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CSC 134-01

Assignment#5

Query#1

a. Retrieve information about the projects (title, status and whether archived or not) that have an 'Optional' reviewer. (hint: Role is "optional")

b. SELECT P.TITLE,P.PROJECT_STATUS,P.ARCHIVED
FROM WORKS_ON AS W,PROJECT AS P
WHERE P.PROJECT_ID=W.PROJECT_ID AND W.INV_ROLE='optional';

```
+----------+----------------+----------+
| TITLE    | PROJECT_STATUS | ARCHIVED |
+----------+----------------+----------+
| Query 1  | OK             |        0 |
+----------+----------------+----------+
1 row in set (0.00 sec)
```

Query#2

a. Retrieve the information about the investigators (first name, last name and organization) who have done more than one project.

b. SELECT I.FIRST_NAME,I.LAST_NAME,I.ORGANIZATION
FROM INVESTIGATOR AS I, WORKS_ON AS W
WHERE I.SSN=W.SSN
GROUP BY W.SSN
HAVING COUNT(PROJECT_ID)>1;

```
+------------+------------+--------------+
| FIRST_NAME | LAST_NAME  | ORGANIZATION |
+------------+------------+--------------+
| Monty      | Python     | Holy Grail   |
| NULL       | NEIGEL     | NULL         |
+------------+------------+--------------+
2 rows in set (0.01 sec)
```

Query#3

a. Retrieve the information of reviewers (first name and last name), investigators (first name and last name) for the project "Air Quality".

b. SELECT R.FIRST_NAME,R.LAST_NAME,I.FIRST_NAME,I.LAST_NAME
   FROM REVIEWER AS R, INVESTIGATOR AS I, REVIEWS AS RS, WORKS_ON
   AS W, PROJECT AS P
   WHERE I.SSN=W.SSN AND R.SSN=RS.SSN AND
   RS.PROJECT_ID=W.PROJECT_ID AND P.TITLE='Air Quality';

```
+------------+------------+------------+---------------+
| FIRST_NAME | LAST_NAME  | FIRST_NAME | LAST_NAME     |
+------------+------------+------------+---------------+
| The        | Doctor     | Bucky      | Vampire Slayer |
+------------+------------+------------+---------------+
1 row in set (0.00 sec)
```

Query#4

a. Retrieve information about each project and the Investigator of the project. List project ID, title, and SSN and last name of the Investigator. Order the result in ascending order of Project ID.

b. SELECT W.PROJECT_ID,P.TITLE,I.SSN,I.last_NAME
   FROM WORKS_ON AS W,PROJECT AS P,INVESTIGATOR AS I
   WHERE I.SSN=W.SSN AND W.PROJECT_ID=P.PROJECT_ID
   ORDER BY PROJECT_ID;

```
+-------------+--------------+------------+----------------+
| PROJECT_ID  | TITLE        | SSN        | last_NAME      |
+-------------+--------------+------------+----------------+
|          2  | NULL         | 222222222  | Python         |
|          3  | Air Quality  | 333333333  | Vampire Slayer |
|          4  | NULL         | 222222222  | Python         |
|          5  | Query 5      | 555555555  | NULL           |
|          7  | Query 7      | 777777777  | Smith          |
|         10  | Query 1      | 111111111  | NULL           |
|         11  | Query 6      | 666666666  | NULL           |
|         13  | NULL         | 999999999  | NEIGEL         |
|         14  | NULL         | 999999999  | NEIGEL         |
|         15  | NULL         | 999999999  | NEIGEL         |
+-------------+--------------+------------+----------------+
10 rows in set (0.00 sec)
```

Query#5

a. Retrieve information about each project and the Principle Investigator of the project. List project ID, title, and SSN and first name of the Principle Investigator. (hint: the role of the investigator is "PI".)

