WEEK-8
(1BM21CS045)
AIRLINE FLIGHT DATABASE

Create a database table and insert appropriate data.

```
create database 1bm21cs045_airline_flight;
use 1bm21cs045_airline_flight;

create table flights(
flno int,
from_place varchar(20),
to_place 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),
foreign key (aid) references aircraft(aid)
on delete cascade
on update cascade  );
```

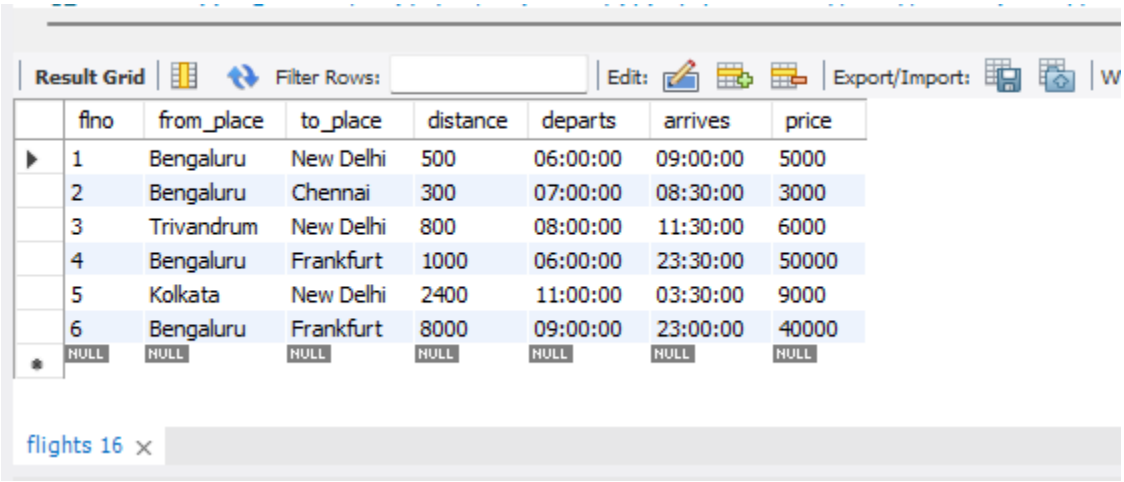
```
insert into employee values (101,'Avinash',50000);
insert into employee values (102,'Lokesh',60000);
insert into employee values (103,'Rakesh',70000);
insert into employee values (104,'Santhosh',82000);
insert into employee values (105,'Tilak',5000);

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 flights;

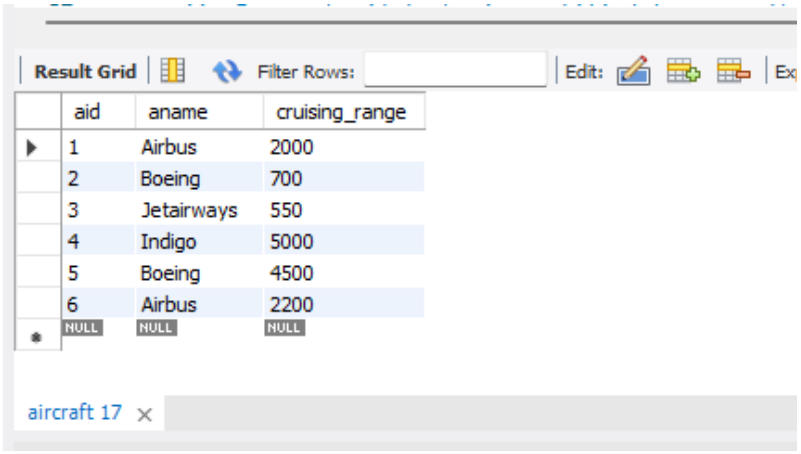


Result Grid | Filter Rows: | Edit: | Export/Import:

flno	from_place	to_place	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

flights 16

select * from aircraft;

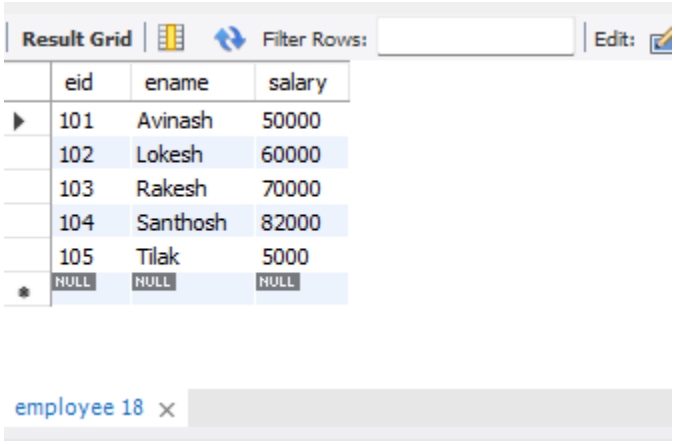


Result Grid | Filter Rows: | Edit:

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

aircraft 17

select * from employee;

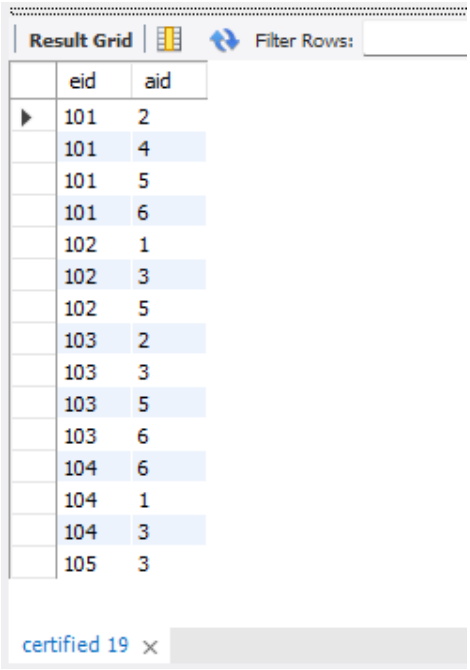


Result Grid | Filter Rows: | Edit:

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

employee 18

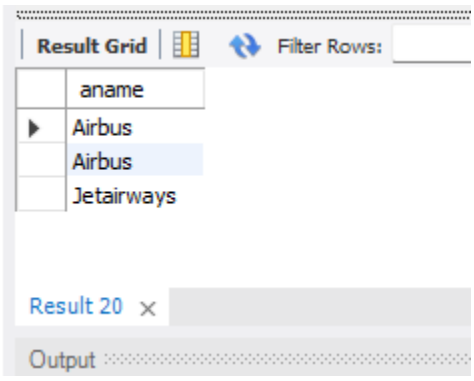
select * from certified;



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

TO DO
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, employee e
where c.aid = a.aid and e.eid = c.eid and e.salary>80000;

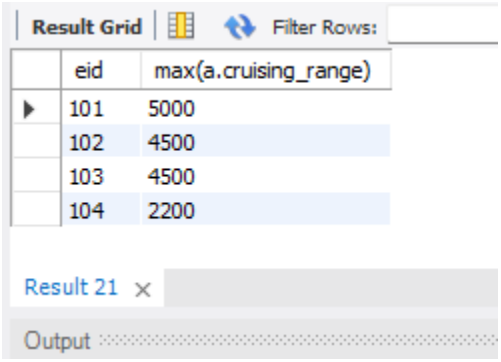


aname
Airbus
Airbus
Jetairways

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.

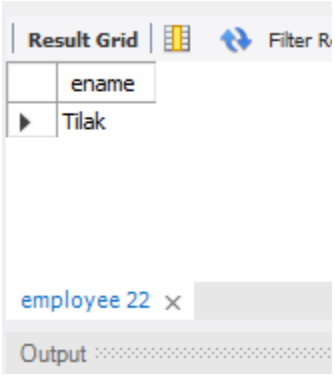
select e.eid,max(a.cruising_range)
from employee e, certified c, aircraft a

where c.aid=a.aid and e.eid =c.eid
group by c.eid
having count(distinct(c.aid))>=3;

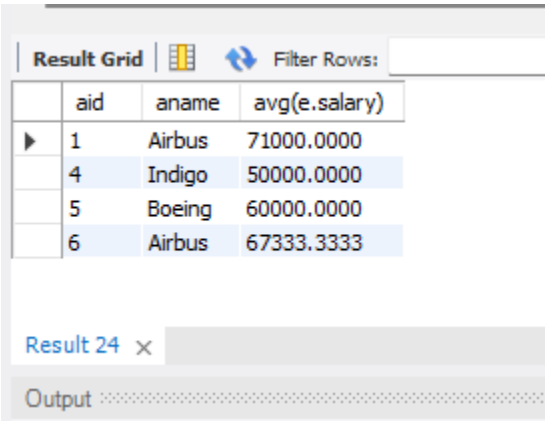


iii. Find the names of pilots whose salary is less than the price of the cheapest route from Bengaluru to Frankfurt.

select ename
from employee
where salary < (
select min(price)
from flights
where from_place='Bengaluru' and to_place='Frankfurt');

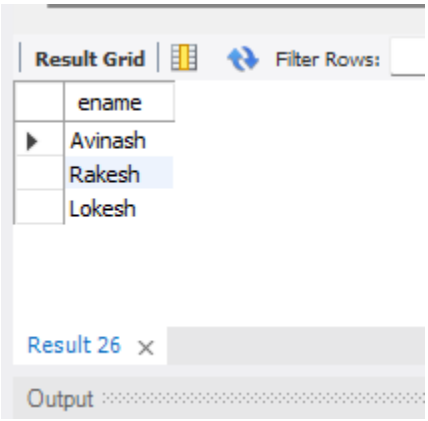


iv. For all aircraft with cruising range over 1000 Kms, find the name of the aircraft and the Average salary of all pilots certified for this aircraft.
select a.aid, a.aname, avg(e.salary)
from aircraft a, employee e, certified c
where c.aid = a.aid and e.eid = c.eid and a.cruising_range >1000
group by c.aid;



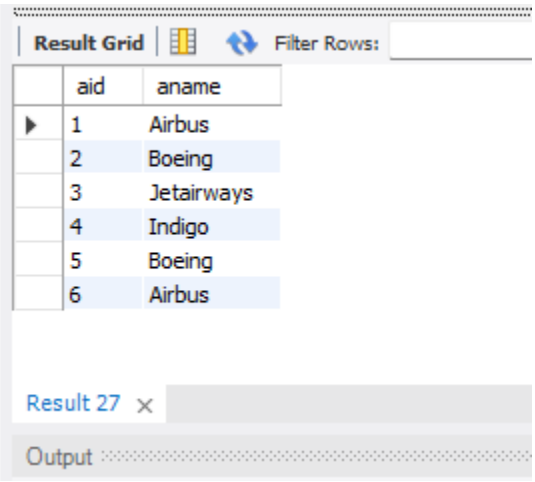
v. Find the names of pilots certified for some Boeing aircraft.

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



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

```
select aid, aname
from flights, aircraft
where from_place='Bengaluru' and to_place='New Delhi' and cruising_range > (
select f.distance
from flights f
where f.from_place='Bengaluru' and f.to_place='New Delhi');
```


Result Grid
Filter Rows:
aid
aname
1
Airbus
2
Boeing
3
Jetairways
4
Indigo
5
Boeing
6
Airbus
Result 27
Output