MCA 2 Python Practical Exam 07/08/2021

Create a Text File1.txt with Contents as given below and perform following tasks:

1. Find No of Lines, Words, Characters, list of unique SHORTNAMES
2. Find list of Numeric values, Dates within data.
3. Find the 2char, 3Char unique patterns with their counts in File1.Txt
4. Make a function which replaces the alphabets with the characters 5 position distance, and store in a File2.txt file. e.g., A->F, B->G .... Z->E so on. Open File2.txt, read the characters and recover the original text as File1.txt, compare the contents of File1 and File2 Both.
5. Print Binary Representation of File1.txt

Content of File: -

The country's foreign exchange reserves surged by USD 9.427 billion to record high of USD 620.576 billion in the week ended July 30, according to the latest RBI data. In the previous week ended July 23, the reserves had declined by USD 1.581 billion to USD 611.149 billion. In the reporting week ended July 30, the rise in the reserves was on the back of an increase in foreign currency assets (FCAs), a major component of the overall reserves, the Reserve Bank of India's (RBI) weekly data released on Friday showed. FCA increased by USD 8.596 billion to USD 576.224 billion in the reporting week. Expressed in dollar terms, the foreign currency assets include the effect of appreciation or depreciation of non-US units like the euro, pound and yen held in the foreign exchange reserves. Gold reserves were up by USD 760 million to USD 37.644 billion in the reporting week, the data showed. The special drawing rights (SDRs) with the International Monetary Fund (IMF) rose by USD 6 million at USD 1.552 billion. The country's reserve position with the IMF also increased USD 65 million to USD 5.156 billion in the reporting week, the data showed.

Source Code:

```
def counter(fname):

    num_words = 0

    num_lines = 0

    num_charc = 0

    num_spaces = 0

    num_unq_words = 0

    with open(fname, 'r') as f:


        for line in f:

            num_lines += 1

            word = 'Y'

            for letter in line:

                if (letter != ' ' and word == 'Y'):

                    num_words += 1

                    word = 'N'

                elif (letter == ' '):

                    num_spaces += 1

                    word = 'Y'

                for i in letter:

                    if (i != " " and i != "\n"):
```

```python
            num_charc += 1


with open(fname, 'r') as text:

    print('Number of unique short words in text file: ', sum(word.istitle() for row in text for word in row))


print("Number of words in text file: ", num_words)

print("Number of lines in text file: ", num_lines)

print('Number of characters in text file: ', num_charc)

print('Number of spaces in text file: ', num_spaces)


test_str = "The country's foreign exchange reserves surged by USD 9.427 billion to record high of USD 620.576 billion in
the week ended July 30, according to the latest RBI data. In the previous week ended July 23, the reserves had declined by
USD 1.581 billion to USD 611.149 billion. In the reporting week ended July 30, the rise in the reserves was on the back of an
increase in foreign currency assets (FCAs), a major component of the overall reserves, the Reserve Bank of India's (RBI)
weekly data released on Friday showed. FCA increased by USD 8.596 billion to USD 576.224 billion in the reporting week.
Expressed in dollar terms, the foreign currency assets include the effect of appreciation or depreciation of non-US units like
the euro, pound and yen held in the foreign exchange reserves. Gold reserves were up by USD 760 million to USD 37.644
billion in the reporting week, the data showed. The special drawing rights (SDRs) with the International Monetary Fund
(IMF) rose by USD 6 million at USD 1.552 billion. The country's reserve position with the IMF also increased USD 65 million
to USD 5.156 billion in the reporting week, the data showed."

print("The original string is : " + str(test_str))

res = ''.join(format(ord(i), '08b') for i in test_str)

print("The string after binary conversion : " + str(res))

fname = input("Enter file name: ")

print("\n Numbers are as follows:")

with open(fname, 'r') as f:

    for line in f:

        words = line.split()

        for i in words:

            for letter in i:

                if (letter.isdigit()):

                    print(letter)


print("\n Date as follow")

import re

f = open("file1.txt", "r")


content = f.read()


pattern = "\d{2}[/-]\d{2}[/-]\d{4}"
```

```python
        dates = re.findall(pattern, content)
        for date in dates:
            if "-" in date:
                day, month, year = map(int, date.split("-"))
            else:
                day, month, year = map(int, date.split("/"))
            if 1 <= day <= 31 and 1 <= month <= 12:
                print(date)
        f.close()
file = open('file1.txt', 'r')
    file2 = open('file2.txt', 'a')
    for line in file:
        asc = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', 's', 't', 'u',
               'v', 'w', 'x', 'y', 'z']
        new = ['f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n', 'o', 'p', 'q', 'r', 's', 't', 'u', 'v', 'w', 'x', 'y', 'z',
               'a', 'b', 'c', 'd', 'e']
        line = line.lower()
        line = list(line)
        for x in range(len(line)):
            if line[x] not in asc:
                continue
            ch = asc.index(line[x])
            line[x] = new[ch]
        newstr = ''
        for i in line:
            newstr += i
        print('\n\nReplace Every Character a-z by a-f:\n', newstr)
        file2.write(newstr)
    count = 0
    l1 = []
    x = open('file1.txt', 'r')
    y = open('file2.txt', 'a')
    for item in x.read():
        if item not in l1:
            count += 1
            l1.append(item)
    y.write("\nNumber of unique Pattern : " + str(count))
```

```
    y.close()


if __name__ == '__main__':
    fname = 'file1.txt'
    try:
        counter(fname)
    except:
        print('File not found')
```

