DATABASE MANAGEMENT SYSTEMS LABORATORY

(Effective from the Academic Year 2023 - 2024)

V SEMESTER

Course Code	**AM522I1A**	CIA Marks	50
Number of Contact Hours/Week (L: T: P: S)	0:0:2:0	SEE Marks	50
Total Hours of Pedagogy	20P	Exam Hours	03

EXPERIMENT SOLUTION

Consider the schema for Airline Database:

FLIGHTS (fno: varchar, from: string, to: string, distance: integer, departs: time, arrives: time, price: integer)

AIRCRAFT (aid: varchar, aname: string, cruisingrange: integer) CERTIFIED (eid: varchar, aid: varchar)

EMPLOYEES (eid: varchar, ename: string, salary: integer)

Note: The Employees relation describes pilots and other kinds of employees as well; Every pilot is certified for some aircraft, and only pilots are certified to fly.

Write SQL queries to

1. Find the names of aircraft such that all pilots certified to operate them have salaries more than Rs.80, 000.

```
SELECT ANAME
FROM AIRCRAFT A, CERTIFIED C, EMPLOYEES E
WHERE A.AID=C.AID AND C. EMP_ID =E. EMP_ID AND E.SALARY >80000;
```

2. For each pilot who is certified for more than three aircrafts, find the eid and the maximum cruisingrange of the aircraft for which she or he is certified.

```
SELECT C. EMP_ID, MAX(A.CRUISINGRANGE)
FROM AIRCRAFT A, CERTIFIED C
WHERE A.AID=C.AID
GROUP BY EMP_ID HAVING COUNT(AID)>3;
```

3. Find the names of pilots whose salary is less than the price of the cheapest route from Bengaluru to Mumbai.

```
SELECT DISTINCT ENAME FROM EMPLOYEES E, CERTIFIED C, AIRCRAFT A, FLIGHT F
WHERE E.EMP_ID =C.EMP_ID AND C.AID=A.AID AND A.AID=F. FLIGHT_NUM AND
E.SALARY < ( SELECT MIN(PRICE)
  FROM FLIGHT
  WHERE from='BANGALORE' AND to= 'MUMBAI');
```

4. Find the aids of all aircraft that can be used on routes from Bengaluru to New Delhi.

```
SELECT A. AID
FROM AIRCRAFT A , FLIGHT F
WHERE A.AID=F.FLIGHT_NUM AND F.from='BENGALURU' AND F.to= 'NEW DELHI';
```

4. Find the employee name and salary earning second highest salary.

```
SELECT ENAME, MAX(SALARY) AS SALARY
FROM EMPLOYEES
WHERE SALARY IN
(SELECT SALARY FROM EMPLOYEE MINUS SELECT MAX(SALARY)
FROM EMPLOYEES);
```