DBMS LAB TEST 1

Consider the following database for a Airline Flight Information.
The Requirement is One Aircraft has many Fightno's(Eg Spicejet is having many Flights),Employees info about flight has to be taken One Employee can be associated with many
Aircrafts and one Aircraft can be associated with many Employees.The crusingrange is speed of
Aircraft in km.You can add more tuples to the table to answer queries

i) Create the above tables by properly specifying the primary keys and the foreign keys.
ii) Enter at least five tuples for each relation.
iii) Find all the employees who are flying least two aircrafts
By using Natural Join.
iv) Find all the Employee Names,id who are certified and not certified
v) Demonstrate how you delete a aircraft tuples whose cruising
Range is 10000km
vi) Modify the Employee table by adding city attribute and check constraint to the employess
salary attribute(>20000).
vii) Create a View which contains(eid,Totalsalary,AvgSalary) for each employee who are

Certified.

```
Create database airline_db;
use airline_db;


Create table FLIGHTS (
        Fno int,
        FFrom varchar(30),
        FTo varchar(30),
        Distance int,
        Departs varchar(30),
        Arrives varchar(30),
        Primary key(Fno)
);
Desc Flights;

Create table AIRCRAFT (
        AID int not null,
```

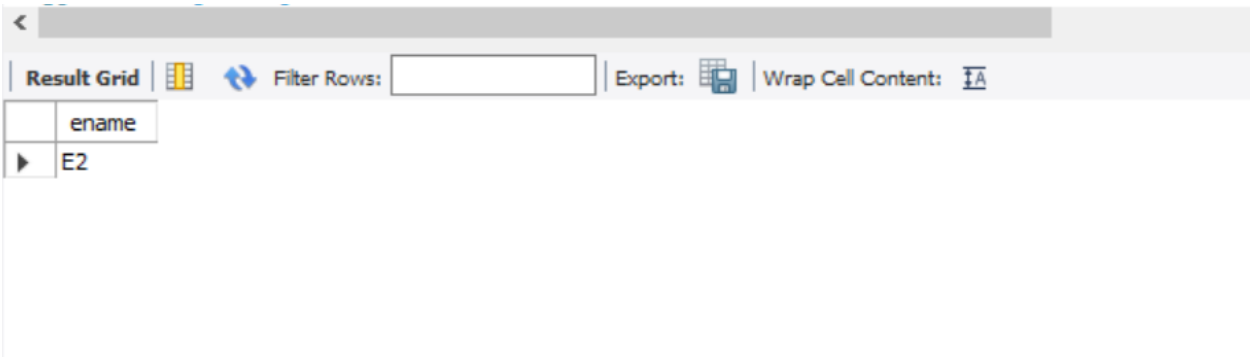
```
        Aname varchar(30),
        Cruisingrange int,
    Fno int,
        primary key (AID),
    foreign key(Fno) references Flights(Fno) on delete cascade
);
DESC AIRCRAFT;

Create table EMPLOYEES(
        EID int not null,
        Ename varchar(30),
        Salary int,
        primary key (EID)
);
Desc Employees;

Create table CERTIFIED(
        EID int,
        AID int,
        foreign key (EID) references Employees(EID) on delete cascade,
        foreign key (AID) references aircraft(AID) on delete cascade
);

Insert into Flights values(111,'F1','T1',2348,'23:02','4:01');
Insert into Flights values(222,'F2','T2',6758,'18:02','22:08');
Insert into Flights values(333,'F3','T3',1234,'12:23','18:01');
Insert into Flights values(444,'F4','T4',9854,'05:00','14:02');
Insert into Flights values(555,'F5','T5',12033,'02:02','23:01');
commit;
select * from Flights;


Insert into Aircraft values (1,'A1',20000,111);
Insert into Aircraft values (2,'A2',30948,222);
Insert into Aircraft values (3,'A3',28565,333);
Insert into Aircraft values (4,'A4',54333,444);
Insert into Aircraft values (5,'A5',9999,555);
Insert into Aircraft values (6,'A6',10000,555);
commit;
select * from aircraft;


Insert into Employees values(1001,'E1',48000);
Insert into Employees values(1002,'E2',58000);
```

```
Insert into Employees values(1003,'E3',68000);
Insert into Employees values(1004,'E4',23454);
Insert into Employees values(1005,'E5',10000);
commit;
select * from Employees;

Insert into Certified values(1002,1);
Insert into Certified values(1001,2);
Insert into Certified values(1002,5);
Insert into Certified values(1005,4);
Insert into Certified values(1004,3);
commit;
select * from Certified;

-- Query 1:

select E.ename from Employees E Natural Join certified C Group by C.eid having
count(c.aid)>=2;

-- Select E.ename from employees E where E.eid in (Select A.aid from Aircraft A where A.aid =
E.eid and A.aid >=2);
-- select E.ename from employees E, certified C where E.eid = (select C.eid,count(*) from
Certified C where  and count(*)=2 group by c.eid;
-- Query 2:

-- for certified
Select Em.eid,Em.ename from employees as Em , Certified as C where Em.eid = C.eid group
by C.eid;

-- for not certified

Select Em.eid, Em.ename from Employees as Em,Certified as C where Em.eid not in (Select
Em.eid from employees as Em , Certified as C where Em.eid = C.eid);


-- Query 3:

Delete from aircraft where Cruisingrange  =10000;

-- Query 4:
Alter table Employees add city varchar(30);
Alter table Employees add check(salary>20000);

-- Query 5:
```

