FP5.0 MODULE-1

PROJECT-1

Batch Name:

Infosys FP5.0 Summer 2018

Enrollment Number: R171217041

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Sem: Semester-III

Branch: CSE-DevOps-Xebia

PROJECT OBJECTIVES

After completing this project, a learner should be able to understand and implement the following fundamental concepts of Python Programming in solving a real world problem.

- Variables
- Data Structures
  - String Lists
- Control Structures
  - If / else statements, For loop
- Functions
- File Handling and Operations

SPECIFICATIONS

The project is to write a Python program that reads a text file, scrambles the words in the file on following rules and writes the output to a new text file:

- Words less than or equal to 3 characters need not be scrambled

- Don't scramble first and last char, so Scrambling can become Srbmnacilg or Srbmnailcg or Snmbracilg , i.e. letters except first and last can be scrambled in any order

- Punctuation at the end of the word to be maintained as is i.e. "Surprising," could become "Spsirnirug," but not "Spsirn,irug"

- Following punctuation marks are to be supported - Comma Question mark, Full stop, Semicolon, Exclamation

- Do this for a file and maintain sequences of lines

- Hint: use random module of Python for scrambling

EXPECTED OUTPUT

- On executing the program, it should prompt the user to enter input file name and generate an output file with scrambled text.

- Output file should be named by appending the word "Scrambled" to input file name.

MyFile.txt

Scrambling words is very interesting. Because even if they are scrambled, it doesn't impact our reading. If you don't believe it, scramble this file and read again. Sounds surprising, isn't it! Because we don't read letter by letter, we read the word as a whole.

Program Execution →

MyFileScrambled.txt

Srbmnacilg wrods is vrey itrensientg. Bscauee even if tehy are srelabcmd, it dosne't ipcmat our raidneg. If you dno't bleieve it, slbmcrae tihs flie and raed agian. Suodns spsirnirug, isn't it! Bacusee we dno't raed lteetr by letetr, we raed the wrod as a wolhe.

CODING

```python
#Step 1) Import all the libraries required

import random

import string


#Step 2) Create function of Scrambling of word
where input argument will be a single word.

def scramble(word):

    if len(word) <= 3: #if length of word is less than 3,
it remains unchanged

        return word

    elif word[-1] == "?" or word[-1] == "." or word[-1] == ";" or word[-1] == "," or word[-1] == "!":

        k=list(word[1:-2])

        random.shuffle(k)

        return word[0]+''.join(k)+word[-2]+word[-1]

    else:

        k=list(word[1:-1])

        random.shuffle(k)

        return word[0]+''.join(k)+word[-1]
```

```python
#Step 3) Create a file from which you want to read the content

print("Welcome to the Project 1 in Python Course")

print("Lets Scramble a complete file!!!")

filename = input("Enter name of the file: ") #Using Input we can prompt user to enter the filename

filename = filename+".txt" #Creating Text file as specified

file = open(filename,"w",1) #File name is a string basically and thus can be pre-specified

num = int(input("Enter lines of content you want to write in the file: "))

print("Enter the content now!!!")

for i in range (0,num):
    str1 = input()
    file.write(str1)
    file.write("\n")
file.close()

'''If you have already created the File and don't want to create it again comment or delete everything written above'''
```

```python
#Step 4) Read The file content and store it as a list of lines

nish = open(filename,"r+")

lines = nish.readlines()

i=0

list1 = [None]*len(lines)

for line in lines:
    list1[i] = line.split()
    i = i+1

nish.close()


#Now we have a list containing elements: One line of a file as a list of all words in line

''' Create a file to write the contents into!!!! '''


#Step 5) Create new file with appened file name as 'Scrambled'

filename = filename.split(".") # Splitting File name by comma delimiter
```

```python
filename1 = filename[0]+"Scrambled."+filename[1]
#Appending Scrambled to the filename before .ext

file1 = open(filename1,"w",1)


#Step 6) Write content into scrambled file by
randomizing each word by calling function
'scramble' and maintain the spaces and linefeeds

for k in range (0,len(list1)):

    for j in range (0,len(list1[k])):

        file1.write(scramble(list1[k][j]))

        file1.write(" ")

    file1.write("\n")
```

SCREENSHOT OF CODING

File   Edit   Format   Run   Options   Window   Help

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#Step 2) Create function of Scrambling of word where input argument will be a single word.
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''' Create a file to write the contents into!!!! '''


#Step 5) Create new file with appened file name as 'Scrambled'
filename = filename.split(".") # Splitting File name by comma delimiter
filename1 = filename[0]+"Scrambled."+filename[1] #Appending Scrambled to the filename before .ext
file1 = open(filename1,"w",1)


#Step 6) Write content into scrambed file by randomizing each word by calling function 'scramble' and maintain the spaces and linefeeds
for k in range (0,len(list1)):
    for j in range (0,len(list1[k])):
        file1.write(scramble(list1[k][j]))
        file1.write(" ")
    file1.write("\n")
```

SCREENSHOT OF TEXT FILE

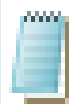📝 Project1 - Notepad

File   Edit   Format   View   Help

Scrambling words is very intersting. Because even if they are scrambled, it doesn't impact our reading. If you don't believe it, scramble this file and read again.

Sounds surprising, isn't it!

Because we don't read letter by letter, we read the word as a whole

Project1Scrambled - Notepad

File   Edit   Format   View   Help

Sbmrlcniag wrdos is vrey ititnesnrg. Buacese even if they are samlecbrd, it den'ost ipmcat our rdiaeng. If you dno't bveeile it, sblmacre this file and read aaign. Sndous sirpnurisg, isn't it! Bsueace we d'not raed letter by ltteer, we raed the wrod as a wolhe

SCREENSHOT OF SHELL OUTPUT

Python 3.5.0 Shell

File Edit Shell Debug Options Window Help

```
Python 3.5.0 (v3.5.0:374f501f4567, Sep 13 2015, 02:27:37) [MSC v.1900 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
============== RESTART: C:\Users\500060720\Desktop\project1.py ==============
Welcome to the Project 1 in Python Course
Lets Scramble a complete file!!!
Enter name of the file: Project1
Enter lines of content you want to write in the file: 11
Enter the content now!!!
Scrambling words is very
intersting. Because even
if they are scrambled, it
doesn't impact our
reading. If you don't
believe it, scramble this
file and read again.
Sounds surprising, isn't it!
Because we don't read letter by letter, we
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>>>
```