



DBMS ASSIGNMENT (5)  
(DATABASE MANAGEMENT SYSTEM)

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**SECTION: A**

**CLASS ROLL NO: 29**

**UNIVERSITY ROLL NO: 201500340**

**Write SQL queries for the following:**

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

```
47 • select sID, sName from student
48     where sID in ( select sID from apply where major = 'CS' );
49
```

Result Grid		Filter Rows:	Edit:	Export/Import:
sID	sName			
123	Amy			
345	Craig			
543	Craig			
876	Irene			
987	Helen			
NULL	NULL			

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

```
50 • select sID, sName from student
51     where sizeHS in ( select sizeHS from student where sName = 'Jay' );
52
```

Result Grid		Filter Rows:	Edit:	Export/Import:
sID	sName			
234	Bob			
765	Jay			
NULL	NULL			

3. Find ID and name of student having same high school size as Jay but result should not include Jay.

```
53 • select sID, sName from student
54     where sizeHS in ( select sizeHS from student where sName = 'Jay' ) and sName not in ('Jay');
```

Result Grid		Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
sID	sName				
234	Bob				
NULL	NULL				

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

```

56 • select sID, sName, GPA from student
57 where GPA not in ( select GPA from student where sName = 'Irene' );

```

sID	sName	GPA
234	Bob	3.6
345	Craig	3.5
543	Craig	3.4
567	Edward	2.9
678	Fay	3.8
765	Jay	2.9
789	Gary	3.4
987	Helen	3.7
NULL	NULL	NULL

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

```

59 • select distinct cName from Apply
60 where sID in ( select sID from student where sName like 'J%' );

```

cName
Cornell
Stanford

6. Find all different major where Irene has applied?

```

62 • select distinct major from apply
63 where sID in ( select sID from student where sName = 'Irene' );

```

major
biology
CS
marine biology

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

```

65 • select sID, major from apply
66 where major in ( select major from apply
67 where sID in ( select sID from student where sName = 'Irene')));

```

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

sID	major
123	CS
234	biology
987	CS
345	CS
543	CS
876	biology
876	marine biology
123	CS
876	CS
987	CS

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.

```

69 • select sID, major from apply
70 where major in ( select major from apply where sID in ( select sID from student where sName = 'Irene'))
71 and sID not in ( select sID from student where sname = 'Irene' );

```

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

sID	major
123	CS
234	biology
987	CS
345	CS
543	CS
123	CS
987	CS

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)

```

73 • select count(cname) from apply
74 where sID in ( select sID from student where sName = 'Jay' );

```

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	count(cname)
▶	3

10. Find sID of student who applied to more or same number of college where Jay has applied?

```

76 • select sID from apply group by sID
77   having count(sID)>=(select count(sID) from apply
78   where sID in (select sID from student where sName = 'Jay'));

```

sID
123
345
765
876

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).

```

80 • SELECT * FROM Student
81   WHERE sID in (SELECT sID FROM Apply WHERE major = 'CS')
82   And sID NOT IN (SELECT sID FROM Apply WHERE major = 'EE');
83

```

sID	sName	GPA	sizeHS
543	Craig	3.4	2000
876	Irene	3.9	400
987	Helen	3.7	800

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)

```

84 • select cname from college C1
85   where exists ( select cname from college C2 where C1.state = C2.state and C1.cname <> C2.cname );

```

cname
Berkeley
Harvard
MIT
Stanford

13. Find the college with highest enrolment.

```
87 • select cname from college where enrollment = ( select max(enrollment) from college);
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
cname			
Harvard			

14. Find name of student having lowest GPA.

```
89 • select sname from student where GPA = ( select min(GPA) from student);
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
sname			
Edward			
Jay			

15. Find the most popular major.

```
91 • select major from apply group by major having count(major)
92 in (select max(count(major)) from apply group by major);
```

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

```
94 • select sID, sName, sizeHS from student
95 where sizeHS not in ( select min(sizeHS) from student);
```

Result Grid	Filter Rows:	Edit:	Export/Im
sID	sName	sizeHS	
123	Amy	1000	
234	Bob	1500	
345	Craig	500	
456	Doris	1000	
543	Craig	2000	
567	Edward	2000	
654	Amy	1000	
765	Jay	1500	
789	Gary	800	
876	Irene	400	
987	Helen	800	
NULL	NULL	NULL	

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)

```
97 • select sname from student
98 where sID in ( select sID from Apply where cname
99 in ( select cname from apply where sID = 987));
```

Result Grid		Filter Rows:	Export:	Wrap Cell C
sname				
Amy				
Bob				
Fay				
Jay				
Irene				
Helen				

18. Find college where all the student have applied. For next three queries you are expected to solve using without joins and IN operators.

```
102 • SELECT cname
103 FROM Apply
104 INNER JOIN Student
105 ON Student.sID = Apply.sID
106 GROUP BY Apply.cName
107 HAVING COUNT(*) = (SELECT COUNT(*) FROM Student);
```

19. Find sID of student who have not applied to Stanford.

```
103 • select sID from student
104 where sID not in ( select distinct sID from apply
105 where cname = 'Stanford' );
```

Result Grid		Filter Rows:	Edit:	Expo
sID				
234				
345				
456				
543				
567				
654				
789				
10018				