Lab Record

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Course code: 19CS4PCDBM

USN: 1BM19CS192

Course Name: DBMS Lab

Lab Program: 1: - INSURANCE DATABASE

```
create
database
insurance;
```

```
create table person (
driver_id varchar(10),
 name varchar(20) ,
 address varchar(100),
 primary key(driver_id)
);
create table car
(
reg_num varchar(10),
model varchar(10),
year int,
primary key(reg_num)
);

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)
);

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)
);
select *from car;

use insurance;
insert into person values('A01', 'Richard', 'Srinivas Nagar');
insert into person values('A02', 'Pradeep', 'Rajaji Nagar');
insert into person values('A03', 'Smith', 'Ashok Nagar');
insert into person values('A04', 'Viru', 'N. R Colony');
insert into person values('A05', 'John', 'HanumanthNagar');
select * from person;

insert into car values('KA052255', 'Indica', '1990');
insert into car values('KA052251', 'Lacer', '1957');
insert into car values('KA052252', 'Tyota', '1998');
insert into car values('KA052253', 'Honda', '2008');
insert into car values('KA052254', 'Audi', '2005');
select * from car;

insert into accident values('11', '2002-03-01', 'Basvangudi Road');
insert into accident values('12', '2008-04-05', 'KANAKPURA Road');
insert into accident values('13', '2000-09-10', 'Ring Road');
insert into accident values('14', '2004-05-12', 'Mysore Road');
insert into accident values('15', '2003-07-28', 'Mysore Road');
select * from accident;

insert into owns values('A01', 'KA052255');
insert into owns values('A02', 'KA052251');
insert into  owns values('A03', 'KA052252');
```

```
insert into  owns values('A04', 'KA052253');
insert into  owns values('A05', 'KA052254');
select * from owns;

INSERT INTO PARTICIPATED VALUES('A01', 'KA052255', 11, 10000);
INSERT INTO PARTICIPATED VALUES('A02', 'KA052251', 12, 50000);
INSERT INTO PARTICIPATED VALUES('A03', 'KA052252', 13, 25000);
INSERT INTO PARTICIPATED VALUES('A04', 'KA052253', 14, 3000);
INSERT INTO PARTICIPATED VALUES('A05', 'KA052254', 15, 5000);
select * from participated;

UPDATE PARTICIPATED SET DAMAGE_AMOUNT = 25000 WHERE REPORT_NUM = 12;
select *from participated;

INSERT INTO ACCIDENT VALUES (16, '2008-02-21', 'Bulltemple Road');
select * from accident;



SELECT COUNT(DISTINCT DRIVER_ID) FROM ACCIDENT, PARTICIPATED
WHERE ACCIDENT.REPORT_NUM = PARTICIPATED.REPORT_NUM
AND ACCIDENT_DATE LIKE '2008%';

SELECT COUNT(REPORT_NUM) FROM CAR, PARTICIPATED
WHERE CAR.REG_NUM = PARTICIPATED.REG_NUM
AND MODEL = "AUDI";
```

Tables And Outpus:

1.

```
use insurance;
insert into person values('A01', 'Richard', 'Srinivas Nagar');
insert into person values('A02', 'Pradeep', 'Rajaji Nagar');
insert into person values('A03', 'Smith', 'Ashok Nagar');
insert into person values('A04', 'Viru', 'N.R Colony');
insert into person values('A05', 'John', 'HanumanthNagar');
```

esult Grid | Filter Rows: | Edit: | Export/Import:

name	driver_id	address
A05	John	HanumanthNagar
A02	Pradeep	Rajaji Nagar
A01	Richard	Srinivas Nagar
A03	Smith	Ashok Nagar
A04	Viru	N.R Colony
NULL	NULL	NULL

```
52 •   insert into car values('KA0522558', 'Indica', '1990');
53 •   insert into car values('KA052251', 'Lacer', '1957');
54 •   insert into car values('KA052252', 'Tyota', '1998');
55 •   insert into car values('KA052253', 'Honda', '2008');
56 •   insert into car values('KA052254', 'Audi', '2005');
57 •   select * from car;
58
59
```

Result Grid | Filter Rows: | Edit: | Export/Import:

reg_num	model	year
KA052250	Indica	1990
KA052251	Lacer	1957
KA052252	Tyota	1998
KA052253	Honda	2008
KA052254	Audi	2005
KA0522558	Indica	1990
NULL	NULL	NULL

```
59 •   insert into  accident values('11', '2002-03-01', 'Basvangudi Road');
60 •   insert into  accident values('12', '200-04-05', 'KANAKPURA Road');
61 •   insert into  accident values('13', '2000-09-10', 'Ring Road');
62 •   insert into  accident values('14', '2004-05-12', 'Mysore Road');
63 •   insert into  accident values('15', '2003-07-28', 'Mysore Road');
64 •   select * from accident;
65
66
67
```

