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AIRLINE FLIGHT DATABASE

Week 8

```
create database 1bm21cs048_airline;
use 1bm21cs048_airline;
```

Create Tables

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

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

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

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

Insert Values

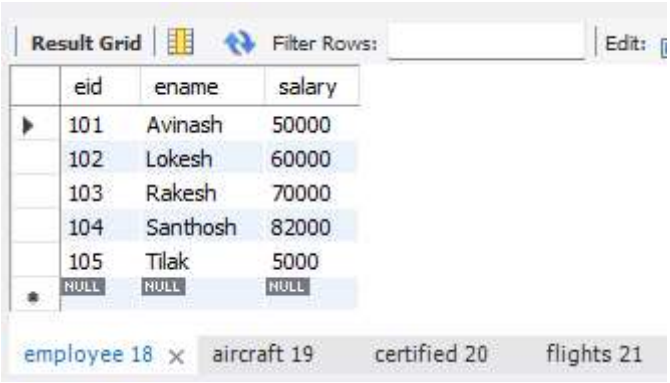
```
insert into employee values (101,'Avinash',50000);
insert into employee values (102,'Lokesh',60000);
insert into employee values (103,'Rakesh',70000);
insert into employee values (104,'Santhosh',82000);
insert into employee values (105,'Tilak',5000);

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

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

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',1000,'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 employee;

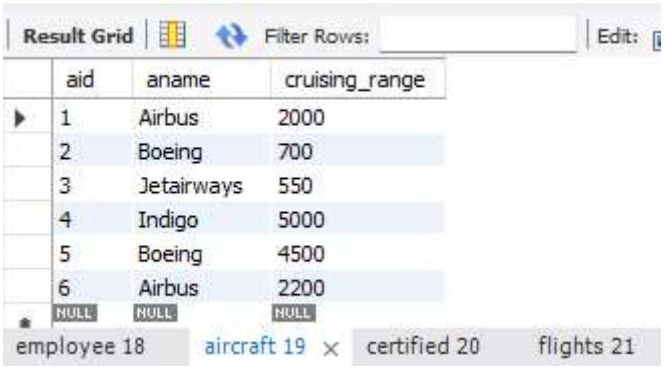


Result Grid | Filter Rows: | Edit:

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

employee 18 × | aircraft 19 | certified 20 | flights 21

select * from aircraft;

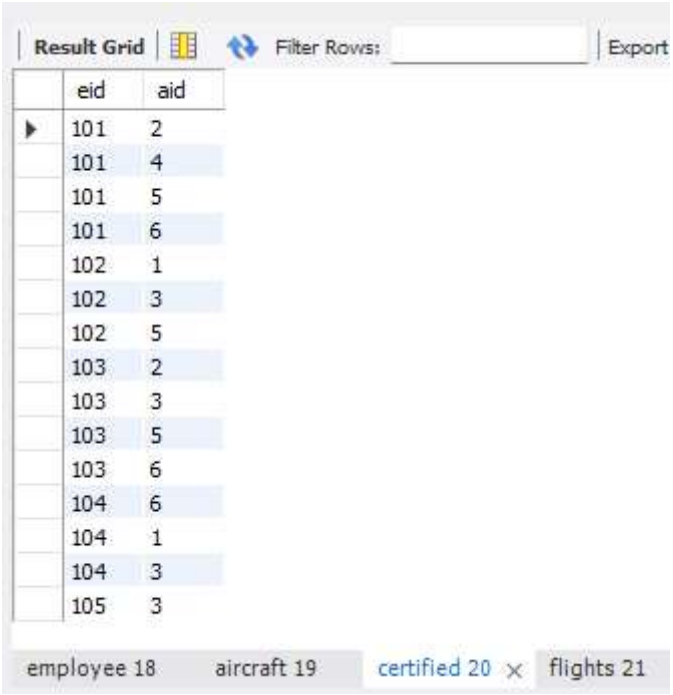


Result Grid | Filter Rows: | Edit:

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

employee 18 | aircraft 19 × | certified 20 | flights 21

select * from certified;

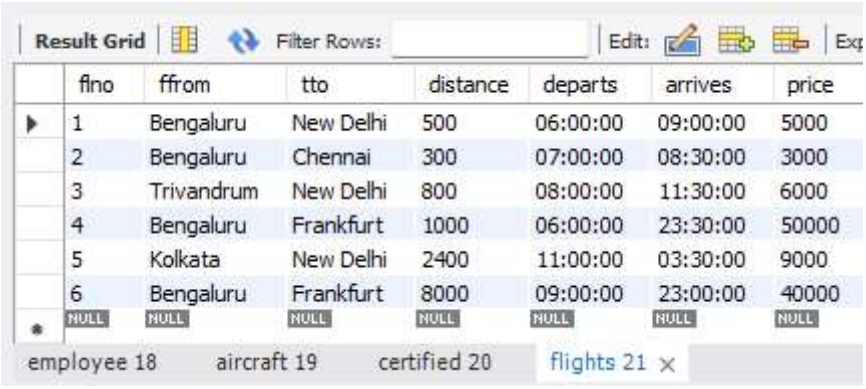


Result Grid | Filter Rows: | Export

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

employee 18 | aircraft 19 | certified 20 × | flights 21

select * from flights;



Result Grid | Filter Rows: | Edit:

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	1000	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

employee 18 aircraft 19 certified 20 flights 21

TO DO

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

```
select a.aname
from aircraft a, certified c, employee e
where c.aid = a.aid and e.eid = c.eid and e.salary>80000;
```

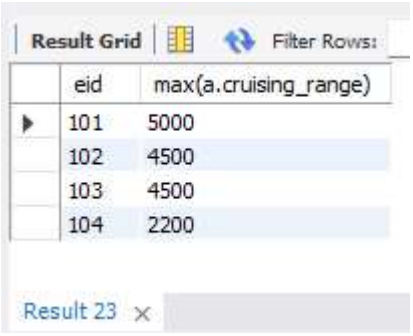
Result Grid

aname
Airbus
Airbus
Jetairways

Result 22

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 c.aid=a.aid
group by c.eid
having count(c.aid)>=3;
```



Result Grid | Filter Rows:

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

Result 23

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

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

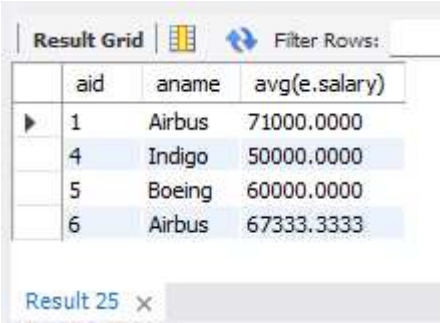
Result Grid

	ename
▶	Tilak

employee 24 ×

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, employee e, certified c
where c.aid = a.aid and e.eid = c.eid and a.cruising_range >1000
group by c.aid;
```



Result Grid Filter Rows:

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

Result 25 ×

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

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

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

```
select a.aid
from aircraft a
where a.cruising_range>=
(select distance
from flights
where ffrom='Bengaluru' and tto='New Delhi');
```