



# DEPARTMENT OF ACADEMIC AFFAIRS

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## EXPERIMENT NUMBER – 3.3

NAME –  
UID –  
SEC –  
BRANCH  
SUB  
SEM –  
D.O.P

**AIM – On the basis of Tuples learning write and give the output of the followings programs**

1. Write a Python program to generate 26 text files named A.txt, B.txt, and so on up to Z.txt
2. Write a Python program to create a file where all letters of English alphabet are listed by specified number of letters on each line
3. Write a Python program to read a random line from a file.
4. Write a Python program to count the frequency of words in a file
5. Write a Python program to copy the contents of a file to another file

**Solution –**

1. Write a Python program to generate 26 text files named A.txt, B.txt, and so on up to Z.txt

**Program Code –**

```
import string, os if not
os.path.exists("letters"):

    os.makedirs("letters")      for
    letter in string.ascii_uppercase:
        with open(letter + ".txt", "w") as f:
            f.writelines(letter)
```



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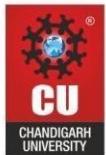
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## Screenshot of Code-

The screenshot shows a Jupyter Notebook interface with the following details:

- Header:** View Assessment, Desktop/python/, Python program to generate 26 text files named A.txt, B.txt, and so on ... Last Checkpoint: 6 minutes ago (autosaved), Logout
- Toolbar:** File, Edit, View, Insert, Cell, Kernel, Widgets, Help
- In [1]:** `import os  
os.getcwd()`
- Out[1]:** (Empty)
- In [2]:** `import string, os  
if not os.path.exists("letters"):  
 os.makedirs("letters")  
for letter in string.ascii_uppercase:  
 with open(letter + ".txt", "w") as f:  
 f.write(letter)`
- In [ ]:** (Empty)

The system tray at the bottom shows: 17°C Clear, ENG IN, 09:38 PM, 22-04-2022.



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## Output—

In [1]: `import os  
os.getcwd()`

Out[1]: 'C:\Users\bkbal\Desktop\python'

In [2]: `import string, os  
if not os.path.exists("letters"):  
 os.makedirs("letters")  
for letter in string.ascii_uppercase:  
 with open(letter + ".txt", "w") as f:  
 f.writelines(letter)`

In [ ]:

Name	Date modified	Type	Size
A.txt	22-04-2022 09:33 PM	Text Document	1 KB
B.txt	22-04-2022 09:33 PM	Text Document	1 KB
C.txt	22-04-2022 09:33 PM	Text Document	1 KB
D.txt	22-04-2022 09:33 PM	Text Document	1 KB
E.txt	22-04-2022 09:33 PM	Text Document	1 KB
F.txt	22-04-2022 09:33 PM	Text Document	1 KB
G.txt	22-04-2022 09:33 PM	Text Document	1 KB
H.txt	22-04-2022 09:33 PM	Text Document	1 KB
I.txt	22-04-2022 09:33 PM	Text Document	1 KB
J.txt	22-04-2022 09:33 PM	Text Document	1 KB
K.txt	22-04-2022 09:33 PM	Text Document	1 KB
L.txt	22-04-2022 09:33 PM	Text Document	1 KB
M.txt	22-04-2022 09:33 PM	Text Document	1 KB
N.txt	22-04-2022 09:33 PM	Text Document	1 KB
O.txt	22-04-2022 09:33 PM	Text Document	1 KB
P.txt	22-04-2022 09:33 PM	Text Document	1 KB