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

report_num	accident_date	location
11	2002-03-01	Basvangudi Road
12	0200-04-05	KANAKPURA Road
13	2000-09-10	Ring Road
14	2004-05-12	Mysore Road
15	2003-07-28	Mysore Road
NULL	NULL	NULL

```
68 •    insert into  owns values('A01', 'KA052255');
69 •    insert into  owns values('A02', 'KA052251');
70 •    insert into  owns values('A03', 'KA052252');
71 •    insert into  owns values('A04', 'KA052253');
72 •    insert into  owns values('A05', 'KA052254');
73 •    select * from owns;
```

Result Grid | Filter Rows: | Edit: | Export/Im

driver_id	reg_num
A02	KA052251
A03	KA052252
A04	KA052253
A05	KA052254
A01	KA052255
NULL	NULL

Result Grid | Filter Rows: | Edit:

driver_id	reg_num	report_num	damage_amount
A01	KA052255	11	10000
A02	KA052251	12	50000
A03	KA052252	13	25000
A04	KA052253	14	3000
A05	KA052254	15	5000
NULL	NULL	NULL	NULL

Result Grid | Filter Rows: | Edit: | Export/Imp

driver_id	reg_num	report_num	damage_amount
A01	KA052255	11	10000
A02	KA052251	12	25000
A03	KA052252	13	25000
A04	KA052253	14	3000
A05	KA052254	15	5000
NULL	NULL	NULL	NULL

participated 8 ×

Result Grid | Filter Rows: | Edit:

report_num	accident_date	location
11	2002-03-01	Basvangudi Road
12	0200-04-05	KANAKPURA Road
13	2000-09-10	Ring Road
14	2004-05-12	Mysore Road
15	2003-07-28	Mysore Road
16	2008-02-21	Bulltemple Road
NULL	NULL	NULL

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

COUNT(DISTINCT DRIVER_ID)
1

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

COUNT(REPORT_NUM)
1

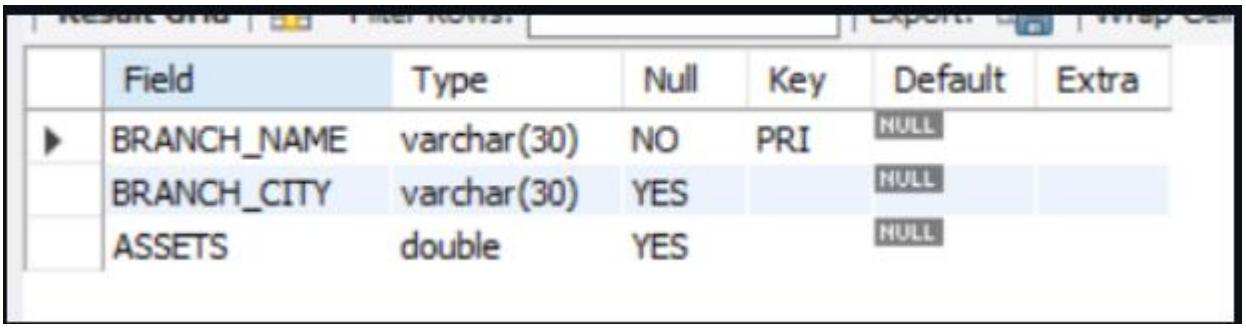
Lab Program 2:- Banking Enterprise Database

```
create
database
banking;
```

