

MDX Reference

This section lists the MDX functions and operators allowed in a calculated measure formula.

- ▲ **ABS** The `ABS` function returns the absolute value of the argument.
- ▲ **AGGREGATE** The `AGGREGATE` function Returns a number that is calculated by aggregating over the cells returned by the set expression.
- ▲ **ALL** Refers to the `All` level with a single member called the `All` member. Used to constrain a tuple expression.
- ▲ **ALLMEMBER** Similar to the `ALL(<Table>)` DAX function, this function evaluates a given `tupleExpression` as if all other model hierarchy references explicitly reference the hierarchy's `ALL` member.
- ▲ **ALLMEMBEREXCEPT** Similar to the `ALLEXCEPT` DAX function, this function evaluates a given `tupleExpression` as if all other model hierarchy references explicitly reference the hierarchy's `ALL` member, with the exception of the hierarchies listed in `hierarchySet`.
- ▲ **ANCESTOR** A function that returns the ancestor of a specified member at a specified level or at a specified distance from the member.
- ▲ **Arithmetic Operators (MDX)** Arithmetic operators perform basic math operations on their operands. AtScale supports arithmetic operators in Calculated Measure formulas. Notice the NULL handling behavior in MDX is different than SQL.
- ▲ **AVG** The `AVG` function returns the average of a Measure evaluated over a given set.
- ▲ **CASE** The `CASE` function evaluates each row in the dataset according to one or more input conditions, and outputs the specified result when the input conditions are met.
- ▲ **CBOOL** Casts the value to a Boolean.
- ▲ **CDBL** Casts the value to a Double.
- ▲ **CDEC** Casts the value to a Decimal number.
- ▲ **CEILING** The `CEILING` function returns the smallest integer value greater than or equal to the argument.
- ▲ **CHILDREN** Returns a naturally ordered set that contains the children of a specified member.
- ▲ **CINT** Casts the value to an Integer.
- ▲ **CLONG** Casts the value a Long.
- ▲ **Comparison Operators (MDX)** Comparison operators evaluate to a Boolean data type, returning true or false based on the outcome of the tested condition.
- ▲ **COUNT** The `COUNT` function returns the size of a given set.
- ▲ **CSTR** Casts the value to a String.
- ▲ **CURRENTMEMBER.NAME** The `CURRENTMEMBER.NAME` function returns the current member value of the specified dimension attribute during iteration.
- ▲ **DatesPeriodsToDate** Returns the set of dates corresponding to the range of Day members beginning on the first sibling member of `Level_Expression` and ending on the member described by `Member_Expression`.
- ▲ **DatesMTD** An alias for `DatesPeriodsToDate` with the `Level_Expression` argument dynamically set to the Month level of the `Member_Expression` argument's Time hierarchy.

- ▲ **DatesQTD** An alias for `DatesPeriodsToDate` with the `Level_Expression` argument dynamically set to the Quarter level of the `Member_Expression` argument's Time hierarchy.
- ▲ **DatesWTD** An alias for `DatesPeriodsToDate` with the `Level_Expression` argument dynamically set to the Week level of the `Member_Expression` argument's Time hierarchy.
- ▲ **DatesYTD** An alias for `DatesPeriodsToDate` with the `Level_Expression` argument dynamically set to the Year level of the `Member_Expression` argument's Time hierarchy.
- ▲ **DAY** Returns the day of month from the Date or DateTime measure as an integer.
- ▲ **DESCENDANTS** Returns the set of descendants of a member at a specified level or distance, optionally including or excluding descendants in other levels.
- ▲ **DIMENSION UNIQUE NAME** The unique name of the dimension to which this member belongs.
- ▲ **DIVIDE** Performs division and returns alternate result or BLANK() on division by zero.
- ▲ **E** Returns the value of mathematical constant e.
- ▲ **EXP** Returns the mathematical constant e raised to the specified power.
- ▲ **FIRSTCHILD** Returns the first child of an input member.
- ▲ **FIRSTSIBLING** Returns the first child of the parent of a member, otherwise known as the member's first sibling.
- ▲ **FLOOR** The `FLOOR` function returns the largest integer value less than or equal to the argument.
- ▲ **HIERARCHY_UNIQUE_NAME** The unique name of the hierarchy to which this member belongs.
- ▲ **HOUR** Returns the hour of day component of a DateTime or Timestamp measure as an integer.
- ▲ **IIF** The `IIF` function evaluates one of two different expressions, depending on whether a Boolean condition is true or false.
- ▲ **INSTR** The `InStr` function returns the position of the first occurrence of one string within another string.
- ▲ **ISEMPTY** The `ISEMPTY` function evaluates if a cell in a model is empty or not.
- ▲ **KEY** The value of the member key in the original data type.
- ▲ **LAG** The `LAG` function returns a member that precedes the specified member by a specified number of positions in its level.
- ▲ **LASTCHILD** Returns the last child of a specified member.
- ▲ **LASTSIBLING** Returns the last child of the parent of a member, otherwise known as the member's last sibling.
- ▲ **LEAD** The `LEAD` function returns a member that follows the specified member by a specified number of positions in its level.
- ▲ **LEFT** The `LEFT` function returns a string of a specified number of characters from the left side of a specified string.
- ▲ **LEN** Returns a Long containing the number of characters in a string or the number of bytes required to store a variable.
- ▲ **LEVEL** Returns the Name of a dimension member's Level.
- ▲ **LEVEL_NUMBER** The distance of the member from the root of the hierarchy.
- ▲ **LEVEL_UNIQUE_NAME** The unique name of the level to which the member belongs.
- ▲ **LOG** Returns the base x logarithm of the argument.
- ▲ **LOG2** Returns the base 2 logarithm of the argument.

