

SQL ASSIGNMENT

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The screenshot shows a SQL query editor with the title "Total Population". The query is as follows:

```
1 --What is the total population according to the census data 2020?  
2 SELECT SUM(total_pop)  
3 AS TotalPopulation  
4 FROM `bigquery-public-data.census_bureau.acs.censustract_2020_5yr`  
5 LIMIT 1000
```

The query has been executed successfully, as indicated by the "Query completed." status. The results are displayed in a table with one row:

Row	TotalPopulation
1	329824950.0

The screenshot shows a SQL query editor with the title "Unemployment Rate". The query is as follows:

```
1 --To find the percentage of the unemployed population.  
2 SELECT AVG(unemployed_pop) * 100 / SUM(pop_in_labor_force)  
3 AS UnemploymentRate  
4 FROM `bigquery-public-data.census_bureau.acs.censustract_2020_5yr`  
5 LIMIT 1000
```

The query has been executed successfully, as indicated by the "Query completed." status. The results are displayed in a table with one row:

Row	UnemploymentRate
1	6.343556951971...

Hispanic population less than 50 RUN SAVE QUERY SHARE SCHEDULE MORE Query completed.

```
1 --What are the geographical locations (by geo_id) where the hispanic population is less than or equal to 50.
2 SELECT geo_id, hispanic_pop
3 FROM `bigquery-public-data.census_bureau.acs.censustract_2020_5yr`
4 WHERE hispanic_pop <= 50
5 LIMIT 1000
```

Press Alt+F1 for Accessibility Options.

Query results SAVE RESULTS EXPLORE DATA

JOB INFORMATION RESULTS CHART PREVIEW JSON EXECUTION DETAILS EXECUTION GRAPH

Row	geo_id	hispanic_pop
1	1001020200	30.0
2	1001020400	17.0
3	1001020503	0.0
4	1001021000	33.0
5	1001021100	39.0
6	1003010500	26.0
7	1003010704	50.0
8	1003010903	37.0

Results per page: 50 1 – 50 of 1000

Per Capita Income and Non-U...ion RUN SAVE QUERY SHARE SCHEDULE MORE This query will process 2.35 M

```
1 --To find the geographical areas (geo_id), where the per capita income is less than 2000 and the non-US citizen population is less than 1000.
2 SELECT geo_id, not_us_citizen_pop, income_per_capita
3 FROM `bigquery-public-data.census_bureau.acs.censustract_2020_5yr`
4 WHERE income_per_capita < 2000 AND not_us_citizen_pop < 1000
5 LIMIT 1000
```

Press Alt+F1 for Accessibility Options.

Query results SAVE RESULTS EXPLORE DATA

JOB INFORMATION RESULTS CHART PREVIEW JSON EXECUTION DETAILS EXECUTION GRAPH

Row	geo_id	not_us_citizen_pop	income_per_capita
1	17031843500	442.0	1629.0
2	37183051102	111.0	831.0
3	6025010101	408.0	1455.0
4	4021000807	398.0	1949.0
5	6059980000	5.0	1694.0
6	9003417300	72.0	1733.0
7	12095016515	119.0	343.0
8	17087980000	124.0	27.0

Results per page: 50 1 – 50 of 857

Vacant Housing (Rent 20-30%) RUN SAVE QUERY SHARE SCHEDULE MORE Query completed.

```
1 --How many housing units are vacant for rent with a gross rent between 20% and 30% of income?
2 SELECT SUM(vacant_housing_units_for_rent) AS VacantUnits20to30PercentRent
3 FROM `bigquery-public-data.census_bureau.acs.censustract_2020_5yr`
4 WHERE rent_20_to_25_percent + rent_25_to_30_percent > 0
5 LIMIT 1000
```

Press Alt+F1 for Accessibility Options.

