LAB-1: INSURANCE DATABASE

USN: 1BM19CS168

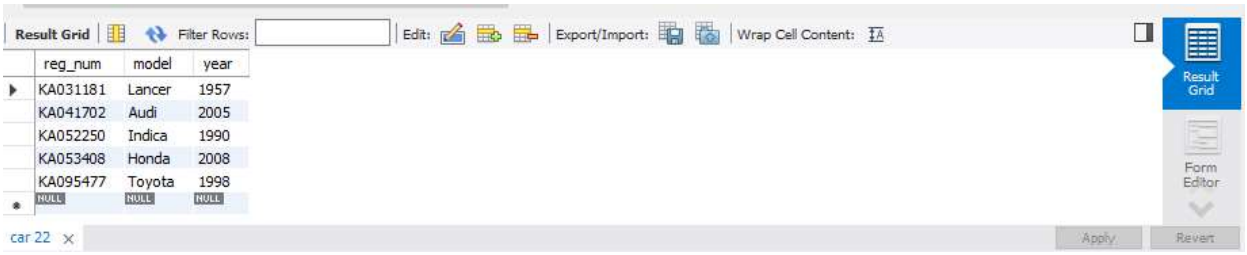
NAME: SWETHA PATIL

```
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:

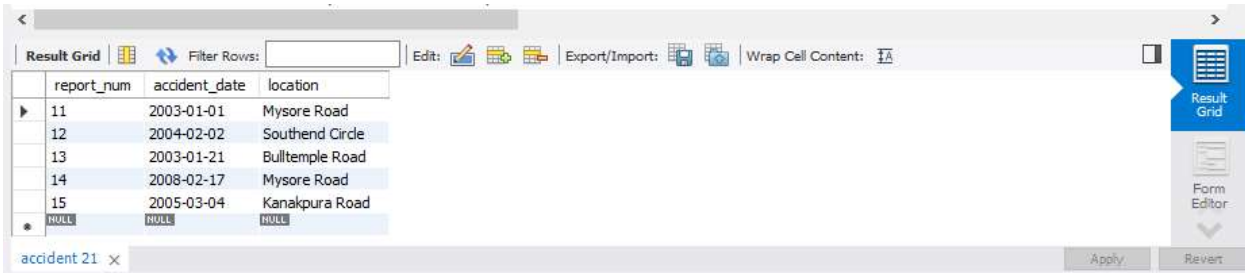
driver_id	name	address
A01	Richard	Srinivas Nagar
A02	Pradeep	Rajajinagar
A03	Smith	Ashoknagar
A04	Venu	N.R.Colony
A05	John	Hanumanth Naga
NULL	NULL	NULL

```
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;
```



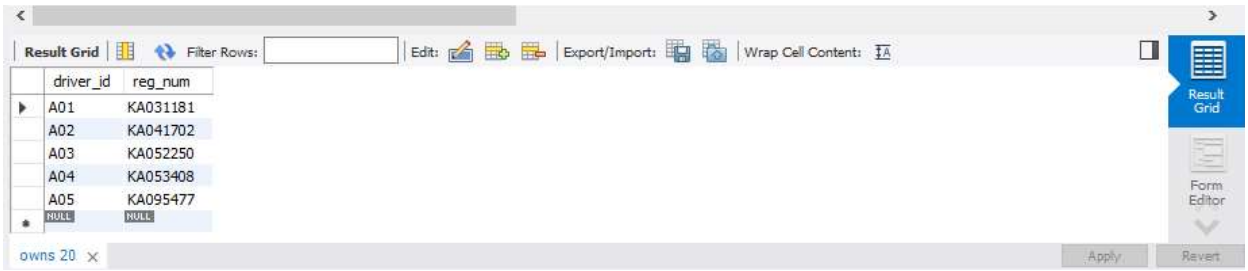
reg_num	model	year
KA031181	Lancer	1957
KA041702	Audi	2005
KA052250	Indica	1990
KA053408	Honda	2008
KA095477	Toyota	1998
NULL	NULL	NULL

```
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;
```

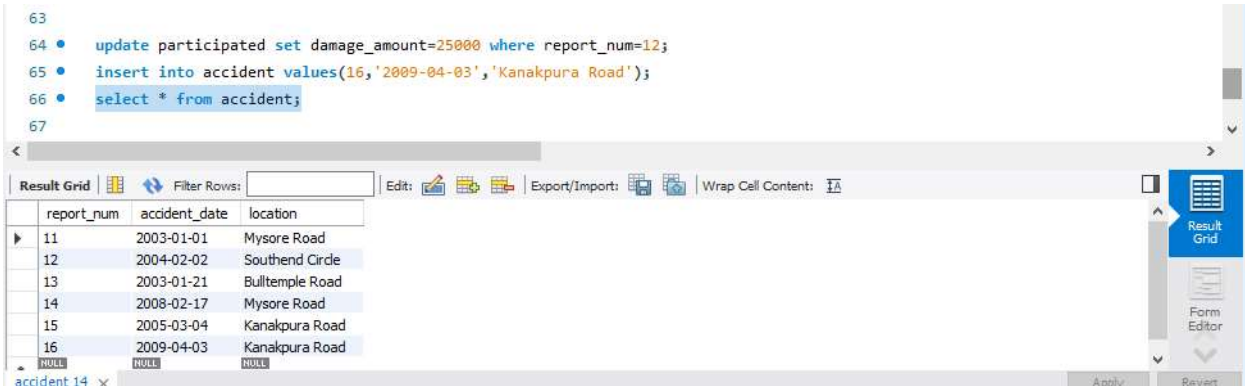


driver_id	reg_num
A01	KA031181
A02	KA041702
A03	KA052250
A04	KA053408
A05	KA095477
NULL	NULL

