

Solve the following queries:

1. Name and surname of the teachers of the Department of Languages.

```
SELECT concat(p.nombre,' ',p.apellido1,' ',p.apellido2) as name, d.NOMBRE
FROM profesores p,departamentos d
WHERE p.DEPARTAMENTO=d.CODIGO AND
lower(d.NOMBRE) LIKE '%lenguajes%';
```

2. Using the NVL function, extract a list with the code and the name of the subjects for which 'Nicolas Bersabe Alba' is enrolled. Also provide the number of practical credits, but if it is null, "Not have" should appear in the list.

```
SELECT asig.NOMBRE as nombre_asignatura,ifnull(asig.PRACTICOS,'No tiene') as
creditos_practicos
FROM alumnos a,matricular m,asignaturas asig
WHERE a.DNI=m.ALUMNO AND
m.ASIGNATURA=asig.CODIGO AND
lower(concat(a.NOMBRE,' ',a.APELLIDO1,' ',a.APELLIDO2))='nicolas bersabe alba';
```

3. Students who have passed the subject 'Databases'

```
SELECT concat(a.NOMBRE,' ',a.APELLIDO1,' ',a.APELLIDO2) as nombre
from alumnos a,matricular m,asignaturas asig
WHERE a.dni=m.ALUMNO AND m.ASIGNATURA=asig.CODIGO AND
lower(asig.NOMBRE)='bases de datos' AND
m.CALIFICACION<>'sp';
```

4. Obtain a list showing the identifier of the teachers, their name and surnames, as well as the code of the subjects they teach and their name.

```
SELECT distinct p.ID,concat(p.NOMBRE,' ',p.APELLIDO1,' ',p.APELLIDO2) as
NOMBRE,a.CODIGO,a.NOMBRE
FROM profesores p,impartir i,asignaturas a
WHERE p.ID=i.PROFESOR AND i.ASIGNATURA=a.CODIGO;
```

5. Obtain the name of each professor along with that of their thesis supervisor. If you do not have a thesis supervisor in the list, "Does not have" should appear.

```
SELECT concat(p1.NOMBRE,' ',p1.APELLIDO1) as
NOMBRE_profesor,ifnull(concat(p2.NOMBRE,' ',p2.APELLIDO1), 'Does not have') as
Nombre_director
FROM profesores p1
LEFT JOIN profesores p2 ON p1.DIRECTOR_TESIS=p2.ID;
```

6. Name and age of pairs of students who have the same last name. Please note that last names may be uppercase or lowercase.

```
SELECT DISTINCT concat(a1.NOMBRE,' ',a1.APELLIDO1) as nombre,  
IFNULL(timestampdiff(YEAR,A1.FECHA_NACIMIENTO,sysdate()),'No conocida') as edad_1,  
concat(a2.NOMBRE,' ',a2.APELLIDO1) as nombre2,  
IFNULL(timestampdiff(YEAR,A2.FECHA_NACIMIENTO,sysdate()),'No conocida') as edad_2  
FROM alumnos a1,alumnos a2  
WHERE a1.DNI<>a2.DNI AND  
lower(a1.APELLIDO1)=lower(a2.APELLIDO1);
```

7. Combinations of surnames that can be obtained with the first surnames of students born between the years 1995 and 1996, both included. To obtain the year use the YEAR function. It is recommended to use the BETWEEN... AND... operator to express the range of values.

```
SELECT DISTINCT a1.APELLIDO1,a2.APELLIDO1  
FROM alumnos a1,alumnos a2  
WHERE a1.dni<>a2.dni AND  
(year(a1.fecha_nacimiento) BETWEEN 1995 and 1996) AND  
(year(a2.fecha_nacimiento) BETWEEN 1995 and 1996);
```

