LAB-1: INSURANCE DATABASE

USN: 1BM19CS168

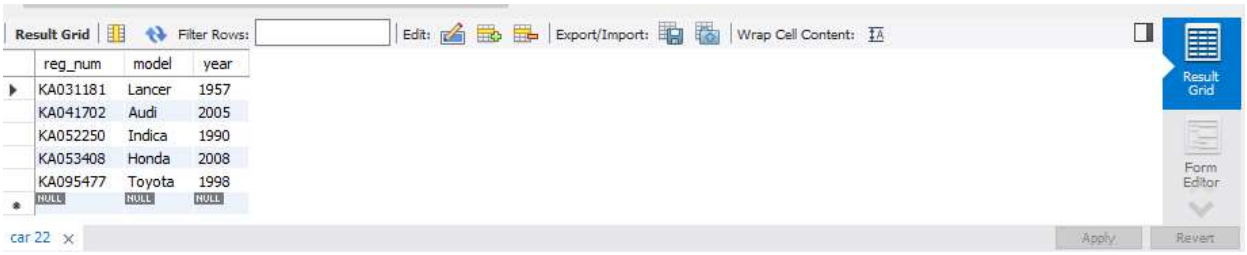
NAME: SWETHA PATIL

```
create database insurance;
use insurance;

use insurance;
create table person(driver_id varchar(5),name varchar(10),address varchar(20),primary key
(driver_id));
desc person;

create table car(reg_num varchar(10),model varchar(10),year int,primary key(reg_num));
desc car;

create table accident(report_num int,accident_date date,location varchar(20),primary
key(report_num));
desc accident;

create table owns(driver_id varchar(10),reg_num varchar(10),
primary key(driver_id,reg_num),
foreign key(driver_id) references person(driver_id),
foreign key(reg_num) references car(reg_num));
desc owns;

create table participated(driver_id varchar(10), reg_num varchar(10),
report_num int, damage_amount int,
primary key(driver_id,reg_num,report_num),
foreign key(driver_id) references person(driver_id),
foreign key(reg_num) references car(reg_num),
foreign key(report_num) references accident(report_num));
desc participated;

insert into person values('A01','Richard','Srinivas Nagar');
insert into person values('A02','Pradeep','Rajajinagar');
insert into person values('A03','Smith','Ashoknagar');
insert into person values('A04','Venu','N.R.Colony');
insert into person values('A05','John','Hanumanth Naga');
commit;
select * from person;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

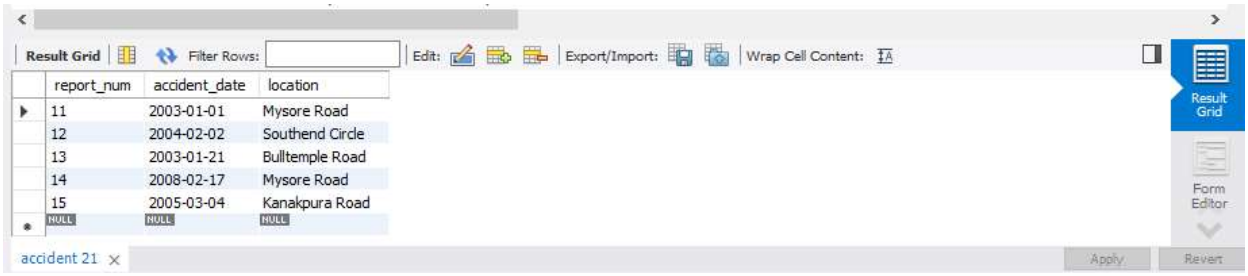
driver_id	name	address
A01	Richard	Srinivas Nagar
A02	Pradeep	Rajajinagar
A03	Smith	Ashoknagar
A04	Venu	N.R.Colony
A05	John	Hanumanth Naga
NULL	NULL	NULL

```
insert into car values('KA031181','Lancer',1957);
insert into car values('KA041702','Audi',2005);
insert into car values('KA052250','Indica',1990);
insert into car values('KA053408','Honda',2008);
insert into car values('KA095477','Toyota',1998);
commit;
select * from car;
```



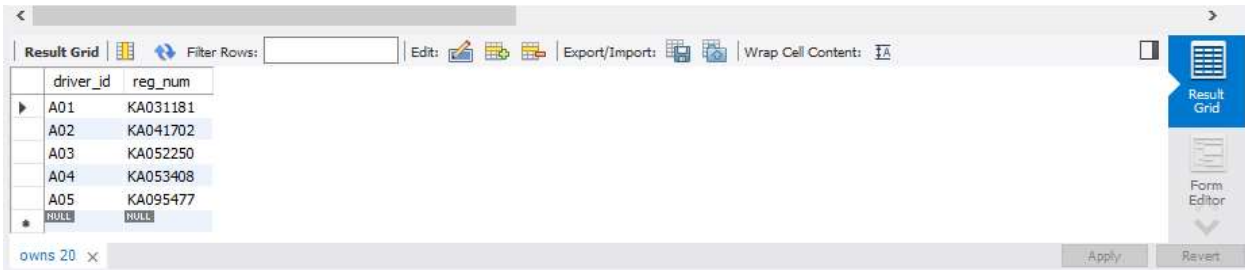
reg_num	model	year
KA031181	Lancer	1957
KA041702	Audi	2005
KA052250	Indica	1990
KA053408	Honda	2008
KA095477	Toyota	1998
NULL	NULL	NULL

```
insert into accident values(11,'2003-01-01','Mysore Road');
insert into accident values(12,'2004-02-02','Southend Circle');
insert into accident values(13,'2003-01-21','Bulltemple Road');
insert into accident values(14,'2008-02-17','Mysore Road');
insert into accident values(15,'2005-03-04','Kanakpura Road');
commit;
select * from accident;
```



report_num	accident_date	location
11	2003-01-01	Mysore Road
12	2004-02-02	Southend Circle
13	2003-01-21	Bulltemple Road
14	2008-02-17	Mysore Road
15	2005-03-04	Kanakpura Road
NULL	NULL	NULL

```
insert into owns values('A01','KA031181');
insert into owns values('A02','KA041702');
insert into owns values('A03','KA052250');
insert into owns values('A04','KA053408');
insert into owns values('A05','KA095477');
commit;
select * from owns;
```

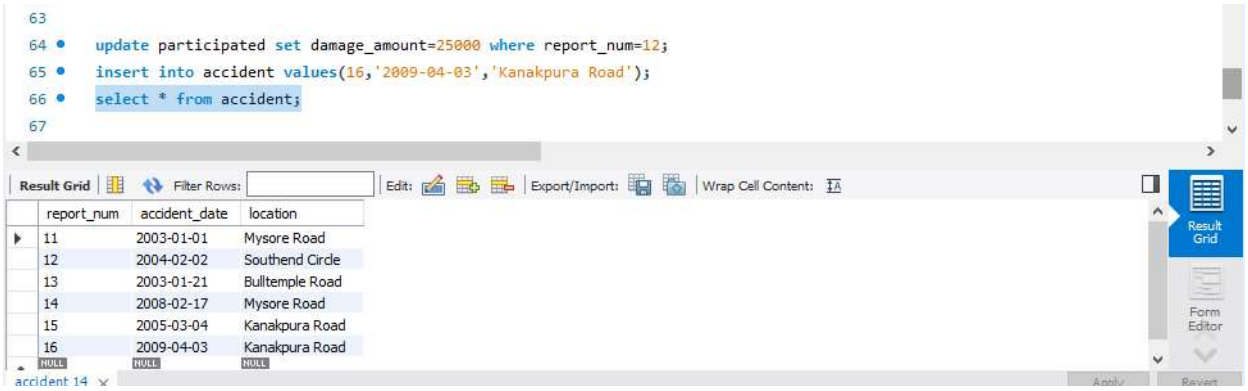


driver_id	reg_num
A01	KA031181
A02	KA041702
A03	KA052250
A04	KA053408
A05	KA095477
NULL	NULL

