Week 8

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3D Section
Batch D4

```
create database airline_flight;
use airline_flight;

create table employees
(
eid int primary key,
ename varchar(20),
salary int
);

insert into employees values
(101,'Avinash',50000),(102,'Lokesh',60000),(103,'Rakesh',70000),(104,'San
thosh',82000),(105,'Tilak',5000);
select * from employees;
```

eid	ename	salary
101	Avinash	50000
102	Lokesh	60000
103	Rakesh	70000
104	Santhosh	82000
105	Tilak	5000
NULL	NULL	NULL

```
create table aircraft
(
aid int primary key,
aname varchar(20),
cruising_range int
);
```

insert into aircraft values
(1,'Airbus',2000),(2,'Boeing',700),(3,'JetAirways',550),(4,'Indigo',5000),(5,'Boeing',4500),(6,'Airbus',2200);
select * from aircraft;

aid	aname	cruising_range
1	Airbus	2000
2	Boeing	700
3	JetAirways	550
4	Indigo	5000
5	Boeing	4500
6	Airbus	2200
NULL	NULL	NULL

create table certified
(
eid int,
aid int,
foreign key(eid) references employees(eid) on delete cascade on update cascade,
foreign key(aid) references aircraft(aid) on delete cascade on update cascade
);

insert into certified values
(101,2),(101,4),(101,5),(101,6),(102,1),(102,3),(102,5),(103,2),(103,3),(103,5),(103,6),(104,6),(104,1),(104,3),(105,3);
select * from certified;

eid	aid
101	2
101	4
101	5
101	6
102	1
102	3
102	5
103	2
103	3
103	5
103	6
104	6
104	1
104	3
105	3

```
create table flights
(
flno int primary key,
ffrom varchar(20),
tto varchar(20),
distance int,
departs time,
arrives time,
price int
);

insert into flights values(1,'Bengaluru','New Delhi',500,'6:00','9:00',5000);
insert into flights values(2,'Bengaluru','Chennai',300,'7:00','8:30',3000);
insert into flights values(3,'Trivandrum','New Delhi',800,'8:00','11:30',6000);
insert into flights
values(4,'Bengaluru','Frankfurt',10000,'6:00','23:30',50000);
insert into flights values(5,'Kolkata','New Delhi',2400,'11:00','3:30',9000);
insert into flights values(6,'Bengaluru','Frankfurt',8000,'9:00','23:00',40000);
select * from flights;
```

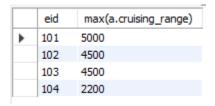| flno	ffrom	tto	distance	departs	arrives	price
1	Bengaluru	New Delhi	500	06:00:00	09:00:00	5000
2	Bengaluru	Chennai	300	07:00:00	08:30:00	3000
3	Trivandrum	New Delhi	800	08:00:00	11:30:00	6000
4	Bengaluru	Frankfurt	10000	06:00:00	23:30:00	50000
5	Kolkata	New Delhi	2400	11:00:00	03:30:00	9000
6	Bengaluru	Frankfurt	8000	09:00:00	23:00:00	40000
NULL	NULL	NULL	NULL	NULL	NULL	NULL

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

```
select a.aname from aircraft a,certified c where a.aid=c.aid and c.eid in
(select eid from employees where salary>80000);
```

aname
Airbus
Airbus
JetAirways

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

select c.eid, max(a.cruising_range) from certified c, aircraft a where a.aid in (select aid from certified c1 where c1.eid=c.eid) group by c.eid having count(c.eid)>=3;

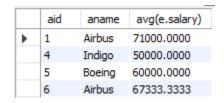| eid	max(a.cruising_range)
101	5000
102	4500
103	4500
104	2200

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

select ename from employees where salary<(select min(price) from flights where ffrom='Bengaluru' and tto='Frankfurt');

ename
Tilak

iv. For all aircraft with cruising range over 1000 Kms, find the name of the aircraft and the average salary of all pilots certified for this aircraft.

select a.aid,a.aname,avg(e.salary) from aircraft a, employees e where a.cruising_range>1000 and e.eid in(select c.eid from certified c where c.aid=a.aid) group by a.aid;

aid	aname	avg(e.salary)
1	Airbus	71000.0000
4	Indigo	50000.0000
5	Boeing	60000.0000
6	Airbus	67333.3333

v. Find the names of pilots certified for some Boeing aircraft

select distinct e.ename from employees e, certified c where e.eid=c.eid and c.aid in (select aid from aircraft where aname='Boeing');

	ename
▶	Avinash
	Rakesh
	Lokesh

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

select aid from aircraft where cruising_range > all(select distance from flights where ffrom='Bengaluru' and tto='Delhi');

	aid
▶	1
	2
	3
	4
	5
	6
＊	NULL