

# Problem 1

Find the total number of crimes recorded in the CRIME table

```
[5]: # Rows in Crime table
%sql select count(PRIMARY_TYPE) from CHICAGO_CRIME_DATA;

* ibm_db_sa://bqr71850:***@dashdb-txn-sbox-yp-dal09-04.services.dal.ibmcloud.com:50000/BLUDB
Done.
```

```
[5]: 1
```

533

## Problem 2

Retrieve first 10 rows from the CRIME table

```
[13]: %sql select id, DATE, primary_type, community_area_number, LOCATION_DESCRIPTION, arrest \
      from CHICAGO_CRIME_DATA LIMIT 10;

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Done.
```

```
[13]:
```

	id	DATE	primary_type	community_area_number	location_description	arrest
	3512276	2004-08-28 17:50:56	THEFT	58	SMALL RETAIL STORE	FALSE
	3406613	2004-06-26 12:40:00	THEFT	23	OTHER	FALSE
	8002131	2011-04-04 05:45:00	THEFT	38	NURSING HOME/RETIREMENT HOME	FALSE
	7903289	2010-12-30 16:30:00	THEFT	46	RESIDENCE	FALSE
	10402076	2016-02-02 19:30:00	THEFT	66	ALLEY	FALSE
	7732712	2010-09-29 07:59:00	THEFT	24	PARKING LOT/GARAGE(NON.RESID.)	FALSE
	10769475	2016-11-30 01:15:00	THEFT	14	STREET	FALSE
	4494340	2005-12-16 16:45:00	THEFT	38	GROCERY FOOD STORE	TRUE
	3778925	2005-01-28 17:00:00	THEFT	72	STREET	FALSE
	3324217	2004-05-13 14:15:00	THEFT	21	SMALL RETAIL STORE	FALSE

## Problem 3

How many crimes involve an arrest?

```
[11]: %sql select count(arrest) as Total_Number_of_Arrests from CHICAGO_CRIME_DATA where arrest = TRUE;
```

```
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Done.
```

```
[11]: total_number_of_arrests
```

```
163
```

## Problem 4

Which unique types of crimes have been recorded at GAS STATION locations?

**Did you know?** IBM Watson Studio lets you build and deploy an AI solution, using the best of open source and IBM software and giving your team a single environment to work in. [Learn more here.](#)

```
[35]: %sql select DISTINCT(primary_type) from CHICAGO_CRIME_DATA\  
      where LOCATION_DESCRIPTION = 'GAS STATION';
```

```
* ibm_db_sa://bqr71850:***@dashdb-txn-sbox-yp-dal09-04.services.dal1.bluemix.net:50000/BLUDB  
Done.
```

```
[35]: primary_type
```

```
CRIMINAL TRESPASS
```

```
NARCOTICS
```

```
ROBBERY
```

```
THEFT
```

Hint: Which column lists types of crimes e.g. THEFT?

## Problem 5

In the CENUS\_DATA table list all Community Areas whose names start with the letter 'B'.

```
[43]: %sql select COMMUNITY_AREA_NUMBER, COMMUNITY_AREA_NAME from CHICAGO_SOCIOECONOMIC_INDICATORS \
      where COMMUNITY_AREA_NAME like 'B%'
```

```
* ibm_db_sa://bqr71850:***@dashdb-txn-sbox-yp-dal09-04.services.dal.ibmcloud.com:50000/BLUDB
Done.
```

```
[43]: community_area_number  community_area_name
```

19	Belmont Cragin
----	----------------

47	Burnside
----	----------

58	Brighton Park
----	---------------

60	Bridgeport
----	------------

72	Beverly
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## Problem 6

Which schools in Community Areas 10 to 15 are healthy school certified?

```
[53]: %sql select NAME_OF_SCHOOL, COMMUNITY_AREA_NUMBER, HEALTHY_SCHOOL_CERTIFIED from SCHOOLS \
      where COMMUNITY_AREA_NUMBER between 10 and 15 and UCASE(HEALTHY_SCHOOL_CERTIFIED) = 'YES';
```

```
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Done.
```

```
[53]:
```

name_of_school	community_area_number	healthy_school_certified
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Rufus M Hitch Elementary School	10	Yes
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## Problem 7

What is the average school Safety Score?

```
[54]: %sql select AVG(SAFETY_SCORE) as Average_School_Safety_School from SCHOOLS;
```

```
* ibm_db_sa://bqr71850:***@dashdb-txn-sbox-yp-dal09-04.services.dal.ibm.com:50000/BLUDB
Done.
```

```
[54]: average_school_safety_school
```

```
49.504873
```

## Problem 8

List the top 5 Community Areas by average College Enrollment [number of students]

```
[61]: %sql select COMMUNITY_AREA_NAME, ROUND(AVG(COLLEGE_ENROLLMENT)) as avg_college_enrollment from SCHOOLS \
group by COMMUNITY_AREA_NAME\
order by avg_college_enrollment desc LIMIT 5;
```

```
* ibm_db_sa://bqr71850:***@dashdb-txn-sbox-yp-dal09-04.services.dal1.bluemix.net:50000/BLUDB
Done.
```

```
[61]: community_area_name  avg_college_enrollment
```

ARCHER HEIGHTS	2412.000000
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MONTCLARE	1317.000000
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WEST ELSDON	1233.000000
-------------	-------------

BRIGHTON PARK	1206.000000
---------------	-------------

BELMONT CRAGIN	1199.000000
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## Problem 9

Use a sub-query to determine which Community Area has the least value for school Safety Score?

```
[63]: %sql select COMMUNITY_AREA_NAME, SAFETY_SCORE from SCHOOLS \
      where SAFETY_SCORE = (select MIN(SAFETY_SCORE) from SCHOOLS)
```

```
* ibm_db_sa://bqr71850:***@dashdb-txn-sbox-yp-dal09-04.services.dal.ibm.com:50000/BLUDB
Done.
```

```
[63]: community_area_name  safety_score
```

WASHINGTON PARK	1
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## Problem 10

[Without using an explicit JOIN operator] Find the Per Capita Income of the Community Area which has a school Safety Score of 1.

```
[68]: %sql select S.COMMUNITY_AREA_NAME, CSI.PER_CAPITA_INCOME, S.SAFETY_SCORE \
      from SCHOOLS as S, CHICAGO_SOCIOECONOMIC_INDICATORS as CSI\
      where S.COMMUNITY_AREA_NUMBER = CSI.COMMUNITY_AREA_NUMBER and S.SAFETY_SCORE = 1
```

```
* ibm_db_sa://bqr71850:***@dashdb-txn-sbox-yp-dal09-04.services.dal.ibmcloud.com:50000/BLUDB
Done.
```

```
[68]: community_area_name  per_capita_income  safety_score
```

WASHINGTON PARK	13785	1
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