A.txt - Notepad

File Edit View

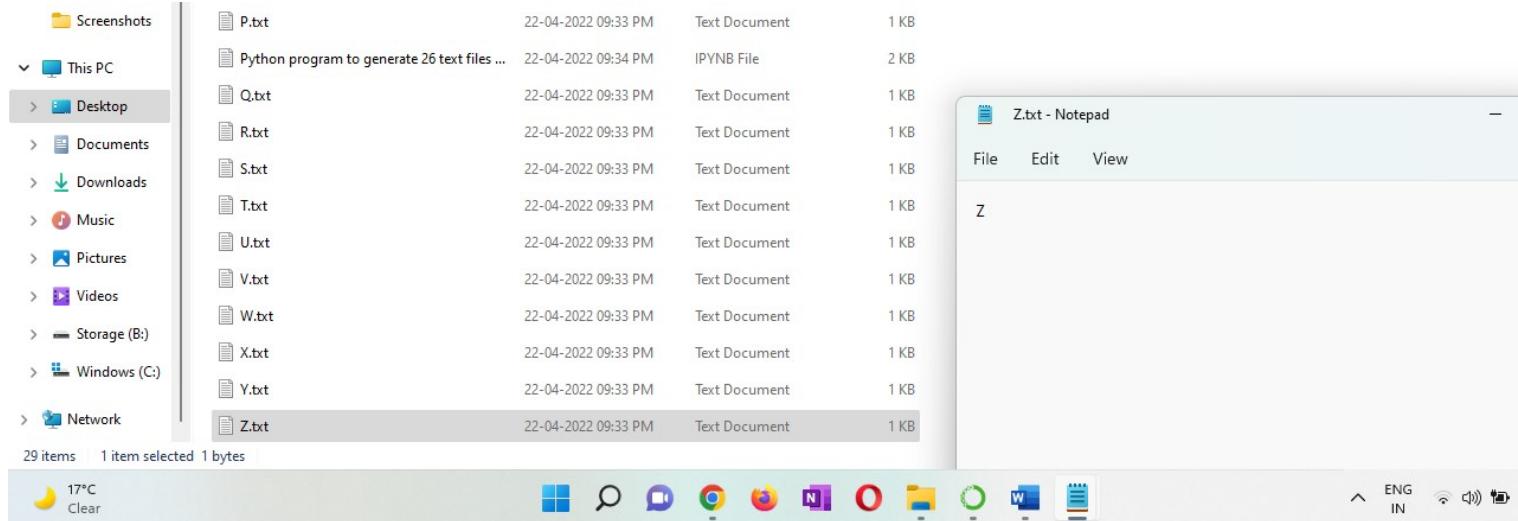
A



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2. Write a Python program to create a file where all letters of English alphabet are listed by specified number of letters on each line

### Program Code –

```
import string def
letters_file_line(n): with
open("letter.txt", "w") as f:
    alphabet = string.ascii_uppercase    letters = [alphabet[i:i
+ n] + "Wn" for i in range(0, len(alphabet), n)]
f.writelines(letters) letters_file_line(3)
```

### Screenshot of Code –



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In [2]:

```
import string
def letters_file_line(n):
    with open("letter.txt", "w") as f:
        alphabet = string.ascii_uppercase
        letters = [alphabet[i:i + n] + "\n" for i in range(0, len(alphabet), n)]
    f.writelines(letters)
letters_file_line(3)
```

In [ ]:

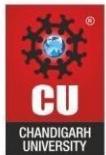
17°C Clear ENG IN 09:47 PM 22-04-2022

## Output-

In [2]:

```
import string
def letters_file_line(n):
    with open("letter.txt", "w") as f:
        alphabet = string.ascii_uppercase
        letters = [alphabet[i:i + n] + "\n" for i in range(0, len(alphabet), n)]
    f.writelines(letters)
letters_file_line(3)
```

