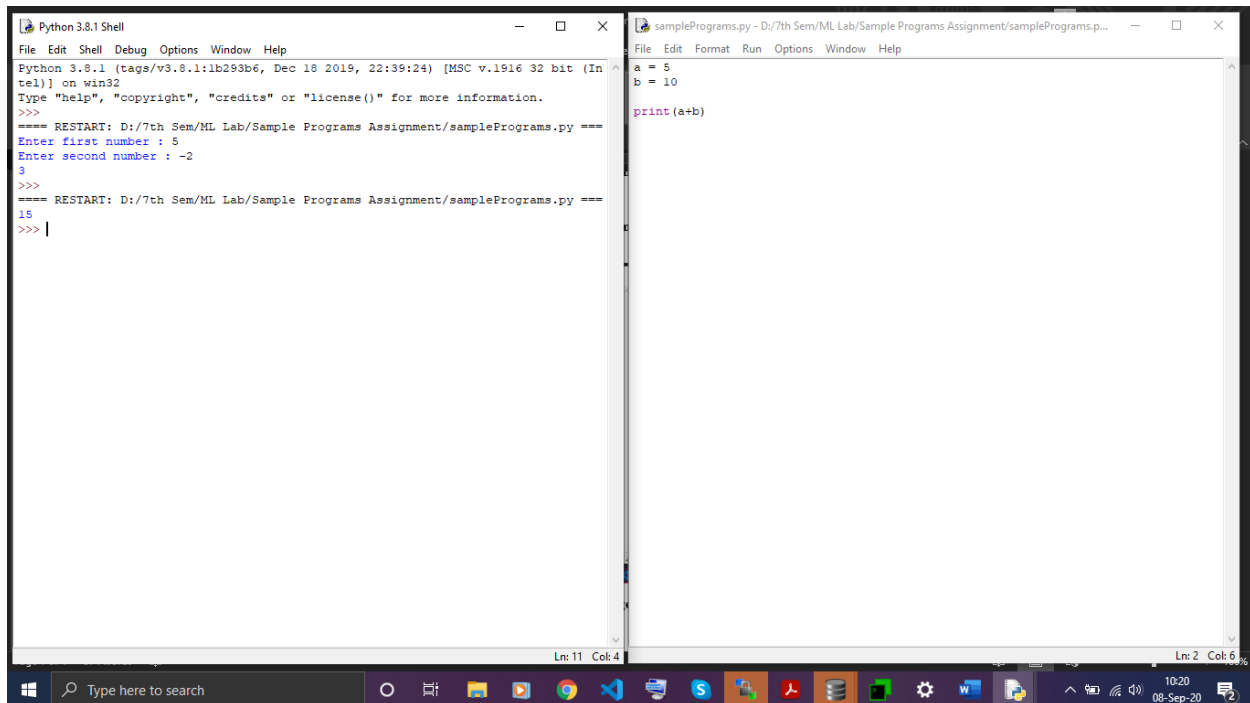


# PYTHON SAMPLE PROGRAMS

By Harsh R Jain - 1BG17CS031

## 1. Write a Python Program to Add Two Numbers.



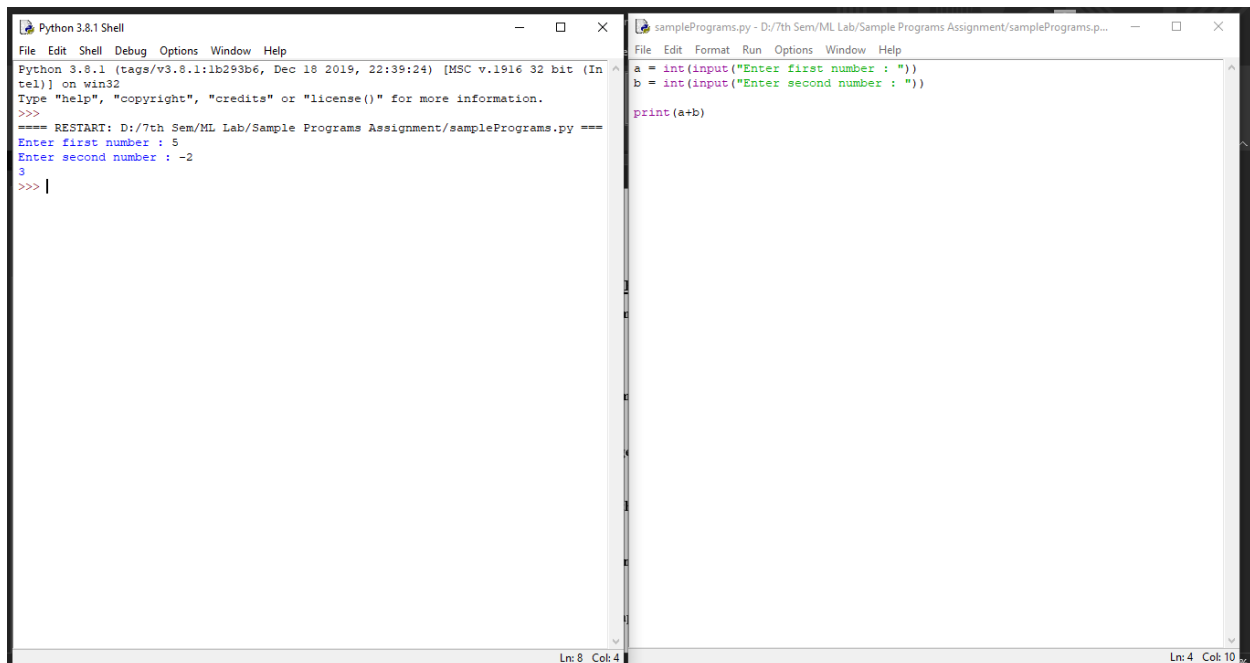
The screenshot shows two windows. The left window is a Python 3.8.1 Shell with the following content:

```
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Enter first number : 5
Enter second number : -2
3
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
15
>>> |
```

The right window is a text editor showing the source code for samplePrograms.py:

```
a = 5
b = 10
print(a+b)
```

## 2. Write a Python Program to Add Two Numbers Provided by The User.



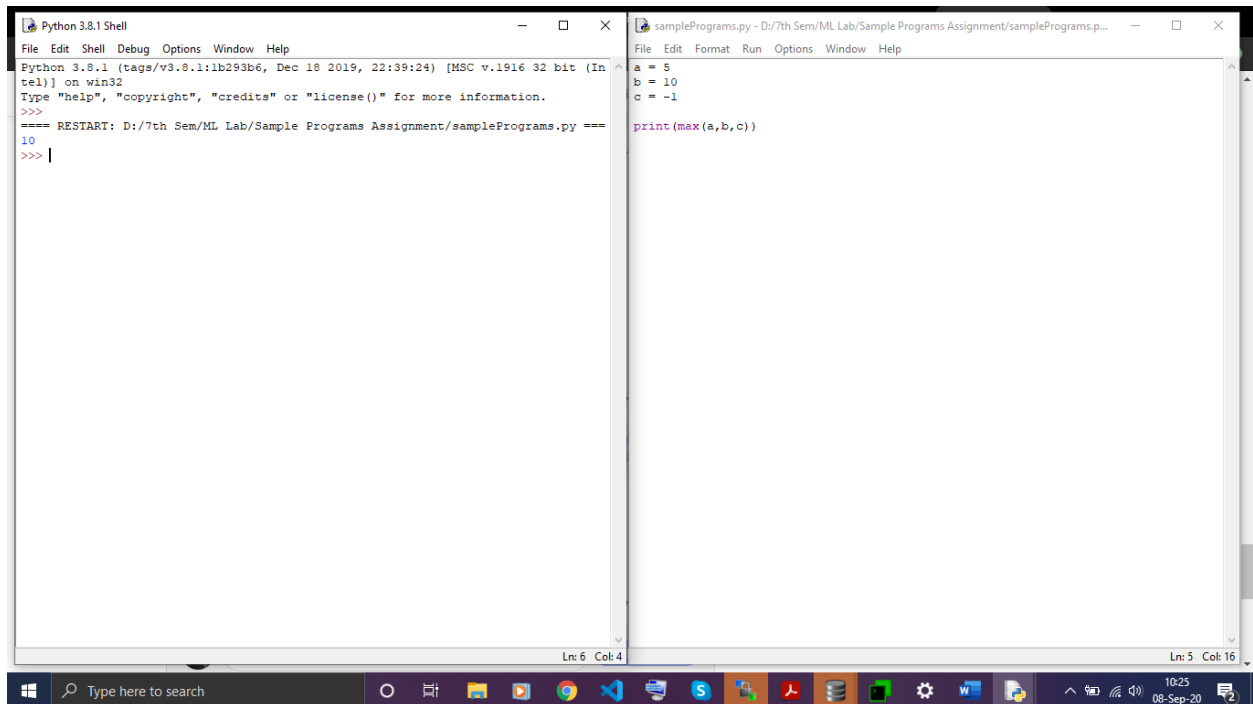
The screenshot shows two windows. The left window is a Python 3.8.1 Shell with the following content:

```
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Enter first number : 5
Enter second number : -2
3
>>> |
```

The right window is a text editor showing the source code for samplePrograms.py:

```
a = int(input("Enter first number : "))
b = int(input("Enter second number : "))
print(a+b)
```

### 3. Write a Python Program to Find the Largest Among Three Number.



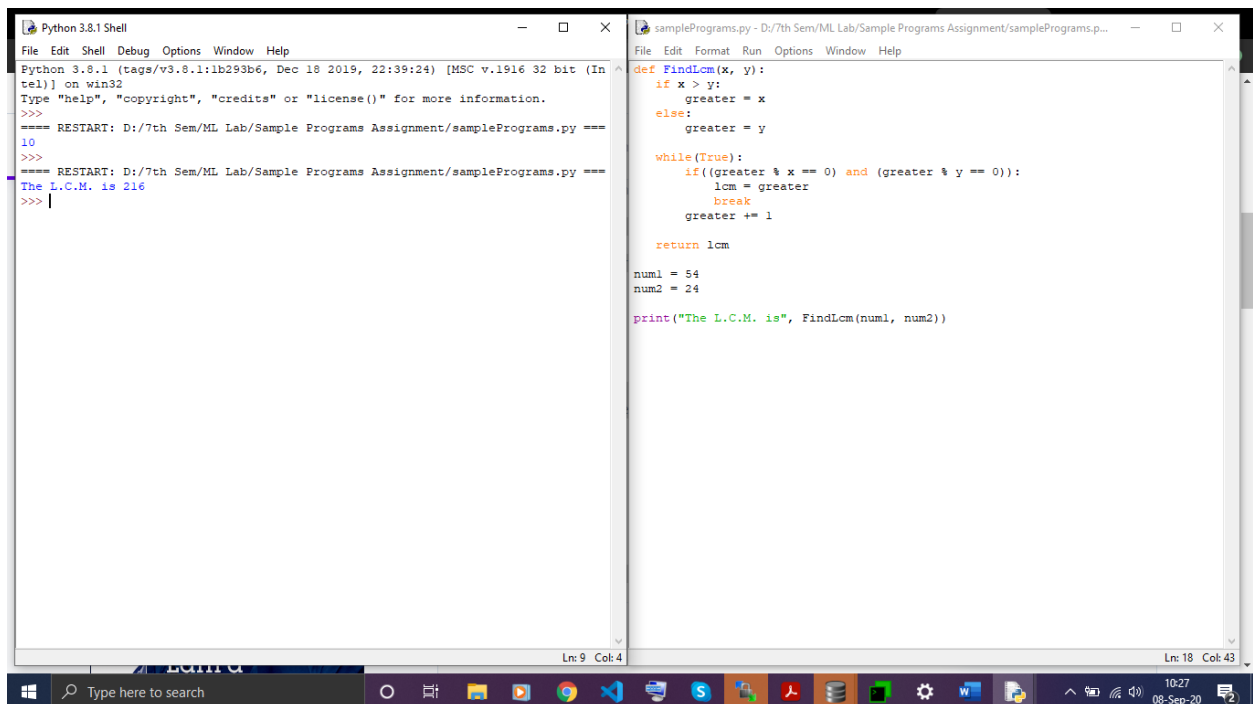
The screenshot shows a Python 3.8.1 Shell window on the left and a samplePrograms.py file on the right. The shell window displays the command prompt and the execution of the program. The samplePrograms.py file contains the following code:

```
File Edit Shell Debug Options Window Help
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
10
>>> |
```

```
File Edit Format Run Options Window Help
a = 5
b = 10
c = -1
print(max(a,b,c))
```

The task bar at the bottom shows the Windows search bar and various application icons. The system clock indicates 10:25 on 08-Sep-20.