- ▲ **LOG10** Returns the base 10 logarithm of the argument.
- ▲ **Logical Operators (MDX)** Logical operators are used to combine arguments in a Boolean expression (an expression that evaluates to true or false).
- ▲ **MAX** The `MAX` function returns the max of a Measure evaluated over a given set.
- ▲ **MEMBER_CAPTION** A label or caption associated with the member. The caption is primarily for display purposes.
- ▲ **MEMBER_KEY** The value of the member key in the original data type.
- ▲ **MEMBER_LEVEL_NUMBER** The distance of the member from the root of the hierarchy.
- ▲ **MEMBER_NAME** The name of the member.
- ▲ **MID** The `MID` function returns a substring of a string argument.
- ▲ **MIN** The `MIN` function returns the min of a Measure evaluated over a given set.
- ▲ **MINUTE** Returns the minute of hour component of a DateTime or Timestamp measure as an integer.
- ▲ **MONTH** Returns the Month component of a Date or DateTime measure as an integer.
- ▲ **NEXTMEMBER** The `NEXTMEMBER` function returns the member that follows the specified member in the level.
- ▲ **NOW** Returns the DateTime from the data warehouse.
- ▲ **NULLEXCEPT** Evaluates the given tuple expression when the query includes any of the hierarchies listed in the `hierarchySet` argument, else returns `NULL`.
- ▲ **PARALLELPERIOD** The `PARALLELPERIOD` function returns a member from the same relative position in a previous period as the specified member.
- ▲ **PARENT** Returns the parent member of the specified member.
- ▲ **PARENT_COUNT** The number of parents that this member has.
- ▲ **PARENT_LEVEL** The distance of the member's parent from the root level of the hierarchy.
- ▲ **PERIODSTODATE** The `PERIODSTODATE` function returns a set of sibling members from the specified level of a time dimension, beginning with the first sibling and ending with a specified member.
- ▲ **PI** Returns the value of mathematical constant Pi.
- ▲ **POW** Returns a base raised to a power.
- ▲ **PREVMEMBER** The `PrevMember` function returns the member that precedes the specified member in the level.
- ▲ **PROPERTIES** Returns the value of the specified member for the specified member property.
- ▲ **RAND** - Returns a random number between 0 and 1 based on an optional seed.
- ▲ **RIGHT** - The `Right` function returns a string of a specified number of characters from the right side of a specified string
- ▲ **ROUND** - Round a number to an integer or the specified number of fractional digits.
- ▲ **SECOND** Returns the second of minute component of a DateTime or Timestamp measure as an integer.
- ▲ **Set Operators (MDX)** Set operators perform operations on members or sets, and return a set.
- ▲ **SIBLINGS** Returns the siblings of a member, including the member.
- ▲ **SIGN** The `SIGN` function returns -1, 1, or 0 if the sign of the argument is either negative, positive, or undefined (zero).
- ▲ **SQLSUM** The `SQLSUM` function returns the sum of its arguments.
- ▲ **SUM** The `SUM` function returns the sum of a Measure evaluated over a given set.

- ▲ **Trigonometric Functions** AtScale supports the following MDX trigonometric functions in a calculated measure formula.
- ▲ **TRIM | LTRIM | RTRIM** The `TRIM` function removes both leading and trailing spaces from the specified string. `LTRIM` removes just leading spaces, and `RTRIM` removes just trailing spaces.
- ▲ **TRUNCATE** Returns the integral component of a floating-point or fixed-precision number.
- ▲ **Tuple Expressions** AtScale supports simple model-sided tuple expressions for calculated measures.
- ▲ **UCASE | LCASE** The `UCASE` converts all alphabetic characters in a string to all upper case. `LCASE` converts all alphabetic characters in a string to all lower case.
- ▲ **VBA Date Functions** Enable you to create default hierarchical members on time hierarchies; for example, the current date or previous year.
- ▲ **YEAR** Returns the Year component of a Date or DateTime measure as an integer.