```
insert into participated values('A01','KA031181',11,10000);
insert into participated values('A02','KA041702',12,50000);
insert into participated values('A03','KA052250',13,25000);
insert into participated values('A04','KA053408',14,3000);
insert into participated values('A05','KA095477',15,5000);
commit;
select * from participated;
```

driver_id	reg_num	report_num	damage_amount
A01	KA031181	11	10000
A02	KA041702	12	50000
A03	KA052250	13	25000
A04	KA053408	14	3000
A05	KA095477	15	5000
NULL	NULL	NULL	NULL

```
update participated set damage_amount=25000 where report_num=12;
insert into accident values(16,'2009-04-03','Kanakpura Road');
select * from accident;
```



report_num	accident_date	location
11	2003-01-01	Mysore Road
12	2004-02-02	Southend Circle
13	2003-01-21	Bulltemple Road
14	2008-02-17	Mysore Road
15	2005-03-04	Kanakpura Road
16	2009-04-03	Kanakpura Road
NULL	NULL	NULL

select count(*) from accident where year(accident_date)=2008;

select count(report_num) CNT from car c,participated p where c.reg_num=p.reg_num and model='Lancer';

LAB-2: BANKING ENTERPRISE DATABASE USN:1BM19CS168

NAME : SWETHA PATIL

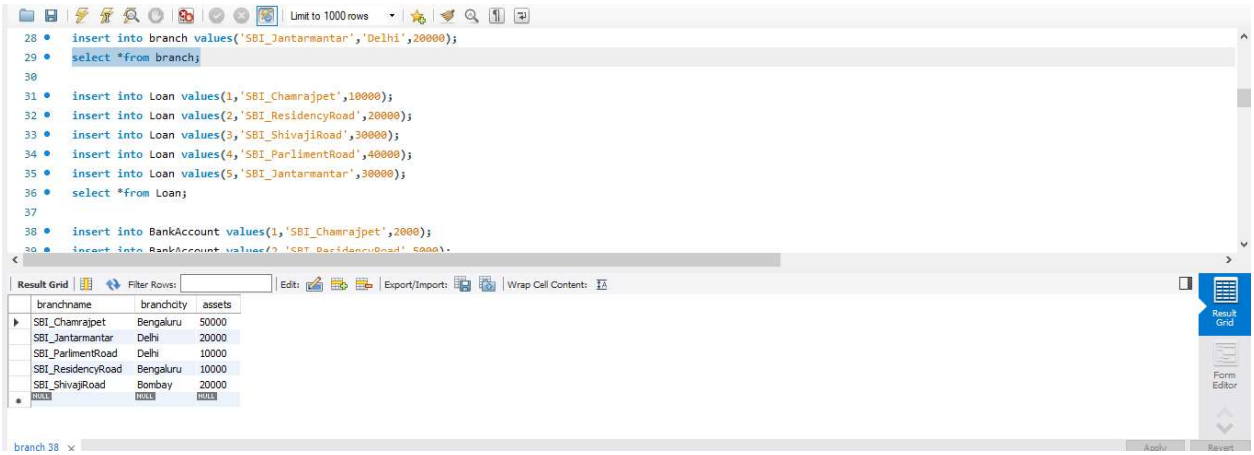
```
create database bank;
use bank;
create table branch(branchname varchar(30),branchcity varchar(30),assets real,primary
key(branchname));
desc branch;

create table BankAccount(Accno int,branchname varchar(30),balance real,primary key(Accno),
foreign key(branchname) references branch(branchname));
desc BankAccount;

create table BankCustomer(CustomerName varchar(30),CustomerStreet
varchar(30),Customercity varchar(30),
primary key (CustomerName));
desc BankCustomer;

create table Depositer(CustomerName varchar(30),Accno integer,primary
key(CustomerName,Accno),
foreign key(CustomerName) references BankCustomer(CustomerName),
foreign key(Accno) references BankAccount(Accno));
desc Depositer;


create table Loan(loannumber int,branchname varchar(30),Amount real,primary
key(loannumber),
foreign key(BranchName) references branch(branchname));
desc Loan;

insert into branch values('SBI_Chamrajpet','Bengaluru',50000);
insert into branch values('SBI_ResidencyRoad','Bengaluru',10000);
insert into branch values('SBI_ShivajiRoad','Bombay',20000);
insert into branch values('SBI_ParlimentRoad','Delhi',10000);
insert into branch values('SBI_Jantarmantar','Delhi',20000);
select *from branch;

insert into Loan values(1,'SBI_Chamrajpet',10000);
insert into Loan values(2,'SBI_ResidencyRoad',20000);
insert into Loan values(3,'SBI_ShivajiRoad',30000);
insert into Loan values(4,'SBI_ParlimentRoad',40000);
```

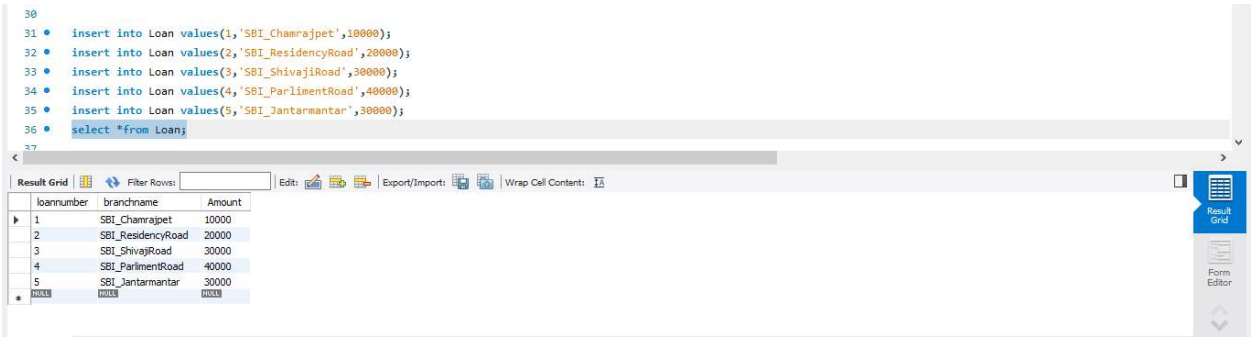
```
insert into Loan values(5,'SBI_Jantarmantar',30000);
select *from Loan;

