HW#3 solution

Given the following relational database schema:

Employee=(ID, name, position, officeN, phoneN,age)// **assume the** **name is unique**.

Committee =( title, meetingDate, startTime, endTime, location)// **You may use <,>,=,!= between dates and times.**

Membership= ( ID, title, task) // **task = ‘member ‘or ‘chair’.**

Use a minimum number of operations and tables to express the following queries by SQL statements:

1. List the name of every employee who is a member (not chair) of at least three committees.

SELECT E.name

FROM Employee E, Membership M

WHERE M.task='member'

AND E.ID = M.ID

GROUP BY E.name

HAVING COUNT(\*) >2;

2. 2. List the name of every employee who serving on every committee

SELECT E.name

FROM Employee E

WHERE NOT EXISTS ( SELECT C.title

                                       FROM Committee C

                                       WHERE C.title NOT IN ( SELECT M.title

                                                                             FROM Membership M

                                                                               WHERE M.ID = E.ID);

A another solution

SELECT E.Name

FROM EMPLOYEE E, MEMBERSHIP M

Where  E.ID= M.ID

Group By E.ID

Having Count(\*)= ( Select Count(\*)

                                From Committee  C);

3. 3. For every employee, list the ID, name and number of committees he/she is serving on as member or chair.

SELECT E.ID, E.name, COUNT(\*) AS numOfCommittees

FROM Employee E, Membership M

WHERE E.ID = M.ID

GROUP BY E.ID, E.name;

. 4. List the name of every employee who only serves ( as member) on committees that meets in location H345.

SELECT E.name

FROM Employee E, Membership M, Committee C

WHERE E.ID = M.ID

AND C.title = M.title

AND M.task = 'member'

AND C.location = 'H345'

AND E.ID NOT IN ( SELECT MM.ID

                                FROM Membership MM, Committee CC

                                WHERE MM.title = CC.title

                                AND (CC.location != 'H345'  OR MM.task ='chair'. );   It is also true without including Membership M and Committee C in the first part

5. List the name of every employee who does not have a phone number.

SELECT E.name

FROM Employee E

WHERE E.phone IS NULL;

6. List the ID and name of every employee who is not serving on any committee.

SELECT E.ID, E.name

FROM Employee E

WHERE E.ID NOT IN ( SELECT M.ID

                                      FROM Membership M);

7. List the title of every committee on which Sandy Liu or Barry Smith is serving.

SELECT M.title

FROM Employee E, Membership M

WHERE E.ID = M.ID

AND (E.name = 'Sandy Liu' OR E.name = 'Barry Smith');

8. List the name and position of oldest employees

SELECT E.name, E.position

FROM Employee E

WHERE E.age >= ALL ( SELECT EE.age  
                                        FROM Employee EE);

Solution by using max is also correct

9. List the titles of every two committees which do not meet on the same date.

SELECT C1.title, C2.title

FROM Committee C1, Committee C2

WHERE C1.meetingDate != C2.meetingDate;   better to use < or > so to eliminate duplicates

10. List the name and position of every employee who does have phone number.

SELECT E.name, E.position

FROM Employee E  
WHERE E.phone IS NOT NULL;