LAB RECORD- DBMS (FIRST 5 PROGRAMS)

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4-D

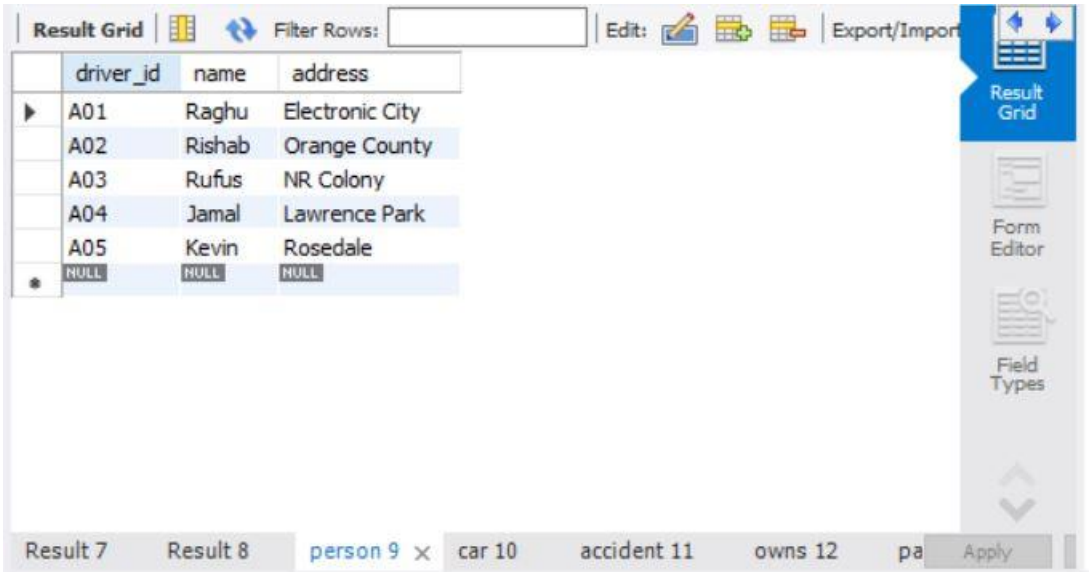
LAB 1 QUERIES:

```
create database insurance;
	use insurance;


	create table person(
		driver_id varchar(10),
	   name varchar(20),
		address varchar(30),
		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)
);


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','Raghu','Electronic City');
insert into person values('A02','Rishab','Orange County');
insert into person values('A03','Rufus','NR Colony');
insert into person values('A04','Jamal','Lawrence Park');
insert into person values('A05','Kevin','Rosedale');


commit;
```

select * from person;



insert into car values('KA031111','Accord',2005);

insert into car values('KA041122','MX-5',2019);

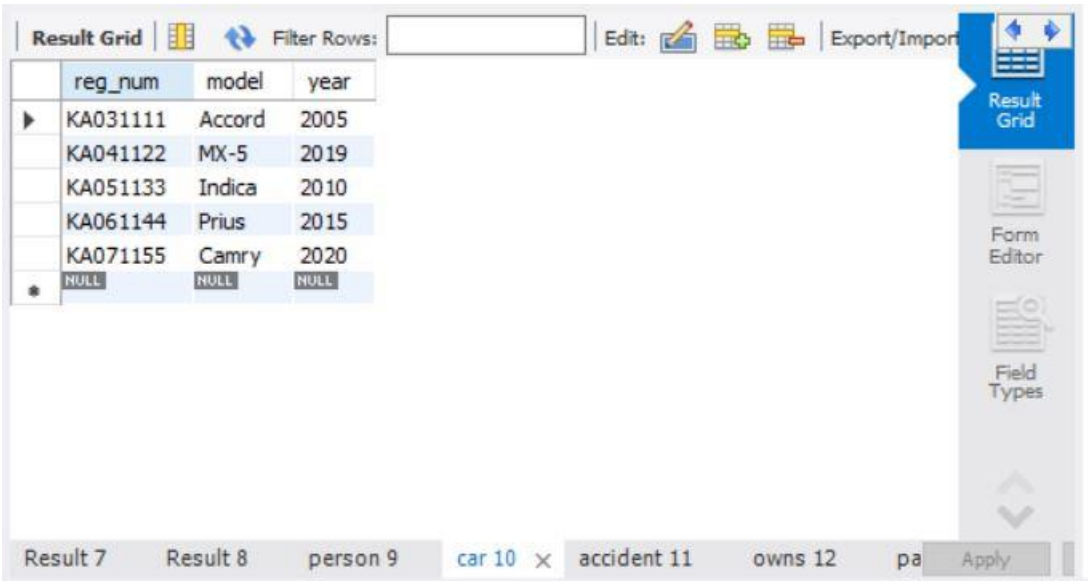
insert into car values('KA051133','Indica',2010);

insert into car values('KA061144','Prius',2015);

insert into car values('KA071155','Camry',2020);

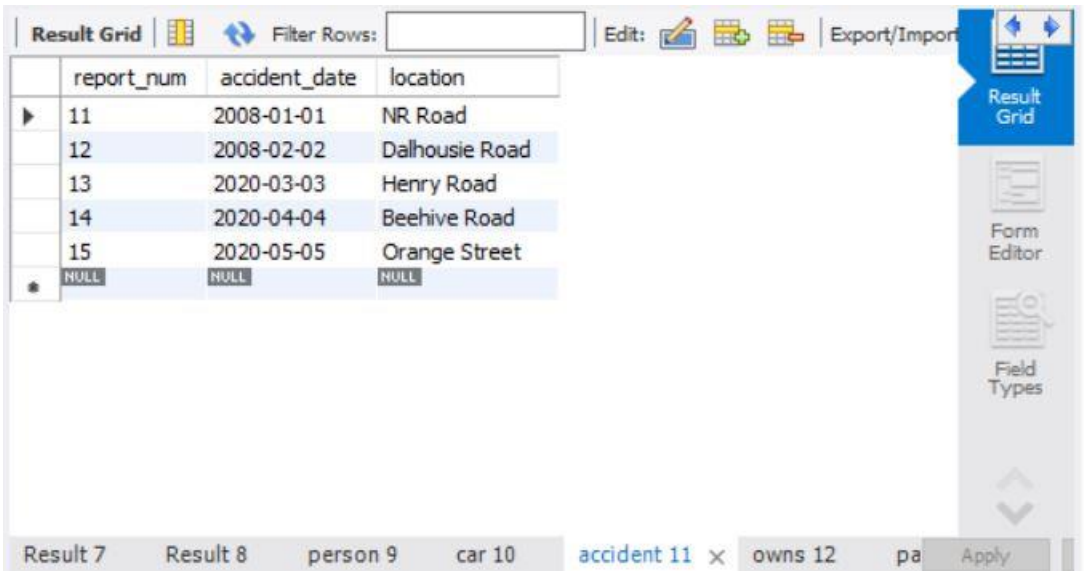
commit;

select * from car;



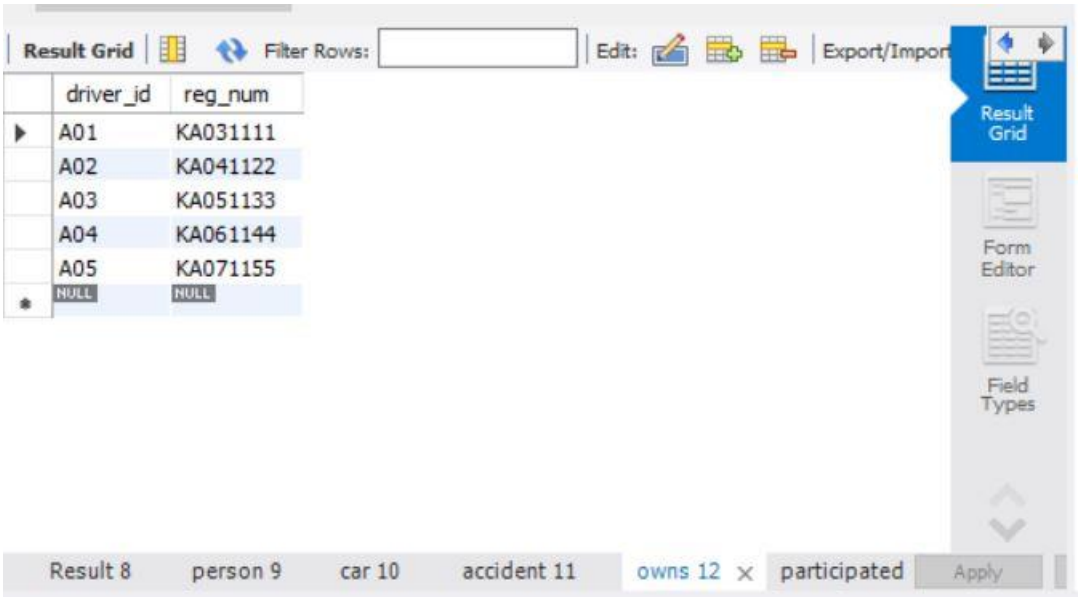

```
insert into accident values(111,'2020-01-01','NR Road');
insert into accident values(122,'2020-02-02','Dalhousie Road');
insert into accident values(133,'2020-03-03','Henry Road');
insert into accident values(144,'2020-04-04','Beehive Road');
insert into accident values(155,'2020-05-05','Orange Street');
commit;
```

```
select * from accident;
```



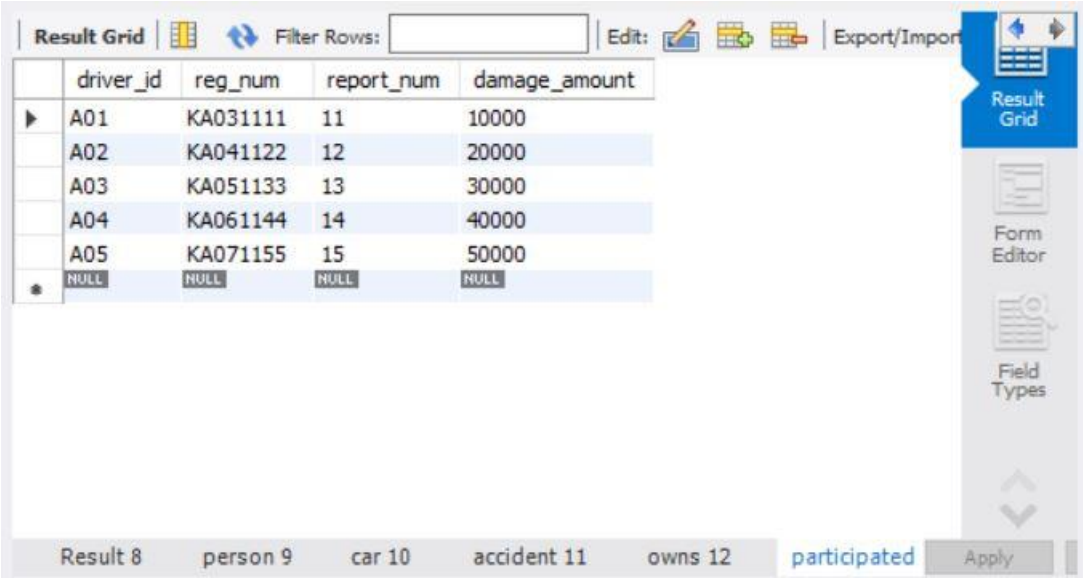
```
insert into owns values ('A01','KA031111');
insert into owns values ('A02','KA041122');
insert into owns values ('A03','KA051133');
insert into owns values ('A04','KA061144');
insert into owns values ('A05','KA071155');
commit;
```

```
select * from owns;
```




```
insert into participated values ('A01','KA031111',111, 10000);
insert into participated values ('A02','KA041122',122, 20000);
insert into participated values ('A03','KA051133',133, 30000);
insert into participated values ('A04','KA061144',144, 40000);
insert into participated values ('A05','KA071155',155, 50000);
commit;
```

select * from participated;



Additional Queries:

update participated

set damage_amount = 2500

where reg_num='KA031111';

select * from participated;

```
damage_amount      |
+ -------------- + ------------ + --------------- +
------------------ +
| A01              | KA031111     | 11              | 10000
      |
| A02              | KA041122     | 12              | 25000
      |
| A03              | KA051133     | 13              | 30000
      |
| A04              | KA061144     | 14              | 40000
      |
| A05              | KA071155     | 15              | 50000
      |
| NULL             | NULL         | NULL            | NULL
```

