

SECTION – C

(3 × 3 = 9)

29. (a) Write a Python function that counts and returns the number of digits appearing in the text file "Space.txt". For example, if the file contains :

3

```
Space exploration has unlocked incredible
advancements in technology and science. Since the
first moon landing in 1969, space agencies have sent
probes to Mars, Jupiter and beyond. The ISS,
orbiting Earth at about 400 km, serves as a hub for
research. With missions planned for 2030, humanity's
cosmic journey continues!
```

Then the function should return 11.

OR

- (b) Write a Python function that displays the words in which the lowercase letter 'e' appears at least twice in the text file 'Space.txt'. For example, if the file contains :

```
Space exploration has unlocked incredible
advancements in technology and science. Since the
first moon landing in 1969, space agencies have sent
probes to Mars, Jupiter and beyond. The ISS,
orbiting Earth at about 400 km, serves as a hub for
research. With missions planned for 2030, humanity's
cosmic journey continues!
```

Then the function should display :

```
incredible advancements science. agencies serves
research.
```

33. A csv file "**States.csv**" contains some data about all the states of India. Each record of the file contains the following data : 4
- Name of the State
 - Capital of the State
 - Population of the State
 - Official Language of the State

For example, a sample record in the file is :

```
['Andhra Pradesh', 'Amaravati', 52221000, 'Telugu']
```

Write a Python program which reads the data from this file and appends all those records where population is more than 10000000 into another csv file '**More.csv**'.

Note : "**States.csv**" also contains the Header row. The Header row should NOT be copied to "**More.csv**".

SECTION – E

(2 × 5 = 10)

36. NextStep is an organization which has a pool of resource persons to conduct training workshops on various topics related to ICT. The data of all its Resource Persons is stored in a binary file **RESOURCES.DAT** using the following record structure (each record is a tuple) : 2 + 3 = 5

(R_ID, R_Name, R_Expertise, Charges)

where :

R_ID - Resource Person's ID (An integer)

R_Name - Resource Person's Name (A string)

R_Expertise - Area of expertise of the Resource Person

Charges - Charges (in rupees) per hour to conduct a workshop

For example, a record in the file is :

```
(12, 'P. Velusami', 'Machine Learning', 5000)
```

In this context, write the following user defined functions in Python :

- (i) **Append()** – To input the data of a Resource Person and write it in the file **RESOURCES.DAT**.
- (ii) **Update()** – To increase the **Charges** of each resource person by 500.

SECTION – C

(3 × 3 = 9)

29. (a) Write a Python function that displays all the lines containing the word '**vote**' from a text file "**Elections.txt**". For example, if the file contains :

3

In an election many people vote to choose their representative.

The candidate getting the maximum share of votes stands elected.

Normally, one person has to vote once.

The process of voting may vary with time and region.

Then the output should be :

In an election many people vote to choose their representative.

Normally, one person has to vote once.

OR

- (b) Write a Python function that displays all the words starting and ending with a vowel from a text file "**Report.txt**". The consecutive words should be separated by a space in the output. For example, if the file contains :

Once there was a wise man in a village.

He was an awesome story-teller.

He was able to keep people anchored while listening to him.

Then the output should be :

Once a a awesome able

33. A csv file "**P_record.csv**" contains the records of patients in a hospital. Each record of the file contains the following data :

4

- Name of a patient
- Disease
- Number of days patient is admitted
- Amount

For example, a sample record of the file may be :

["Gunjan", "Jaundice", 4, 15000]

Write the following Python functions to perform the specified operations on this file :

- Write a function **read_data()** which reads all the data from the file and displays the details of all the '**Cancer**' patients.
- Write a function **count_rec()** which counts and returns the number of records in the file.

SECTION – E

(2 × 5 = 10)

36. A file, **PASSENGERS.DAT**, stores the records of passengers using the following structure :

5

[**PNR, PName, BRDSTN, DESTN, FARE**]

where :

PNR - Passenger Number (string type)
PName - Passenger Name (string type)
BRDSTN - Boarding Station Name (string type)
DESTN - Destination Station Name (string type)
FARE - Fare amount for the journey (float type)

Write user defined functions in Python for the following tasks :

- (i) **Create ()** – to input data for passengers and write it in the binary file **PASSENGERS.DAT**.
- (ii) **SearchDestn (D)** – to read contents from the file **PASSENGERS.DAT** and display the details of those Passengers whose **DESTN** matches with the value of **D**.
- (iii) **UpdateFare ()** – to increase the fare of all passengers by 5% and rewrite the updated records into the file **PASSENGERS.DAT**.

CBSE Paper 2024

28. (A) Write a user defined function in Python named `showInLines()` which reads contents of a text file named `STORY.TXT` and displays every sentence in a separate line. 3

Assume that a sentence ends with a full stop (.), a question mark (?), or an exclamation mark (!).