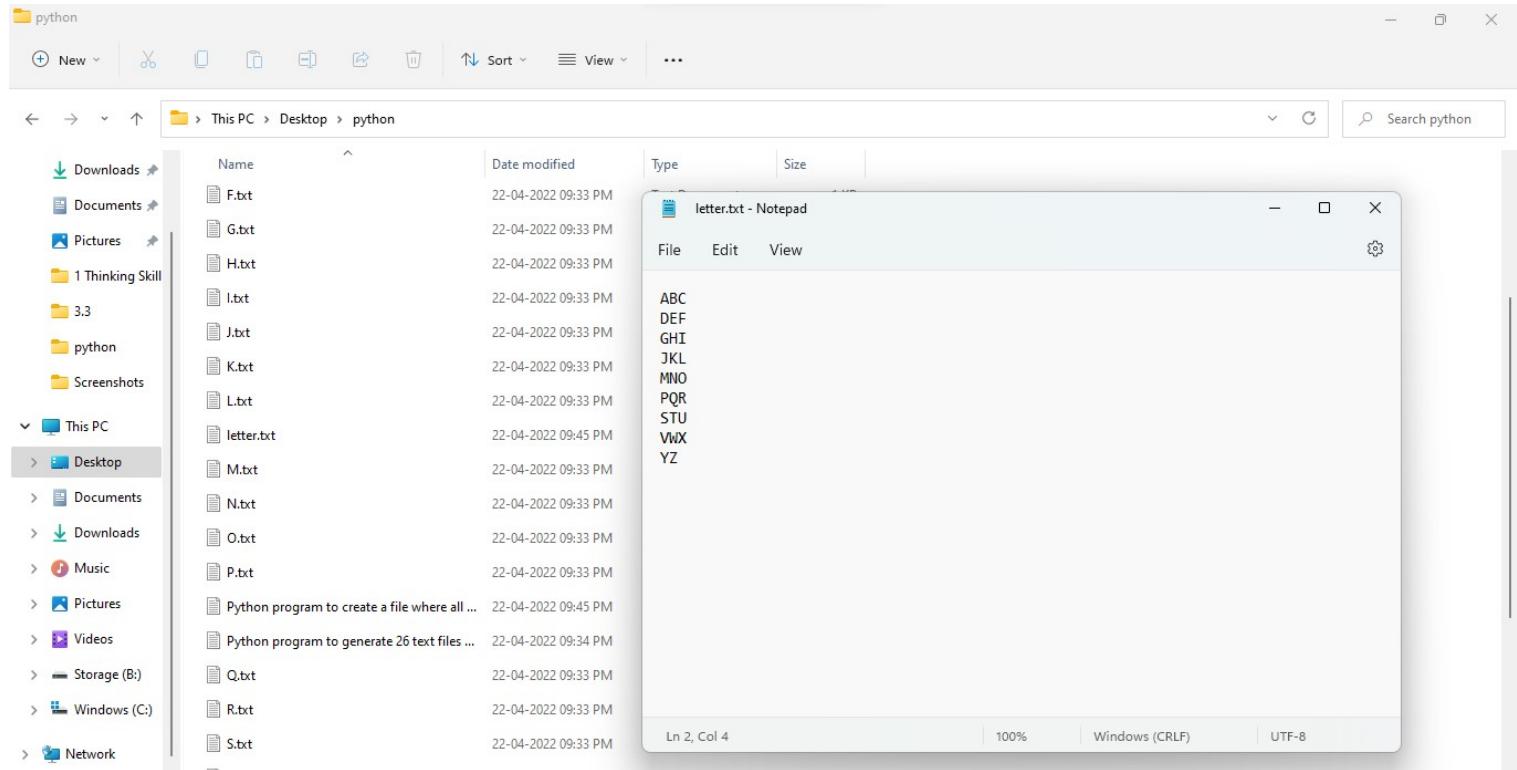
In [ ]:



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### 3. Write a Python program to read a random line from a file.

#### Program Code –

```
import random def
random_line(fname):
    lines = open(fname).read().splitlines()
    return random.choice(lines)
print(random_line('apple.txt'))
```

#### Screenshot of Code –



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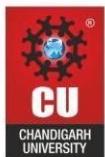
The screenshot shows a Jupyter Notebook interface running in a browser window. The title bar indicates the page is "Python program to read a random line from a file". The notebook contains a single code cell (In [2]) with the following Python code:

```
In [2]: import random
def random_line(fname):
    lines = open(fname).read().splitlines()
    return random.choice(lines)
print(random_line('apple.txt'))
```

The output of the code is displayed below the cell:

I am almost spherical in shape.

The browser's address bar shows the URL: `localhost:8888/notebooks/Desktop/python/%20Python%20program%20to%20read%20a%20random%20line%20from%20a%20file.ipynb`. The top navigation bar includes links for "View Assessment", "Desktop/python/", and "Python program to read a random line from a file". The bottom status bar shows the date and time: "22-04-2022 09:55 PM".