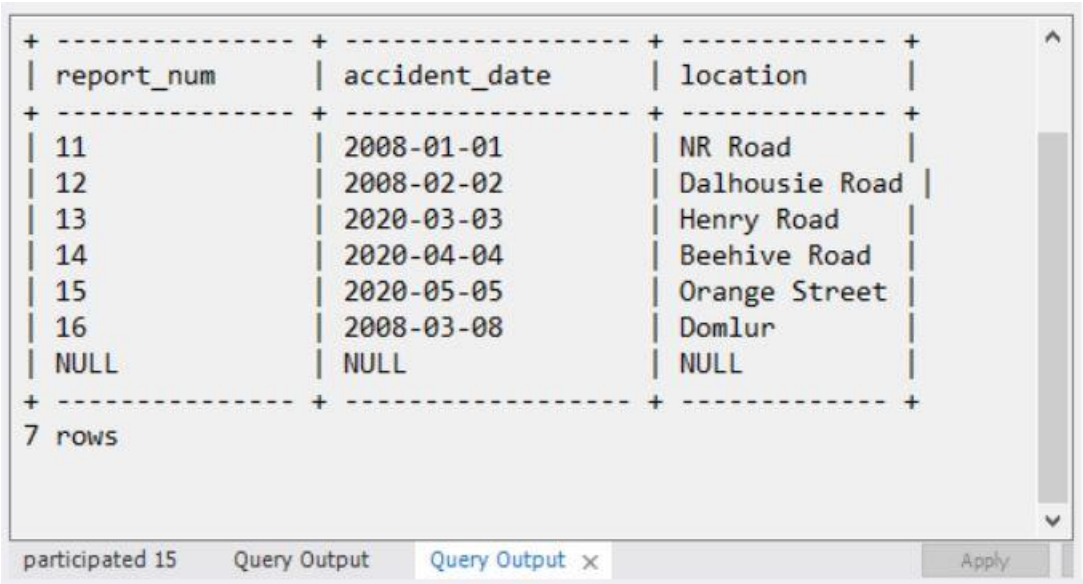
insert into accident values(101,'2008-03-08',Domlur);

insert into participated values('A01','KA031111',101, 1001);

commit;

select * from accident;

select * from participated;



report_num	accident_date	location
11	2008-01-01	NR Road
12	2008-02-02	Dalhousie Road
13	2020-03-03	Henry Road
14	2020-04-04	Beehive Road
15	2020-05-05	Orange Street
16	2008-03-08	Domlur
NULL	NULL	NULL

7 rows

participated 15 Query Output Query Output × Apply

insert into car values('KA01010', 'Indica', 2002);

insert into owns values('A02', 'KA01010');

insert into accident values(200, '2008-12-01', 'Pinto Road');

insert into participated values('A02', 'KA01010', 200, 500);

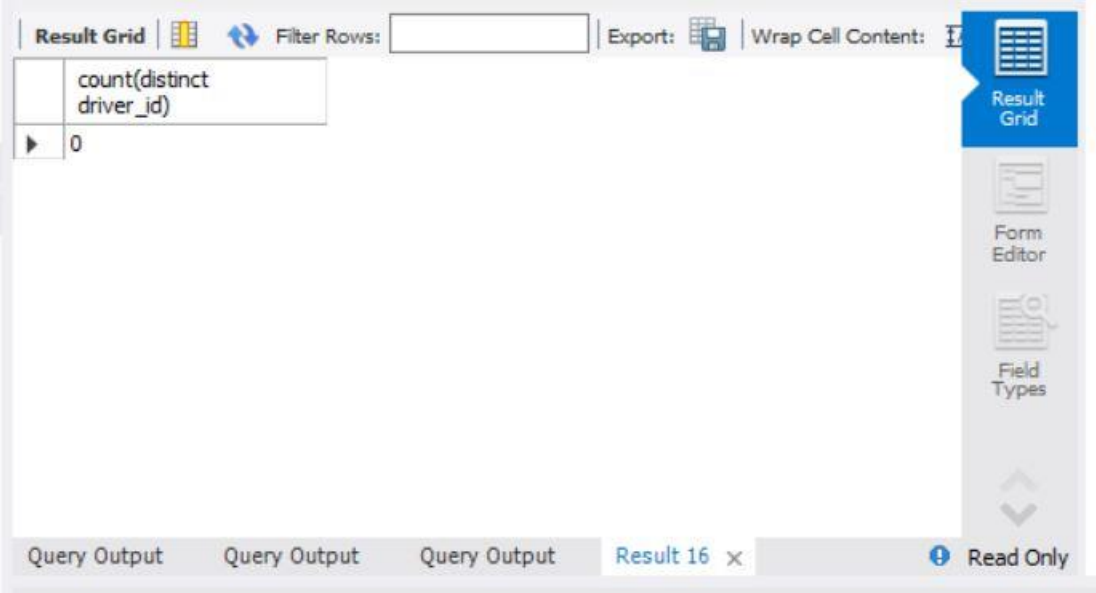
commit;

select * from car;

select * from owns;

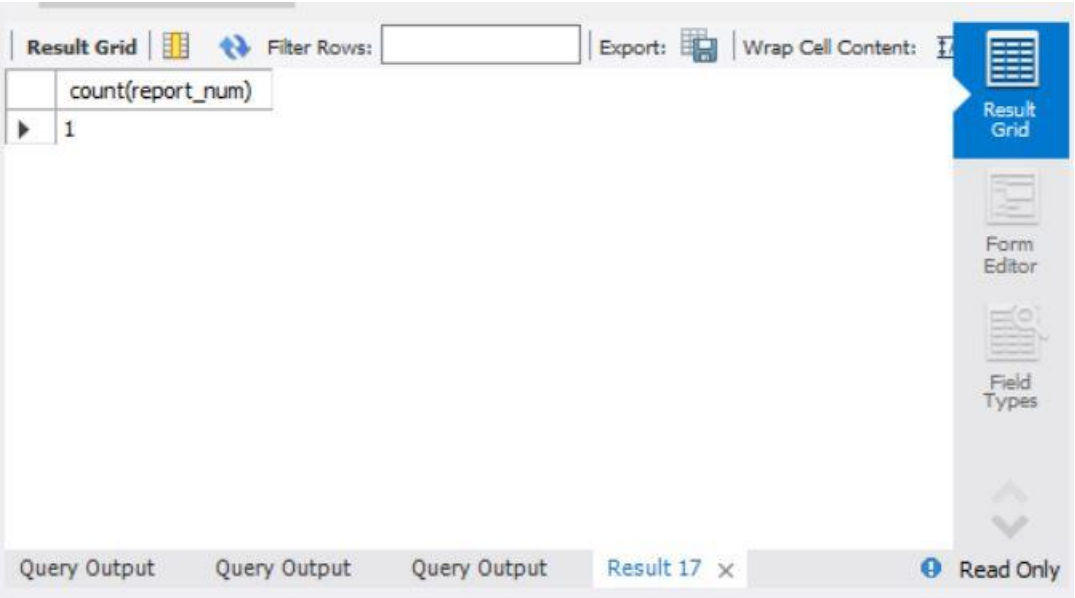
select * from accident;

select * from participated;



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

select count(*) from participated where reg_num in (select reg_num from car where model="Indica");

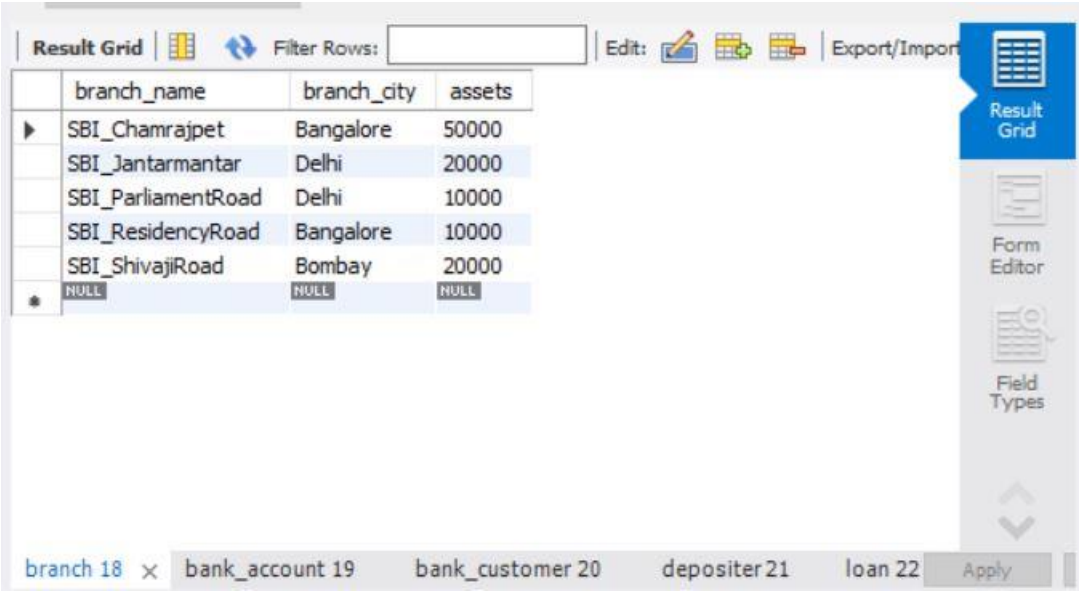


LAB 2- QUERIES

```
create database bank;
use bank;
create table branch (
        branch_name varchar(25),
    branch_city varchar(15),
    assets int,
    primary key (branch_name)
);


create table bank_account (
        accno int,
    branch_name varchar(25),
    balance int,
    primary key (accno),
    foreign key (branch_name) references branch(branch_name)
);


create table bank_customer (
        customer_name varchar(10),
    customer_street varchar(25),
    customer_city varchar(15),
    primary key (customer_name)
```

```
);


create table depositer (
        customer_name varchar(10),
        accno int,
    primary key(customer_name, accno),
    foreign key (customer_name) references
bank_customer(customer_name),
    foreign key (accno) references bank_account(accno)
);


create table loan (
        loan_number int,
    branch_name varchar(25),
    amount int,
    primary key (loan_number),
    foreign key (branch_name) references branch(branch_name)
);


insert into branch values('SBI_Chamrajpet', 'Bangalore', 50000);
insert into branch values('SBI_ResidencyRoad', 'Bangalore', 10000);
insert into branch values('SBI_ShivajiRoad', 'Bombay', 20000);
insert into branch values('SBI_ParliamentRoad', 'Delhi', 10000);
insert into branch values('SBI_Jantarmantar', 'Delhi', 20000);
```

commit;



insert into bank_account values(1, 'SBI_Chamrajpet', 2000);

insert into bank_account values(2, 'SBI_ResidencyRoad', 5000);

insert into bank_account values(3, 'SBI_ShivajiRoad', 6000);

insert into bank_account values(4, 'SBI_ParliamentRoad', 9000);

insert into bank_account values(5, 'SBI_Jantarmantar', 8000);

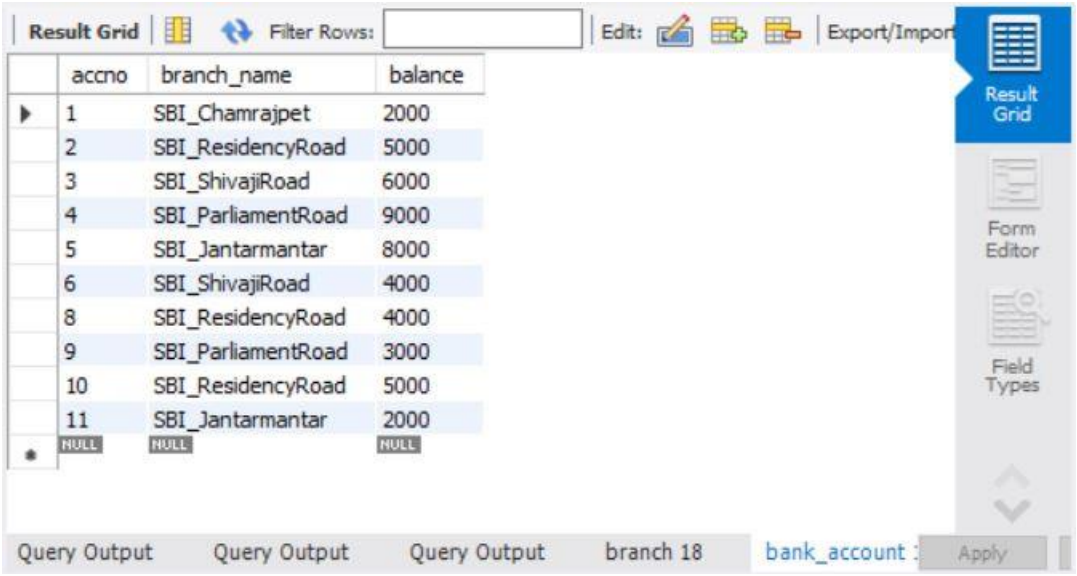
insert into bank_account values(6, 'SBI_ShivajiRoad', 4000);

insert into bank_account values(8, 'SBI_ResidencyRoad', 4000);

insert into bank_account values(9, 'SBI_ParliamentRoad', 3000);

insert into bank_account values(10, 'SBI_ResidencyRoad', 5000);

insert into bank_account values(11, 'SBI_Jantarmantar', 2000);



accno	branch_name	balance
1	SBI_Chamrajpet	2000
2	SBI_ResidencyRoad	5000
3	SBI_ShivajiRoad	6000
4	SBI_ParliamentRoad	9000
5	SBI_Jantarmantar	8000
6	SBI_ShivajiRoad	4000
8	SBI_ResidencyRoad	4000
9	SBI_ParliamentRoad	3000
10	SBI_ResidencyRoad	5000
11	SBI_Jantarmantar	2000
NULL	NULL	NULL

commit;

insert into bank_customer values ('Abhay', 'Bull_Temple_Road', 'Bangalore');