8. Name and surname of pairs of teachers whose difference in seniority (in absolute value) is less than two years and belong to the same department. Show the age of each of them in years. Use the TIMESTAMPDIFF function.

```
SELECT  
p1.NOMBRE,p1.APELLIDO1,p2.NOMBRE,p2.APELLIDO1,abs(timestampdiff(year,p1.ANTIGUE  
DAD,p2.ANTIGUEDAD)) as diferencia,d.NOMBRE  
FROM profesores p1,profesores p2,departamentos d  
WHERE abs(timestampdiff(year,p1.ANTIGUEDAD,p2.ANTIGUEDAD))<2 AND  
d.CODIGO=p1.DEPARTAMENTO AND d.CODIGO=p2.DEPARTAMENTO AND  
p1.ID<>p2.ID;
```

9. Build a list showing all possible heterosexual pairings that can be formed between the students enrolled in the code 112 subject where the woman's grade is higher than the man's and both were enrolled in the same week. In the list, show the woman's name first and then the man's. Label the columns as "She" and "He" respectively. For the calculation of the week use the WEEK conversion function. For the calculation of the numerical grade use 1 for failure, 2 for pass, 3 for remarkable, 4 for outstanding, 5 for honors and 0 for null notes with the case function.

```
SELECT distinct CONCAT(A2.NOMBRE,' ',A2.APELLIDO1) 'ELLA',CONCAT(A1.NOMBRE,'  
' ,A1.APELLIDO1) 'EL',
```

```

CASE
WHEN M1.CALIFICACION = 'AP' THEN '2'
WHEN M1.CALIFICACION = 'NT' THEN '3'
WHEN M1.CALIFICACION = 'SP' THEN '1'
WHEN M1.CALIFICACION = 'SB' THEN '4'
WHEN M1.CALIFICACION = 'MH' THEN '5'
ELSE '0' END AS 'NOTA DE EL',
CASE
WHEN M2.CALIFICACION = 'AP' THEN '2'
WHEN M2.CALIFICACION = 'NT' THEN '3'
WHEN M2.CALIFICACION = 'SP' THEN '1'
WHEN M2.CALIFICACION = 'SB' THEN '4'
WHEN M2.CALIFICACION = 'MH' THEN '5'
ELSE '0' END AS 'NOTA DE ELLA'
FROM alumnos A1,alumnos A2,matricular M1,matricular M2
WHERE A1.DNI=M1.ALUMNO AND A2.DNI=M2.ALUMNO AND A1.GENERO='MASC'
AND A2.GENERO='FEM' AND M1.ASIGNATURA=112 AND M2.ASIGNATURA=112 AND CASE
WHEN M1.CALIFICACION = 'AP' THEN '2'
WHEN M1.CALIFICACION = 'NT' THEN '3'
WHEN M1.CALIFICACION = 'SP' THEN '1'
WHEN M1.CALIFICACION = 'SB' THEN '4'
WHEN M1.CALIFICACION = 'MH' THEN '5'
ELSE '0' END <
CASE
WHEN M2.CALIFICACION = 'AP' THEN '2'
WHEN M2.CALIFICACION = 'NT' THEN '3'
WHEN M2.CALIFICACION = 'SP' THEN '1'
WHEN M2.CALIFICACION = 'SB' THEN '4'
WHEN M2.CALIFICACION = 'MH' THEN '5'
ELSE '0' END
AND ABS(week(A1.FECHA_PRIM_MATRICULA)-week(A2.FECHA_PRIM_MATRICULA))
<=1;

```

10. Trios of subjects belonging to the same subject. The name of the 3 subjects must be presented, followed by the code of the subject to which they belong.

```

SELECT distinct A1.NOMBRE,A2.NOMBRE,A3.NOMBRE,M.CODIGO 'CODIGO MATERIA'

FROM asignaturas A1,asignaturas A2,asignaturas A3,materias M
WHERE A1.COD_MATERIA=M.CODIGO AND A2.COD_MATERIA=M.CODIGO AND
A3.COD_MATERIA=M.CODIGO
AND A1.CODIGO<A2.CODIGO AND A1.CODIGO<A3.CODIGO AND A2.CODIGO<A3.CODIGO;