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## Output-

The screenshot shows a Jupyter Notebook interface. In the code cell (In [2]), the following Python code is written:

```
import random
def random_line(fname):
    lines = open(fname).read().splitlines()
    return random.choice(lines)
print(random_line('apple.txt'))
```

When run, the output is:

```
I am almost spherical in shape.
```

## **apple.txt file-**

The screenshot shows a Windows File Explorer window and a Notepad window. The File Explorer window shows a folder named 'python' containing several text files (apple.txt, B.txt, C.txt, D.txt, E.txt, F.txt, G.txt, H.txt, I.txt, J.txt, K.txt, L.txt, letter.txt, M.txt, N.txt, O.txt, P.txt) all modified on 22-04-2022 at 09:33 PM, each being 1 KB in size. The Notepad window shows the contents of the 'apple.txt' file:

```
hello , i am apple.
i am red in color.
i am sweet in Taste.
I am almost spherical in shape.
```



## 4. Write a Python program to count the frequency of words in a file

### Program Code –

```
from collections import Counter
word_count(fname):      with
open(fname) as f:
    return Counter(f.read().split())

print("Number of words in the file :",word_count("apple.txt"))
```

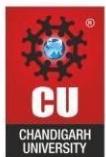
### Screenshot of Code –

The screenshot shows a Jupyter Notebook window titled "Python program to count the frequency of words in a file". The code cell contains the provided Python script. The output cell shows the resulting Counter object with word frequencies. The system tray at the bottom indicates it's 17°C, Clear, and the date is 22-04-2022.

```
In [1]: from collections import Counter
def word_count(fname):
    with open(fname) as f:
        return Counter(f.read().split())

print("Number of words in the file :",word_count("apple.txt"))

Number of words in the file : Counter({'am': 4, 'i': 3, 'in': 3, 'hello': 1, ',': 1, 'apple.': 1, 'red': 1, 'color.': 1, 'sweet': 1, 'Taste.': 1, 'I': 1, 'almost': 1, 'spherical': 1, 'shape.': 1})
```



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## Output-

In [1]:

```
from collections import Counter
def word_count(fname):
    with open(fname) as f:
        return Counter(f.read().split())
print("Number of words in the file : ",word_count("apple.txt"))
```

Number of words in the file : Counter({'am': 4, 'i': 3, 'in': 3, 'hello': 1, ',': 1, 'apple.': 1, 'red': 1, 'color.': 1, 'sweet': 1, 'Taste.': 1, 'I': 1, 'almost': 1, 'spherical': 1, 'shape.': 1})

## apple.txt file-

Downloads

Documents

Pictures

1 Thinking Skill

3.3

python

Screenshots

This PC

Desktop

Documents

Downloads

Music

Pictures

Videos

Storage (B:)

Windows (C:)

Network

apple.txt

B.txt

C.txt

D.txt

E.txt

F.txt

G.txt

H.txt

I.txt

J.txt

K.txt

L.txt

letter.txt

M.txt

N.txt

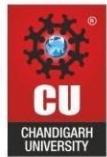
O.txt

P.txt

apple.txt - Notepad

File Edit View

hello , i am apple.  
i am red in color.  
i am sweet in Taste.  
I am almost spherical in shape.



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5. Write a Python program to copy the contents of a file to another file

### Program Code -

```
from shutil import copyfile
copyfile('apple.txt', 'orange.txt')
```

### Screenshot of Code -

The screenshot shows a Jupyter Notebook interface running in a browser window. The title bar indicates the window is titled 'Untitled - Jupyter Notebook'. The browser address bar shows the URL: 'localhost:8888/notebooks/Desktop/python/Untitled - Jupyter Notebook?kernel\_name=python3'. Below the title bar, there's a toolbar with various icons for file operations like New, Open, Save, etc. The main workspace contains a single code cell:

```
In [2]: from shutil import copyfile
copyfile('apple.txt', 'orange.txt')
```

The output of the cell is:

```
Out[2]: 'orange.txt'
```

Below the code cell, there's an empty input field labeled 'In [ ]:'.

At the bottom of the screen, there's a taskbar with several icons for system functions like weather, search, and file operations. On the right side of the screen, there's a status bar showing the date and time: '22-04-2022 10:11 PM'.



