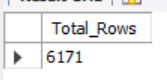
**Motor\_Vehicle\_SQL\_Queries**

* **SQL Based Question**

1. **Total Number of rows in Vehicle data**

* **select Count(\*) from vehicle\_data;**

****

1. **Find the count of null values or 0 values per columns**

* **Select**

**sum (case when year = 0 then 1 else 0 end) null\_year,**

**sum (case when state = 0 then 1 else 0 end) null\_state,**

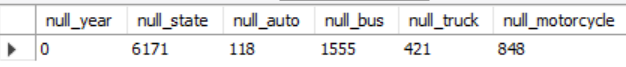
**sum (case when auto = 0 then 1 else 0 end) null\_auto,**

**sum (case when bus = 0 then 1 else 0 end) null\_bus,**

**sum (case when truck = 0 then 1 else 0 end ) null\_truck,**

**sum (case when motorcycle = 0 then 1 else 0 end) null\_motorcycle**

**from vehicle\_data;**

****

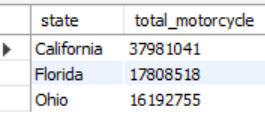
1. **Top 3 States with Highest Motorcycle Registrations(Identifies the states where motorcycles are most popular.)**

* **select state ,sum(motorcycle) as total\_motorcycle from vehicle\_data**

**group by state**

**order by total\_motorcycle desc**

**limit 3;**

****

1. **Average Registrations Per Year for Each Vehicle Type**

* **SELECT ROUND(AVG(Auto), 2) AS Avg\_auto,**

**Round(Avg(bus),2) as Avg\_bus,**

**Round(Avg (truck) ,2) as Avg\_truck,**

**Round(Avg (motorcycle) , 2) as Avg\_motorcycle**

**FROM vehicle\_data;**

****

1. **Last 5 Year of Percentage of Each Vehicle Type Per Year**

* **SELECT year,**

**Round(SUM(Auto) \* 100.0 / SUM(Auto + Bus + Truck + Motorcycle), 2) AS auto\_percentage,**

**Round(SUM(Bus) \* 100.0 / SUM(Auto + Bus + Truck + Motorcycle),2) AS bus\_percentage,**

**Round( SUM(Truck) \* 100.0 / SUM(Auto + Bus + Truck + Motorcycle),2) AS truck\_percentage,**

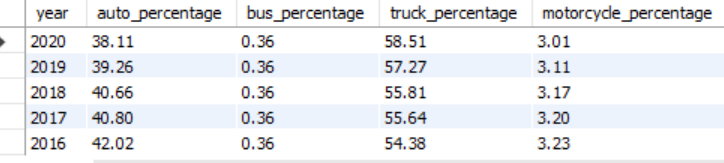
**Round (SUM(Motorcycle) \* 100.0 / SUM(Auto + Bus + Truck + Motorcycle), 2) AS motorcycle\_percentage**