```

11. Show the name, surname, name of the subject and the marks obtained by all students over 22 years of age. Use the CASE function to display the grade as (Enrollment Honor, Outstanding, Notable, Passed, Failed, or Not Presented). Order by student's last name and first name.

```

SELECT DISTINCT concat(a.NOMBRE, ' ',a.APELLIDO1) as Nombre_alumno,asig.nombre as
Nombre_asignatura,abs(timestampdiff(year,a.FECHA_NACIMIENTO,sysdate())) as edad,
CASE
when m.CALIFICACION='MH' then 'Matricula de honor'
when m.CALIFICACION='SB' then 'Sobresaliente'
when m.CALIFICACION='NT' then 'Notabñe'
when m.CALIFICACION='AP' then 'Aprobado'
when m.CALIFICACION='SP' then 'Suspenso'
ELSE 'No Presentado' END as Nota
FROM asignaturas asig,matricular m,alumnos a
WHERE a.DNI=m.ALUMNO AND m.ASIGNATURA=asig.CODIGO AND
abs(timestampdiff(year,a.FECHA_NACIMIENTO,sysdate()))>22
order by a.APELLIDO1 DESC,a.NOMBRE DESC

```

12. Name and surnames of all the students that Enrique Soler teaches. Note that the ASINGNATURA, GROUP, and COURSE attributes of the MATCH and MATRICULAR tables must be used. Each student must appear only once. Sort them by last name, first name.

```

select distinct a.nombre,a.APELLIDO1,p.nombre,p.apellido1
FROM alumnos a,profesores p, impartir i,matricular m,asignaturas asig
WHERE a.DNI=m.ALUMNO AND m.ASIGNATURA=asig.CODIGO AND
asig.CODIGO=i.ASIGNATURA AND
i.PROFESOR=p.ID AND lower(p.nombre)='enrique' AND lower(p.apellido1)='soler'
ORDER BY a.APELLIDO1,a.APELLIDO2,a.NOMBRE;

```

13. Name and surnames of the students enrolled in subjects taught by teachers from the Department of 'Languages and Computer Sciences'. The listing must be ordered alphabetically.

```

SELECT DISTINCT a.NOMBRE,a.APELLIDO1,d.NOMBRE
FROM alumnos a,matricular m,asignaturas asig,departamentos d
WHERE a.DNI=m.ALUMNO AND m.ASIGNATURA=asig.CODIGO AND
asig.DEPARTAMENTO=d.CODIGO AND
lower(d.NOMBRE) LIKE '%lenguajes%'
ORDER BY a.NOMBRE

```

14. List with the name of the subjects, name of the subject to which it belongs and name, surname and credit load of the teachers who teach it. The list must be ordered by subject code and in reverse alphabetical order of the subject name. Use the concat function to display the teacher's full name in a single column.

```

SELECT DISTINCT concat(p.nombre,'
',p.apellido1),asig.CODIGO,asig.NOMBRE,i.CARGA_CREDITOS
FROM profesores p,impartir i,asignaturas asig
WHERE p.ID=i.PROFESOR AND i.ASIGNATURA AND asig.CODIGO=i.ASIGNATURA
ORDER BY asig.CODIGO,asig.nombre desc

```

15. List with the name of the subject, name of the department to which it is assigned, total credits and percentage of practical credits, ordered in descending order by the percentage

of practical credits. Those subjects whose number of total credits, practical or theoretical is not specified should not appear on the list.

```
SELECT DISTINCT
d.NOMBRE,asig.NOMBRE,asig.CREDITOS,(asig.PRACTICOS/asig.CREDITOS)*100 as
porcentaje_creditos_practicos
from asignaturas asig,departamentos d
WHERE d.CODIGO=asig.DEPARTAMENTO AND
asig.CREDITOS is not null and asig.TEORICOS is not null and asig.PRACTICOS is not null
ORDER BY porcentaje_creditos_practicos desc
```

