**1. Question: What does FILTER(Sales, Sales[Amount] > 1000) return?**

**Answer:**
The FILTER function returns a **table** containing only the rows from the Sales table where Amount > 1000.
In our example, the result would be:

| SaleID | ProductID | Amount | Region | SaleDate |
|--------|-----------|--------|--------|----------|
| 1 | P1 | 1200 | North | 1/5/2023 |
| 3 | P1 | 1500 | North | 1/15/2023 |

---

**2. Question: Write a measure High Sales that sums Amount where Amount > 1000 using FILTER.**

DAX

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```
High Sales =
CALCULATE(
    SUM(Sales[Amount]),
    FILTER(Sales, Sales[Amount] > 1000)
)
```

---

**3. Question: How does ALLEXCEPT(Sales, Sales[Region]) differ from ALL(Sales)?**

**Answer:**
- ALL(Sales) removes **all filters** from the Sales table.
- ALLEXCEPT(Sales, Sales[Region]) removes **all filters** except the one on Region. This means ALLEXCEPT preserves grouping by region.

---

**4. Question: Use SWITCH to categorize Amount:**
- "Medium" if 500–1000
- "High" if > 1000

DAX

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```
Amount Category =

SWITCH(

    TRUE(),

    Sales[Amount] > 1000, "High",

    Sales[Amount] >= 500 && Sales[Amount] <= 1000, "Medium",

    "Low"

)
```

---

## 5. Question: What is the purpose of ALLSELECTED?

**Answer:**
ALLSELECTED removes filters **within the current visual context** but keeps any filters applied via slicers.
It is especially useful for calculating percentages and shares within a filtered selection.

---

## 6. Question: Write a measure Regional Sales % showing each sale's contribution to its region's total (using ALLEXCEPT).

DAX

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```
Regional Sales % =

DIVIDE(

    SUM(Sales[Amount]),

    CALCULATE(SUM(Sales[Amount]), ALLEXCEPT(Sales, Sales[Region])),

    0

)
```

---

## 7. Question: Create a dynamic measure using SWITCH to toggle between SUM, AVERAGE, and COUNT of Amount.

DAX

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```
Dynamic Measure =

SWITCH(
```

```
SELECTEDVALUE(Metrics[Metric]),

"Sum", SUM(Sales[Amount]),

"Average", AVERAGE(Sales[Amount]),

"Count", COUNT(Sales[Amount])
)
```

---

## 8. Question: Use FILTER inside CALCULATE to exclude "Furniture" sales (Products[Category] = "Furniture").

DAX

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```
Sales without Furniture =

CALCULATE(

    SUM(Sales[Amount]),

    FILTER(Products, Products[Category] <> "Furniture")
)
```

---

## 9. Question: Why might ALLSELECTED behave unexpectedly in a pivot table?

**Answer:**
In a pivot table, ALLSELECTED takes into account **all selected rows and columns**—even those not visible in the current view—so totals can be larger than expected.

---

## 10. Question: Write a measure that calculates sales ignoring filters from region.

DAX

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```
Total Sales Ignore Region =

CALCULATE(

    SUM(Sales[Amount]),

    ALL(Sales[Region])
)
```

---

## 11. Question: Optimize this measure:

Original:

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High Sales = CALCULATE(SUM(Sales[Amount]), FILTER(Sales, Sales[Amount] > 1000))

Optimized (replace FILTER with a Boolean filter in CALCULATE):

DAX

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```
High Sales Optimized =
CALCULATE(
    SUM(Sales[Amount]),
    Sales[Amount] > 1000
)
```

---

## 12. Question: Write a Top 2 Products measure using TOPN and FILTER to show the highest-grossing products.

DAX

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```
Top 2 Products Sales =
CALCULATE(
    SUM(Sales[Amount]),
    FILTER(
        TOPN(2, SUMMARIZE(Sales, Sales[ProductID], "TotalSales", SUM(Sales[Amount])), [TotalSales], DESC),
        TRUE()
    )
)
```

---

## 13. Question: Use ALLSELECTED with no parameters to respect slicers but ignore visual-level filters.

DAX

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Sales with ALLSELECTED =

CALCULATE(

   SUM(Sales[Amount]),

   ALLSELECTED()

)

---

## 14. Question: Debug: A SWITCH measure returns incorrect values when fields are added to a matrix visual.

**Reason:** SELECTEDVALUE returns BLANK if there's more than one value in the current context.
Solution: Use MAX or MIN instead of SELECTEDVALUE, or provide a default value.

---

## 15. Question: Simulate a "reset filters" button using ALL in a measure.

DAX

CopyEdit

Sales Reset Filters =

CALCULATE(

   SUM(Sales[Amount]),

   ALL(Sales)

)