**FROM vehicle\_data**

**group by year**

**order by year desc**

**limit 5 ;**

****

1. **Top 3 State with the Most Consistent Yearly Growth in Registrations**

* **select state,**

**count(\*) as Growth\_year,**

**(max(year) - min(year) ) +1 as total\_year**

**from vehicle\_data**

**group by state**

**order by growth\_year desc**

**limit 3;**

****

1. **Top 5 States with the Highest Vehicle Registrations in the Latest Year**

* **SELECT state ,**

**sum(auto + bus + truck + Motorcycle) as Total\_vehicles**

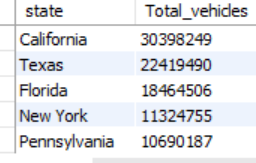
**from vehicle\_data**

**where year = ( select max(year) from vehicle\_data)**

**group by state**

**order by Total\_vehicles desc**

**limit 5;**

****

1. **Total Vehicle Registrations Per Year**

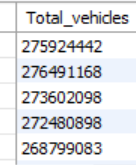
* **Select**

**sum(auto + bus + truck + Motorcycle) as Total\_vehicles**

**from vehicle\_data**

**group by year**

**order by year;**

****

1. **Last 10 year Vehicle Registrations by State & Year (Pivot Format)**

* **select state,**

**sum(case when year = 2020 then auto + bus + truck + Motorcycle end) as "2020" ,**

**sum(case when year = 2019 then auto + bus + truck + Motorcycle end) as '2019' ,**

**sum(case when year = 2018 then auto + bus + truck + Motorcycle end) as '2018' ,**

**sum(case when year = 2017 then auto + bus + truck + Motorcycle end) as '2017' ,**

**sum(case when year = 2016 then auto + bus + truck + Motorcycle end) as '2016' ,**

**sum(case when year = 2015 then auto + bus + truck + Motorcycle end) as '2015' ,**

**sum(case when year = 2014 then auto + bus + truck + Motorcycle end) as '2014' ,**

**sum(case when year = 2013 then auto + bus + truck + Motorcycle end) as '2013' ,**

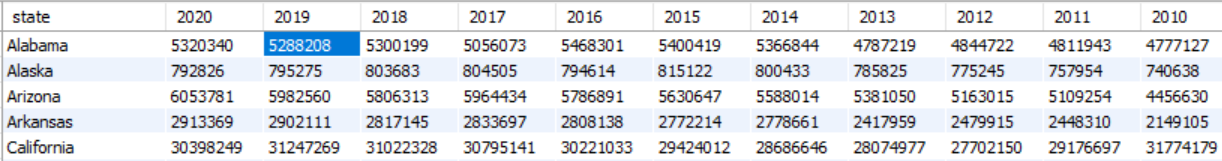
**sum(case when year = 2012 then auto + bus + truck + Motorcycle end) as '2012' ,**

**sum(case when year = 2011 then auto + bus + truck + Motorcycle end) as '2011' ,**

**sum(case when year = 2010 then auto + bus + truck + Motorcycle end) as '2010'**

**from vehicle\_data**

**group by state;**

****

**10.** **Year-over-Year Percentage Growth**

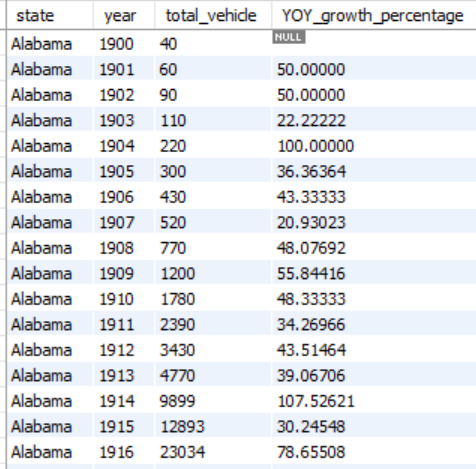
* **select state, year , sum(auto + bus + truck + Motorcycle) as total\_vehicle,**

**(sum (auto + bus + truck + Motorcycle)- lag(sum(auto + bus + truck + Motorcycle))over (partition by state order by year)) \* 100.0 /**

**lag (sum(auto + bus + truck + Motorcycle))over (partition by state order by year) as YOY\_growth\_percentage**

**from vehicle\_data**

**group by state, year;**

****

1. **Find Most Commonly Registered Vehicle Type**

* **SELECT year,**

**case**

**when sum(auto) = greatest(sum(auto), sum(truck) , sum(bus),sum(motorcycle)) then 'auto'**

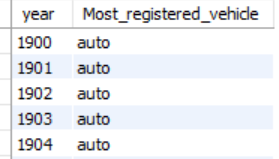
**when sum(bus) = greatest(sum(auto), sum(truck) , sum(bus),sum(motorcycle)) then 'bus'**

**when sum(truck) = greatest(sum(auto), sum(truck) , sum(bus),sum(motorcycle)) then 'truck'**

**else 'Motorcycle’ end as Most\_registered\_vehicle**

**FROM vehicle\_data**

**GROUP BY year;**

****