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## Output-

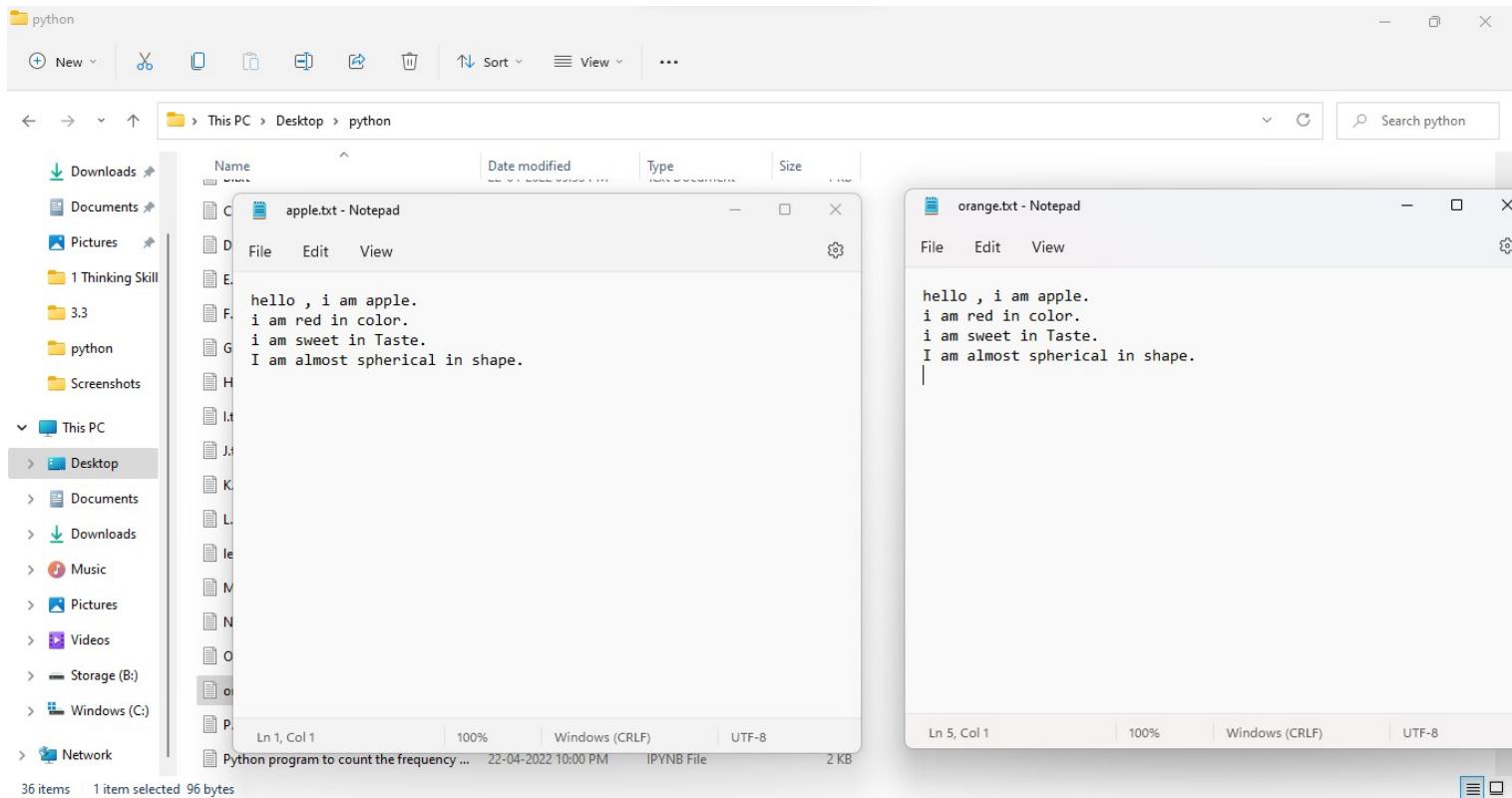
The screenshot shows a Jupyter Notebook interface. The top bar has tabs for 'View Assessment', 'Desktop/python/' (active), and 'Untitled - Jupyter Notebook'. Below the tabs is a toolbar with icons for file operations like New, Open, Save, and Run. The main area displays a code cell and its output. The code cell contains:

```
In [2]: from shutil import copyfile  
copyfile('apple.txt', 'orange.txt')
```

The output cell shows:

```
Out[2]: 'orange.txt'
```

Below the code cell is an empty input field labeled 'In [ ]:'.





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**Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):**

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			



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