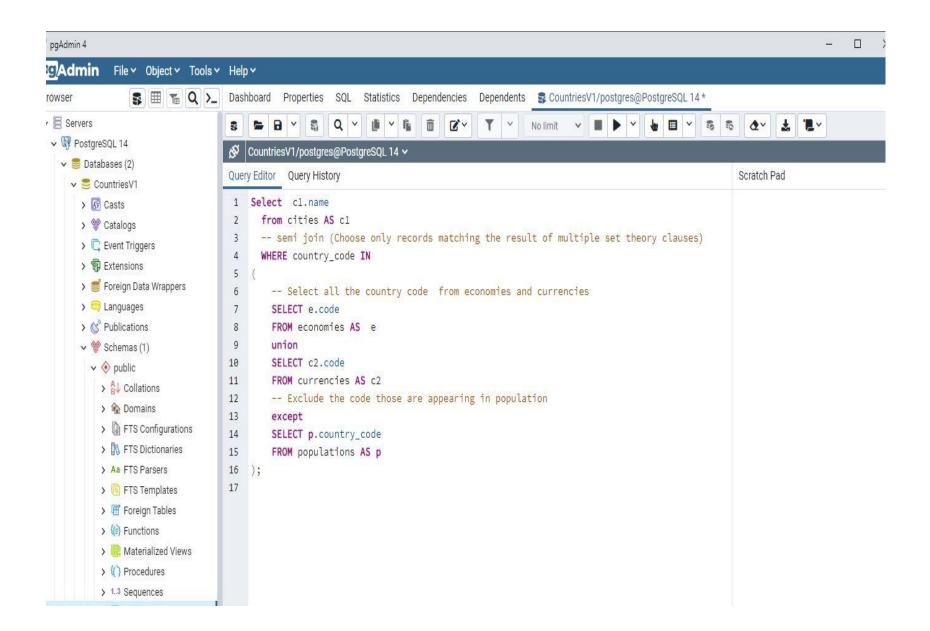
Analysis of Countries Database Using SQL

In this project I have analyzed countries' database data. I have completed four project goals here. Database Dump File Link - https://github.com/ikramulS/Analysis-of-Countries-Database-Using-SQL-.git

1. Project Goal 1

Identify the cities from those countries that they are included in either economies or currencies but not in populations.

SQL Query



Output -



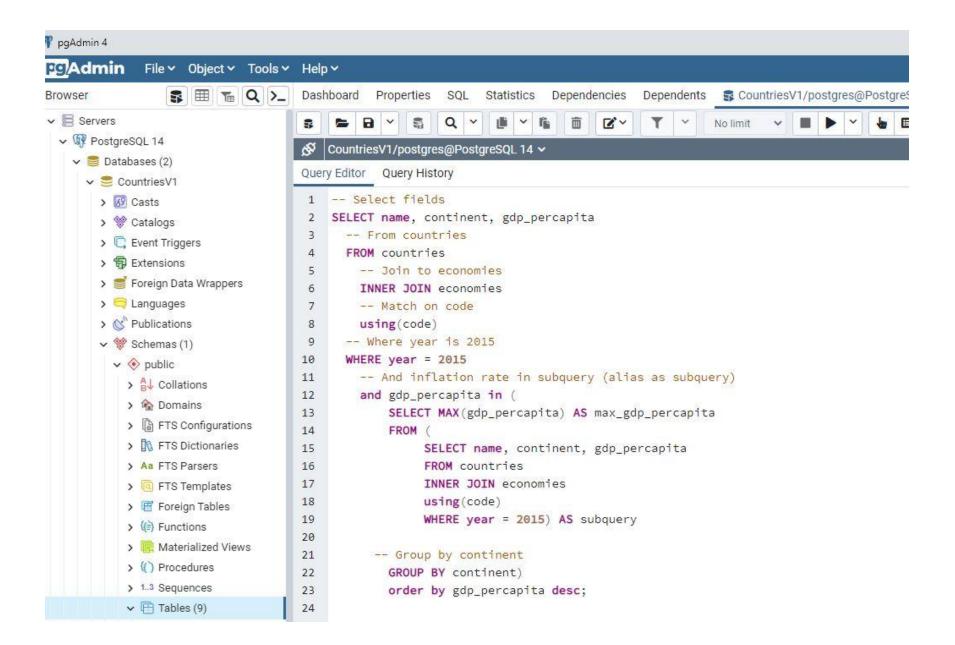
These six cities are not recorded in the 'Population' table.

2. Project Goal 2

Identify which country had the max of gdp_percapita, and how high it was, using multiple subqueries., for each of the six continents listed in 2015.

SQL Query

```
SELECT name, continent, gdp percapita
  FROM countries
         INNER JOIN economies -- Join to economies
         using(code) -- Match on code
   WHERE year = 2015 -- Where year is 2015
   and gdp percapita in (
        SELECT MAX(gdp percapita) AS max gdp percapita
       FROM (
            SELECT name, continent, gdp percapita
            FROM countries
            INNER JOIN economies
            using(code)
            WHERE year = 2015) AS subquery -- And inflation rate in subquery
(alias as subquery)
       GROUP BY continent) -- Group by continent
         order by gdp percapita desc;
```



Output-

4	name character varying	continent character varying	gdp_percapita real
1	Luxembourg	Europe	100950.49
2	Macao	Asia	70214.9
3	United States	North America	56174.94
4	Australia	Oceania	51363.9
5	Equatorial Guinea	Africa	17286.92
6	Uruguay	South America	15317.58