```
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

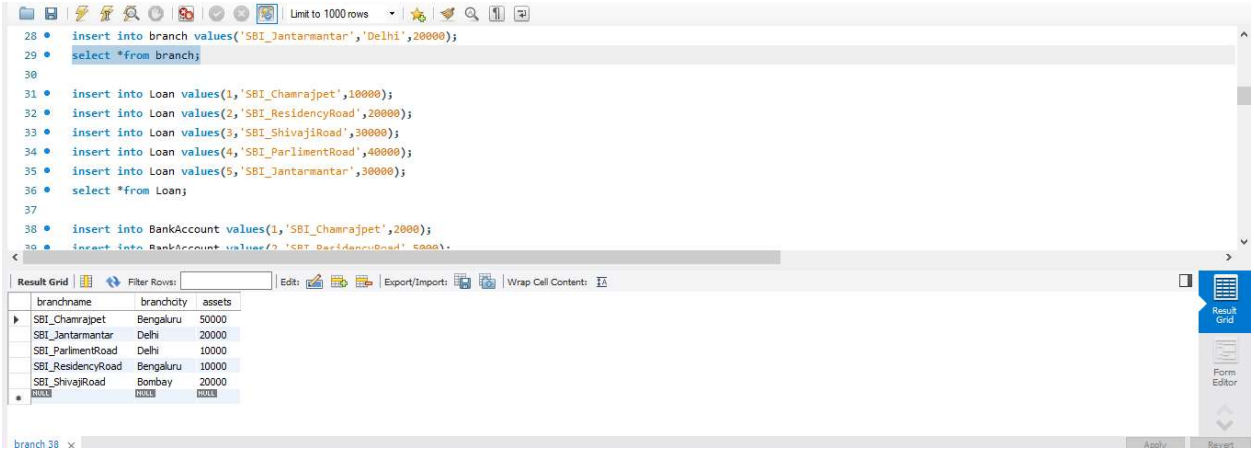
select count(*) from accident where year(accident_date)=2008;

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

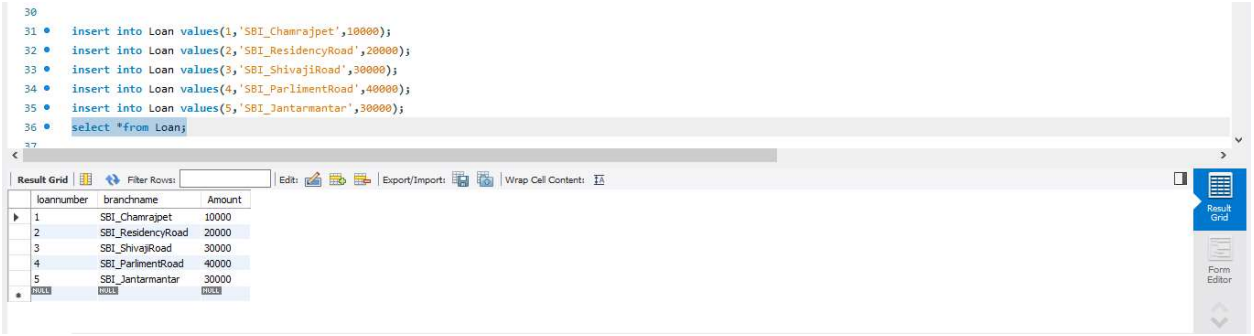
LAB-2: BANKING ENTERPRISE DATABASE USN:1BM19CS168

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;
```

```
select * from BankAccount;

insert into BankCustomer values('Avinash','Bull_temple_Road','Bengaluru');
```

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

