

| EX.NO | QUESTIONS | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | <p><u>LIST MANIPULATION</u></p> <p>Write a menu driven program to do the following functions in a list of integers in ascending order.</p> <ul style="list-style-type: none"> • Add element • Delete element • Display in ascending order • Display in descending order • Display Reverse of elements • Display list | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | <p><u>WORD CHAIN</u></p> <p>Write a function to check if the given string forms a word chain or not.</p> <p>OUTPUT:</p> <pre>Enter words:abc cde efg gha Word chain >>> ===== RESTART: C:\Us Enter words:abc cde efg ghg Not a word chain >>> ===== RESTART: C:\Us Enter words:hi there Not a word chain >>> </pre> | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | <p><u>ACROUSTIC</u></p> <p>Write a function to check if the given list of words is acroscopic.</p> <p>EXAMPLE:</p> <table border="1"> <tr> <td>F</td><td>R</td><td>O</td><td>S</td><td>T</td></tr> <tr> <td>R</td><td>O</td><td>U</td><td>T</td><td>E</td></tr> <tr> <td>O</td><td>U</td><td>T</td><td>R</td><td>M</td></tr> <tr> <td>S</td><td>T</td><td>R</td><td>I</td><td>P</td></tr> <tr> <td>T</td><td>E</td><td>M</td><td>P</td><td>O</td></tr> </table> <p>OUTPUT:</p> <pre>print("It is not acroscopic") acr(["frost","route","outrm","strip","tempo"]) acr(["cat","dog"]) It is acroscopic It is not acroscopic</pre> | F | R | O | S | T | R | O | U | T | E | O | U | T | R | M | S | T | R | I | P | T | E | M | P | O |
| F | R | O | S | T | | | | | | | | | | | | | | | | | | | | | | |
| R | O | U | T | E | | | | | | | | | | | | | | | | | | | | | | |
| O | U | T | R | M | | | | | | | | | | | | | | | | | | | | | | |
| S | T | R | I | P | | | | | | | | | | | | | | | | | | | | | | |
| T | E | M | P | O | | | | | | | | | | | | | | | | | | | | | | |
| 4 | <p><u>STRING MANIPULATION</u></p> <p>Write a program to do the following functions with a given sentence</p> <ul style="list-style-type: none"> • Display reverse of each word • Display number of lowercase and uppercase characters. • Display palindrome words. | | | | | | | | | | | | | | | | | | | | | | | | | |

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| 5 | <p><u>STRING ALTERATION</u></p> <p>Write a program to do the following functions with a given string</p> <ul style="list-style-type: none"> • Display the first largest and second largest word • Display the first smallest and second smallest word • Display the reverse of sentence • Convert all words to title case • Display words starting with the given character • Exit |
| 6 | <p><u>DICTIONARIES</u></p> <p>Write a menu driven program using dictionary to do the following functions [key:name, value:age]</p> <ul style="list-style-type: none"> • Add element • Search by name • Edit by name • Delete element • Display average age |
| 7 | <p><u>NESTED TUPLES</u></p> <p>Write a function to calculate the average of numbers from a given tuple of tuples.</p> <p>Example:</p> <p>If the tuple is ((1,2,3),(2,3,4),(4,5,6))</p> <p>Average of (1,2,3) is 2.0</p> <p>Average of (2,3,4) is 3.0</p> <p>Average of (4,5,6) is 5.0</p> |
| 8 | <p><u>NESTED LISTS</u></p> <p>Write a program to create a nested list with [rollno, name, phoneno, email] and do the following functions</p> <ul style="list-style-type: none"> • Search by roll • Display details of names starting with "A" and "S" |
| 9 | <p><u>TEXT FILE HANDLING - I</u></p> <p>Write a program to write 5 proverbs in a text file and write only the lines starting with a given word in another text file.</p> <p>OUTPUT:</p> <pre> Enter proverb old is gold Enter proverb old is g Enter proverb g is gold Enter proverb old is old Enter proverb asbdggs Enter starting word old The proverbs that start with old old is gold old is g old is old </pre> |

