Assignment

Instructions for Peer-graded assignment
15 min

Ungraded External Tool: Jupyter Notebook with Problems for Peer Reviewed Assignment
1h

Ungraded External Tool: (Optional) Hands-on Lab:Peer graded assignment based on SQLite
1h

Peer-graded Assignment: Submit Your Work and Review Your Peers
30 min

Review Your Peers: Submit Your Work and Review Your Peers

Final Exam

Course Wrap-up

Peer-graded Assignment: Submit Your Work and Review Your Peers

Reviews 2 complete

It looks like this is your first peer-graded assignment. Learn more

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You've finished your peer reviews
Well done! You sent 2 peers feedback that will help them. If you have time, please review one or two more. Every review you do helps another peer complete the course!

SQl functions

by Swati Goyal
December 26, 2022

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PROMPT

Problem 1: Find the total number of crimes recorded in the CRIME table.

Take a screenshot showing the SQL query and its results. Upload the JPEG (.jpg) file below for your peers to review.

```
[21]: # Rows in Crime table

      %sql SELECT COUNT(*) AS TOTAL_CRIMES \
            FROM CHICAGO_CRIME_DATA

       * ibm_db_sa://mqb36773:***@dashdb-txn-sbox-yp-lon02-04
      Done.
[21]: total_crimes
      533
```

RUBRIC

Did the learner find the total number of crimes recorded in the Crime table?

TIP: If the screenshot appears small and is hard to read try zooming in by pressing "Ctrl" and "+" keys together (Mac: "Command" and "+"), or Right-click on the image and "View Image" (Firefox) or "Open Image in new Tab" (Chrome).

- 0 pts
  Did not attempt the problem or response submitted is incorrect.
- 1 pt
  SQL query is partially correct; it includes COUNT().

  The result is incorrect.
- 2 pts
  SQL Query is correct; it includes COUNT().

  The correct result of 533 is shown.

PROMPT

Problem 2: List community areas with per capita income less than 11000.

Take a screenshot showing the SQL query and its results. Upload the JPEG (.jpg) file below for your peers to review.

```
%%sql
/*Problem 2: List community areas with per capita income less than 11000.*/
select COMMUNITY_AREA_NAME,PER_CAPITA_INCOME from CENSUS_DATA
where PER_CAPITA_INCOME < 11000;

 * ibm_db_sa://nhy87814:***@54e2f15b-5c0f-46df-8954-7e38e612c2bd.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud:32733/BLUDB
Done.
community area name  per capita income
West Garfield Park                10934
South Lawndale                    10402
Fuller Park                       10432
Riverdale                          8201

%%sql
```

RUBRIC

Did the learner list community areas with per capita income less than 11000?

- 0 pts
  Did not attempt the problem or response submitted is incorrect.
- 1 pt
  SQL Query is not completely correct but includes at least 1 of the following:

  1. SELECT clause
  2. WHERE clause with a **<** condition
- 2 pts
  SQL Query is correct; it includes a SELECT clause and a WHERE clause with **<** condition.

  and

  The result set has these 4 community names in any order:

  - West Garfield Park
  - South Lawndale
  - Fuller Park
  - Riverdale

PROMPT

Problem 3: List all case numbers for crimes involving minors?(children are not considered minors for the purposes of crime analysis)

Take a screenshot showing the SQL query and its results. Upload the JPEG (.jpg) file below for your peers to review.

```
%%sql
/*Problem 3: List all case numbers for crimes involving minors?*/
SELECT DISTINCT CASE_NUMBER from CHICAGO_CRIME_DATA
where DESCRIPTION like '%CHILD%'
```

```
 * ibm_db_sa://nhy87814:***@54a2f15b-5c0f-46df-8954-7e38e612c2bd.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud:32733/BLUDB
Done.
```

case_number
HK238408
HL266884

RUBRIC

Did the learner list all case numbers for crimes involving minors?

- 0 pts
  Did not attempt the problem or response submitted is incorrect.
- 1 pt
  The SQL query and the result are not completely correct, but the query includes at least one of the following:
  1. WHERE clause
  2. LIKE operator and wildcard value (%)
- 2 pts
  The SQL query and the result are correct. The SQL query includes:
  1. WHERE clause
  2. LIKE operator and wildcard value (%)

  and

  The result set has 2 rows of case numbers: HL266884 and HK238408.