### 4. Write a Python Program to find LCM without using GCD function.



The screenshot shows a Python 3.8.1 Shell window on the left and a samplePrograms.py file on the right. The shell window displays the command prompt and the execution of the program. The samplePrograms.py file contains the following code:

```
File Edit Shell Debug Options Window Help
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
10
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
The L.C.M. is 216
>>> |
```

```
File Edit Format Run Options Window Help
def FindLcm(x, y):
    if x > y:
        greater = x
    else:
        greater = y

    while(True):
        if((greater % x == 0) and (greater % y == 0)):
            lcm = greater
            break
        greater += 1

    return lcm

num1 = 54
num2 = 24

print("The L.C.M. is", FindLcm(num1, num2))
```

The task bar at the bottom shows the Windows search bar and various application icons. The system clock indicates 10:27 on 08-Sep-20.

### 5. Write a Python Program to find LCM using GCD function.

```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
>>>
The L.C.M. is 216
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
>>>
The L.C.M. is 216
>>>

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
def FindGod(x, y):
    while(y):
        x, y = y, x % y
    return x

# This function computes LCM
def FindLcm(x, y):
    lcm = (x*y)//FindGod(x,y)
    return lcm

num1 = 54
num2 = 24

print("The L.C.M. is", FindLcm(num1, num2))
```

## 6. Write a Python Program to simulate a Simple Calculator by making Functions

```
'Python 3.8.1 Shell'
File Edit Shell Debug Options Window Help
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
The L.C.M. is 216
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
The L.C.M. is 216
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
Select operation.
1.Add
2.Subtract
3.Multiply
4.Divide
5. Exit
Enter choice(1/2/3/4): 1
Enter first number: 2
Enter second number: 3
2.0 + 3.0 = 5.0
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
Select operation.
1.Add
2.Subtract
3.Multiply
4.Divide
5. Exit
Enter choice(1/2/3/4): 2
Enter first number: 5
Enter second number: -3
5.0 - -3.0 = 8.0
Enter choice(1/2/3/4): 3
Enter first number: 9
Enter second number: 43
9.0 * 43.0 = 387.0
Enter choice(1/2/3/4): 4
Enter first number: 3
Enter second number: 3
10.0 / 3.0 = 3.3333333333333335
Enter choice(1/2/3/4): 5
Enter choice(1/2/3/4):

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
# This function multiplies two numbers
def multiply(x, y):
    return x * y

# This function divides two numbers
def divide(x, y):
    return x / y

print("Select operation.")
print("1.Add")
print("2.Subtract")
print("3.Multiply")
print("4.Divide")
print("5. Exit")

while True:
    # Take input from the user
    choice = input("Enter choice(1/2/3/4): ")

    # Check if choice is one of the four options
    if choice in ('1', '2', '3', '4'):
        num1 = float(input("Enter first number: "))
        num2 = float(input("Enter second number: "))

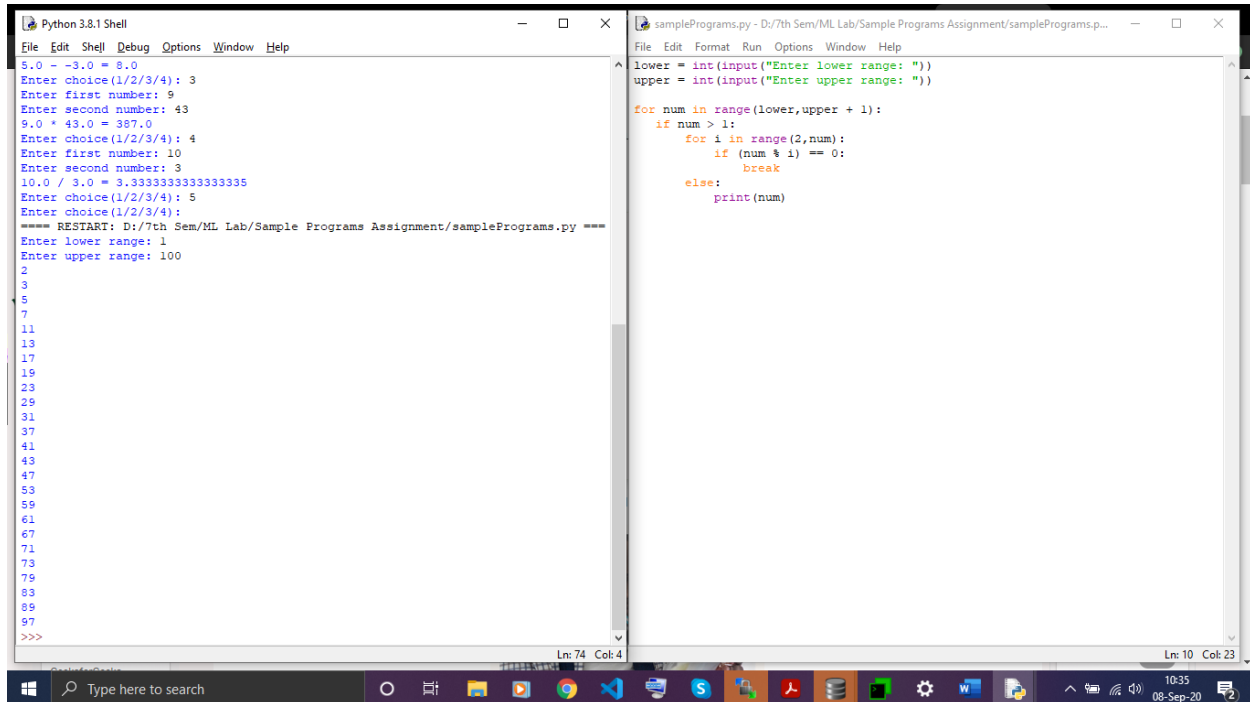
        if choice == '1':
            print(num1, "+", num2, "=", add(num1, num2))

        elif choice == '2':
            print(num1, "-", num2, "=", subtract(num1, num2))

        elif choice == '3':
            print(num1, "*", num2, "=", multiply(num1, num2))

        elif choice == '4':
            print(num1, "/", num2, "=", divide(num1, num2))
    elif choice == 5:
        break
```

## 7. Write a Python Program to Print all Prime Numbers in an Interval.



The screenshot shows a Python 3.8.1 Shell window on the left and a samplePrograms.py file on the right. The shell window displays the execution of a program that prints prime numbers in the interval [1, 100]. The program prompts the user to enter a lower range (1) and an upper range (100), then prints all prime numbers in that interval: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97.

```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
5.0 - 3.0 = 8.0
Enter choice(1/2/3/4): 3
Enter first number: 9
Enter second number: 43
9.0 * 43.0 = 387.0
Enter choice(1/2/3/4): 4
Enter first number: 10
Enter second number: 3
10.0 / 3.0 = 3.3333333333333335
Enter choice(1/2/3/4): 5
Enter choice(1/2/3/4):
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Enter lower range: 1
Enter upper range: 100
2
3
5
7
11
13
17
19
23
29
31
37
41
43
47
53
59
61
67
71
73
79
83
89
97
>>>

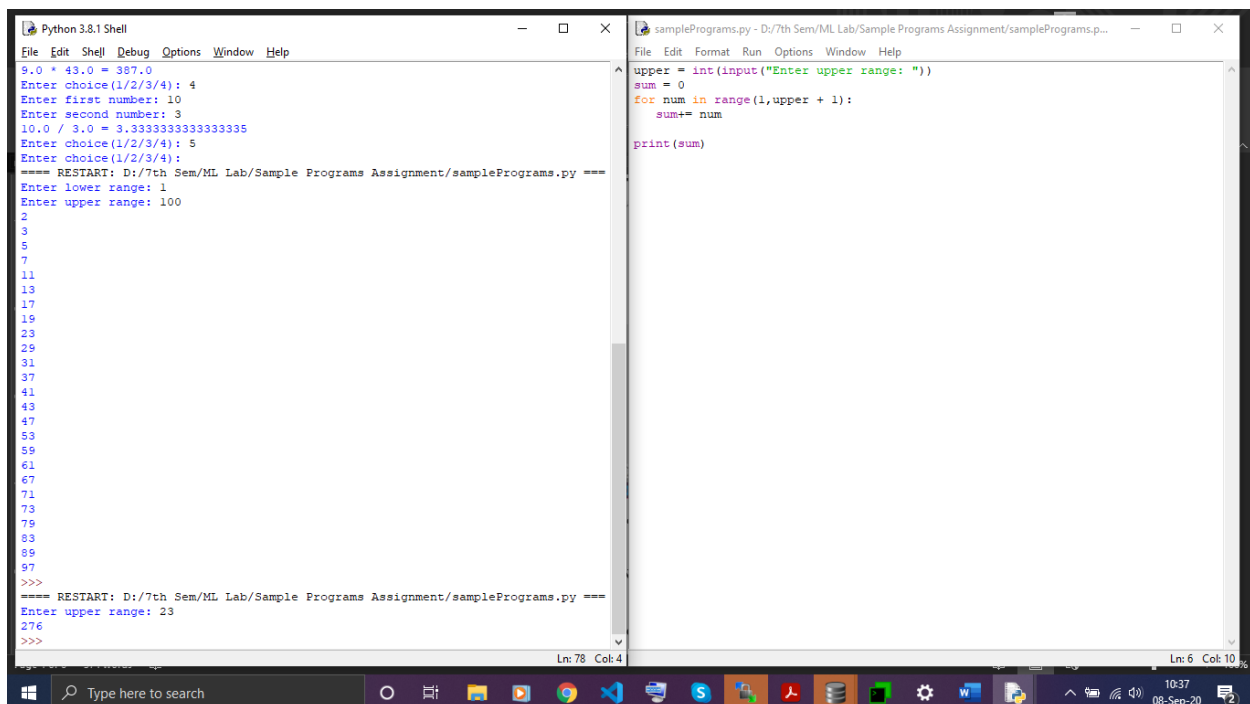
Ln: 74 Col: 4
```

```
samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
lower = int(input("Enter lower range: "))
upper = int(input("Enter upper range: "))

for num in range(lower, upper + 1):
    if num > 1:
        for i in range(2, num):
            if (num % i) == 0:
                break
            else:
                print(num)
```

Ln: 10 Col: 23

## 8. Write a Python Program to Find the Sum of Natural Numbers.



The screenshot shows a Python 3.8.1 Shell window on the left and a samplePrograms.py file on the right. The shell window displays the execution of a program that calculates the sum of natural numbers in the interval [1, 100]. The program prompts the user to enter a lower range (1) and an upper range (100), then prints the sum of all natural numbers in that interval: 276.

```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
9.0 * 43.0 = 387.0
Enter choice(1/2/3/4): 4
Enter first number: 10
Enter second number: 3
10.0 / 3.0 = 3.3333333333333335
Enter choice(1/2/3/4): 5
Enter choice(1/2/3/4):
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Enter lower range: 1
Enter upper range: 100
2
3
5
7
11
13
17
19
23
29
31
37
41
43
47
53
59
61
67
71
73
79
83
89
97
>>>

==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Enter upper range: 23
276
>>>

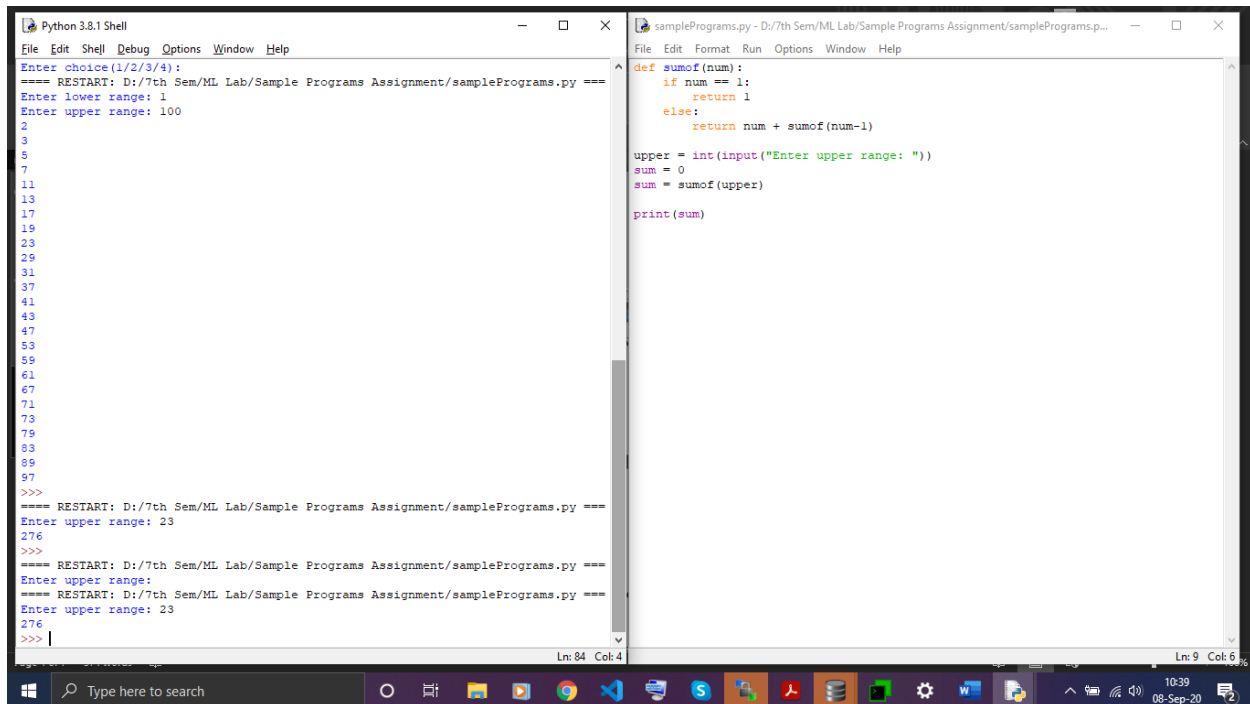
Ln: 78 Col: 4
```

```
samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
upper = int(input("Enter upper range: "))
sum = 0
for num in range(1, upper + 1):
    sum += num

print(sum)
```

Ln: 6 Col: 10

## 9. Python Program to Find Sum of Natural Numbers Using Recursion.



The screenshot shows a Python IDE with two windows. The left window is a Python 3.8.1 Shell, and the right window is a text editor showing the source code for 'samplePrograms.py'.

