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Section : A

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Lab Assignment – 5

1. **IDs and names of students who have applied to major in CS at some college.**
   ```
   SELECT sid,sname from student where sid in (select sid from apply where major = 'cs');
   ```

2. **Find ID and name of student having same high school size as Jay.**
   ```
   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.**
   ```
   select sid,sname from student where sizeHS in (select sizeHS from student where sname='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?**
   ```
   select sid,sname,gpa from student where gpa not in(select gpa from student where sname='Irene');
   ```

5. **Find college where any student having their name started from J have applied?**
   ```
   select cname from apply where sid in(select sid from student where sname like 'J%');
   ```

6. **Find all different major where Irene has applied?**
   ```
   select distinct major from apply where sid in(select sid from student where sname='Irene');
   ```

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

```sql
select distinct sid,major from apply where major in(select major from apply where sid in
(select sid from student s1 where 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.**

```sql
select distinct sid,major from apply where major in(select major from apply where sid in
(select sid from student where sname = 'Irene'))and sid not in(select sid from student
where sname = 'Irene');
```

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).**

```sql
select count(distinct cname) from apply where sid in(select sid from student where
sname='Jay');
```

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

```sql
select sid from apply where cname in(select cname from apply where sid in(select sid
from student where 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).**

```sql
select * from student where sid in(select sid from apply where major='CS' MINUS 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).**

```sql
select cname from college c1 where exists(select state from college c2 where
c1.state=c2.state and c1.cname!=c2.cname);
```

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

```sql
select cname,enrollment from college c1 where not exists(select enrollment from college
c2 where c1.enrollment<c2.enrollment);
```

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

```sql
select sname from student s1 where not exists(select sname from student s2 where
s1.gpa>s2.gpa);
```

15. Find the most popular major.

```
select major, count(sid) from apply group by major having count(sid) = (select
max(count(sid)) from apply group by major);
```

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

```
select sid,sizehs,sname from student where sizehs != (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).

```
select sname,sid from student where not exists (select distinct cname from apply where
sid=987 minus select distinct cname from apply where sid=student.sid);
```

18. Find college where all the student have applied.

```
select cname from college c where not exists((select sid from student s)minus (select sid
from apply a where a.cname=c.cname));
```

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

```
select sid from student minus select distinct sid from apply where cname='Stanford';
```

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

```
(select sid from apply where cname='Stanford') intersect (select sid from apply where
cname='Berkeley');
```

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

```
select sname 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?

```
create table ApplicationInfo( sid int,sname varchar(10),number_of_applications
numeric(2));

insert into applicationinfo select s.sid,s.sname,nvl(a.no_of_application,0)from ((select
sid,sname from student) s left outer join(select sid,count(*) as no_of_application from
apply group by sid) a on s.sid=a.sid);

select * from applicationinfo;
```

23. Create table ApplicationData and load with ID, name and college where they applied with state of college (remember to include details of ALL