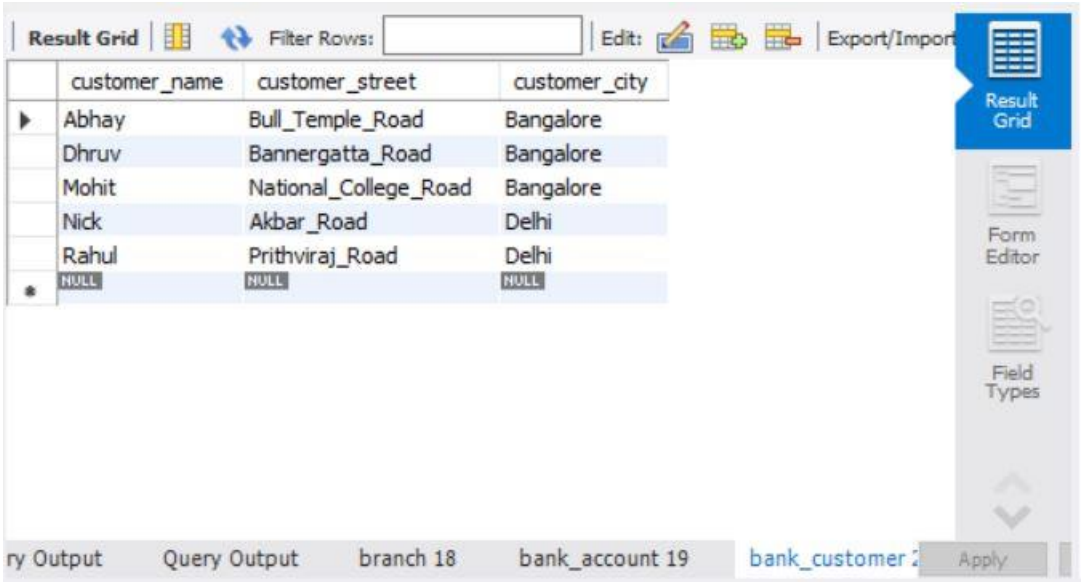
insert into bank_customer values ('Dhruv', 'Bannergatta_Road', 'Bangalore');

insert into bank_customer values ('Mohit', 'National_College_Road', 'Bangalore');

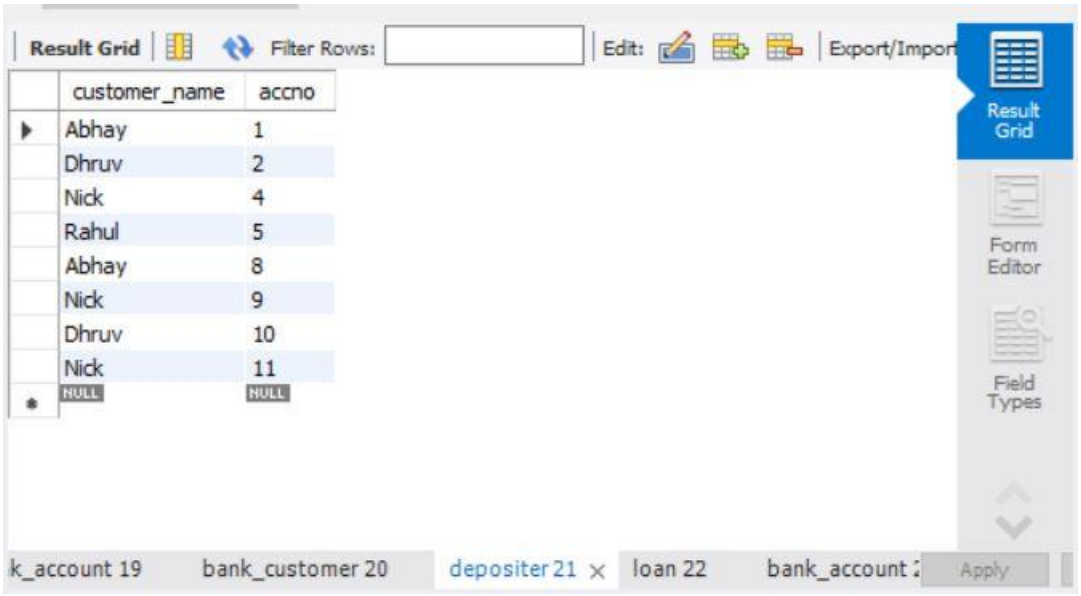
insert into bank_customer values ('Nick', 'Akbar_Road', 'Delhi');

insert into bank_customer values ('Rahul', 'Prithviraj_Road', 'Delhi');

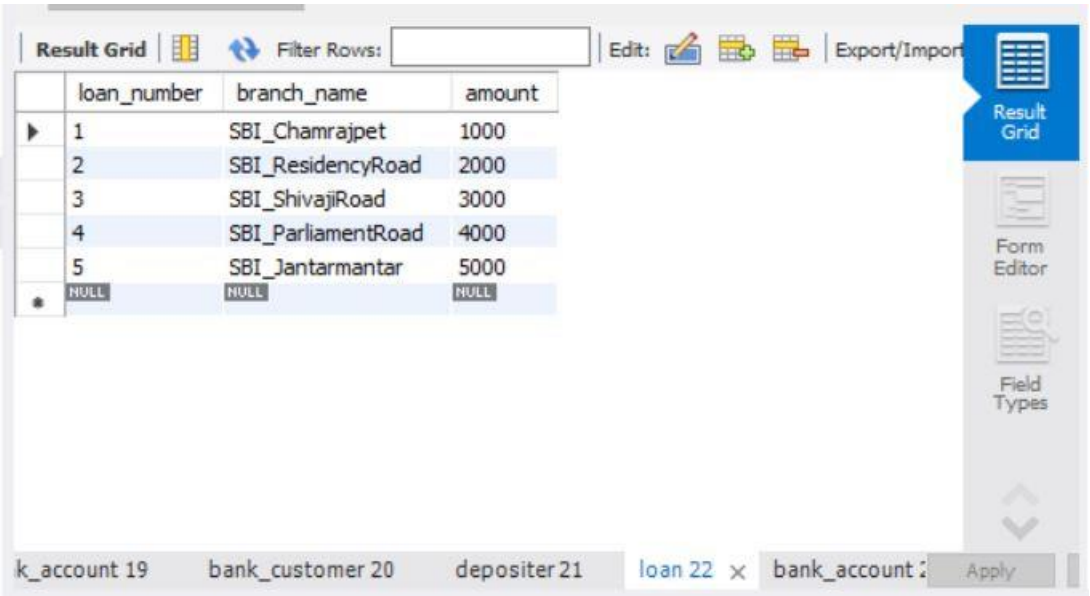
commit;




```
insert into depositer values('Abhay', 1);
insert into depositer values('Dhruv', 2);
insert into depositer values('Nick', 4);
insert into depositer values('Rahul', 5);
insert into depositer values('Abhay', 8);
insert into depositer values('Nick', 9);
insert into depositer values('Dhruv', 10);
insert into depositer values('Nick', 11);
commit;
```



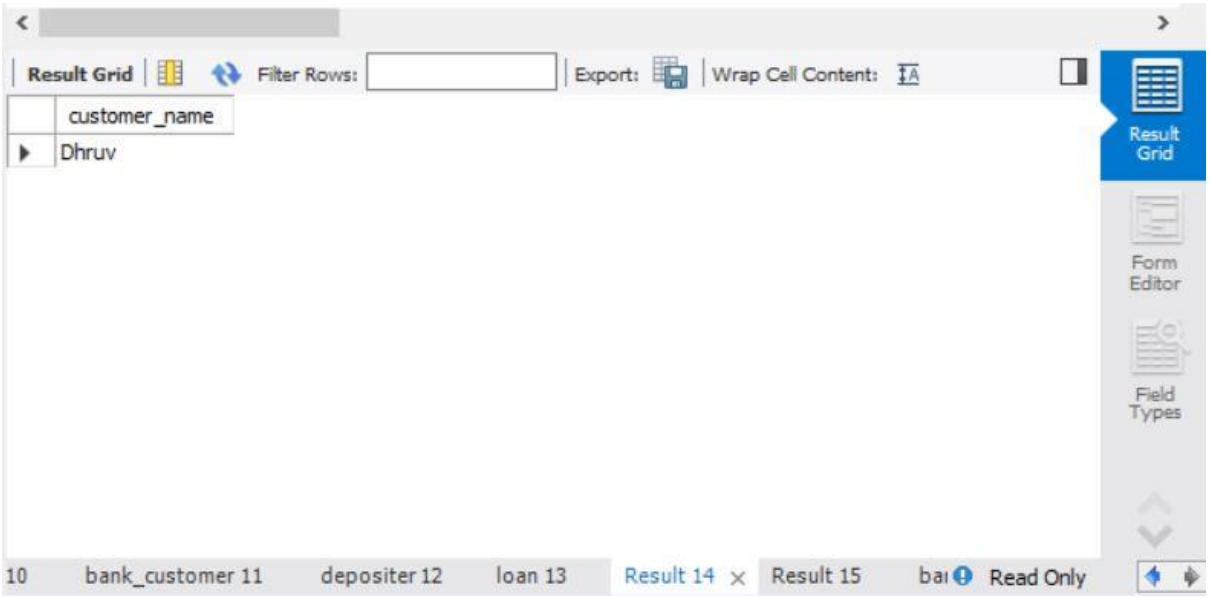

```
insert into loan values(1, 'SBI_Chamrajpet', 1000);
insert into loan values(2, 'SBI_ResidencyRoad', 2000);
insert into loan values(3, 'SBI_ShivajiRoad', 3000);
insert into loan values(4, 'SBI_ParliamentRoad', 4000);
insert into loan values(5, 'SBI_Jantarmantar', 5000);
commit;
```



```
select * from branch;

select * from bank_account;

select * from bank_customer;

select * from depositer;

select * from loan;
```

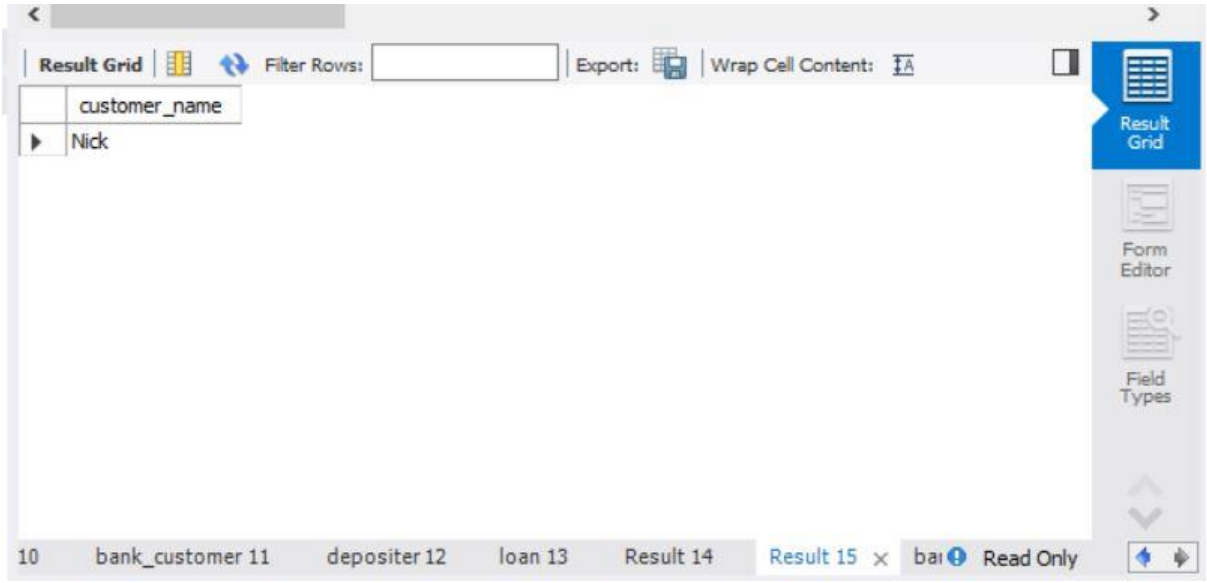
Additional Queries:

```
select distinct c.customer_name from bank_customer c,bank_account b
where exists(select d.customer_name,count(d.customer_name) from
depositer d,bank_account ba where ba.accno = d.accno and

c.customer_name = d.customer_name and ba.branch_name =
'SBI_ResidencyRoad' group by d.customer_name having
count(d.customer_name)>=2);
```