```
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 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;
```

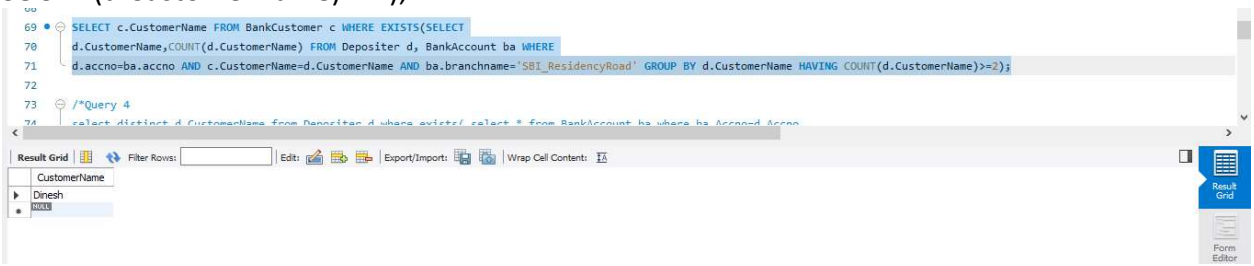
CustomerName	CustomerStreet	Customercity
Avinash	Bull_temple_Road	Bengaluru
Dinesh	Bannergatta_Road	Bengaluru
Mohan	NationalCollege_Road	Bengaluru
Nikil	Bull_temple_Road	Bengaluru
Ravi	Bull_temple_Road	Bengaluru
NULL	NULL	NULL

```
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;
```

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

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

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;
```

```
/*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 PATL

```
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;
```

```
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 ×

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;

```
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;
```

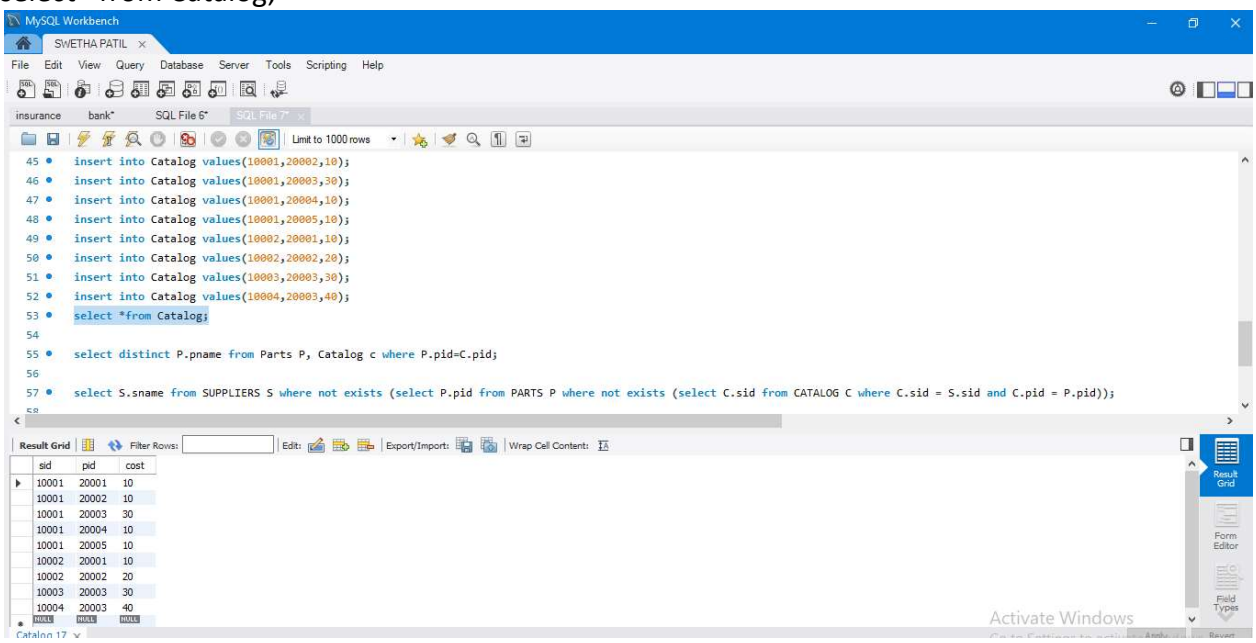
Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

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

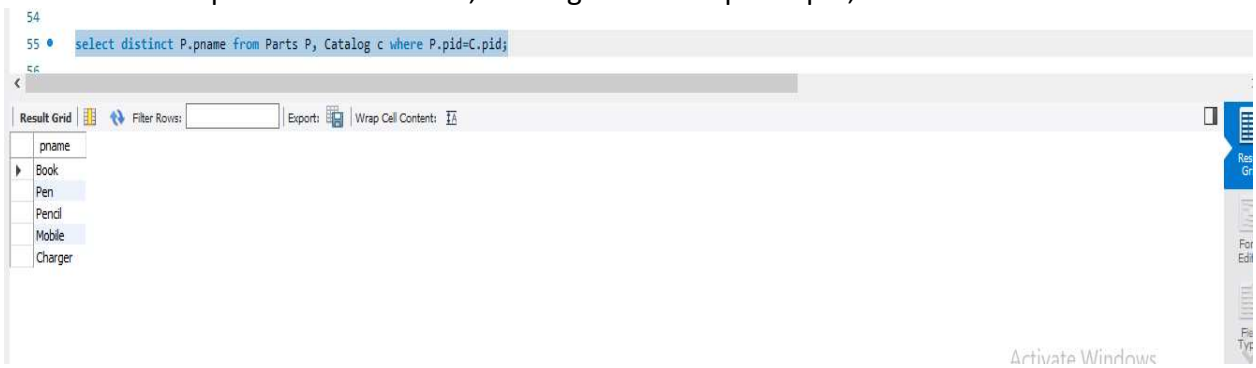
Parts 16 ×

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;