Query results SAVE RESULTS EXPLORE DATA

JOB INFORMATION RESULTS CHART PREVIEW JSON EXECUTION DETAILS EXECUTION GRAPH

Row	VacantUnits20to30P
1	2676273.0

Per Capita Income and N... ion × *Hispanic population less t...50 × Total Population × Bachelors' Degree, Poverty... ate

Bachelors' Degree, Poverty Rate

[RUN](#) [SAVE QUERY](#) [SHARE](#) [SCHEDULE](#) [MORE](#) Query completed.

```
1 --What is the average percentage of the population with at least a bachelor's degree and the average poverty rate for each geographical area?
2 SELECT geo_id, AVG(bachelors_degree) AS AvgBachelorDegree, AVG(poverty) AS AvgPovertyRate
3 FROM `bigquery-public-data.census_bureau_acs.censustract_2020_5yr`
4 GROUP BY geo_id
5 LIMIT 1000
```

Press Alt+F1 for Accessibility Options

Query results

[SAVE RESULTS](#) [EXPLORE DATA](#)

JOB INFORMATION		RESULTS	CHART	PREVIEW	JSON	EXECUTION DETAILS	EXECUTION GRAPH
Row	geo_id	AvgBachelorDegree	AvgPovertyRate				
1	1001020200	169.0	257.0				
2	1001020300	228.0	533.0				
3	1001020400	633.0	281.0				
4	1001020503	638.0	319.0				
5	1001020600	290.0	831.0				
6	1001020804	918.0	340.0				
7	1001021000	230.0	768.0				

Female Pop Education

[RUN](#) [SAVE QUERY](#) [SHARE](#) [SCHEDULE](#) [MORE](#) Query completed.

```
1 --What is the distribution of the female population across different levels of educational attainment in each geographical area?
2 SELECT geo_id,
3 AVG(female_pop) AS AvgFemalePopulation,
4 AVG(high_school_diploma) AS AvgFemaleHighSchool,
5 AVG(bachelors_degree) AS AvgFemaleBachelors,
6 AVG(graduate_professional_degree) AS AvgFemaleGraduate
7 FROM `bigquery-public-data.census_bureau_acs.censustract_2020_5yr`
8 GROUP BY geo_id
9 LIMIT 1000
```

Press Alt+F1 for Accessibility Options

Query results

[SAVE RESULTS](#) [EXPLORE DATA](#)

JOB INFORMATION		RESULTS	CHART	PREVIEW	JSON	EXECUTION DETAILS	EXECUTION GRAPH
Row	geo_id	AvgFemalePopulation	AvgFemaleHighSchool	AvgFemaleBachelors	AvgFemaleGraduate		
1	1001020200	747.0	464.0	169.0	39.0		
2	1001020300	1855.0	686.0	228.0	172.0		
3	1001020400	1745.0	578.0	633.0	456.0		
4	1001020503	1656.0	345.0	638.0	460.0		
5	1001020600	1945.0	617.0	290.0	226.0		

Results per page: 50 1 - 50 of 1000

Change in Pop Dist (2019,2020)

[RUN](#) [SAVE QUERY](#) [SHARE](#) [SCHEDULE](#) [MORE](#) Query completed.

```
1 --Compare the changes in the population distribution by race (Asian, Black, White) between 2019 and 2020
2 SELECT a.geo_id,
3 a.asian_pop AS asian_pop_2019,
4 b.asian_pop AS asian_pop_2020,
5 a.black_pop AS black_pop_2019,
6 b.black_pop AS black_pop_2020,
7 a.white_pop AS white_pop_2019,
8 b.white_pop AS white_pop_2020
9 FROM `bigquery-public-data.census_bureau_acs.censustract_2019_5yr` a
10 LEFT JOIN `bigquery-public-data.census_bureau_acs.censustract_2020_5yr` b ON a.geo_id = b.geo_id
```

Press Alt+F1 for Accessibility Options

Query results

[SAVE RESULTS](#) [EXPLORE DATA](#)

JOB INFORMATION		RESULTS	CHART	PREVIEW	JSON	EXECUTION DETAILS	EXECUTION GRAPH	
Row	geo_id	asian_pop_2019	asian_pop_2020	black_pop_2019	black_pop_2020	white_pop_2019	white_pop_2020	
1	1001020100	2.0	41.0	152.0	235.0	1659.0	1504.0	
2	1001020300	32.0	44.0	857.0	1042.0	2285.0	2363.0	
3	1003010704	63.0	43.0	2051.0	756.0	4287.0	5125.0	
4	1003010800	173.0	252.0	1431.0	2106.0	4990.0	5025.0	
5	1003011201	396.0	365.0	380.0	2.0	4313.0	3960.0	

