**common** and **advanced errors**

**1. Syntax Errors**

**Cause:** Incorrect DAX syntax, missing parentheses, wrong function usage.

* **Example:**

DAX

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= IF(Age > 18, "Adult", "Minor" // Missing closing parenthesis

**2. Data Type Errors**

**Cause:** Incompatible data types in calculations.

* **Example:**

= Sales[Revenue] + "100" // Adding number to text

* **Fix:** Convert types using VALUE() or FORMAT().
* **Tip:** Always check column data types in the model.

**3. Division by Zero Error**

**Cause:** Dividing by zero or null values.

* **Example:**

= Sales[Revenue] / Sales[Quantity] // Quantity = 0

* **Fix:** Use DIVIDE() instead of /:

= DIVIDE(Sales[Revenue], Sales[Quantity], 0)

* **Tip:** Always provide an alternative result in DIVIDE().

**🔄 4. Circular Dependency Error**

**Cause:** Self-referencing calculations create loops.

* **Example:**

Total Sales = [Total Sales] + Sales[Revenue] // Circular reference

* **Fix:** Break the loop by redesigning the calculation.
* **Tip:** Power BI highlights circular dependencies in red.

**🗂️ 5. Relationship Errors**

**Cause:** Using columns without proper relationships.

* **Example:**

= RELATED(Products[Category]) // No relationship exists

* **Fix:** Create or fix relationships in the model.
* **Tip:** Use LOOKUPVALUE() if relationships are not feasible.

**🧩 6. Filter Context Errors**

**Cause:** Misunderstanding of row context vs. filter context.

* **Example:**

= SUMX(FILTER(Sales, Sales[Category] = "A"), Sales[Revenue])

* **Fix:** Use CALCULATE() for clearer filter context:

= CALCULATE(SUM(Sales[Revenue]), Sales[Category] = "A")

* **Tip:** Test with different slicers to see context effects.

**🕰️ 7. Time Intelligence Errors**

**Cause:** Missing date tables or incorrect date functions.

* **Example:**

= TOTALYTD(Sales[Revenue], Sales[Date]) // No proper Date table

* **Fix:** Use a dedicated Date table with proper relationships.
* **Tip:** Mark your Date table as a date table in Power BI.

**🚨 8. Missing Values (BLANK) Errors**

**Cause:** Operations on BLANK values.

* **Example:**

= A + BLANK() // Result is BLANK

* **Fix:** Use IF(ISBLANK()) or COALESCE() to handle BLANKs.
* **Tip:** Test data for missing values before applying calculations.

**⚡ 9. Performance Issues (Not Exact Errors)**

**Cause:** Inefficient DAX formulas cause slow performance.

* **Example:**

= SUMX(FILTER(ALL(Sales), Sales[Date] <= MAX(Sales[Date])), Sales[Revenue])

* **Fix:** Optimize using CALCULATE() instead of complex FILTER(ALL()) patterns.
* **Tip:** Use DAX Studio to analyze performance bottlenecks.

**🔗 10. Ambiguous Column Reference Error**

**Cause:** Referring to a column that exists in multiple tables.

* **Example:**

= SUM(Revenue) // Ambiguous if 'Revenue' exists in multiple tables

* **Fix:** Use fully qualified column names:

= SUM(Sales[Revenue])

* **Tip:** Review relationships to avoid overlapping column names.

**🧪 11. Errors in Nested Functions**

**Cause:** Incorrect nesting of functions.

* **Example:**

= CALCULATE(CALCULATE(SUM(Sales[Revenue]), Sales[Category] = "A"), Sales[Region] = "West")

* **Fix:** Simplify nesting:

= CALCULATE(SUM(Sales[Revenue]), Sales[Category] = "A", Sales[Region] = "West")

* **Tip:** Break down complex formulas into parts for debugging.

**🚩 12. Mismatch in Aggregation Functions**

**Cause:** Applying aggregation functions to inappropriate data types.

= AVERAGE(Sales[Date]) // Can't average dates directly

* **Fix:** Use numeric data for aggregation.
* **Tip:** Use DATEDIFF() for date-based calculations.

**📉 13. Context Transition Errors**

**Cause:** Misusing row context in measures.

* **Example:**

= [Quantity] \* [Price] // Assumes row context

* **Fix:** Wrap with SUMX() for row-by-row calculations:

= SUMX(Sales, Sales[Quantity] \* Sales[Price])

* **Tip:** Understand how calculated columns and measures differ.

**🕵️ 14. External Data Source Errors**

**Cause:** Issues with data source connectivity.

* **Example:**

= SUM(ExternalData[Revenue]) // External source unavailable

* **Fix:** Validate data source connections.
* **Tip:** Use IFERROR() for graceful error handling.

**🔄 15. Time Zone Differences in Date/Time Calculations**

**Cause:** Inconsistent time zones in date functions.

* **Example:**

= DATEDIFF(Sales[OrderDate], NOW(), DAY) // Time zone mismatch

* **Fix:** Use UTCNOW() for consistency.
* **Tip:** Align all date/time data to the same time zone.

**🧠 16. Missing Relationships Affecting Calculations**

**Cause:** Time intelligence and relationship issues.

* **Example:**

= TOTALYTD(Sales[Revenue], Sales[OrderDate]) // No relationship with Date table

* **Fix:** Create a Date table and establish relationships.
* **Tip:** Use USERELATIONSHIP() when multiple date fields exist.

**⚠️ 17. Data Model Errors (Missing Columns/Tables)**

**Cause:** Referencing deleted or renamed columns/tables.

* **Example:**

= SUM(DeletedTable[Revenue]) // Table no longer exists

* **Fix:** Verify that tables/columns exist in the model.
* **Tip:** Use Power BI’s “Manage Relationships” to track dependencies.

**🔍 18. Errors with ALL() and ALLEXCEPT()**

**Cause:** Misusing these functions alters filter context unexpectedly.

* **Example:**

= CALCULATE(SUM(Sales[Revenue]), ALL(Sales[Category])) // Ignores Category filter

* **Fix:** Use ALLEXCEPT() to retain specific filters.
* **Tip:** Understand how each function affects filter context.

**💡 19. Errors with Measures in Visuals**

**Cause:** Incompatible measures used in visuals.

* **Example:**

= CALCULATE(SUM(Sales[Revenue]), Sales[Region] = "West") // Issue in cross-filtered visuals

* **Fix:** Adjust filter settings or use REMOVEFILTERS().
* **Tip:** Test measures in table visuals to isolate issues.

**🚀 20. Miscellaneous Errors**

* **Using NOW() in calculated columns (volatile).**
* **Incorrect use of RANKX() without proper ordering.**
* **Missing DISTINCT in COUNT() functions causing inaccurate counts.**
* **Errors with IFERROR() when wrapping complex expressions.**