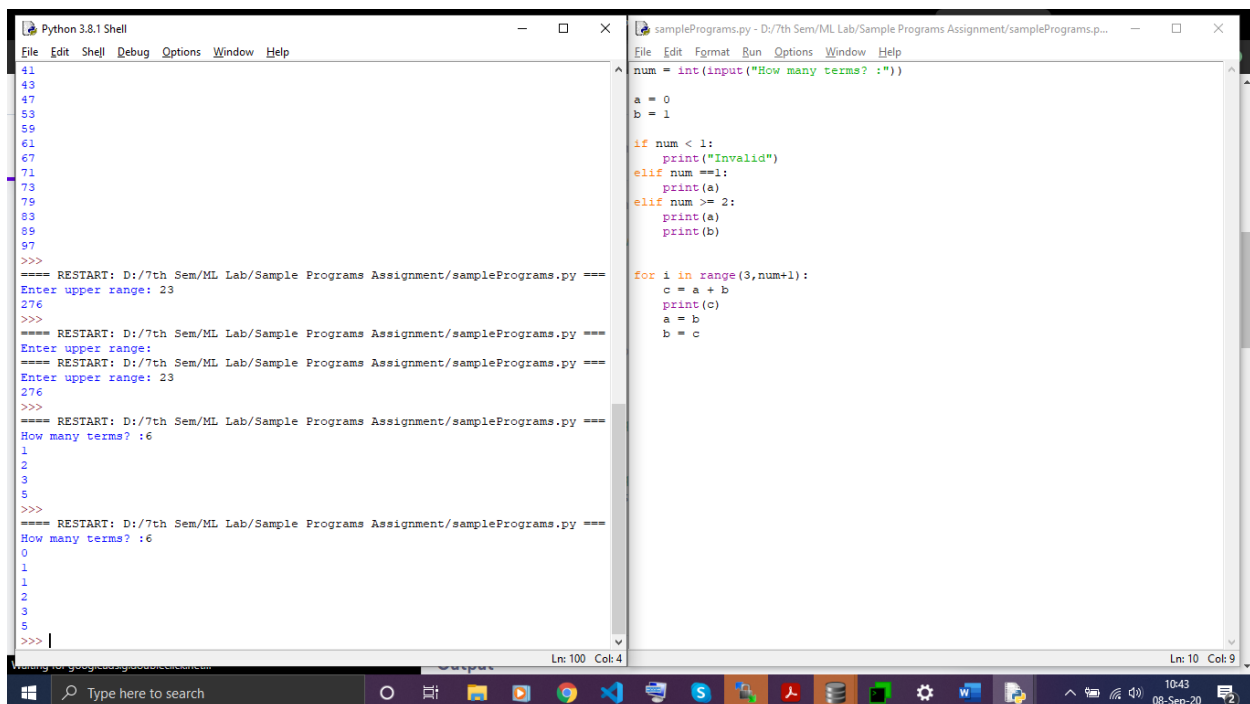
**Python 3.8.1 Shell (Left Window):**

```
Enter choice(1/2/3/4):  
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===  
Enter lower range: 1  
Enter upper range: 100  
2  
3  
5  
7  
11  
13  
17  
19  
23  
29  
31  
37  
41  
43  
47  
53  
59  
61  
67  
71  
73  
79  
83  
89  
97  
>>>  
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===  
Enter upper range: 23  
276  
>>>  
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===  
Enter upper range:  
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===  
Enter upper range: 23  
276  
>>> |
```

**samplePrograms.py (Right Window):**

```
def sumof(num):  
    if num == 1:  
        return 1  
    else:  
        return num + sumof(num-1)  
  
upper = int(input("Enter upper range: "))  
sum = 0  
sum = sumof(upper)  
  
print(sum)
```

## 10. Write a Python Program to Print the Fibonacci sequence.



The screenshot shows a Python IDE with two windows. The left window is a Python 3.8.1 Shell, and the right window is a text editor showing the source code for 'samplePrograms.py'.

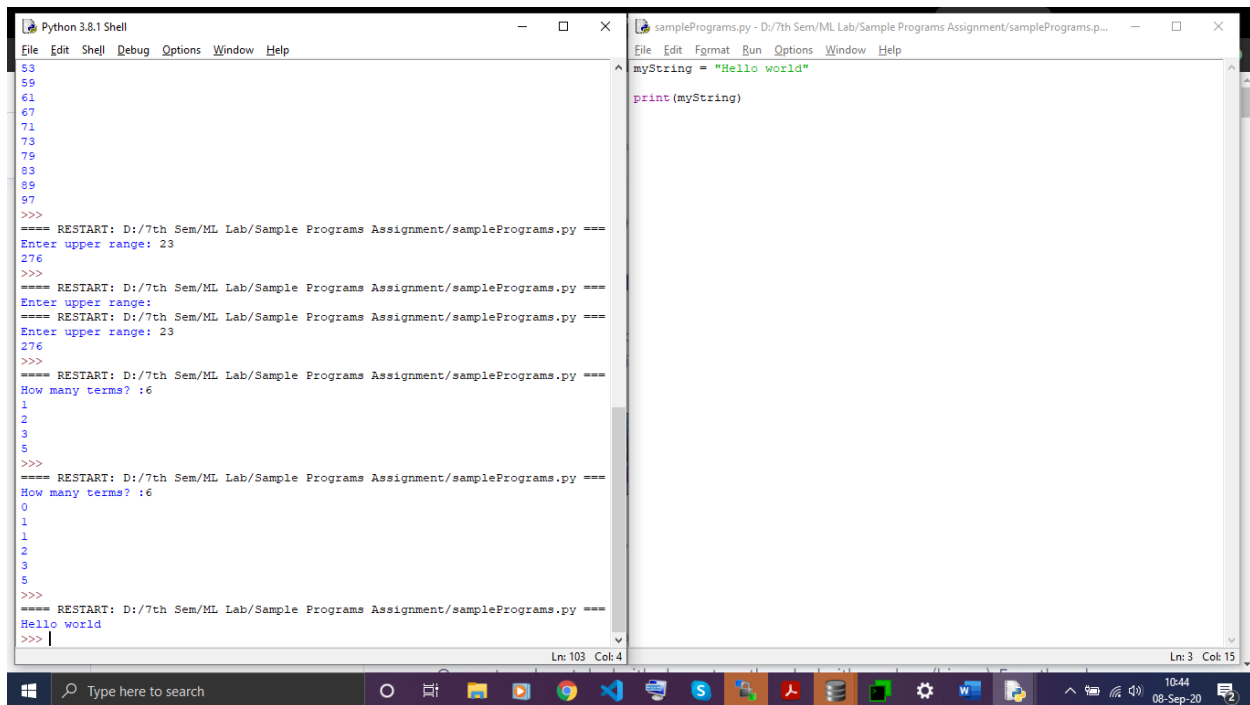
**Python 3.8.1 Shell (Left Window):**

```
41  
43  
47  
53  
59  
61  
67  
71  
73  
79  
83  
89  
97  
>>>  
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===  
Enter upper range: 23  
276  
>>>  
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===  
Enter upper range:  
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===  
Enter upper range: 23  
276  
>>>  
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===  
How many terms? :6  
1  
2  
3  
5  
>>>  
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===  
How many terms? :6  
0  
1  
1  
2  
3  
5  
>>> |
```

**samplePrograms.py (Right Window):**

```
num = int(input("How many terms? :"))  
  
a = 0  
b = 1  
  
if num < 1:  
    print("Invalid")  
elif num == 1:  
    print(a)  
elif num >= 2:  
    print(a)  
    print(b)  
  
for i in range(3,num+1):  
    c = a + b  
    print(c)  
    a = b  
    b = c
```

## 11. Write a Python Program to create a string in Python.



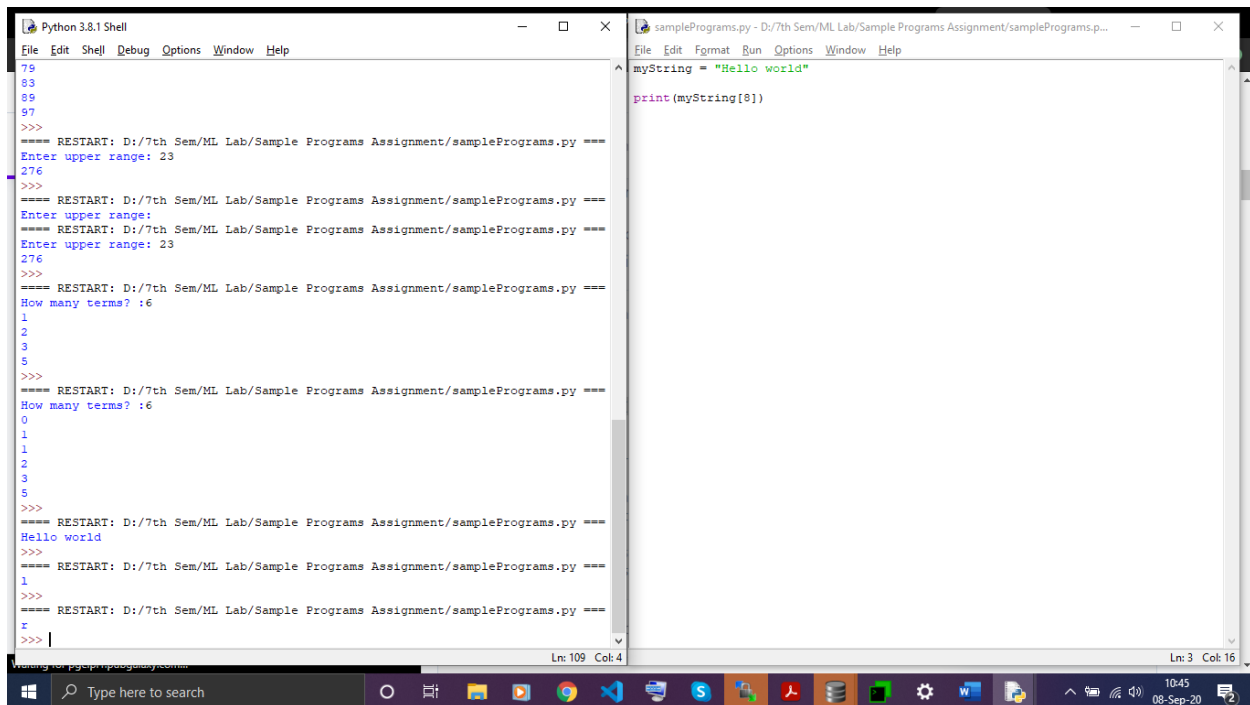
```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
53
59
61
67
71
73
79
83
89
97
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Enter upper range: 23
276
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Enter upper range:
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Enter upper range: 23
276
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
How many terms? :6
1
2
3
5
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
How many terms? :6
0
1
1
2
3
5
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Hello world
>>>

Ln: 103 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
myString = "Hello world"
print(myString)

Ln: 3 Col: 15
```

