1. (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`.

(CBSE 2024)

2. (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`.

<div align="right">(CBSE 2024)</div>

3.

(a) Write a function in Python that displays the book names having 'Y' or 'y' in their name from a text file "Bookname.txt".   *3*

Example :

If the file 'Bookname.txt' contains the names of following books :

One Hundred Years of Solitude
The Diary of a Young Girl
On the Road

After execution, the output will be :

One Hundred Years of Solitude
The Diary of a Young Girl

<div align="center">**OR**</div>

(b) Write a function `RevString()` to read a textfile "Input.txt" and prints the words starting with 'O' in reverse order. The rest of the content is displayed normally.   *3*

Example :

If content in the text file is :

UBUNTU IS AN OPEN SOURCE OPERATING SYSTEM

Output will be :

UBUNTU IS AN NEPO SOURCE GNITAREPO SYSTEM

(words 'OPEN' and 'OPERATING' are displayed in reverse order)

<div align="right">(CBSE COMPARTMENT 2023)</div>

4.

(a) Write a point of difference between append **(a)** and write **(w)** modes in a text file.   *5*

Write a program in Python that defines and calls the following user defined functions :

   (i)   Add_Teacher() : It accepts the values from the user and inserts record of a teacher to a csv file 'Teacher.csv'. Each record consists of a list with field elements as **T_id, Tname** and **desig** to store teacher ID, teacher name and designation respectively.

   (ii)   Search_Teacher() : To display the records of all the PGT (designation) teachers.

                         OR

(b) Write one point of difference between **seek()** and **tell()** functions in file handling. Write a program in Python that defines and calls the following user defined functions :   *5*

   (i)   Add_Device() : The function accepts and adds records of the peripheral devices to a csv file 'peripheral.csv'. Each record consists of a list with field elements as **P_id, P_name** and **Price** to store peripheral device ID, device name, and price respectively.

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

<div align="right">(CBSE COMPARTMENT 2023)</div>

5.   Atharva is a programmer, who has recently been given a task to write a Python code to perform the following binary file operation with the help of a user defined function/module :

•   Copy_new() : to create a binary file **new_items.dat** and write all the item details stored in the binary file, **items.dat**, except for the item whose item_id is 101. The data is stored in the following format :

{item_id:[item_name,amount]}

```
        import _____              # Statement 1

        def Copy_new():

                f1=_____            # Statement 2

                f2=_____            # Statement 3

                item_id=int(input("Enter the item id"))

                item_detail=_____   # Statement 4

                for key in item_detail:

                        if _____:    # Statement 5

                                pickle._____    # Statement 6

                f1.close()

                f2.close()
```

He has succeeded in writing partial code and has missed out certain statements. Therefore, as a Python expert, help him to complete the code based on the given requirements :

(i)   Which module should be imported in the program ? (Statement 1)   *1*

(ii)   Write the correct statement required to open the binary file "items.dat". (Statement 2)   *1*

(iii)   Which statement should Atharva fill in Statement 3 to open the binary file "new_items.dat" and in Statement 4 to read all the details from the binary file "items.dat".   *2*

OR (Option for part iii only)

(iii)   What should Atharva write in Statement 5 to apply the given condition and in Statement 6 to write data in the binary file "new_items.dat".   *2*

(CBSE COMPARTMENT 2023)

6.

(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.

<div align="center">OR</div>

(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

<div align="right">(CBSE 2023)</div>

7.

(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.

<div align="center">OR</div>

(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.

(CBSE 2023)

8.

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.

```python
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**

9. Write a function in Python to read a text file, Alpha.txt and displays those lines which begin with the word 'You'. **3**

OR

Write a function, vowelCount() in Python that counts and displays the number of vowels in the text file named Poem.txt. **3**

10. **4**

Vedansh is a Python programmer working in a school. For the Annual Sports Event, he has created a csv file named Result.csv, to store the results of students in different sports events. The structure of Result.csv is :

[St_Id, St_Name, Game_Name, Result]

Where

St_Id is Student ID (integer)

ST_name is Student Name (string)

Game_Name is name of game in which student is participating(string)

Result is result of the game whose value can be either `'Won'`, `'Lost'` or `'Tie'`

For efficiently maintaining data of the event, Vedansh wants to write the following user defined functions:

`Accept ()` – to accept a record from the user and add it to the file `Result.csv`. The column headings should also be added on top of the csv file.

`wonCount ()` – to count the number of students who have won any event.

As a Python expert, help him complete the task.

11.   2+3 = 5

(i)   Differentiate between r+ and w+ file modes in Python.

(ii) Consider a file, `SPORT.DAT`, containing records of the following structure:

`[SportName, TeamName, No_Players]`

Write a function, `copyData ()`, that reads contents from the file `SPORT.DAT` and copies the records with Sport name as **"Basket Ball"** to the file named `BASKET.DAT`. The function should return the total number of records copied to the file `BASKET.DAT`.

OR

(i)   How are text files different from binary files?

(ii)   A Binary file, `CINEMA.DAT` has the following structure:

`{MNO:[MNAME, MTYPE]}`

Where

MNO – Movie Number

MNAME – Movie Name

MTYPE is Movie Type

Write a user defined function, findType(mtype), that accepts mtype as parameter and displays all the records from the binary file CINEMA.DAT, that have the value of Movie Type as mtype.

<div align="right">(CBSE SAMPLE PAPER 2023-24)</div>

12. Write a method COUNTLINES() in Python to read lines from text file 'TESTFILE.TXT' and display the lines which are not starting with any vowel.

Example:

If the file content is as follows:

An apple a day keeps the doctor away.
We all pray for everyone's safety.
A marked difference will come in our country.

The COUNTLINES() function should display the output as:

The number of lines not starting with any vowel – 1

<div align="center">**OR**</div>

Write a function ETCount() in Python, which should read each character of a text file "TESTFILE.TXT" and then count and display the count of occurrence of alphabets E and T individually (including small cases e and t too).

Example:

If the file content is as follows:

Today is a pleasant day.
It might rain today.
It is mentioned on weather sites

The ETCount() function should display the output as:

E or e: 6

T or t : 9

13.

What is the advantage of using a csv file for permanent storage?
Write a Program in Python that defines and calls the following user defined functions:

(i) ADD() – To accept and add data of an employee to a CSV file 'record.csv'. Each record consists of a list with field elements as `empid`, `name` and `mobile` to store employee id, employee name and employee salary respectively.
(ii) COUNTR() – To count the number of records present in the CSV file named 'record.csv'.

OR

Give any one point of difference between a binary file and a csv file. Write a Program in Python that defines and calls the following user defined functions:

(i)   add() – To accept and add data of an employee to a CSV file 'furdata.csv'. Each record consists of a list with field elements as `fid, fname` and `fprice` to store furniture id, furniture name and furniture price respectively.

(ii)   search()- To display the records of the furniture whose price is more than 10000.

(CBSE SAMPLE PAPER 2022-23)

14.

Aman is a Python programmer. He has written a code and created a binary file `record.dat` with employeeid, ename and salary. The file contains 10 records.
He now has to update a record based on the employee id entered by the user and update the salary. The updated record is then to be written in the file `temp.dat`. The records which are not to be updated also have to be written to the file `temp.dat`. If the employee id is not found, an appropriate message should to be displayed.
As a Python expert, help him to complete the following code based on the requirement given above:

```
import _____                              #Statement 1
def update_data():
    rec={}
    fin=open("record.dat","rb")
    fout=open("_____")             #Statement 2
    found=False
    eid=int(input("Enter employee id to update their

    salary :: "))
```

```
    while True:
      try:
        rec=_____                    #Statement 3
        if rec["Employee id"]==eid:
            found=True
            rec["Salary"]=int(input("Enter new salary
      :: "))
            pickle._____                  #Statement 4
        else:
            pickle.dump(rec,fout)
      except:
        break
    if found==True:
      print("The salary of employee id  ",eid,"  has
      been updated.")
    else:
      print("No employee with such id is not found")
    fin.close()
    fout.close()
```

(i)   Which module should be imported in the program? (Statement 1)

(ii)   Write the correct statement required to open a temporary file named `temp.dat`. (Statement 2)

(iii) Which statement should Aman fill in Statement 3 to read the data from the binary file, `record.dat` and in Statement 4 to write the updated data in the file, `temp.dat`?

(CBSE SAMPLE PAPER 2022-23)