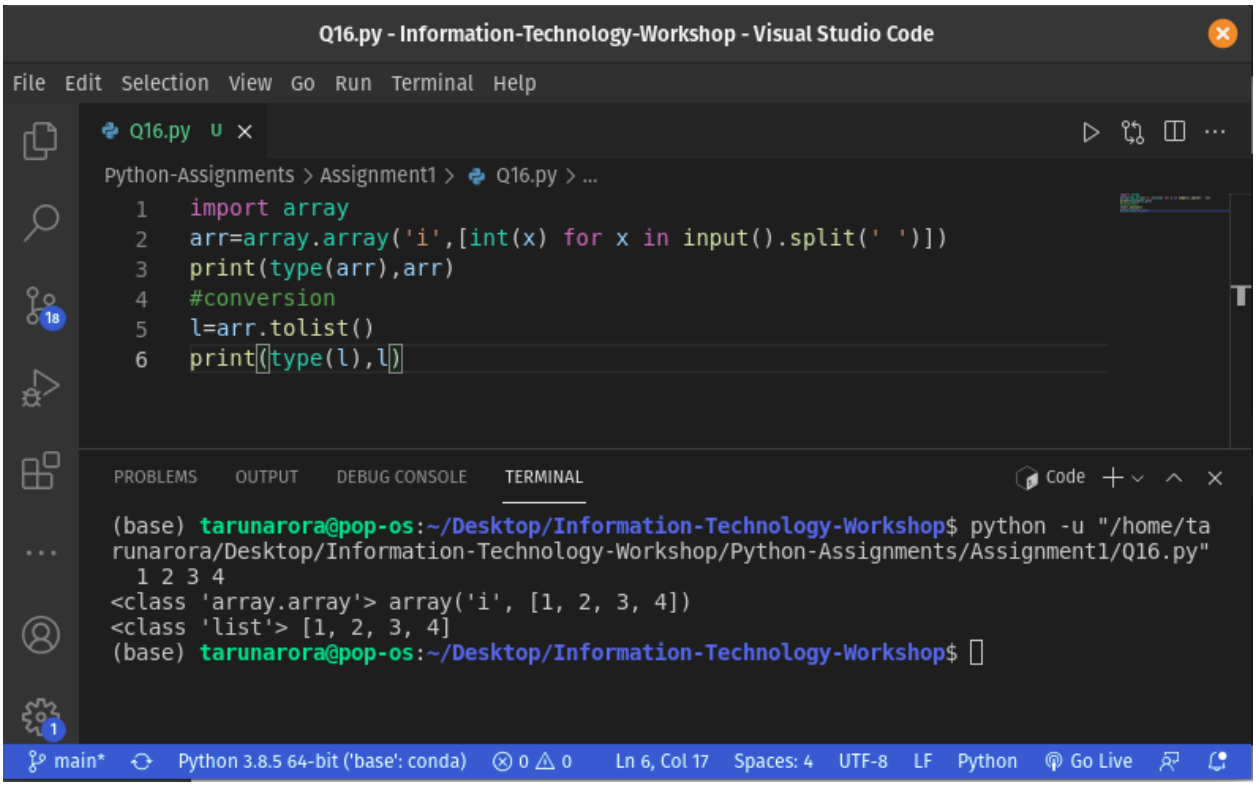
15. **Write a Python program to remove a specified item using the index from an array.**

Solution: -



16. **Write a Python program to convert an array to an ordinary list with the same items**

Solution: -

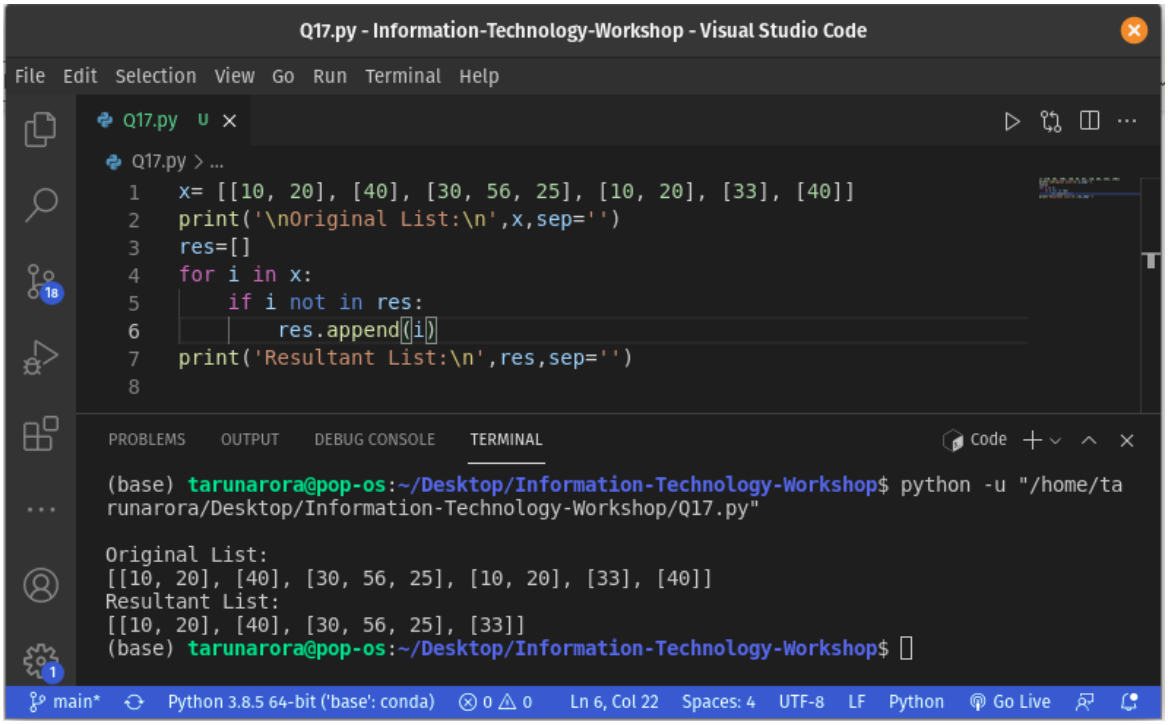


17. **Write a Python program to remove duplicates from a list of lists.**

Sample list : [[10, 20], [40], [30, 56, 25], [10, 20], [33], [40]]

New List : [[10, 20], [30, 56, 25], [33], [40]]