## 12. Write a Python program to access characters in a String.



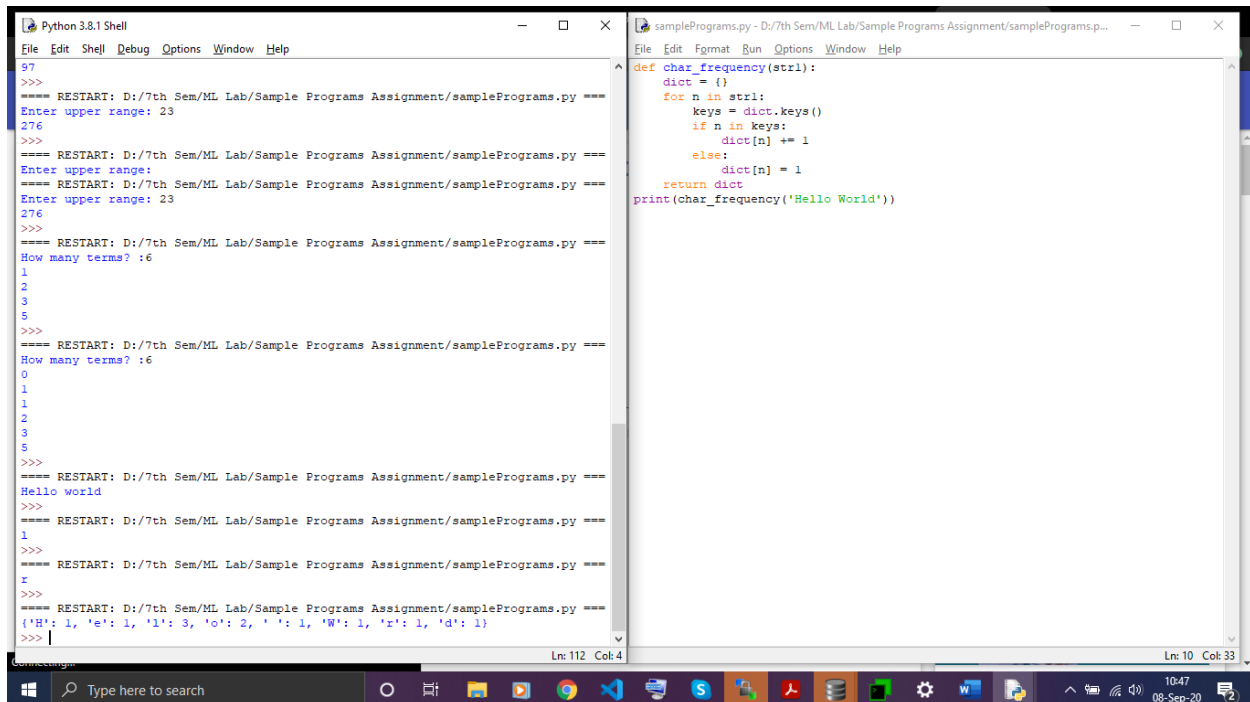
```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
79
83
89
97
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Enter upper range: 23
276
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Enter upper range:
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Enter upper range: 23
276
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
How many terms? :6
1
2
3
5
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
How many terms? :6
0
1
1
2
3
5
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Hello world
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
1
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
#
>>>

Ln: 109 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
myString = "Hello world"
print(myString[0])

Ln: 3 Col: 16
```

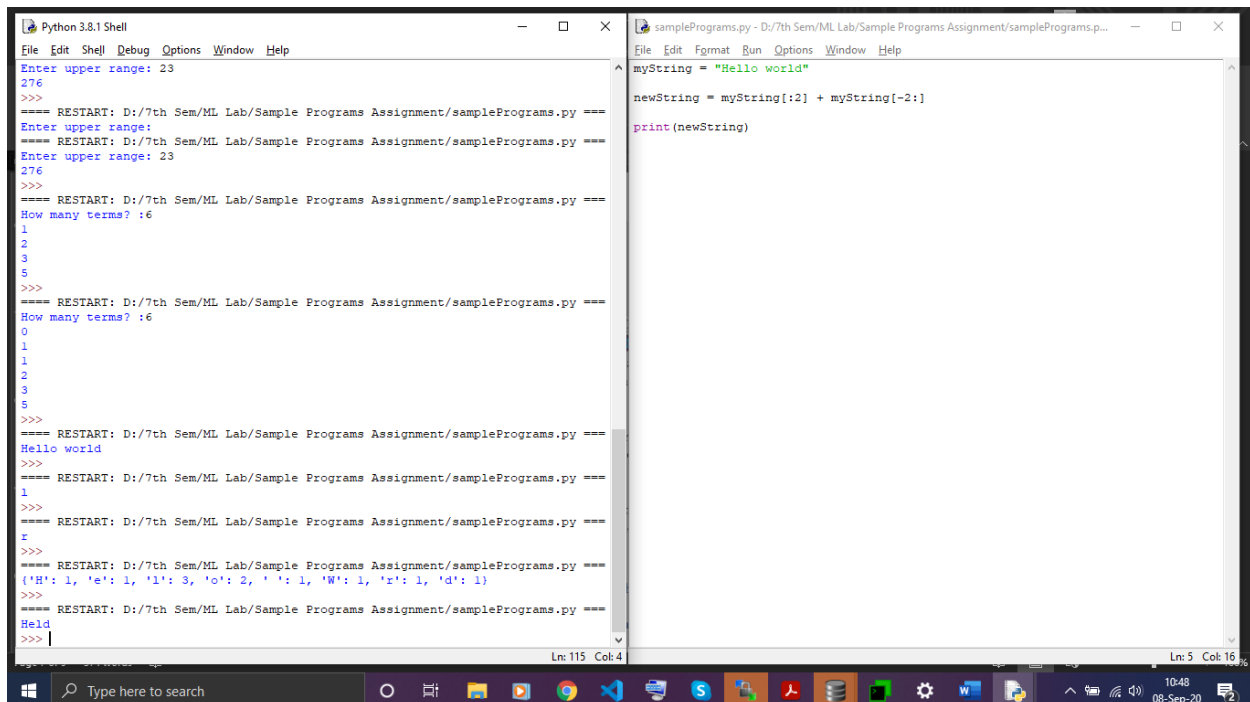
**13. Write a Python program to count the number of characters (character frequency) in a string.**



The screenshot shows a Python 3.8.1 Shell window on the left and a samplePrograms.py file on the right. The shell window displays the execution of the program, which prompts the user to enter a string and then prints the character frequency. The samplePrograms.py file contains the following code:

```
def char_frequency(str1):
    dict = {}
    for n in str1:
        keys = dict.keys()
        if n in keys:
            dict[n] += 1
        else:
            dict[n] = 1
    return dict
print(char_frequency('Hello World'))
```

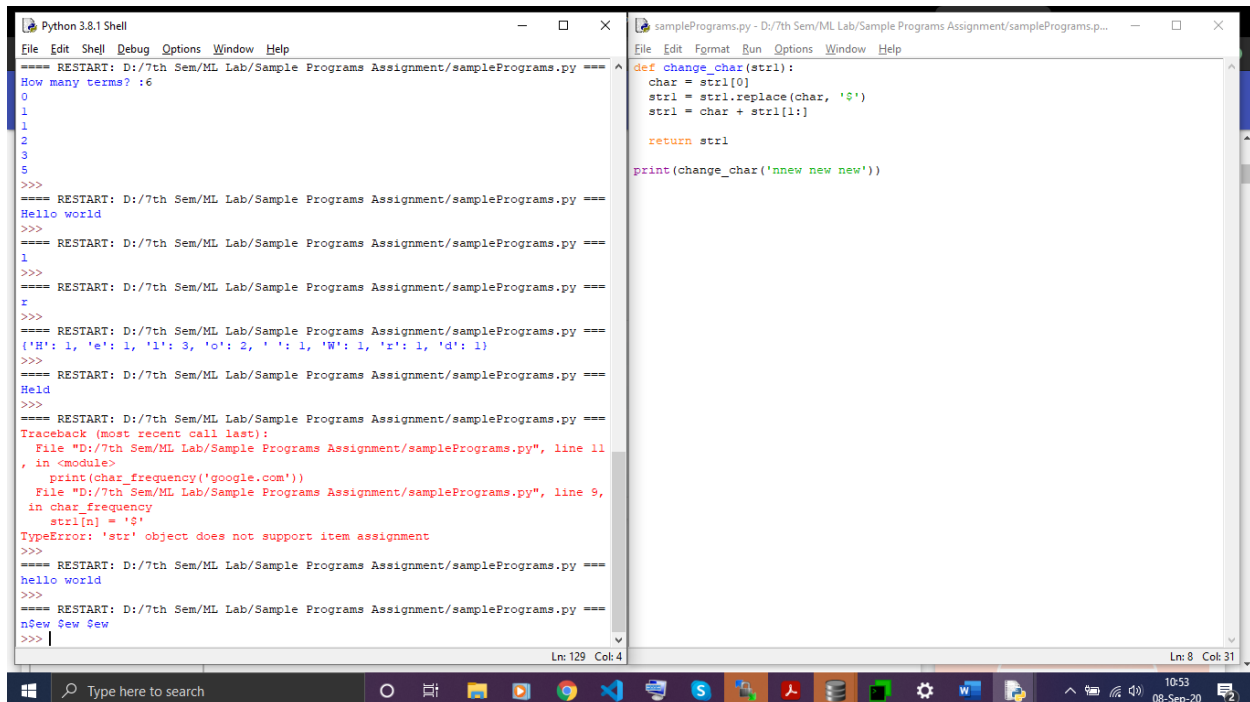
**14. Write a Python program to get a string made of the first 2 and the last 2 chars from a given a string. If the string length is less than 2, return instead of the empty string.**



The screenshot shows a Python 3.8.1 Shell window on the left and a samplePrograms.py file on the right. The shell window displays the execution of the program, which prompts the user to enter a string and then prints the string made of the first 2 and the last 2 characters. The samplePrograms.py file contains the following code:

```
myString = "Hello world"
newString = myString[:2] + myString[-2:]
print(newString)
```

15. 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.



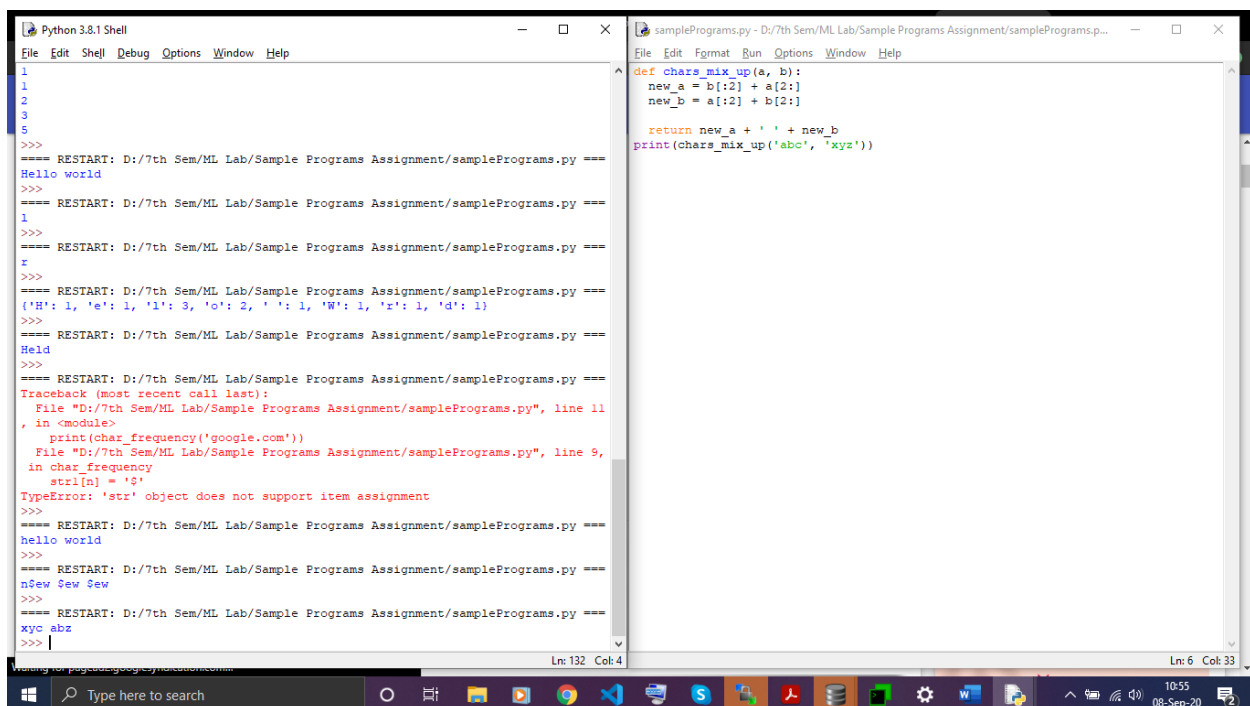
```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
How many terms? :6
0
1
2
3
4
5
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Hello world
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
1
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
r
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
({'H': 1, 'e': 1, 'l': 3, 'o': 2, ' ': 1, 'W': 1, 'r': 1, 'd': 1})
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Held
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 11
    , in <module>
      print(char_frequency('google.com'))
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 9,
    in char_frequency
    str1[n] = '$'
TypeError: 'str' object does not support item assignment
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
hello world
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
n$ew $ew $ew
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
xyc abz
>>>

Ln: 129 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
def change_char(str1):
    char = str1[0]
    str1 = str1.replace(char, '$')
    str1 = char + str1[1:]
    return str1
print(change_char('nnew new new'))

Ln: 8 Col: 31
```

