LAB PROGRAM 5 (FLIGHT DATABASE)

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D1

```sql
create database flightdb;
        use  flightdb;

create  table  flights(
        flno  int,
        fromplace  varchar(15),
        toplace  varchar(15),
        distance  int,
        departs  datetime,
        arrives  datetime,
        price  int,
        primary  key  (flno)
        );
        desc  flights;
```

insert into flights values(101, 'Bangalore', 'Delhi', 2500, '2005-05-13 07:15:31', '2005-05-13 18:15:31', 5000);
insert into flights values(102, 'Bangalore', 'Lucknow', 3000, '2013-05-05 07:15:31', '2013-05-05 11:15:31', 6000);
insert into flights values(103, 'Lucknow', 'Delhi', 500, '2013-05-05 12:15:31', '2013-05-05 17:15:31', 3000);
insert into flights values(107, 'Bangalore', 'Frankfurt', 8000, '2013-05-05 07:15:31', '2013-05-05 22:15:31', 60000);
insert into flights values(104, 'Bangalore', 'Frankfurt', 8500, '2013-05-05 07:15:31', '2013-05-05 23:15:31', 75000);
insert into flights values(105, 'Kolkata', 'Delhi', 3400, '2013-05-05 07:15:31', '2013-05-05 09:15:31', 7000);
insert into flights values(106, 'Bangalore', 'Kolkata', 1000, '2013-05-05 01:15:30', '2013-05-05 09:20:30', 10000);
insert into flights values(108, 'Lucknow', 'Kolkata', 1000, '2013-05-05 11:30:30', '2013-05-05 15:20:30', 10000);
commit;

select * from flights;

Flights Table:

flno	fromplace	toplace	distance	departs	arrives	price
101	Bangalore	Delhi	2500	2005-05-13 07:15:31	2005-05-13 18:15:31	5000
102	Bangalore	Lucknow	3000	2013-05-05 07:15:31	2013-05-05 11:15:31	6000
103	Lucknow	Delhi	500	2013-05-05 12:15:31	2013-05-05 17:15:31	3000
104	Bangalore	Frankfurt	8500	2013-05-05 07:15:31	2013-05-05 23:15:31	75000
105	Kolkata	Delhi	3400	2013-05-05 07:15:31	2013-05-05 09:15:31	7000
106	Bangalore	Kolkata	1000	2013-05-05 01:15:30	2013-05-05 09:20:30	10000
107	Bangalore	Frankfurt	8000	2013-05-05 07:15:31	2013-05-05 22:15:31	60000
108	Lucknow	Kolkata	1000	2013-05-05 11:30:30	2013-05-05 15:20:30	10000
NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
create table aircraft(
aid int,
aname varchar(15),
cruisingrange int,
primary key (aid)
);
desc aircraft;

insert into aircraft values(101, '747', 3000);
insert into aircraft values(102, 'Boeing', 900);
insert into aircraft values(103, '647', 800);
insert into aircraft values(104, 'Dreamliner', 10000);
insert into aircraft values(105, 'Boeing', 3500);
insert into aircraft values(106, '707', 1500);
insert into aircraft values(107, 'Dream', 120000);
insert into aircraft values(108, '707', 760);
insert into aircraft values(109, '747', 1000);
commit;

select * from aircraft;
```

Aircraft Table :

aid	aname	cruisingrange
101	747	3000
102	Boeing	900
103	647	800
104	Dreamliner	10000
105	Boeing	3500
106	707	1500
107	Dream	120000
108	707	760
109	747	1000
NULL	NULL	NULL

```
create table employees (
        eid int,
        ename varchar(15),
        salary int,
        primary key (eid)
        );
        desc employees;

insert into employees values(701, 'A', 50000);
insert into employees values(702, 'B', 100000);
insert into employees values(703, 'C', 150000);
insert into employees values(704, 'D', 90000);
insert into employees values(705, 'E', 40000);
insert into employees values(706, 'F', 60000);
insert into employees values(707, 'G', 90000);
commit;

select * from employees;
```

Employees Table:

eid	ename	salary
701	A	50000
702	B	100000
703	C	150000
704	D	90000
705	E	40000
706	F	60000
707	G	90000
NULL	NULL	NULL