PROMPT

Problem 4: List all kidnapping crimes involving a child?

Take a screenshot showing the SQL query and its results. Upload the JPEG (.jpg) file below for your peers to review.

```
%%sql
/*Problem 4: List all kidnapping crimes involving a child (children are not considered minors for the purposes of crime analysis)?*/
SELECT DISTINCT CASE_NUMBER, PRIMARY_TYPE, DESCRIPTION FROM CHICAGO_CRIME_DATA
WHERE PRIMARY_TYPE = 'KIDNAPPING'
```

```
 * ibm_db_sa://nhy87814:***@54a2f15b-5c0f-46df-8954-7e38e612c2bd.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud:32733/BLUDB
Done.
```

case_number	primary_type	description
HN144152	KIDNAPPING	CHILD ABDUCTION/STRANGER

RUBRIC

Did the learner list all kidnapping crimes involving a child?

- 0 pts
  Did not attempt the problem or response submitted is incorrect.
- 1 pt
  The SQL query and the result are not completely correct, but the query includes at least 2 of the following:
  1. WHERE clause
  2. AND operator in WHERE clause
  3. LIKE operator and wildcard value (%)
- 2 pts
  The SQL query and the result are correct. The query uses the following:
  1. WHERE clause
  2. AND operator in WHERE clause
  3. LIKE operator and wildcard value (%)

  and

  The result set includes at least the CASE_NUMBER column, and only one row, with the case number HN144152.

PROMPT

Problem 5: What kind of crimes were recorded at schools?

Take a screenshot showing the SQL query and its results. Upload the JPEG (.jpg) file below for your peers to review.

```
%%sql
/*Problem 5: What kind of crimes were recorded at schools?*/
SELECT DISTINCT(PRIMARY_TYPE) FROM CHICAGO_CRIME_DATA
WHERE LOCATION_DESCRIPTION LIKE '%SCHOOL%'
```

```
 * ibm_db_sa://nhy87814:***@54a2f15b-5c0f-46df-8954-7e38e612c2bd.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud:32733/BLUDB
Done.
```

primary_type
ASSAULT
BATTERY
CRIMINAL DAMAGE
CRIMINAL TRESPA
NARCOTICS
PUBLIC PEACE VI

RUBRIC

Does the learner list what kind of crimes were recorded at schools?

- 0 pts
  Did not attempt the problem or response submitted is incorrect.
- 1 pt
  The SQL query and the result are not completely correct, but the query includes at least 2 of the following:
  1. DISTINCT clause
  2. WHERE clause
  3. LIKE operator and wildcard value (%)
- 2 pts
  The SQL query and the result are correct. The query uses all of the following:
  1. DISTINCT clause
  2. WHERE clause
  3. LIKE operator and wildcard value (%)

and

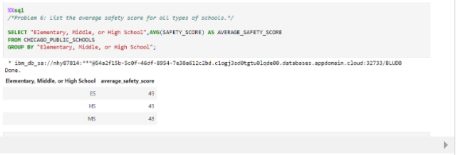
The result set includes only one row for each of the following:

- ASSAULT
- BATTERY
- CRIMINAL DAMAGE
- CRIMINAL TRESPASS
- NARCOTICS
- PUBLIC PEACE VIOLATION

PROMPT

Problem 6: List the average safety score for all types of schools.

Take a screenshot showing the SQL query and its results. Upload the JPEG (.jpg) file below for your peers to review.



```
%%sql
/*Problem 6: List the average safety score for all types of schools.*/

SELECT "Elementary, Middle, or High School",AVG(SAFETY_SCORE) AS AVERAGE_SAFETY_SCORE
FROM CHICAGO_PUBLIC_SCHOOLS
GROUP BY "Elementary, Middle, or High School";
```

```
 * ibm_db_sa:///nhy87814:***@54a2f15b-5c0f-46df-8954-7e38e612c2bd.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud:32733/BLUDB
Done.
```

Elementary, Middle, or High School	average_safety_score
ES	49
HS	49
MS	48

RUBRIC

Did the learner list the average safety score for all types of schools?