Solution: -

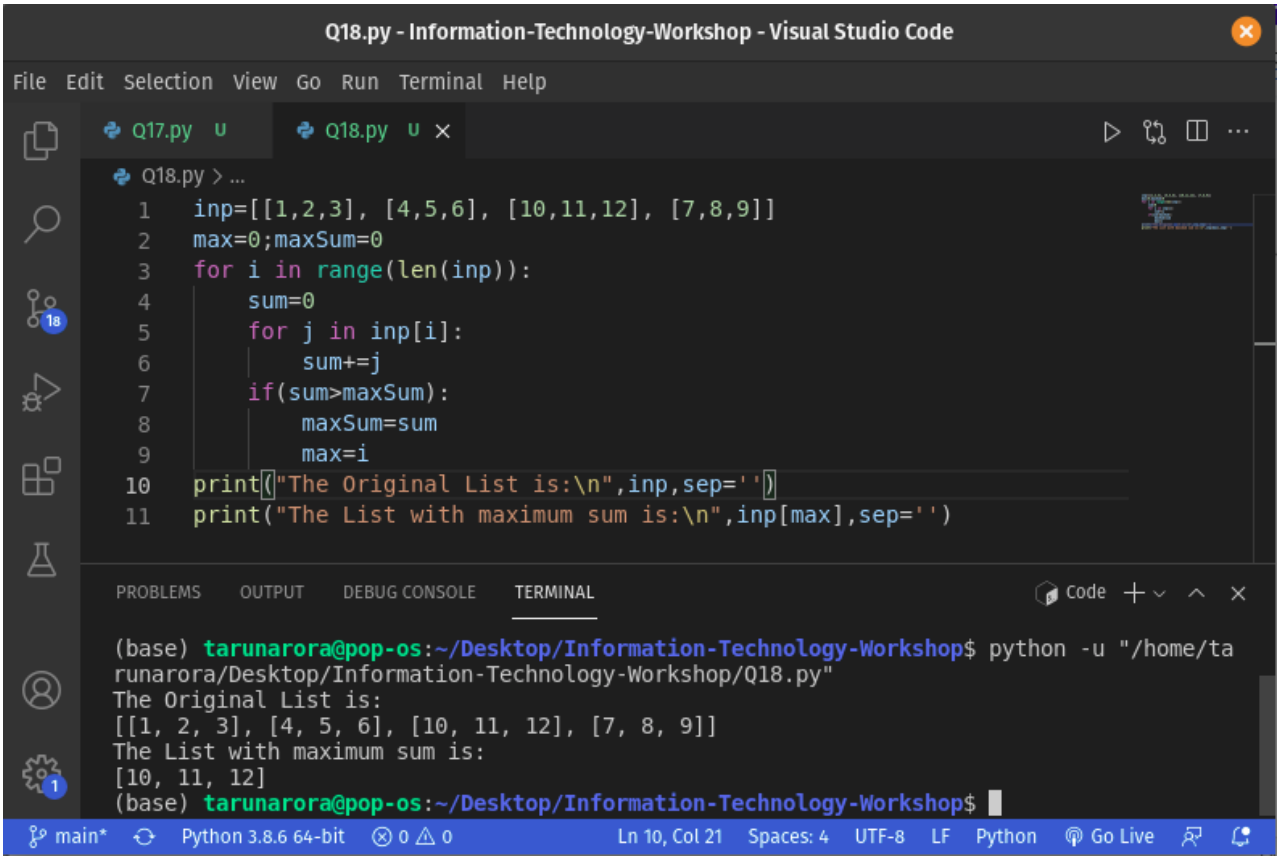


18. Write a Python program to find the list in a list of lists whose sum of elements is the highest.

Sample lists: [1,2,3], [4,5,6], [10,11,12], [7,8,9]

Expected Output: [10, 11, 12]