```
create table certified (
        eid int,
        aid int,
        foreign key (eid) references employees(eid),
        foreign key (aid) references aircraft(aid)
        );
        desc certified;
insert into certified values(701, 101);
insert into certified values(701, 102);
insert into certified values(701, 106);

insert into certified values(701, 105);

insert into certified values(702, 104);
insert into certified values(703, 104);
insert into certified values(704, 104);

insert into certified values(702, 107);
insert into certified values(703, 107);
insert into certified values(704, 107);

insert into certified values(702, 101);
insert into certified values(702, 108);
insert into certified values(701, 109);
commit;
select * from certified;
```

Certified Table :

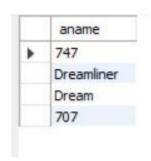| eid	aid
701	101
701	102
701	106
701	105
702	104
703	104
704	104
702	107
703	107
704	107
702	101
702	108
701	109

ADDITIONAL QUERIES

Query 1:

select distinct a.aname from aircraft a where a.aid

      in (select c.aid from certified c, employees

      e where

  c.eid = e.eid and not exists(

select * from employees e1 where e1.eid=e.eid and e1.salary<80000));

Result:

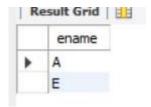| aname |
|---|
| 747 |
| Dreamliner |
| Dream |
| 707 |

Query 2:

select max(a.cruisingrange), c.eid from certified c, aircraft a where c.aid = a.aid group by c.eid having count(c.eid)>3;

Result:

max(a.cruisingrange)	eid
3500	701
120000	702

Query 3:
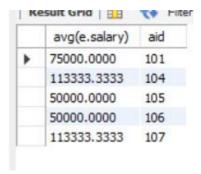
select ename from employees where salary <(

select min(price) from flights where fromplace='Bangalore' and toplace='Frankfurt');

Result:

ename
A
E

Query 4:

select avg(e.salary), c.aid from certified c, employees e where c.aid in(

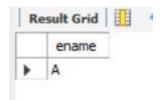select aid from aircraft where cruisingrange>1000) and e.eid = c.eid group by c.aid;

Result:

avg(e.salary)	aid
75000.0000	101
113333.3333	104
50000.0000	105
50000.0000	106
113333.3333	107

Query 5:

select ename from employees where

eid in(select eid from certified where aid

in(

select aid from aircraft where aname = 'Boeing'));

Result:

ename
A

Query 6:

select aname from aircraft where cruisingrange > any (select distance from flights where fromplace='Bangalore' and toplace='Delhi');

Result:

aname
▶ 747
Dreamliner
Boeing
Dream

Query 7:

SELECT F.flno,

F.departs FROM

flights F

WHERE F.flno IN ((SELECT F0.flno

 FROM flights F0

 WHERE F0.fromplace = 'Bangalore' AND F0.toplace =

 'Kolkata' AND extract(hour from F0.arrives) < 18)

 UNION

(SELECT F0.flno

 FROM flights F0, flights F1

 WHERE F0.fromplace = 'Bangalore' AND F0.toplace <>

 'Kolkata' AND F0.toplace = F1.fromplace AND F1.toplace

 = 'Kolkata' AND F1.departs > F0.arrives

AND extract(hour from F1.arrives) <

18) UNION

(SELECT F0.flno

FROM flights F0, flights F1,

flights F2 WHERE F0.fromplace

= 'Bangalore' AND F0.toplace =

F1.fromplace

AND F1.toplace =

F2.fromplace AND

F2.toplace = 'Kolkata' AND

F0.toplace <> 'Kolkata' AND

F1.toplace <> 'Kolkata' AND

F1.departs > F0.arrives

AND F2.departs >

F1.arrives

AND extract(hour from F2.arrives) < 18));

Result

	flno	departs
▶	102	2013-05-05 07:15:31
	106	2013-05-05 01:15:30

Result Grid | Filter Rows: