Solve the following queries:

1. List the name and code of the subjects that have in your same course another with more credits than her.

```
select DISTINCT a1.NOMBRE,a1.CODIGO,a1.CURSO,a1.CREDITOS
FROM asignaturas a1,asignaturas a2
WHERE a1.CURSO=a2.CURSO AND a1.CREDITOS<a2.CREDITOS;
```

2. List the name of the subjects that have more credits than ALL the second-year subjects.

```
SELECT a1.nombre,a1.CREDITOS
FROM asignaturas a1
WHERE a1.CREDITOS IN (select MAX(CREDITOS) from asignaturas WHERE CURSO=2);
```

3. Show the code of the subjects taught by Professor Manuel Enciso, using a subquery.

```
SELECT i.ASIGNATURA
FROM impartir i
WHERE i.PROFESOR IN (SELECT p.ID from profesores p WHERE lower(p.NOMBRE)='enrique'
                                                    AND lower(p.apellido1)='soler');
```

4. Show the code of the students who receive class from the code teacher C-34-TU-00, using a subquery.

```
SELECT DISTINCT m.ALUMNO
from matricular m
JOIN asignaturas a ON a.CODIGO=m.ASIGNATURA
JOIN impartir i ON i.ASIGNATURA=a.CODIGO
WHERE i.PROFESOR = (SELECT p.ID from profesores p where upper(p.ID)='C-34-TU-00');
```

5. Calculate the number of teachers in each department. Show the name of the department and the number of teachers.

```
SELECT d.NOMBRE,p.DEPARTAMENTO,count(*) as count
from profesores p
JOIN departamentos d on d.CODIGO=p.DEPARTAMENTO
GROUP BY p.DEPARTAMENTO
ORDER BY COUNT DESC;
```

6. Calculate the number of credits assigned to each department. The credits established for each subject of the department are considered, not whether or not they are taught by professors, that is, directly add the credits of the subjects and collect subjects and departments directly, without using any other table.

```
SELECT d.codigo,d.nombre,sum(a.creditos) as suma_creditos
```

```
FROM asignaturas a
right JOIN departamentos d ON d.CODIGO=a.DEPARTAMENTO
GROUP BY d.CODIGO
ORDER BY suma_creditos DESC;
```

7. Calculate the number of students enrolled per course (each student must count only once per course, even if they are enrolled in several subjects). Use COUNT (DISTINCT ...).

```
SELECT CURSO,COUNT(distinct ALUMNO)
FROM matricular
GROUP BY curso
```

8. For each dispatch number, indicate the total credits taught by professors located in them.

```
SELECT p.DESPACHO,sum(i.CARGA_CREDITOS) as sum
FROM profesores p
JOIN impartir i ON i.PROFESOR=p.ID
GROUP BY p.DESPACHO
ORDER BY sum desc;
```

9. Calculate, for each subject, what percentage of your students are women. Show the subject code and the percentage.

```
CREATE OR REPLACE VIEW max_number_asignatura as
SELECT m.ASIGNATURA,asig.NOMBRE,count(*) as maximo
FROM alumnos a
JOIN matricular m ON m.ALUMNO=a.DNI
JOIN asignaturas asig ON asig.CODIGO=m.ASIGNATURA
GROUP BY asig.NOMBRE;

SELECT m.ASIGNATURA,asig.NOMBRE,count(*)/maxi.maximo*100
FROM alumnos a
JOIN matricular m ON m.ALUMNO=a.DNI
JOIN asignaturas asig ON asig.CODIGO=m.ASIGNATURA
JOIN max_number_asignatura maxi ON maxi.ASIGNATURA=m.ASIGNATURA
WHERE a.GENERO='FEM'
GROUP BY asig.NOMBRE;
```

10. Show the population of each Spanish province: province name and sum of men and women from all its municipalities.

```
SELECT p.NOMBRE,sum(m.HOMBRES+m.MUJERES) as poblacion
FROM municipio m
JOIN provincia p ON p.CODIGO=m.CPRO
```

```
GROUP BY p.NOMBRE
ORDER BY poblacion DESC
```

11. Display, for each department, the name of the teacher closest to retirement (older).

```
SELECT
d.NOMBRE,p.NOMBRE,p.APELLIDO1,timestampdiff(year,p.FECHA_NACIMIENTO,sysdate())
as edad
FROM departamentos d
JOIN profesores p ON d.CODIGO=p.DEPARTAMENTO
WHERE timestampdiff(year,p.FECHA_NACIMIENTO,sysdate())  =
(SELECT MAX(timestampdiff(year,profesores.FECHA_NACIMIENTO,sysdate()))
FROM profesores,departamentos
WHERE departamentos.CODIGO=profesores.DEPARTAMENTO AND
departamentos.CODIGO=d.CODIGO AND
timestampdiff(year,profesores.FECHA_NACIMIENTO,sysdate())<65)
GROUP BY d.NOMBRE
ORDER BY edad desc;
```

12. View the subject with the highest number of credits in which each student has enrolled.

```
SELECT a.DNI,concat(a.NOMBRE,' ',a.APELLIDO1) as
nombre_alumno,asig.NOMBRE,asig.CREDITOS
FROM alumnos a
JOIN matricular m ON a.DNI=m.ALUMNO
JOIN asignaturas asig ON asig.CODIGO=m.ASIGNATURA
WHERE asig.CREDITOS = (SELECT MAX(asignaturas.CREDITOS)
                       FROM alumnos,matricular,asignaturas
                       WHERE alumnos.DNI=matricular.ALUMNO AND
                       matricular.ASIGNATURA=asignaturas.CODIGO AND
                        alumnos.DNI=a.DNI)
GROUP BY a.DNI
```

13. View the oldest teacher in each department.

```
SELECT
d.NOMBRE,p.NOMBRE,p.APELLIDO1,timestampdiff(year,p.FECHA_NACIMIENTO,sysdate())
as edad
FROM departamentos d
JOIN profesores p ON d.CODIGO=p.DEPARTAMENTO
WHERE timestampdiff(year,p.FECHA_NACIMIENTO,sysdate())  =
(SELECT MAX(timestampdiff(year,profesores.FECHA_NACIMIENTO,sysdate()))
FROM profesores,departamentos
WHERE departamentos.CODIGO=profesores.DEPARTAMENTO AND
departamentos.CODIGO=d.CODIGO)
GROUP BY d.NOMBRE
```

```
ORDER BY edad desc;
```

14. View for each department, the subject with the fewest credits.

```
SELECT asig.NOMBRE,min(asig.creditos),d.NOMBRE FROM asignaturas asig
JOIN departamentos d ON d.CODIGO=asig.DEPARTAMENTO
GROUP BY asig.DEPARTAMENTO
```

15. View for each subject, the youngest student enrolled in the 2014-2015 academic year.

```
SELECT asig.NOMBRE,CONCAT(a.NOMBRE,'
',a.APELLIDO1),MIN((timestampdiff(year,a.FECHA_NACIMIENTO,sysdate()))) as edad
FROM alumnos a,matricular m,asignaturas asig
WHERE a.DNI=m.ALUMNO AND asig.CODIGO=m.ASIGNATURA AND
(year(a.FECHA_PRIM_MATRICULA) BETWEEN 2014 AND 2015)
GROUP BY asig.NOMBRE
```

16. View the teacher with the highest credit load. Consider the credit load as the sum of the credits of the subjects taught by said teacher. Note: Keep in mind that a teacher can teach only part of a subject, so the credits in the teach table must be used.

```
create or replace view profesor_creditostotal as
SELECT concat(p.NOMBRE,' ',p.APELLIDO1) as nombre,sum(i.CARGA_CREDITOS) AS suma
FROM impartir i
JOIN profesores p ON p.ID=i.PROFESOR
GROUP BY i.PROFESOR;

select nombre,MAX(suma) FROM profesor_creditostotal;
```

17. View the department with the highest number of subjects in your charge

```
create or replace view departamento_num_asignaturas as
SELECT asig.DEPARTAMENTO,d.NOMBRE,count(*) as number
FROM asignaturas asig
JOIN departamentos d ON d.CODIGO=asig.DEPARTAMENTO
GROUP BY asig.DEPARTAMENTO;

select DEPARTAMENTO,NOMBRE,MAX(number) from departamento_num_asignaturas;


SELECT asig.DEPARTAMENTO,d.NOMBRE,count(*) as number
FROM asignaturas asig
JOIN departamentos d ON d.CODIGO=asig.DEPARTAMENTO
GROUP BY asig.DEPARTAMENTO
ORDER BY number DESC
LIMIT 1;
```

18. Show the list of teachers who teach less than 10 credits in total. Indicate the teacher's code and the number of credits he gives.

```
SELECT concat(p.nombre,' ',p.APELLIDO1) as nombre,p.ID,SUM(i.CARGA_CREDITOS) as
creditos_total
FROM profesores p
JOIN impartir i ON i.PROFESOR=p.ID
GROUP BY p.ID
HAVING creditos_total<10
```

19. List the teachers who have a higher than average credit load. Use HAVING clause and nest grouping functions.

```
SELECT concat(p.nombre,' ',p.APELLIDO1) as nombre,SUM(i.CARGA_CREDITOS) as
creditos_total
FROM profesores p
JOIN impartir i ON p.ID=i.PROFESOR
GROUP BY p.ID
HAVING creditos_total>(SELECT avg(creditos_total) FROM(SELECT concat(p.nombre,'
',p.APELLIDO1) as nombre,p.ID,SUM(i.CARGA_CREDITOS) as creditos_total
                                                    FROM profesores p JOIN impartir i
ON i.PROFESOR=p.ID
                    GROUP BY p.ID) as p);
```

20. View those teachers who teach 2 or more subjects in the 15/16 academic year with a credit load of less than 6.5 in each of them.

```
SELECT p.ID,count(*) as count,sum(i.CARGA_CREDITOS) as sum
FROM profesores p
JOIN impartir i ON p.ID=i.PROFESOR
WHERE i.CURSO LIKE '%15/16%' AND i.CARGA_CREDITOS<6.5
GROUP BY p.ID
HAVING count>=2
```

21. Give the name of the subjects bone. A subject is called bone if no student has passed it.

```
SELECT  m.ASIGNATURA,asig.NOMBRE,count(*) as count
FROM matricular m
JOIN alumnos a ON a.DNI=m.ALUMNO
JOIN asignaturas asig ON asig.CODIGO=m.ASIGNATURA
GROUP BY m.ASIGNATURA
HAVING count IN (SELECT count(*)
FROM matricular m
JOIN alumnos a ON a.DNI=m.ALUMNO
```

```
JOIN asignaturas asig ON asig.CODIGO=m.ASIGNATURA
WHERE m.CALIFICACION!='MH' AND
m.CALIFICACION!='SB' AND m.CALIFICACION!='AP' AND m.CALIFICACION!='NT'
group by m.ASIGNATURA)
```

22. List the name of the departments that do not have any subject with more than 6 credits.

```
SELECT d.NOMBRE,d.CODIGO,d.TELEFONO,count(*),asig.NOMBRE,asig.CREDITOS
FROM departamentos d
LEFT JOIN asignaturas asig ON asig.DEPARTAMENTO=d.CODIGO
WHERE asig.CREDITOS<6
GROUP BY d.CODIGO;
```

23. Alphabetically list the teachers who are blacklisted by the students. If a teacher is on the blacklist of students, he teaches an optional subject and students do not enroll to avoid it. Note that if there are two turns of the elective, students tend to avoid the teacher of that turn, but not those of the other groups.

```
SELECT p.nombre,p.APELLIDO1,count(*) as count
FROM profesores p
LEFT JOIN impartir i ON p.ID=i.PROFESOR
LEFT JOIN asignaturas asig ON asig.CODIGO=i.ASIGNATURA
LEFT JOIN matricular m ON m.ASIGNATURA=asig.CODIGO
LEFT JOIN alumnos a ON a.DNI=m.ALUMNO
GROUP BY p.ID
HAVING count=1;
```

24. Show the pairs of teachers who have no student in common.

```
CREATE OR REPLACE view profesor_alumnos as
SELECT DISTINCT p.ID,concat(p.NOMBRE,' ',p.APELLIDO1) as profesor,concat(a.NOMBRE,'
',a.APELLIDO1) as alumno
FROM profesores p
LEFT JOIN impartir i ON p.ID=i.PROFESOR
LEFT JOIN asignaturas asig ON asig.CODIGO=i.ASIGNATURA
LEFT JOIN matricular m ON m.ASIGNATURA=asig.CODIGO
left JOIN alumnos a ON a.DNI=m.ALUMNO;


select DISTINCT pa1.profesor,pa2.profesor
from profesor_alumnos pa1,profesor_alumnos pa2
WHERE pa1.ID!=pa2.ID and pa1.alumno!=pa2.alumno
```