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| 10 | <p><u>TEXT FILE HANDLING - II</u></p> <p>Write a program to do the following in a text file</p> <ul style="list-style-type: none"> • Append a line • Display number of words, characters and lines • Edit a line • Delete a line • Display file content <p>OUTPUT:</p> <pre> 1.Append a line 2.Find the number of character,words and lines 3.Edit a line 4.Delete a line 5.Display the file content Enter your choice: 1 Enter a line to be appended: "Calculate simple interest" 1.Append a line 2.Find the number of character,words and lines 3.Edit a line 4.Delete a line 5.Display the file content Enter your choice: 2 The number of characters are: 127 The number of words are: 17 The number of lines are: 5 1.Append a line 2.Find the number of character,words and lines 3.Edit a line 4.Delete a line 5.Display the file content Enter your choice: 3 Enter line to be editted: 3 Enter the editted line: "Names assigned to a variable" 1.Append a line 2.Find the number of character,words and lines 3.Edit a line 4.Delete a line 5.Display the file content Enter your choice: 4 enter the line number to be deleted: 2 1.Append a line 2.Find the number of character,words and lines 3.Edit a line 4.Delete a line 5.Display the file content Enter your choice: 5 Hello python "Names assigned to a variable" Computer networks Project work for class 12"Calculate simple interest" 1.Append a line 2.Find the number of character,words and lines 3.Edit a line 4.Delete a line 5.Display the file content </pre> |
| 11 | <p><u>BINARY FILE HANDLING</u></p> <p>Write a menu driven program using binary file to perform the following functions with structure (BookId, Bookname, Author)</p> <ul style="list-style-type: none"> • Add Record • Search by BookId • Search by Bookname |

- Search by Author
- Delete Record
- Modify Record
- Display all records

```
Enter book ID: 123
Enter book name: ARUSHAH
Enter the author: GAYATRI
1.Add record
2.Search by book ID
3.Search by book name
4.Search by author
5.Delete record
6.Modify record
7.Display
8.Exit
Enter your choice: 1
Enter book ID: 456
Enter book name: ALEXRIDER
Enter the author: MEDHA
Enter your choice: 2
Enter the book id: 123
[123, 'ARUSHAH', 'GAYATRI']
Enter your choice: 3
Enter the book name: ALEXRIDER
[456, 'ALEXRIDER', 'MEDHA']
Enter your choice: 4
Enter the author: GAYATRI
[123, 'ARUSHAH', 'GAYATRI']
Enter your choice: 5
Enter the book id: 456
Enter your choice: 6
Enter the book id: 123
Enter the author: ROSHANI
Enter your choice: 7
[[123, 'ARUSHAH', 'ROSHANI']]
Enter your choice: 8
```

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CSV FILE HANDLING – I

**Write a program to do the following in a CSV file with structure
(Flightno, Passengername, Destination)**

- Add Record
- Search by Flightno
- Delete a Record
- Edit a Record
- Display all records

```
Enter the no. of records: 3
Enter a record: [1, 'a', 'chennai']
Enter a record: [2, 'b', 'Mumbai']
Enter a record: [3, 'c', 'Delhi']

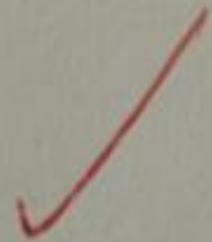
To add a record-1
To search by flight no.-2
To delete a record-3
To edit a record-4
To display all records-5

Enter your choice: 1
Enter a new record to be added: [4, 'd', 'Lucknow']

Enter your choice: 2
Enter the flight no. to be searched: 2
['2', 'b', 'Mumbai']

Enter your choice: 3
Enter the flight no. to be deleted: 3
Enter your choice: 4
Enter the flight no. : 1
Enter the new destination: Chennai
Enter your choice: 5
['1', 'a', 'Chennai']
['2', 'b', 'Mumbai']
['4', 'd', 'Lucknow']

Enter your choice: 6
```