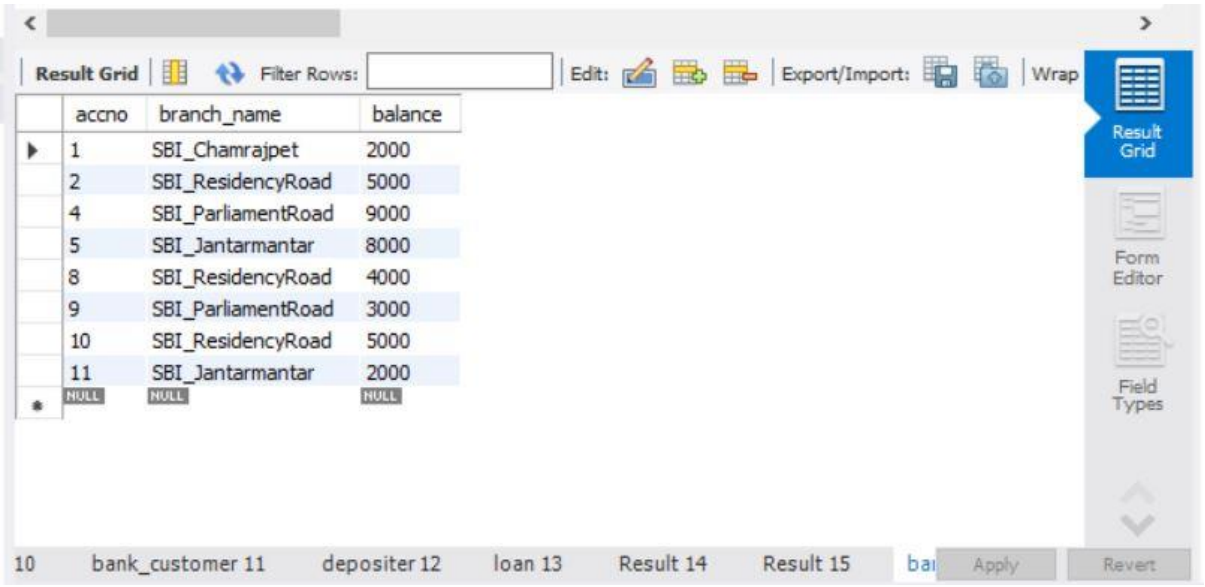



```
select d.customer_name from depositer d,branch b,bank_account a

where b.branch_name=a.branch_name

AND a.accno=d.accno
```

```
and branch_city='Delhi'
group by d.customer_name
 HAVING COUNT(distinct b.branch_name)=(
        SELECT COUNT(branch_name)
        FROM branch
        WHERE branch_city='Delhi');
```




```
delete from bank_account where branch_name in (select branch_name from branch where branch_city = 'Bombay');
select * from bank_account;
```


Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap
accno
branch_name
balance
1
SBI_Chamrajpet
2000
2
SBI_ResidencyRoad
5000
4
SBI_ParliamentRoad
9000
5
SBI_Jantarmantar
8000
8
SBI_ResidencyRoad
4000
9
SBI_ParliamentRoad
3000
10
SBI_ResidencyRoad
5000
11
SBI_Jantarmantar
2000
NULL
Result Grid
Form Editor
Field Types
10
bank_customer 11
depositer 12
loan 13
Result 14
Result 15
Apply
Revert

LAB 3 QUERIES:

create database supplier;

use supplier;

create table SUPPLIERS(sid integer,sname varchar(20),address varchar(40),primary key(sid));

INSERT INTO `supplier`.`suppliers` (`sid`, `sname`, `address`) VALUES ('10001', 'Acme Widget', 'Bangalore');

INSERT INTO `supplier`.`suppliers` (`sid`, `sname`, `address`) VALUES ('10002', 'Johns', 'Kolkata');

INSERT INTO `supplier`.`suppliers` (`sid`, `sname`, `address`) VALUES ('10003', 'Vimal', 'Mumbai');

INSERT INTO `supplier`.`suppliers` (`sid`, `sname`, `address`) VALUES ('10004', 'Reliance', 'Delhi');

	sid	sname	address
▶	10001	Acme Widget	Bangalore
	10002	Johns	Kolkata
	10003	Vimal	Mumbai
	10004	Reliance	Delhi
*	NULL	NULL	NULL

commit;

select* from SUPPLIERS;

create table PARTS(pid integer,pname varchar(20),color varchar(30),primary key(pid));

INSERT INTO `supplier`.`parts` (`pid`, `pname`, `color`) VALUES ('20001', 'Book', 'Red');

INSERT INTO `supplier`.`parts` (`pid`, `pname`, `color`) VALUES ('20002', 'Pen', 'Red');

INSERT INTO `supplier`.`parts` (`pid`, `pname`, `color`) VALUES ('20003', 'Pencil', 'Green');

INSERT INTO `supplier`.`parts` (`pid`, `pname`, `color`) VALUES ('20004', 'Mobile', 'Green');

INSERT INTO `supplier`.`parts` (`pid`, `pname`, `color`) VALUES ('20005', 'Charger', 'Black');

commit;

select* from PART;

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

create table CATALOG(sid integer,pid integer,foreign key(sid) references SUPPLIERS(sid),foreign key(pid) references PARTS(pid),

cost integer,primary key(sid,pid));

INSERT INTO `supplier`.`catalog` (`sid`, `pid`, `cost`) VALUES ('10001', '20001', '10');

INSERT INTO `supplier`.`catalog` (`sid`, `pid`, `cost`) VALUES ('10001', '20002', '10');

INSERT INTO `supplier`.`catalog` (`sid`, `pid`, `cost`) VALUES ('10001', '20003', '30');

INSERT INTO `supplier`.`catalog` (`sid`, `pid`, `cost`) VALUES ('10001', '20004', '10');

INSERT INTO `supplier`.`catalog` (`sid`, `pid`, `cost`) VALUES ('10001', '20005', '10');

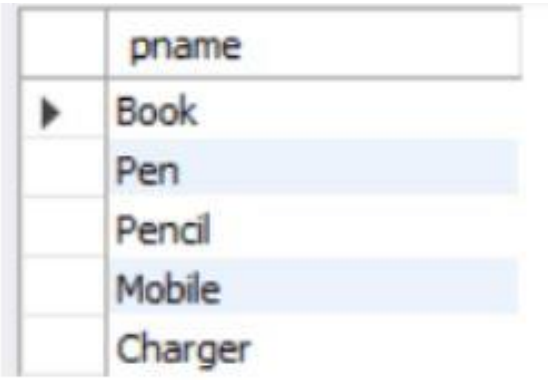
INSERT INTO `supplier`.`catalog` (`sid`, `pid`, `cost`) VALUES ('10002', '20001', '10');

INSERT INTO `supplier`.`catalog` (`sid`, `pid`, `cost`) VALUES ('10002', '20002', '20');

```
INSERT INTO `supplier`.`catalog` (`sid`, `pid`, `cost`) VALUES ('10003', '20003', '30');

INSERT INTO `supplier`.`catalog` (`sid`, `pid`, `cost`) VALUES ('10004', '20003', '40');


commit;

select* from CATALOG;
```

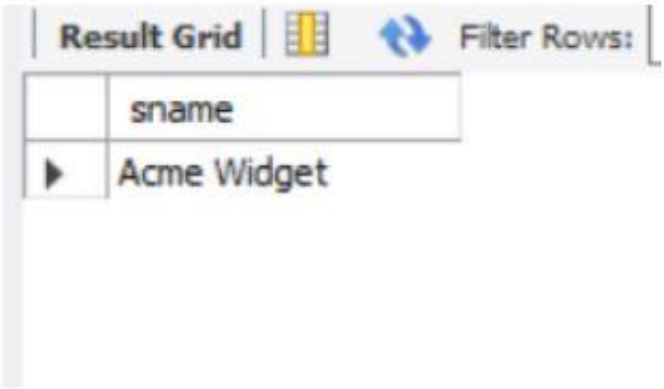
Additional Queries:

```
SELECT DISTINCT P.pname

FROM Parts P, Catalog C

WHERE P.pid = C.pid;
```

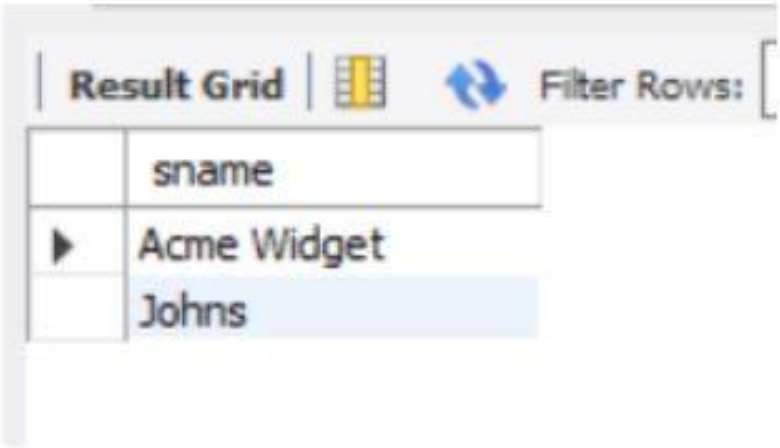


pname
Book
Pen
Pencil
Mobile
Charger

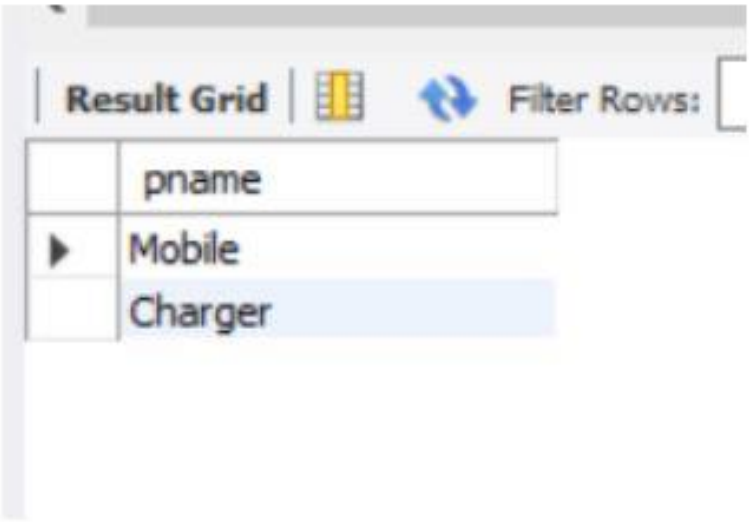
```
select S.sname from SUPPLIERS S where not exists

(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));
```



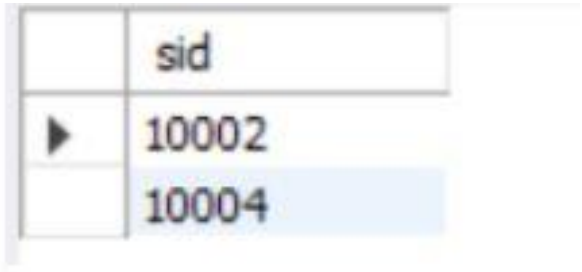

```
select S.sname from SUPPLIERS S where not exists
 (select P.pid from PARTS P where P.color = 'Red' and
 (not exists (select C.sid from CATALOG C where C.sid = S.sid and C.pid =
P.pid)));
```