b. SELECT P.PROJECT_ID,P.TITLE,I.SSN,I.FIRST_NAME
FROM PROJECT AS P, INVESTIGATOR AS I, WORKS_ON AS W
WHERE I.SSN=W.SSN AND W.PROJECT_ID=P.PROJECT_ID AND
W.INV_ROLE='PI';

```
+-------------+-----------+------------+------------+
| PROJECT_ID  | TITLE     | SSN        | FIRST_NAME |
+-------------+-----------+------------+------------+
|          5  | Query 5   | 555555555  | FIVE       |
|          7  | Query 7   | 777777777  | John       |
|         13  | NULL      | 999999999  | NULL       |
|         14  | NULL      | 999999999  | NULL       |
|         15  | NULL      | 999999999  | NULL       |
+-------------+-----------+------------+------------+
5 rows in set (0.00 sec)
```

Query#6

a. Get the project information (project id, title, status and whether archived or not) which has a 'Co-PI'. (hint: the role of the investigator is "Co-PI").

b. SELECT P.PROJECT_ID,P.TITLE,P.PROJECT_STATUS,P.ARCHIVED
FROM INVESTIGATOR AS I, WORKS_ON AS W, PROJECT AS P
WHERE I.SSN=W.SSN AND W.PROJECT_ID=P.PROJECT_ID AND
W.INV_ROLE='Co-PI';

```
+------------+----------+----------------+----------+
| PROJECT_ID | TITLE    | PROJECT_STATUS | ARCHIVED |
+------------+----------+----------------+----------+
|         11 | Query 6  | IN PROGRES     |        0 |
+------------+----------+----------------+----------+
1 row in set (0.00 sec)
```

Query#7

a. Retrieve all the projects (project id, title) in which "John Smith" serves as a principle investigator.

b. SELECT P.PROJECT_ID,P.TITLE,I.SSN,I.FIRST_NAME,I.LAST_NAME
FROM PROJECT AS P, INVESTIGATOR AS I, WORKS_ON AS W
WHERE I.SSN=W.SSN AND W.PROJECT_ID=P.PROJECT_ID AND
I.FIRST_NAME = 'John' AND I.LAST_NAME='Smith' AND W.INV_ROLE='PI';

```
+------------+----------+-----------+------------+-----------+
| PROJECT_ID | TITLE    | SSN       | FIRST_NAME | LAST_NAME |
+------------+----------+-----------+------------+-----------+
|          7 | Query 7  | 777777777 | John       | Smith     |
+------------+----------+-----------+------------+-----------+
1 row in set (0.00 sec)
```

Query#8

a. Retrieve the reviewers who reviewed more than 2 projects. Please list reviewer's SSN and number of projects reviewed by the reviewer.

b. SELECT R.SSN,COUNT(P.PROJECT_ID)

FROM REVIEWER AS R,REVIEWS AS RS, PROJECT AS P

WHERE R.SSN=RS.SSN AND RS.PROJECT_ID=P.PROJECT_ID

GROUP BY RS.SSN

HAVING COUNT(RS.PROJECT_ID) > 2;

```
+------------+---------------------+
| SSN        | COUNT(P.PROJECT_ID) |
+------------+---------------------+
| 888888888  |                   3 |
+------------+---------------------+
1 row in set (0.00 sec)
```

Query#9

a. Retrieve the investigators who serve as "PI" for at least 2 projects. Please list the SSN, last name, and number of projects served as "PI".

b. SELECT I.SSN,I.LAST_NAME, COUNT(W.PROJECT_ID)

FROM INVESTIGATOR AS I INNER JOIN WORKS_ON AS W ON I.SSN=W.SSN

WHERE W.INV_ROLE='PI'

GROUP BY I.SSN

HAVING COUNT(W.PROJECT_ID)>1;

```
+------------+-----------+---------------------+
| SSN        | LAST_NAME | COUNT(W.PROJECT_ID) |
+------------+-----------+---------------------+
| 999999999  | NEIGEL    |                   3 |
+------------+-----------+---------------------+
1 row in set (0.00 sec)
```

Query#10

a. Retrieved the SSN of all reviewers and all investigators who have "Smith" as the last name.

b. SELECT R.SSN,I.SSN

 FROM INVESTIGATOR AS I, REVIEWER AS R

 WHERE R.LAST_NAME='Smith' AND I.LAST_NAME='Smith';

```
+-----------+-----------+
| SSN       | SSN       |
+-----------+-----------+
| 101010101 | 777777777 |
+-----------+-----------+
1 row in set (0.00 sec)
```