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CSV FILE HANDLING – II

**Write a menu driven program to do the following in a CSV file with structure
(Studentname, Age, Dept)**

- Add Record
- Sort by Name
- Sort by Age
- Search by Dept
- Display all records

```

Enter student name: gayu
Enter age: 21
Enter dept. name: music
Enter student name: medha
Enter age: 18
Enter dept. name: cinema
1. ADD A RECORD
2. SORT BY NAME
3. SORT BY AGE
4. SEARCH BY DEPT.
5. DISPLAY
Enter your choice: 1
no. of records: 0
Enter student name: nomi
Enter age: 69
Enter dept. name: sewage
1. ADD A RECORD
2. SORT BY NAME
3. SORT BY AGE
4. SEARCH BY DEPT.
5. DISPLAY
Enter your choice: 2
[['gayu', '21', 'music'], ['medha', '18', 'cinema'], ['nomi', '69', 'sewage']]
1. ADD A RECORD
2. SORT BY NAME
3. SORT BY AGE
4. SEARCH BY DEPT.
5. DISPLAY
Enter your choice: 3
[['medha', '18', 'cinema'], ['gayu', '21', 'music'], ['nomi', '69', 'sewage']]
1. ADD A RECORD
2. SORT BY NAME
3. SORT BY AGE
4. SEARCH BY DEPT.
5. DISPLAY
Enter your choice: 4
Enter your respective department: sewage
['nomi', '69', 'sewage']
1. ADD A RECORD
2. SORT BY NAME
3. SORT BY AGE
4. SEARCH BY DEPT.
5. DISPLAY
Enter your choice: 5
['gayu', '21', 'music']
['medha', '18', 'cinema']
['nomi', '69', 'sewage']
1. ADD A RECORD
2. SORT BY NAME
3. SORT BY AGE
4. SEARCH BY DEPT.
5. DISPLAY
Enter your choice: 6
>>>

```

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BINARY SEARCH AND BUBBLE SORT

Write a program to search an element in a list using binary search and sort elements using bubble sort technique.

OUTPUT:

```
Enter a list: [98,45,78,102,2,11,17]
The sorted list is: [2, 11, 17, 45, 78, 98, 102]
Enter the element to be searched: 98
The index of 98 in the sorted list= 5
```

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INSERTION SORT AND LINEAR SEARCH

Write a menu driven program to do the following functions in a list.

- Linear search for an element
- Sort in ascending order using insertion sort
- Sort in descending order.

OUTPUT:

```
Enter a list: [23,32,89,1,66]
To search for an element-1
To sort the list in ascending order-2
To sort the list in descending order-3
Enter your choice: 1
Enter the element to be searched: 1
The position of the element is 4
Enter your choice: 2
[1, 23, 32, 66, 89]
Enter your choice: 3
[89, 66, 32, 23, 1]
```

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IMPLEMENTATION OF STACKS

Write a menu driven program to do the following functions in a stack with structure [flightno, flightname]

- Push
- Pop
- Traverse
- Peek

```
----- RESTART: C:/Users/Pstbb/Desktop/MG CS EXPERIMENTS/ex16mg.py -----
Enter a list in order [flightno, flightname]: [[8,"indigo"],[28,"emirates"]]
1.Push
2.Pop
3.Traverse
4.Peek
Enter your option: 1
Enter a data: [9,"spicejet"]
[[8, 'indigo'], [28, 'emirates'], [9, 'spicejet']]
Enter your option: 2
[[8, 'indigo'], [28, 'emirates']]
Enter your option: 3
[28, 'emirates']
[8, 'indigo']
Enter your option: 4
1
Enter your option: 5
>>>
```

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IMPLEMENTATION OF QUEUES

Write a menu driven program to perform the following functions in a queue with structure [empno, empname]

- Enqueue
- Dequeue
- Peek
- Traverse

```

Enter a nested list: [[1, 'mini'], [2, 'nut'], [3, 'babu'], [4, 'medh'], [5, 'banda']]
Enter what you want to do:
    1. Enqueue
    2. Dequeue
    3. Peek
    4. Traverse
    5. Exit1
Enter element to add: [5, 'banda']
[[1, 'mini'], [2, 'nut'], [3, 'babu'], [4, 'medh'], [5, 'banda']]
Enter what you want to do:
    1. Enqueue
    2. Dequeue
    3. Peek
    4. Traverse
    5. Exit2
[[2, 'nut'], [3, 'babu'], [4, 'medh'], [5, 'banda']]
Enter what you want to do:
    1. Enqueue
    2. Dequeue
    3. Peek
    4. Traverse
    5. Exit3
0
Enter what you want to do:
    1. Enqueue
    2. Dequeue
    3. Peek
    4. Traverse
    5. Exit4
[2, 'nut']
[3, 'babu']
[4, 'medh']
[5, 'banda']

