

## WORKSHEET

### DATA FILE HANDLING

1	Give one difference between Text file and Binary File
Ans	Text file contains EOL character at the end of every line, there is no such character in binary file
2	Write a Python statement to open a text file "DATA.TXT" so that new contents can be written on it.
Ans	<code>f = open('DATA.TXT', 'w')</code>
3	Write a Python statement to open a text file "DATA.TXT" so that new content can be added to the end of file
Ans	<code>f = open('DATA.TXT', 'a')</code>
4	Write a Python statement to open a text file "DATA.TXT" so that existing contents can be read from file.
Ans	<code>f = open('DATA.TXT')</code>
5	A file "MYDATA.TXT" is opened as <code>file1 = open("MYDATA.TXT")</code> Write a Python statement to close this file.
Ans	<code>file1.close()</code>
6	What is the different in file opening mode "a" and "w" ?
Ans	"w" is used to write in file from the beginning. If file already exists then it will overwrite the previous content. "a" (append – add at the end ) is also used to write in file. If file already exists it will write after the previous content i.e. it will not overwrite the previous content and add new content after the existing content.
6	What is the significance of adding '+' with file opening mode, with context to 'r+' ?
Ans	"+" is used to add alternate action with specified mode i.e. if used with "r" as "r+" it means it will allows to read and alternate action write.
7	What is the difference between <code>readline()</code> and <code>readlines()</code> ?
Ans	<code>readline()</code> allows to read single line from file and return the content as string. <code>readlines()</code> function will read all the lines from file and return it as a List of lines/string.
8	What is the purpose of using <code>flush()</code> in file handling operations ?
Ans	When we are writing data in file the content will be stored in file only when we close the file. Before closing the file i.e. during the operations file will be created but the content will be in buffer not in file and when we close the file content will be shifted to file from buffer. <code>flush()</code> allows the user to send content in file before closing the file. It means when <code>flush()</code> is used it will clear the buffer and transfer content to file.
9	What is the advantage of opening file using 'with' keyword?
Ans	With keyword reduces the overheads involve in file handling operations like closing the file after operation or handling the file closing with exceptions. When file is opened using "with" it will manage these things i.e. file will be automatically closed after operations. It ensures the closing of file even if exceptions arises.
10	<b>Considering the content stored in file "CORONA.TXT"</b> <i>O Corona O Corona</i> <i>Jaldi se tum Go na</i> <i>Social Distancing ka palan karona</i> <i>sabse 1 meter ki duri rakhona</i> <i>Lockdown me ghar me ho to</i> <i>Online padhai karona</i>

	<p>Write the output of following statements –</p> <pre>f = open("CORONA.TXT") sr1 = _____ # to read first line of file str2 = _____ # to read next line of file str3 = _____ # to read remaining lines of file</pre>
Ans	<pre>str1 = f.readline() str2 = f.readline() str3 = f.readlines() OR str3 = f.read()</pre>
11	<p><b>Considering the content stored in file “CORONA.TXT”</b></p> <p><i>O Corona O Corona Jaldi se tum Go na Social Distancing ka palan karona sabse 1 meter ki duri rakhona Lockdown me ghar me ho to Online padhai karona</i></p> <p><b>Complete the missing statement using ‘for’ loop to print all the lines of file</b></p> <pre>f = open("CORONA.TXT") for _____ :     print(_____)</pre>
Ans	<pre>for line in f :     print(line)</pre>
12	What is the difference in write() and writelines()?
Ans	write() function is used to write single string in file whereas writelines() function allows to write List of strings
13	<p><b>Considering the content stored in file “WORLD CUP.TXT”, write the output</b></p> <p><i>India won the Cricket world cup of 1983</i></p> <pre>f = open("WORLD CUP.TXT") print(f.read(2)) print(f.read(2)) print(f.read(4))</pre>
Ans	<p><b>In di a wo</b></p>
14	<p><b>Write a function in python to count the number of lines in “POEM.txt” begins from Upper case character.</b></p> <p>For e.g if the content of file is :</p> <p><i>O Corona O Corona Jaldi se tum Go na Social Distancing ka palan karona sabse 1 meter ki duri rakhona Lockdown me ghar me ho to online padhai karona</i></p> <p><b>Output should be: Lines starting from Capital letters: 4</b></p>
Ans	<pre>def UpperCase():     f = open('poem.txt')     count = 0     for line in f:         if line[0].isupper():             count+=1     print("Lines starting from Capital letters: ",count)</pre>

