**INVESTIGACIÓN**

**A. NULL**

**1. ¿Qué significa?**

Significa que el valor de un item es un campo nulo o un campo sin valor.

**2. ¿Resultado de operarlo con los diferentes tipos de operadores: aritméticos,**

**lógicos y de comparación?**

No es posible probar valores NULL con operadores de comparación o aritmeticos, pero con operadores logicos si es posible usando los operadores ISNULL o IS NOT NULL junto con el AND o OR para retornar un booleano.

**B. JUNTA**

**1. ¿ Cuáles son las diferencias entre junta interna y externa?**

INNER JOIN devuelve registros que tienen valores coincidentes en ambas tablas mientras que OUTER JOIN devuelve todos los registros cuando hay una coincidencia en la tabla izquierda o derecho.

**2. ¿ Qué opciones se tienen para la junta interna?**

Usar INNER JOIN es el sentencia JOIN por defecto, y consiste en combinar cada fila de una tabla con cada fila de la otra tabla, seleccionado aquellas filas que cumplan una determinada condición ya sea de equivalencia, comparacion o ninguna.

**3. ¿ Qué opciones se tienen para la junta externa?**

Una opcion es LEFT JOIN la cual retorna la pareja de todos los valores de la tabla izquierda con los valores de la tabla de la derecha emparejados, o retorna un valor NULL en caso de que no haya coincidencias y la otra opción es RIGHT JOIN que seria la operacion inversa a LEFT JOIN.

**Bibliografia**

https://www.w3schools.com/sql/sql\_join\_left.asp

<https://www.w3schools.com/sql/sql_null_values.asp>

<http://sql.11sql.com/sql-inner-join.htm>

https://es.wikipedia.org/wiki/Join#Combinaci.C3.B3n\_interna\_.28INNER\_JOIN.29

**PRACTICA**

**A. Realicen los ejercicios propuestos en los siguientes tutoriales.**

**Join:**

1. SELECT matchid ,player FROM goal WHERE teamid= 'GER
2. SELECT id,stadium,team1,team2 FROM game where id=1012
3. SELECT player,teamid,stadium,mdate FROM game JOIN goal ON (id=matchid) where teamid='GER
4. SELECT team1,team2,player FROM game JOIN goal ON (id=matchid) where player like 'Mario%'
5. SELECT player, teamid, coach,gtime FROM goal join eteam on teamid=id WHERE gtime<=10
6. Select mdate,teamname from game JOIN eteam ON (team1=eteam.id) where coach='Fernando Santos
7. Select player from game join goal on matchid=id where stadium='National Stadium, Warsaw'
8. SELECT distinct player FROM game JOIN goal ON matchid = id WHERE teamid!='GER' and (team1='GER' or team2='GER')
9. SELECT teamname, count(player) FROM eteam JOIN goal ON id=teamid group by teamname
10. Select stadium,count(player) from game join goal on id=matchid group by stadium
11. SELECT matchid,mdate,count(player) FROM game JOIN goal ON matchid = id WHERE (team1 = 'POL' OR team2 = 'POL') group by matchid,mdate
12. Select matchid,mdate,count(player) from game join goal on id=matchid where teamid='GER' group by matchid,mdate
13. SELECT mdate, team1, Sum (CASE WHEN teamid=team1 THEN 1 ELSE 0 END) as score1, team2, Sum (CASE WHEN teamid=team2 THEN 1 ELSE 0 END) as score2 FROM game left JOIN goal ON matchid = id Group by mdate, team1, team2 Order by mdate, matchid, team1, team2

**More Join:**

1. SELECT id, title FROM movie WHERE yr=1962;
2. select yr from movie where title='Citizen Kane';
3. select id,title ,yr from movie where title like '%Star Trek%' order by yr;
4. select id from actor where name ='Glenn Close';
5. select id from movie where title='Casablanca';
6. select name from actor join (select casting.actorid from movie join casting on movie.id=casting.movieid where movieid=11768 )as aa on actor.id=aa.actorid
7. select name from actor join (select casting.actorid from movie join casting on movie.id=casting.movieid where movie.title='Alien' )as aa on actor.id=aa.actorid
8. select title from movie join casting on movie.id=casting.movieid join actor on actor.id = casting.actorid where actor.name='Harrison Ford'
9. select title from movie join casting on movie.id=casting.movieid join actor on actor.id = casting.actorid where actor.name='Harrison Ford'and casting.ord<>1
10. select movie.title, actor.name from movie join casting on movie.id=casting.movieid join actor on casting.actorid=actor.id where movie.yr=1962 and casting.ord=1
11. SELECT yr,COUNT(title) FROM

movie JOIN casting ON movie.id=movieid

JOIN actor ON actorid=actor.id

where name='John Travolta'

GROUP BY yr

HAVING COUNT(title)=(SELECT MAX(c) FROM

(SELECT yr,COUNT(title) AS c FROM

movie JOIN casting ON movie.id=movieid

JOIN actor ON actorid=actor.id

where name='John Travolta'

GROUP BY yr) AS t)

1. A
2. select actor.name from (select count(casting.movieid) as C,casting.actorid from casting where casting.ord=1 group by casting.actorid )as aa join actor where aa.C >=30 and aa.actorid=actor.id
3. select movie.title , count(casting.actorid)from movie join casting on movie.id=casting.movieid where yr=1978 group by

casting.movieid ,movie.title order by (count(casting.actorid) ) desc, movie.title asc

1. select actor.name from( select aa.actorid,casting.actorid as ID from casting as aa join casting on casting.movieid=aa.movieid where aa.actorid=(select id from actor where name ='Art Garfunkel') and aa.actorid!=casting.actorid)as ee join actor on ee.ID=actor.id

