Name - Yash Lakhtariya
Enrollment number - 21162101012
Branch - CBA   Batch - 41
FP Practical 7

Institute of Computer Technology
B. Tech Computer Science and Engineering

Sub: (2CSE403) FUNCTIONAL PROGRAMMING

Practical 7

1. A book reviewer needs to analyse the book chapter wise. He wants to ease his work through the review machine. The machine needs to count the number of characters, words, and lines of the given chapter. A whitespace character separates words. The program should prompt the user to enter a filename.

Code :

```python
from YSL_io import *
class YSL:

    @staticmethod

    def fileread(filename):

        with open(filename, 'r') as ysl:

            ch = 0

            wrd = 0

            ln = 0

            for line in ysl:

                ln += 1

                words = line.split(' ')

                wrd += len(words)

                ch += len(line)
```
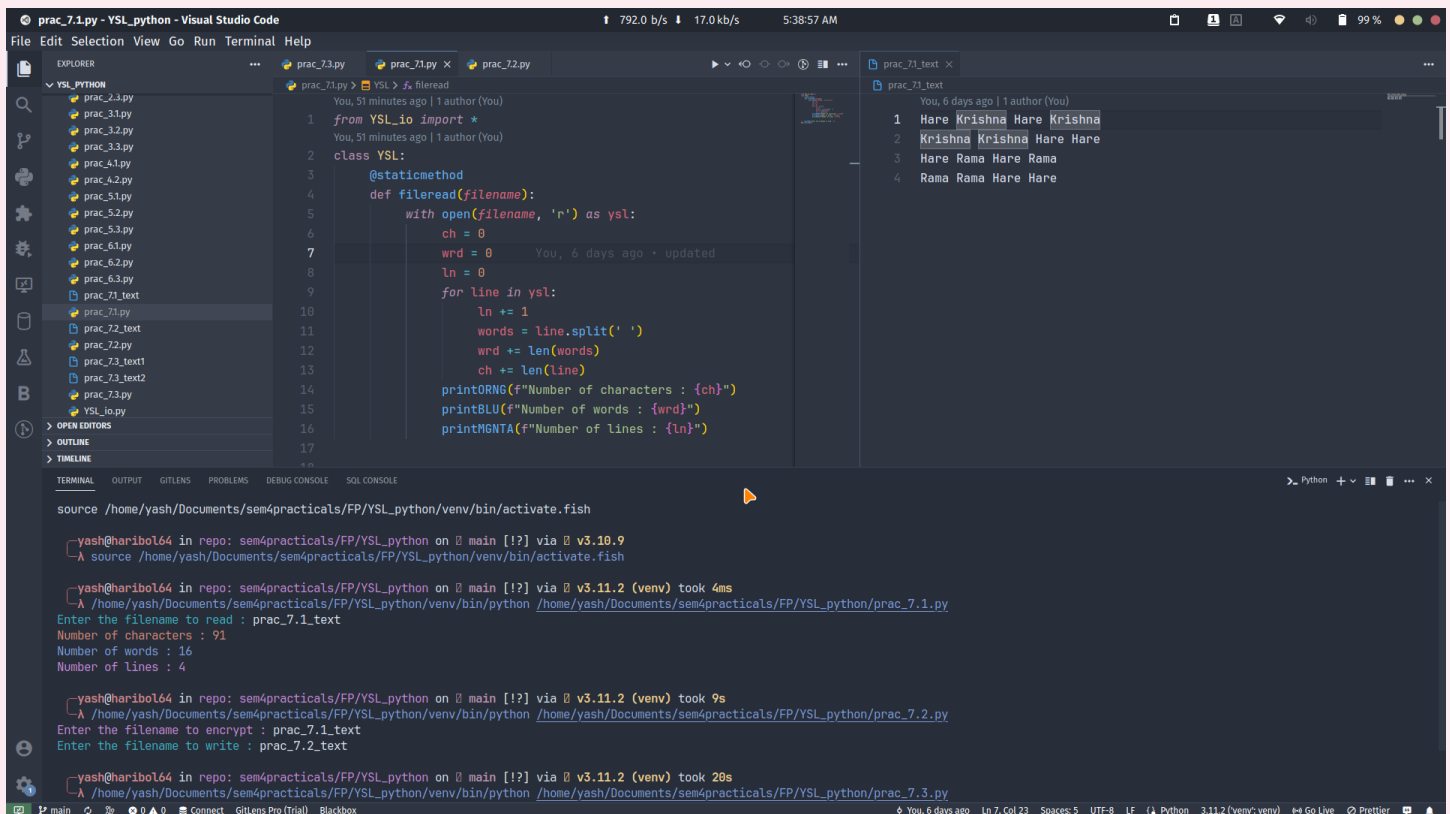
```python
            printORNG(f"Number of characters : {ch}")

            printBLU(f"Number of words : {wrd}")

            printMGNTA(f"Number of lines : {ln}")




f = inputGRN("Enter the filename to read : ")

YSL.fileread(f)
```

Output :

2. For some security reasons an employee has to secure his documents. He has encoded the file by adding 5 to every byte in the file. Write a program that prompts the user to enter an input filename and an output filename and saves the encrypted version of the input file to the output file. Also, for backup point, he needs the original document on his side; but he is always going to communicate using the encoded format to the client. The client will be provided the private key (i.e. the decoded output) for his use. Write a program to decode an encrypted file and save the unencrypted version of the input file to the output.

