**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"):

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}"

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

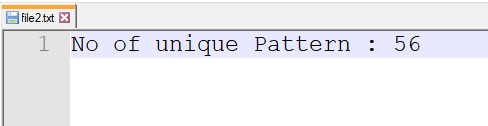
5

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 : 01010100011010000110010100100000011000110110111101110101011011100111010001110010011110010010011101110011001000000110011001101111011100100110010101101001011001110110111000100000011001010111100001100011011010000110000101101110011001110110010100100000011100100110010101110011011001010111001001110110011001010111001100100000011100110111010101110010011001110110010101100100001000000110001001111001001000000101010101010011010001000010000000111001001011100011010000110010001101110010000001100010011010010110110001101100011010010110111101101110001000000111010001101111001000000111001001100101011000110110111101110010011001000010000001101000011010010110011101101000001000000110111101100110001000000101010101010011010001000010000000110110001100100011000000101110001101010011011100110110001000000110001001101001011011000110110001101001011011110110111000100000011010010110111000100000011101000110100001100101001000000111011101100101011001010110101100100000011001010110111001100100011001010110010000100000010010100111010101101100011110010010000000110011001100000010110000100000011000010110001101100011011011110111001001100100011010010110111001100111001000000111010001101111001000000111010001101000011001010010000001101100011000010111010001100101011100110111010000100000010100100100001001001001001000000110010001100001011101000110000100101110001000000100100101101110001000000111010001101000011001010010000001110000011100100110010101110110011010010110111101110101011100110010000001110111011001010110010101101011001000000110010101101110011001000110010101100100001000000100101001110101011011000111100100100000001100100011001100101100001000000111010001101000011001010010000001110010011001010111001101100101011100100111011001100101011100110010000001101000011000010110010000100000011001000110010101100011011011000110100101101110011001010110010000100000011000100111100100100000010101010101001101000100001000000011000100101110001101010011100000110001001000000110001001101001011011000110110001101001011011110110111000100000011101000110111100100000010101010101001101000100001000000011011000110001001100010010111000110001001101000011100100100000011000100110100101101100011011000110100101101111011011100010111000100000010010010110111000100000011101000110100001100101001000000111001001100101011100000110111101110010011101000110100101101110011001110010000001110111011001010110010101101011001000000110010101101110011001000110010101100100001000000100101001110101011011000111100100100000001100110011000000101100001000000111010001101000011001010010000001110010011010010111001101100101001000000110100101101110001000000111010001101000011001010010000001110010011001010111001101100101011100100111011001100101011100110010000001110111011000010111001100100000011011110110111000100000011101000110100001100101001000000110001001100001011000110110101100100000011011110110011000100000011000010110111000100000011010010110111001100011011100100110010101100001011100110110010100100000011010010110111000100000011001100110111101110010011001010110100101100111011011100010000001100011011101010111001001110010011001010110111001100011011110010010000001100001011100110111001101100101011101000111001100100000001010000100011001000011010000010111001100101001001011000010000001100001001000000110110101100001011010100110111101110010001000000110001101101111011011010111000001101111011011100110010101101110011101000010000001101111011001100010000001110100011010000110010100100000011011110111011001100101011100100110000101101100011011000010000001110010011001010111001101100101011100100111011001100101011100110010110000100000011101000110100001100101001000000101001001100101011100110110010101110010011101100110010100100000010000100110000101101110011010110010000001101111011001100010000001001001011011100110010001101001011000010010011101110011001000000010100001010010010000100100100100101001001000000111011101100101011001010110101101101100011110010010000001100100011000010111010001100001001000000111001001100101011011000110010101100001011100110110010101100100001000000110111101101110001000000100011001110010011010010110010001100001011110010010000001110011011010000110111101110111011001010110010000101110001000000100011001000011010000010010000001101001011011100110001101110010011001010110000101110011011001010110010000100000011000100111100100100000010101010101001101000100001000000011100000101110001101010011100100110110001000000110001001101001011011000110110001101001011011110110111000100000011101000110111100100000010101