insert into BankAccount values(1,'SBI_Chamrajpet',2000);
insert into BankAccount values(2,'SBI_ResidencyRoad',5000);
insert into BankAccount values(3,'SBI_ShivajiRoad',6000);
insert into BankAccount values(4,'SBI_ParlimentRoad',9000);
insert into BankAccount values(5,'SBI_Jantarmantar',8000);
insert into BankAccount values(6,'SBI_ShivajiRoad',4000);
insert into BankAccount values(8,'SBI_ResidencyRoad',4000);
insert into BankAccount values(9,'SBI_ParlimentRoad',3000);
insert into BankAccount values(10,'SBI_ResidencyRoad',5000);
insert into BankAccount values(11,'SBI_Jantarmantar',2000);
commit;
select * from BankAccount;

insert into BankCustomer values('Avinash','Bull_temple_Road','Bengaluru');
insert into BankCustomer values('Dinesh','Bannergatta_Road','Bengaluru');
insert into BankCustomer values('Mohan','NationalCollege_Road','Bengaluru');
insert into BankCustomer values('Nikil','Akbar_Road','Delhi');
insert into BankCustomer values('Ravi','Prithviraj_Road','Delhi');
select * from BankCustomer;

insert into Depositer values('Avinash',1);
insert into Depositer values('Dinesh',2);
insert into Depositer values('Nikil',4);
insert into Depositer values('Ravi',5);
insert into Depositer values('Avinash',8);
insert into Depositer values('Nikil',9);
insert into Depositer values('Dinesh',10);
insert into Depositer values('Nikil',11);
commit;
select * from Depositer;

SELECT c.CustomerName FROM BankCustomer c WHERE EXISTS(SELECT
d.CustomerName,COUNT(d.CustomerName) FROM Depositer d, BankAccount ba WHERE
d.accno=ba.accno AND c.CustomerName=d.CustomerName AND
ba.branchname='SBI_ResidencyRoad' GROUP BY d.CustomerName HAVING
COUNT(d.CustomerName)>=2);

/*Query 4*/
select distinct d.CustomerName from Depositer d where exists( select * from BankAccount ba
where ba.Accno=d.Accno
```

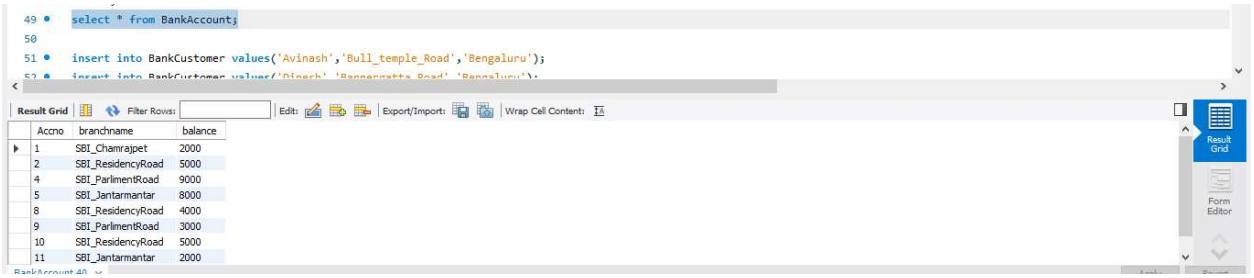
and exists (select * from branch b where b.branchname = ba.branchname and b.branchcity='Delhi'));

/*Query 5*/

```
delete from BankAccount
  where branchname IN(
  select branchname
        from Branch
  where branchcity='Bombay'
  );
Select * from BankAccount;
```







```
insert into BankCustomer values('Avinash','Bull_temple_Road','Bengaluru');
insert into BankCustomer values('Dinesh','Bannergatta_Road','Bengaluru');
insert into BankCustomer values('Mohan','NationalCollege_Road','Bengaluru');
insert into BankCustomer values('Nikil','Akbar_Road','Delhi');
insert into BankCustomer values('Ravi','Prithviraj_Road','Delhi');
select * from BankCustomer;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

CustomerName	CustomerStreet	Customercity
Avinash	Bull_temple_Road	Bengaluru
Dinesh	Bannergatta_Road	Bengaluru
Mohan	NationalCollege_Road	Bengaluru
Nikil	Bull_temple_Road	Bengaluru
Ravi	Bull_temple_Road	Bengaluru
NULL	NULL	NULL

```
commit;
select * from Depositer;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

CustomerName	Accno
Avinash	1
Dinesh	2
Nikil	4
Ravi	5
Avinash	8
Nikil	9
Dinesh	10
Nikil	11

Depositer42

```
SELECT c.CustomerName FROM BankCustomer c WHERE EXISTS(SELECT
d.CustomerName,COUNT(d.CustomerName) FROM Depositer d, BankAccount ba WHERE
d.accno=ba.accno AND c.CustomerName=d.CustomerName AND ba.branchname='SBI_ResidencyRoad' GROUP BY d.CustomerName HAVING COUNT(d.CustomerName)>=2);

/*Query 4
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

CustomerName
Dinesh
NULL

```
/*Query 4*/

select distinct d.CustomerName from Depositer d where exists( select * from BankAccount ba where ba.Accno=d.Accno
and exists (select * from branch b where b.branchname = ba.branchname and b.branchcity='Delhi'));

/*select d.CustomerName from depositer d,branch b, bankaccount a
where b.branchname=a.branchname
AND a.accno=d.accno
and branchcity='Delhi'
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

CustomerName
Ravi
Nikil

```
/*Query 5*/
delete from BankAccount
where branchname IN(
select branchname
from Branch
where branchcity='Bombay'
);
select * from BankAccount;  /* 3rd row deleted*/
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

Accno	branchname	balance
1	SBI_Chamrajpet	2000
2	SBI_ResidencyRoad	5000
4	SBI_ParlimentRoad	9000
5	SBI_Jantarmantar	8000
8	SBI_ResidencyRoad	4000
9	SBI_ParlimentRoad	3000
10	SBI_ResidencyRoad	5000
11	SBI_Jantarmantar	2000

Result Grid | Form Editor

LAB-3: SUPPLIER DATABASE

USN: 1BM19CS168

NAME: SWETHA PATIL

```
create database Supplier;
use Supplier;

create table Suppliers(
sid varchar(20) ,
sname varchar(20),
city varchar(20),
primary key(sid)
);
desc Suppliers;

create table Parts(
pid integer,
pname varchar(20),
color varchar(20),
primary key(pid)
);
desc Parts;

create table Catalog(
sid varchar(20),
pid integer,
cost real,
primary key(sid,pid),
foreign key(sid) references Suppliers(sid),
foreign key(pid) references Parts(pid)
);
desc Catalog;

insert into Suppliers values(10001,'Acme Widget','Bangalore');
insert into Suppliers values(10002,'Johns','Kolkata');
insert into Suppliers values(10003,'Vimal','Mumbai');
insert into Suppliers values(10004,'Reliance','Delhi');
insert into Suppliers values(10005, 'Mahindra','Mumbai');
select *from Suppliers;

insert into Parts values(20001,'Book','Red');
insert into Parts values(20002,'Pen','Red');
insert into Parts values(20003,'Pencil','green');
insert into Parts values(20004,'Mobile','green');
insert into Parts values(20005,'Charger','Black');
select *from Parts;
```

```
insert into Catalog values(10001,20001,10);
insert into Catalog values(10001,20002,10);
insert into Catalog values(10001,20003,30);
insert into Catalog values(10001,20004,10);
insert into Catalog values(10001,20005,10);
insert into Catalog values(10002,20001,10);
insert into Catalog values(10002,20002,20);
insert into Catalog values(10003,20003,30);
insert into Catalog values(10004,20003,40);
select *from Catalog;

select distinct P.pname from Parts P, Catalog c where P.pid=C.pid;

select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where not exists
(select C.sid from CATALOG C where C.sid = S.sid and C.pid = P.pid));

select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where P.color =
'Red' and (not exists (select C.sid from CATALOG C where C.sid = S.sid and C.pid = P.pid)));

select P.pname from PARTS P, CATALOG C, SUPPLIERS S where P.pid = C.pid and C.sid = S.sid
and S.sname = 'Acme Widget' and not exists (select * from CATALOG C1, SUPPLIERS S1 where
P.pid = C1.pid and C1.sid = S1.sid and S1.sname <> 'Acme Widget');

select distinct c.sid from Catalog  c where c.cost >(select avg(ca.cost) from Catalog ca where
ca.pid=c.pid);


select s.sname ,p.pid from Suppliers s, Catalog c, Parts p where s.sid=c.sid and c.pid =p.pid and
c.cost=(select max(ca.cost) from catalog ca where ca.pid=p.pid);
```

