WEEK 8

VIBHA HUGAR CS255

CREATION

create database airline;

use airline;

create table flights(

flno int,

from_ varchar(20),

to_ varchar(20),

distance int,

departs time,

arrives time,

price int,

PRIMARY KEY(flno)

);

create table aircraft(

aid int,

aname varchar(20),

cruisingRange int,

PRIMARY KEY(aid)

);

create table employee(

eid int,

ename varchar(20),

salary int,

PRIMARY KEY(eid)

);

```sql
create table certified(

eid int,

aid int,

FOREIGN KEY(eid) REFERENCES employee(eid) on update

cascade on delete cascade,

FOREIGN KEY(aid) REFERENCES aircraft(aid) on update cascade

on delete cascade

);
```

INSERTION

```sql
insert into flights
values(1,'Bengaluru','NewDelhi',500,'06:00','09:00',5000),(2,'Bengaluru','Chennai',300,'07:00','08:30'
,3000),(3,'Trivandrum','NewDelhi',800,'08:00','11:30',6000),

(4,'Bengaluru','Frankfurt',10000,'06:00','23:30',50000),(5,'Kolkata','NewDelhi',2400,'11:00','03:30',90
00),(6,'Bengaluru','Frankfurt',8000,'09:00','23:00',40000);
```

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

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

```sql
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),(1
04,1),(104,3),(105,3);
```

```sql
select * from employee;
```

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

select * from aircraft;

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

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

select * from flights;

flno	from_	to_	distance	departs	arrives	price
1	Bengaluru	NewDelhi	500	06:00:00	09:00:00	5000
2	Bengaluru	Chennai	300	07:00:00	08:30:00	3000
3	Trivandrum	NewDelhi	800	08:00:00	11:30:00	6000
4	Bengaluru	Frankfurt	10000	06:00:00	23:30:00	50000
5	Kolkata	NewDelhi	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

QUERY i

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 employee e inner join certified c on e.eid=c.eid and e.salary>80000 inner join aircraft a on a.aid=c.aid;

aname
Airbus
Airbus
JetAirways

QUERY ii

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.cruisingRange) as maxrange

from aircraft a, certified c

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

eid	maxrange
102	4500
104	2200
101	5000
103	4500

QUERY iii

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<any(select price

from flights where from_='Bengaluru' and to_='Frankfurt');

Result Grid
ename
▸ Tilak

QUERY iv

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 c.aid,a.aname, AVG(e.salary) from certified c, aircraft a, employee e where a.cruisingRange>1000 and e.eid=c.eid and a.aid=c.aid group by c.aid;

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

QUERY v

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

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

Result Grid
ename
▸ Avinash
Rakesh
Lokesh

QUERY vi

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

New Delhi.

select a.aid from flights f, aircraft a where (f.from_='Bengaluru'

and f.to_='NewDelhi') and f.distance<=a.cruisingRange;

	aid
▶	1
	2
	3
	4
	5
	6