```

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DDL COMMANDS

Write DDL Commands to

- 1) Create a table with following columns
 - 1) Acno – int(6)
 - 2) Acname – char(15)
 - 3) Actype – char(15)
 - 4) Bal – int(9)
- 2) Show structure of table
- 3) Add a column Remarks with char(40)
- 4) Rename column Actype to Account_type
- 5) Remove column Remarks
- 6) Increase width of Acname to 30 characters.

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| 19 | <p>DML COMMANDS</p> <p>Write DML commands to</p> <ol style="list-style-type: none"> 1) Create a table with the following columns Acno, Acname, Acbalance, Actype and Area. 2) Update balance of all account holders by Rs. 2000 3) Change the name of one account holder 4) Change Actype of any account holder to RD 5) Change balance of one Acno to 60000 and Area to "Velachery" 6) Remove one account holders details 7) Remove one record with Acname as criteria 8) Display Acno, Acname of SB accounts 9) Display details of accounts with balance in range 15000 to 1Lakh 10) Display details of all account holders in area "Adyar" 11) Display details of all account holders whose name ends with "r". 12) Display distinct area. 13) Display name, Actype, balance in ascending order by balance. 14) Display account holder name and area in alphabetical order by name. |
| 20 | <p>AGGREGATE FUNCTIONS</p> <ol style="list-style-type: none"> 1) Display the number of accounts in each account type. 2) Find the maximum and minimum balance in each area. 3) Find the average balance of SB accounts 4) Find the total balance of accounts in "Chennai" 5) Find the average balance amount of SB and FD accounts. 6) Find the number of account holders with balance more than 1 lakh in each area. 7) Find the average balance of each account holder type with more than one account holder. |
| 21 | <p>CONSTRAINTS AND GENERAL CALCULATIONS</p> <ol style="list-style-type: none"> 1) Create a table students with fields <ul style="list-style-type: none"> - Rollno as primary key - USN as not NULL - Name as unique - Class and sec 2) Insert 5 records 3) Create a new table marks with fields – Eng, Mat, Phy, Chem, CS, Total. 4) Insert 5 records 5) Update table with total=Eng + Mat + Phy + Che + CS 6) Insert one more record into marks and students each. 7) General calculations <ul style="list-style-type: none"> (i) Calculate area of cirle with radius 7cm (ii) Calculate average of 73.7, 62.7, 68.9 (iii) Round 2365.367 off to single decimal place (iv) Round 2365.367 off to 10th place (v) Round 2365.367 to a whole number. |

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| 22 | <p><u>JOINT QUERIES</u></p> <p>1) Create table student with fields – Admno, Name, Class, Sec, Scholarship, Phone and insert 10 records</p> <p>2) Create table sports with fields – Admno, game, coach, grade and insert 10 records.</p> <p>3) Display Name, Class, sec from student corresponding to coach where student.Admno = sports.Admno.</p> <p>4) Count number of students with grade A</p> <p>5) Display details of students whose game is cricket.</p> <p>6) Count the number of students in class 12 where game is “Volleyball”</p> <p>7) Count the number of students in class 11 where game is “Basketball”</p> |
| 23 | <p><u>MYSQL CONNECTIVITY – 1</u></p> <p>Write a program to integrate SQL with python</p> <p>1) Create table employee with empno, empname, salary</p> <p>2) Insert 2 records</p> <p>3) Display records</p> |
| 24 | <p><u>MYSQL CONNECTIVITY – 2</u></p> <p>Write a program to integrate SQL with python and search a record using empno as user input.</p> |
| 25 | <p><u>MYSQL CONNECTIVITY – 3</u></p> <p>1) Update salary by empno</p> <p>2) Delete record by empno</p> |
| 26 | <p><u>MYSQL CONNECTIVITY -IV</u></p> <p>1) Create table employee with empno, empname, salary.</p> <p>2) Create table dept with empno, dept, DOB.</p> <p>3) Insert 5 records in both tables.</p> <p>4) Display dept and total salary department wise.</p> |