Code :

```python
from YSL_io import *

class YSL:

    @staticmethod

    def encrypt(txt, shift: int, out):

        ncrptd = ""

        with open(txt, 'r') as ysl:

            for char in ysl.read():

                if char.isalpha():

                    if char.isupper():

                        ncrptd += chr((ord(char) + shift - 65) % 26 +
65)

                    else:

                        ncrptd += chr((ord(char) + shift - 97) % 26 +
97)

                else:

                    ncrptd += char
```

```python
                    with open(out, 'w') as output:

                        output.write(ncrptd)




    @staticmethod

    def decrypt(txt, shift, out):

        YSL.encrypt(txt, -shift, out)


file_in = inputMGNTA("Enter the filename to encrypt : ")

file_out = inputGRN("Enter the filename to write : ")

YSL.encrypt(file_in, 5, file_out)
```
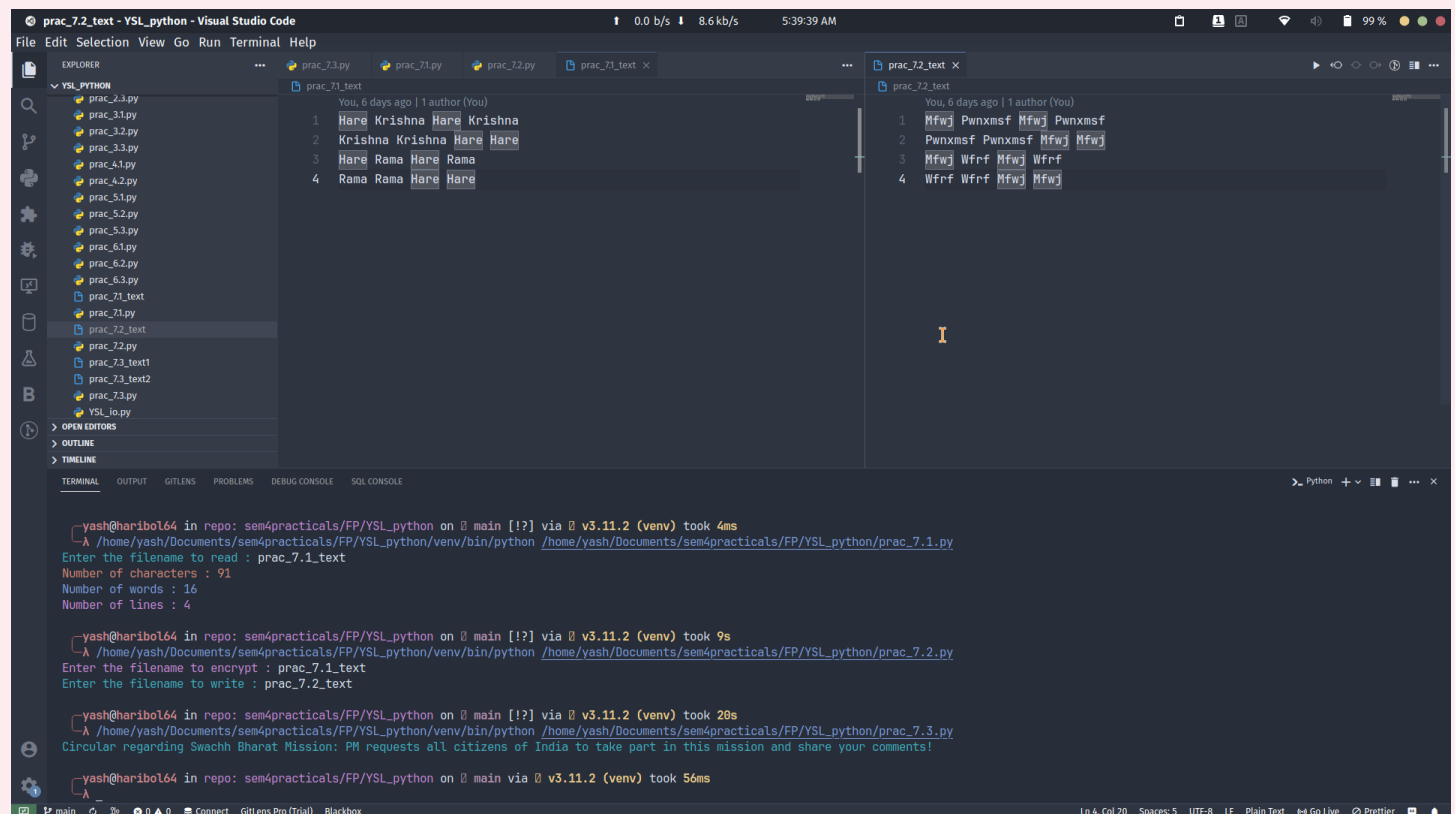
Output :

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3. PM Narendra Modi has generated one circular regarding Swachh Bharat Mission and posted it on to his twitter account. His Followers has to read that circular and share their suggestions through their tweeted comments. Help PM by providing help in: a) Generating the circular in text file. b) Reading that circular and printing it. c) As a follower, write suggestion below circular and generate new document appending new comments w.r.t original tweet stating the no of suggestions generated for a point in circular.