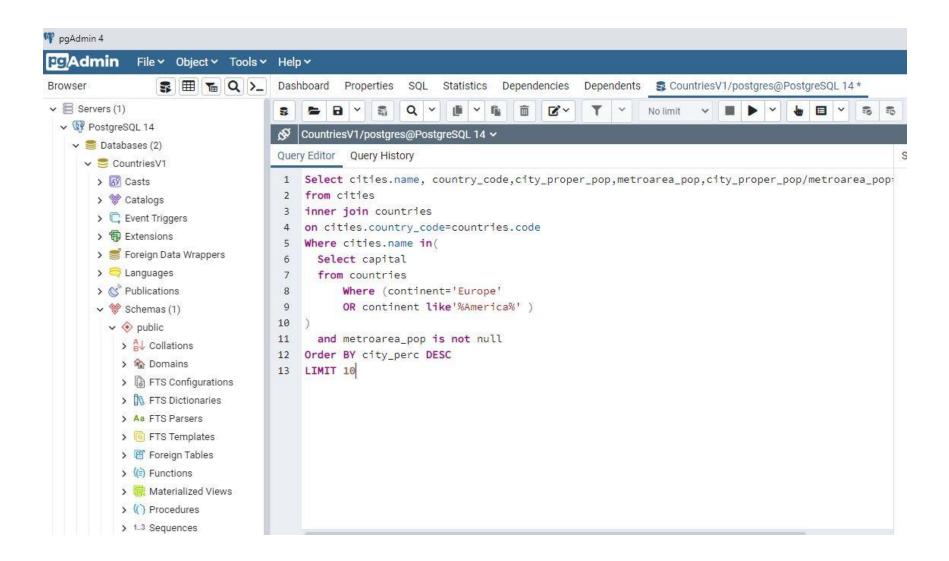
Luxembourg has the highest gdp_percapita in the year of 2015 in Europe. In Asia it is Macao.

3. Project Goal 3

Determining the top 10 capital cities in Europe and the Americas in terms of a calculated percentage using city_proper_pop and metroarea_pop in cities.

SQL Query -

```
Select cities.name,
country_code,city_proper_pop,metroarea_pop,city_proper_pop/metroarea_pop*100 as
city_perc
from cities
inner join countries
on cities.country_code=countries.code
Where cities.name in(
    Select capital
    from countries
        Where (continent='Europe'
        OR continent like'%America%')
)
    and metroarea_pop is not null
Order BY city_perc DESC
LIMIT 10
```



Output-

4	name [PK] character varying	country_code character varying	city_proper_pop real	metroarea_pop real	city_perc double precision
1	Lima	PER	8.852e+06	1.075e+07	82.34418630599976
2	Bogota	COL	7.878783e+06	9.8e+06	80.3957462310791
3	Moscow	RUS	1.2197596e+07	1.617e+07	75.43349266052246
4	Vienna	AUT	1.863881e+06	2.6e+06	71.6877281665802
5	Montevideo	URY	1.305082e+06	1.947604e+06	67.00961589813232
6	Caracas	VEN	1.943901e+06	2.923959e+06	66.48181676864624
7	Rome	ITA	2.877215e+06	4.353775e+06	66.0855233669281
8	Brasilia	BRA	2.556149e+06	3.919864e+06	65.2101457118988
9	London	GBR	8.673713e+06	1.3879757e+07	62.491822242736816
10	Budapest	HUN	1.759407e+06	2.927944e+06	60.09018421173096

4. Project Goal 4

Calculate the average fertility rate for each region in 2015.

SQL Query -

Using SubQuery

```
select region, continent, avg (fertility rate) as avg fert rate
from countries
inner join populations
on countries.code=populations.country code and code in
(Select country code
from populations
where year='2015')
Group by region, continent
order by avg fert rate
-Using Join
/*SELECT region, continent, avg(fertility_rate) AS avg_fert_rate
  FROM countries AS c
    INNER JOIN populations AS p
      ON c.code = p.country code
  WHERE year = 2015
GROUP BY region, continent
ORDER BY avg fert rate; */
```

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Query Editor Query History

```
1 select region, continent, avg(fertility_rate) as avg_fert_rate
2 from countries
3 inner join populations
4 on countries.code=populations.country_code and code in
5 (Select country_code
6 from populations
7 where year='2015')
8 Group by region, continent
9 order by avg_fert_rate
10 /*SELECT region, continent, avg(fertility_rate) AS avg_fert_rate
      FROM countries AS c
11
        INNER JOIN populations AS p
12
          ON c.code = p.country_code
13
    WHERE year = 2015
14
15 GROUP BY region, continent
   ORDER BY avg_fert_rate; */
17
18
```

Output-

)ata	Output Explain Mes	sages Notificatio	ons
4	region character varying	continent character varying	avg_fert_rate double precision
1	Southern Europe	Europe	1.4261000037193299
2	Eastern Europe	Europe	1.490888900227017
3	Baltic Countries	Europe	1.603333314259847
4	Eastern Asia	Asia	1.6207143068313599
5	Western Europe	Europe	1.6325000077486038
6	North America	North America	1.7657500207424164
7	British Islands	Europe	1.875
8	Nordic Countries	Europe	1.8933333555857341
9	Australia and New Zealand	Oceania	1.9114999771118164

Australia and New Zealand region has the highest average fertility rate in 2015 whereas in Eastern Europe the average fertility rate is the lowest in 2015.