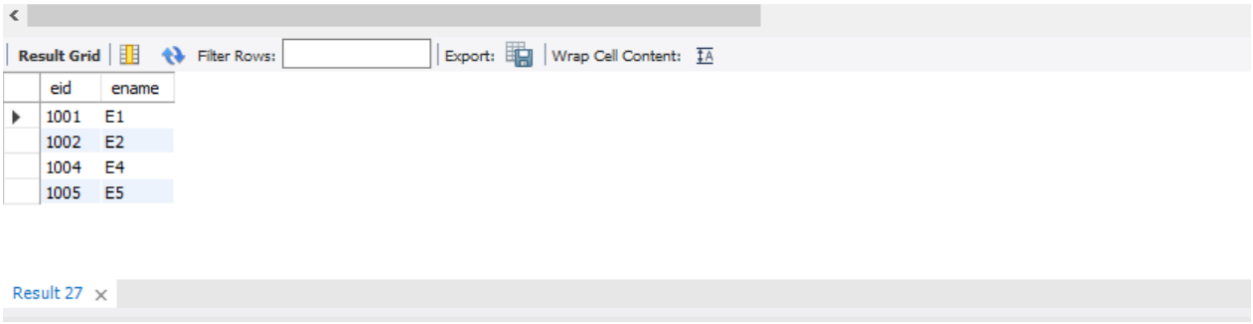
Create View Salary(eid,totalsalary,avgsalary) as select E.eid,sum(E.Salary),Avg(E.salary) from Employees E group by E.eid;
SELECT * FROM SALARY;

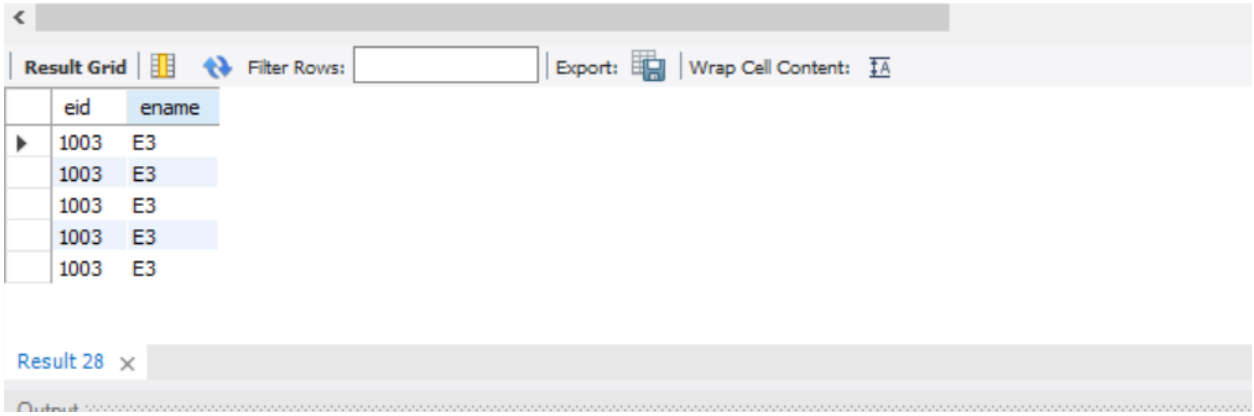
Insert into Employees values(1007,'E4',3333);

QUERY 1:



QUERY 2:





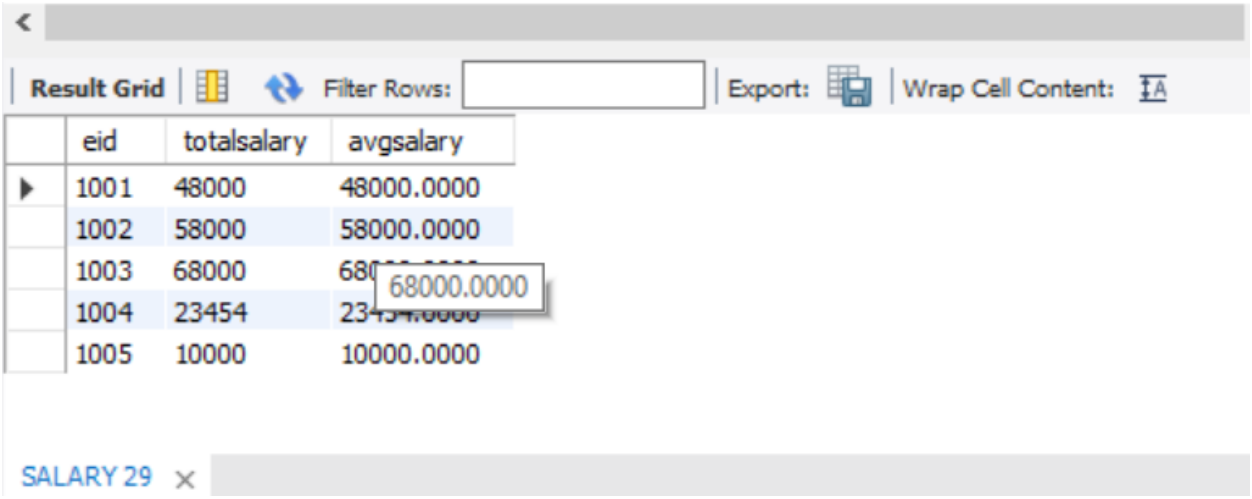
QUERY 3:

```
-- Query 3:

Delete from aircraft where crusingrange =10000;
```

QUERY 4:

```
-- Query 4:
Alter table Employee add city varchar(30);
Alter table Employee add check(salary>20000);
```

QUERY 5:


Result Grid
Filter Rows:
Export:
Wrap Cell Content:
eid
totalsalary
avgsalary
1001
48000
48000.0000
1002
58000
58000.0000
1003
68000
68000.0000
1004
23454
1005
10000
10000.0000
SALARY 29

2-06-2021

DBMS LAB TEST-1

HEMANG SINGH
1BM19CS061

2) Aircraft Database

```
Create Table Aircraft (
        aid int not null,
        Aname varchar(30),
        Cruisingrange int,
        fno int,
        Primary Key (aid);
        foreign Key (fno) references flights(fno) on
                                    delete cascade,
);

Create Table flights (
        flno int,
        from varchar(30),
        to varchar(30),
        distance int,
        departs varchar(30),
        arrives varchar(30),
        Primary Key(flno)
);
```

Employee

```
Create Table Employee (
        eid  int,
        ename  varchar(30),
        salary  int,
        Primary key (eid)
);

Create Table Certified (
        eid  int,
        aid  int,
        Primary key (eid, aid),
        foreign key (eid) references Employee(eid)
                on delete cascade,
        foreign key (aid) references Aircraft (aid)
                on delete cascade
);

Insert into Aircraft values (1, 'A1', 20000, 111);
Insert into Aircraft values (2, 'A2', 30948, 222);
commit;
Insert into flights values (111, 'F1', 'T1', 2348,
                            '23:02', '4:01');
```

```
Insert into flights values(222, 'f2', 'T2', 5628, '18:02',
                                                '22:08');
commit;

Insert into Employee values(1001, 'E1', 48000);
Insert into Employee values(1002, 'E2', 23000);
commit;

Insert into Certified values(1002, 1);
Insert into Certified values(1001, 2);
commit;

-- Query 1:

   Select E.ename from Employee E where
   E.eid in (Select A.AID from Aircraft
             A where A.aid=E.eid and A.aid
                                >=2);


-- Query 2:
-- for certified
   Select Em.eid, Em.ename from Employee as Em,
   Certified as C where Em.eid = C.eid;

-- for not certified
   Select Em.eid, Em.ename from Employee as
   Em, Certified as C where Em.eid
   not in(Select Em.eid from Employee as Em, Certified as C
                                   where Em.eid=C.eid);
```

-- Query 3 :

Delete from Aircraft where cruisingrange = 10 000

-- Query 4 :

Alter table Employee add city varchar(30);

Alter table Employee add check (Salary > 20000);

-- Query 5 :

Create View Salary (eid, totalsalary, AvgSalary)
as select E.eid, sum(E.Salary), Avg(E.Salary)
from Employee E group by E.eid