OUTPUTS:

```
33 •  insert into Suppliers values(10004,'Reliance','Delhi');
34 •  insert into Suppliers values(10005, 'Mahindra','Mumbai');
35 •  select *from Suppliers;
36
37 •  insert into Parts values(20001,'Book','Red');
38 •  insert into Parts values(20002,'Pen','Red');
39 •  insert into Parts values(20003,'Pencil','green');
40 •  insert into Parts values(20004,'Mobile','green');
41 •  insert into Parts values(20005,'Charger','Black');
42 •  select *from Parts;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

sid	sname	city
10001	Acme Widget	Bangalore
10002	Johns	Kolkata
10003	Vimal	Mumbai
10004	Reliance	Delhi
10005	Mahindra	Mumbai
NULL	NULL	NULL

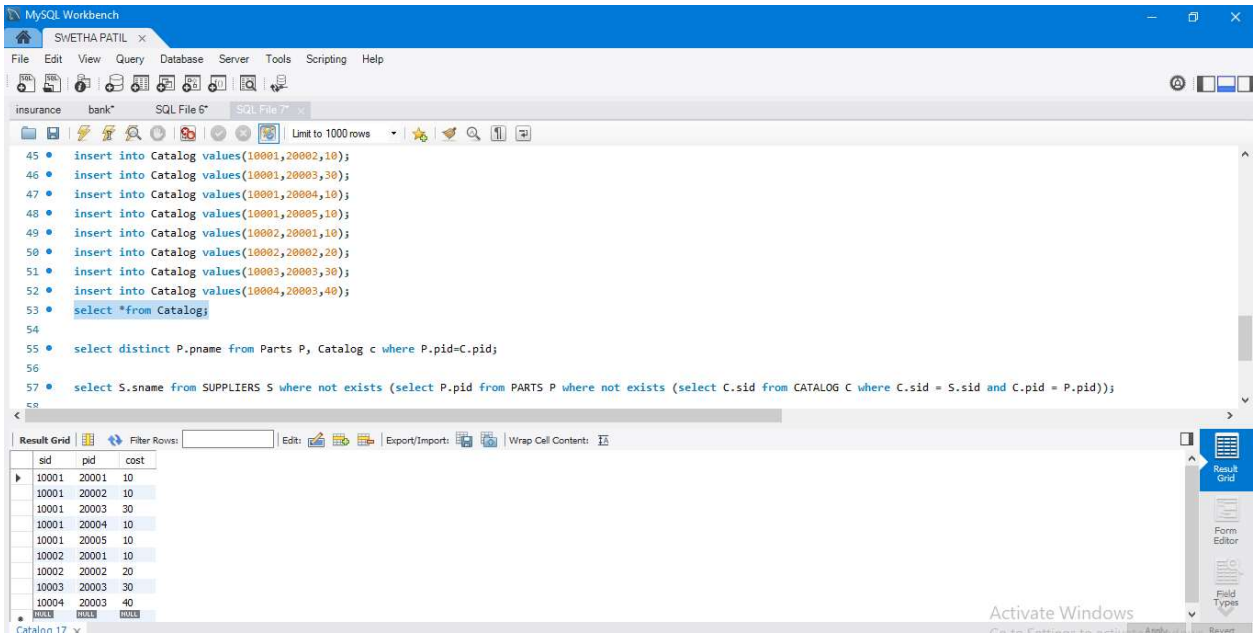
uppliers 15 ×

```
37 •  insert into Parts values(20001,'Book','Red');
38 •  insert into Parts values(20002,'Pen','Red');
39 •  insert into Parts values(20003,'Pencil','green');
40 •  insert into Parts values(20004,'Mobile','green');
41 •  insert into Parts values(20005,'Charger','Black');
42 •  select *from Parts;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

pid	pname	color
20001	Book	Red
20002	Pen	Red
20003	Pencil	green
20004	Mobile	green
20005	Charger	Black
NULL	NULL	NULL

Parts 16 ×


MySQL Workbench
SWETHA PATIL
File Edit View Query Database Server Tools Scripting Help
insurance bank* SQL File 6* SQL File 7*
Limit to 1000 rows
insert into Catalog values(10001,20002,10);
insert into Catalog values(10001,20003,30);
insert into Catalog values(10001,20004,10);
insert into Catalog values(10001,20005,10);
insert into Catalog values(10002,20001,10);
insert into Catalog values(10002,20002,20);
insert into Catalog values(10003,20003,30);
insert into Catalog values(10004,20003,40);
select *from Catalog;
select distinct P.pname from Parts P, Catalog c where P.pid=C.pid;
select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where not exists (select C.sid from CATALOG C where C.sid = S.sid and C.pid = P.pid));
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
sid pid cost
10001 20001 10
10001 20002 10
10001 20003 30
10001 20004 10
10001 20005 10
10002 20001 10
10002 20002 20
10003 20003 30
10004 20003 40
Activate Windows


select distinct P.pname from Parts P, Catalog c where P.pid=C.pid;
Result Grid Filter Rows: Export: Wrap Cell Content:
pname
Book
Pen
Pencil
Mobile
Charger
Activate Windows


select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where not exists (select C.sid from CATALOG C where C.sid = S.sid and C.pid = P.pid));
Result Grid Filter Rows: Export: Wrap Cell Content:
sname
Acme Widget

```
58
59  select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where P.color = 'Red' and (not exists (select C.sid from CATALOG C where C.sid = S.sid and C.pid = P.pid)
60
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

sname
Acme Widget
Johns

```
60
61  = C.pid and C.sid = S.sid and S.sname = 'Acme Widget' and not exists (select * from CATALOG C1, SUPPLIERS S1 where P.pid = C1.pid and C1.sid = S1.sid and S1.sname <> 'Acme Widget');
62
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

pname
Mobile
Charger

```
62
63  select distinct c.sid from Catalog  c where c.cost >(select avg(ca.cost) from Catalog ca where ca.pid=c.pid);
64
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

sid
10002
10004