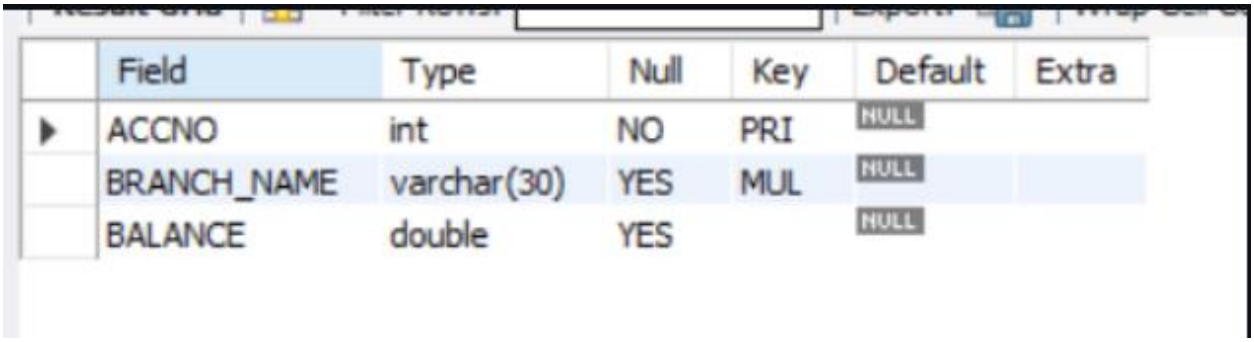
```
CREATE TABLE BRANCH (BRANCH_NAME VARCHAR(30), BRANCH_CITY VARCHAR(30), ASSETS REAL,
PRIMARY KEY (BRANCH_NAME));
CREATE TABLE BANK_ACCOUNT (ACCNO INT, BRANCH_NAME VARCHAR(30), BALANCE REAL, PRIMARY KEY
(ACCNO), FOREIGN KEY (BRANCH_NAME) REFERENCES BRANCH(BRANCH_NAME));
CREATE TABLE BANK_CUSTOMER (CUSTOMER_NAME VARCHAR(30), CUSTOMER_STREET VARCHAR(30),
CUSTOMER_CITY VARCHAR(30), PRIMARY KEY(CUSTOMER_NAME));
CREATE TABLE DEPOSITER (CUSTOMER_NAME VARCHAR(30), 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(30), AMOUNT REAL, 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);

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);

INSERT INTO BANK_CUSTOMER VALUES ('AVINASH', 'BULL_TEMPLE_ROAD', 'BANGALORE');
INSERT INTO BANK_CUSTOMER VALUES ('DINESH', 'BANNERGATTA_ROAD', 'BANGALORE');
```

```
INSERT INTO BANK_CUSTOMER VALUES ('MOHAN', 'NATIONALCOLLEGE_ROAD', 'BANGALORE');
INSERT INTO BANK_CUSTOMER VALUES ('NIKHIL', 'AKBAR_ROAD', 'DELHI');
INSERT INTO BANK_CUSTOMER VALUES ('RAVI', 'PRITHVIRAJ_ROAD', 'DELHI');

INSERT INTO DEPOSITER VALUES('AVINASH', 1);
INSERT INTO DEPOSITER VALUES('DINESH', 2);
INSERT INTO DEPOSITER VALUES('NIKHIL', 4);
INSERT INTO DEPOSITER VALUES('RAVI', 5);
INSERT INTO DEPOSITER VALUES('AVINASH', 8);
INSERT INTO DEPOSITER VALUES('NIKHIL', 9);
INSERT INTO DEPOSITER VALUES('DINESH', 10);
INSERT INTO DEPOSITER VALUES('NIKHIL', 11);

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);


SELECT CUSTOMER_NAME, COUNT(CUSTOMER_NAME)
FROM DEPOSITER D, BANK_ACCOUNT B
WHERE D.ACCNO = B.ACCNO
AND B.BRANCH_NAME = 'SBI_RESIDENCYROAD'
GROUP BY CUSTOMER_NAME
HAVING COUNT(CUSTOMER_NAME) >= 2;


SELECT CUSTOMER_NAME
FROM DEPOSITER D, BANK_ACCOUNT BA, BRANCH B
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;
```

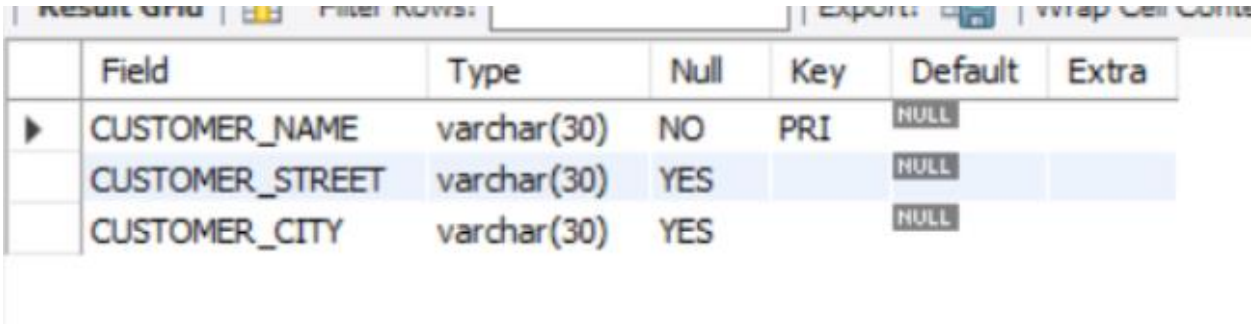
Outputs And Tables:-



Field	Type	Null	Key	Default	Extra
BRANCH_NAME	varchar(30)	NO	PRI	NULL	
BRANCH_CITY	varchar(30)	YES		NULL	
ASSETS	double	YES		NULL	



