## **ISHA SINGH**

# 1BM19CS218

### **SECTION-4A**

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.

- 1. Find the names of aircraft such that all pilots certified to operate them have salaries more than Rs.80,000.
- 2. 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.
- 3. Find the names of pilots whose salary is less than the price of the cheapest route from Bengaluru to Frankfurt.
- 4. 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.
- 5. Find the names of pilots certified for some Boeing aircraft.
- 6. Find the aids of all aircraft that can be used on routes from Bengaluru to New Delhi.
- 7. A customer wants to travel from Bangalore to Kolkata New with no more than two changes of flight. List the choice of departure times from Madison if the customer wants to arrive in Kolkata by 6 p.m.

# FLIGHTS TABLE

# AIRCRAFT TABLE

	AID	ANAME	CRUISINGRANGE
⊳	101	747	3000
	102	Boeing	900
	103	647	800
	104	Dreamliner	10000
	105	Boeing	3500
	106	707	1500
	107	Dream	12000
	NULL	NULL	NULL

# **EMPLOYEES TABLE**

	EID	ENAME	SALARY
⊳	701	Α	50000
	702	В	100000
	703	С	150000
	704	D	90000
	705	E	40000
	706	F	60000
	707	G	90000
	NULL	NULL	NULL

#### **CERITFIED TABLE**

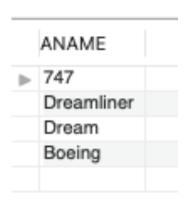
	EID	AID	
⊳	701	101	
	702	101	
	701	102	
	705	103	
	702	104	
	703	104	
	704	104	
	701	105	
	703	105	
	704	105	
	701	106	
	702	107	
	703	107	
	704	107	
	NULL	NULL	

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, CERTIFIED C, EMPLOYEES E

WHERE A.AID=C.AID AND C.EID=E.EID AND 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.

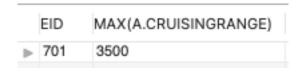
SELECT C.EID, MAX(A.CRUISINGRANGE)

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 ENAME

FROM EMPLOYEES

WHERE SALARY <(SELECT MIN(PRICE)

FROM FLIGHTS

WHERE FFROM="Bangalore" AND TTO="Frankfurt");



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, AVG(E.SALARY)

FROM CERTIFIED C,EMPLOYEES E,AIRCRAFT A

WHERE A.CRUISINGRANGE>1000 AND C.AID=A.AID AND C.EID=E.EID

GROUP BY A.ANAME;

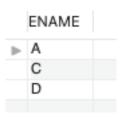
ANAME	AVG(E.SALARY)
747	75000.0000
Dreamliner	113333.3333
Boeing	96666.6667
707	50000.0000
Dream	113333.3333

Find the names of pilots certified for some Boeing aircraft.

SELECT DISTINCT E.ENAME

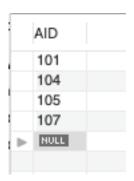
FROM EMPLOYEES E, AIRCRAFT A, CERTIFIED C

WHERE E.EID=C.EID AND A.AID=C.AID AND A.ANAME="Boeing";



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(DISTANCE) FROM FLIGHTS F WHERE
F.FFROM="Bangalore" AND F.TTO="Delhi");



A customer wants to travel from bangalore to kolkata with no more than two changes of flight -- List the choice of departure times customer wants to arrive by 6 p.m.

select f.FFROM, f.TTO, f.ARRIVES from FlIGHTS f where (f.FFROM = "Bangalore" and f.TTO = (select FFROM from Flights where TTO = "Kolkata")) or f.TTO = "Kolkata";

