Preliminary Research Questions:

1. List the top 3 and bottom 3 makers for the fiscal years 2023 and 2024 in terms of the number of 2-wheelers sold

**Top 3 Maker**

**with cte as(select maker,vehicle\_category,sum(electric\_vehicles\_sold) as Total\_vehicle\_sold**

**from electric\_vehicle\_sales\_by\_makers**

**where vehicle\_category="2-Wheelers"**

**group by maker),**

**FI as**

**(select fiscal\_year from dim\_date where fiscal\_year="2023" and "2024")**

**select fiscal\_year,vehicle\_category,Total\_vehicle\_sold,maker from cte,FI**

**group by fiscal\_year ,vehicle\_category,maker**

**order by Total\_vehicle\_sold**

**limit 3;**

**with cte as(select maker,vehicle\_category,sum(electric\_vehicles\_sold) as Total\_vehicle\_sold**

**from electric\_vehicle\_sales\_by\_makers**

**where vehicle\_category="2-Wheelers"**

**group by maker),**

**FI as**

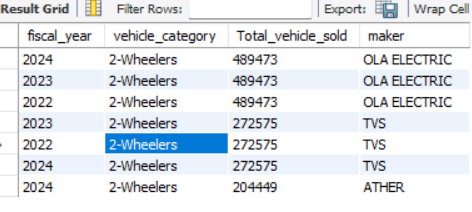
**(select 2023 from dim\_date where fiscal\_year="2023" and "2024")**

**select fiscal\_year,vehicle\_category,Total\_vehicle\_sold,maker from cte,FI**

**group by fiscal\_year ,vehicle\_category,maker**

**order by Total\_vehicle\_sold desc**

**limit 3;**



**Bottom 3 Maker:**

**with cte as(select maker,vehicle\_category,sum(electric\_vehicles\_sold) as Total\_vehicle\_sold**

**from electric\_vehicle\_sales\_by\_makers**

**where vehicle\_category="2-Wheelers"**

**group by maker),**

**FI as**

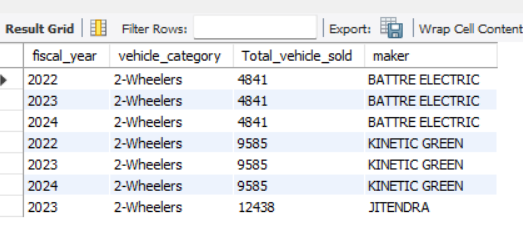
**(select fiscal\_year from dim\_date where fiscal\_year="2023" or "2024")**

**select fiscal\_year,vehicle\_category,Total\_vehicle\_sold,maker from cte,FI**

**group by fiscal\_year ,vehicle\_category,maker**

**order by Total\_vehicle\_sold**

**limit 7;**

****

1. **Identify the top 5 states with the highest penetration rate in 2-wheeler and 4-wheeler EV sales in FY 2024.**

**with cte as**

**(select vehicle\_category,state,round(sum(electric\_vehicles\_sold/total\_vehicles\_sold)\*100,2)**

**as Penetration\_Rate from electric\_vehicle\_sales\_by\_state**

**group by vehicle\_category,state),**

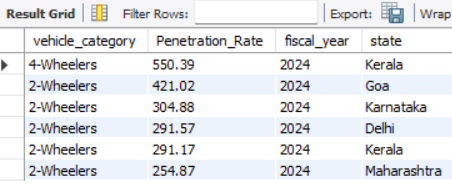
**my\_Ca as (select \* from dim\_date fiscal\_year where fiscal\_year=2024)**

**select vehicle\_category,Penetration\_Rate,fiscal\_year,state from cte ,my\_Ca**

**group by vehicle\_category, Penetration\_Rate,fiscal\_year,state**

**order by Penetration\_Rate desc**

**limit 6;**

****

1. **List the states with negative penetration (decline) in EV sales from 2022 to 2024**

**with cte as**

**(select vehicle\_category,state,round(sum(electric\_vehicles\_sold/total\_vehicles\_sold)\*100,2) as Penetration\_Rate**