```
65
66 • select s.sname ,p.pid from Suppliers s, Catalog c, Parts p where s.sid=c.sid and c.pid =p.pid and c.cost=(select max(ca.cost) from catalog ca where ca.pid=p.pid);
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

sname	pid
Acme Widget	20001
Johns	20001
Johns	20002
Reliance	20003
Acme Widget	20004
Acme Widget	20005

Result Grid | Form Editor | Field Types

Result 23 | Read Only

LAB-4: STUDENT FACULTY DATABASE

USN:1BM19CS168

NAME:SWETHA PATIL

```
create database student_faculty;
use student_faculty;

CREATE TABLE student(
       snum INT,
       sname VARCHAR(10),
       major VARCHAR(2),
       lvl VARCHAR(2),
      age INT, primary key(snum));
desc student;

CREATE TABLE faculty(
       fid INT, fname VARCHAR(20),
       deptid INT,
      PRIMARY KEY(fid));
desc faculty;

CREATE TABLE class(
     cname VARCHAR(20),
     meets_at TIMESTAMP,
     room VARCHAR(10),
    fid INT,
       PRIMARY KEY(cname),
      FOREIGN KEY(fid) REFERENCES faculty(fid));
      desc class;

      CREATE TABLE enrolled(
       snum INT,
       cname VARCHAR(20),
      PRIMARY KEY(snum,cname),
           FOREIGN KEY(snum) REFERENCES student(snum),
           FOREIGN KEY(cname) REFERENCES class(cname));
desc enrolled;

INSERT INTO STUDENT VALUES(1, 'jhon', 'CS', 'Sr', 19);
INSERT INTO STUDENT VALUES(2, 'Smith', 'CS', 'Jr', 20);
INSERT INTO STUDENT VALUES(3 , 'Jacob', 'CV', 'Sr', 20);
INSERT INTO STUDENT VALUES(4, 'Tom ', 'CS', 'Jr', 20);
INSERT INTO STUDENT VALUES(5, 'Rahul', 'CS', 'Jr', 20);
INSERT INTO STUDENT VALUES(6, 'Rita', 'CS', 'Sr', 21);
select * from student;
```

```
INSERT INTO FACULTY VALUES(11, 'Harish', 1000);
INSERT INTO FACULTY VALUES(12, 'MV', 1000);
INSERT INTO FACULTY VALUES(13 , 'Mira', 1001);
 INSERT INTO FACULTY VALUES(14, 'Shiva', 1002);
INSERT INTO FACULTY VALUES(15, 'Nupur', 1000);
select * from faculty;


INSERT INTO CLASS VALUES('class1', '12/11/15 10:15:16', 'R1', 14);
INSERT INTO CLASS VALUES('class10', '12/11/15 10:15:16', 'R128', 14);
INSERT INTO CLASS VALUES('class2', '12/11/15 10:15:20', 'R2', 12);
INSERT INTO CLASS VALUES('class3', '12/11/15 10:15:25', 'R3', 11);
 INSERT INTO CLASS VALUES('class4', '12/11/15 20:15:20', 'R4', 14);
INSERT INTO CLASS VALUES('class5', '12/11/15 20:15:20', 'R3', 15);
INSERT INTO CLASS VALUES('class6', '12/11/15 13:20:20', 'R2', 14);
INSERT INTO CLASS VALUES('class7', '12/11/15 10:10:10', 'R3', 14);
select * from class;

 INSERT INTO ENROLLED VALUES(1, 'class1');
INSERT INTO ENROLLED VALUES(2, 'class1');
INSERT INTO ENROLLED VALUES(3, 'class3');
INSERT INTO ENROLLED VALUES(4, 'class3');
INSERT INTO ENROLLED VALUES(5, 'class4');
INSERT INTO ENROLLED VALUES(1, 'class5');
INSERT INTO ENROLLED VALUES(2, 'class5');
INSERT INTO ENROLLED VALUES(3, 'class5');
INSERT INTO ENROLLED VALUES(4, 'class5');
INSERT INTO ENROLLED VALUES(5, 'class5');
 select * from enrolled;

SELECT DISTINCT S.Sname
FROM Student S, Class C, Enrolled E, Faculty F
WHERE S.snum = E.snum AND E.cname = C.cname AND C.fid = F.fid AND
F.fname = 'Harish' AND S.lvl = 'Jr';


SELECT C.cname
FROM class C
WHERE C.room = 'R128'
OR C.cname IN (SELECT E.cname
                FROM enrolled E
                GROUP BY E.cname
                HAVING COUNT(*) >= 5);
```

```
SELECT DISTINCT S.sname
FROM Student S
WHERE S.snum IN (SELECT E1.snum
                 FROM Enrolled E1, Enrolled E2, Class C1, Class C2
                 WHERE E1.snum = E2.snum AND E1.cname <> E2.cname
                 AND E1.cname = C1.cname
                 AND E2.cname = C2.cname AND C1.meets_at = C2.meets_at);

SELECT f.fname,f.fid
FROM faculty f
WHERE f.fid in ( SELECT fid FROM class
GROUP BY fid
HAVING COUNT(*)=(SELECT COUNT(DISTINCT room) FROM class));


SELECT DISTINCT F.fname
FROM Faculty F
WHERE 5 > (SELECT COUNT(E.snum)
FROM Class C, Enrolled E
WHERE C.cname = E.cname
AND C.fid = F.fid);


SELECT DISTINCT S.sname
FROM Student S
WHERE S.snum NOT IN (SELECT E.snum
FROM enrolled E );

SELECT S.age, S.lvl
FROM Student S
GROUP BY S.age, S.lvl
HAVING S.lvl IN (SELECT S1.lvl FROM Student S1
    WHERE S1.age = S.age
GROUP BY S1.lvl, S1.age
HAVING COUNT(*) >= ALL (SELECT COUNT(*)
FROM Student S2
WHERE s1.age = S2.age
GROUP BY S2.lvl, S2.age));
```

```
34 • INSERT INTO STUDENT VALUES(1, 'jhon', 'CS', 'Sr', 19);
35 • INSERT INTO STUDENT VALUES(2, 'Smith', 'CS', 'Jr', 20);
36 • INSERT INTO STUDENT VALUES(3 , 'Jacob', 'CV', 'Sr', 20);
37 • INSERT INTO STUDENT VALUES(4, 'Tom ', 'CS', 'Jr', 20);
38 • INSERT INTO STUDENT VALUES(5, 'Rahul', 'CS', 'Jr', 20);
39 • INSERT INTO STUDENT VALUES(6, 'Rita', 'CS', 'Sr', 21);
40 • select * from student;
41
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

snum	sname	major	lvl	age
1	jhon	CS	Sr	19
2	Smith	CS	Jr	20
3	Jacob	CV	Sr	20
4	Tom	CS	Jr	20
5	Rahul	CS	Jr	20
6	Rita	CS	Sr	21
NULL	NULL	NULL	NULL	NULL

Result Grid | Form Editor

```
42 • INSERT INTO FACULTY VALUES(11, 'Harish', 1000);
43 • INSERT INTO FACULTY VALUES(12, 'MV', 1000);
44 • INSERT INTO FACULTY VALUES(13 , 'Mira', 1001);
45 •  INSERT INTO FACULTY VALUES(14, 'Shiva', 1002);
46 • INSERT INTO FACULTY VALUES(15, 'Nupur', 1000);
47 • select * from faculty;
48
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

fid	fname	deptid
11	Harish	1000
12	MV	1000
13	Mira	1001
14	Shiva	1002
15	Nupur	1000
NULL	NULL	NULL