0 pts
Did not attempt the problem or response submitted is incorrect.

1 pt
The SQL query and the result are not completely correct, but the query includes at least 1 of the following:

1. AVG() function
2. GROUP BY

2 pts
The SQL query and the result are correct.

The query includes both of the following:

1. AVG() function
2. GROUP BY

and

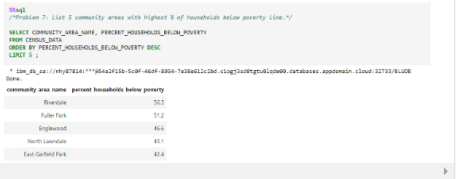
The result set has the 3 rows below:

- ES 49.520383
- HS 49.623529
- MS 48.000000

PROMPT

Problem 7: List 5 community areas with highest % of households below poverty line.

Take a screenshot showing the SQL query and its results. Upload the JPEG (.jpg) file below for your peers to review.



```
%%sql
/*Problem 7: List 5 community areas with highest % of households below poverty line.*/

SELECT COMMUNITY_AREA_NAME, PERCENT_HOUSEHOLDS_BELOW_POVERTY
FROM CENSUS_DATA
ORDER BY PERCENT_HOUSEHOLDS_BELOW_POVERTY DESC
LIMIT 5 ;
```

```
 * ibm_db_sa:///nhy87814:***@54a2f15b-5c0f-46df-8954-7e38e612c2bd.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud:32733/BLUDB
Done.
```

community_area_name	percent_households_below_poverty
Riverdale	56.5
Fuller Park	51.2
Englewood	46.6
North Lawndale	43.1
East Garfield Park	42.4

RUBRIC

Did the learner list 5 community areas with highest % of households below poverty line?

0 pts
Did not attempt the problem or response submitted is incorrect.

1 pt
The SQL query and the result are not completely correct, but the query includes **1** out of the following 3:

- ORDER BY
- ORDER BY uses DESC option
- LIMIT (or FETCH FIRST 5 ROWS)

2 pts
The SQL query and the result are not completely correct, but the query includes **2** out of the following 3:

- ORDER BY
- ORDER BY uses DESC option
- LIMIT (or FETCH FIRST 5 ROWS)

3 pts
The SQL query and the result are correct. The query includes all of the following:

- ORDER BY
- ORDER BY uses DESC option
- LIMIT (or FETCH FIRST 5 ROWS)

and

The result set includes the below 5 Community Areas in the following order:

1. Riverdale
2. Fuller Park
3. Englewood
4. North Lawndale
5. East Garfield Park

PROMPT

Problem 8: Which community area(number) is most crime prone?

Take a screenshot showing the SQL query and its results. Upload the JPEG (.jpg) file below for your peers to review.

```
%%sql
/**Problem 8: Which community area(number) is most crime prone?*/

SELECT CCD.COMMUNITY_AREA_NUMBER ,COUNT(CCD.COMMUNITY_AREA_NUMBER) AS FREQUENCY
FROM CHICAGO_CRIME_DATA AS CCD
GROUP BY CCD.COMMUNITY_AREA_NUMBER
ORDER BY COUNT(CCD.COMMUNITY_AREA_NUMBER) DESC
LIMIT 1;
```

```
 * ibm_db_sa://nhy87014:***@54a2f15b-5c0f-46df-8954-7e38e612c2bd.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud:32733/BLUDB
Done.
community_area_number  frequency
                   25         43
```

RUBRIC

Does the learner show which community area(number) is most crime
prone?

- 0 pts
  Did not attempt the problem or response submitted is incorrect.
- 1 pt
  The SQL query and the result are not completely correct but the query includes **2** of the following:
  - COUNT()
  - GROUP BY
  - ORDER BY clause with DESC option
  - LIMIT (or FETCH FIRST 1 ROWS)
- 2 pts
  The SQL query and the result are not completely correct but the query includes **3** of the following:
  - COUNT()
  - GROUP BY
  - ORDER BY clause with DESC option
  - LIMIT (or FETCH FIRST 1 ROWS)
- 3 pts
  The SQL query and the result are correct. The query includes all of the following:
  - COUNT()
  - GROUP BY
  - ORDER BY clause with DESC option
  - LIMIT (or FETCH FIRST 1 ROWS)

  and

  The result set includes a single row with the Community Area Number 25.