16. Use set operations to search for students who may be the family of a teacher, that is, their first or second last name is the same as a teacher's first or second last name, although not necessarily in the same order. Simply show common last names.

```
SELECT distinct CONCAT(a.nombre,' ',a.apellido1,' ',a.apellido2),concat(p.nombre,'
',p.apellido1,' ',p.apellido2)
from alumnos a
JOIN matricular m on m.ALUMNO=a.DNI
JOIN asignaturas asig on asig.CODIGO=m.ASIGNATURA
JOIN impartir i on i.ASIGNATURA=asig.CODIGO
JOIN profesores p on p.id=i.PROFESOR
where (lower(a.APELLIDO1)=lower(p.APELLIDO1) OR
lower(a.APELLIDO1)=lower(p.APELLIDO2) or
lower(a.APELLIDO2)=lower(p.APELLIDO1)
lower(a.APELLIDO2)=lower(p.APELLIDO2));
```

17. Surnames containing the letter elle ('ll') for both students and teachers.

```
SELECT DISTINCT a.nombre,a.apellido1,a.apellido2
FROM alumnos a
WHERE lower(a.APELLIDO1) LIKE '%ll%' or lower(a.APELLIDO2) LIKE '%ll%'
UNION
SELECT DISTINCT p.nombre,p.apellido1,p.apellido2
FROM profesores p
WHERE lower(p.APELLIDO1) LIKE '%ll%' OR lower(p.APELLIDO2) LIKE '%ll%'
```

18. Look for an inconsistency in the database, that is, subjects in which the number of theoretical + practical credits does not equal the number of total credits. Also show the teachers who teach those subjects.

```
SELECT a.NOMBRE,p.NOMBRE,p.APELLIDO1,a.TEORICOS,a.PRACTICOS,a.CREDITOS
FROM asignaturas a
JOIN impartir i ON a.CODIGO=i.ASIGNATURA
JOIN profesores p ON p.ID=i.PROFESOR
WHERE (a.TEORICOS+a.PRACTICOS)<>a.CREDITOS
```

19. Show in alphabetical order the full names of all the professors and next to them the names of their directors, if this is the case (if we do not have proof of their thesis director, we will leave this space blank, but the professor must appear in the list).

```
SELECT concat(p1.nombre,' ',p1.apellido1,' ',p1.apellido2) as profesor,
ifnull(concat(p2.nombre,' ',p2.apellido1,' ',p2.apellido2),'') as director
FROM profesores p1
LEFT JOIN profesores p2 ON p1.DIRECTOR_TESIS=p2.ID
ORDER BY p1.NOMBRE
```

20. Show the name and surname of each professor along with those of their thesis director and the number of research sections of the director. Remember that a professor's thesis director is given by the attribute DIRECTOR_TESIS and the number of sections is found in the INVESTIGATORS table. The names of each teacher and their director must appear in the following format: 'The Director of Angel Mora Bonilla is Manuel Enciso Garcia-Oliveros'.

```
SELECT concat('El director de ',p1.NOMBRE,' ',p1.Apellido1,' es ',p2.Nombre,' ',p2.Apellido1)
as formato,
i.TRAMOS
FROM profesores p1
JOIN profesores p2 ON p1.DIRECTOR_TESIS=p2.ID
JOIN investigadores i ON i.ID_PROFESOR=p2.ID;
```

21. List the names of all students in alphabetical order. If that student had another student who was enrolled exactly at the same time as him, show the name of this second student next to him.

```
SELECT distinct concat(a1.NOMBRE,' ',a1.APELLIDO1),ifnull(concat(a2.nombre,' ',a2.apellido1),'')
FROM alumnos a1
left outer JOIN alumnos a2 ON a1.FECHA_PRIM_MATRICULA=a2.FECHA_PRIM_MATRICULA
WHERE a1.DNI<>a2.DNI
ORDER BY a1.NOMBRE
```

22. List with the name of all the subjects. If it exists, the course, group and name and first surname of the teacher who teaches it are shown for each subject.

```
SELECT asig.NOMBRE as asignatura,i.CURSO,i.GRUPO,concat(p.nombre,' ',p.apellido1) as
profesor
FROM asignaturas asig
JOIN impartir i ON asig.CODIGO=i.ASIGNATURA
JOIN profesores p ON p.ID=i.PROFESOR
```