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PROGRAM 5: AIRLINE FLIGHT DATABASE

Consider the following database that keeps track of airline flight information:

FLIGHTS(flno: integer, from: string, to: string, distance: integer, departs: time, arrives: time, price: integer)

AIRCRAFT(aid: integer, aname: string, cruisingrange: integer)

CERTIFIED(eid: integer, aid: integer)

EMPLOYEES(eid: integer, ename: string, salary: integer)

Note that the Employees relation describes pilots and other kinds of employees as well; Every pilot is certified for some aircraft, and only pilots are certified to fly.

Write each of the following queries in SQL.

```
select * from aircraft;
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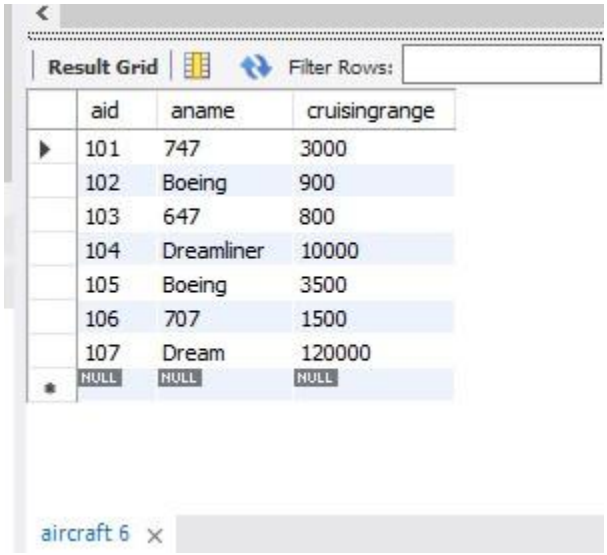


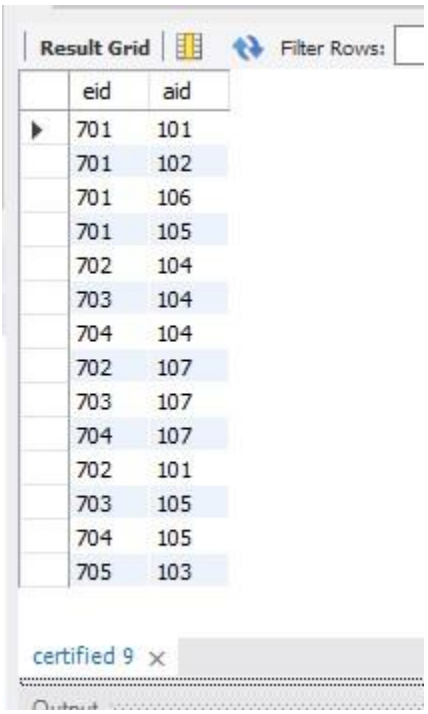
select * from flights;

flno	fromplace	toplace	distance	departs	arrives	price
101	Banglore	Delhi	2500	2005-05-13 07:15:31	2005-05-13 07:15:31	5000
102	Banglore	Lucknow	3000	2005-05-13 07:15:31	2005-05-13 11:15:31	6000
103	Lucknow	Delhi	500	2005-05-13 12:15:31	2005-05-13 17:15:31	3000
104	Banglore	Frankfrut	8500	2005-05-13 07:15:31	2005-05-13 23:15:31	75000
105	Kolkata	Delhi	3400	2005-05-13 07:15:31	2005-05-13 09:15:31	7000
107	Banglore	Frankfrut	8000	2005-05-13 07:15:31	2005-05-13 22:15:31	60000
NULL	NULL	NULL	NULL	NULL	NULL	NULL

select * from employees;

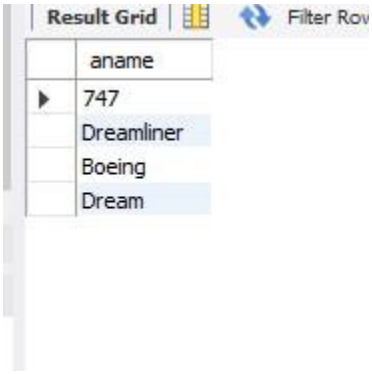
eid	ename	salary
701	A	50000
702	B	100000
703	C	150000
704	D	90000
705	E	40000
706	F	60000
707	G	90000
NULL	NULL	NULL

select * from certified;



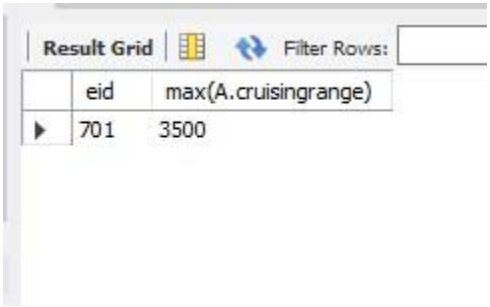
Find the names of aircraft such that all pilots certified to operate them have salaries more than Rs.80,000

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));



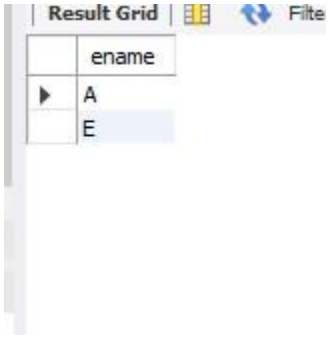
For each pilot who is certified for more than three aircrafts, find the eid and the maximum cruisingrange of the aircraft for which she or he is certified.

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



Find the names of pilots whose salary is less than the price of the cheapest route from Bengaluru to Frankfurt.

select distinct E.ename from employees E where E.salary <(select min(F.price) from flights F where F.fromplace="Banglore" and F.toplace="Frankfrut");



ename
A
E

For all aircraft with cruisingrange over 1000 Kms, find the name of the aircraft and the average salary of all pilots certified for this aircraft.

select A.aname,A.cruisingrange,avg(E.salary) from aircraft A,employees E,Certified C where C.eid=E.eid and C.aid=A.aid group by A.aname having A.cruisingrange>1000;

aname	cruisingrange	avg(E.salary)
747	3000	75000.0000
Dreamliner	10000	113333.3333
707	1500	50000.0000
Dream	120000	113333.3333

Find the names of pilots certified for some Boeing aircraft.

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

Find the aids of all aircraft that can be used on routes from Bengaluru to New Delhi

select A.aid from aircraft A where A.cruisingrange > (select min(F.distance) from flights F where F.fromplace = "Banglore" and F.toplace = "Delhi");