Power BI (DAX) Practice

1.Calculate Year-to-Date(YTD) sales

```
Sales YTD = CALCULATE(SUM(Sales[SalesAmount]), DATESYTD(Sales[OrderDate]) )
```

2.Identify top 5 Selling products

```
Top 5 Products =
    TOPN(5,
        SUMMARIZE(
            Sales,
            Products[ProductName],
            "Product Sales", SUM(Sales[SalesAmount])),
        [Product Sales],DESC)
```

3.Calculate Average Order Value

```
Average order value = AVERAGEX(Sales,Sales[SalesAmount])
```

4.Identify the most profitable product

```
Most Profitable Product =
    TOPN(1,

        SUMMARIZE(
            Sales,
            Products[ProductName],
            "Total Profit",
            SUMX(Sales, (Sales[UnitPrice] - Sales[Cost price])*Sales[Quantity])),
        [Total Profit],DESC)
```

5.Calculate sales by product category

```
Sales By Category =

        SUMMARIZE(
            Sales,
            Products[Category],
            "Total Sales", SUMX(Sales, Sales[SalesAmount]))
```

6.Calculate Total Discount Given

```
Total Discount Given = SUMX(Sales,Sales[UnitPrice] * Sales[Quantity] * Sales[Discount])
```

7.Identify the product with Highest Quantity Sold

```
Highest Quantiy sold Product =
    TOPN(1,

        SUMMARIZE(
            Sales,
            Products[ProductName],
            "Total Quantity", SUM(Sales[Quantity])),
        [Total Quantity], DESC)
```

8.Calculate Monthly Sales

```
Monthly sales =
    SUMMARIZE(
        Sales,
        Sales[OrderDate].[Month],
      "Monthly Sales", SUM(Sales[SalesAmount]))
```

9.Calculate Average Discount Given per Product

```
Avg Discount per Product =
    SUMMARIZE(
        Sales,
        Products[ProductName],
        "Avg Discount %", AVERAGEX(Sales,Sales[Discount]),
        "Avg Discount
Amount",AVERAGEX(Sales,(Sales[UnitPrice]*Sales[Quantity]*Sales[Discount])))
```

10.Calculate total revenue over sales > 1000 . Apply with specific country

```
Condition Revenue = SUMX(FILTER(sales, Sales[SalesAmount]>=1000),Sales[SalesAmount])
multiple Condition revenue = CALCULATE(SUM(Sales[SalesAmount]), Sales[SalesAmount]>=1000,
Sales[Country]="USA")
```

11.Calulate Average selling price Per Unit

12.Calculate Customer lifetime Value (CLT)

Customer lifetime value is nothing but, If there are 30 rows in our Sales Data, if One particular Customer have

take 5 purchases. And suppose with those 5 Purchases overall he spent 500$. For that person The lifetime value would be 500$

```
Customer Lifetime Value =
    SUMMARIZE(
        Sales,
        Sales[CustomerID],
        "Sales per Customer", SUM(Sales[SalesAmount]))
```

13.Calculate Sales Contribution by Country

Without filter context

Solve the Question by creating measure

```
ALL Revenue = CALCULATE(SUM(Sales[SalesAmount]), ALL(Sales))
```
```
Per Country contribution = DIVIDE(SUM(Sales[SalesAmount]),[ALL Revenue])
```

Solve the Question by Dax creating table summarize function

```
Per Country Contribution =
    SUMMARIZE(
        Sales,
        Sales[Country],
        "Total revenue", SUMX(Sales, Sales[SalesAmount]),
        "All revenue", CALCULATE(SUMX(Sales, Sales[SalesAmount]), ALL(Sales)),
        "Per country contribution", DIVIDE(SUMX(Sales, Sales[SalesAmount]),
CALCULATE(SUMX(Sales, Sales[SalesAmount]), ALL(Sales))))
```

14. Calculate Sales Contribute by Product

This is as same as above just change Sales[Country], into Product[Product_name]

15. Calculate Total Cost of Goods Sold (COGS)

```
Total goods sold = SUM(Sales[Cost price])
```

16.Calculate Net profit and Gross Profit

Cost Price	Selling Price	Gross Profit	Discount	Actual Price	Net profit
110	120	20	5	115	15
110	115	10	10	105	-5
90	115	25	25	90	0

```
Total Revenue = SUM(Sales[SalesAmount])
Gross Revenue = SUMX(Sales, Sales[UnitPrice]*Sales[Quantity])
Cost price = SUMX(sales, Sales[Cost price]*Sales[Quantity])
Gross profit = [Gross Revenue] - [Cost price]
Net Profit = [Total Revenue] - [Cost price]
```