**Null**

1. select name from teacher where dept is null
2. SELECT teacher.name, dept.name FROM teacher INNER JOIN dept ON (teacher.dept=dept.id)
3. SELECT teacher.name, dept.name FROM teacher Left JOIN dept ON (teacher.dept=dept.id)
4. SELECT teacher.name, dept.name FROM teacher right JOIN dept ON (teacher.dept=dept.id)
5. select teacher.name , coalesce(teacher.mobile,'07986 444 2266') from teacher
6. select teacher.name, coalesce(dept.name,'None') from teacher left join dept on teacher.dept=dept.id
7. select count(name) ,count(mobile)from teacher
8. select dept.name,count(teacher.name) from teacher right join dept on dept.id=teacher.dept group by dept.name
9. select name,case when teacher.dept=1 or teacher.dept=2 then 'Sci' else 'Art' end from teacher
10. select name,case when teacher.dept=1 or teacher.dept=2 then 'Sci' when teacher.dept=3 then 'Art' else 'None' end from teacher

**8+ Numeric Examples**

1. SELECT A\_STRONGLY\_AGREE FROM nss WHERE question='Q01' AND institution='Edinburgh Napier University' AND subject='(8) Computer Science'
2. SELECT institution,response FROM nss WHERE question='Q15'and score>=100
3. SELECT institution,score FROM nss WHERE subject='(8) Computer Science' and score<50 and question='Q15'
4. SELECT subject , sum(response) FROM nss WHERE question='Q22' AND (subject='(8) Computer Science' or subject='(H) Creative Arts and Design') group by subject
5. SELECT subject, sum(response\*A\_STRONGLY\_AGREE/100) FROM nss WHERE question='Q22' AND (subject='(8) Computer Science' or subject='(H) Creative Arts and Design') group by subject
6. SELECT subject, round(sum(response\*A\_STRONGLY\_AGREE/100)/sum(response)\*100) FROM nss WHERE question='Q22' AND (subject='(8) Computer Science' or subject='(H) Creative Arts and Design') group by subject
7. SELECT institution,round(sum(score\*response)/sum(response)) FROM nss WHERE question='Q22' AND (institution LIKE '%Manchester%' group by institution
8. SELECT institution,sum(sample),Sum(Case When subject='(8) Computer Science' Then sample Else 0 End) As sum FROM nss WHERE question='Q01' AND (institution LIKE '%Manchester%') group by institution

**Self Join**

1. select count(\*) as stops from stops
2. select id from stops where name='craiglockhart'
3. select stops.id,stops.name from route join stops on route.stop=stops.id where route.num=4 and route.company= 'lrt'
4. select company, num, count(\*) from route where stop=149 or stop=53 group by company, num having count(\*)>=2
5. select a.company, a.num, a.stop, b.stop from route a join route b on (a.company=b.company and a.num=b.num) where a.stop=53 and b.stop in (select id from stops where name='london road')
6. select a.company, a.num, stopa.name, stopb.name from route a join route b on (a.company=b.company and a.num=b.num) join stops stopa on (a.stop=stopa.id) join stops stopb on (b.stop=stopb.id) where stopa.name='craiglockhart' and stopb.name='london road'
7. select distinct a.company, a.num from route a join route b on a.company=b.company where a.num=b.num and a.stop=115 and b.stop=137
8. select a.company, a.num from route a join route b on a.company=b.company where a.num=b.num and a.stop= (select id from stops where name='craiglockhart') and b.stop=(select id from stops where name='tollcross')
9. select name,a.company,b.num from route a, route b, stops where a.company=b.company and a.num=b.num and a.stop= (select id from stops where name='craiglockhart') and b.stop in (select stop from route ) and a.company='lrt' and id=b.stop

C.)

4 consultas: una para cada operador de conjuntos

1. Union: Una lista con los profesores y los estudiantes

select name from staff union select name from student

1. Unión all: una lista de profesores y estudiantes con los eventos a los que tienen que asistir

select staff,event from teaches union all select student,event from attends

1. Intersect: una lista con los salones que tienen asignado por lo menos un evento

select id from room intersect select room from event

1. Except: una lista con los profesores que no tienen eventos asignados

select id from staff except select staff from teaches

4 consultas: dos para junta interna y dos para junta externa

1. que materias se dictan a las 11?

select modle.name from event join modle on event.modle=modle.id where tod=11

1. cuantos eventos usan salones con capacidad mayor a 40?

select count (event.id) from event join room on event.room=room.id where capacity>40

1. genere una lista con todos los profesores y las materias que dictan

select staff.name, teaches.event from staff left join teaches on staff.id=teaches.staff

1. mostrar las materias junto con su dia , horario y salón programado

select dow,tod,room,name from event rigth join modle on modle=modle.id

2 consultas: una para cada operador de desconocido

1. El id de los salones sin evento

select id from event where room is null

1. El id de los eventos con un salón o los que no tienen salón

select id,coalesce(room,'no tiene salon')from event

3 consultas: una para cada uno de los tipos de operadores lógicos

1. El id y el nombre del staff con evento comenzando con co1

select id,name from staff where id= any(select staff from teaches where event like '%co1%')

1. Los eventos a los que asistieron los estudiantes si asistieron a todos

select event from attends where event=all(select id from event)

1. El id y nombre de los estudiantes si existen estudiantes con más de 9 eventos

select id,name from student where exists (select student from attends group by student having count(event)>9 )

1 consulta: para el operador CASE

1. select student, case when count(event)>5 then 'el estudiante ve las meteria suficientes' else 'el estudiante no ve las meteria suficientes' end from attends group by student