UNIVERSITY OF MASSACHUSETTS, LOWELL – COMP3090 – Database I

Final Project

Group 26: Phong Vo, Pitou Teng

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DOCTORS (**D\_ID**, D\_NAME, D\_GENDER, D\_AGE, D\_SPECIALIZATION, D\_YEARS\_OF\_EXPERIENCE, D\_CONTACT, D\_STREET, D\_CITY)

PATIENTS (**P\_ID**, P\_NAME, P\_GENDER, P\_AGE, P\_DISEASE, P\_CONTACT, P\_STREET, P\_CITY)

NURSES (**N\_ID**, N\_NAME, N\_SPECIALIZATION, N\_SHIFT, N\_STREET, N\_CITY)

P\_ASSIGNMENT (**P\_ID, D\_ID**)

N\_ASSISTS (**N\_ID, D\_ID**)

TESTS (**T\_ID**, T\_NAME, P\_ID, D\_ID, T\_DATE, T\_RESULT)

1. List all doctors' name whose contact number starts with "978".

select D\_NAME

from DOCTORS

where D\_CONTACT LIKE "978\*";

| **Query1** |
| --- |
| **D\_NAME** |
| MARY SMITH |
| PATRICIA JOHNSON |
| LINDA WILLIAMS |

1. List all the doctors who are consulted by a patient names "RICHARD MILLER".

select D\_NAME

from DOCTORS

where D\_ID in (select D\_ID

from P\_ASSIGNMENT

where P\_ID in (select P\_ID

from PATIENTS

where P\_NAME="RICHARD MILLER"));

| **Query2** |
| --- |
| **D\_NAME** |
| WILLIAM BROWN |
| PATRICIA JOHNSON |

1. List the nurse(s) who assist at least two doctors. (Your result should display nurse(s)'s name.)

select N\_NAME

from NURSES

where N\_ID in (select N\_ID from (select count(D\_ID) as NUM\_DOC, N\_ID

from N\_ASSISTS

group by N\_ID

having count(D\_ID) >= 2)

);

| **Query3** |
| --- |
| **N\_NAME** |
| SOLINDA WILLIAMS |
| JENNIFER DAVIS |
| MARIA MILLER |
| MARGARET MOORE |
| SANDRA MARTIN |
| CAROL GARCIA |
| SHARON ROBINSON |
| MICHELLE CLARK |

1. List the average years of experience of the doctors.

select avg(D\_YEARS\_OF\_EXPERIENCE)

from DOCTORS;

| **Query4** |
| --- |
| **AVG\_YEARS\_OF\_EXP** |
| 15.3 |

1. Find the patients who had assignments with every doctor with specialization "Neurology".   
   (Your result should display patient's name.).

select distinct P.P\_NAME

from PATIENTS P, P\_ASSIGNMENT A

where P.P\_ID = A.P\_ID and A.D\_ID in (select D\_ID

from DOCTORS

where D\_SPECIALIZATION = "NEUROLOGY");

**select p\_name from Patients p1 where not exists (select d\_id from doctors where d\_specialization = 'Neurology' and d\_id not in ( select d\_id from p\_assignment p2 where p2.p\_id = p1.p\_id));**

| **Query5** |
| --- |
| **p\_name** |
| CHARLES WILSON |

| **Query5** |
| --- |
| **P\_NAME** |
| CHARLES WILSON |
| DOROTHY TAYLOR |
| KAREN JACKSON |
| KIMBERLY LEE |
| MICHELLE CLARK |
| RONALD CLARK |
| SARAH LEWIS |

1. List the doctors and the number of nurses they have, display in the descending order of the number.

(Your result should display doctor's name and the number of their nurses.)

select D.D\_NAME, COUNT(A.N\_ID) AS NUM\_NURSES

from DOCTORS D, N\_ASSISTS A

where D.D\_ID = A.D\_ID

group by D.D\_ID, D.D\_NAME

order by count(A.N\_ID) desc;

| **Query6** | |
| --- | --- |
| **D\_NAME** | **NUM\_NURSES** |
| PATRICIA JOHNSON | 5 |
| ELIZABETH BROWN | 4 |
| WILLIAM BROWN | 3 |
| MICHAEL JONES | 3 |
| ROBERT WILLIAMS | 3 |
| JOHN JOHNSON | 3 |
| JAMES SMITH | 3 |
| BARBARA JONES | 2 |
| LINDA WILLIAMS | 2 |
| MARY SMITH | 2 |

1. Find the doctor whose patients have the most different type of diseases. (Your result should display the doctor's name.)

SELECT d\_name, count(disease) AS [count]

FROM (SELECT DISTINCT p.p\_disease as disease, d.d\_name as d\_name

FROM (SELECT d.d\_name, a.d\_id, p.p\_id, p.p\_disease

FROM P\_assignment a, Patients p, Doctors d

WHERE a.p\_id = p.p\_id AND d.d\_id = a.d\_id))

GROUP BY d\_name

HAVING COUNT(disease) >=ALL(SELECT count(disease)

FROM (SELECT DISTINCT p.p\_disease as disease, d.d\_name as d\_name

FROM (SELECT d.d\_name, a.d\_id, p.p\_id, p.p\_disease

FROM P\_assignment a, Patients p, Doctors d

WHERE a.p\_id = p.p\_id AND d.d\_id = a.d\_id))

GROUP BY d\_name);

| **Query7** | |
| --- | --- |
| **d\_name** | **count** |
| PATRICIA JOHNSON | 11 |

1. List the city where the most number of doctors and nurses live in. (Your result should display the city and the number.)

select CITY, count(id) as count

from

(select D\_ID as id, D\_CITY as city

from DOCTORS

union

select N\_ID, N\_CITY

from NURSES)

group by CITY

having count(ID) >= all (select count(ID) from (select D\_ID as id, D\_CITY as city

from DOCTORS

union

select N\_ID, N\_CITY

from NURSES)

group by CITY)

| **Query8** | |
| --- | --- |
| **city** | **count** |
| Lowell | 7 |

1. Increment years of experience of all the doctors by 1.

update DOCTORS

set D\_YEARS\_OF\_EXPERIENCE = D\_YEARS\_OF\_EXPERIENCE + 1;

1. Delete all the tests whose result is negative.

delete from TESTS

where T\_RESULT = “Negative”;