Code :

```python
from YSL_io import *


circular = "Circular regarding Swachh Bharat Mission: PM requests all
citizens of India to take part in this mission and share your comments!"
with open("prac_7.3_text1", "w") as f:
    f.write(circular)


with open("prac_7.3_text1", "r") as f:
    circular = f.read()
    printGRN(circular)


cmnts = [
    "We want government to arrange for more dustbins in rural areas",
    "More public toilets should be made",
    "Penalties on spitting or throwing waste here and there should be
increased"
]
```

```python
circular_2 = ''

for line in circular.split("\n"):

        circular_2 += f"{line}\n"


circular_2 += f"\n{len(cmnts)} Public Suggestions : \n\n"

for i, c in enumerate(cmnts):

    circular_2 += f"{i+1}. {c}\n"


with open("prac_7.3_text2", "w") as f:

    f.write(circular_2)
```
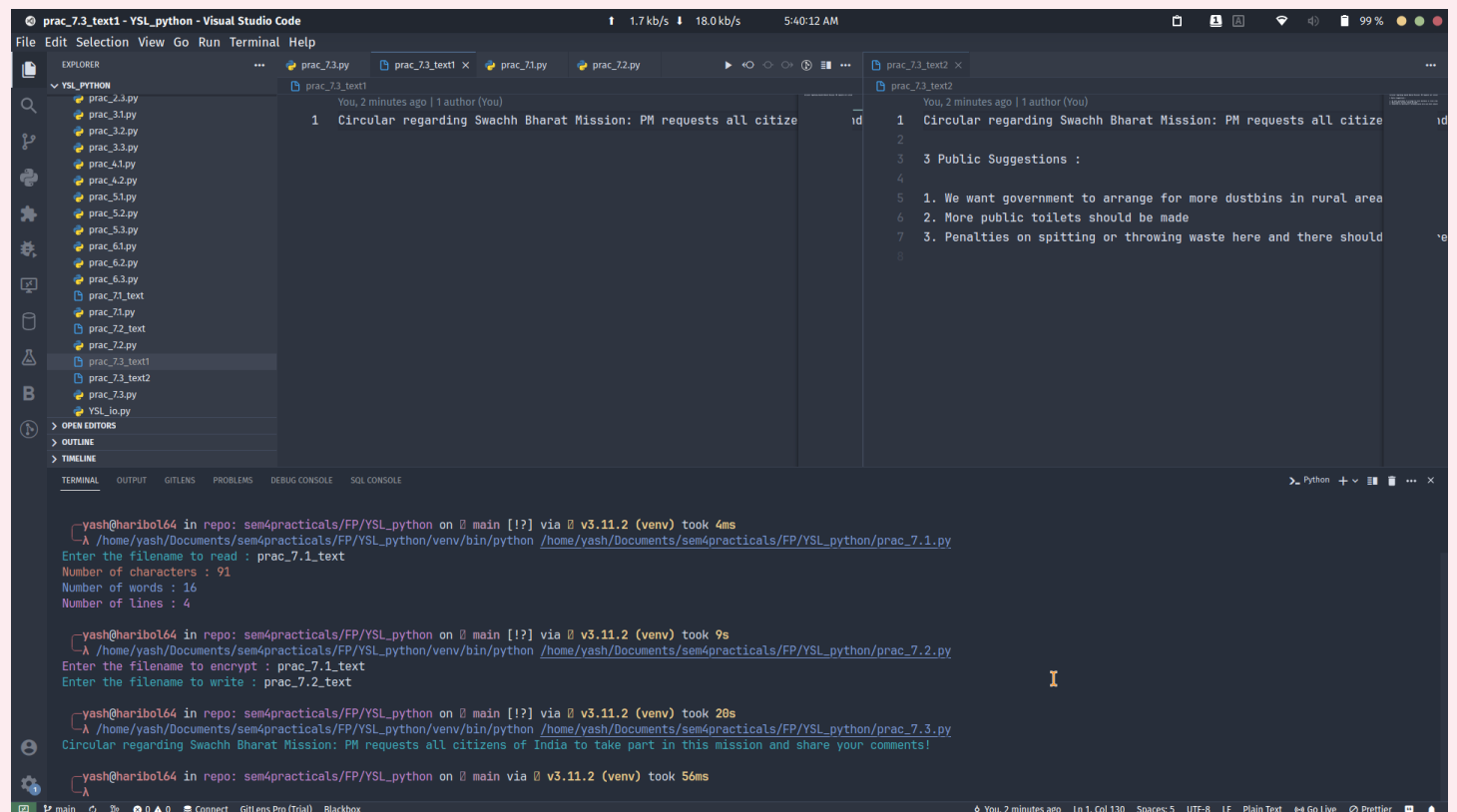
Output :