Solution: -

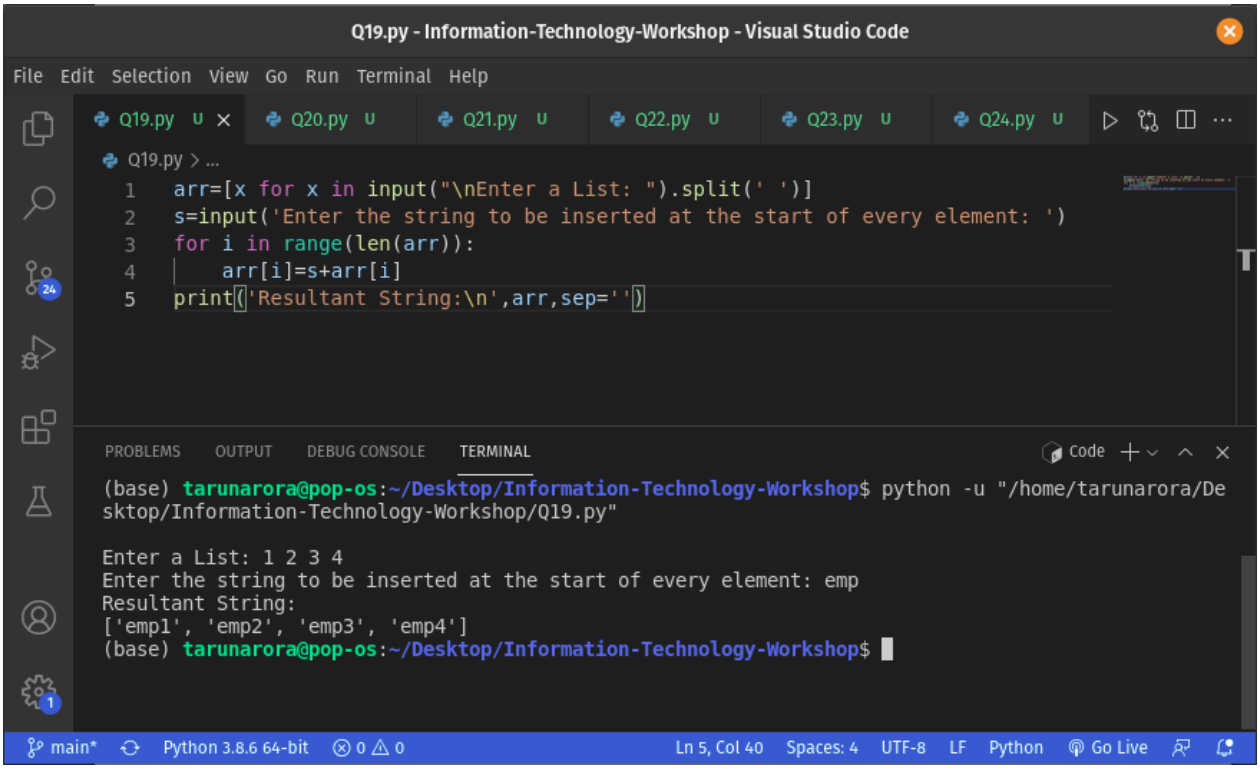


19. Write a Python program to insert a given string at the beginning of all items in a list.

Sample list : [1,2,3,4], string : emp

Expected output : ['emp1', 'emp2', 'emp3', 'emp4']

