Assignment Name

Assignment - Week 3

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Instructions

**Power BI Assignment Questions** [(AdventureWorks Dataset)](https://docs.google.com/spreadsheets/d/1hSUm0Cshv5iWVoG4N-aB3T5DOOKBw2pP/edit?usp=sharing&ouid=104134096774349777850&rtpof=true&sd=true)

**I. Measures & Math Functions**

1. Create a measure to calculate the total sales amount using the Sales table..  
2. Create a measure to calculate total profit, then create a measure to calculate profit margin % using the Sales table.  
3. Create a calculated column in the Sales table to classify each row as "High" or "Low" profit category.

Logic:If Profit > 500 → "High", else "Low".Profit = Sales Amount – Total Product Cost.

4. Create a measure to calculate each customer’s sales contribution in percentage.Create a measure to calculate each sales row's % contribution to total sales (overall).  
Table: Sales

Steps:  
Use Total Sales measure created earlier.  
Use ALL() to remove filters.

**II. Relationship & Information Functions**

1. Create a column in Sales table to fetch the Customer full name from the Customer table.  
Steps:  
Use RELATED() function.  
Use column Customer[Customer].

2. Create a measure to display "Filtered" if Customer[Full Name] is filtered, otherwise "Not Filtered".  
Table: Customer

**III. Statistical Functions**

1. Create measures to calculate average, median, and standard deviation of sales.

**IV. Time Intelligence Functions (Set 1)**

1. Create a measure to compute sales for the same period last year.  
2. Use PARALLELPERIOD to calculate sales for the previous month.  
3. Use DATESINPERIOD to calculate rolling 90-day sales.  
4. Create a measure to compute sales for a specific date range using DATESBETWEEN.

**V. Time Intelligence Functions (Set 2)**

1. Create YTD, MTD, and QTD sales measures.  
2. Create measures to compute previous month and previous year sales.  
3. Design a KPI Card visual using the YTD sales measure and add a comparison target.

**VI. Power BI Visualization Tasks**

1. Add card visuals for Total Sales and Total Customers.  
2. Create slicers for Year and Product Category.  
3. Create a column/bar chart showing sales by product category.  
4. Create pie and gauge charts for category-wise sales distribution and performance.  
5. Use a line chart to display monthly sales trends.  
6. Build a waterfall chart to break down profit components.  
7. Use a map visual to show sales data by region.  
8. Enable drill down on date hierarchy (Year > Quarter > Month) in a visual.

1. Create a measure to calculate the total sales amount using the Sales table..

>>TOTAL\_SALES = SUM(Sales[Sales Amount])

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2. Create a measure to calculate total profit, then create a measure to calculate profit margin % using the Sales table.

>>TOTAL\_SALES = SUM(Sales[Sales Amount])

>>TOTAL\_COST = SUM(Sales[Product Standard Cost])

>>TOTAL\_PROFIT = [TOTAL\_SALES]-[TOTAL\_COST]

>>Profit Margin % =

DIVIDE([TOTAL\_PROFIT], [TOTAL\_SALES], 0)

3. Create a calculated column in the Sales table to classify each row as "High" or "Low" profit category.

Logic:If Profit > 500 → "High", else "Low".Profit = Sales Amount – Total Product Cost.

>>Profit Category = IF(Sales[Sales Amount] - Sales[Total Product Cost] > 500, "High", "Low")

4. Create a measure to calculate each customer’s sales contribution in percentage.Create a measure to calculate each sales row's % contribution to total sales (overall).  
Table: Sales

Steps:  
Use Total Sales measure created earlier.  
Use ALL() to remove filters.

>>Sales % = DIVIDE([TOTAL\_SALES], CALCULATE([Total\_Sales], ALL(Sales)), 0) \* 100

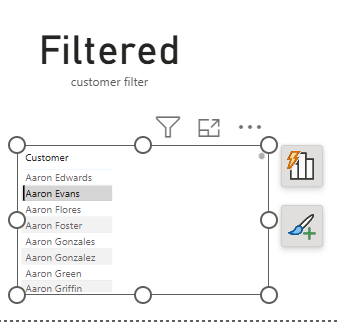
**II. Relationship & Information Functions**

1. Create a column in Sales table to fetch the Customer full name from the Customer table.  
Steps:  
Use RELATED() function.  
Use column Customer[Customer].

