**Background**: Our company is a car dealership that sells various car models. To effectively track and analyse our sales performance, we need a comprehensive Car Sales Dashboard in Power BI.

**Objective**: The objective of this project is to design and develop a dynamic and interactive Car Sales Dashboard using Power BI. The dashboard will visualize critical KPIs related to our car sales, helping us understand our sales performance over time and make data-driven decisions.

**Problem Statement 1: KPI’s Requirement**

The dashboard should provide real-time insights into key performance indicators (KPIs) related to our sales data. This will enable us to make informed decisions, monitor our progress, and identify trends and opportunities for growth.

1. **Sales** **Overview**:
   * Year-to-Date (YTD) Total Sales
   * Month-to-Date (MTD) Total Sales
   * Year-over-Year (YOY) Growth in Total Sales
   * Difference between YTD Sales and Previous Year-to-Date (PTYD) Sales
2. **Average Price Analysis:**
   * YTD Average Price
   * MTD Average Price
   * YOY Growth in Average Price
   * Difference between YTD Average Price and PTYD Average Price
3. **Cars Sold Metrics:**
   * YTD Cars Sold
   * MTD Cars Sold
   * YOY Growth in Cars Sold
   * Difference between YTD Cars Sold and PTYD Cars Sold

**Problem Statement 2: Charts Requirement**

1. **YTD Sales Weekly Trend:** Display a line chart illustrating the weekly trend of YTD sales. The X-axis should represent weeks, and the Y-axis should show the total sales amount.
2. **YTD Total Sales by Body Style:** Visualize the distribution of YTD total sales across different car body styles using a Pie chart.
3. **YTD Total Sales by Color:** Present the contribution of various car colors to the YTD total sales through a pie chart.
4. **YTD Cars Sold by Dealer Region:** Showcase the YTD sales data based on different dealer regions using a map chart to visualize the sales distribution geographically.
5. **Company-Wise Sales Trend in Grid Form:** Provide a tabular grid that displays the sales trend for each company. The grid should showcase the company name along with their YTD sales figures.
6. **Details Grid Showing All Car Sales Information:** Create a detailed grid that presents all relevant information for each car sale, including car model, body style, colour, sales amount, dealer region, date, etc

**Dax Formulas**

**Callender Table Functions:**

**Calender\_Table** = CALENDAR(MIN(car\_data[Date]),(MAX(car\_data[Date])))

**Year** = YEAR(Calender\_Table[Date])

**Month** = FORMAT(Calender\_Table[Date],"MMMM")

**Week** = WEEKNUM(Calender\_Table[Date])

**WeekDay** = FORMAT(Calender\_Table[Date],"dddd")

**Problem Statement 1: KPI’s Requirement**

1. **Sales** **Overview**:

**YTD Total Sales:**

YTD Total Sales = TOTALYTD(SUM(car\_data[Price ($)]),Calender\_Table[Date])

**PYTD Total Sales:**

PYTD Total Sales = CALCULATE(SUM(car\_data[Price ($)]), SAMEPERIODLASTYEAR(Calender\_Table[Date]))

**Sales Difference:**

Sales Difference = [YTD Total Sales]-[PYTD Total Sales]

**Sales Difference Colour:**

Sales Difference Colour = IF([Sales Difference]>0,"Green","Red")

**YOY Sales Growth:**

YOY Sales Growth = [Sales Difference] / [PYTD Total Sales]

**MTD Total Sales:**

MTD Total Sales = TOTALMTD(SUM(car\_data[Price ($)]),Calender\_Table[Date])

**MTD KPI:**

MTD KPI = CONCATENATE("MTD Total Sales: ",FORMAT([MTD Total Sales]/100000,"$0.00M"))

1. **Average Price Analysis:**

**Avg Price:**

Avg Price = SUM(car\_data[Price ($)])/COUNT(car\_data[Car\_id])

**YTD Avg Price:**

YTD Avg Price = TOTALYTD([Avg Price],Calender\_Table[Date])

**PYTD Avg Price:**

PYTD Avg Price = CALCULATE([Avg Price],SAMEPERIODLASTYEAR(Calender\_Table[Date]))

**Avg Price Diffrence:**

Avg Price Diffrence = [YTD Avg Price]-[PYTD Avg Price]

**YOY Avg Prce Growth:**

YOY Avg Prce Growth= [Avg Price Diffrence]/[PYTD Avg Price]

**MTD Avg Price:**

MTD Avg Price = TOTALMTD([YTD Avg Price],Calender\_Table[Date])

**MTD Avg Price KPI:**

MTD Avg Price KPI = CONCATENATE("MTD Avg Price: ",FORMAT([MTD Avg Price]/1000,"$0.00K"))

1. **Cars Sold Metrics:**

**YTD Car Sold:**

YTD Car Sold = TOTALYTD(COUNT(car\_data[Car\_id]),Calender\_Table[Date])

**PYTD Cars Sold:**

PYTD Cars Sold = CALCULATE(COUNT(car\_data[Car\_id]),SAMEPERIODLASTYEAR(Calender\_Table[Date]))

**Car Sold Diff:**

Car Sold Diff = [YTD Car Sold]-[PYTD Cars Sold]

**YOY Car Sold Growth:**

YOY Car Sold Growth = car\_data[Car Sold Diff]/[YTD Car Sold]

**MTD Car Sold:**

MTD Car Sold = TOTALMTD(COUNT(car\_data[Car\_id]),Calender\_Table[Date])

**MTD Car Sold KPI:**

MTD Car Sold KPI = CONCATENATE("MTD Car Sold: ",FORMAT([MTD Car Sold]/1000,"$0.00K"))

**For Max Point Shown in Aria Chart:**

**Total Sales:**

Total Sales = SUM(car\_data[Price ($)])

**Max Point:**

Max Point = If(MAXX(ALLSELECTED(Calender\_Table[Week]),[Total Sales]) = [Total Sales],MAXX(ALLSELECTED(Calender\_Table[Week]),[Total Sales]),BLANK())