Field	Type	Null	Key	Default	Extra
ACCNO	int	NO	PRI	NULL	
BRANCH_NAME	varchar(30)	YES	MUL	NULL	
BALANCE	double	YES		NULL	



Field	Type	Null	Key	Default	Extra
CUSTOMER_NAME	varchar(30)	NO	PRI	NULL	
CUSTOMER_STREET	varchar(30)	YES		NULL	
CUSTOMER_CITY	varchar(30)	YES		NULL	

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

Field	Type	Null	Key	Default	Extra
CUSTOMER_NAME	varchar(30)	NO	PRI	NULL	
ACCNO	int	NO	PRI	NULL	

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

Field	Type	Null	Key	Default	Extra
LOAN_NUMBER	int	NO	PRI	NULL	
BRANCH_NAME	varchar(30)	YES	MUL	NULL	
AMOUNT	double	YES		NULL	

```
65 •  SELECT * FROM BRANCH;
```

Result Grid | Filter Rows: | Edit:

BRANCH_NAME	BRANCH_CITY	ASSETS
SBI_CHAMRAJPET	BANGALORE	50000
SBI_JANTARMANTAR	DELHI	20000
SBI_PARLIAMENTROAD	DELHI	10000
SBI_RESIDENCYROAD	BANGALORE	10000
SBI_SHIVAJIROAD	BOMBAY	20000
NULL	NULL	NULL

```
65 •  SELECT * FROM BRANCH;
66 •  SELECT * FROM BANK_ACCOUNT;
```

Result Grid | Filter Rows:

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	NULL	NULL

```
65 •  SELECT * FROM BRANCH;
66 •  SELECT * FROM BANK_ACCOUNT;
67 •  SELECT * FROM BANK_CUSTOMER;
```

Result Grid | Filter Rows: | Edit:

CUSTOMER_NAME	CUSTOMER_STREET	CUSTOMER_CITY
AVINASH	BULL_TEMPLE_ROAD	BANGALORE
DINESH	BANNERGATTA_ROAD	BANGALORE
MOHAN	NATIONALCOLLEGE_ROAD	BANGALORE
NIKHIL	AKBAR_ROAD	DELHI
RAVI	PRITHVIRAJ_ROAD	DELHI
NULL	NULL	NULL

```
65 •  SELECT * FROM BRANCH;
66 •  SELECT * FROM BANK_ACCOUNT;
67 •  SELECT * FROM BANK_CUSTOMER;
68 •  SELECT * FROM DEPOSITER;
```

esult Grid | Filter Rows:

CUSTOMER_NAME	ACCNO
AVINASH	1
DINESH	2
NIKHIL	4
RAVI	5
AVINASH	8
NIKHIL	9
DINESH	10
NIKHIL	11
NULL	NULL

```
69 •  SELECT * FROM LOAN;
```

Result Grid | Filter Rows:

CUSTOMER_NAME	ACCNO
AVINASH	1
DINESH	2
NIKHIL	4
RAVI	5
AVINASH	8
NIKHIL	9
DINESH	10
NIKHIL	11
NULL	NULL

```
45 •  SELECT CUSTOMER_NAME, COUNT(CUSTOMER_NAME)
46    FROM DEPOSITER D, BANK_ACCOUNT B
47    WHERE D.ACCNO = B.ACCNO
48    AND B.BRANCH_NAME = 'SBI_RESIDENCYROAD'
49    GROUP BY CUSTOMER_NAME
50    HAVING COUNT(CUSTOMER_NAME) >= 2;
```

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

CUSTOMER_NAME	COUNT(CUSTOMER_NAME)
DINESH	2

```
57  DELETE FROM BANK_ACCOUNT
58  WHERE BRANCH_NAME IN (
59      SELECT BRANCH_NAME
60      FROM BRANCH
61      WHERE BRANCH_CITY = 'BOMBAY'
62  );
63  SELECT * FROM BANK_ACCOUNT;
```

Result Grid | Filter Rows:

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	NULL	NULL

Lab Program 3:- Supplier Database

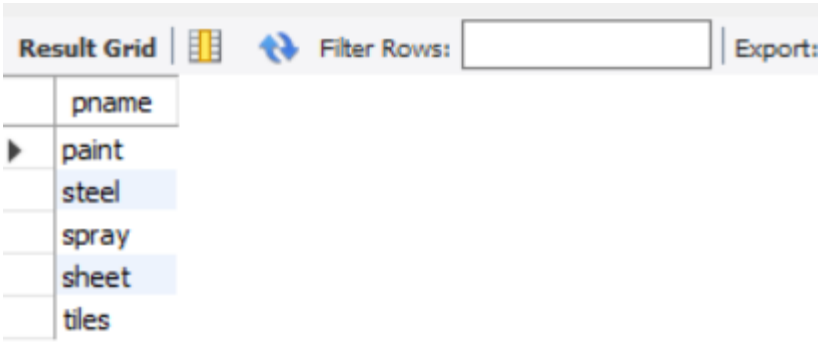
```
create
database
supplier;
```

```
use supplier;
create table suppliers(
       sid int primary key,
    sname varchar(30),
    address varchar(30)
);
create table parts(
       pid int primary key,
    pname varchar(30),
    color varchar(30)
);
create table catalog (
       sid int ,
    pid int ,
    cost real,
    constraint c_sid foreign key(sid) references suppliers(sid) ,
    constraint c_pid foreign key(pid) references parts(pid)
);
select * from suppliers;
select * from parts;
select * from catalog;

insert into suppliers values(1,'Acme Widget','kolkata') ;
insert into suppliers values(2,'Tata','bengaluru') ;
insert into suppliers values(3,'Reebok','delhi') ;
insert into suppliers values(4,'Nike','delhi') ;
insert into suppliers values(5,'Reliance','delhi') ;


insert into parts values(1,'paint','red') ;
insert into parts values(2,'steel','black') ;
insert into parts values(3,'spray','red') ;
insert into parts values(4,'sheet','green');
insert into parts values(5,'tiles','blue');
delete from parts where pid=5;
```

```
insert into catalog values(1,1,100);
insert into catalog values(1,2,200);
insert into catalog values(1,3,200);
insert into catalog values(1,4,100);
insert into catalog values(2,1,300);
insert into catalog values(2,2,100);
insert into catalog values(3,2,90);
insert into catalog values(3,3,110);
insert into catalog values(3,4,110);
insert into catalog values(4,1,100);
insert into catalog values(4,3,120);
insert into catalog values(4,4,130);

select * from suppliers;
select * from catalog;
select * from parts;



insert into parts values(5,'tiles','blue');
select p.pname from parts p where p.pid in (select pid from catalog c group by c.pid
having count(c.sid)>0);
insert into catalog values(1,5,140);
select p.pname from parts p where p.pid in (select pid from catalog c group by c.pid
having count(c.sid)>0);
delete from catalog where pid=5;
delete from parts where pid=5;
select * from catalog;
select * from parts;


select s.sname from suppliers s where s.sid in (select c.sid from catalog c group by c.sid
having count(distinct (c.pid))=(select count(p.pid) from parts p));



select s.sname from suppliers s where s.sid in (select ca.sid  from catalog ca,parts p
where ca.pid=p.pid and p.color='red' group by ca.sid having count(ca.pid)=(select count(*)
from parts p where p.color='red'));


select ca.pid from catalog ca  where ca.sid=(select s.sid from suppliers s where s.sname
='Acme Widget') having (select count(c.pid) from catalog c where c.pid=ca.pid)=1;
```

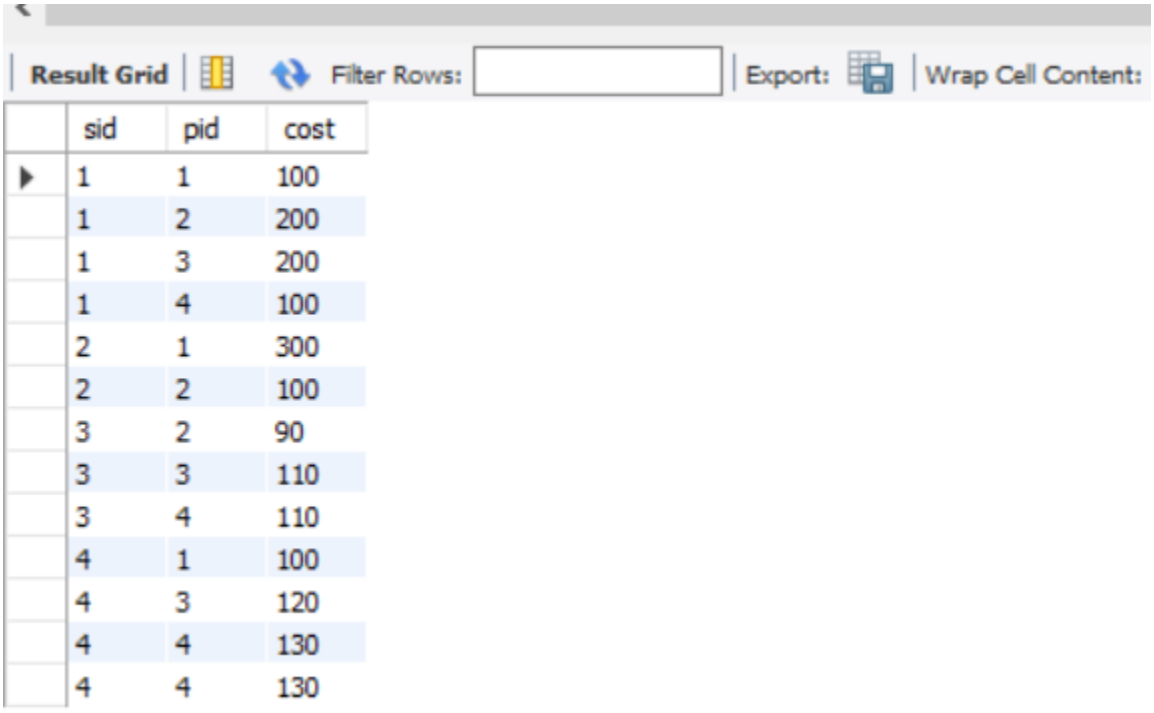
```
select distinct c.sid,c.pid from catalog c where c.cost > (select avg(ca.cost) from
catalog ca where ca.pid=c.pid);


select s.sname from suppliers s where s.sid in (select c.sid from catalog c where
c.cost=(select max(cost) from catalog ca where ca.pid=c.pid));


select s.sname from suppliers s where s.sid in(select c.sid from catalog c where c.sid not
in (select distinct(ca.sid) from catalog ca,parts p where ca.pid=p.pid and
p.color!='red'));
insert into catalog values(5,1,140);
select s.sname from suppliers s where s.sid in(select c.sid from catalog c where c.sid not
in (select distinct(ca.sid) from catalog ca,parts p where ca.pid=p.pid and
p.color!='red'));
delete from catalog where sid=5;
select * from catalog;
```

Outputs And Tables:



Result Grid | Filter Rows: | Export:

pname
paint
steel
spray
sheet
tiles



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

sid	pid	cost
1	1	100
1	2	200
1	3	200
1	4	100
2	1	300
2	2	100
3	2	90
3	3	110
3	4	110
4	1	100
4	3	120
4	4	130
4	4	130

Result Grid | Filter Rows: | Edit:

pid	pname	color
1	paint	red
2	steel	black
3	spray	red
4	sheet	green
NULL	NULL	NULL

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

sname
Acme Widget

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

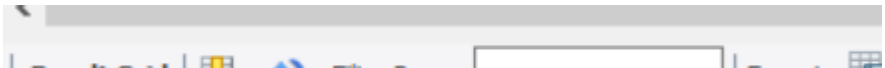
sname
Acme Widget
Nike

pid

sid	pid
1	2
1	3
2	1
4	4

4

sname
Acme Widget
Tata
Nike



sname

Result Grid | Filter Rows:

sname
Reliance

Result Grid | Filter Rows: | Export:

sid	pid	cost
1	1	100
1	2	200
1	3	200
1	4	100
2	1	300
2	2	100
3	2	90
3	3	110
3	4	110
4	1	100
4	3	120
4	4	130
4	4	130

Lab program 4: Student Faculty Database

```
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));
    use student_faculty;
    show tables;

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');
select * from student;
select * from faculty;
select * from class;
select * from enrolled;

-- Query 1
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';

-- Query 2
SELECT DISTINCT cname
       FROM class
       WHERE room='R128'
       OR
       cname IN (SELECT e.cname FROM enrolled e GROUP BY e.cname HAVING
COUNT(*)>=5);
```

```sql
-- Query 3
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);


-- Query 4
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) );

-- Query 5
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);

-- Query 6
SELECT DISTINCT S.sname
FROM Student S
WHERE S.snum NOT IN (SELECT E.snum
FROM Enrolled E );

-- Query 7
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;
```

Output and Tables :

