

Name : Mohd Adil
Roll No : 20BCS042
DBMS Assignment 10

```
mysql> CREATE TABLE flight(  
->     flno INT,  
->     frm VARCHAR(20),  
->     too VARCHAR(20),  
->     distance INT,  
->     departs TIME,  
->     arrives TIME,  
->     price INT,  
->     PRIMARY KEY(flno));  
Query OK, 0 rows affected (0.07 sec)
```

```
mysql> CREATE TABLE aircraft(  
->     aid INT,  
->     aname VARCHAR(20),  
->     cruisingrange INT,  
->     PRIMARY KEY (aid));  
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> CREATE TABLE employees(  
->     eid INT,  
->     ename VARCHAR(20),  
->     salary INT,  
->     PRIMARY KEY (eid));  
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> CREATE TABLE certified(  
->     eid INT,  
->     aid INT,  
->     PRIMARY KEY (eid,aid),  
->     FOREIGN KEY (eid) REFERENCES employees (eid),  
->     FOREIGN KEY (aid) REFERENCES aircraft (aid));  
Query OK, 0 rows affected (0.05 sec)
```

```
mysql> INSERT INTO flight VALUES  
->         (1,'Los Angeles','Honolulu',360,'10:45:00','12:00:00',10000),  
->         (2,'Los Angeles','Madison',5000,'12:15:00','04:30:00',25000),  
->         (3,'Los Angeles','Chicago',3500,'02:15:00','05:25:00',30000),  
->         (4,'Madison','Chicago',4500,'10:15:00','12:05:00',35000),  
->         (5,'Madison','New York',18000,'07:15:00','05:30:00',90000),  
->         (6,'Los Angeles','New  
York',19500,'10:00:00','07:45:00',95000),  
->         (7,'Los Angeles','New  
York',17000,'12:00:00','06:30:00',99000);  
Query OK, 7 rows affected (0.01 sec)  
Records: 7  Duplicates: 0  Warnings: 0
```

```
mysql> select * from flight;
```

flno	frm	too	distance	departs	arrives	price
1	Los Angeles	Honolulu	360	10:45:00	12:00:00	10000
2	Los Angeles	Madison	5000	12:15:00	04:30:00	25000
3	Los Angeles	Chicago	3500	02:15:00	05:25:00	30000
4	Madison	Chicago	4500	10:15:00	12:05:00	35000
5	Madison	New York	18000	07:15:00	05:30:00	90000
6	Los Angeles	New York	19500	10:00:00	07:45:00	95000
7	Los Angeles	New York	17000	12:00:00	06:30:00	99000

```
7 rows in set (0.01 sec)
```

```
mysql> INSERT INTO aircraft values
```

```
-> (123,'Airbus',1000),
-> (302,'Boeing',5000),
-> (306,'Jet01',5000),
-> (378,'Airbus380',8000),
-> (456,'Aircraft',500),
-> (789,'Aircraft02',800),
-> (951,'Aircraft03',1000);
```

```
Query OK, 7 rows affected (0.01 sec)
```

```
Records: 7 Duplicates: 0 Warnings: 0
```

```
mysql> select * from aircraft;
```

aid	aname	cruisingrange
123	Airbus	1000
302	Boeing	5000
306	Jet01	5000
378	Airbus380	8000
456	Aircraft	500
789	Aircraft02	800
951	Aircraft03	1000

```
7 rows in set (0.00 sec)
```

```
mysql>
```

```
mysql> INSERT INTO employees VALUES
```

```
-> (1,'Jim',30000),
-> (2,'Stanley',85000),
-> (3,'Peralta',50000),
-> (4,'Terry',45000),
-> (5,'Dwight',90000),
-> (6,'Oscar',75000),
-> (7,'Michael',100000);
```

```
Query OK, 7 rows affected (0.01 sec)
```

```
Records: 7 Duplicates: 0 Warnings: 0
```

```
mysql> select * from employees;
```

eid	ename	salary
1	Jim	30000
2	Stanley	85000
3	Peralta	50000
4	Terry	45000
5	Dwight	90000
6	Oscar	75000
7	Michael	100000

```
7 rows in set (0.00 sec)
```

```
mysql> INSERT INTO certified VALUES
```

```
-> (1,123),
-> (2,123),
-> (1,302),
-> (5,302),
-> (7,302),
-> (1,306),
-> (2,306),
-> (1,378),
-> (2,378),
-> (4,378),
-> (6,456),
-> (3,456),
-> (5,789),
-> (6,789),
-> (3,951),
-> (1,951),
-> (1,789);
```

```
Query OK, 17 rows affected (0.02 sec)
```

```
Records: 17 Duplicates: 0 Warnings: 0
```

```
mysql> select * from certified;
```

eid	aid
1	123
2	123
1	302
5	302
7	302
1	306
2	306
1	378
2	378
4	378
3	456

6	456
1	789
5	789
6	789
1	951
3	951

+-----+-----+

17 rows in set (0.00 sec)

```
mysql> SELECT DISTINCT a.aname
-> FROM aircraft a,certified c,employees e
-> WHERE a.aid=c.aid
-> AND c.eid=e.eid
-> AND NOT EXISTS
-> (SELECT *
-> FROM employees e1
-> WHERE e1.eid=e.eid
-> AND e1.salary<80000);
```

+-----+-----+

aname
Airbus
Boeing
Jet01
Airbus380
Aircraft02

+-----+-----+

5 rows in set (0.01 sec)

```
mysql> SELECT c.eid,MAX(cruisingrange)
-> FROM certified c,aircraft a
-> WHERE c.aid=a.aid
-> GROUP BY c.eid
-> HAVING COUNT(*)>3;
```