**from electric\_vehicle\_sales\_by\_state**

**group by vehicle\_category,state),**

**my\_Ca as (select \* from dim\_date fiscal\_year )**

**select vehicle\_category,Penetration\_Rate,fiscal\_year,state from cte ,my\_Ca**

**group by vehicle\_category, Penetration\_Rate,fiscal\_year,state**

**order by Penetration\_Rate**

**limit 10;**

**4. What are the quarterly trends based on sales volume for the top 5 EV makers (4-wheelers) from 2022 to 2024**

**with cte as(select maker,vehicle\_category,sum(electric\_vehicles\_sold) as Total\_vehicle\_sold**

**from electric\_vehicle\_sales\_by\_makers**

**where vehicle\_category="4-Wheelers"**

**group by maker),**

**FI as**

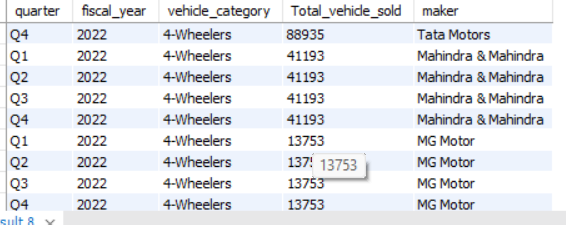
**(select quarter,fiscal\_year from dim\_date where fiscal\_year="2023" and "2024")**

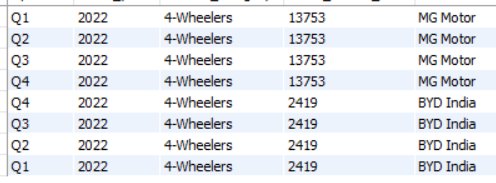
**select quarter,fiscal\_year,vehicle\_category,Total\_vehicle\_sold,maker from cte,FI**

**group by fiscal\_year ,vehicle\_category,maker,quarter**

**order by Total\_vehicle\_sold**

**limit 16;**

****

****

1. **How do the EV sales and penetration rates in Delhi compare to Karnataka for 2024?**

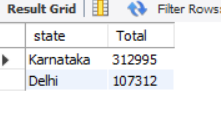
**select state,sum(electric\_vehicles\_sold) as Total from electric\_vehicle\_sales\_by\_state**

**where state="Delhi"**

**or state="Karnataka"**

**group by state**

**order by Total desc;**

****

**8. What are the peak and low season months for EV sales based on the data from 2022 to 2024**

**Peak month:**

Select vehicle\_category,EXTRACT(MONTH from ï»¿Record\_Date) as peak\_month,ï»¿Record\_Date,sum(electric\_vehicles\_sold) as Total\_vehicle\_Sold

from electric\_vehicle\_sales\_by\_state

group by vehicle\_category,ï»¿Record\_Date

order by Total\_vehicle\_Sold desc

limit 1;



**low season:**

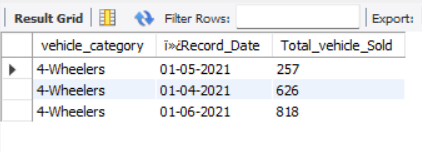
**select vehicle\_category,EXTRACT(MONTH from ï»¿Record\_Date) as peak\_month,ï»¿Record\_Date,sum(electric\_vehicles\_sold) as Total\_vehicle\_Sold**

**from electric\_vehicle\_sales\_by\_state**

**group by vehicle\_category,ï»¿Record\_Date**

**order by Total\_vehicle\_Sold**

**limit 3;**

****

**10. Estimate the revenue growth rate of 4-wheeler and 2-wheelers EVs in India for 2022 vs 2024 and 2023 vs 2024, assuming an average unit price.**

**Total Vehicle Sold:**

**with revenue\_changes as**

**(select fiscal\_year,vehicle\_category,sum(total\_vehicles\_sold) as Total\_revenue,**

**lag(sum(total\_vehicles\_sold)) over(partition by fiscal\_year order by vehicle\_category ) as Previous\_revenue**

**from electric\_vehicle\_sales\_by\_state join dim\_date on electric\_vehicle\_sales\_by\_state.ï»¿Record\_Date=dim\_date.ï»¿Record\_Date**