Solution: -



20. Write a Python program to compute the similarity between two lists.

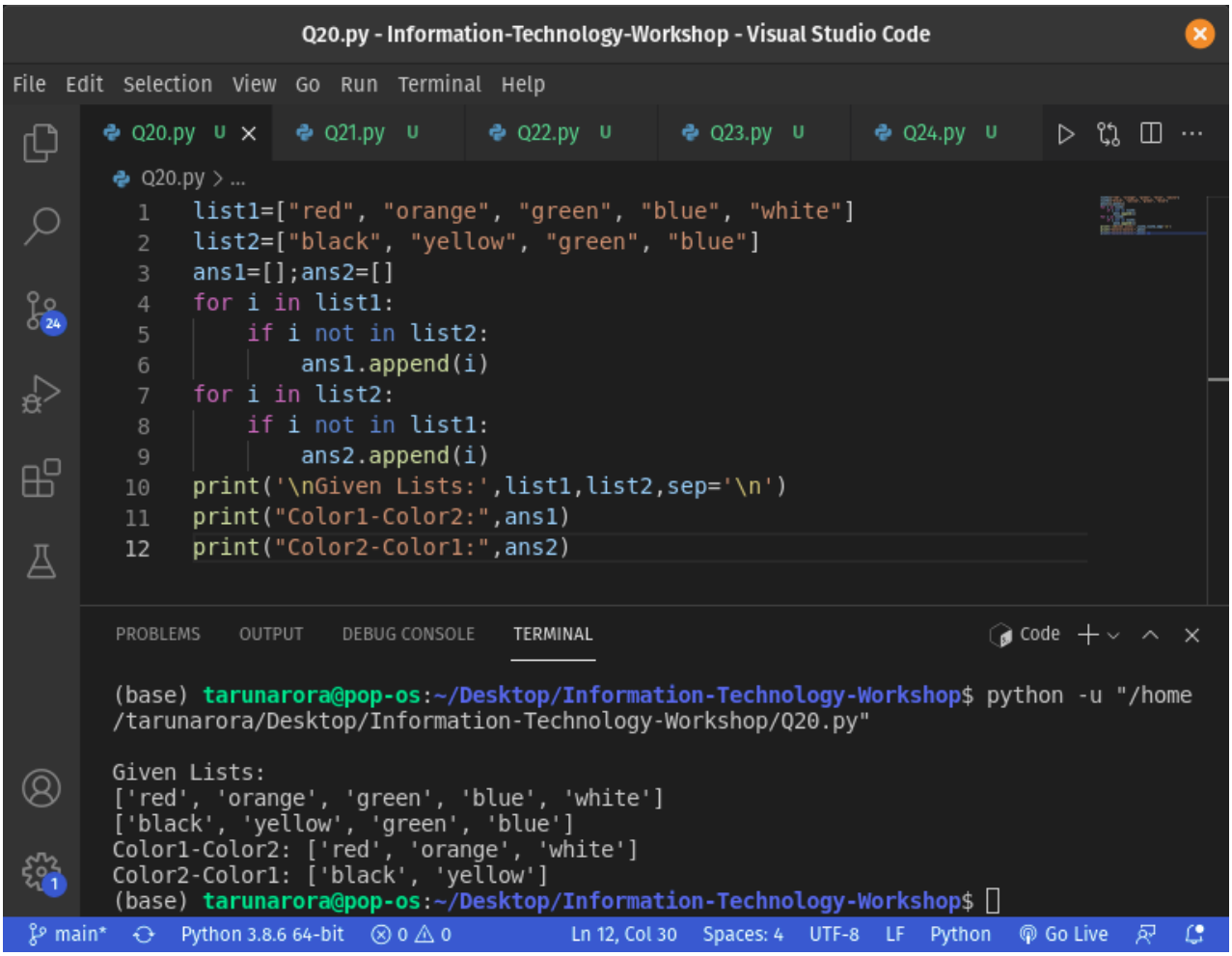
Sample data: ["red", "orange", "green", "blue", "white"], ["black", "yellow", "green", "blue"]