Output:

C:\Users\parth\AppData\Local\Programs\Python\Python39\python.exe "D:/_MCA/Sem -
2/Python/Exam/prac_exam.py"

Output of 1ˢᵗ task:

Number of unique short words in text file: 76

Number of words in text file: 197

Number of lines in text file: 6

Number of characters in text file: 951

Number of spaces in text file: 191

Enter file name: file1.txt

Output of 2ⁿᵈ task:

Numbers are as follows:

9

4

2

7

6

2

0

5

7

6

3

0

2

3

1

5

8

1

6

1

1

1

4

9

3

0

8

5

9

6

5

7
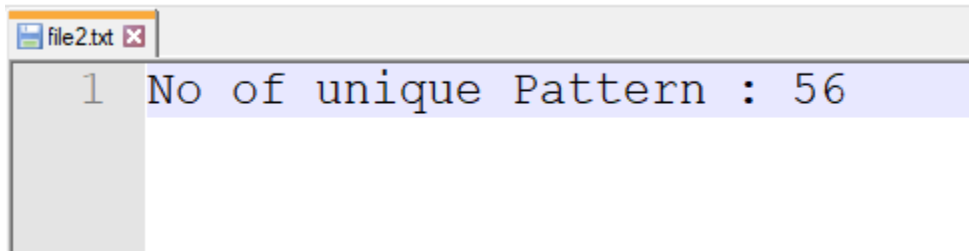
6

2

2

4

7

6

0

3

7

6

4

4

6

1

5

5

2

6

5

5

1

5

6

 Date as follow

Process finished with exit code 0

Output of 3rd task:

Output of 4th task:

Replace Every Character a-z by a-f:

 ymj htzsywd'x ktwjnls jchmfslj wjxjwajx xzwlji gd zxi 9.427 gnqqnts yt wjhtwi mnlm tk zxi 620.576 gnqqnts ns ymj bjjp jsiji ozqd 30, fhhtwinsl yt ymj qfyjxy wgn ifyf.

Replace Every Character a-z by a-f:

 ns ymj uwjantzx bjjp jsiji ozqd 23, ymj wjxjwajx mfi ijhqnsji gd zxi 1.581 gnqqnts yt zxi 611.149 gnqqnts. ns ymj wjutwynsl bjjp jsiji ozqd 30, ymj wnxj ns ymj wjxjwajx bfx ts ymj gfhp tk fs nshwjfxj ns ktwjnls hzwwjshd fxxjyx (khfx), f rfotw htrutsjsy tk ymj tajwfqq wjxjwajx, ymj wjxjwaj gfsp tk nsinf'x (wgn) bjjpqd ifyf wjqjfxji ts kwnifd xmtbji.

Replace Every Character a-z by a-f:

 khf nshwjfxji gd zxi 8.596 gnqqnts yt zxi 576.224 gnqqnts ns ymj wjutwynsl bjjp. jcuwjxxji ns itqqfw yjwrx, ymj ktwjnls hzwwjshd fxxjyx nshqzij ymj jkkjhy tk fuuwjhnfynts tw ijuwjhnfynts tk sts-zx zsnyx qnpj ymj jzwt, utzsi fsi djs mjqi ns ymj ktwjnls jchmfslj wjxjwajx.