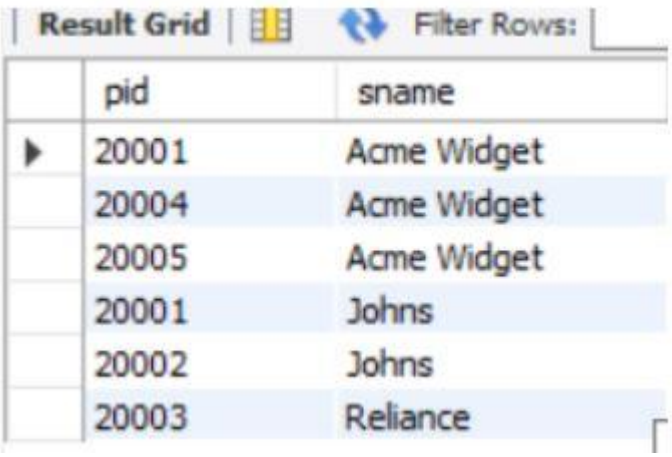
```
select P.pname from PARTS P, CATALOG C, SUPPLIERS S
 where P.pid = C.pid and C.sid = S.sid and S.sname = 'Acme Widget'
 and not exists (select * from CATALOG C1, SUPPLIERS S1
 where P.pid = C1.pid and C1.sid = S1.sid and S1.sname <> 'Acme Widget');
```




```
SELECT DISTINCT C.sid FROM Catalog C
WHERE C.cost > ( SELECT AVG (C1.cost)
FROM Catalog C1
WHERE C1.pid = C.pid );
```




```
SELECT P.pid, S.sname
FROM Parts P, Suppliers S, Catalog C
WHERE C.pid = P.pid
AND C.sid = S.sid
AND C.cost = (SELECT MAX(C1.cost)
FROM Catalog C1
WHERE C1.pid = P.pid);
```



Result Grid | Filter Rows:

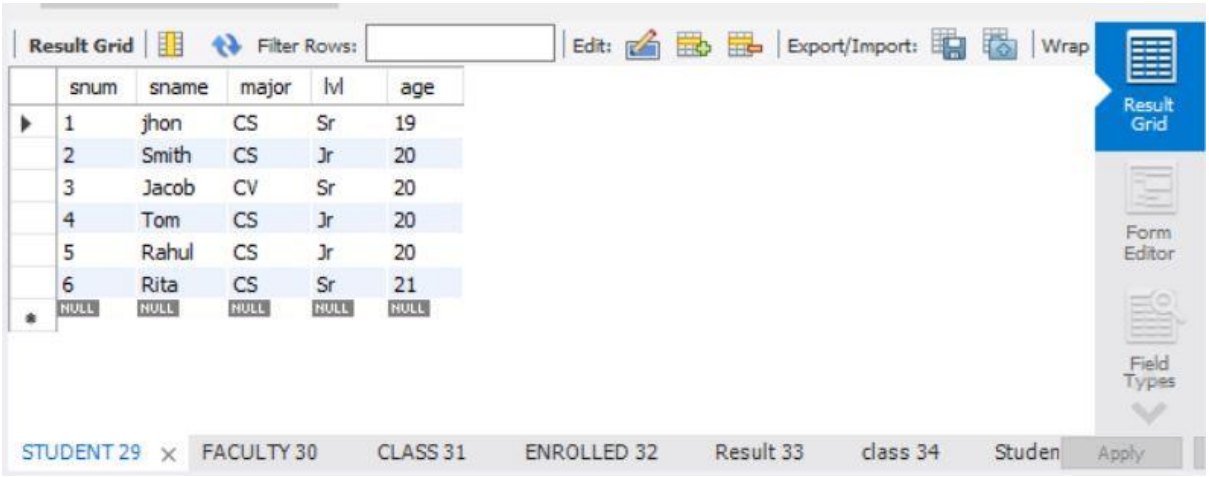
	pid	sname
▶	20001	Acme Widget
	20004	Acme Widget
	20005	Acme Widget
	20001	Johns
	20002	Johns
	20003	Reliance

LAB 4 QUERIES:

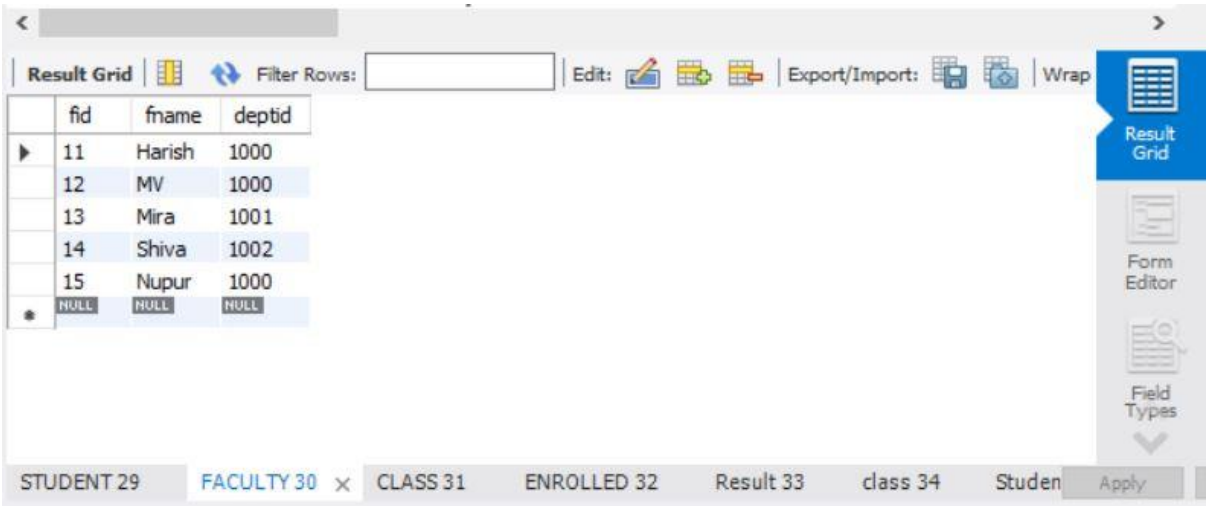
```
CREATE DATABASE student_faculty;
USE student_faculty;
CREATE TABLE student(
        snum INT,
        sname VARCHAR(10),
        major VARCHAR(2),
        lvl VARCHAR(2),
        age INT, primary key(snum));

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

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

CREATE TABLE enrolled(
        snum INT,
```

```
    cname VARCHAR(20),
    PRIMARY KEY(snum,cname),
    FOREIGN KEY(snum) REFERENCES student(snum),
    FOREIGN KEY(cname) REFERENCES class(cname));
```

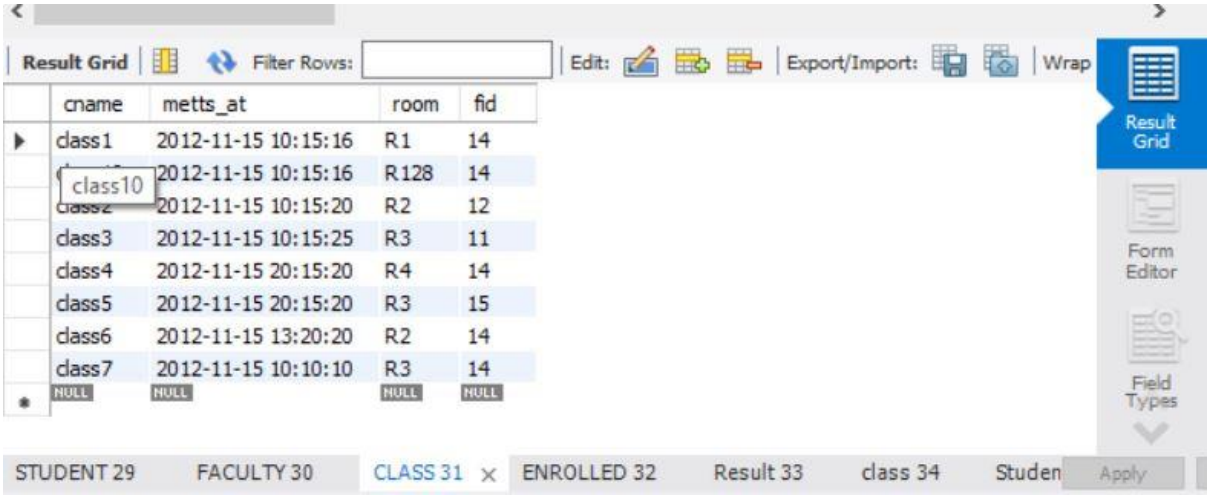
```
INSERT INTO STUDENT VALUES(1, 'jhon', 'CS', 'Sr', 19);
INSERT INTO STUDENT VALUES(2, 'Smith', 'CS', 'Jr', 20);
INSERT INTO STUDENT VALUES(3 , 'Jacob', 'CV', 'Sr', 20);
INSERT INTO STUDENT VALUES(4, 'Tom ', 'CS', 'Jr', 20);
INSERT INTO STUDENT VALUES(5, 'Rahul', 'CS', 'Jr', 20);
INSERT INTO STUDENT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




```
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);
```

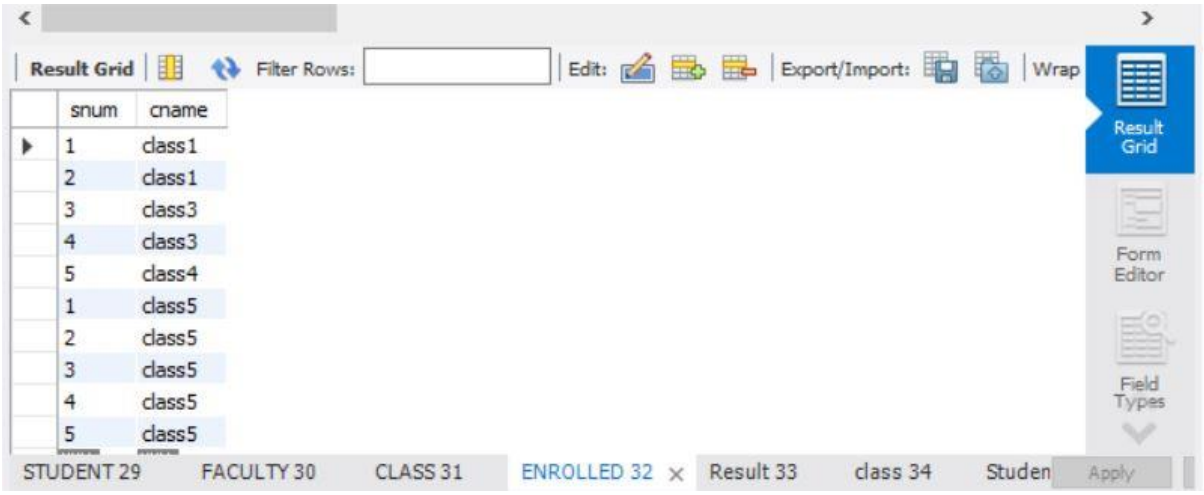



```
insert into class values('class1', '12/11/15 10:15:16', 'R1', 14);
insert into class values('class10', '12/11/15 10:15:16', 'R128', 14);
insert into class values('class2', '12/11/15 10:15:20', 'R2', 12);
insert into class values('class3', '12/11/15 10:15:25', 'R3', 11);
insert into class values('class4', '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);
```



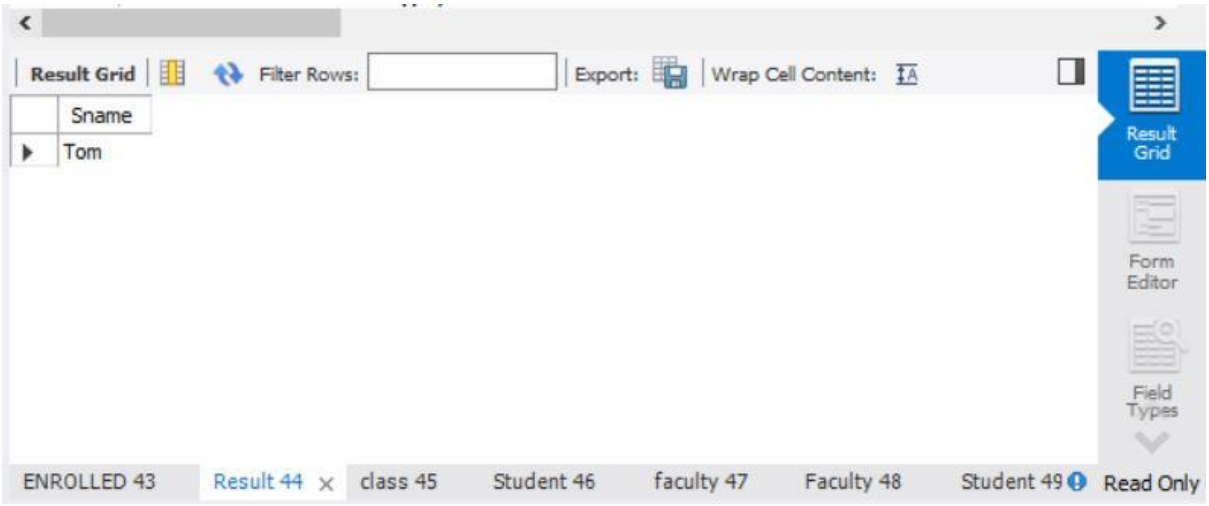

```
insert into enrolled values(1, 'class1');
```

```
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');
```



Additional Queries:

```
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';
```



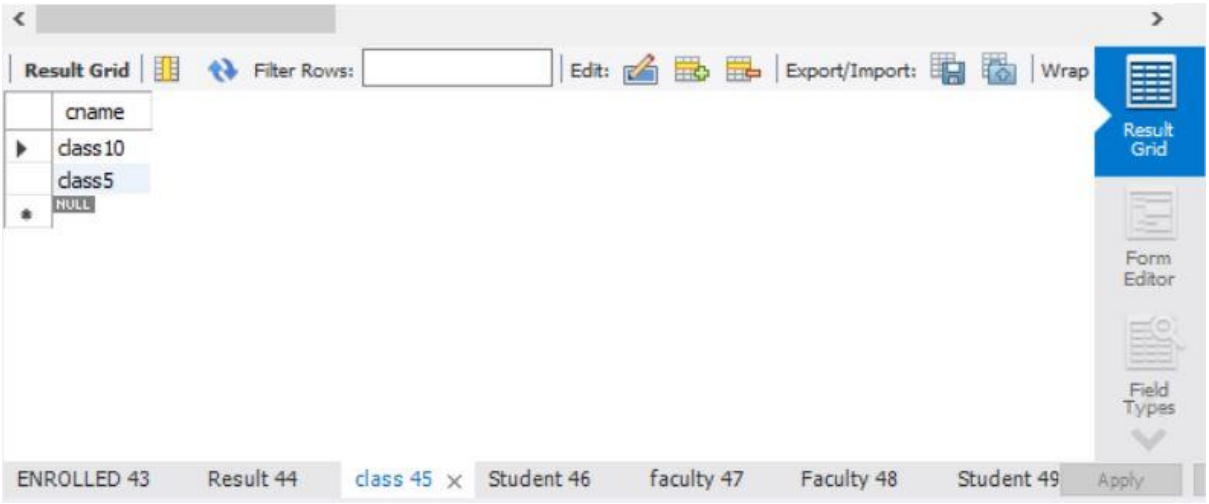
SELECT DISTINCT cname

FROM class

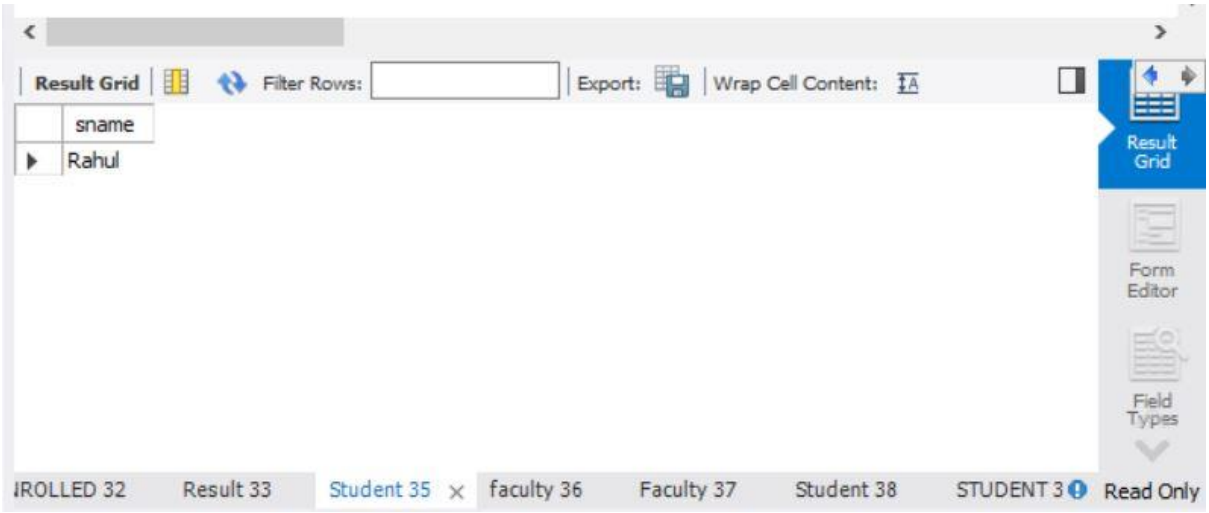
WHERE room='R128'

OR

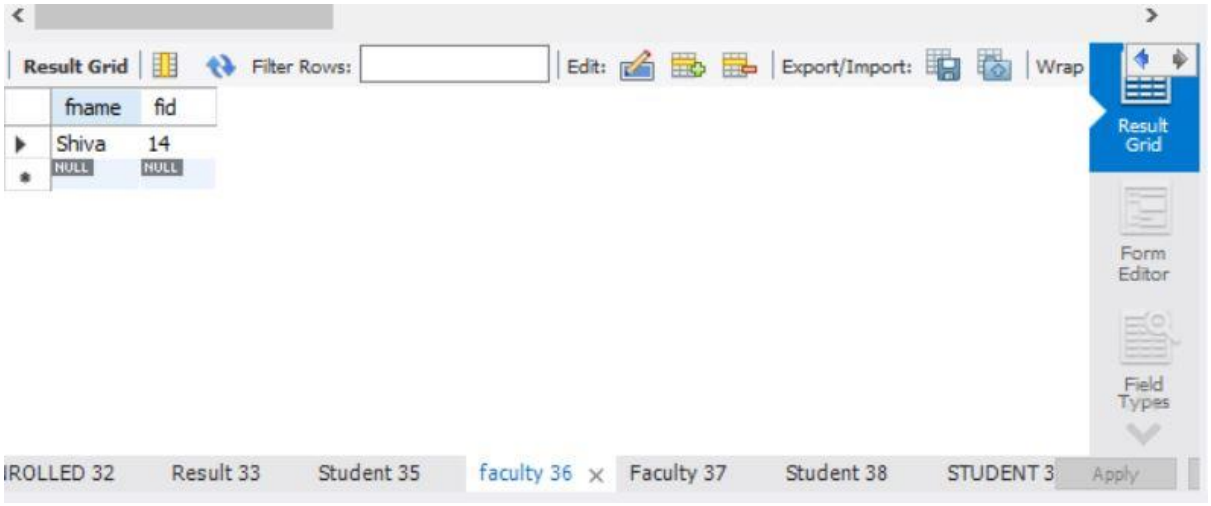
cname IN (SELECT e.cname FROM enrolled e GROUP BY e.cname HAVING COUNT(*)>=5);



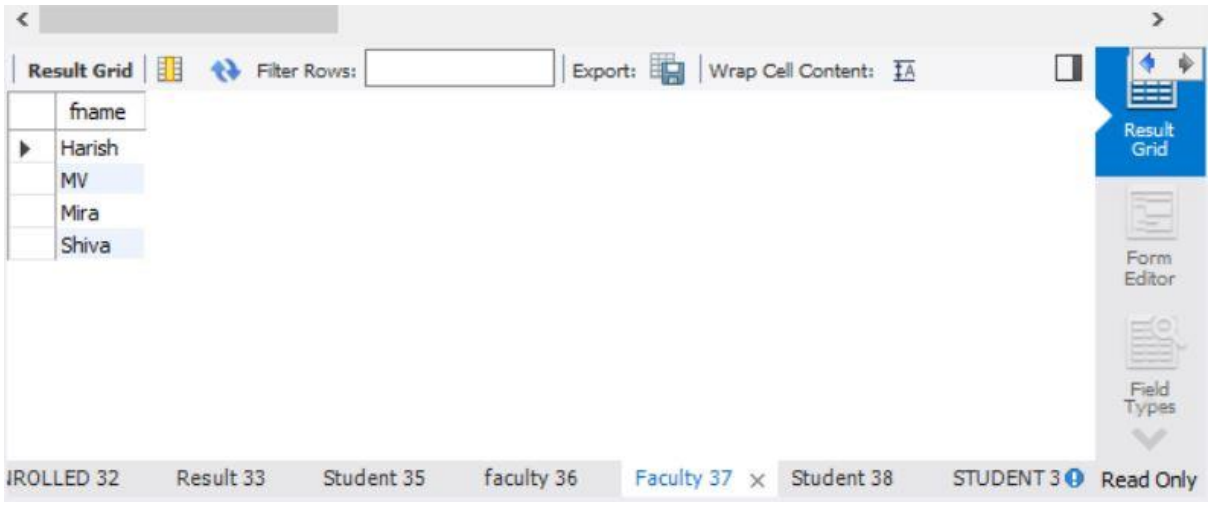
```
SELECT DISTINCT S.sname
FROM Student S
WHERE S.snum IN (SELECT E1.snum
                 FROM Enrolled E1, Enrolled E2, Class C1, Class C2
                 WHERE E1.snum = E2.snum AND E1.cname <> E2.cname
                 AND E1.cname = C1.cname
                 AND E2.cname = C2.cname AND C1.metts_at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

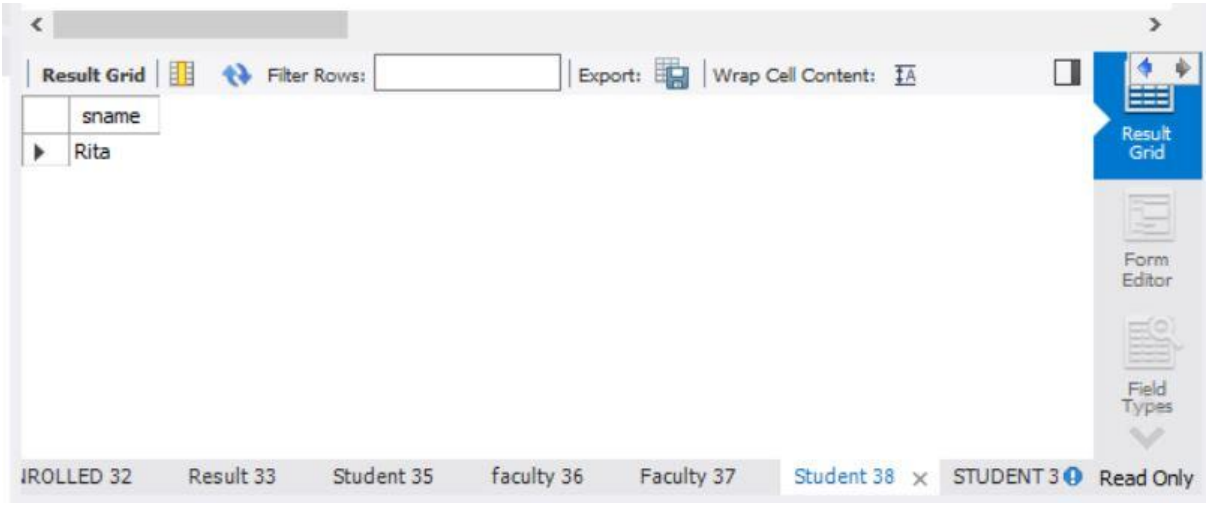



```
SELECT DISTINCT F.fname
FROM Faculty F
WHERE 5 > (SELECT COUNT(E.snum)
FROM Class C, Enrolled E
WHERE C.cname = E.cname
AND C.fid = F.fid);
```




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

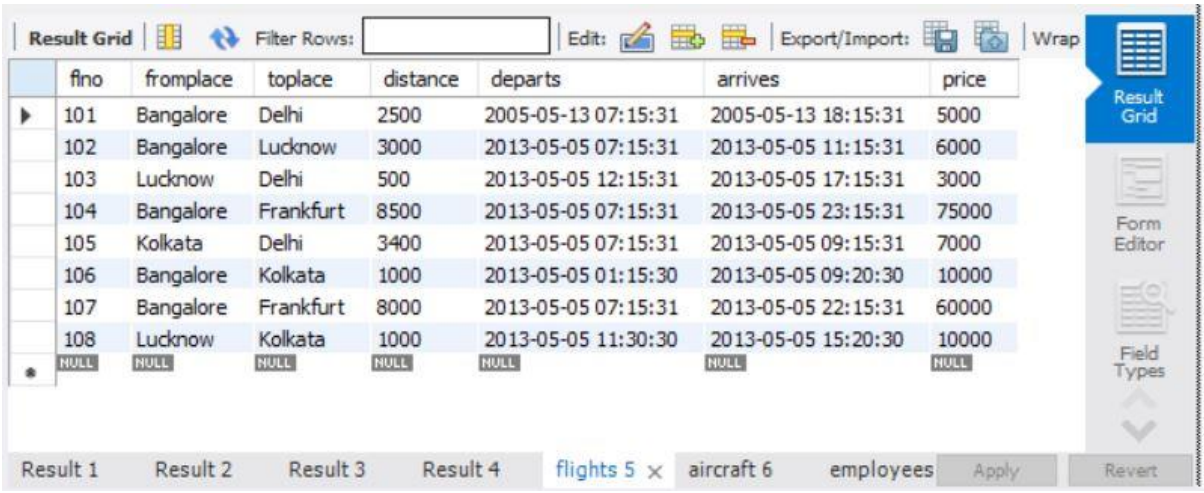

Result Grid
Filter Rows:
Export:
Wrap Cell Content:
age
lvl
19
Sr
20
Jr
21
Sr
Result Grid
Form Editor
Field Types
ROLLED 32
Result 33
Student 35
faculty 36
Faculty 37
Student 38
STUDENT 3
Read Only