Expected Output:

Color1-Color2: ['white', 'orange', 'red']

Color2-Color1: ['black', 'yellow']

Solution: -

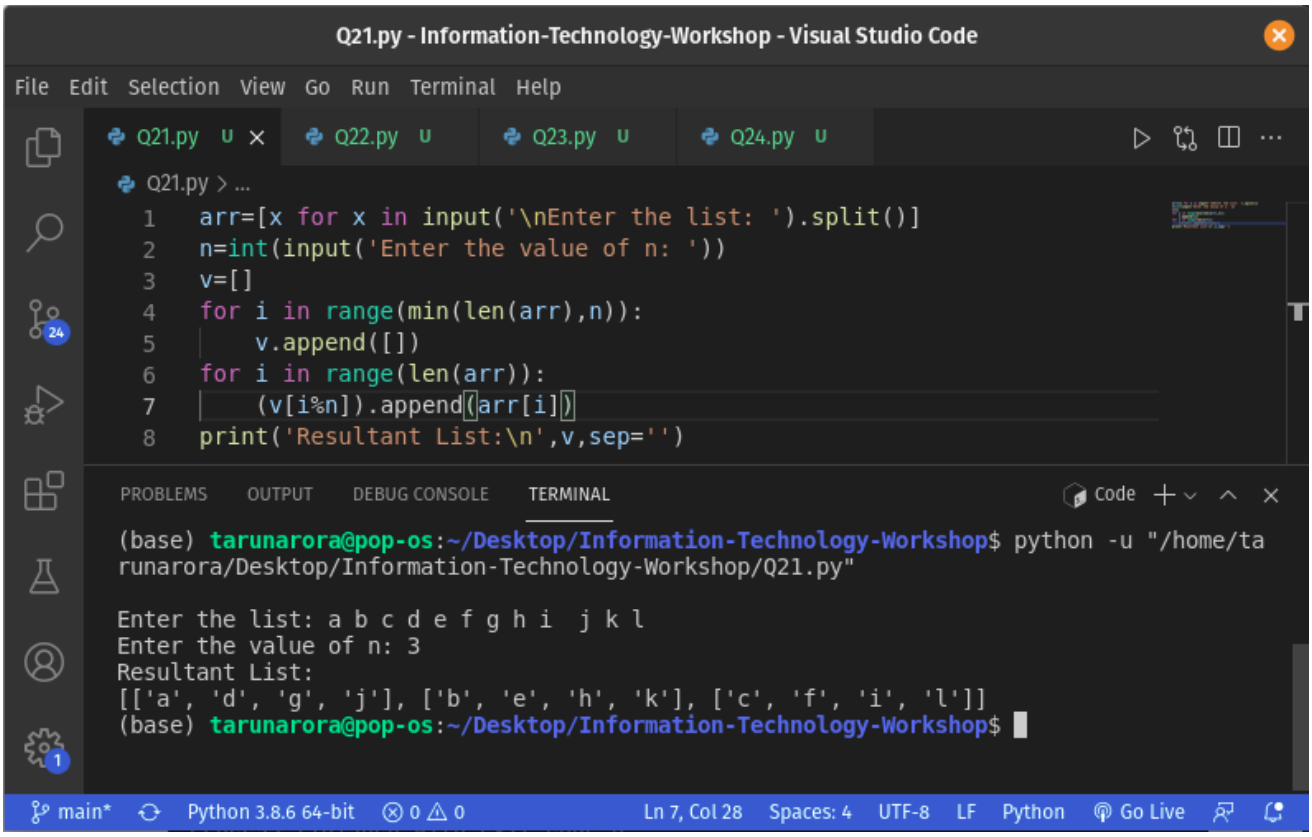


21. Write a Python program to split a list every Nth element.

Sample list: ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n']

Expected Output: [['a', 'd', 'g', 'j', 'm'], ['b', 'e', 'h', 'k', 'n'], ['c', 'f', 'i', 'l']]

Solution: -

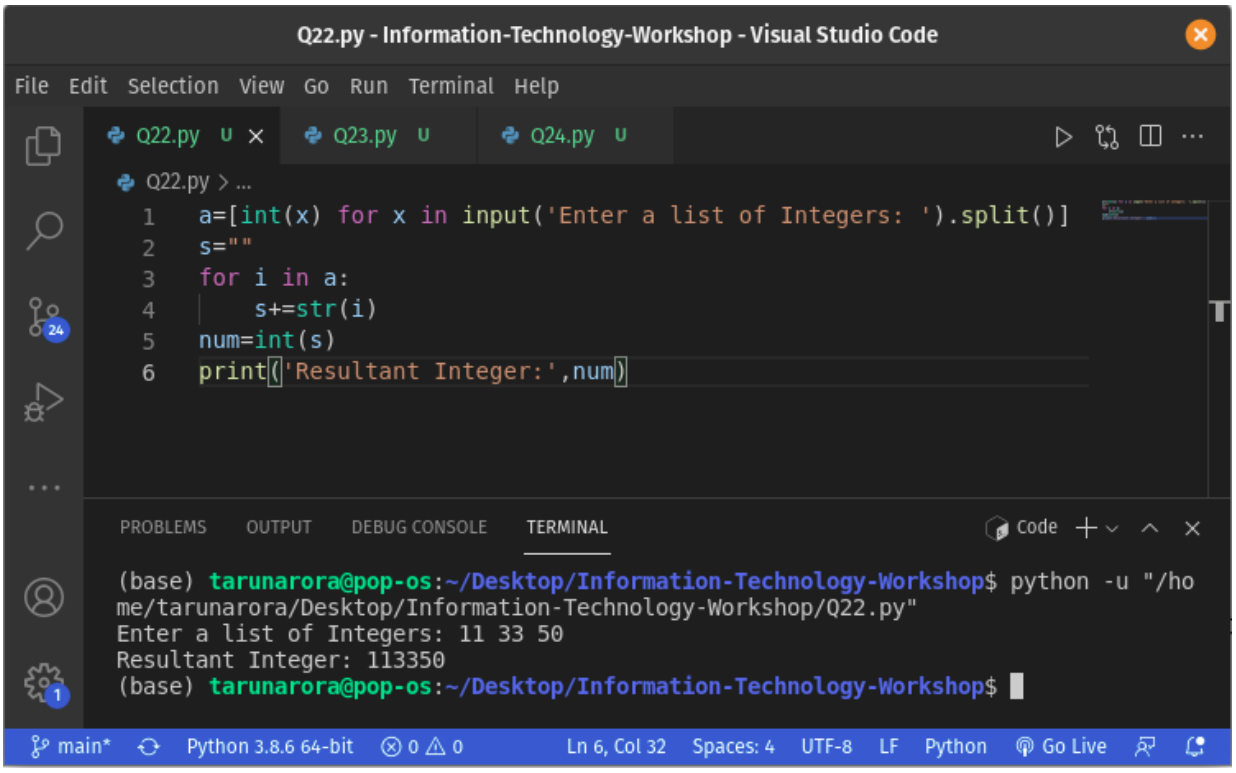


22. Write a Python program to convert a list of multiple integers into a single integer.

Sample list: [11, 33, 50]