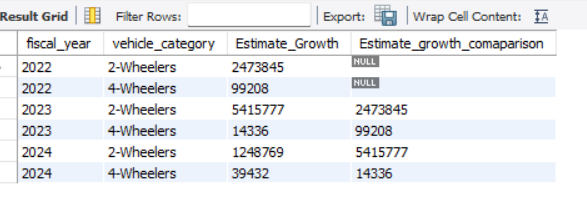
**group by vehicle\_category,state,fiscal\_year)**

**Select fiscal\_year,vehicle\_category,round(sum(((Total\_revenue-Previous\_revenue)/Previous\_revenue))\*100,0)As Estimate\_Growth ,**

**lag (round(sum(((Total\_revenue-Previous\_revenue)/Previous\_revenue))\*100,0),2)over(order by fiscal\_year ) as Estimate\_growth\_comaparison**

**from revenue\_changes**

**group by fiscal\_year,vehicle\_category**

****

**Electrical Vehicle sold:**

**with revenue\_changes as**

**(select fiscal\_year,vehicle\_category,sum(total\_vehicles\_sold) as Total\_revenue,**

**lag(sum(total\_vehicles\_sold)) over(partition by fiscal\_year order by vehicle\_category ) as Previous\_revenue**

**from electric\_vehicle\_sales\_by\_state join dim\_date on electric\_vehicle\_sales\_by\_state.ï»¿Record\_Date=dim\_date.ï»¿Record\_Date**

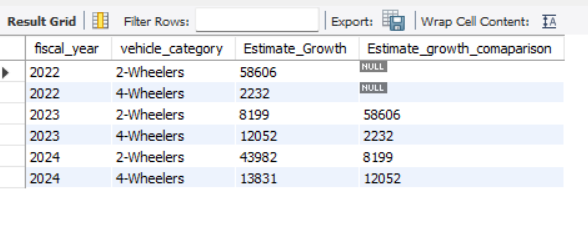
**group by vehicle\_category,state,fiscal\_year)**

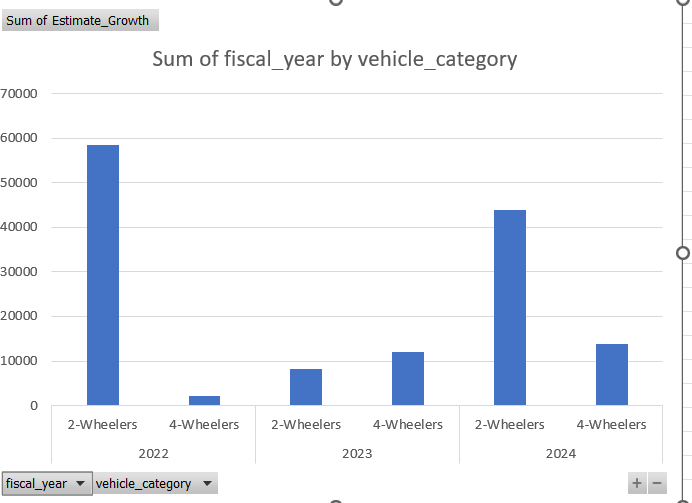
**Select fiscal\_year,vehicle\_category,round(sum(((Total\_revenue-Previous\_revenue)/Previous\_revenue))\*100,0)As Estimate\_Growth ,**

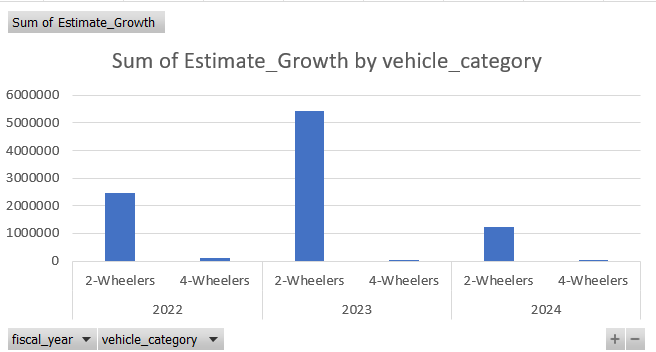
**lag (round(sum(((Total\_revenue-Previous\_revenue)/Previous\_revenue))\*100,0),2)over(order by fiscal\_year ) as Estimate\_growth\_comaparison**

**from revenue\_changes**

**group by fiscal\_year,vehicle\_category**

****

****

****