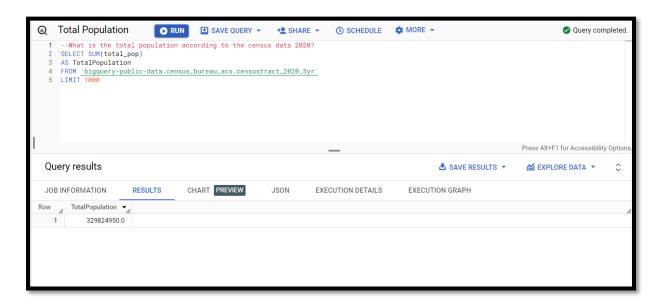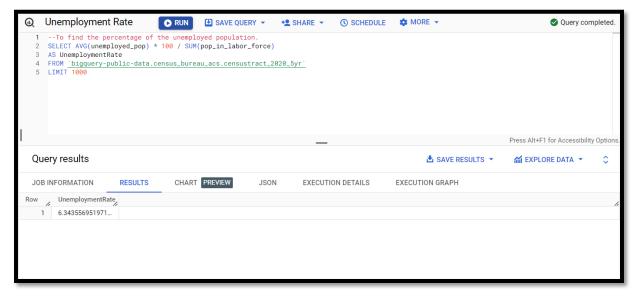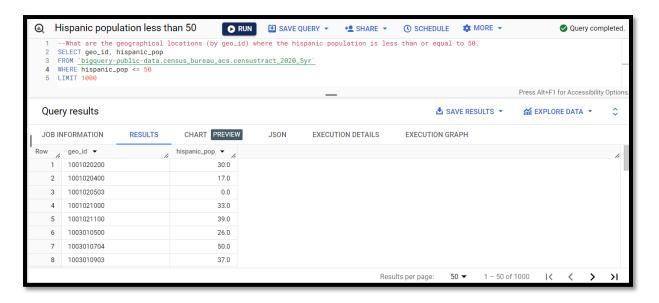# SQL ASSIGNMENT

Brijit Sara Joseph (2337015)

Christ University Bangalore

Date of Submission- 5th February 2024

Total Population ▶ RUN | 💾 SAVE QUERY ▾ | +👤 SHARE ▾ | 🕐 SCHEDULE | ⚙ MORE ▾ | ✅ Query completed.

```
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
```

Press Alt+F1 for Accessibility Options.

Query results   📥 SAVE RESULTS ▾   📈 EXPLORE DATA ▾   ↕

| JOB INFORMATION | RESULTS | CHART PREVIEW | JSON | EXECUTION DETAILS | EXECUTION GRAPH |

Row	TotalPopulation ▾
1	329824950.0

Unemployment Rate ▶ RUN | 💾 SAVE QUERY ▾ | +👤 SHARE ▾ | 🕐 SCHEDULE | ⚙ MORE ▾ | ✅ Query completed.

```
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
```

Press Alt+F1 for Accessibility Options.

Query results   📥 SAVE RESULTS ▾   📈 EXPLORE DATA ▾   ↕

| JOB INFORMATION | RESULTS | CHART PREVIEW | JSON | EXECUTION DETAILS | EXECUTION GRAPH |

Row	UnemploymentRate
1	6.343556951971…

Hispanic population less than 50

RUN · SAVE QUERY · SHARE · SCHEDULE · MORE — Query completed.

```sql
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...

```sql
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.

```sql
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

Bachelors' Degree, Poverty Rate

▶ RUN   💾 SAVE QUERY ▾   👥 SHARE ▾   🕐 SCHEDULE   ⚙ MORE ▾   ✅ Query completed.

```sql
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.

```sql
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 ▾	AvgFemalePopulatio	AvgFemaleHighScho	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.

```sql
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

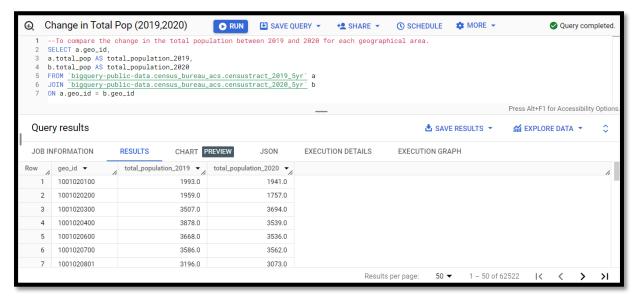| Row	geo_id ▾	asian_pop_2019 ▾	asian_pop_2020 ▾	black_pop_2019 ▾	black_pop_2020 ▾	white_pop_2019 ▾	white_pop_2020 ▾
1	1001020100	2.0	41.0	152.0	235.0	1659.0	1504.0
2	1001020300	32.0	44.0	857.0	1042.0	2285.0	2363.0
3	1003010704	63.0	43.0	2051.0	756.0	4287.0	5125.0
4	1003010800	173.0	252.0	1431.0	2106.0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

Results per page: 50 ▾   1 – 50 of 74001 |< ‹ › >|

Link to the Queries

1. https://console.cloud.google.com/bigquery?sq=53850793836:be04aee09da84452b4fa73755a3b5b3d
2. https://console.cloud.google.com/bigquery?sq=53850793836:71e0a12cfd7f4b7b8581665d86c359c3
3. https://console.cloud.google.com/bigquery?sq=53850793836:a23112bbd0e84796b4803c441242a689
4. https://console.cloud.google.com/bigquery?sq=53850793836:830d92bd3f664f2da255c21c72b12f62
5. https://console.cloud.google.com/bigquery?sq=53850793836:15ab2baa5de54a7896c2e8e0bce5460e
6. 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