Tables_in_student_faculty
class
enrolled
faculty
student

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

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

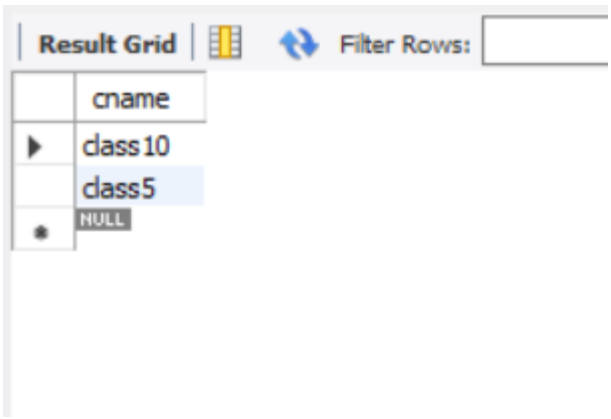
Result Grid | Filter Rows: | Edit:

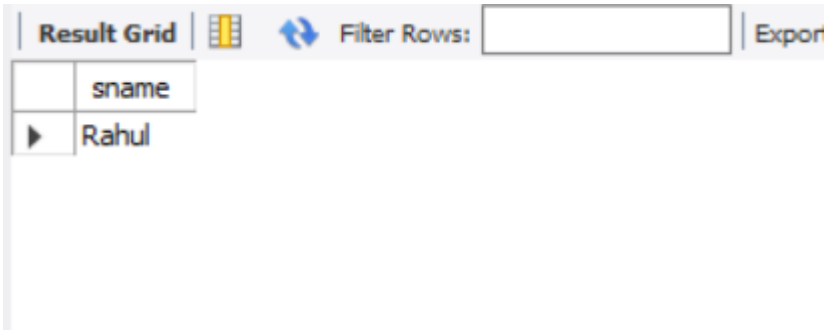
cname	metts_at	room	fid
class1	2012-11-15 10:15:16	R1	14
class10	2012-11-15 10:15:16	R128	14
class2	2012-11-15 10:15:20	R2	12
class3	2012-11-15 10:15:25	R3	11
class4	2012-11-15 20:15:20	R4	14
class5	2012-11-15 20:15:20	R3	15
class6	2012-11-15 13:20:20	R2	14
class7	2012-11-15 10:10:10	R3	14
NULL	NULL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

Result Grid | Filter Rows:

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


Result Grid
Filter Rows:
Export:
Wrap Cell Content:
Sname
Tom


Result Grid
Filter Rows:
cname
class 10
class5
NULL


Result Grid
Filter Rows:
Expor
sname
Rahul

Result Grid | Filter Rows:

fname	fid
Shiva	14
NULL	NULL

Result Grid | Filter Rows:

fname
Harish
MV
Mira
Shiva

Result Grid | Filter Rows:

sname
Rita

Result Grid | Filter Rows:

age	lvl
19	Sr
20	Jr
21	Sr

Lab Program 5:- Airline Flight Database

```
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;

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;

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;
```

```
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;

-- Query 1
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

    )
);

-- Query 2
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;

-- Query 3
select ename from employees where salary <(
select min(price) from flights where fromplace='Bangalore' and toplace='Frankfurt');



-- Query 4

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;



-- Query 5
select ename from employees where eid in(
select eid from certified where aid in(
select aid from aircraft where aname = 'Boeing'));

-- Query 6

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



-- Query 7
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));
```

Outputs and Tables :

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

Field	Type	Null	Key	Default	Extra
flno	int	NO	PRI	NULL	
fromplace	varchar(15)	YES		NULL	
toplace	varchar(15)	YES		NULL	
distance	int	YES		NULL	
departs	datetime	YES		NULL	
arrives	datetime	YES		NULL	
price	int	YES		NULL	

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

flno	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

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

Field	Type	Null	Key	Default	Extra
aid	int	NO	PRI	NULL	
aname	varchar(15)	YES		NULL	
cruisingrange	int	YES		NULL	

Result Grid | Filter Rows: | Edit:

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

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

Field	Type	Null	Key	Default	Extra
eid	int	NO	PRI	NULL	
ename	varchar(15)	YES		NULL	
salary	int	YES		NULL	

Result Grid | Filter Rows: | Edit:

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

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

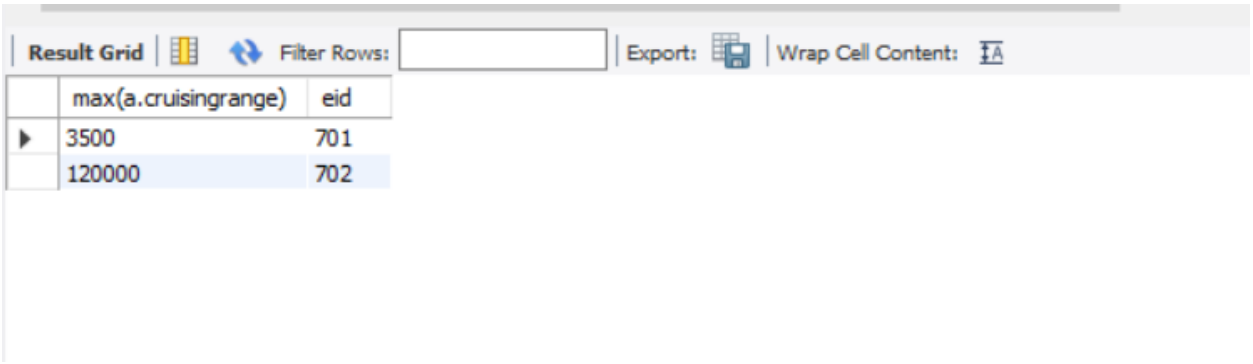
	Field	Type	Null	Key	Default	Extra
▶	eid	int	YES	MUL	NULL	
	aid	int	YES	MUL	NULL	

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

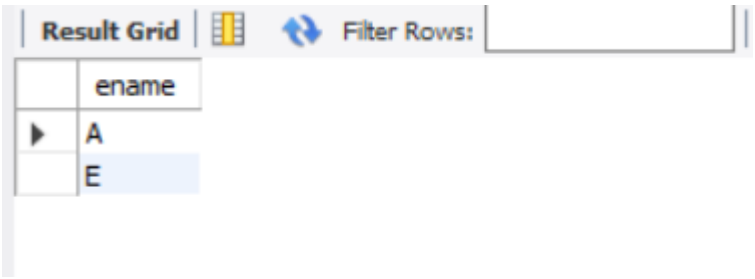
	eid	aid
▶	701	101
	701	102
	701	106
	701	105
	702	104
	703	104
	704	104
	702	107
	703	107
	704	107
	702	101
	702	108
	701	109

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

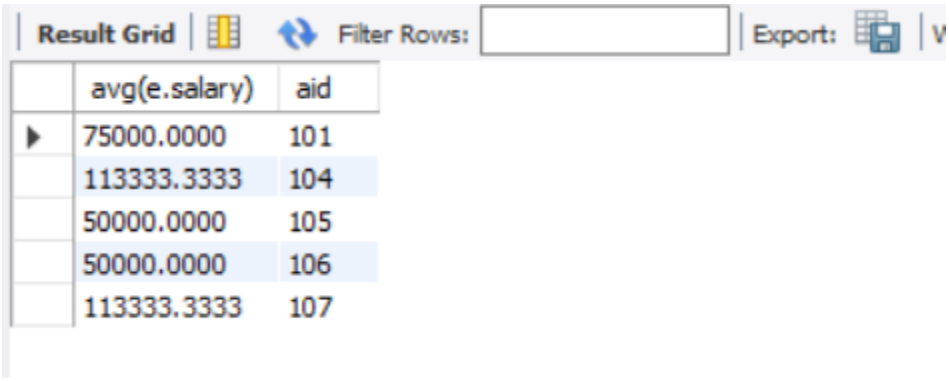
	aname
▶	747
	Dreamliner
	Dream
	707


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

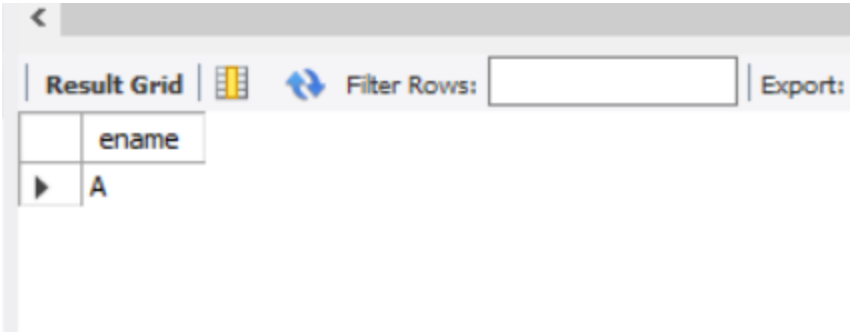
	max(a.cruisingrange)	eid
▶	3500	701
	120000	702


Result Grid | Filter Rows:

	ename
▶	A
	E


Result Grid | Filter Rows: | Export:

	avg(e.salary)	aid
▶	75000.0000	101
	113333.3333	104
	50000.0000	105
	50000.0000	106
	113333.3333	107


Result Grid | Filter Rows: | Export:

	ename
▶	A

Result Grid | Filter Rows: | Export:

aname
747
Dreamliner
Boeing
Dream

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

flno	departs
102	2013-05-05 07:15:31
106	2013-05-05 01:15:30