**CASE STUDY 10**

TABLE: tutorial.city\_populations

1. Write a query to return all the records where the city population is more than average population of dataset.
2. **SELECT \* FROM tutorial.city\_populations WHERE population\_estimate\_2012 > (SELECT AVG(population\_estimate\_2012) FROM tutorial.city\_populations) ;**
3. Write a query to return all the records where the city population is more than the most populated city of Texas(TX) state.
4. **SELECT \* FROM tutorial.city\_populations WHERE population\_estimate\_2012 > (SELECT population\_estimate\_2012 FROM tutorial.city\_populations WHERE state = 'TX' ORDER BY 1 DESC LIMIT 1) ;**
5. Find the number of cities where population is more than the average population of Illinois(IL) state.
6. **SELECT COUNT(city) FROM tutorial.city\_populations WHERE population\_estimate\_2012 > (SELECT AVG(population\_estimate\_2012) FROM tutorial.city\_populations WHERE state = 'IL') ;**
7. Write a query to add the additional column - percentage\_population(city population/total population of dataset).
8. **SELECT city, (SUM(population\_estimate\_2012)/(SELECT SUM(population\_estimate\_2012) FROM tutorial.city\_populations))\*100 AS percentage\_population FROM tutorial.city\_populations GROUP BY city;**
9. Write a query to add the additional column - percentage\_population\_state(city population/total population of the state).
10. **WITH CTE AS (SELECT \*, SUM(population\_estimate\_2012) OVER (PARTITION BY state) AS total\_state\_population FROM tutorial.city\_populations)**

**SELECT \*, (population\_estimate\_2012/total\_state\_population)\*100 AS total\_state\_population FROM CTE**

1. Write a query to add the additional column - population density. The column logic is:

● Population more than average - High

● Population less than or equal to average – Low

**A**. **WITH CTE AS**

**(SELECT AVG(population\_estimate\_2012) AS avg\_population FROM tutorial.city\_populations)**

**SELECT \*, CASE WHEN population\_estimate\_2012 > (SELECT avg\_population FROM CTE) THEN 'High' WHEN population\_estimate\_2012 <= (SELECT avg\_population FROM CTE) THEN 'Low' END AS population\_density FROM tutorial.city\_populations;**