15	<p><b>Write a function in python to read lines from file “POEM.txt” and count how many times the word “Corona” exists in file.</b></p> <p>For e.g. if the content of file is :</p> <pre>O Corona O Corona Jaldi se tum Go na Social Distancing ka palan karona sabse 1 meter ki duri rakhona Lockdown me ghar me ho to online padhai karona O Corona O Corona Jaldi se tum Go na</pre> <p><b>Output should be: Number of time word Corona occurs : 4</b></p>
Ans	<p><b>Solution 1:</b></p> <pre>def CoronaCount():     f = open('poem.txt')     count = 0     for line in f:         words = line.lower().split()         count += words.count('corona')     print("Number of time words Corona occurs: ",count)</pre> <p><b>Solution 2:</b></p> <pre>def CoronaCount():     f = open('poem.txt')     count = 0     for line in f:         words = line.split()         for w in words:             if w.lower()=='corona':                 count+=1     print("Number of time words Corona occurs: ",count)</pre>
16	<p><b>Write a function in python to read lines from file “POEM.txt” and display all those words, which has two characters in it.</b></p> <p>For e.g. if the content of file is</p> <pre>O Corona O Corona Jaldi se tum Go na Social Distancing ka palan karona sabse 1 meter ki duri rakhona Lockdown me ghar me ho to online padhai karona O Corona O Corona Jaldi se tum Go na</pre> <p><b>Output should be : se Go na ka ki me me ho to se Go na</b></p>
Ans	<pre>def TwoCharWord():     f = open('poem.txt')     count = 0     for line in f:         words = line.split()         for w in words:             if len(w)==2:                 print(w,end=' ')     print()</pre>
17	<p><b>Write a function COUNT() in Python to read contents from file “REPEATED.TXT”, to count and display the occurrence of the word “Catholic” or “mother”.</b></p> <p>For example:</p> <p>If the content of the file is “Nory was a <b>Catholic</b> because her <b>mother</b> was a <b>Catholic</b> , and Nory’s <b>mother</b> was a <b>Catholic</b> because her father was a <b>Catholic</b> , and her father was a <b>Catholic</b> because his <b>mother</b> was a <b>Catholic</b> , or had been</p>

	The function should display: <b>Count of Catholic, mother is 9</b>
Ans	<pre>def COUNT():     f = open('REPEATED.txt')     count = 0     for line in f:         words = line.split()         for w in words:             if w.lower()=='catholic' or w.lower()=='mother':                 count+=1     print('Count of Catholic,mother is',count)</pre>
18	<p><b>Write a function dispS() in Python to read from text file “POEM.TXT” and display those lines which starts with “S”</b></p> <p>For example: If the content of the file is “</p> <pre>O Corona O Corona Jaldi se tum Go na Social Distancing ka palan karona Sabse 1 meter ki duri rakhona Lockdown me ghar me ho to online padhai karona O Corona O Corona Jaldi se tum Go na</pre> <p><b>The function should display:</b> Social Distancing ka palan karona Sabse 1 meter ki duri rakhona</p>
Ans	<pre>def dispS():     f = open('poem.txt')     count = 0     for line in f:         if line[0].lower()=='s':             print(line)</pre>
19	<p><b>Write a function COUNTSIZE() in Python to read the file “POEM.TXT” and display size of file. For e.g. if the content of file is :</b></p> <pre>O Corona O Corona Jaldi se tum Go na Social Distancing ka palan karona sabse 1 meter ki duri rakhona Lockdown me ghar me ho to online padhai karona O Corona O Corona Jaldi se tum Go na</pre> <p><b>The function should display</b> Size of file is 184</p>
Ans	<pre>def COUNTSIZE():     f = open('poem.txt')     s = f.read()     print('Size of file is ',len(s))</pre>
20	<p><b>Write a python function ATOEDISP() for each requirement in Python to read the file “NEWS.TXT” and</b></p> <p>(I) Display “E” in place of all the occurrence of “A” in the word COMPUTER. (II) Display “E” in place of all the occurrence of “A”:</p> <p>I SELL COMPUTARS. I HAVE A COMPUTAR. I NEED A COMPUTAR. I WANT A COMPUTAR. I USE THAT COMPUTAR. MY COMPUTAR CRASHED.</p> <p><b>The function should display</b></p>

	<p>(I) I SELL COMPUTERS. I HAVE A COMPUTER. I NEED A COMPUTER. I WANT A COMPUTER. I USE THAT COMPTUER. MY COMPUTER CRASHED.</p> <p>(II) I SELL COMPUTERS. I HEVE E COMPUTER. I NEED E COMPUTER. I WENT E COMPUTER. I USE THET COMPTUER. MY COMPUTER CRESHED.</p>
Ans	<p><b>(I)</b>  def ATOEDISP():      f = open('NEWS.TXT')      for line in f:          s = line.split()          for word in s:              if 'computar' in word.lower():                  word=word.replace('A','E')                  print(word,end=' ')</p> <p><b>(II)</b>  def ATOEDISP():      f = open('NEWS.TXT')      s = f.read()      for ch in s:          if ch.lower()=='a':              print('E',end='')          else:              print(ch,end='')</p>

