**DBMS LAB ASSIGNMENT**

**SUBJECT CODE: BCSC0802**

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**UNIVERSITY ROLL NO. : 201500331**

**SECTION: A(A2)**

**ROLL NO. : 28**

**ASSIGNMENT NO 5**

**Write SQL queries for the following:**

**1. IDs and names of students who have applied to major in CS at some**

**college.**

**Ans.** SELECT sID, sName FROM Student

WHERE sID IN(SELECT sID FROM Apply WHERE major

IN(SELECT major

FROM Apply WHERE sID in(SELECT sID FROM Student WHERE

major='CS')));

**2. Find ID and name of student having same high school size as Jay.**

**Ans.** SELECT sID, sName FROM Student

WHERE sizeHS IN (SELECT sizeHS FROM Student

WHERE sName='Jay');

**3. Find ID and name of student having same high school size as Jay but**

**result should not include Jay.**

**Ans.** SELECT sID, sName FROM Student

WHERE sizeHS IN (SELECT sizeHS FROM Student

WHERE sName IN ('Jay'))

And sName NOT IN ('Jay');

**4. Find the name of student with their GPA and Sid whose GPA not equal to**

**GPA of Irene?**

**Ans.** SELECT sID, sName ,GPA FROM Student

WHERE GPA IN (SELECT GPA FROM Student

WHERE sName! = 'Irene' AND GPA !=3.9 );

**5. Find college where any student having their name started from J have**

**applied?**

**Ans.** SELECT Student.sID, Student.sName FROM Student

WHERE sID IN (SELECT Apply.sID FROM Apply

WHERE Student.sName LIKE 'J%' );

**6. Find all different major where Irene has applied?**

**Ans.**

Select Student.sName, Apply.major

From Student

Left Join Apply

ON Student.sID = Apply.sID

Where Student.sName = 'Irene';

**7. Find IDs of student and major who applied in any of major Irene had**

**applied to?**

**Ans**. Select Distinct(sID), major From Apply

Where major in (Select Apply.major

From Student

Left Join Apply

ON Student.sID = Apply.sID

Where Student.sName = 'Irene');

**8. Find IDs of student and major who applied in any of major Irene had**

**applied to? But this time exclude Irene sID from the list.**

**Ans.** Select Distinct(sID), major From Apply

Where major in (Select Apply.major

From Student

Left Join Apply

ON Student.sID = Apply.sID

Where Student.sName = 'Irene')

And sId NOT IN (876);

**9. Give the number of colleges Jay applied to? (Remember count each**

**college once no matter if he applied to same college twice with different major).**

**Ans.** SELECT COUNT(Distinct cName) As "number of colleges Jay

applied to" FROM Apply

Inner Join Student On Student.sID = Apply.sID

Where Student.sName = 'Jay';

**10. Find sID of student who applied to more or same number of college**

**where Jay has applied?**

**Ans.** SELECT sID, COUNT(sID) FROM Apply

GROUP BY sID

HAVING COUNT(Distinct cName) >= ( SELECT COUNT(Distinct

cName) FROM Apply

Inner Join Student On Student.sID = Apply.sID

Where Student.sName = 'Jay' );

**11. Find details of Students who applied to major CS but not applied to**

**major EE? (sID 987, 876, 543 should only be include in result).**

**Ans.** SELECT \* FROM Student

WHERE sID in (SELECT sID FROM Apply WHERE major = 'CS')

And sID NOT IN (SELECT sID FROM Apply WHERE major = 'EE');

**12. All colleges such that some other college is in same state. (Cornell**

**should not be part of result as no other college in New York Hint: use exists).**

**Ans.** SELECT C1.cName, C1.state

FROM College C1, College C2

WHERE C2.state = C1.state AND C2.cName <> C1.cName;

**13. Find the college with highest enrollment.**

Ans. select cname from college

where enrollment = ( select max(enrollment) from college);

**14. Find name of student having lowest GPA.**

**Ans.** SELECT sName FROM Student

WHERE GPA=(select min(GPA) from Student);

**15. Find the most popular major.**

**Ans.** SELECT major FROM (SELECT major, COUNT(major)

FROM Apply GROUP BY major)

WHERE rownum = 1;

**16. Find sID, sName, sizeHS of all students NOT from smallest HS.**

**Ans.** select sID, sName, sizeHS from student

where sizeHS not in ( select min(sizeHS) from student);

**17. Find the name of student who applies to all the colleges where sID 987**

**has applied?**

**(Hint: see Query Find IDs of student applied to all colleges).**

**Ans.** select sname from student

where sID in ( select sID from Apply where cname in ( select cName

from apply where sID = 987));

SNAME

**18. Find college where all the student have applied.**

**Ans.** select distinct A.cname from apply

A where not exists ( (select sID from student) minus (select sID from

apply B where B.cName = A.cName));

**19. Find sid of student who have not applied to Stanford.**

**Ans**. Select sID from Apply

Where cName='Stanford';

**20. Find sid of Student that applied to both Stanford and Berkeley.**

**Ans**. Select sID from Apply

Where cName='Stanford' or cName='Berkeley';

**21. Give list of all names including all names of colleges and students.**

**Ans.** select sName as List from student

union select cName from college;

**22. Create a table ApplicationInfo having columns sID: int, sName:**

**varchar2(10) and number\_of\_applications: number(2) they filed?**

Populate this table with appropriate data using insert command.

Ans. CREATE TABLE ApplicationInfo(

sId int,

sName varchar2(10),

number\_of\_application number(2));

**23. Create table ApplicationData and load with ID, name and college where they applied with state of college (remember to include details of ALL students that have applied or not applied) on runtime using single query**

**Ans.** create table ApplicationData as ( select distinct sid,cname,state from apply natural join college );

**24. Stanford decide not to take any student who have also applied to its rival**

**Berkeley turn their application decision to N.**

**Ans**. UPDATE Apply SET Decision = 'N' WHERE

Cname = 'Stanford' And SID in (Select SID From apply where cName='Berkeley');

**25. Delete applications that are filed to city ‘New York’.**

Ans. delete from apply where sID in ( select sID from apply

where cName in ( select cName from college where state = 'NY' ));