WEEK 8

AIRLINE FLIGHT DATABASE

By V. Kenny Philip

```
create database airlines;
use airlines;

create table flights(
flno int,
from_loc varchar(20),
to_loc varchar(20),
dist int,
departs time,
arrives time,
price int,
primary key(flno)
);

create table aircraft(
aid int,
aname varchar(15),
cruising_range int,
primary key(aid)
);

create table employees(
```

```
eid int,
ename varchar(15),
salary int,
primary key(eid)
);

create table certified(
eid int,
aid int,
primary key(aid,eid),
foreign key(aid) references aircraft(aid) on update cascade on delete cascade,
foreign key(eid) references employees(eid) on delete cascade on update cascade
);
truncate certified;
drop table certified;
insert into employees values(101,'Airbus',50000);
insert into employees values(102,'Boeing',60000);
insert into employees values(103,'Rakesh',70000);
insert into employees values(104,'Santhosh',82000);
insert into employees values(105,'Tilak',5000);

SET FOREIGN_KEY_CHECKS=0;
SET GLOBAL FOREIGN_KEY_CHECKS=0;

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",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);
truncate flights;

insert into aircraft values(1,"Airbus",2000);
insert into aircraft values(2,"Boeing",700);
```

```
insert into aircraft values(3,"Jet",550);

insert into aircraft values(4,"Indigo",5000);

insert into aircraft values(5,"Boeing",4500);

insert into aircraft values(6,"Airbus",2200);
```

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

ans:

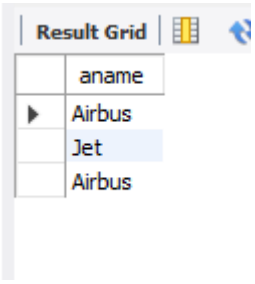
```
select a.aname

from aircraft a,certified c,employees e

where c.aid=a.aid and

        c.eid=e.eid and

    e.salary>80000;
```



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

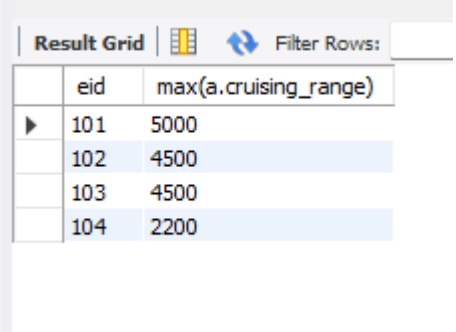
```
select e.eid, max(a.cruising_range)

from employees e, aircraft a, certified c

where c.eid=e.eid and c.aid=a.aid

group by e.eid

having count(a.aid)>=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.

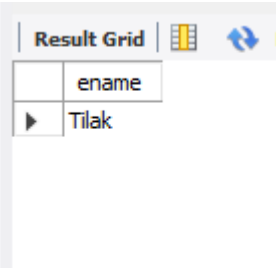
```
select distinct e.ename

from employees e,certified c

where e.salary<(select min(price)

                from flights

        where from_loc ='Bengaluru' and to_loc ='Frankfurt');
```

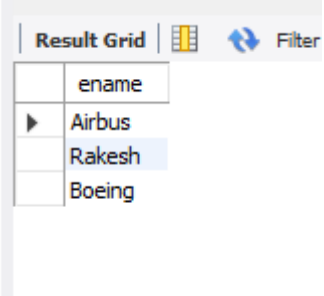


ename
Tilak

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

```
select distinct e.ename from employees e ,certified c,aircraft a

where e.eid=c.eid and c.aid=a.aid and a.aname="Boeing";
```



ename
Airbus
Rakesh
Boeing

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

```
select a.aid

from aircraft a,flights f

where f.from_loc="Bengaluru" and f.to_loc="New Delhi";
```

Result Grid

aid
1
2
3
4
5
6

vi. 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,certified c

where  a.aid=c.aid and c.eid=e.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