For example, if the content of file `STORY.TXT` is as follows :

```
Our parents told us that we must eat vegetables to be
healthy. And it turns out, our parents were right! So,
what else did our parents tell?
```

Then the function should display the file's content as follows :

```
Our parents told us that we must eat vegetables to be
healthy.
```

```
And it turns out, our parents were right!
```

```
So, what else did our parents tell?
```

OR

- (B) Write a function, `c_words()` in Python that separately counts and displays the number of uppercase and lowercase alphabets in a text file, `Words.txt`.

32. Sangeeta is a Python programmer working in a computer hardware company. She has to maintain the records of the peripheral devices. She created a csv file named **Peripheral.csv**, to store the details. The structure of **Peripheral.csv** is :

4

```
[P_id,P_name,Price]
```

where

P_id is Peripheral device ID (integer)

P_name is Peripheral device name (String)

Price is Peripheral device price (integer)

Sangeeta wants to write the following user defined functions :

Add_Device() : to accept a record from the user and add it to a csv file, **Peripheral.csv**.

Count_Device() : To count and display number of peripheral devices whose price is less than 1000.

Data File Handling

34. (A) (i) Differentiate between 'w' and 'a' file modes in Python. $2 + 3 = 5$

(ii) Consider a binary file, **items.dat**, containing records stored in the given format :

```
{item_id: [item_name, amount]}
```

Write a function, **Copy_new()**, that copies all records whose amount is greater than 1000 from **items.dat** to **new_items.dat**.

OR

(B) (i) What is the advantage of using **with** clause while opening a data file in Python ? Also give syntax of **with** clause.

(ii) A binary file, **EMP.DAT** has the following structure :

```
[Emp_Id, Name, Salary]
```

where

Emp_Id : Employee id

Name : Employee Name

Salary : Employee Salary

Write a user defined function, **disp_Detail()**, that would read the contents of the file **EMP.DAT** and display the details of those employees whose salary is below 25000.

CBSE Paper 2023

6. Which of the following mode keeps the file offset position at the end of the file ? 1
- (a) r+ (b) r
(c) w (d) a
11. The syntax of seek() is : 1
file_object.seek(offset[,reference_point])
What is the default value of reference_point ?
- (a) 0 (b) 1
(c) 2 (d) 3
27. (a) Write the definition of a Python function named LongLines() which reads the contents of a text file named 'LINES.TXT' and displays those lines from the file which have at least 10 words in it. For example, if the content of 'LINES.TXT' is as follows : 3
- Once upon a time, there was a woodcutter**
He lived in a little house in a beautiful, green wood.
One day, he was merrily chopping some wood.
He saw a little girl skipping through the woods, whistling happily.
The girl was followed by a big gray wolf.
- Then the function should display output as :
- He lived in a little house in a beautiful, green wood.**
He saw a little girl skipping through the woods, whistling happily.
- OR
- (b) Write a function count_Dwords() in Python to count the words ending with a digit in a text file "Details.txt". 3
- Example:
- If the file content is as follows :
- On seat2 VIP1 will sit and
On seat1 VVIP2 will be sitting
- Output will be:
- Number of words ending with a digit are 4

33. (a) Write one difference between CSV and text files. 5
Write a program in Python that defines and calls the following user defined functions :

- (i) `COURIER_ADD()`: It takes the values from the user and adds the details to a csv file 'courier.csv'. Each record consists of a list with field elements as `cid`, `s_name`, `Source`, `destination` to store Courier ID, Sender name, Source and destination address respectively.
- (ii) `COURIER_SEARCH()` : Takes the destination as the input and displays all the courier records going to that destination.

OR

- (b) Why it is important to close a file before exiting ?
Write a program in Python that defines and calls the following user defined functions : 5

- (i) `Add_Book()` : Takes the details of the books and adds them to a csv file 'Book.csv'. Each record consists of a list with field elements as `book_ID`, `B_name` and `pub` to store book ID, book name and publisher respectively.
- (ii) `Search_Book()` : Takes publisher name as input and counts and displays number of books published by them.

35. Shreyas is a programmer, who has recently been given a task to write a user defined function named `write_bin()` to create a binary file called `Cust_file.dat` containing customer information – customer number (`c_no`), name (`c_name`), quantity (`qty`), price (`price`) and amount (`amt`) of each customer.