Replace Every Character a-z by a-f:

ltqi wjxjwajx bjwj zu gd zxi 760 rnqqnts yt zxi 37.644 gnqqnts ns ymj wjutwynsl bjjp, ymj ifyf xmtbji.

Replace Every Character a-z by a-f:

ymj xujhnfq iwfbnsl wnlmyx (xiwx) bnym ymj nsyjwsfyntsfq rtsjyfwd kzsi (nrk) wtxj gd zxi 6 rnqqnts fy zxi 1.552 gnqqnts.

Replace Every Character a-z by a-f:

ymj htzsywd'x wjxjwaj utxnynts bnym ymj nrk fqxt nshwjfxji zxi 65 rnqqnts yt zxi 5.156 gnqqnts ns ymj wjutwynsl bjjp, ymj ifyf xmtbji.

Output of 5th task:

The original string is : The country's foreign exchange reserves surged by USD 9.427 billion to record high of USD 620.576 billion in the week ended July 30, according to the latest RBI data. In the previous week ended July 23, the reserves had declined by USD 1.581 billion to USD 611.149 billion. In the reporting week ended July 30, the rise in the reserves was on the back of an increase in foreign currency assets (FCAs), a major component of the overall reserves, the Reserve Bank of India's (RBI) weekly data released on Friday showed. FCA increased by USD 8.596 billion to USD 576.224 billion in the reporting week. Expressed in dollar terms, the foreign currency assets include the effect of appreciation or depreciation of non-US units like the euro, pound and yen held in the foreign exchange reserves. Gold reserves were up by USD 760 million to USD 37.644 billion in the reporting week, the data showed. The special drawing rights (SDRs) with the International Monetary Fund (IMF) rose by USD 6 million at USD 1.552 billion. The country's reserve position with the IMF also increased USD 65 million to USD 5.156 billion in the reporting week, the data showed.

The string after binary conversion :

01010100011010000110010100100000011000110110111101110101011011100111010000110010011110010100111011001100100000011001100110111101110010011001010110100101100111011011100010000001100101011110000110001101101000011000010110111001100111011001010010000001110010011001010110111001100101011011000110010101110010011001100100000011100110111101010111001001100111011001010010110010000010000001100010011110010010000001010101010010011010001000010000000111001001011100011010000110010001101110010000001100010011010010110110001101100011010010110111101101110001000000111010001101111001000000111001001100101011000110110111101110011001000000111001101101110101011100100110010000010000001101000011011110010000001110010001100101100111011010000010000001101111011001100010000001010101010010011010001000010000001101100011001000110000010111000110101001101110011011000100000011000100110100100110110001101100011010001011011110110111000100000011010001011011110110111000100000011010001100100011000001011100011010100110111001101100010000001100010011010010110110001101100011010001011011110110111000100000011010001100100010000001010101010010011010001000010000000110010010111000110101001101100011011000110111101110110010000001011100011010100110111001101100010000001100010011010010110110001101100011010001011011110110111000100000011010001100100010000001010101010010011010001000010000001101100010110011011100011000001110100011010000110010100100000011011000110000010111010001100101011100110110111000100000