+-----+-----+-----+

eid	MAX(cruisingrange)
1	8000

+-----+-----+-----+

1 row in set (0.01 sec)

```
mysql> SELECT DISTINCT e.ename
-> FROM employees e
-> WHERE e.salary<
-> (SELECT MIN(f.price)
-> FROM flight f
-> WHERE f.frm='Los Angeles'
-> AND f.too='New York');
```

+-----+-----+

ename

+-----+-----+

Jim
Stanley
Peralta
Terry
Dwight
Oscar

+-----+

6 rows in set (0.01 sec)

```
mysql> SELECT a.aid,a.aname,AVG(e.salary)
->      FROM aircraft a,certified c,employees e
->      WHERE a.aid=c.aid
->      AND c.eid=e.eid
->      AND a.cruisingrange>1000
->      GROUP BY a.aid,a.aname;
```

+-----+-----+-----+

aid	aname	AVG(e.salary)
302	Boeing	73333.3333
306	Jet01	57500.0000
378	Airbus380	53333.3333

+-----+-----+-----+

3 rows in set (0.01 sec)

```
mysql> SELECT distinct e.ename
->      FROM employees e,aircraft a,certified c
->      WHERE e.eid=c.eid
->      AND c.aid=a.aid
->      AND a.aname='Boeing';
```

+-----+

ename
Jim
Dwight
Michael

+-----+

3 rows in set (0.00 sec)

```
mysql> SELECT a.aid
->      FROM aircraft a
->      WHERE a.cruisingrange>
->      (SELECT MIN(f.distance)
->      FROM flight f
->      WHERE f.frm='Los Angeles'
->      AND f.too='Madison');
```

+-----+

aid
378

+-----+

1 row in set (0.00 sec)

```
mysql> SELECT DISTINCT F.frm, F.too
-> FROM Flight F
-> WHERE NOT EXISTS ( SELECT *
-> FROM Employees E
-> WHERE E.salary > 100000
-> AND
-> NOT EXISTS (SELECT *
-> FROM aircraft A, certified C
-> WHERE A.cruisingrange > F.distance AND
-> E.eid = C.eid AND A.aid = C.aid) );
```

```
+-----+-----+
| frm      | too      |
+-----+-----+
| Los Angeles | Honolulu |
| Los Angeles | Madison  |
| Los Angeles | Chicago  |
| Madison     | Chicago  |
| Madison     | New York |
| Los Angeles | New York |
+-----+-----+
6 rows in set (0.00 sec)
```

```
mysql> SELECT F.departs
-> FROM Flight F
-> WHERE F.flno IN ( ( SELECT F0.flno
-> FROM Flight F0
-> WHERE F0.frm = 'Madison' AND F0.too = 'New York'
-> AND F0.arrives < '18:00:00' )
-> UNION
-> ( SELECT F0.flno
-> FROM Flight F0, Flight F1
-> WHERE F0.frm='Madison' AND F0.too<>'New York'
-> AND F0.too=F1.frm AND F1.too='New York'
-> AND F1.departs>F0.arrives
-> AND F1.arrives<'18:00:00' )
-> UNION
-> ( SELECT F0.flno
-> FROM Flight F0, Flight F1, Flight F2
-> WHERE F0.frm='Madison'
-> AND F0.too=F1.frm
-> AND F1.too=F2.frm
-> AND F2.too='New York'
-> AND F0.too<>'New York'
-> AND F1.too<>'New York'
-> AND F1.departs>F0.arrives
-> AND F2.departs>F1.arrives
-> AND F2.arrives<'18:00:00'));
```

```
+-----+
| departs |
+-----+
```

| 07:15:00 |

+-----+

1 row in set (0.01 sec)

```
mysql> SELECT Temp1.avg - Temp2.avg
-> FROM (SELECT AVG (E.salary) AS avg
-> FROM Employees E
-> WHERE E.eid IN (SELECT DISTINCT C.eid
-> FROM Certified C )) AS Temp1,
-> (SELECT AVG (E1.salary) AS avg
-> FROM Employees E1 ) AS Temp2;
```

+-----+

| Temp1.avg - Temp2.avg |

+-----+

| 0.0000 |

+-----+

1 row in set (0.00 sec)

```
mysql> SELECT E.ename, E.salary
-> FROM Employees E
-> WHERE E.eid NOT IN ( SELECT DISTINCT C.eid
-> FROM Certified C )
-> AND E.salary > ( SELECT AVG (E1.salary)
-> FROM Employees E1
-> WHERE E1.eid IN
-> ( SELECT DISTINCT C1.eid
-> FROM Certified C1 ) );
```

Empty set (0.00 sec)

```
mysql> SELECT E.ename
-> FROM Employees E, Certified C, Aircraft A
-> WHERE C.aid = A.aid AND E.eid = C.eid
-> GROUP BY E.eid, E.ename
-> HAVING MIN(A.cruisingrange) > 1000;
```

+-----+

| ename |

+-----+

| Michael |

| Terry |

+-----+

2 rows in set (0.01 sec)

```
mysql> SELECT E.ename
-> FROM Employees E, Certified C, Aircraft A
-> WHERE C.aid = A.aid AND E.eid = C.eid
-> GROUP BY E.eid, E.ename
-> HAVING MIN(A.cruisingrange) > 1000 AND COUNT(*)>1;
Empty set (0.00 sec)
```