The function accepts customer number, name, quantity and price. Thereafter, it displays the message 'Quantity less than 10..... Cannot SAVE', if quantity entered is less than 10. Otherwise the function calculates amount as `price * quantity` and then writes the record in the form of a list into the binary file.

```
import pickle
def write_bin():
    bin_file=_____ #Statement 1
    while True:
        c_no=int(input("enter customer number"))
        c_name=input("enter customer name")
        qty=int(input("enter qty"))
        price=int(input("enter price"))
        if _____ #Statement 2
            print("Quantity less than 10..Cannot SAVE")
        else:
            amt=price * qty
            c_detail=[c_no,c_name,qty,price,amt]
            _____ #Statement 3
            ans=input("Do you wish to enter more records y/n")
            if ans.lower()=='n':
                _____ #Statement 4
                _____ #Statement 5
                _____ #Statement 6
```

- (i) Write the correct statement to open a file 'Cust_file.dat' for writing the data of the customer. 1
- (ii) Which statement should Shreyas fill in Statement 2 to check whether quantity is less than 10. 1
- (iii) Which statement should Shreyas fill in Statement 3 to write data to the binary file and in Statement 4 to stop further processing if the user does not wish to enter more records. 2

OR

(Option for part (iii) only)

- (iii) What should Shreyas fill in Statement 5 to close the binary file named Cust_file.dat and in Statement 6 to call a function to write data in binary file? 2
- _____

CBSE Paper 2021

23. Roshni of Class 12 is writing a program in Python for her project work to create a CSV file "Teachers.csv" which will contain information for every teacher's Identification Number, Name for some entries. She has written the following code. However, she is unable to figure out the correct statements in a few lines of the code, hence she has left them blank. Help her to write the statements correctly for the missing parts in the code.

```
import _____ # Line 1
def addrec(Idno, Name): # to add record into the CSV file
    f=open("Teachers.csv", _____) # Line 2
    Filewriter = CSV.writer(f)
    Filewriter.writerow([Idno,name])
    f.close()
def readfile(): # to read the data from CSV file
    f=open("Teachers.csv", _____) # Line 3
    FileReader = CSV._____ (f) # Line 4
    for row in FileReader:
        print(row)
    f._____ # Line 5
```

- (a) Name the module she will import in Line 1. 1
- (b) In which mode will she open the file to add data into the file in Line 2 ? 1
- (c) In which mode will she open the file to read the data from the file in Line 3 ? 1
- (d) Fill in the blank in Line 4 to read the data from a CSV file. 1
- (e) Fill in the blank in Line 5 to close the file. 1

Data File Handling

35. (a) Write the definition of a function `ChangeGender()` in Python, which reads the contents of a text file "BIOPIC.TXT" and displays the content of the file with every occurrence of the word 'he' replaced by 'she'. For example, if the content of the file "BIOPIC.TXT" is as follows :

3

```
Last time he went to Agra,  
there was too much crowd, which he did not like.  
So this time he decided to visit some hill station.
```

The function should read the file content and display the output as follows :

```
Last time she went to Agra,  
there was too much crowd, which she did not like.  
So this time she decided to visit some hill station.
```

OR

- (b) Write the definition of a function `Count_Line()` in Python, which should read each line of a text file "SHIVAJI.TXT" and count total number of lines present in text file. For example, if the content of the file "SHIVAJI.TXT" is as follows :

3

```
Shivaji was born in the family of Bhonsle.  
He was devoted to his mother Jijabai.  
India at that time was under Muslim rule.
```

The function should read the file content and display the output as follows :

```
Total number of lines : 3
```

40. (a) A binary file "PLANTS.dat" has structure (ID, NAME, PRICE).
- Write the definition of a function `WRITEREC()` in Python, to input data for records from the user and write them to the file `PLANTS.dat`.
 - Write the definition of a function `SHOWHIGH()` in Python, which reads the records of `PLANTS.dat` and displays those records for which the `PRICE` is more than 500.

5

OR

- (b) A binary file "PATIENTS.dat" has structure (PID, NAME, DISEASE).
- Write the definition of a function `countrec()` in Python that would read contents of the file "PATIENTS.dat" and display the details of those patients who have the `DISEASE` as 'COVID-19'. The function should also display the total number of such patients whose `DISEASE` is 'COVID-19'.

5

CBSE Paper 2020

- (f) Differentiate between “w” and “r” file modes used in Python. Illustrate the difference using suitable examples. 2
- (h) Write a function `Show_words()` in Python to read the content of a text file '`NOTES.TXT`' and display the entire content in capital letters. Example, if the file contains : 2
- ```
"This is a test file"
```
- Then the function should display the output as :
- ```
THIS IS A TEST FILE
```

OR

Write a function `Show_words()` in Python to read the content of a text file '`NOTES.TXT`' and display only such lines of the file which have exactly 5 words in them. Example, if the file contains : 2

```
This is a sample file.  
The file contains many sentences.  
But needs only sentences which have only 5 words.
```

Then the function should display the output as :

```
This is a sample file.  
The file contains many sentences :
```


Data File Handling

4. (a) Write a statement in Python to open a text file WRITEUP.TXT so that new content can be written in it. 1

