**CS4350 Database Systems HW#3**

**Name: Loc Nguyen**

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

JOIN Membership m ON e.ID = m.ID

WHERE m.task = ‘member’

GROUP BY e.name

HAVING COUNT(DISTINCT m.title) >= 3;

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 NOT EXISTS (

SELECT m.title

FROM Membership m

WHERE m.id = e.id AND m.title = c.title

)

);

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’**

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(DISTINCT m.title) AS num\_committees

FROM Employee e

JOIN Membership m ON 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

JOIN Membership m on e.ID = m.ID

JOIN Committee c on m.title = c.title

WHERE m.task = ‘member’

AND c.location = ‘H345’

AND NOT EXISTS (

SELECT 1

FROM Committee c2

WHERE c2.title = c.title

AND c2.location <> ‘H345’

);

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’**

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

SELECT e.name

FROM Employee e

WHERE phoneN IS NULL OR phoneN = ‘’;

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 DISTINCT ID FROM Membership);

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’**

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

SELECT DISTINCT m.title

FROM Membership m

JOIN Employee e ON m.ID = e.ID

WHERE e.name IN (‘Sandy Liu’, ‘Barry Smith’);

1. List the name and position of oldest employees.

SELECT name, position

FROM Employee

WHERE age = (SELECT MAX(age) FROM Employee);

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’**

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

SELECT DISTINCT c1.title, c2.title

FROM Committee c1, Committee c2

WHERE c1.title < c2.title AND c1.meetingDate <> c2.meetingDate;

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

SELECT name, position

FROM Employee e

WHERE phoneN IS NOT NULL and phoneN <> ‘’;