PROMPT

Problem 9: Use a sub-query to find the name of the community area with highest hardship index.

Take a screenshot showing the SQL query and its results. Upload the JPEG (.jpg) file below for your peers to review.

```
%%sql
/**Problem 9: Use a sub-query to find the name of the community area with highest hardship index.*/

SELECT COMMUNITY_AREA_NAME
FROM CENSUS_DATA
WHERE HARDSHIP_INDEX = (SELECT MAX(HARDSHIP_INDEX) FROM CENSUS_DATA);
```

```
 * ibm_db_sa://nhy87014:***@54a2f15b-5c0f-46df-8954-7e38e612c2bd.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud:32733/BLUDB
Done.
community_area_name
          Riverdale
```

RUBRIC

Use a sub-query to find the name of the community area with highest hardship index.

- 0 pts
  Did not attempt the problem or response submitted is incorrect.
- 1 pt
  The SQL query and the result are not completely correct, but the query includes 1 out of the following:
  - A main query containing the Community Area Name column in the select clause
  - A sub-query in the WHERE clause
  - A MAX() function in the sub-query
- 2 pts
  The SQL query and the result are not completely correct, but the query includes 2 out of the following:
  - A main query containing the Community Area Name column in the select clause
  - A sub-query in the WHERE clause
  - A MAX() function in the sub-query
- 3 pts
  The SQL query and the result are not completely correct, but the query includes all of the following:
  - A main query containing the Community Area Name

column in the select clause

- A sub-query in the WHERE clause
- A MAX() function in the sub-query

○ 4 pts
The SQL query and the result are correct. The SQL includes:

- A main query containing the Community Area Name column in the select clause
- A sub-query in the WHERE clause
- A MAX() function in the sub-query

and

The result set indicates the Community Area Name "Riverdale".

PROMPT

Problem 10: Use a sub-query to determine the Community Area Name with most number of crimes?

Take a screenshot showing the SQL query and its results. Upload the JPEG (.jpg) file below for your peers to review.

RUBRIC

Did the learner use a sub-query to determine the Community Area Name with most number of crimes?

○ 0 pts
Did not attempt the problem or response submitted is incorrect.

○ 1 pt
The result is not completely correct, but the SQL query includes **2** of the following:

- A main query containing the community area number column in the WHERE clause
- The query references both the CENSUS_DATA and CHICAGO_CRIME_DATA tables
- A sub-query in the WHERE clause
- A GROUP BY clause in the sub-query
- ORDER BY and DESC clauses in the sub-query
- LIMIT (or FETCH FIRST 1 ROWS)

○ 2 pts
The result is not completely correct, but the SQL query includes **3** or **4** of the following:

- A main query containing the community area number column in the WHERE clause
- The query references both the CENSUS_DATA and CHICAGO_CRIME_DATA tables
- A sub-query in the WHERE clause
- A GROUP BY clause in the sub-query
- ORDER BY and DESC clauses in the sub-query
- LIMIT (or FETCH FIRST 1 ROWS)

○ 3 pts
The result is not completely correct, but the SQL query includes **all** of the following:

- A main query containing the community area number column in the WHERE clause
- The query references both the CENSUS_DATA and CHICAGO_CRIME_DATA tables
- A sub-query in the WHERE clause
- A GROUP BY clause in the sub-query
- ORDER BY and DESC clauses in the sub-query
- LIMIT (or FETCH FIRST 1 ROWS)

○ 4 pts
The SQL query and the result are correct. The query includes all of the following:

- A main query containing the community area number column in the WHERE clause
- The query references both the CENSUS_DATA and CHICAGO_CRIME_DATA tables
- A sub-query in the WHERE clause
- A GROUP BY clause in the sub-query
- ORDER BY and DESC clauses in the sub-query
- LIMIT (or FETCH FIRST 1 ROWS)

and

The result set indicates the Community Area Name "Austin".

Submit Review

Comments

Comments left for the learner are visible only to that learner and the person who left the comment.

RR

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