000110110001101001011011110110111000100000011101000110111100100000010101010100110100010
000100000001101100011000100110001001011100011000100110100001110010010000001100010011011001
011011000110110001101001011011110110111000101110001000000100100101101110001000000111101000
110100001100101001000000111001001100101011100000110111101110010011101000110100101101101001
100111001000000111011011001010110010101101011001000000110010101101110011001000110010101011
001000010000001001010011101010110110001111001001000000011001100110000001011000010000000111
010001101000011001010010000001110010011010010111001101100101001000000110100101101110010001
000011101000110100001100101001000000111001001100101011100110110010100100000011010010110111
001011100110010000001110111011000010111001100100000011011110111011100010000001110100011010
001100101001000000110001001100001011000110110101100100000011011110110011000100000001100001
011011100010000001101001011011100110001100011011100100110010101100000101110011011001010010
110100101101110001000000110011001101111011100100111101110010011000101101001011001110101100
111000110111010101110010010101100101110011011100110110010010101101100111011101110010000001
1000010000001100001001000000110110101100001011010100110111101110010001000000110001101101101
111011011010111000001101111011011100110010101011011100111010000100000011011110110011000100
000111010001101000011001010010000001101111011011100110010101011100100110000010110110001101
000100000011100100110010101110011011011001010111001001110110011001010111001100101100001000
011101000110100001100101001000000101001001100101011100110110010101011100110110010101110010
010000001000010011000010110111001101011001000000110111101100110001000000100100101101110011
100100011010010110000100100111011100110110000001010000010100100110010101110011011001010111
000000111011011001010110010101101011011011000011110010010000001100010011000010110111010001
000100100000011100100110010101110110011010110110001100101011000010111001101100101011001000
110110111000100000010000010001100111001001101001011001000110000011000010111100100100000011
000110111101110110010101100100000010111000100000010001100100000110100000100000001101000001
1011011100110001101110010010011001010110000101110011011011001010110010000010000001100010011
000011101000110100001100101001000000111001001100101011100000110111101110010001001110100011
001011011001100111001000000111011101100010101100101011010110110010111000010000001000101011110
000111000001110010011001010101110010110111001101100101011001000010000001101001011011100010000
001100100011011110110110001101100011000010111001000010000001110100011001010111001001001101101
011100110010110000100000011101000110100001100101001000000110011001101111011110110010010011001010
110100101100111011101110001000000110001101110101011100100110010011001010110111001100011010
1110010010000011000101110011011011001101100101011011100100111001001100100110010101101110011000110
111100100100000011000010111001101011101010101101110011011100110110010101110100011100110010000011010010
001101101100011101010110010001100101001000000111010001101000011001001100101010010000001100110101101
01100110011001100110010101100011011101000001000000110111101100110001000000110000101110000010
000011100100110010011001010110001101110100010110000101110100011010010110111101101110011110110111101101110001000000110
110110010001000000110010001100110010101110000001100100110010101011000110110100010110000101110100011010010100000011001010
010101010101001100100000011101010110111001100110101001011101000111001100110010000000110110001101001
1101011011001010010000001110100011010000110010100100000011001010111010101110111000100110111100
1011000010000001110000011011110111101011011100110010000100000011000010111011001100110011011001010010
0000011110010110010101101101110001000000110100001100101100101010110110001100100000100000011010010110
11100010000001110100011010000110010100010000001100101011101010111011100100110111100101100001000000111010
0010110111101101011000100000011011110110011011010000100000001100001011011100010000001010011001100110110

110010000000111011101100101011001010110101100101100001000000111010001101000011001010010000
001100100011000010111010001100001001000000111001101101000011011110111011101100101011001001100
00101110001000000010101000110100001100101001000000011100110111000011001010110001101101001001
110000101101100001000000110010001110010011000010111011101101001011011100110011100100000001
110010011010010110011101101000011101000111001100100000001010000101001101000100010100100111
1001100101001001000000011101110110100101110100011010000010000001110100011010000110010100100
0000010010010110111001110100011001010111001001101110011000010111010001101001011011110110
1100110000101101100001000000100110101101111011011100110010101110100011000010111001001001110
0100100000010001100111010101101110011001000010000001010000100100101001101010001100010100
1001000000011100100110111101110011011011001010010000001100010011110010010000001010101010011
01000100000010000000110110001000000011011010110100101101100011011000110100101101111011011100
0100000011000010111010000100000010101010100110100010000010000000110001001011100011010100
11010100110010001000000110001001101001011011000110110001101001011011110110111101100010111000
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010111010001101000001000000111010001101000011001010010000001001010011010100011000100001110111011010
00110000010110110001110011011011110010000001101001011011100110001101110010010011001010110001
01110011011001010110010000010000001010101010100110100010000010000000110110001101010010000000
110110101101001011011000110001101100011010010110111101101110010000001110100011011110010000001
010101010100110100010000010000000110101001011100011000100110101001101011000100000011000100011
0100101101100011011000110100101101111011011100010000001101001011101100100000011101000110
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111001000000011101110110010101100101011010110010110000100000011101000110100001100101001000
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000101110