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)