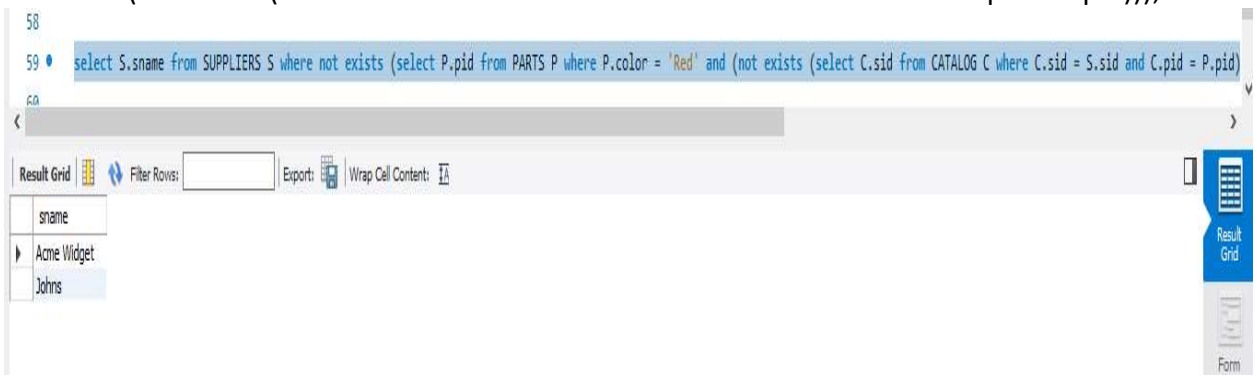


select distinct P.pname from Parts P, Catalog c where P.pid=C.pid;



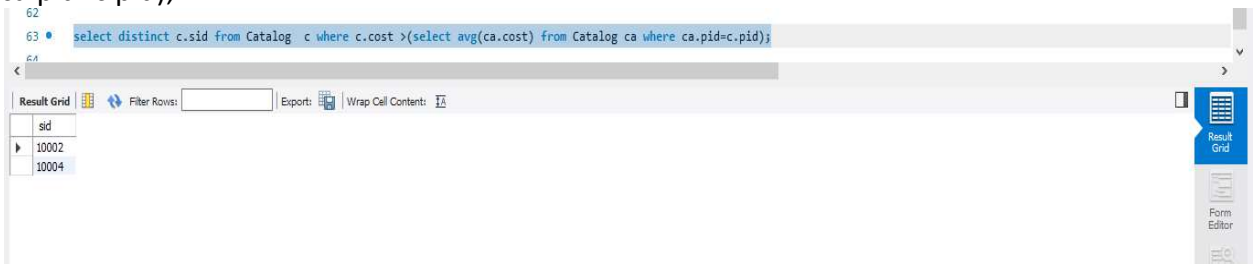
select S.sname from SUPPLIERS S where not exists (select P.pid from PARTS P where not exists (select C.sid from CATALOG C where C.sid = S.sid and C.pid = P.pid));

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)));

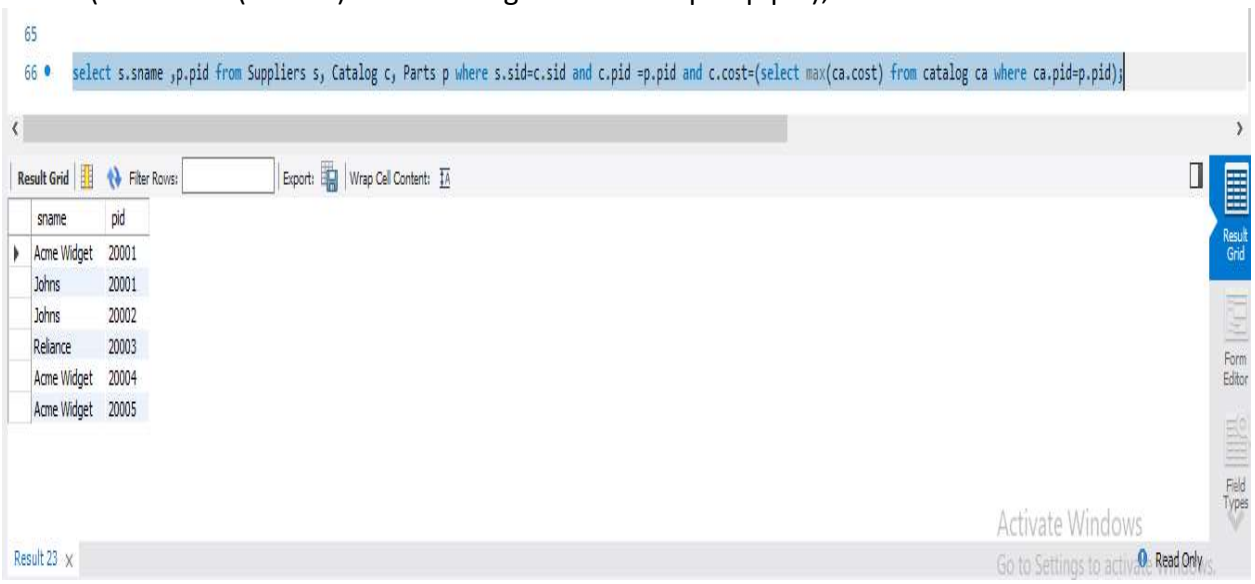


select P.pname from PARTS P, CATALOG C, SUPPLIERS S where P.pid = C.pid and C.sid = S.sid and S.sname = 'Acme Widget' and not exists (select * from CATALOG C1, SUPPLIERS S1 where P.pid = C1.pid and C1.sid = S1.sid and S1.sname <> 'Acme Widget');

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);



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 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;
```

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

```
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 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;
```

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

```
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 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;
```

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(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;
```

```
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

Result Grid | Form Editor | Field Types

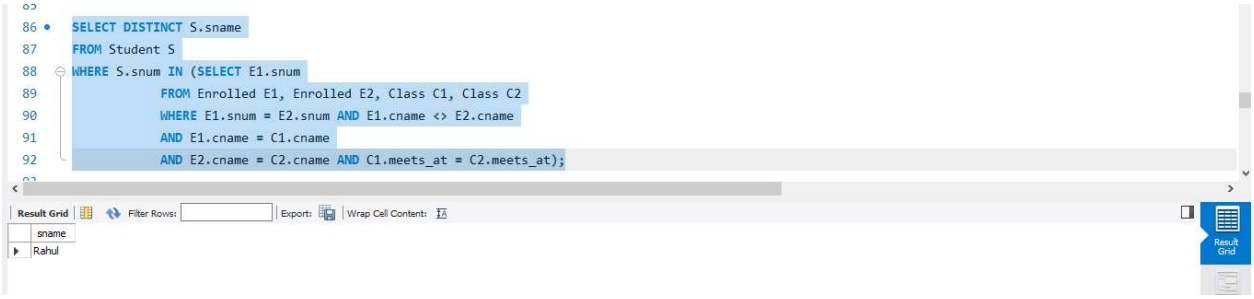
enrolled 58 ×

Apply | Revert

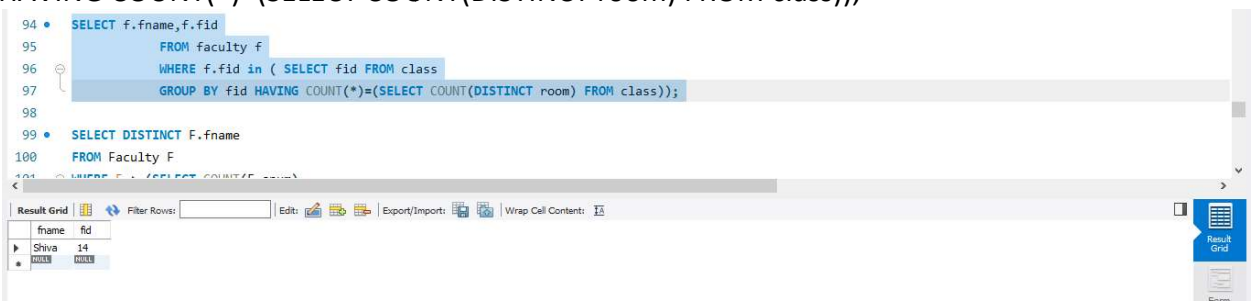
```
SELECT DISTINCT S.Sname
FROM Student S, Class C, Enrolled E, Faculty F
WHERE S.snum = E.snum AND E.cname = C.cname AND C.fid = F.fid AND
F.fname = 'Harish' AND S.lvl = 'Jr';
```


```
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);
```

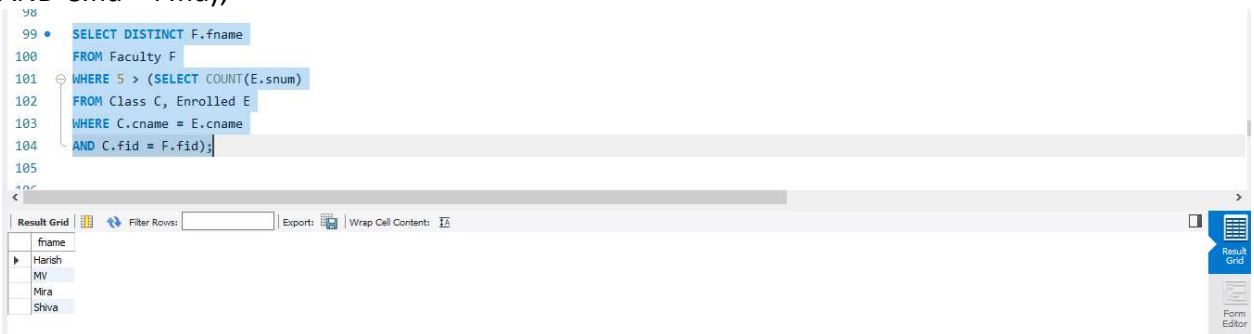

