

Problem 1

Find the total number of crimes recorded in the CRIME table

```
# Rows in Crime table
%sql select count(*) as num_crimes from CHICAGO_CRIME_DATA

* ibm_db_sa://rqj61390:***@dashdb-txn-sbox-yp-dal09-03.services.dal.ibm.net:50000/BLUDB
Done.
```

num\_crimes

533

Problem 2

Retrieve first 10 rows from the CRIME table

%sql select * from CHICAGO_CRIME_DATA limit 10																		
* ibm_db_sa:///rqj61390:***@dashdb-txn-sbox-yp-dal09-03.services.dal.ibm.com:50000/BLUDB																		
Done.																		
Column_0	id	case_number	DATE	block	iucr	primary_type	description	location_description	arrest	domestic	beat	district	ward	community_area_number	fbicode	x_coordinate	y_c	
0	3512276	HK587712	2004-08-28 05:50:56	047XX S KEDZIE AVE	890	THEFT	FROM BUILDING	SMALL RETAIL STORE	False	False	911	9	14.0	58.0	6	1155838.0		
1	3406613	HK456306	2004-06-26 12:40:00	009XX N CENTRAL PARK AVE	820	THEFT	\$500 AND UNDER	OTHER	False	False	1112	11	27.0	23.0	6	1152206.0		
2	8002131	HT233595	2011-04-04 05:45:00	043XX S WABASH AVE	820	THEFT	\$500 AND UNDER	NURSING HOME/RETIREMENT HOME	False	False	221	2	3.0	38.0	6	1177436.0		
3	7903289	HT133522	2010-12-30	083XX S KINGSTON	840	THEFT	FINANCIAL ID THEFT:	RESIDENCE	False	False	423	4	7.0	46.0	6	1194622.0		

### Problem 3

How many crimes involve an arrest?

```
%sql select count(*) from CHICAGO_CRIME_DATA where arrest='True'
```

```
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Done.
```

1

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#### Problem 4

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

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```
%sql select distinct(primary_type) from CHICAGO_CRIME_DATA where location_description='GAS STATION' \
and primary_type not in \
(select distinct(primary_type) from CHICAGO_CRIME_DATA where location_description != 'GAS STATION')
```

```
* ibm_db_sa://rqj61390:***@dashdb-txn-sbox-yp-dal09-03.services.dal.ibm.net:50000/BLUDB
Done.
```

primary\_type

Problem 5

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

```
%sql select * from CENSUS_DATA where community_area_name like 'B%'
* ibm_db_sa://rqj61390:***@dashdb-txn-sbox-yp-dal09-03.services.dal.ibmcloud.com:50000/BLUDB
Done.
```

community_area_number	community_area_name	percent_of_housing_crowded	percent_households_below_poverty	percent_aged_16_unemployed	percent_aged_25_without_high_school_diploma	percent_aged_und
19	Belmont Cragin	10.8	18.7	14.6	37.3	
47	Burnside	6.8	33.0	18.6	19.3	
58	Brighton Park	14.4	23.6	13.9	45.1	
60	Bridgeport	4.5	18.9	13.7	22.2	
72	Beverly	0.9	5.1	8.0	3.7	

Problem 6

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

```
%sql select name_of_school from CHICAGO_PUBLIC_SCHOOLS where community_area_number >= 10 and community_area_number <=15 and healthy_school_certified = 'Yes'
* ibm_db_sa://rqj61390:***@dashdb-txn-sbox-yp-dal09-03.services.dal.ibmcloud.com:50000/BLUDB
Done.
```

name_of_school
Rufus M Hitch Elementary School

Problem 7

What is the average school Safety Score?

```
%sql select avg(safety_score) as avg_safety_score from CHICAGO_PUBLIC_SCHOOLS
* ibm_db_sa://rqj61390:***@dashdb-txn-sbox-yp-dal09-03.services.dal.ibmcloud.com:50000/BLUDB
Done.
avg_safety_score
49.504873
```

Problem 8

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

```
%sql select community_area_number as c_num, avg(college_enrollment) as avg_enroll \
      from CHICAGO_PUBLIC_SCHOOLS group by community_area_number \
      order by avg_enroll desc limit 5
```

\* ibm\_db\_sa://rqj61390:\*\*\*@dashdb-txn-sbox-yp-dal09-03.services.dal.ibmcloud.com:50000/BLUDB
Done.

c_num	avg_enroll
57	2411.500000
18	1317.000000
62	1233.333333
58	1205.875000
19	1198.833333



Problem 9

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

```
%sql select community_area_number as c_num,community_area_name as c_name from CHICAGO_PUBLIC_SCHOOLS \
where safety_score = (select min(safety_score) from CHICAGO_PUBLIC_SCHOOLS)
```

\* ibm\_db\_sa://rqj61390:\*\*\*@dashdb-txn-sbox-yp-dal09-03.services.dal.ibm.net:50000/BLUDB
Done.

c_num	c_name
40	WASHINGTON PARK

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.

```
# query in multi-table, we could use a sub-query instead of using an explicit JOIN operator
%sql select per_capita_income from CENSUS_DATA \
  where community_area_number =(select community_area_number from CHICAGO_PUBLIC_SCHOOLS where safety_score = 1)

* ibm_db_sa://rqj61390:***@dashdb-txn-sbox-yp-dal09-03.services.dal.ibmcloud.net:50000/BLUDB
Done.
per_capita_income
13785
```