## BINARY FILE HANDLING & CSV

1	Letter ____ is prefixed to store string in binary form
Ans	b
2	Write a Python statement to open a text file "DATA.TXT" in binary mode so that new contents can be written on it.
Ans	f = open('DATA.TXT','wb')
3	Write a Python statement to open a text file "DATA.TXT" in binary mode so that new content can be added to the end of file
Ans	f = open('DATA.TXT','ab')
4	Write a Python statement to open a text file "DATA.TXT" in binary mode so that existing contents can be read from file.
Ans	f = open('DATA.TXT','rb')
5	_____ function is used to convert string in binary form.
Ans	encode()
6	<p><b>Consider the following Python code, and fill in the blank to complete the program</b></p> <pre>f=open("India.txt","wb") str="India is my country" f._____(str.encode()) # statement to store the str in file f.close()</pre>
Ans	f.write(str.encode())
7	_____ function is used to fetch binary data from binary file
Ans	
8	_____ function is used to convert binary string to string
Ans	read() and load()
9	_____ function is used in binary mode to send the read pointer to desired position
Ans	seek()

	<p><i>Note: seek() function of file object is used to reposition the cursor</i>  <i>Syntax : seek(number of bytes to read, seek_direction)</i>  <i>Seek_direction can be 0 – beginning, 1 – current position , 2- from last (can be in negative also for backward traversing)</i></p>
10	<p><b>Consider a binary file which stores Name of employee, where each name occupies 20 bytes (length of each name) in file irrespective of actual characters. Now you have to write code to access the first name, 5<sup>th</sup> name and last name.</b></p> <pre>f = open("Emp.txt","rb") s = _____ #code to get first record print(s.decode()) _____ # code to position at 5th record s = f.read(size) print(s.decode()) _____ # code to position at last record s = f.read(20) print(s.decode()) f.close()</pre>
Ans	<pre>f.read(20) f.seek((5-1)*20) f.read(((os.path.getsize('Emp.txt')/20)-1)</pre>
11	<p><b>Write a Python statement to reposition the read pointer to 20 bytes back from the current position.</b></p> <pre>f = open("Emp.txt","rb") f.read(20) f.read(20) f.read(20) f._____ # reposition read pointer to previous record f.close()</pre>
Ans	<pre>f.seek(-20,1)</pre>
12	<p><b>Write a function RECCOUNT() to read the content of binary file 'NAMES.DAT' and display number of records ( each name occupies 20 bytes in file ) in it.</b>  For. e.g. if the content of file is:  SACHIN  AMIT  AMAN  SUSHIL  DEEPAK  HARI SHANKER</p> <p><b>Function should display</b>  Total Records are 6</p>
Ans	<pre>import os def RECCOUNT():     size_of_rec = 20 #Each name will occupy 20 bytes     file_len = os.path.getsize('Names.dat')     num_record = file_len/size_of_rec     print("Total Records are :",num_record)</pre>
13	<p><b>Write a function SCOUNT() to read the content of binary file 'NAMES.DAT' and display number of records (each name occupies 20 bytes in file ) where name begins from 'S' in it.</b></p>

	<p>For. e.g. if the content of file is:  SACHIN  AMIT  AMAN  SUSHIL  DEEPAK  HARI SHANKER</p> <p><b>Function should display</b>  Total Names beginning from 'S' are 2</p>
Ans	<pre>def SCOUNT():     s=' '     count=0     with open('Names.dat','rb') as f:         while(s):             s = f.read(20)             s=s.decode()             if len(s)!=0:                 if s[0].lower()=='s':                     count+=1     print("Total names beginning from "S" are ',count)</pre>
14	To read and write collections like LIST, DICTIONARIES Python provides a module called _____
Ans	pickle
15	_____ is the process of converting structures to byte stream before writing to file.
Ans	Pickling
16	_____ is the process of converting byte stream to original structure.
Ans	Unpickling
17	Pickling is done by the function _____
Ans	dump()
18	Unpickling is done by the function _____
Ans	load()
19	<p><b>Consider the following Python code and complete the missing statement:</b></p> <pre>import pickle myfile = open("test.dat","wb") d={1:100,2:200,3:300} _____ #statement to store dictionary d in file myfile.close()</pre>
Ans	pickle.dump(d,myfile)
20	<p><b>Consider the following Python code and complete the missing statement:</b></p> <pre>import pickle myfile = open("test.dat","rb") d = _____ #statement to load dictionary data from file to 'd' print(d) myfile.close()</pre>
Ans	pickle.load(myfile)
21	Python's standard streams are _____, _____, _____
Ans	stdin, stdout, stderr
22	Python's standard streams are available in module _____

