AUTOMOBILE DASHBOARD ANALYSIS

By

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Power BI Project

**Requirements: Excel, SQL, Power BI, DAX, Data Visualization, Word**

# INTRODUCTION

Describe the project here. What will students do? What will students learn? How will students present their project?

# Standards:

* List learning and content standards here
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# Objectives:

* List objectives here
* List objectives here
* List objectives here

# Requirements/Task(s):

**Task-1**

1. **How can you calculate the total sales for each year using DAX?**

Total Sales = SUM(Automobile[SalePrice])

1. **Create a measure to calculate the average sales per month.**

Average Sales Per month =

AVERAGEX(

    VALUES('Date Table'[MonthName]),

    [Total Sales]

)

1. **How would you create a cumulative total of sales over months?**

Cumulative sales over month = CALCULATE(

                            [Total Sales],

                            FILTER(ALLSELECTED('Date Table'[Date]), 'Date Table'[Date] <= MAX('Date Table'[Date])

                            )

)

1. **Write a DAX formula to calculate the Year-to-Date (YTD) sales.**

YTD Sales = TOTALYTD([Total Sales], 'Date Table'[Date])

1. **How can you calculate the percentage growth in sales compared to the previous year?**

YoY Sales Growth % = DIVIDE([Total Sales] - CALCULATE([Total Sales], DATEADD('Date Table'[Date], -1, YEAR)),

                                            CALCULATE([Total Sales], DATEADD('Date Table'[Date], -1, YEAR)))

1. **Create a measure to calculate the total sales for the last 12 months.**

Last 12 Months Sale = CALCULATE([Total Sales],

DATESINPERIOD('Date Table'[Date], Max('Date Table'[Date]), -12,Month))

1. **How would you calculate the highest sales month using DAX?**

Highest Sales Month = MAXX(SUMMARIZE(Date, Date[Month], "Sales", [Total Sales]), [Sales])

1. **Write a DAX formula to find the top 5 selling products.**

1. **How can you calculate the sales contribution of each product category?**

Sales % by Category = DIVIDE([Total Sales], CALCULATE([Total Sales], ALL(Automobile[Manufacturer])))

1. **Create a measure to find the total sales where the sales amount is greater than a specific value.**

Total sales price-over 10k = CALCULATE([Total Sales],   
 Automobile[SalePrice] > 10000)

1. **How can you calculate the running total of sales for each product?**

Running Total of sale = CALCULATE([Total Sales],

                                FILTER(ALLSELECTED('Date Table'[Date]), 'Date Table'[Date] <= MAX('Date Table'[Date]))

)

1. **Write a DAX formula to calculate the average sales per customer.**

Average Sale Per Customer = DIVIDE([Total Sales], DISTINCTCOUNT(Automobile[ClientName]))

1. **How would you calculate the total number of distinct customers?**

Distinct Customers =

DISTINCTCOUNT ( Fact\_Sales[ClientName] )

1. **Create a measure to calculate the sales per region.**

Sales Per Country = SUMX( VALUES(Automobile[Country]), [Total Sales])

1. **How can you calculate the moving average of sales over 3 months?**

3 months moving average = AVERAGEX(DATESINPERIOD('Date Table'[Date], max('Date Table'[Date]), -3, MONTH), [Total Sales])

1. **Write a DAX formula to filter sales data for a specific product category/model**

Sales by model = CALCULATE([Total Sales],

FILTER(Automobile, Automobile[Manufacturer] = "Jaguar"))

1. **How can you calculate the sales variance compared to the budget?**
2. **Create a measure to calculate the total profit margin.**

Total Profit Margin = [Total Profit]/[Total Sales]

1. **How would you calculate the sales rank of each product?**

Rank by model = RANKX(ALL(Automobile[Model]), [Total Sales],  ,DESC)

**20. Write a DAX formula to calculate the total sales for a specific date range**.

Total sales in 2013 & 2015 = CALCULATE([Total Sales], DATESBETWEEN('Date Table'[Date], DATE(2013,01,01), DATE(2015,12,31)))

**Task 2**

**1.How do you filter the data to show only records where the Make is "Jaguar"?**

JaguarMaker = CALCULATE([Total Sales], FILTER(Automobile, Automobile[Manufacturer] = "Jaguar"))

**2. How can you remove the columns ClientName and LaborCost from the dataset?**

**3. How can you replace the values "Coupe" with "Convertible" in the VehicleType column?**

**4. How can you add a new column that calculates the total cost (CostPrice + DeliveryCharge + SpareParts + LaborCost) for each record?**

**5. How can you split the InvoiceDate column into two separate columns: InvoiceYear and InvoiceMonth?**

**6. How can you group the data by Make and CountryName to get the sum of SalePrice for each group?**

**7. How can you sort the data by SalePrice in descending order?**

**8. How can you merge this dataset with another table that contains additional ClientName information, using ClientName as the key?**

**9. How can you remove duplicate records based on the combination of InvoiceDate and Make?**

**10. How can you pivot the Color column so that each unique color becomes a new column and the values are the SalePrice?**

Task 3

# Record your notes/research here:

This is where students can record their ideas and research as they gather the information needed to complete their project.

# Outline the steps/plan for your project:

After students complete any research necessary, this is where they will create a plan for their project. Consider requiring teacher approval before they continue to the creation/implementation phase of the project.

## Teacher initials \_\_\_\_\_\_\_\_\_\_\_\_

### You are ready to create your project! Please revisit the project tasks/requirements as you work.

# Summarize what you learned:

Possible student prompts: What did you learn? What worked well? What was the most challenging aspect of this project? What will you do differently next time?

# Add the link to your project here:

Link to access project