LAB 5 QUERIES:

```
create database flightdb;
use flightdb;

create table flights(
        flno int,
   fromplace varchar(15),
   toplace varchar(15),
   distance int,
   departs datetime,
   arrives datetime,
   price int,
   primary key (flno)
);
desc flights;

create table aircraft(
        aid int,
   aname varchar(15),
   cruisingrange int,
   primary key (aid)
);
desc aircraft;
create table employees (
        eid int,
   ename varchar(15),
```

```
    salary int,
    primary key (eid)
);
desc employees;
create table certified (
        eid int,
    aid int,
    foreign key (eid) references employees(eid),
    foreign key (aid) references aircraft(aid)
);
desc certified;
insert into flights values(101, 'Bangalore', 'Delhi', 2500, '2005-05-13 07:15:31',
'2005-05-13 18:15:31', 5000);
insert into flights values(102, 'Bangalore', 'Lucknow', 3000, '2013-05-05
07:15:31', '2013-05-05 11:15:31', 6000);
insert into flights values(103, 'Lucknow', 'Delhi', 500, '2013-05-05 12:15:31',
'2013-05-05 17:15:31', 3000);
insert into flights values(107, 'Bangalore', 'Frankfurt', 8000, '2013-05-05
07:15:31', '2013-05-05 22:15:31', 60000);
insert into flights values(104, 'Bangalore', 'Frankfurt', 8500, '2013-05-05
07:15:31', '2013-05-05 23:15:31', 75000);
insert into flights values(105, 'Kolkata', 'Delhi', 3400, '2013-05-05 07:15:31',
'2013-05-05 09:15:31', 7000);
insert into flights values(106, 'Bangalore', 'Kolkata', 1000, '2013-05-05
01:15:30', '2013-05-05 09:20:30', 10000);
insert into flights values(108, 'Lucknow', 'Kolkata', 1000, '2013-05-05 11:30:30',
'2013-05-05 15:20:30', 10000);

commit;
```

select * from flights;



fino	fromplace	toplace	distance	departs	arrives	price
101	Bangalore	Delhi	2500	2005-05-13 07:15:31	2005-05-13 18:15:31	5000
102	Bangalore	Lucknow	3000	2013-05-05 07:15:31	2013-05-05 11:15:31	6000
103	Lucknow	Delhi	500	2013-05-05 12:15:31	2013-05-05 17:15:31	3000
104	Bangalore	Frankfurt	8500	2013-05-05 07:15:31	2013-05-05 23:15:31	75000
105	Kolkata	Delhi	3400	2013-05-05 07:15:31	2013-05-05 09:15:31	7000
106	Bangalore	Kolkata	1000	2013-05-05 01:15:30	2013-05-05 09:20:30	10000
107	Bangalore	Frankfurt	8000	2013-05-05 07:15:31	2013-05-05 22:15:31	60000
108	Lucknow	Kolkata	1000	2013-05-05 11:30:30	2013-05-05 15:20:30	10000
NULL	NULL	NULL	NULL	NULL	NULL	NULL

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);

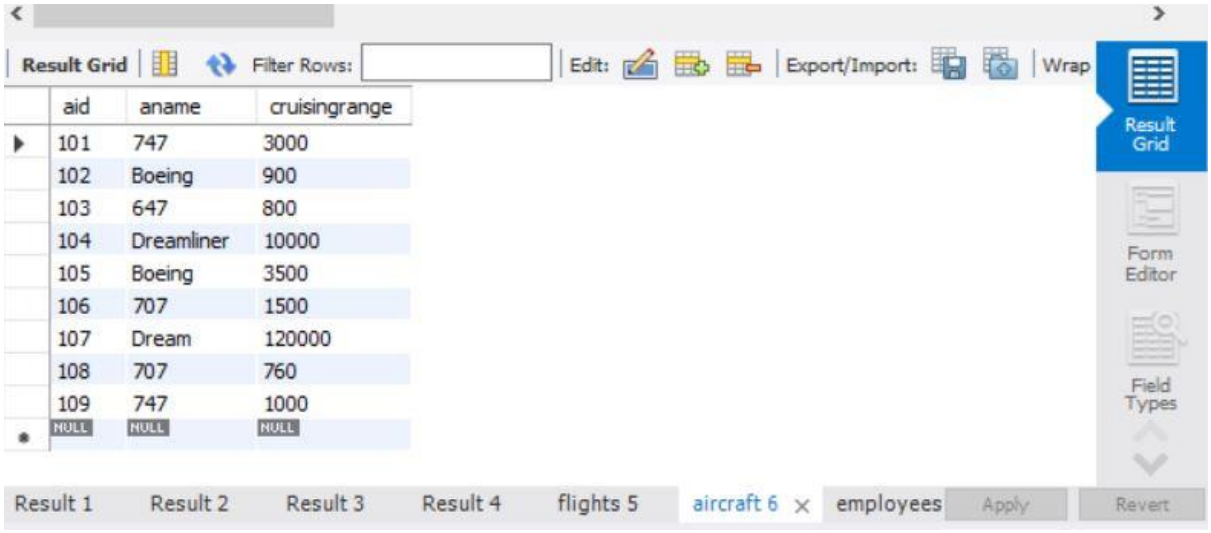
insert into aircraft values(107, 'Dream', 120000);

insert into aircraft values(108, '707', 760);

insert into aircraft values(109, '747', 1000);

commit;

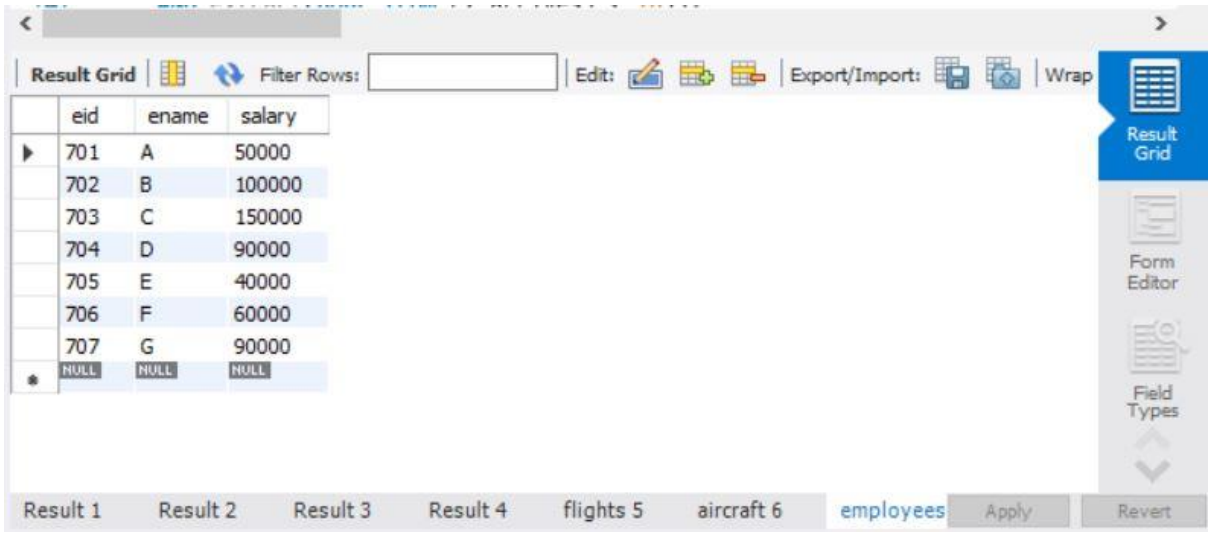
select * from aircraft;



aid	aname	cruisingrange
101	747	3000
102	Boeing	900
103	647	800
104	Dreamliner	10000
105	Boeing	3500
106	707	1500
107	Dream	120000
108	707	760
109	747	1000
NULL	NULL	NULL

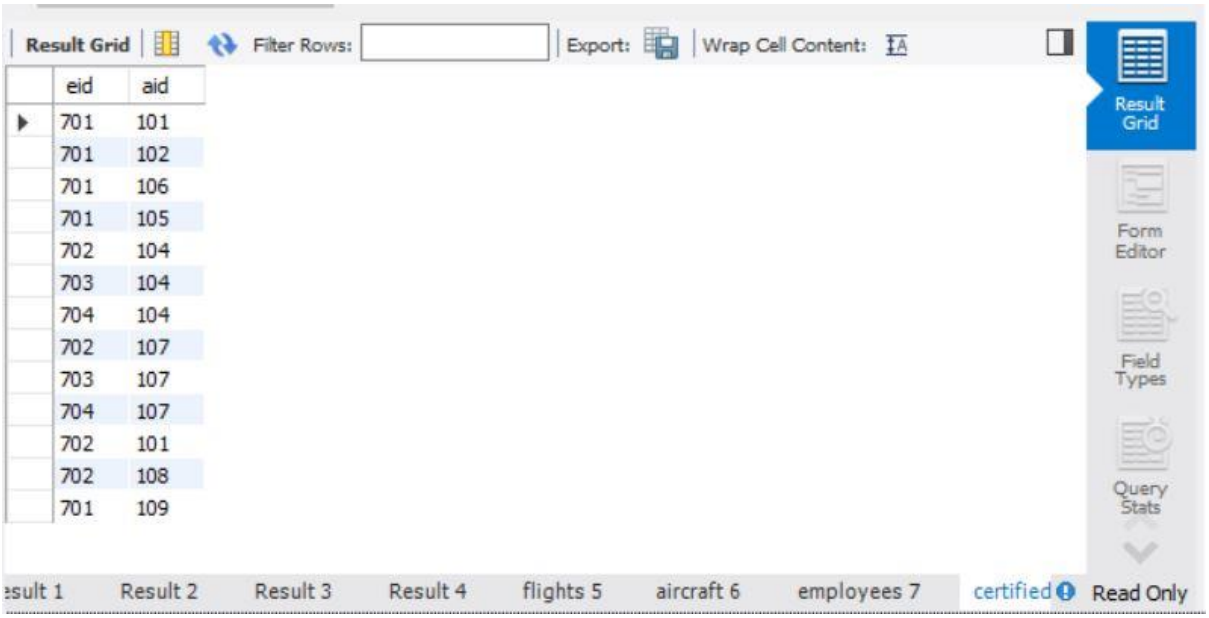
```
insert into employees values(701, 'A', 50000);
insert into employees values(702, 'B', 100000);
insert into employees values(703, 'C', 150000);
insert into employees values(704, 'D', 90000);
insert into employees values(705, 'E', 40000);
insert into employees values(706, 'F', 60000);
insert into employees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

```
select * from employees;
```



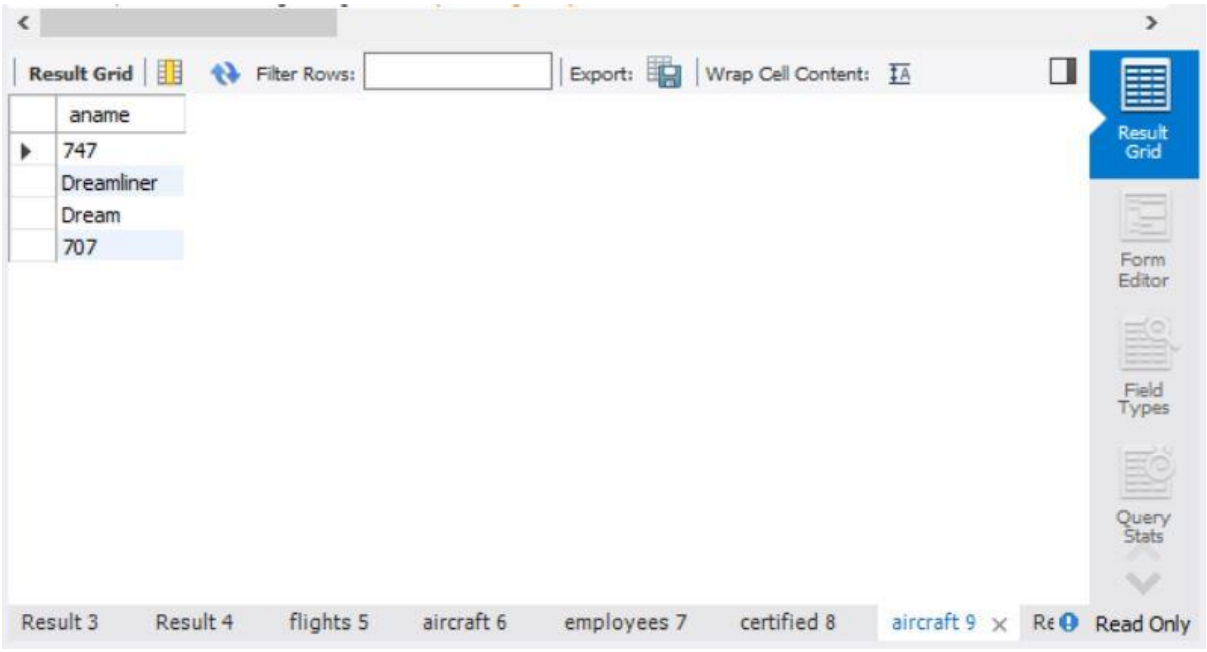
eid	ename	salary
701	A	50000
702	B	100000
703	C	150000
704	D	90000
705	E	40000
706	F	60000
707	G	90000
NULL	NULL	NULL