16. Write a Python program to get a single string from two given strings, separated by a space and swap the first two characters of each string.



```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
1
1
2
3
4
5
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Hello world
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
1
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
r
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
({'H': 1, 'e': 1, 'l': 3, 'o': 2, ' ': 1, 'W': 1, 'r': 1, 'd': 1})
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Held
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 11
    , in <module>
      print(char_frequency('google.com'))
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 9,
    in char_frequency
    str1[n] = '$'
TypeError: 'str' object does not support item assignment
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
hello world
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
n$ew $ew $ew
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
xyc abz
>>>

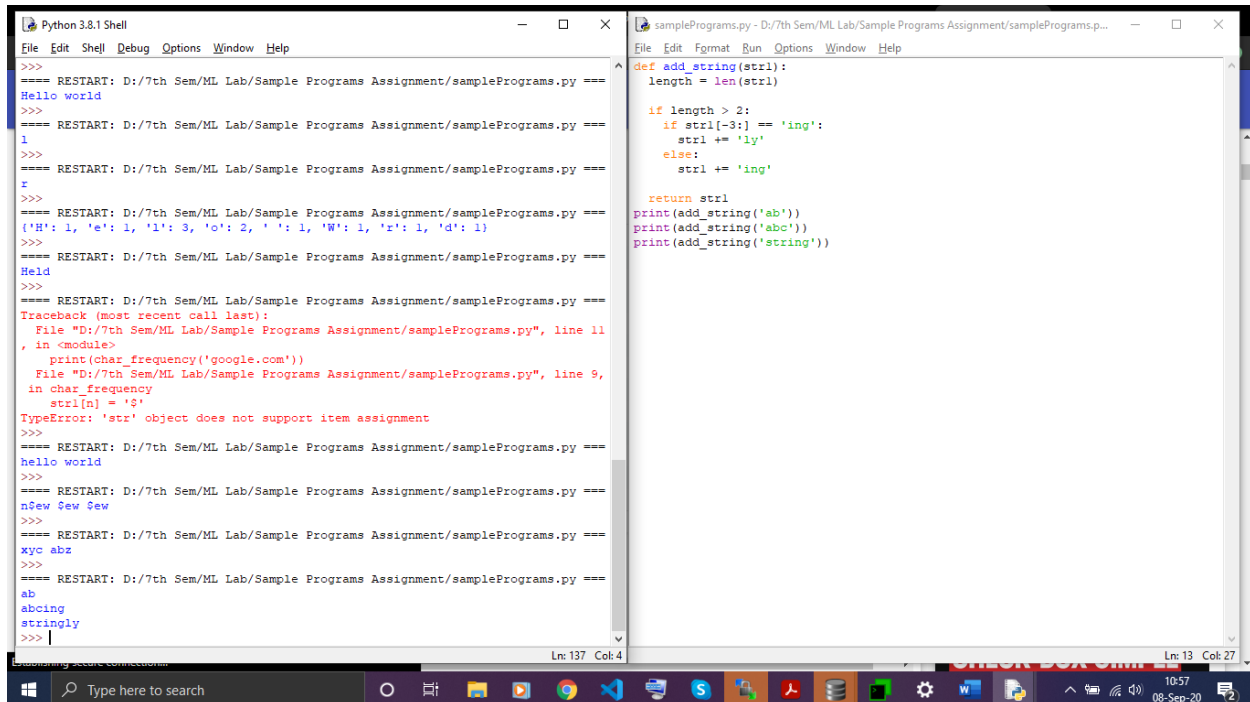
Ln: 132 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
def chars_mix_up(a, b):
    new_a = b[:2] + a[2:]
    new_b = a[:2] + b[2:]
    return new_a + ' ' + new_b
print(chars_mix_up('abc', 'xyz'))

Ln: 6 Col: 33
```



**17. Write a Python program to add 'ing' at the end of a given string (length should be at least 3). If the given string already ends with 'ing' then add 'ly' instead. If the string length of the given string is less than 3, leave it unchanged**



The screenshot shows a Python 3.8.1 Shell window on the left and a file editor window on the right. The shell window displays the execution of a program that adds 'ing' or 'ly' to strings based on their length and suffix. The file editor shows the corresponding Python code.

```

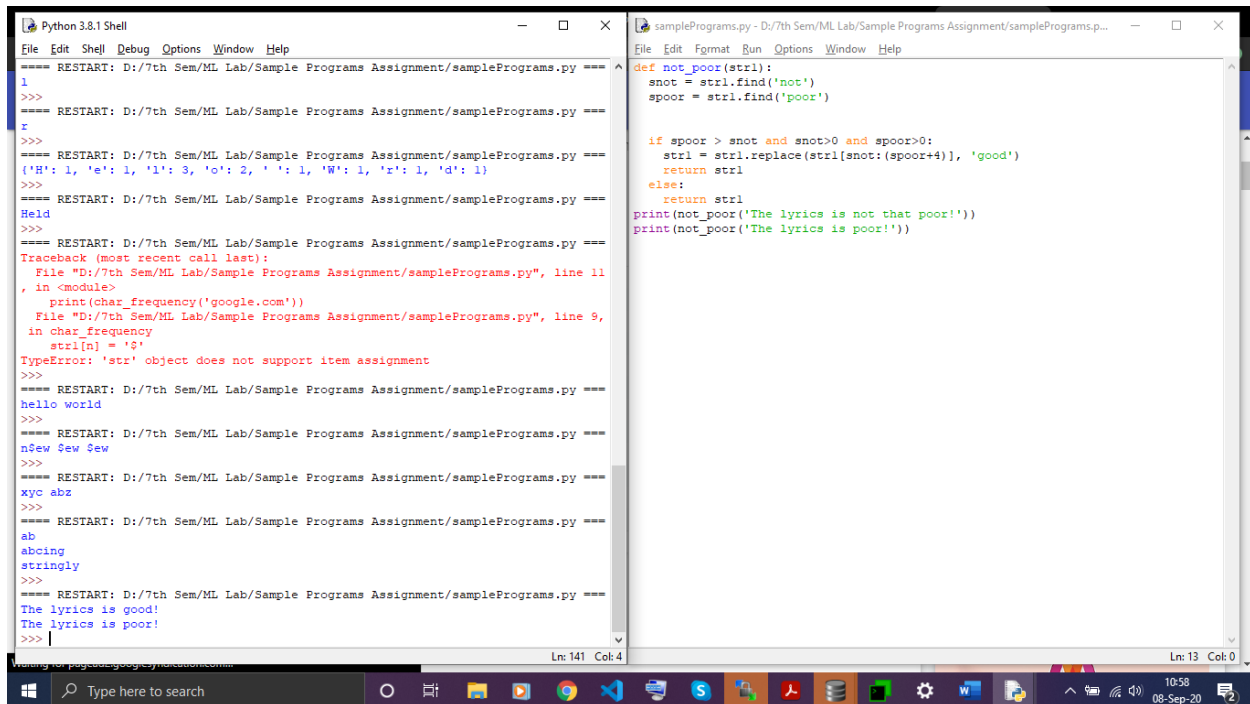
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
Hello world
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
1
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
t
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
{'H': 1, 'e': 1, 'l': 3, 'o': 2, ' ': 1, 'W': 1, 'x': 1, 'd': 1}
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
Held
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 11
    , in <module>
      print(char_frequency('google.com'))
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 9,
    in char_frequency
      str1[n] = 's'
TypeError: 'str' object does not support item assignment
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
hello world
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
nSew Sew Sew
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
xyz abz
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
ab
abcing
stringly
>>>

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
def add_string(str1):
    length = len(str1)

    if length > 2:
        if str1[-3:] == 'ing':
            str1 += 'ly'
        else:
            str1 += 'ing'

    return str1
print(add_string('ab'))
print(add_string('abc'))
print(add_string('string'))
  
```

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

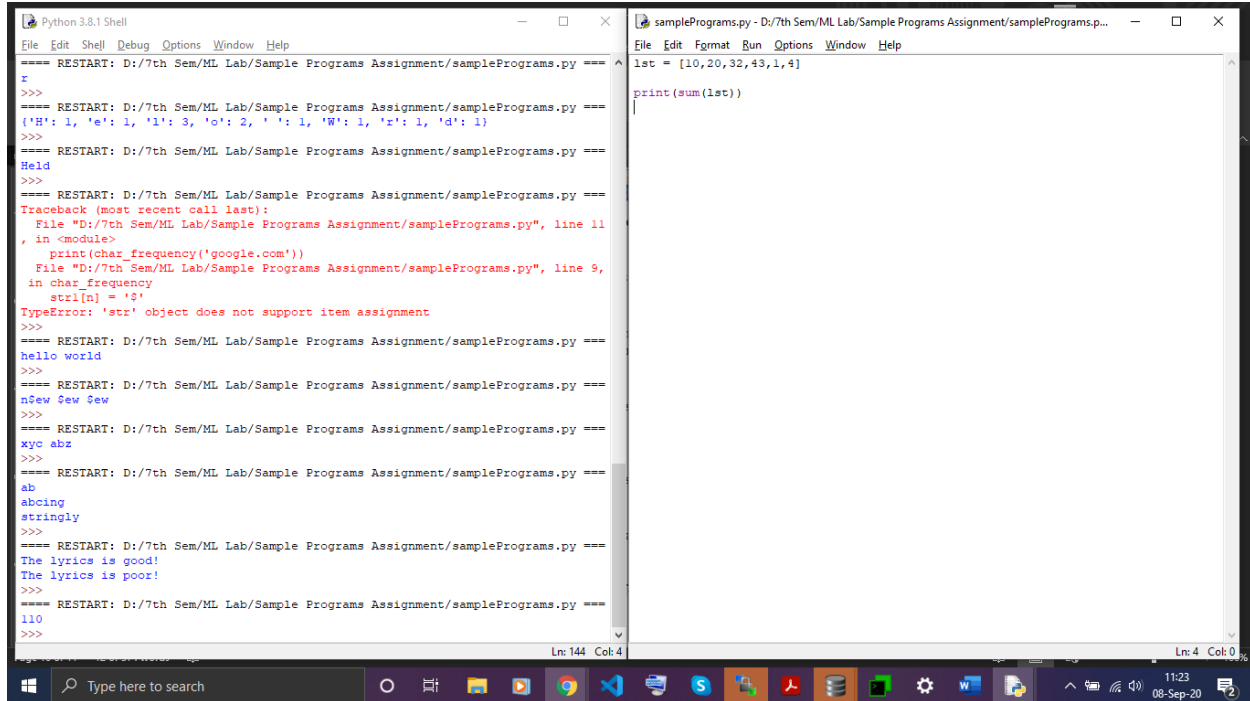


```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
1
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
r
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
({'H': 1, 'e': 1, 'l': 3, 'o': 2, ' ': 1, 'W': 1, 'r': 1, 'd': 1})
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Held
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 11
    print(char_frequency('google.com'))
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 9,
    in char_frequency
    str1[n] = 'g'
TypeError: 'str' object does not support item assignment
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
hello world
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
n$ew $ew $ew
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
xyc abz
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
ab
abcing
stringly
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
The lyrics is good!
The lyrics is poor!
>>>
Ln: 141 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
def not_poor(str1):
    snot = str1.find('not')
    spoor = str1.find('poor')

    if spoor > snot and snot > 0 and spoor > 0:
        str1 = str1.replace(str1[snot:spoor+4], 'good')
        return str1
    else:
        return str1
print(not_poor('The lyrics is not that poor!'))
print(not_poor('The lyrics is poor!'))
Ln: 13 Col: 0
```

19. Write a Python program to sum all the items in a list.



```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
r
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
({'H': 1, 'e': 1, 'l': 3, 'o': 2, ' ': 1, 'W': 1, 'r': 1, 'd': 1})
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Held
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 11
    print(char_frequency('google.com'))
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 9,
    in char_frequency
    str1[n] = 'g'
TypeError: 'str' object does not support item assignment
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
hello world
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
n$ew $ew $ew
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
xyc abz
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
ab
abcing
stringly
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
The lyrics is good!
The lyrics is poor!
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
110
>>>
Ln: 144 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
lst = [10,20,32,43,1,4]
print(sum(lst))
Ln: 4 Col: 0
```