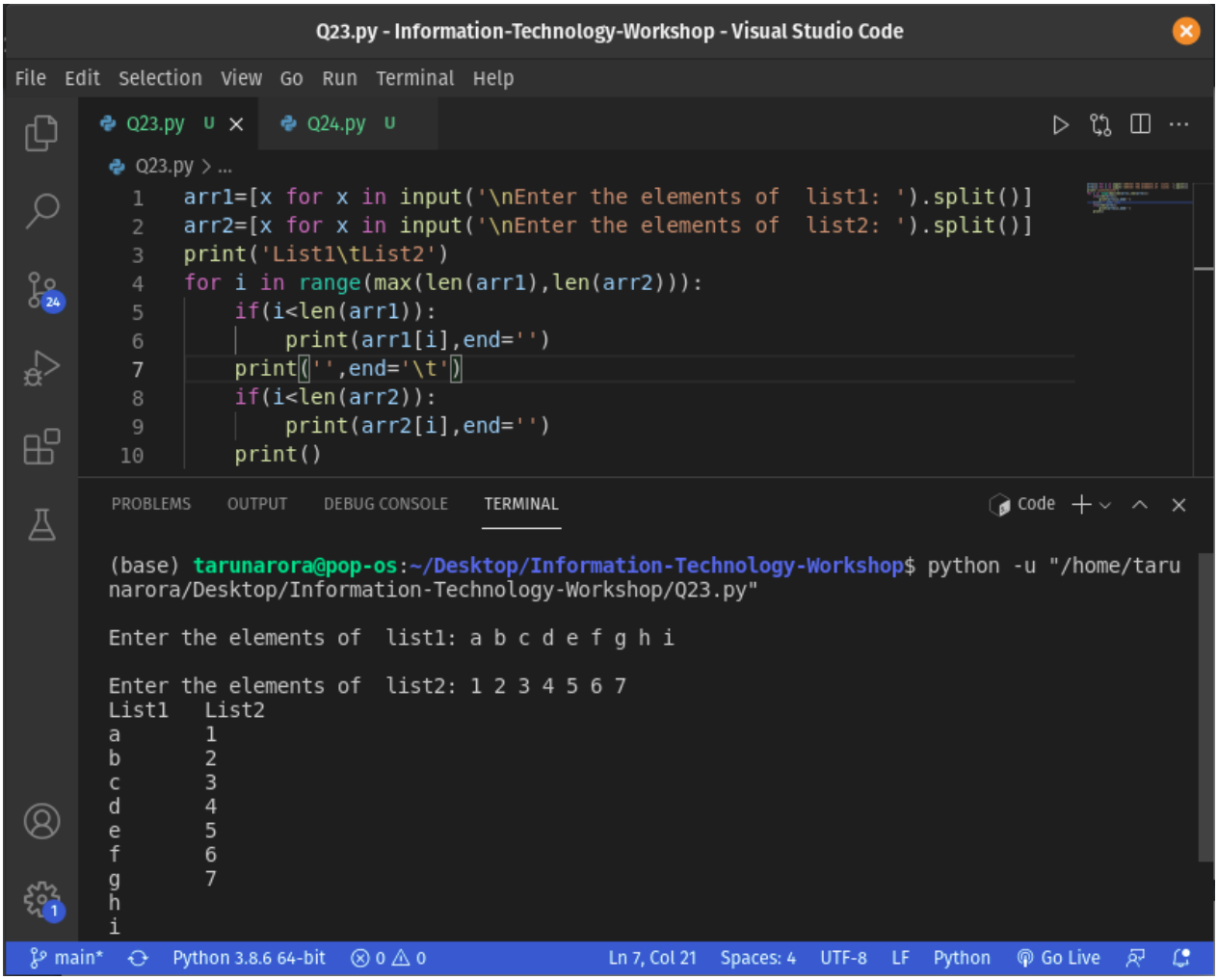
Expected Output: 113350

Solution: -



23. **Write a Python program to iterate over two lists simultaneously.**

Solution: -

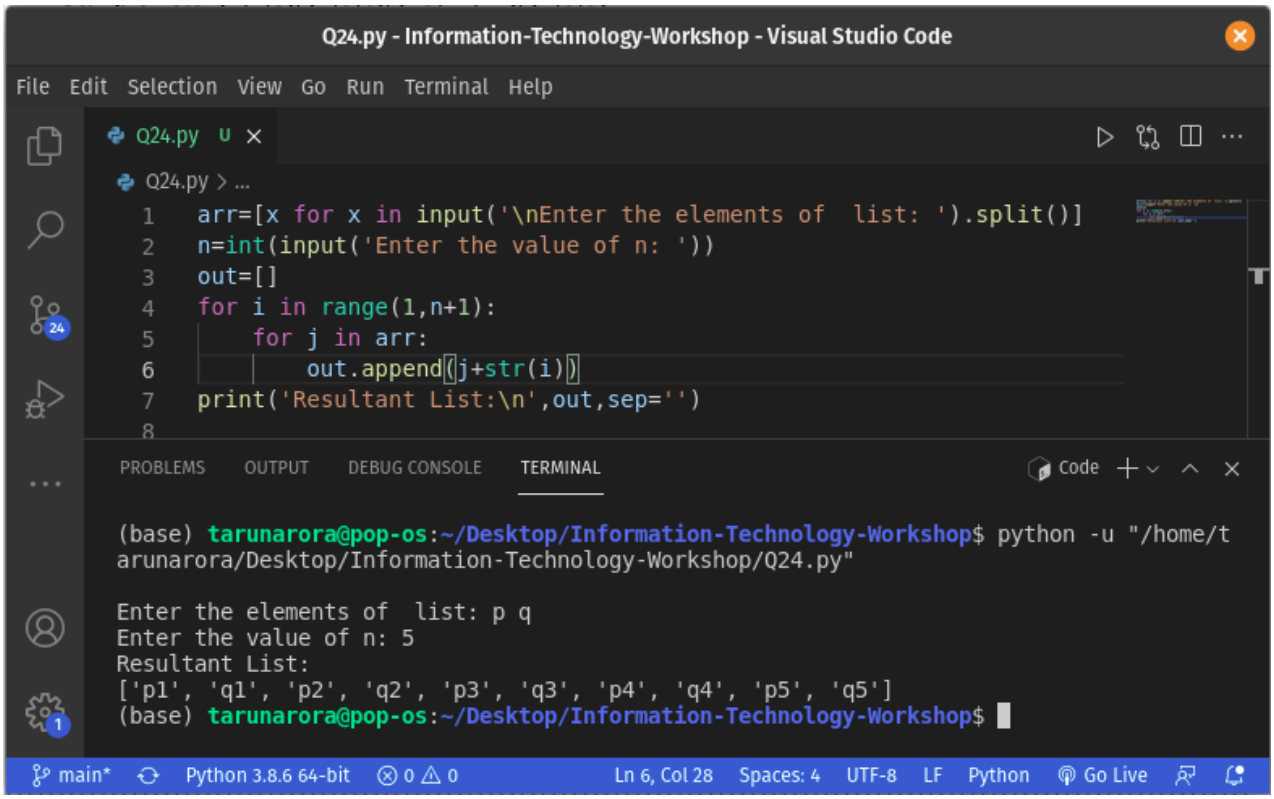


24. Write a Python program to create a list by concatenating a given list which range goes from 1 to n.

Sample list : ['p', 'q'] n =5

Sample Output : ['p1', 'q1', 'p2', 'q2', 'p3', 'q3', 'p4', 'q4', 'p5', 'q5']

Solution: -



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