Advanced SQL queries

## 1/ Null values

Les exemples types : 1,2,3,7

1. select ENAME FROM EMP WHERE COMM is NOT NULL;
2. SELECT COUNT(EID) FROM EMP WHERE COMM is not null

Select count(COMM) from EMP

1. select count(EID) FROM EMP WHERE COMM IS NULL;

select count(\*) FROM EMP WHERE COMM IS NULL;

1. SELECT MIN(COMM), MAX(COMM), AVG(COMM) FROM EMP WHERE COMM is not null
2. select AVG(coalesce(COMM,0)) FROM EMP;
3. SELECT ENAME, COMM\*0.86 as € FROM EMP WHERE COMM is not null
4. select ENAME, SAL + coalesce(COMM,0) AS TOTSAL FROM EMP;
5. SELECT ENAME FROM EMP WHERE MGR IS NULL
6. SELECT ENAME FROM EMP WHERE COMM < SAL\*0.25
7. SELECT ENAME FROM EMP WHERE coalesce(COMM, 0) < SAL\*0.25

## 2/ SQL 92 Joins

Les exemples types : 1,2,3,8

1. a) select \* FROM EMP CROSS JOIN DEPT;

b) select \* FROM EMP JOIN DEPT ON EMP.DID = DEPT.DID; //the DID column appears twice

c)select \* FROM EMP NATURAL JOIN DEPT;

//the population is the same

1. SELECT \* FROM EMP NATURAL JOIN dept WHERE DLOC like '%NEW%YORK'
2. select DISTINCT ENAME FROM EMP, DEPT, MISSION WHERE EMP.DID=DEPT.DID AND DEPT.DLOC=MISSION.MLOC;
3. SELECT EMP.ENAME, E2.ENAME as Manager FROM EMP JOIN EMP AS E2 ON EMP.MGR = E2.EID
4. select ENAME FROM EMP WHERE MGR=(SELECT MGR FROM EMP WHERE ENAME ="ALLEN") AND ENAME not like 'ALLEN';
5. SELECT EMP.ENAME, EMP.HIRED, E2.ENAME as Manager, E2.HIRED FROM EMP JOIN EMP AS E2 ON EMP.MGR = E2.EID WHERE EMP.HIRED < E2.HIRED
6. Noona
7. SELECT DEPT.\* FROM DEPT NATURAL LEFT JOIN EMP WHERE EMP.DID is null
8. Noona
9. G

## 3/ Subqueries

Les exemples types : 2,5,8,10

1. a) select ENAME FROM EMP WHERE SAL = (select MAX(SAL) FROM EMP);

b)

1. SELECT \* FROM EMP WHERE SAL < (SELECT MIN(SAL) FROM EMP WHERE JOB LIKE 'MANAGER')

SELECT \* FROM EMP WHERE SAL < ANY (SELECT SAL FROM EMP WHERE JOB LIKE 'MANAGER') AND JOB not like 'MANAGER'

1. a) select ENAME FROM EMP WHERE SAL > (SELECT MIN(SAL) FROM EMP WHERE JOB LIKE 'ANALYST');

b) select ENAME FROM EMP WHERE SAL > ANY (SELECT SAL FROM EMP WHERE JOB LIKE 'ANALYST');

1. G
2. a) select DISTINCT DNAME FROM DEPT,EMP WHERE DEPT.DID <> ALL(select DID FROM EMP);

b) select \* FROM DEPT natural left join EMP WHERE EMP.DID IS NULL;

c) select \* FROM DEPT WHERE (select count(\*) from EMP WHERE DID= DEPT.DID) = 0;

d) select \* FROM DEPT WHERE not exists (select \* from EMP WHERE DID= DEPT.DID);

1. G
2. select DISTINCT ENAME FROM EMP WHERE EMP.EID IN (select DISTINCT EID FROM MISSION);

Aussi : select DISTINCT ENAME FROM EMP,MISSION WHERE EMP.EID = MISSION.EID;

select DISTINCT ENAME FROM EMP NATURAL JOIN MISSION;

1. SELECT distinct EMP.\* FROM EMP NATURAL JOIN MISSION WHERE MLOC IN (SELECT DLOC FROM EMP NATURAL JOIN DEPT)

BONUS : SELECT \* FROM EMP NATURAL JOIN MISSION NATURAL JOIN DEPT WHERE MLOC

1. Noona
2. a) SELECT distinct \* FROM EMP WHERE (SELECT count(distinct MLOC) FROM MISSION) = (select count(distinct MLOC) from mission where eid = EMP.eid)

b)

## 4/ Grouping

1. select eid, count(eid) from emp group by eid

select EID , count(\*) from MISSION GROUP BY EID;

1. select emp.ENAME, count(eid) from emp natural join mission group by eid, ename
2. select emp.ENAME, count(mid) from emp natural left outer join mission group by eid, ename
3. G
4. Noona
5. G
6. Noona
7. G
8. select DNAME,count(\*) FROM DEPT natural join EMP group by DID, DNAME having count(\*) >= 5 and min(SAL) > 900;
9. G