# Power BI DAX Practice - DAX_Practice_Data

**Q:** What does DAX stand for?
**A:** Data Analysis Expressions.

**Q:** Write a DAX formula to sum the Sales column.
```
A: Total Sales = SUM(DAX_Practice_Data[Sales])
```

**Q:** What is the difference between a calculated column and a measure?
**A:** Calculated columns are computed row by row and stored in the model, while measures are calculated on the fly based on filter context.

**Q:** Use the DIVIDE function to calculate Profit Margin (Profit/Sales).
```
A: Profit Margin = DIVIDE(SUM(DAX_Practice_Data[Sales]) -
SUM(DAX_Practice_Data[Cost]), SUM(DAX_Practice_Data[Sales]))
```

**Q:** What does COUNTROWS() do in DAX?
**A:** It counts the number of rows in a table or table expression.

**Q:** Create a measure: Total Profit that subtracts total cost from total sales
```
A: Total Profit = SUM(DAX_Practice_Data[Sales]) - SUM(DAX_Practice_Data[Cost])
```

**Q:** Write a measure to calculate Average Sales per Product.
```
A: Avg Sales/Product = AVERAGE(DAX_Practice_Data[Sales])
```

**Q:** Use IF() to tag products as 'High Profit' if Profit > 1000.
```
A: High Profit Tag = IF(DAX_Practice_Data[Sales] - DAX_Practice_Data[Cost] > 1000,
"High Profit", "Low Profit")
```

**Q:** What is a circular dependency error in a calculated column?
**A:** It occurs when a column formula references itself directly or indirectly, creating a loop.

**Q:** Explain row context vs. filter context.
**A:** Row context applies calculations row by row, while filter context applies filters to determine which data is included in calculations.

**Q:** Write a measure to calculate YTD Sales using TOTALYTD().
```
A: YTD Sales = TOTALYTD(SUM(DAX_Practice_Data[Sales]), DAX_Practice_Data[Date])
```

**Q:** Create a dynamic measure that switches between Sales, Profit, and Margin.
```
A: Selected Measure = SWITCH( SELECTEDVALUE(MeasureChoice[Measure]), 'Sales',
SUM(DAX_Practice_Data[Sales]), 'Profit', [Total Profit], 'Margin', [Profit Margin])
```

**Q:** Optimize a slow DAX measure using variables (VAR).
```
A: Example: VAR TotalSales = SUM(DAX_Practice_Data[Sales]) VAR TotalCost =
SUM(DAX_Practice_Data[Cost]) RETURN TotalSales - TotalCost
```

**Q:** Use CALCULATE() to override a filter
```
A: Sales North = CALCULATE(SUM(DAX_Practice_Data[Sales]), DAX_Practice_Data[Region]
= "North")
```

**Q:** Write a measure that returns the highest sales amount
```
A: Max Sales = MAX(DAX_Practice_Data[Sales])
```

## DAX Practice Data

| ProductID | Sales | Cost | Date |
|---|---|---|---|
| 1 | 6000 | 4000 | 1/1/2023 |
| 2 | 3000 | 2000 | 1/2/2023 |
| 3 | 2000 | 1500 | 1/3/2023 |