Result Grid | Form Editor

```
50 • insert into class values('class1', '12/11/15 10:15:16', 'R1', 14);
51 • insert into class values('class10', '12/11/15 10:15:16', 'R128', 14);
52 • insert into class values('class2', '12/11/15 10:15:20', 'R2', 12);
53 • insert into class values('class3', '12/11/15 10:15:25', 'R3', 11);
54 • insert into class values('class4', '12/11/15 20:15:20', 'R4', 14);
55 • insert into class values('class5', '12/11/15 20:15:20', 'R3', 15);
56 • insert into class values('class6', '12/11/15 13:20:20', 'R2', 14);
57 • insert into class values('class7', '12/11/15 10:10:10', 'R3', 14);
58 • select * from class;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

cname	meets_at	room	fid
class1	2012-11-15 10:15:16	R1	14
class10	2012-11-15 10:15:16	R128	14
class2	2012-11-15 10:15:20	R2	12
class3	2012-11-15 10:15:25	R3	11
class4	2012-11-15 20:15:20	R4	14
class5	2012-11-15 20:15:20	R3	15
class6	2012-11-15 13:20:20	R2	14
class7	2012-11-15 10:10:10	R3	14
NULL	NULL	NULL	NULL

Result Grid | Form Editor | Field Types

```
insert into enrolled values(2, 'class1');
insert into enrolled values(3, 'class3');
insert into enrolled values(4, 'class3');
insert into enrolled values(5, 'class4');
insert into enrolled values(1, 'class5');
insert into enrolled values(2, 'class5');
insert into enrolled values(3, 'class5');
insert into enrolled values(4, 'class5');
insert into enrolled values(5, 'class5');
select * from enrolled;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

snum	cname
1	class1
2	class1
3	class3
4	class3
5	class4
1	class5
2	class5
3	class5
4	class5
5	class5

enrolled 58


```
insert into enrolled values(3, 'class5');
insert into enrolled values(4, 'class5');
insert into enrolled values(5, 'class5');
 select * from enrolled;

SELECT DISTINCT S.Sname
FROM Student S, Class C, Enrolled E, Faculty F
WHERE S.snum = E.snum AND E.cname = C.cname AND C.fid = F.fid AND
F.fname = 'Harish' AND S.lvl = 'Jr';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Sname
Tom

```
SELECT C.cname
FROM class C
WHERE C.room = 'R128'
OR C.cname IN (SELECT E.cname
      FROM enrolled E
      GROUP BY E.cname
      HAVING COUNT(*) >= 5);
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

cname
class10
class5

```
SELECT DISTINCT S.sname
FROM Student S
WHERE S.snum IN (SELECT E1.snum
          FROM Enrolled E1, Enrolled E2, Class C1, Class C2
          WHERE E1.snum = E2.snum AND E1.cname <> E2.cname
          AND E1.cname = C1.cname
          AND E2.cname = C2.cname AND C1.meets_at = C2.meets_at);
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

sname
Rahul

```
94 •  SELECT f.fname,f.fid
95            FROM faculty f
96            WHERE f.fid in ( SELECT fid FROM class
97            GROUP BY fid HAVING COUNT(*)=(SELECT COUNT(DISTINCT room) FROM class));
98
99 •  SELECT DISTINCT F.fname
100   FROM Faculty F
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

fname	fid
Shiva	14
NULL	NULL

```
98
99 •  SELECT DISTINCT F.fname
100   FROM Faculty F
101   WHERE 5 > (SELECT COUNT(E.snum)
102   FROM Class C, Enrolled E
103   WHERE C.cname = E.cname
104   AND C.fid = F.fid);
105
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

fname
Harish
MV
Mira
Shiva

```
106
107 •  SELECT DISTINCT S.sname
108   FROM Student S
109   WHERE S.snum NOT IN (SELECT E.snum
110   FROM enrolled E );
111
112 •  SELECT S.age, S.lvl
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

sname
Rita

```
111
112 •  SELECT S.age, S.lvl
113    FROM Student S
114    GROUP BY S.age, S.lvl
115    HAVING S.lvl IN (SELECT S1.lvl FROM Student S1
116          WHERE S1.age = S.age
117    GROUP BY S1.lvl, S1.age
118    HAVING COUNT(*) >= ALL (SELECT COUNT(*)
119    FROM Student S2
120    WHERE s1.age = S2.age
121    GROUP BY S2.lvl, S2.age));
122
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

age	lvl
19	Sr
20	Jr
21	Sr

USN: 1BM19CS168

NAME: SWETHA PATIL

LAB-5: AIRLINE FLIGHT DATABASE

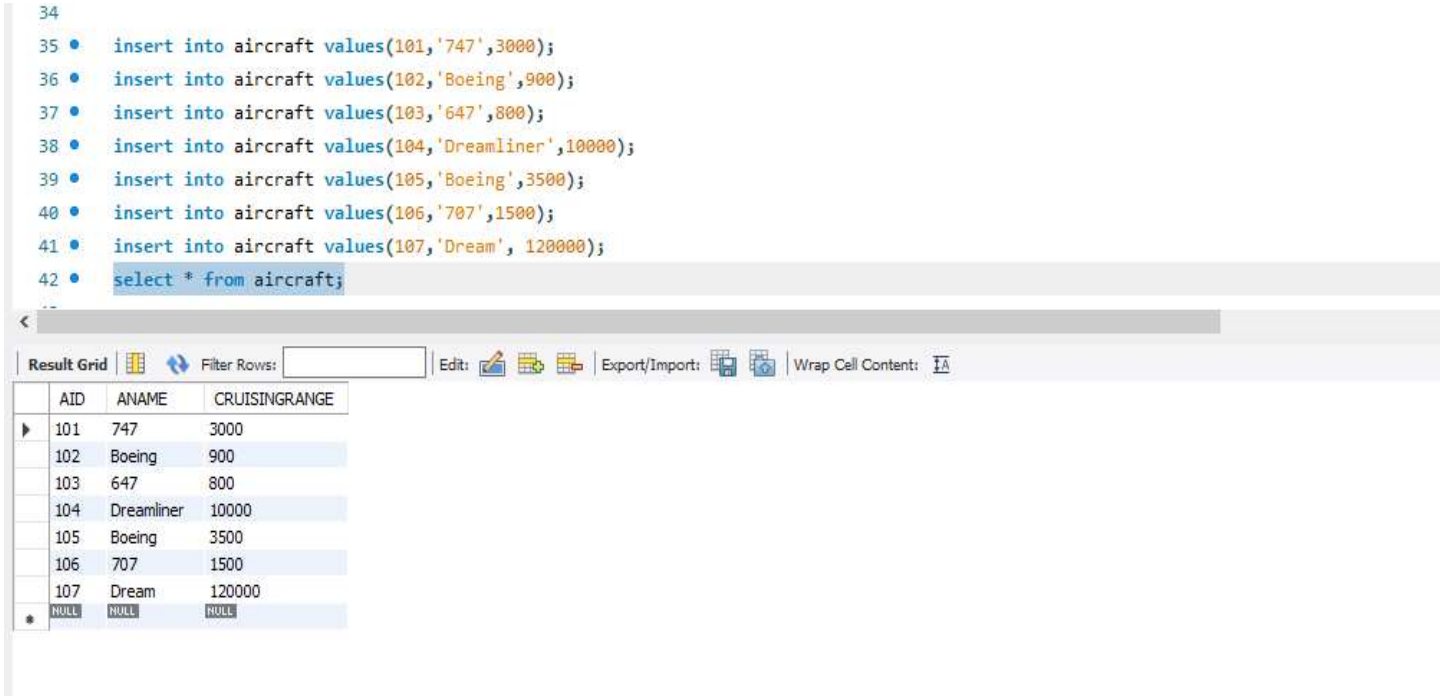
```
create database flights;
 use flights;