```
SELECT DISTINCT S.sname
FROM Student S
WHERE S.snum IN (SELECT E1.snum
                 FROM Enrolled E1, Enrolled E2, Class C1, Class C2
                 WHERE E1.snum = E2.snum AND E1.cname <> E2.cname
                 AND E1.cname = C1.cname
                 AND E2.cname = C2.cname AND C1.meets_at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

```
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

```
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));
```

```
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 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;
```

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;
```

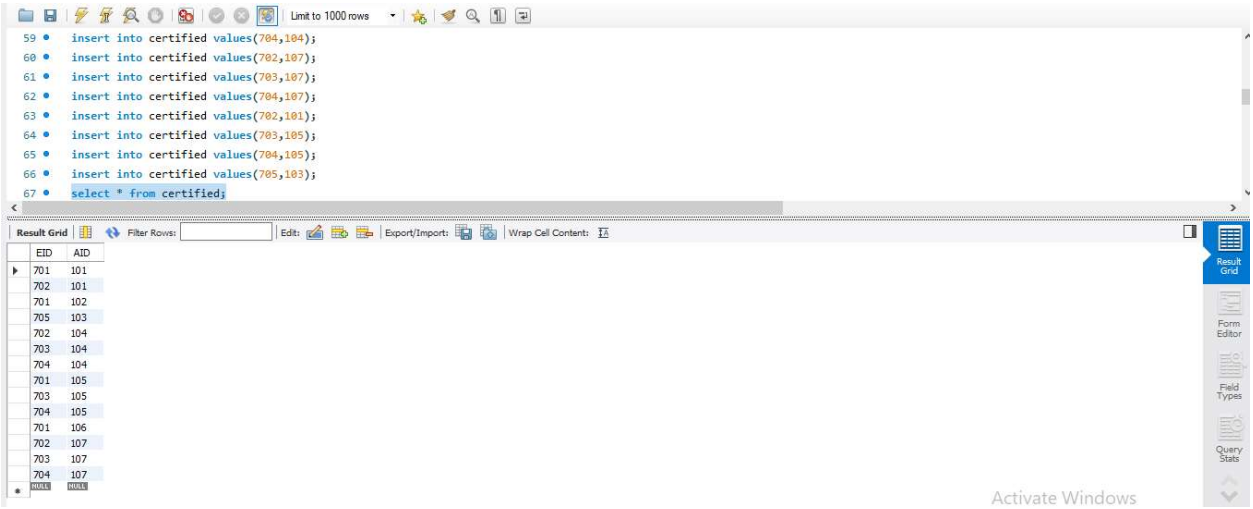
```
insert into employees values(701,'A',50000);
insert into employees values(702,'B',100000);
insert into employees values(703,'C',150000);
insert into employees values(704,'D',90000);
insert into employees values(705,'E',40000);
insert into employees values(706,'F',60000);
insert into employees values(707,'G',90000);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

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

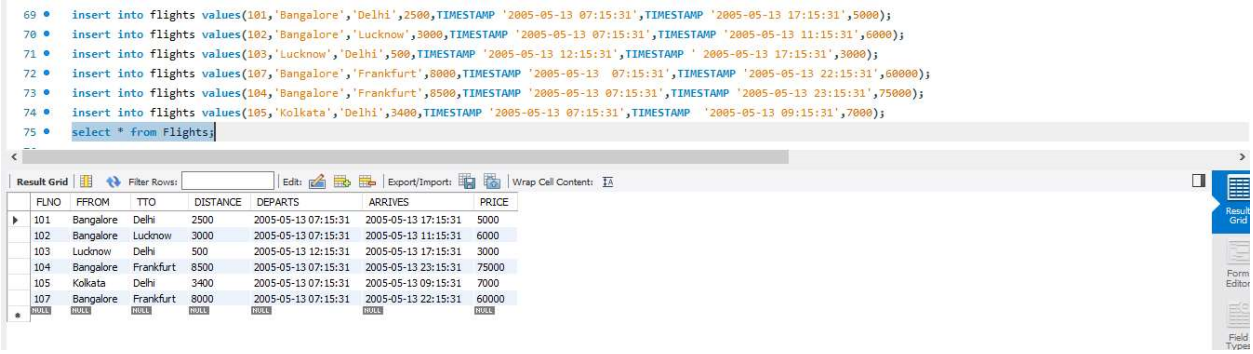
EID	ENAME	SALARY
701	A	50000
702	B	100000
703	C	150000
704	D	90000
705	E	40000
706	F	60000
707	G	90000
NULL	NULL	NULL