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

```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
({'H': 1, 'e': 1, 'l': 3, 'o': 2, ' ': 1, 'W': 1, 'r': 1, 'd': 1})
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Held
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 11
    , in <module>
      print(char_frequency('google.com'))
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 9,
    in char_frequency
      str[n] = 's'
TypeError: 'str' object does not support item assignment
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
hello world
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
nSew $ew $ew
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
xyc abz
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
ab
abcing
stringly
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
The lyrics is good!
The lyrics is poor!
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
110
>>>
Ln: 144 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
lst = [10, 20, 32, 43, 1, 4]
print(sum(lst))
Ln: 4 Col: 0
```

**21. Write a Python program to count the number of strings where the string length is 2 or more and the first and last character are same from a given list of strings.**

```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Held
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 11
    , in <module>
      print(char_frequency('google.com'))
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 9,
    in char_frequency
      str[n] = 's'
TypeError: 'str' object does not support item assignment
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
hello world
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
nSew $ew $ew
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
xyc abz
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
ab
abcing
stringly
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
The lyrics is good!
The lyrics is poor!
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
110
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
43
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
2
>>>
Ln: 150 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
def match_words(words):
    ctr = 0
    for word in words:
        if len(word) > 1 and word[0] == word[-1]:
            ctr += 1
    return ctr
print(match_words(['abc', 'xyz', 'aba', '1221']))
Ln: 9 Col: 49
```

**22. Write a Python function that takes two lists and returns True if they have at least one common member.**

```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 11
    in <module>
    print(char_frequency('google.com'))
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 9,
    in char_frequency
    stri[n] = 's'
TypeError: 'str' object does not support item assignment
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
hello world
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
n$ew $ew $ew
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
xyc abz
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
ab
abcing
stringly
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
The lyrics is good!
The lyrics is poor!
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
110
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
43
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
2
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
True
>>>

Ln: 153 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
def func():
    lst = [10,20,32,43,1,4]
    lst2 = [28,43,328,367,343]

    for i in lst:
        if i in lst2:
            return True

    print(func())
```

**23. Write a Python program to replace the last element in a list with another list**

```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
, in <module>
    print(char_frequency('google.com'))
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 9,
    in char_frequency
    stri[n] = 's'
TypeError: 'str' object does not support item assignment
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
hello world
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
n$ew $ew $ew
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
xyc abz
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
ab
abcing
stringly
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
The lyrics is good!
The lyrics is poor!
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
110
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
43
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
2
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
True
>>>
==== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ====
[10, 20, 32, 43, 1, [28, 43, 328, 367, 343]]
>>>

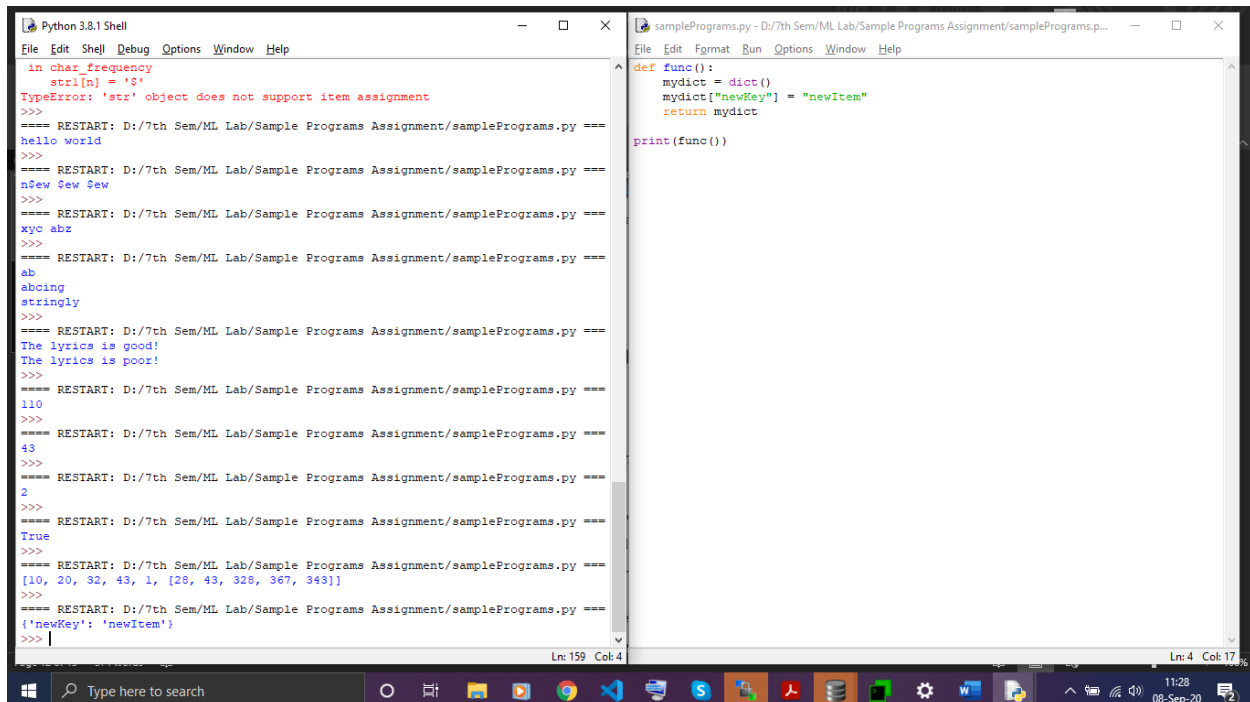
Ln: 156 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
def func():
    lst = [10,20,32,43,1,4]
    lst2 = [28,43,328,367,343]

    lst[-1] = lst2
    return lst

    print(func())
```

**24. Write a Python program to add a key to a dictionary.**

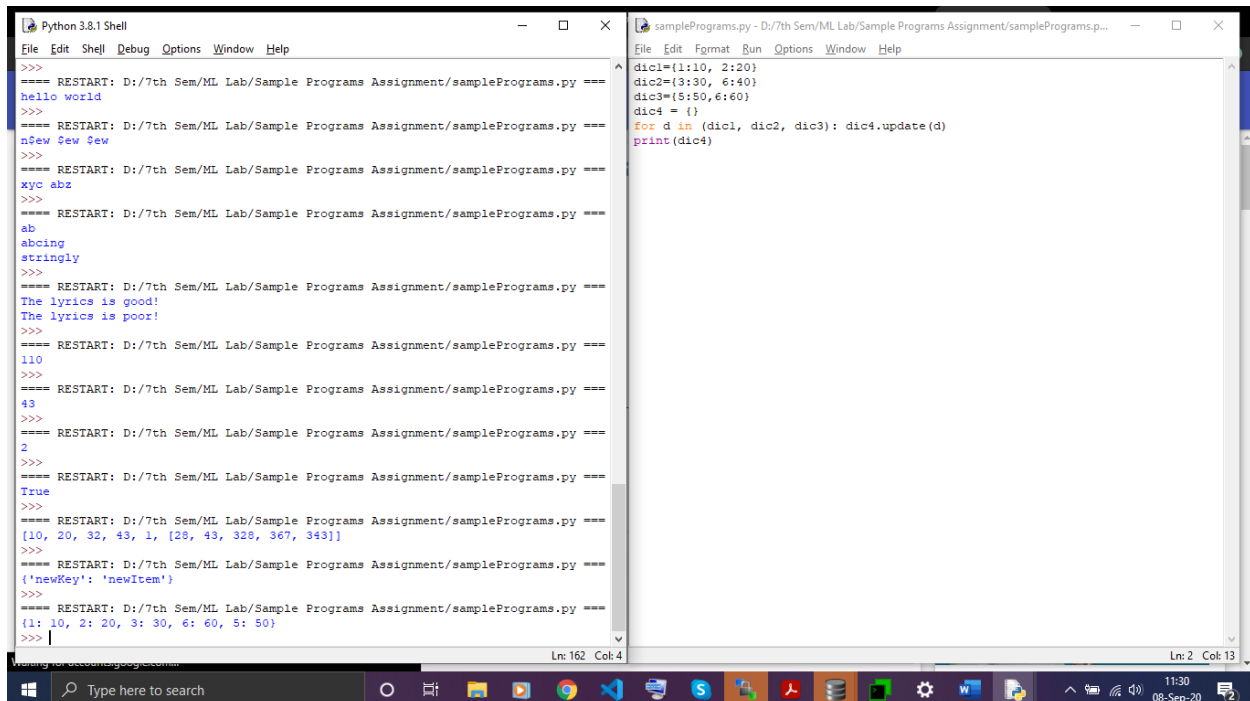


```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
in char_frequency
stri[n] = 's'
TypeError: 'str' object does not support item assignment
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
hello world
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
n$ew $ew $ew
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
xyc abz
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
ab
abcing
stringly
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
The lyrics is good!
The lyrics is poor!
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
110
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
43
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
2
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
True
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
[10, 20, 32, 43, 1, [28, 43, 328, 367, 343]]
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
{'newKey': 'newItem'}
>>>
Ln: 159 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
def func():
    mydict = dict()
    mydict["newKey"] = "newItem"
    return mydict

print(func())
Ln: 4 Col: 17
```

**25. Write a Python program to concatenate following dictionaries to create a new one.**



```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
hello world
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
n$ew $ew $ew
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
xyc abz
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
ab
abcing
stringly
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
The lyrics is good!
The lyrics is poor!
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
110
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
43
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
2
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
True
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
[10, 20, 32, 43, 1, [28, 43, 328, 367, 343]]
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
{'newKey': 'newItem'}
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py ===
{1: 10, 2: 20, 3: 30, 6: 60, 5: 50}
>>>
Ln: 162 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
dic1={1:10, 2:20}
dic2={3:30, 6:40}
dic3={5:50, 6:60}
dic4 = {}
for d in (dic1, dic2, dic3): dic4.update(d)
print(dic4)
Ln: 2 Col: 13
```

**26. Write a Python program to check if a given key already exists in a dictionary.**

```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
ab
abcing
stringly
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
The lyrics is good!
The lyrics is poor!
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
110
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
43
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
2
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
True
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
[10, 20, 32, 43, 1, [28, 43, 328, 367, 343]]
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
{'newKey': 'newItem'}
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
{1: 10, 2: 20, 3: 30, 6: 60, 5: 50}
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 2,
    in <module>
    if 1 in diclkeys():
NameError: name 'diclkeys' is not defined
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
True
>>>

Ln: 171 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
dicl={1:10, 2:20}
if 1 in dicl.keys():
    print(True)
else:
    print(False)
```

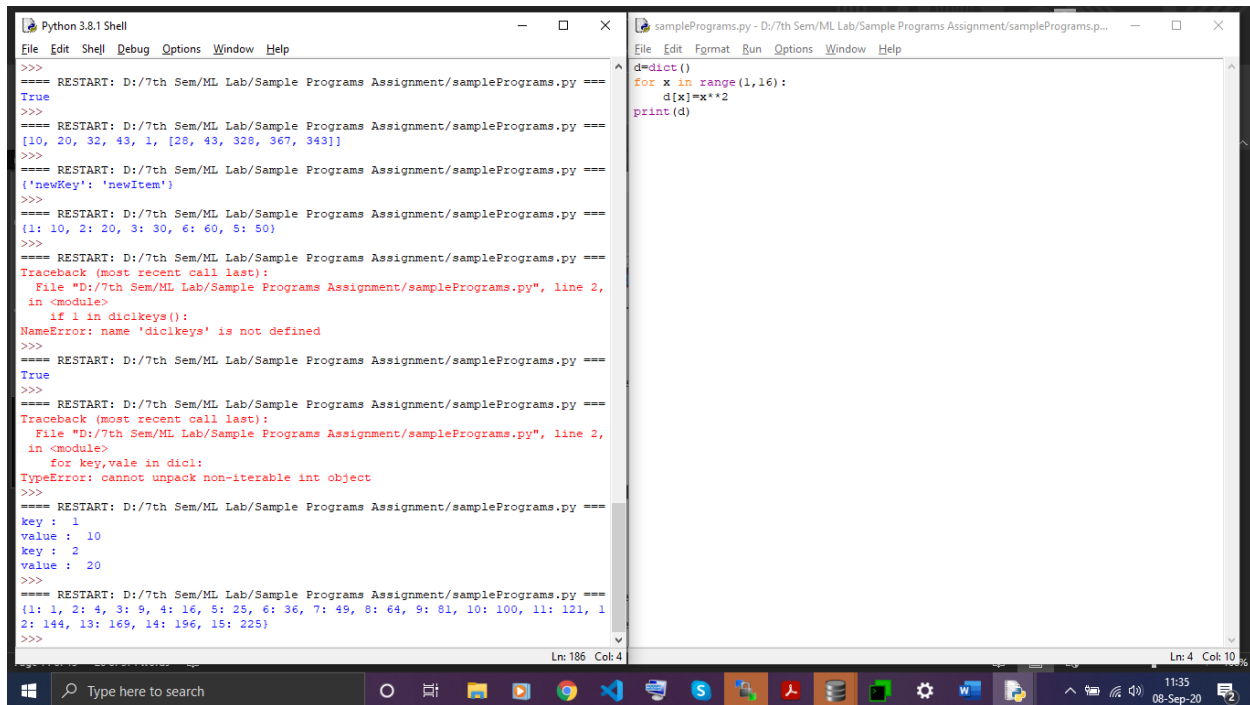
**27. Write a Python program to iterate over dictionaries using for loops.**

```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
43
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
2
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
True
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
[10, 20, 32, 43, 1, [28, 43, 328, 367, 343]]
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
{'newKey': 'newItem'}
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
{1: 10, 2: 20, 3: 30, 6: 60, 5: 50}
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 2,
    in <module>
    if 1 in diclkeys():
NameError: name 'diclkeys' is not defined
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
True
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 2,
    in <module>
    for key,vale in dicl:
TypeError: cannot unpack non-iterable int object
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
key : 1
value : 10
key : 2
value : 20
>>>

Ln: 183 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
dicl={1:10, 2:20}
for key,vale in dicl.items():
    print("key : ", key)
    print("value : ", vale)
```