010101001101000100001000000011010100110111001101100010111000110010001100100011010000100000011000100110100101101100011011000110100101101111011011100010000001101001011011100010000001110100011010000110010100100000011100100110010101110000011011110111001001110100011010010110111001100111001000000111011101100101011001010110101100101110001000000100010101111000011100000111001001100101011100110111001101100101011001000010000001101001011011100010000001100100011011110110110001101100011000010111001000100000011101000110010101110010011011010111001100101100001000000111010001101000011001010010000001100110011011110111001001100101011010010110011101101110001000000110001101110101011100100111001001100101011011100110001101111001001000000110000101110011011100110110010101110100011100110010000001101001011011100110001101101100011101010110010001100101001000000111010001101000011001010010000001100101011001100110011001100101011000110111010000100000011011110110011000100000011000010111000001110000011100100110010101100011011010010110000101110100011010010110111101101110001000000110111101110010001000000110010001100101011100000111001001100101011000110110100101100001011101000110100101101111011011100010000001101111011001100010000001101110011011110110111000101101010101010101001100100000011101010110111001101001011101000111001100100000011011000110100101101011011001010010000001110100011010000110010100100000011001010111010101110010011011110010110000100000011100000110111101110101011011100110010000100000011000010110111001100100001000000111100101100101011011100010000001101000011001010110110001100100001000000110100101101110001000000111010001101000011001010010000001100110011011110111001001100101011010010110011101101110001000000110010101111000011000110110100001100001011011100110011101100101001000000111001001100101011100110110010101110010011101100110010101110011001011100010000001000111011011110110110001100100001000000111001001100101011100110110010101110010011101100110010101110011001000000111011101100101011100100110010100100000011101010111000000100000011000100111100100100000010101010101001101000100001000000011011100110110001100000010000001101101011010010110110001101100011010010110111101101110001000000111010001101111001000000101010101010011010001000010000000110011001101110010111000110110001101000011010000100000011000100110100101101100011011000110100101101111011011100010000001101001011011100010000001110100011010000110010100100000011100100110010101110000011011110111001001110100011010010110111001100111001000000111011101100101011001010110101100101100001000000111010001101000011001010010000001100100011000010111010001100001001000000111001101101000011011110111011101100101011001000010111000100000010101000110100001100101001000000111001101110000011001010110001101101001011000010110110000100000011001000111001001100001011101110110100101101110011001110010000001110010011010010110011101101000011101000111001100100000001010000101001101000100010100100111001100101001001000000111011101101001011101000110100000100000011101000110100001100101001000000100100101101110011101000110010101110010011011100110000101110100011010010110111101101110011000010110110000100000010011010110111101101110011001010111010001100001011100100111100100100000010001100111010101101110011001000010000000101000010010010100110101000110001010010010000001110010011011110111001101100101001000000110001001111001001000000101010101010011010001000010000000110110001000000110110101101001011011000110110001101001011011110110111000100000011000010111010000100000010101010101001101000100001000000011000100101110001101010011010100110010001000000110001001101001011011000110110001101001011011110110111000101110001000000101010001101000011001010010000001100011011011110111010101101110011101000111001001111001001001110111001100100000011100100110010101110011011001010111001001110110011001010010000001110000011011110111001101101001011101000110100101101111011011100010000001110111011010010111010001101000001000000111010001101000011001010010000001001001010011010100011000100000011000010110110001110011011011110010000001101001011011100110001101110010011001010110000101110011011001010110010000100000010101010101001101000100001000000011011000110101001000000110110101101001011011000110110001101001011011110110111000100000011101000110111100100000010101010101001101000100001000000011010100101110001100010011010100110110001000000110001001101001011011000110110001101001011011110110111000100000011010010110111000100000011101000110100001100101001000000111001001100101011100000110111101110010011101000110100101101110011001110010000001110111011001010110010101101011001011000010000001110100011010000110010100100000011001000110000101110100011000010010000001110011011010000110111101110111011001010110010000101110