>>Customer Name = RELATED(Customer[Customer])

2. Create a measure to display "Filtered" if Customer[Full Name] is filtered, otherwise "Not Filtered".  
Table: Customer

>>customer filter = IF(ISFILTERED(Customer[Customer]),"Filtered", "Not Filtered")



**III. Statistical Functions**

1. Create measures to calculate average, median, and standard deviation of sales.

**IV. Time Intelligence Functions (Set 1)**

**>>** **MEDIAN SALES = MEDIAN(Sales[Sales Amount])**

**>> Average sales = AVERAGE(Sales[Sales Amount])**

**>>** STD = STDEV.S(Sales[Sales Amount])

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1. Create a measure to compute sales for the same period last year.  
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>> LY = CALCULATE([TOTAL\_SALES],SAMEPERIODLASTYEAR('DIM DATE'[DATE]))

2. Use PARALLELPERIOD to calculate sales for the previous month.

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>> Parell period = CALCULATE([TOTAL\_SALES],PARALLELPERIOD('DIM DATE'[Date].[Date],-1,YEAR))

3. Use DATESINPERIOD to calculate rolling 90-day sales.

>> Rolling 90 Sales = CALCULATE([Total Sales], DATESINPERIOD(Dim Date[Date], MAX(Date[Date]), -90, DAY))

4. Create a measure to compute sales for a specific date range using DATESBETWEEN.

BETWEEN = CALCULATE([TOTAL\_SALES],DATESBETWEEN('DIM DATE'[Date].[Date],DATE(2020,01,01),DATE(2020,3,31)))

**V. Time Intelligence Functions (Set 2)**

1. Create YTD, MTD, and QTD sales measures.

DAX YTD Sales = TOTALYTD([Total Sales], Dim Date[Date])

MTD Sales = TOTALMTD([Total Sales], Dim Date[Date])

QTD Sales = TOTALQTD([Total Sales], Dim Date[Date])  
2. Create measures to compute previous month and previous year sales.

Prev Month Sales = CALCULATE([Total Sales],PREVIOUSMONTH(DimDate [Date]))

Prev Year Sales = CALCULATE([Total Sales],PREVIOUSYEAR(DimDate[Date]))

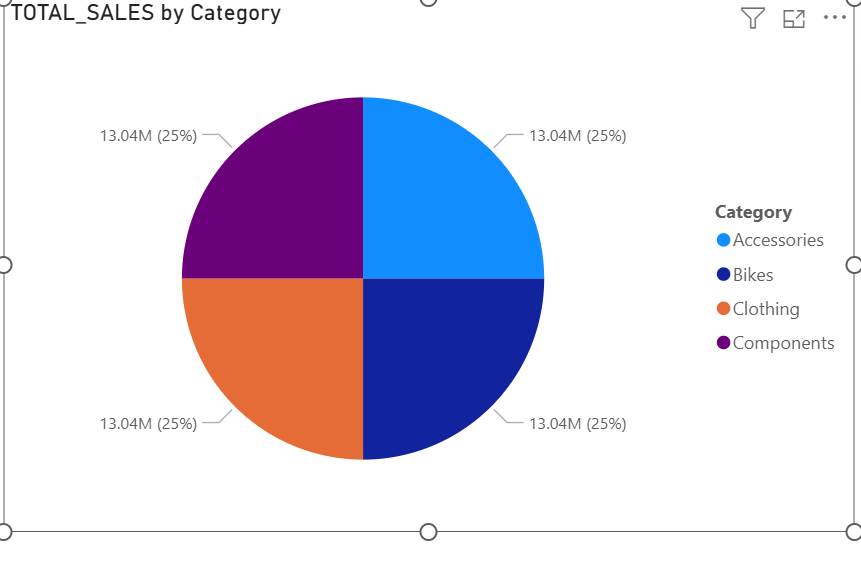
3. Design a KPI Card visual using the YTD sales measure and add a comparison target.

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**VI. Power BI Visualization Tasks**

1. Add card visuals for Total Sales and Total Customers.  
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