```
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);
```

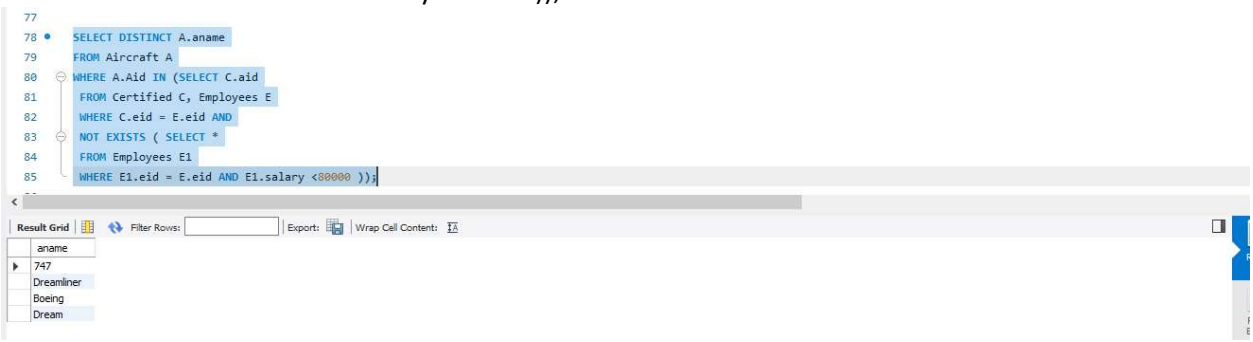
```
insert into certified values(702,107);
insert into certified values(703,107);
insert into certified values(704,107);
insert into certified values(702,101);
insert into certified values(703,105);
insert into certified values(704,105);
insert into certified values(705,103);
select * from certified;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




```
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;
```



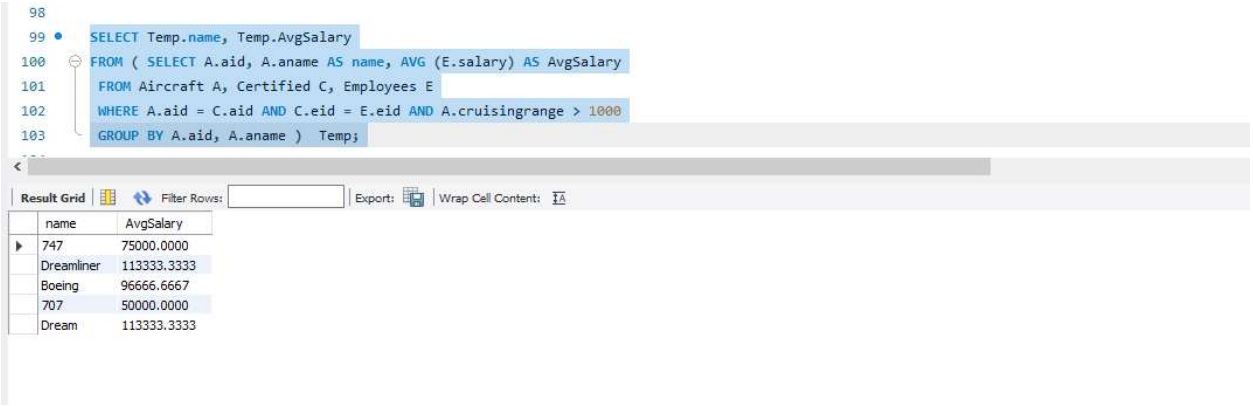
```
SELECT DISTINCT A.aname
FROM Aircraft A
WHERE A.Aid IN (SELECT C.aid
 FROM Certified C, Employees E
 WHERE C.eid = E.eid AND
 NOT EXISTS ( SELECT *
 FROM Employees E1
 WHERE E1.eid = E.eid AND E1.salary <80000 ));
```




```
SELECT C.eid, MAX(A.cruisingrange)
FROM Certified C, Aircraft A
WHERE C.aid = A.aid
GROUP BY C.eid
HAVING COUNT(*) > 3;
```

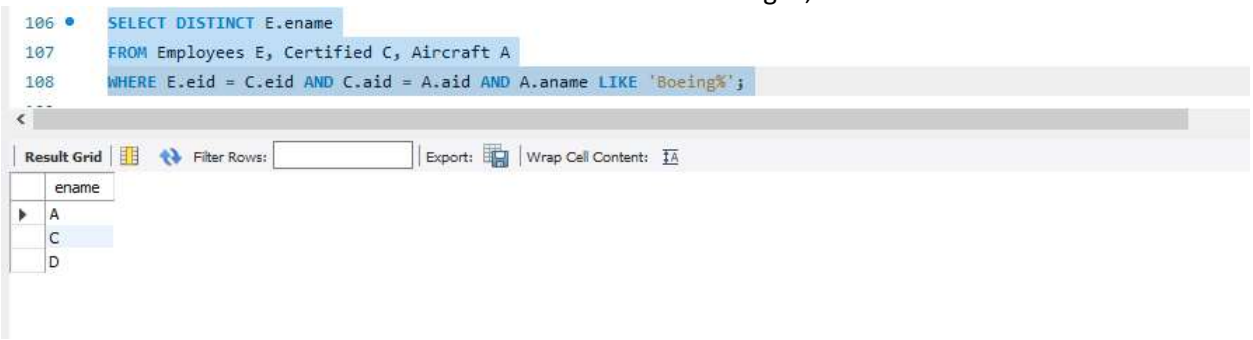

```
SELECT DISTINCT E.ename
FROM Employees E
WHERE E.salary <( SELECT MIN(F.price)
                  FROM Flights F
                  WHERE F.ffrom = 'Bangalore' AND F.tto = 'Frankfurt' );
```

```
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;
```