OR

- (a) Write a statement in Python to open a text file README.TXT so that existing content can be read from it. 1
- (b) Write a method/function **ISTOUPCOUNT()** in python to read contents from a text file WRITER.TXT, to count and display the occurrence of the word "IS" or "TO" or "UP". 2

For example :

If the content of the file is

IT IS UP TO US TO TAKE CARE OF OUR SURROUNDING. IT IS NOT POSSIBLE ONLY FOR THE GOVERNMENT TO TAKE RESPONSIBILITY

The method/function should display

Count of IS TO and UP is 6

OR

- (b) Write a method/function **AEDISP()** in python to read lines from a text file WRITER.TXT, and display those lines, which are starting either with A or starting with E. 2

For example :

If the content of the file is

A CLEAN ENVIRONMENT IS NECESSARY FOR OUR GOOD HEALTH.
WE SHOULD TAKE CARE OF OUR ENVIRONMENT.
EDUCATIONAL INSTITUTIONS SHOULD TAKE THE LEAD.

The method should display

A CLEAN ENVIRONMENT IS NECESSARY FOR OUR GOOD HEALTH.
EDUCATIONAL INSTITUTIONS SHOULD TAKE THE LEAD.

- (c) Considering the following definition of class STOCK, write a method/function **COSTLY()** in python to search and display Name and Price from a pickled file STOCK.DAT, where Price of the items are more than 1000.

3

```
class Stock :  
    def __init__(self,N,P):  
        self.Name=N  
        self.Price=P  
    def Show(self):  
        print self.Name,"@",self.Price
```

OR

- (c) Considering the following definition of class DOCTORS, write a method/function **SPLDOCS()** in python to search and display all the content from a pickled file DOCS.DAT, where Specialisation of DOCTORS is "CARDIOLOGY".

3

```
class DOCTORS :  
    def __init__(self,N,S):  
        self.Name=N  
        self.Specialisation=S  
    def Disp(self):  
        print self.Name,"#",self.Specialisation
```

4. (a) Write a statement in Python to open a text file STORY.TXT so that new contents can be added at the end of it. 1
- (b) Write a method in Python to read lines from a text file INDIA.TXT, to find and display the occurrence of the word "India". 2

For example :

If the content of the file is

*"India is the fastest growing economy.
India is looking for more investments around the globe.
The whole world is looking at India as a great market.
Most of the Indians can foresee the heights that India is capable of reaching."*

The output should be 4.

- (c) Considering the following definition of class MULTIPLEX, write a method in Python to search and display all the contents in a pickled file CINEMA.DAT, where MTYPE is matching with the value 'Comedy'. 3

```
class MULTIPLEX :  
    def __init__(self,mno,mname,mtype):  
        self.MNO      = mno  
        self.MNAME    = mname  
        self.MTYPE    = mtype  
    def Show(self):  
        print self.MNO:"*",self.MNAME,"$",self.MTYPE
```

Data File Handling

CBSE Paper 2017

4. (a) Differentiate between file modes **r+** and **w+** with respect to Python. **1**
- (b) Write a method in Python to read lines from a text file DIARY.TXT, and display those lines, which are starting with an alphabet 'P'. **2**
- (c) Considering the following definition of class COMPANY, write a method in Python to search and display the content in a pickled file COMPANY.DAT, where CompID is matching with the value '1005'. **3**

```
class Company:
```

```
    def __init__(self, CID, NAM) :
```

```
        self.CompID = CID # CompID Company ID
```

```
        self.CName = NAM # CName Company Name
```

```
        self.Turnover = 1000
```

```
    def Display(self) :
```

```
        print self.CompID, ":", self.CName, ":", self.Tunover
```

CBSE Paper 2016

4. (a) Write a statement in Python to perform the following operations : **1**
- To open a text file "BOOK.TXT" in read mode
 - To open a text file "BOOK.TXT" in write mode
- (b) Write a method in python to write multiple line of text contents into a text file mylife.txt line. **2**

- (c) Consider the following definition of class Staff, write a method in python to search and display the content in a pickled file staff.dat, where Staffcode is matching with 'S0105'.

```
class Staff:
    def __init__(self, S, SNM):
        self.Staffcode=S
        self.Name=SNM

    def Show(self):
        print(self.Staffcode," - ",self.Name)
```

CBSE Paper 2015

4. (a) Differentiate between the following : 1
- (i) `f = open('diary.txt', 'r')`
 - (ii) `f = open('diary.txt', 'w')`
- (b) Write a method in python to read the content from a text file diary.txt line by line and display the same on screen. 2
- (c) Consider the following definition of class Member, write a method in python to write the content in a pickled file member.dat. 3

```
class Member:
    def __init__(self, Mno, N):
        self.Memno=Mno
        self.Name=N

    def Show(self):
        Display(self.Memno, "#", self.Name)
```

