Laboratorio 2

Aclaración: Adjuntamos un archivo sql (labo2.sql) en la misma entrega con las 6 consultas.

Consulta 1 en SQL:

```
select o.titulo, o.edicion, count( distinct ot.cod_tema )

from obras as o natural join obra_tema as ot

where o.pais = 'URY'

group by o.cod_obra

having count( distinct ot.cod_tema ) <= 3;
```

Consulta 2 en SQL:

Aclaracion: no se están considerando los repetidos

```
select a.cod_autor, a.nombre_autor

from autores as a

where not exists (select 1 from obra_autor as oa natural join funciones as f

where oa.cod_autor = a.cod_autor and f.funcion <> 'autor')

and exists (select 1 from obra_autor as oa

where oa.cod_autor = a.cod_autor);
```

Consulta 2 en álgebra relacional:

Aclaración: ⋈ (natural join)

A = obra_autor ⋈ (σ funcion != ”autor” (funciones)).

B = Πcod_autor(A).

C = Πcod_autor(autores) - B.

Πcod_autor, nombre_autor(autores ⋈ C).

Consulta 3 en SQL:

Aclaración: Exigimos que los autores tengan al menos una obra.

```
select a.nombre_autor

from autores as a

where not exists (select 1 from obra_autor oa join obra_editorial oe on
oe.cod_obra = oa.cod_obra

where oa.cod_autor = a.cod_autor

group by oa.cod_obra

having count( distinct oe.cod_editorial ) = 1)

and exists (select 1 from obra_autor oa

where oa.cod_autor = a.cod_autor);
```

Consulta 3 en cálculo relacional:

{t.nombre_autor|autores(t) ^

(∀o)(obra_autor(o) ^ t.cod_autor = o.cod_autor →

(∃x)(obra_editorial(x) ^ o.cod_obra = x.cod_obra ^

(∃y)(obra_editorial(y) ^ o.cod_obra = y.cod_obra ^

x.cod_editorial != y.cod_editorial))) ^

(∃z)(obra_autor(z) ^ t.cod_autor = z.cod_autor) }

Consulta 4 en SQL:

```
select o.titulo, o.isbn

from obras as o

natural join obra_editorial as oe natural join obra_autor as oa

group by o.cod_obra

having count( distinct oe.cod_editorial ) > count( distinct oa.cod_autor );
```

Consulta 5 en SQL:

```
select e.cod_editorial, e.nombre_editorial

from obras as o natural join obra_editorial as oe natural join editoriales as e

where o.edicion = '1a. ed'

group by e.cod_editorial

having count( distinct o.cod_obra ) >=

(select count(*) from obras as o natural join obra_editorial as oe

where o.edicion = '1a. ed'

group by oe.cod_editorial

order by count(*) desc

limit 1);
```

Consulta 6 en SQL:

```
select o.cod_obra
from obras as o natural join obra_autor as oa
where o.pais = 'ARG'
and 1 = (select count(*) from obra_autor oa2
                                    where oa2.cod_obra = oa.cod_obra)
and 1 < (select count(*) from obra_autor oa2
                                    where oa2.cod_autor = oa.cod_autor)
and (select count(*) from obra_autor oa2
                    where oa2.cod_autor = oa.cod_autor) =
              (select count(*) from obra_tema ot2 natural join obra_autor oa2
                    where oa2.cod_autor = oa.cod_autor
                    group by ot2.cod_tema
        order by count(*) desc
        limit 1);
```