

**Medha Madhusudhan**

**1BM19CS230**

**CSE - 4A**

**Lab Program - 5**

```
create database airlinesdb;  
use airlinesdb;
```

```
create table Flights(  
    flno int not null,  
    from_loc varchar(20) not null,  
    to_loc varchar(20) not null,  
    distance int not null,  
    departs time not null,  
    arrives time not null,  
    price int not null,  
    primary key(flno)  
);
```

```
create table Aircraft(  
    aid int not null,  
    aname varchar(20) not null,  
    cruisingrange int not null,  
    primary key(aid)  
);
```

```
create table Employees(  
    eid int not null,
```

```
    ename varchar(20) not null,  
    salary int not null,  
    primary key(eid)  
);
```

```
create table Certified(  
    eid int not null,  
    aid int not null,  
    primary key(eid,aid),  
    foreign key(eid) references Employees(eid),  
    foreign key(aid) references Aircraft(aid)  
);
```

```
insert into Flights(flno,from_loc,to_loc,distance,departs,arrives,price)  
values (101,"Bangalore","Delhi",2500,"07:15:31","12:15:31",5000),  
       (102,"Bangalore","Lucknow",3000,"07:15:31","11:15:31",6000),  
       (103,"Lucknow","Delhi",500,"12:15:31","17:15:31",3000),  
       (107,"Bangalore","Frankfurt",8000,"07:15:31","22:15:31",60000),  
       (104,"Bangalore","Frankfurt",8500,"07:15:31","23:15:31",75000),  
       (105,"Kolkata","Delhi",3400,"07:15:31","09:15:31",7000);
```

```
insert into Flights(flno,from_loc,to_loc,distance,departs,arrives,price)  
values (106,"Delhi","Kolkata",3400,"12:15:35","14:20:00",7000);
```

```
insert into Aircraft(aid,aname,cruisingrange)  
values (101,"747",3000),  
       (102,"Boeing",900),  
       (103,"647",800),
```

```
(104,"Dreamliner",10000),  
(105,"Boeing",3500),  
(106,"707",1500),  
(107,"Dream",12000);
```

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

```
insert into Certified(eid,aid)  
values (701,101),  
(701,102),  
(701,106),  
(701,105),  
(702,104),  
(703,104),  
(704,104),  
(702,107),  
(703,107),  
(704,107),  
(702,101),  
(703,105),  
(704,105),
```

(705,103);

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

```
select distinct a.aname from Aircraft a, Employees e, Certified c
where a.aid = c.aid and e.eid = c.eid and e.salary > 80000;
```

	aname
▶	747
	Dreamliner
	Boeing
	Dream

-- 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, e.ename, max(a.cruisingrange) from Employees e, Certified c, Aircraft a
where e.eid = c.eid and a.aid = c.aid group by e.ename having count(c.aid) > 3;
```

	eid	ename	max(a.cruisingrange)
▶	701	A	3500

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

```
select e.ename from Employees e where salary < (select min(price) from Flights
where from_loc = "Bangalore" and to_loc = "Frankfurt");
```

	ename
▶	A
	E

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

```

select a.aname,a.cruisingrange,avg(e.salary)
      from Aircraft a,Employees e,Certified c
      where c.eid = e.eid and c.aid = a.aid
      group by a.aname having a.cruisingrange > 1000 ;

```

	aname	cruisingrange	avg(e.salary)
▶	747	3000	75000.0000
	Dreamliner	10000	113333.3333
	707	1500	50000.0000
	Dream	12000	113333.3333

-- 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 a.aid = c.aid and aname like "Boeing";

```

	ename
▶	A
	C
	D

-- 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.cruisingrange >= (select distance from Flights
where from_loc = "Bangalore" and to_loc = "Delhi");

```

	aid
▶	101
	104
	105
	107
●	NULL

-- A customer wants to travel from bangalore to kolkata with no more than two changes of flight

-- List the choice of departure times if a customer wants to arrive by 6 p.m.

select f.from\_loc,f.to\_loc,f.arrives from Flights f

where (f.from\_loc = "Bangalore" and f.to\_loc = (select from\_loc from Flights

where to\_loc = "Kolkata")) or f.to\_loc = "Kolkata";

	from_loc	to_loc	arrives
▶	Bangalore	Delhi	12:15:31
	Delhi	Kolkata	14:20:00