17. Calculate Net Profit and Gross Profit as percent of Total Revenue

```
Gross Revenue = SUMX(Sales, Sales[UnitPrice]*Sales[Quantity])
NP % of Total revenue = DIVIDE([Net Profit], [Total Revenue])*100
```

18. Calculate Net profit and Gross Profit percentage per product

```
GP NP % per product =
    SUMMARIZE(
        Products,
        Products[ProductName],
        "Gross Profit %",
        ([Gross profit]/CALCULATE(SUMX(Sales, (Sales[UnitPrice] - Sales[Cost
price])*Sales[Quantity]),ALL(products)))*100,
        "Net profit %",
        ([Net Profit]/CALCULATE(SUMX(Sales, (Sales[UnitPrice] - Sales[Cost
price])*Sales[Quantity] * Sales[Discount]),ALL(products)))*100)
```

19. Calculate Repeat Orders by Customers, mention the customer ID, Product ID, Product Name, Order ID, Order Date and the Sales Amount

```
Repeated orders Customers =
    SUMMARIZE(
        Sales,
        Sales[CustomerID],
        Sales[ProductID],
        Products[ProductName],
        "Orders", CONCATENATEX(Sales,Sales[SaleID],","),
        "Order date",CONCATENATEX(Sales, Sales[OrderDate], ","),
        "Sales Amount", CONCATENATEX(Sales, Sales[SalesAmount], ","),
        "Total Sales", SUMX(Sales, Sales[SalesAmount])
        )
```

20. Calculate Customers Purchase Frequency

```
Customer Purchase frequency =
    SUMMARIZE(
        Sales,
        Sales[CustomerID],
        "No of purchases", COUNTROWS(Sales))
```

21.Product Analysis and Additional Dax Queries

When it comes Product Analysis the analysis is then based on Product

Product name	Cost of product	Total Sales	Quantity sold	No of Sales	Average Sales	Net profit	NP % Sales	Gross profit	GP% Sales	....	..

You can Do a lot of Analysis

Product Analysis

```
Product Analysis =
  SUMMARIZE(
  Sales,
  Products[ProductName],
  "Cost of Goods Sold",SUMX(Sales, Sales[Cost price]*Sales[Quantity]),
  "Total Sales",SUMX(Sales, Sales[SalesAmount]),
  "Quantity Sold", SUMX(Sales, Sales[Quantity]),
  "No of Sales", COUNTROWS(Sales),
  "Average Sales",AVERAGEX(Sales, Sales[SalesAmount]),
  "Gross Profit", [Gross Profit],
  "Net Profit", [Net Profit],
  "NP % of Sale", [NP % of Total Revenue],
  "GP % of Sale", [GP % fo Total revenue],
  "NP % of Overall Revenue", DIVIDE([Net Profit], SUMX(ALL(Sales), Sales[SalesAmount]))*100,
  "GP % of Overall Revenue", DIVIDE([Gross Profit], SUMX(ALL(Sales), Sales[SalesAmount]))*100
  )
```

Product Category Analysis

```
Product Category Analysis =
  SUMMARIZE(
  Sales,
  Products[Category],
  "Cost of Goods Sold",[Cost price],
  "Total Sales",SUMX(Sales, Sales[SalesAmount]),
  "Quantity Sold", SUMX(Sales, Sales[Quantity]),
  "No of Sales", COUNTROWS(Sales),
  "Average Sales",AVERAGEX(Sales, Sales[SalesAmount]),
  "Gross Profit", [Gross Profit],
  "Net Profit", [Net Profit],
  "NP % of Sale", [NP % of Total Revenue],
  "GP % of Sale", [GP % fo Total revenue],
  "NP % of Overall Revenue", DIVIDE([Net Profit], SUMX(ALL(Sales), Sales[SalesAmount]))*100,
  "GP % of Overall Revenue", DIVIDE([Gross Profit], SUMX(ALL(Sales), Sales[SalesAmount]))*100
```

Country Analysis

```
Country Analysis =
  SUMMARIZE(
  Sales,
  Sales[Country],
  "Cost of Goods Sold",[Cost price],
  "Total Sales",SUMX(Sales, Sales[SalesAmount]),
  "Quantity Sold", SUMX(Sales, Sales[Quantity]),
  "No of Sales", COUNTROWS(Sales),
  "Average Sales",AVERAGEX(Sales, Sales[SalesAmount]),
  "Gross Profit", [Gross Profit],
  "Net Profit", [Net Profit],
  "NP % of Sale", [NP % of Total Revenue],
  "GP % of Sale", [GP % fo Total revenue],
  "NP % of Overall Revenue", DIVIDE([Net Profit], SUMX(ALL(Sales), Sales[SalesAmount]))*100,
  "GP % of Overall Revenue", DIVIDE([Gross Profit], SUMX(ALL(Sales), Sales[SalesAmount]))*100
  )
```