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Compare-Families v/s PCI (2...20) RUN SAVE QUERY SHARE SCHEDULE MORE Query completed.

```

1 --Find the change in the average number of families with young children and the average income per capita from 2019 to 2020.
2 SELECT a.geo_id,
3 AVG(a.families_with_young_children) AS avg_families_with_young_children_2019,
4 AVG(b.families_with_young_children) AS avg_families_with_young_children_2020,
5 AVG(a.income_per_capita) AS avg_income_per_capita_2019,
6 AVG(b.income_per_capita) AS avg_income_per_capita_2020
7 FROM `bigquery-public-data.census_bureau_acs.censustract_2019_5yr` a
8 LEFT JOIN `bigquery-public-data.census_bureau_acs.censustract_2020_5yr` b ON a.geo_id = b.geo_id
9 GROUP BY a.geo_id
10 LIMIT 1000

```

Press Alt+F1 for Accessibility Options.

Query results SAVE RESULTS EXPLORE DATA

Row	geo_id	avg_families_with_young_children_2019	avg_families_with_young_children_2020	avg_income_per_capita_2019	avg_income_per_capita_2020
1	1001020100	133.0	100.0	31225.0	30447.0
2	1001020200	93.0	99.0	20785.0	22772.0
3	1001020300	164.0	171.0	24548.0	25291.0
4	1001020400	197.0	136.0	32474.0	47056.0
5	1001020500	608.0	null	39086.0	null

Results per page: 50 1 - 50 of 1000

Change in Total Pop (2019,2020) RUN SAVE QUERY SHARE SCHEDULE MORE Query completed.

```

1 --To compare the change in the total population between 2019 and 2020 for each geographical area.
2 SELECT a.geo_id,
3 a.total_pop AS total_population_2019,
4 b.total_pop AS total_population_2020
5 FROM `bigquery-public-data.census_bureau_acs.censustract_2019_5yr` a
6 JOIN `bigquery-public-data.census_bureau_acs.censustract_2020_5yr` b
7 ON a.geo_id = b.geo_id

```

Press Alt+F1 for Accessibility Options.

Query results SAVE RESULTS EXPLORE DATA

Row	geo_id	total_population_2019	total_population_2020
1	1001020100	1993.0	1941.0
2	1001020200	1959.0	1757.0
3	1001020300	3507.0	3694.0
4	1001020400	3878.0	3539.0
5	1001020600	3668.0	3536.0
6	1001020700	3586.0	3562.0
7	1001020801	3196.0	3073.0

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Link to the Queries

- <https://console.cloud.google.com/bigquery?sq=53850793836:be04aee09da84452b4fa73755a3b5b3d>
- <https://console.cloud.google.com/bigquery?sq=53850793836:71e0a12cfd7f4b7b8581665d86c359c3>
- <https://console.cloud.google.com/bigquery?sq=53850793836:a23112bbd0e84796b4803c441242a689>
- <https://console.cloud.google.com/bigquery?sq=53850793836:830d92bd3f664f2da255c21c72b12f62>
- <https://console.cloud.google.com/bigquery?sq=53850793836:15ab2baa5de54a7896c2e8e0bce5460e>
- <https://console.cloud.google.com/bigquery?sq=53850793836:5f1f209ff2f2460fb6904350f039ac64>

7. <https://console.cloud.google.com/bigquery?sq=53850793836:876c0ffb5da745269907a12167b0cdf3>
8. <https://console.cloud.google.com/bigquery?sq=53850793836:0269cf3df27c4fe09c282e4c75562028>
9. <https://console.cloud.google.com/bigquery?sq=53850793836:4d6c1e6dee5841fc899b6360cf463cd2>
10. <https://console.cloud.google.com/bigquery?sq=53850793836:b0add19d44704b6fbe205e8053335aaa>