 CREATE TABLE FLIGHTS
  (FLNO INTEGER PRIMARY KEY,
  FFROM VARCHAR(15) ,
  TTO VARCHAR(15) ,
  DISTANCE INTEGER,
  DEPARTS TIMESTAMP,
  ARRIVES TIMESTAMP,
  PRICE INTEGER );
DESC FLIGHTS;

CREATE TABLE AIRCRAFT
  (AID INTEGER PRIMARY KEY,
  ANAME VARCHAR(10),
  CRUISINGRANGE INTEGER);
 DESC AIRCRAFT;

 CREATE TABLE EMPLOYEES
  (EID INTEGER PRIMARY KEY,
  ENAME VARCHAR(15),
  SALARY INTEGER );
DESC EMPLOYEES;

CREATE TABLE CERTIFIED
  (EID INTEGER NOT NULL,
  AID INTEGER NOT NULL,
  PRIMARY KEY (EID, AID),
  FOREIGN KEY (EID) REFERENCES EMPLOYEES (EID),
  FOREIGN KEY (AID) REFERENCES AIRCRAFT (AID));
 DESC CERTIFIED;
COMMIT;

insert into aircraft values(101,'747',3000);
insert into aircraft values(102,'Boeing',900);
insert into aircraft values(103,'647',800);
insert into aircraft values(104,'Dreamliner',10000);
insert into aircraft values(105,'Boeing',3500);
insert into aircraft values(106,'707',1500);
insert into aircraft values(107,'Dream', 120000);
select * from aircraft;

insert into employees values(701,'A',50000);
insert into employees values(702,'B',100000);
insert into employees values(703,'C',150000);
```

```
insert into employees values(704,'D',90000);
insert into employees values(705,'E',40000);
insert into employees values(706,'F',60000);
insert into employees values(707,'G',90000);
select * from employees;

insert into certified values(701,101);
insert into certified values(701,102);
insert into certified values(701,106);
insert into certified values(701,105);
insert into certified values(702,104);
insert into certified values(703,104);
insert into certified values(704,104);
insert into certified values(702,107);
insert into certified values(703,107);
insert into certified values(704,107);
insert into certified values(702,101);
insert into certified values(703,105);
insert into certified values(704,105);
insert into certified values(705,103);
select * from certified;

insert into flights values(101,'Bangalore','Delhi',2500,TIMESTAMP '2005-05-13 07:15:31',TIMESTAMP
'2005-05-13 17:15:31',5000);
insert into flights values(102,'Bangalore','Lucknow',3000,TIMESTAMP '2005-05-13 07:15:31',TIMESTAMP
'2005-05-13 11:15:31',6000);
insert into flights values(103,'Lucknow','Delhi',500,TIMESTAMP '2005-05-13 12:15:31',TIMESTAMP '
2005-05-13 17:15:31',3000);
insert into flights values(107,'Bangalore','Frankfurt',8000,TIMESTAMP '2005-05-13
07:15:31',TIMESTAMP '2005-05-13 22:15:31',60000);
insert into flights values(104,'Bangalore','Frankfurt',8500,TIMESTAMP '2005-05-13
07:15:31',TIMESTAMP '2005-05-13 23:15:31',75000);
insert into flights values(105,'Kolkata','Delhi',3400,TIMESTAMP '2005-05-13 07:15:31',TIMESTAMP
'2005-05-13 09:15:31',7000);
select * from Flights;


SELECT DISTINCT A.aname
FROM Aircraft A
WHERE A.Aid IN (SELECT C.aid
 FROM Certified C, Employees E
 WHERE C.eid = E.eid AND
 NOT EXISTS ( SELECT *
 FROM Employees E1
 WHERE E1.eid = E.eid AND E1.salary <80000 ));

SELECT C.eid, MAX(A.cruisingrange)
FROM Certified C, Aircraft A
```

```
WHERE C.aid = A.aid
GROUP BY C.eid
HAVING COUNT(*) > 3;

SELECT DISTINCT E.ename
FROM Employees E
WHERE E.salary <( SELECT MIN(F.price)
                  FROM Flights F
                  WHERE F.ffrom = 'Bangalore' AND F.tto = 'Frankfurt' );

SELECT Temp.name, Temp.AvgSalary
FROM ( SELECT A.aid, A.aname AS name, AVG (E.salary) AS AvgSalary
 FROM Aircraft A, Certified C, Employees E
 WHERE A.aid = C.aid AND C.eid = E.eid AND A.cruisingrange > 1000
 GROUP BY A.aid, A.aname )  Temp;


SELECT DISTINCT E.ename
FROM Employees E, Certified C, Aircraft A
WHERE E.eid = C.eid AND C.aid = A.aid AND A.aname LIKE 'Boeing%';

SELECT A.aid
FROM Aircraft A
WHERE A.cruisingrange >( SELECT MIN(F.distance)
                  FROM Flights F
                  WHERE F.ffrom = 'Bangalore' AND F.tto = 'Frankfurt' );

SELECT F.departs
FROM Flights F
WHERE F.flno IN ( ( SELECT F0.flno
 FROM Flights F0
 WHERE F0.ffrom = 'Bangalore' AND F0.tto = 'Delhi'
 AND extract(hour from F0.arrives) < 18 )
 UNION
( SELECT F0.flno
 FROM Flights F0, Flights F1
 WHERE F0.ffrom = 'Bangalore' AND F0.tto <> 'Delhi'
 AND F0.tto = F1.ffrom AND F1.tto = 'Delhi'
 AND F1.departs > F0.arrives
 AND extract(hour from F1.arrives) < 18)
 UNION
( SELECT F0.flno
 FROM Flights F0, Flights F1, Flights F2
 WHERE F0.ffrom = 'Bangalore'
 AND F0.tto = F1.ffrom
 AND F1.tto = F2.ffrom
 AND F2.tto = 'Delhi'
 AND F0.tto <> 'Delhi'
```

```
 AND F1.tto <> 'Delhi'
 AND F1.departs > F0.arrives
 AND F2.departs > F1.arrives
 AND extract(hour from F2.arrives) < 18));

SELECT E.ename, E.salary
FROM Employees E
WHERE E.eid NOT IN ( SELECT DISTINCT C.eid
 FROM Certified C )
AND E.salary >( SELECT AVG (E1.salary)
 FROM Employees E1
 WHERE E1.eid IN
( SELECT DISTINCT C1.eid
 FROM Certified C1 ) );
```

OUTPUTS:



```
34
35 •  insert into aircraft values(101,'747',3000);
36 •  insert into aircraft values(102,'Boeing',900);
37 •  insert into aircraft values(103,'647',800);
38 •  insert into aircraft values(104,'Dreamliner',10000);
39 •  insert into aircraft values(105,'Boeing',3500);
40 •  insert into aircraft values(106,'707',1500);
41 •  insert into aircraft values(107,'Dream', 120000);
42 •  select * from aircraft;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

AID	ANAME	CRUISINGRANGE
101	747	3000
102	Boeing	900
103	647	800
104	Dreamliner	10000
105	Boeing	3500
106	707	1500
107	Dream	120000
NULL	NULL	NULL

```
insert into employees values(701,'A',50000);
insert into employees values(702,'B',100000);
insert into employees values(703,'C',150000);
insert into employees values(704,'D',90000);
insert into employees values(705,'E',40000);
insert into employees values(706,'F',60000);
insert into employees values(707,'G',90000);
select * from employees;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

EID	ENAME	SALARY
701	A	50000
702	B	100000
703	C	150000
704	D	90000
705	E	40000
706	F	60000
707	G	90000
NULL	NULL	NULL

Limit to 1000 rows

```
insert into certified values(704,104);
insert into certified values(702,107);
insert into certified values(703,107);
insert into certified values(704,107);
insert into certified values(702,101);
insert into certified values(703,105);
insert into certified values(704,105);
insert into certified values(705,103);
select * from certified;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

EID	AID
701	101
702	101
701	102
705	103
702	104
703	104
704	104
701	105
703	105
704	105
701	106
702	107
703	107
704	107
NULL	NULL


```
insert into flights values(101,'Bangalore','Delhi',2500,TIMESTAMP '2005-05-13 07:15:31',TIMESTAMP '2005-05-13 17:15:31',5000);
insert into flights values(102,'Bangalore','Lucknow',3000,TIMESTAMP '2005-05-13 07:15:31',TIMESTAMP '2005-05-13 11:15:31',6000);
insert into flights values(103,'Lucknow','Delhi',500,TIMESTAMP '2005-05-13 12:15:31',TIMESTAMP ' 2005-05-13 17:15:31',3000);
insert into flights values(107,'Bangalore','Frankfurt',8000,TIMESTAMP '2005-05-13  07:15:31',TIMESTAMP '2005-05-13 22:15:31',60000);
insert into flights values(104,'Bangalore','Frankfurt',8500,TIMESTAMP '2005-05-13 07:15:31',TIMESTAMP '2005-05-13 23:15:31',75000);
insert into flights values(105,'Kolkata','Delhi',3400,TIMESTAMP '2005-05-13 07:15:31',TIMESTAMP  '2005-05-13 09:15:31',7000);
select * from Flights;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

FLNO	FFROM	TTO	DISTANCE	DEPARTS	ARRIVES	PRICE
101	Bangalore	Delhi	2500	2005-05-13 07:15:31	2005-05-13 17:15:31	5000
102	Bangalore	Lucknow	3000	2005-05-13 07:15:31	2005-05-13 11:15:31	6000
103	Lucknow	Delhi	500	2005-05-13 12:15:31	2005-05-13 17:15:31	3000
104	Bangalore	Frankfurt	8500	2005-05-13 07:15:31	2005-05-13 23:15:31	75000
105	Kolkata	Delhi	3400	2005-05-13 07:15:31	2005-05-13 09:15:31	7000
107	Bangalore	Frankfurt	8000	2005-05-13 07:15:31	2005-05-13 22:15:31	60000
NULL	NULL	NULL	NULL	NULL	NULL	NULL

```
77
78 • SELECT DISTINCT A.aname
79   FROM Aircraft A
80   WHERE A.Aid IN (SELECT C.aid
81    FROM Certified C, Employees E
82    WHERE C.eid = E.eid AND
83    NOT EXISTS ( SELECT *
84    FROM Employees E1
85    WHERE E1.eid = E.eid AND E1.salary <80000 ));
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

aname
747
Dreamliner
Boeing
Dream

```
86
87 • SELECT C.eid, MAX(A.cruisingrange)
88   FROM Certified C, Aircraft A
89   WHERE C.aid = A.aid
90   GROUP BY C.eid
91   HAVING COUNT(*) > 3;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

eid	MAX(A.cruisingrange)
701	3500

```
93 • SELECT DISTINCT E.ename
94   FROM Employees E
95   WHERE E.salary <( SELECT MIN(F.price)
96            FROM Flights F
97            WHERE F.ffrom = 'Bangalore' AND F.tto = 'Frankfurt' );
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

ename
A
E

```
98
99 • SELECT Temp.name, Temp.AvgSalary
100  FROM ( SELECT A.aid, A.aname AS name, AVG (E.salary) AS AvgSalary
101   FROM Aircraft A, Certified C, Employees E
102   WHERE A.aid = C.aid AND C.eid = E.eid AND A.cruisingrange > 1000
103   GROUP BY A.aid, A.aname )  Temp;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

name	AvgSalary
747	75000.0000
Dreamliner	113333.3333
Boeing	96666.6667
707	50000.0000
Dream	113333.3333

```
106 •  SELECT DISTINCT E.ename
107    FROM Employees E, Certified C, Aircraft A
108    WHERE E.eid = C.eid AND C.aid = A.aid AND A.aname LIKE 'Boeing%';
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

ename
A
C
D

```
109
110 •  SELECT A.aid
111    FROM Aircraft A
112    WHERE A.cruisingrange >( SELECT MIN(F.distance)
113                FROM Flights F
114                WHERE F.ffrom = 'Bangalore' AND F.tto = 'Frankfurt' );
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

aid
104
107

```
115
116 •  SELECT F.departs
117    FROM Flights F
118    WHERE F.flno IN ( ( SELECT F0.flno
119     FROM Flights F0
120     WHERE F0.ffrom = 'Bangalore' AND F0.tto = 'Delhi'
121     AND extract(hour from F0.arrives) < 18 )
122     UNION
123    ( SELECT F0.flno
124     FROM Flights F0, Flights F1
125     WHERE F0.ffrom = 'Bangalore' AND F0.tto <> 'Delhi'
126     AND F0.tto = F1.ffrom AND F1.tto = 'Delhi'
127     AND F1.departs > F0.arrives
128     AND extract(hour from F1.arrives) < 18)
129     UNION
130    ( SELECT F0.flno
131     FROM Flights F0, Flights F1, Flights F2
132     WHERE F0.ffrom = 'Bangalore'
133     AND F0.tto = F1.ffrom
134     AND F1.tto = F2.ffrom
135     AND F2.tto = 'Delhi'
136     AND F0.tto <> 'Delhi'
137     AND F1.tto <> 'Delhi'
138     AND F1.departs > F0.arrives
139     AND F2.departs > F1.arrives
140     AND extract(hour from F2.arrives) < 18));
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

departs
2005-05-13 07:15:31
2005-05-13 07:15:31

```
141
142 •  SELECT E.ename, E.salary
143    FROM Employees E
144   WHERE E.eid NOT IN ( SELECT DISTINCT C.eid
145    FROM Certified C )
146   AND E.salary >( SELECT AVG (E1.salary)
147    FROM Employees E1
148    WHERE E1.eid IN
149   ( SELECT DISTINCT C1.eid
150    FROM Certified C1 ) );
151
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	ename	salary
▶	G	90000