Ans	sys
23	<p><b>From the given path identify the type of each:</b></p> <p>(i) C:\mydata\web\resources\img.jpg</p> <p>(ii) ..\web\data.conf</p>
Ans	<p><b>(i) Absolute</b></p> <p><b>(ii) Relative</b></p>
24	<p><b>Consider the following Binary file 'Emp.txt', Write a function RECSHOW() to display only those records who are earning more than 7000</b></p> <pre> EMP NO          EMP NAME  EMP SALARY :*****       1             AMAN      5000       2             BIPIN      9000       4             DINKAR      9900 </pre>
Ans	<pre> import pickle def RECSHOW():     emp=[]     f = open('employee.dat','rb')     while True:         try:             emp = pickle.load(f) # loading data in emp list         except EOFError:             break     print("%10s"% "EMP NO ", "%20s"% "EMP NAME ", "%10s"% "EMP SALARY")     print("*****")     for e in emp:         if (e[2]&gt;7000):             print("%10s"%e[0], "%20s"%e[1], "%10s"%e[2])             found=True      if found==False:         print("## SORRY EMPLOYEE NUMBER NOT FOUND ##")     f.close() </pre>
24	CSV stands for _____
Ans	Comma Separate Value
25	_____ object is used to read data from csv file?
Ans	reader
26	_____ object is used to perform write operation on csv file.
Ans	writer
27	_____ function of writer object is used to send data to csv file to store.
Ans	writerow()
28	<p><b>Consider the following CSV file (emp.csv):</b></p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <pre> 1,Peter,3500 2,Scott,4000 3,Harry,5000 4,Michael,2500 5,Sam,4200 </pre> </div> <p>Write Python function DISPEMP() to read the content of file emp.csv and display only those records where salary is 4000 or above</p>



Ans

```
import csv
def DISPEMP():
    with open('emp.csv') as csvfile:
        myreader = csv.reader(csvfile,delimiter=',')
        print("%10s"% "EMPNO", "%20s"% "EMP NAME", "%10s"% "SALARY")
        print("=====")
        for row in myreader:
            if int(row[2])>4000:
                print("%10s"%row[0], "%20s"%row[1], "%10s"%row[2])
```

29 **Consider the following CSV file (emp.csv):**

```
1,Peter,3500
2,Scott,4000
3,Harry,5000
4,Michael,2500
5,Sam,4200
```

Write a Python function DISPEMP() to read the content of file emp.csv and count how many employee are earning less than 5000

Ans

```
import csv
def DISPEMP():
    with open('emp.csv') as csvfile:
        myreader = csv.reader(csvfile,delimiter=',')
        count=0
        print("%10s"% "EMPNO", "%20s"% "EMP NAME", "%10s"% "SALARY")
        print("=====")
        for row in myreader:
            if int(row[2])<5000:
                count+=1
        print("=====")
        print("%40s"% "#EMPLOYEE GETTING SALARY <5000 :",count)
        print("=====")
```

30 **Consider the following CSV file (emp.csv):**

```
1,Peter,3500
2,Scott,4000
3,Harry,5000
4,Michael,2500
5,Sam,4200
```

Write a Python function S NAMES() to read the content of file emp.csv and display the employee record whose name begins from 'S' also show no. of employee with first letter 'S' out of total record.

**Output should be:**

```
2,Scott,4000
5,Sam,4200
```

Number of 'S' names are 2/5

Ans

```
import csv
def S NAMES():
    with open('emp.csv') as csvfile:
        myreader = csv.reader(csvfile,delimiter=',')
        count_rec=0
        count_s=0
        for row in myreader:
```

	<pre>if row[1][0].lower()=='s':     print(row[0],',',row[1],',',row[2])     count_s+=1     count_rec+=1 print("Number of 'S' names are ",count_s,"/",count_rec)</pre>
<b>31</b>	<b>Write a python function CSVCOPY() to take sourcefile, targetfile as parameter and create a targetfile and copy the contents of sourcefile to targetfile</b>
Ans	<pre>import csv def CSVCOPY(sourcefile,targetfile):     with open(sourcefile) as csvfile:         f2 = open(targetfile,'w')         mywriter=csv.writer(f2,delimiter=',')         myreader = csv.reader(csvfile,delimiter=',')         for row in myreader:             mywriter.writerow([row[0],row[1],row[2]])     f2.close()</pre>

For any query/suggestions write to me at : [vinodexclusively@gmail.com](mailto:vinodexclusively@gmail.com)