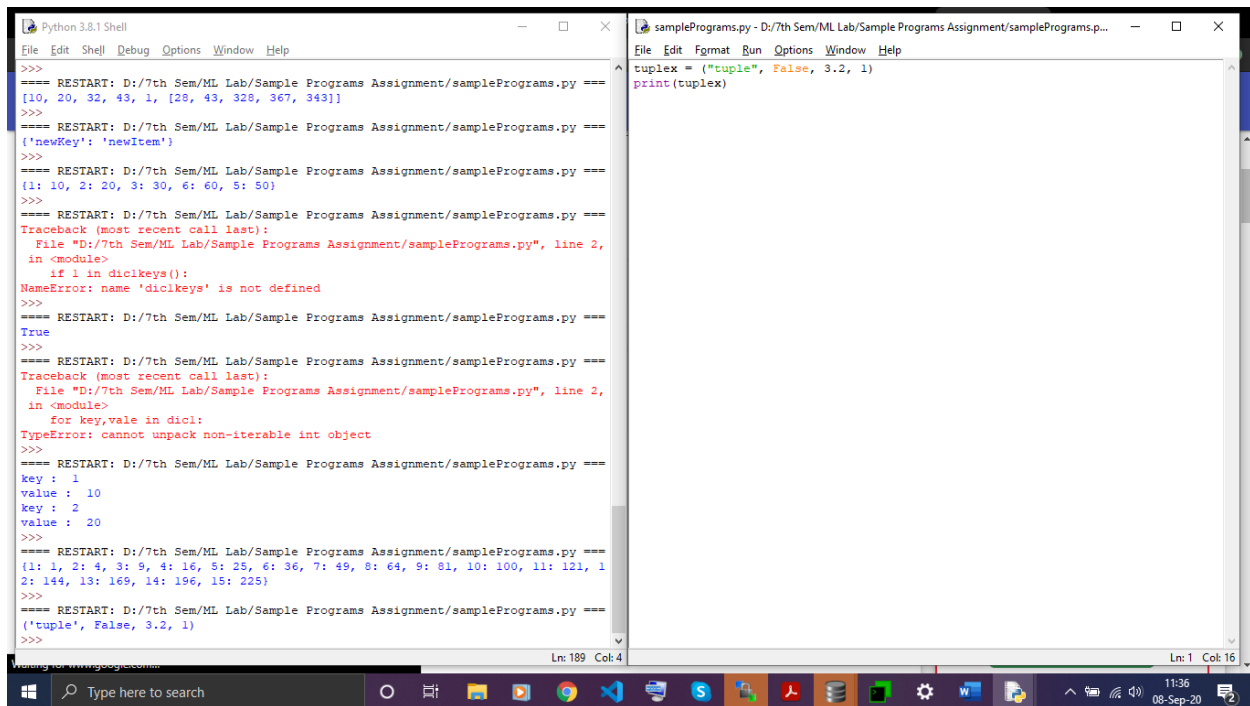
**28. Write a Python script to print a dictionary where the keys are numbers between 1 and 15 (both included) and the values are square of keys.**



```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
True
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
[10, 20, 32, 43, 1, [28, 43, 328, 367, 343]]
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
{'newKey': 'newItem'}
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
(1: 10, 2: 20, 3: 30, 6: 60, 5: 50)
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 2,
in <module>
    if i in diclkeys():
NameError: name 'diclkeys' is not defined
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
True
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 2,
in <module>
    for key,vale in dicl:
TypeError: cannot unpack non-iterable int object
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
key : 1
value : 10
key : 2
value : 20
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
(1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 1
2: 144, 13: 169, 14: 196, 15: 225)
>>>
Ln: 186 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
d=dict()
for x in range(1,16):
    d[x]=x**2
print(d)
Ln: 4 Col: 10
```

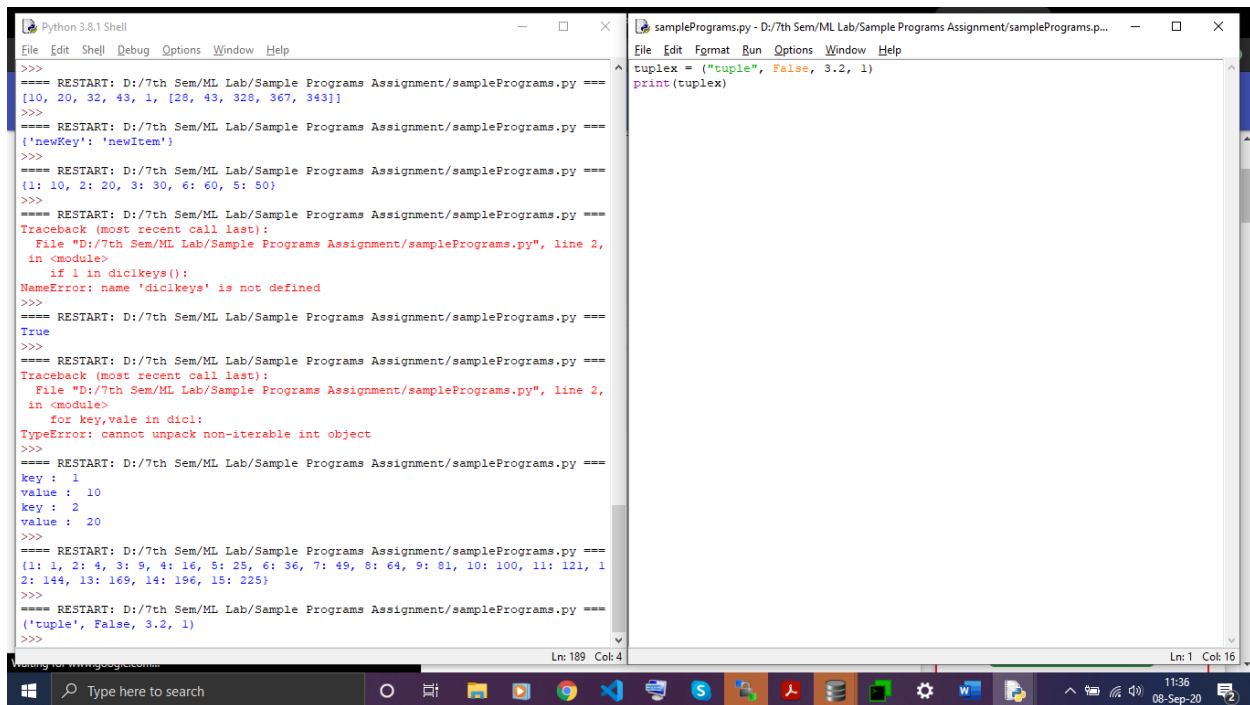
## 29. Write a Python program to create a tuple.



```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
[10, 20, 32, 43, 1, [28, 43, 328, 367, 343]]
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
{'newKey': 'newItem'}
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
(1: 10, 2: 20, 3: 30, 6: 60, 5: 50)
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 2,
in <module>
    if i in diclkeys():
NameError: name 'diclkeys' is not defined
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
True
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 2,
in <module>
    for key,vale in dicl:
TypeError: cannot unpack non-iterable int object
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
key : 1
value : 10
key : 2
value : 20
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
(1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 1
2: 144, 13: 169, 14: 196, 15: 225)
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
('tuple', False, 3.2, 1)
>>>
Ln: 189 Col: 4

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
tuple = ("tuple", False, 3.2, 1)
print(tuple)
Ln: 1 Col: 16
```

### 30. Write a Python program to create a tuple with different data types.



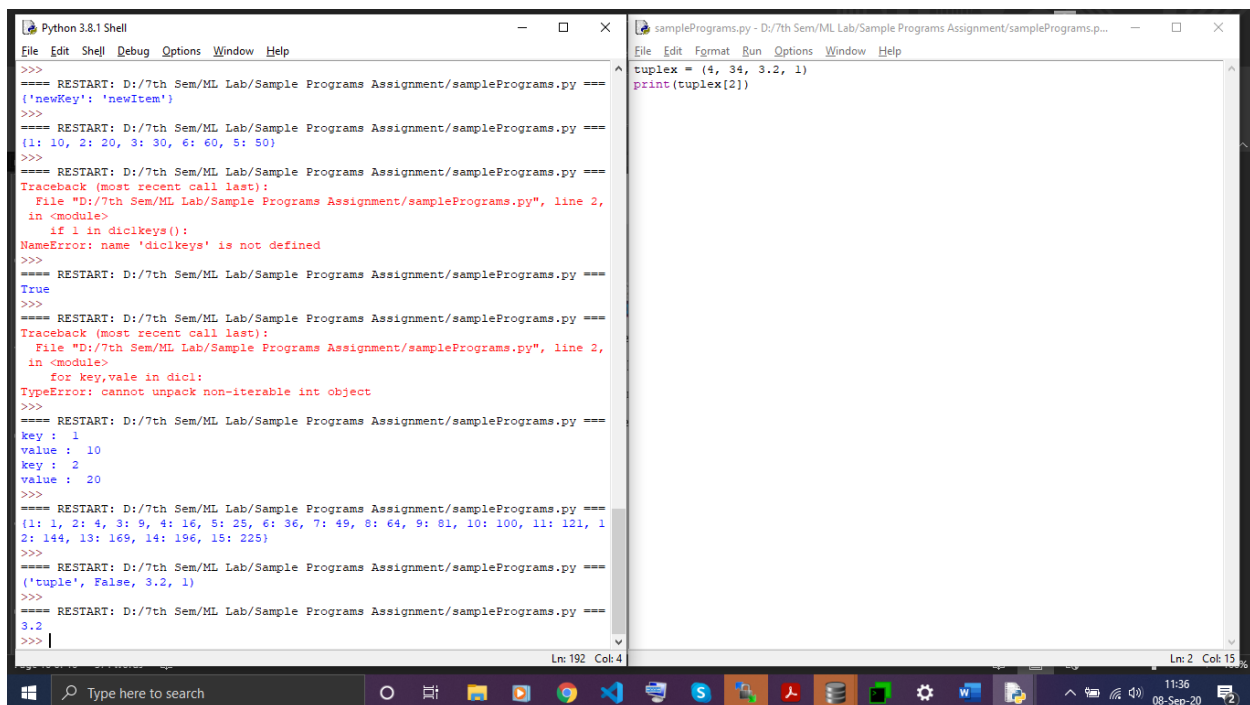
The screenshot shows a Python IDE with two windows. The left window is the Python 3.8.1 Shell, and the right window is the samplePrograms.py file. The shell shows the execution of the program, which creates a tuple with different data types and prints it. The program is as follows:

```
tuplex = ("tuple", False, 3.2, 1)
print(tuplex)
```

The shell output shows the execution of the program, which creates a tuple with different data types and prints it. The output is:

```
tuplex = ("tuple", False, 3.2, 1)
print(tuplex)
```

### 31. Write a Python program to create a tuple with numbers and print one item.



The screenshot shows a Python IDE with two windows. The left window is the Python 3.8.1 Shell, and the right window is the samplePrograms.py file. The shell shows the execution of the program, which creates a tuple with numbers and prints one item. The program is as follows:

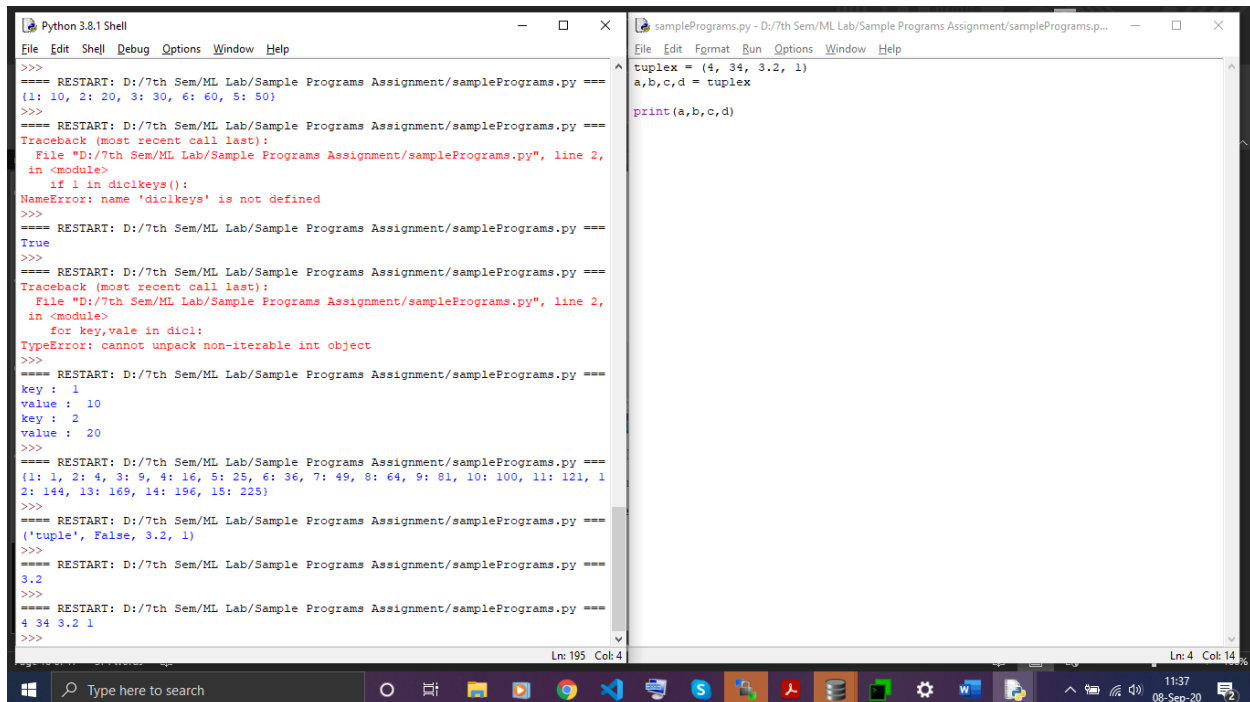
```
tuplex = (4, 34, 3.2, 1)
print(tuplex[2])
```

The shell output shows the execution of the program, which creates a tuple with numbers and prints one item. The output is:

```
tuplex = (4, 34, 3.2, 1)
print(tuplex[2])
```



### 32. Write a Python program to unpack a tuple in several variables.

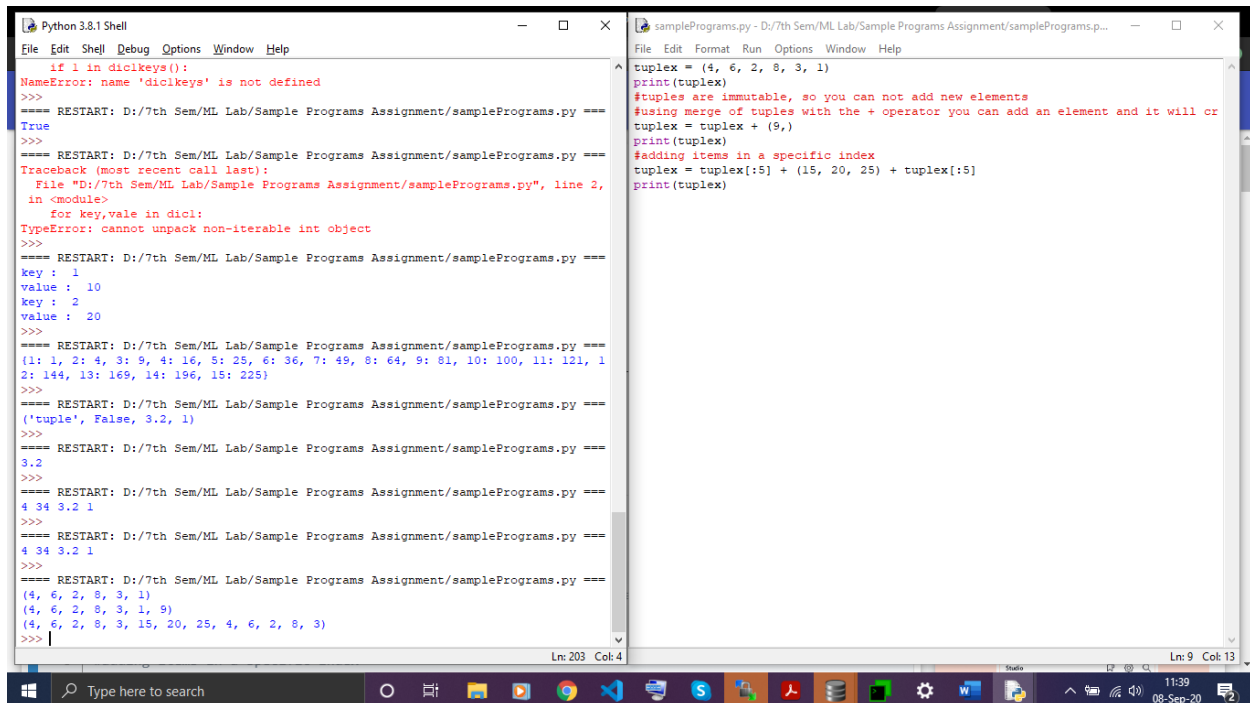


```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
(1: 10, 2: 20, 3: 30, 6: 60, 5: 50)
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 2,
    in <module>
      if 1 in diclkeys():
NameError: name 'diclkeys' is not defined
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
True
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 2,
    in <module>
      for key,vale in dicl:
TypeError: cannot unpack non-iterable int object
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
key : 1
value : 10
key : 2
value : 20
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
(1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 1
2: 144, 13: 169, 14: 196, 15: 225)
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
('tuple', False, 3.2, 1)
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
3.2
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
4 34 3.2 1
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
4 34 3.2 1
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
(4, 6, 2, 8, 3, 1)
(4, 6, 2, 8, 3, 1, 9)
(4, 6, 2, 8, 3, 15, 20, 25, 4, 6, 2, 8, 3)
>>>

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
tuplex = (4, 34, 3.2, 1)
a,b,c,d = tuplex

print(a,b,c,d)
```

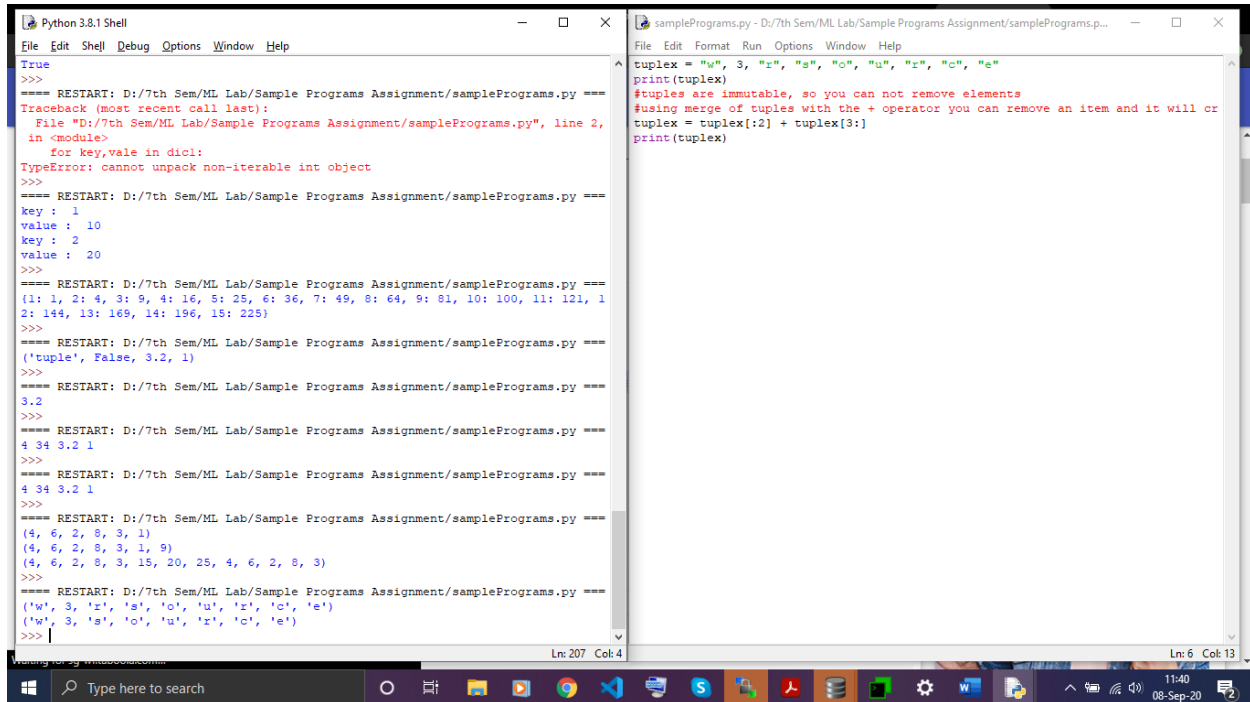
### 33. Write a Python program to add an item in a tuple.



```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
      if 1 in diclkeys():
NameError: name 'diclkeys' is not defined
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
True
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 2,
    in <module>
      for key,vale in dicl:
TypeError: cannot unpack non-iterable int object
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
key : 1
value : 10
key : 2
value : 20
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
(1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 1
2: 144, 13: 169, 14: 196, 15: 225)
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
('tuple', False, 3.2, 1)
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
3.2
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
4 34 3.2 1
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
4 34 3.2 1
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
(4, 6, 2, 8, 3, 1)
(4, 6, 2, 8, 3, 1, 9)
(4, 6, 2, 8, 3, 15, 20, 25, 4, 6, 2, 8, 3)
>>>

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
tuplex = (4, 6, 2, 8, 3, 1)
print(tuplex)
#tuples are immutable, so you can not add new elements
#using merge of tuples with the + operator you can add an element and it will cr
tuplex = tuplex + (9,)
print(tuplex)
#adding items in a specific index
tuplex = tuplex[:5] + (15, 20, 25) + tuplex[5:]
print(tuplex)
```

### 34. Write a Python program to remove an item from a tuple.



The image shows a screenshot of a Python 3.8.1 Shell and a file named samplePrograms.py. The shell window on the left displays the execution of various Python code snippets, including dictionary iteration, list printing, and tuple creation. The file window on the right shows the definition of a tuple named 'tuplex' and a comment explaining that tuples are immutable and cannot be modified directly. The code in the file demonstrates how to create a tuple and how to concatenate it with another tuple to effectively 'remove' or 'add' elements.

```
Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
Traceback (most recent call last):
  File "D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py", line 2,
    in <module>
    for key,value in dict1:
TypeError: cannot unpack non-iterable int object
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
key : 1
value : 10
key : 2
value : 20
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64, 9: 81, 10: 100, 11: 121, 12: 144, 13: 169, 14: 196, 15: 225}
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
('tuple', False, 3.2, 1)
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
3.2
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
4 34 3.2 1
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
4 34 3.2 1
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
(4, 6, 2, 8, 3, 1)
(4, 6, 2, 8, 3, 1, 9)
(4, 6, 2, 8, 3, 15, 20, 25, 4, 6, 2, 8, 3)
>>>
===== RESTART: D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.py =====
('w', 3, 'r', 's', 'o', 'u', 'r', 'c', 'e')
('w', 3, 's', 'o', 'u', 'r', 'c', 'e')
>>>

samplePrograms.py - D:/7th Sem/ML Lab/Sample Programs Assignment/samplePrograms.p...
File Edit Format Run Options Window Help
tuplex = "w", 3, "r", "s", "o", "u", "r", "c", "e"
print(tuplex)
#tuples are immutable, so you can not remove elements
#using merge of tuples with the + operator you can remove an item and it will or
tuplex = tuplex[:2] + tuplex[3:]
print(tuplex)
```