```
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(702, 108);
insert into certified values(701, 109);
commit;
select * from certified;
```



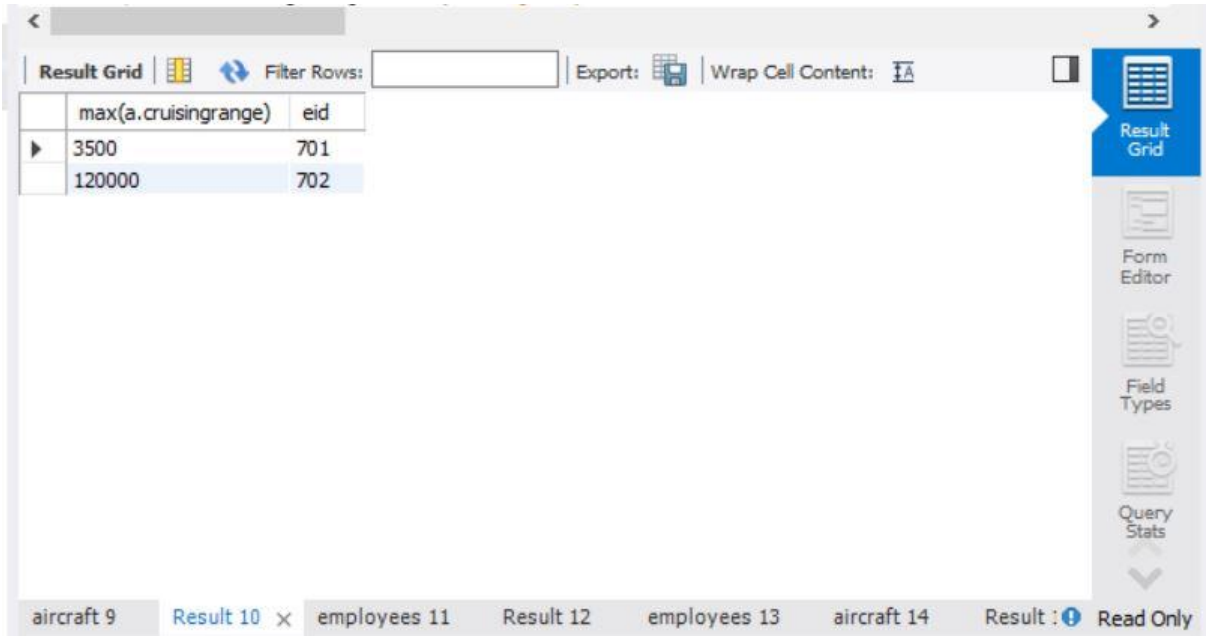
Additional Queries:

```
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
   )
);
```



n

select max(a.cruisingrange), c.eid from certified c, aircraft a where c.aid = a.aid group by c.eid having count(c.eid)>3;

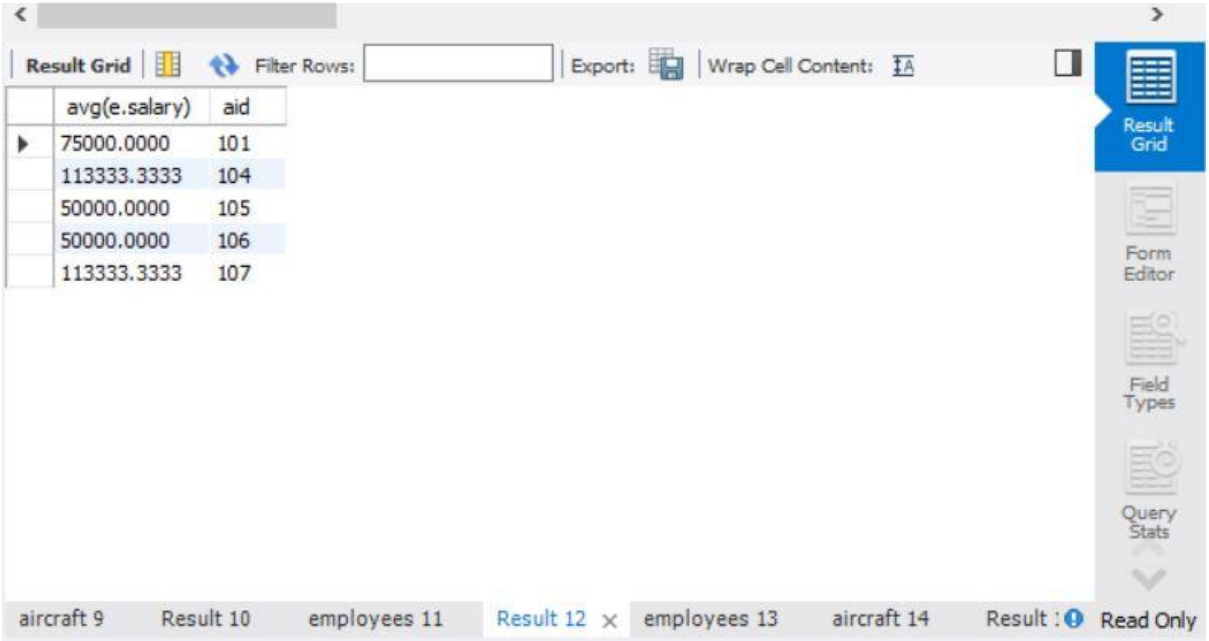


select ename from employees where salary <(

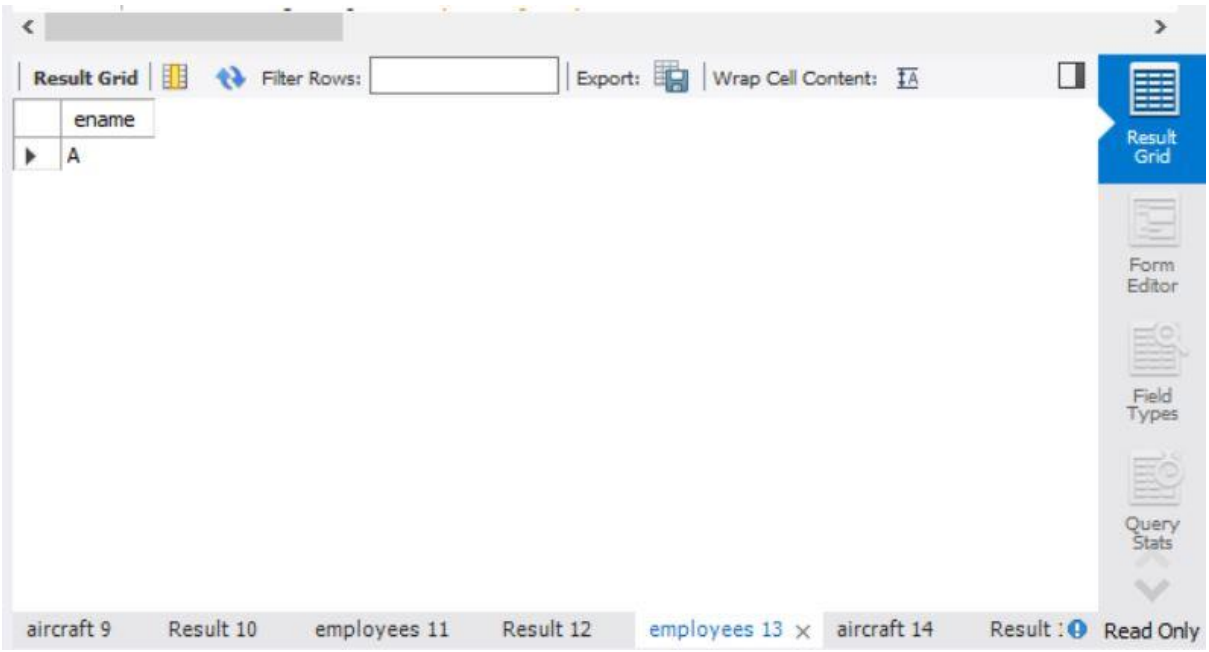
select min(price) from flights where fromplace='Bangalore' and toplace='Frankfurt');

select avg(e.salary), c.aid from certified c, employees e where c.aid in(

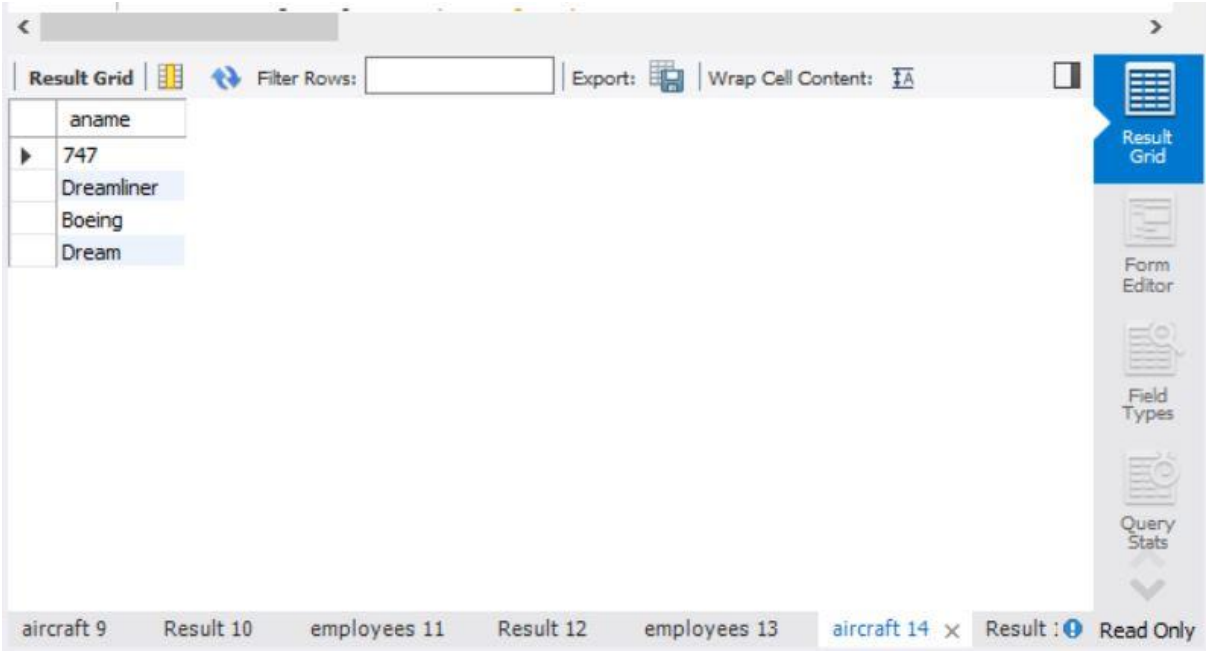
select aid from aircraft where cruisingrange>1000) and e.eid = c.eid group by c.aid;



```
select ename from employees where eid in(
select eid from certified where aid in(
select aid from aircraft where aname = 'Boeing'));
```




```
select aname from aircraft where cruisingrange > any (select distance from
flights where fromplace='Bangalore' and toplace='Delhi');
```




```
SELECT F.flno, F.departs
FROM flights F
WHERE F.flno IN ( ( SELECT F0.flno
 FROM flights F0
 WHERE F0.fromplace = 'Bangalore' AND F0.toplace = 'Kolkata'
 AND extract(hour from F0.arrives) < 18 )
 UNION
( SELECT F0.flno
 FROM flights F0, flights F1
 WHERE F0.fromplace = 'Bangalore' AND F0.toplace <> 'Kolkata'
 AND F0.toplace = F1.fromplace AND F1.toplace = 'Kolkata'
 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.fromplace = 'Bangalore'
AND F0.toplace = F1.fromplace
AND F1.toplace = F2.fromplace
AND F2.toplace = 'Kolkata'
AND F0.toplace <> 'Kolkata'
AND F1.toplace <> 'Kolkata'
AND F1.departs > F0.arrives
AND F2.departs > F1.arrives
AND extract(hour from F2.arrives) < 18));
```