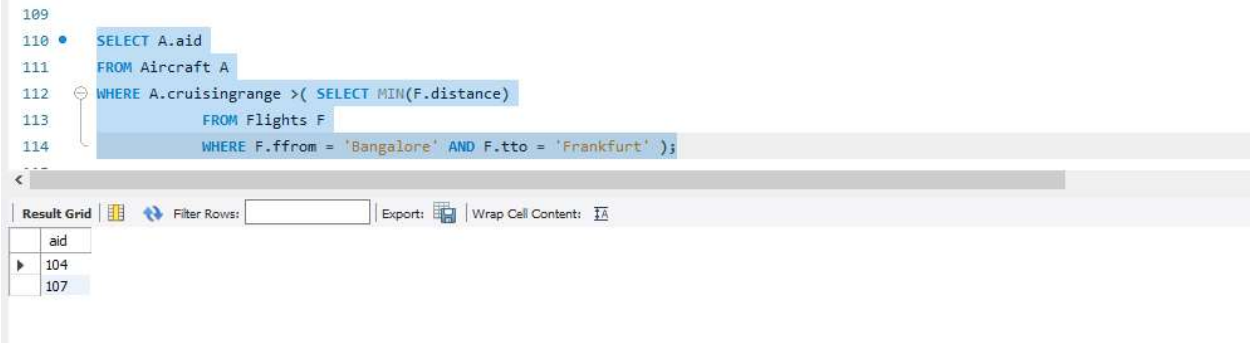
name	AvgSalary
747	75000.0000
Dreamliner	113333.3333
Boeing	96666.6667
707	50000.0000
Dream	113333.3333

```
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%';
```



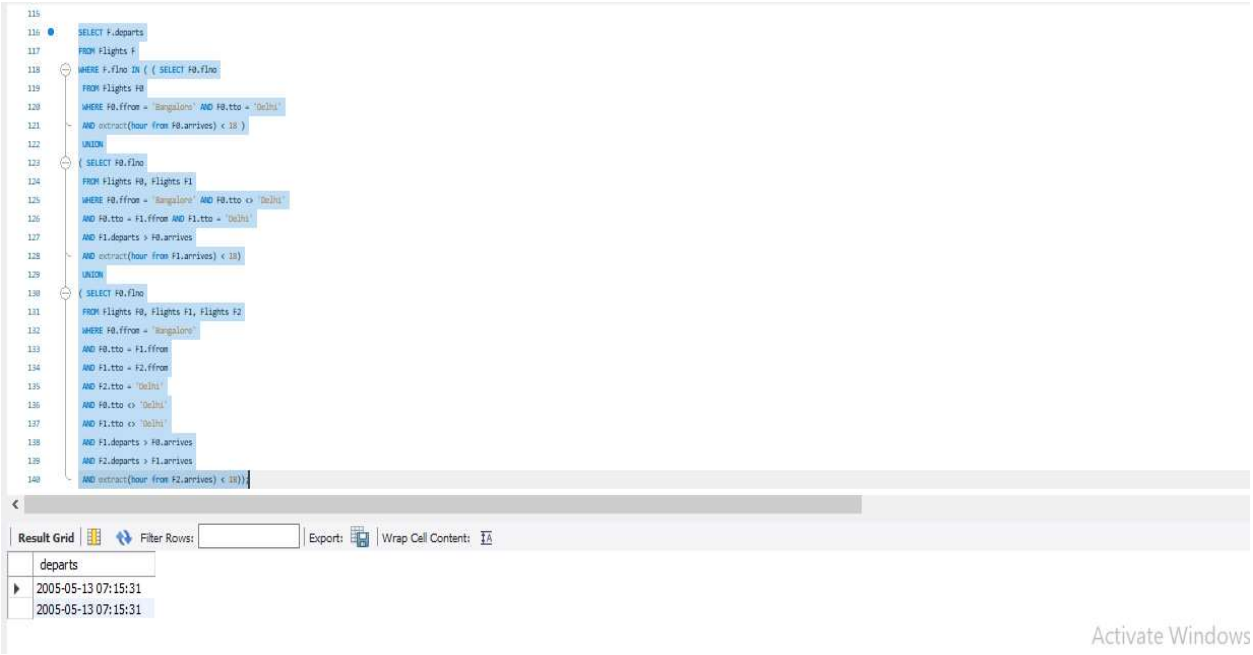
ename
A
C
D

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



aid
104
107

```
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 ) );
```