

## Power Fx formula reference for Power Apps

Source: <https://learn.microsoft.com/en-us/power-platform/power-fx/formula-reference>

Formulas combine many elements. Listed below are:

**Functions** take parameters, perform an operation, and return a value. For example, **Sqrt(25)** returns **5**. Functions are modeled after Microsoft Excel functions. Some functions have side effects, such as **SubmitForm**, which are appropriate only in a [behavior formula](#) such as **Button.OnSelect**.

**Signals** return information about the environment. For example, [Location](#) returns the device's current GPS coordinates. Signals don't take parameters or have side effects.

**Enumerations** return a pre-defined constant value. For example, [Color](#) is an enumeration that has pre-defined values for **Color.Red**, **Color.Blue**, and so forth. Common enumerations are included here; function-specific enumerations are described with the function.

**Named operators**, such as [ThisItem](#) and [Self](#), provide access to information from within a container.

Other elements include:

[Operators and identifiers](#)

[Controls and their properties](#)

[Data types](#)

### A

[Abs](#) – Absolute value of a number.

[Acceleration](#) – Reads the acceleration sensor in your device.

[Acos](#) – Returns the arccosine of a number, in radians.

[Acot](#) – Returns the arccotangent of a number, in radians.

[AddColumns](#) – Returns a table with [columns](#) added.

[And](#) – Boolean logic AND. Returns **true** if all arguments are **true**. You can also use the [&& operator](#).

[App](#) – Provides information about the currently running app and control over the app's behavior.

[Asin](#) – Returns the arcsine of a number, in radians.

[Assert](#) – Evaluates to true or false in a test.

[As](#) – Names the current record in gallery, form, and record scope functions such as **ForAll**, **With**, and **Sum**.

[AsType](#) – Treats a record reference as a specific table type.

[Atan](#) – Returns the arctangent of a number, in radians.

[Atan2](#) – Returns the arctangent based on an  $(x,y)$  coordinate, in radians.

[Average](#) – Calculates the average of a table expression or a set of arguments.

## B

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[Back](#) – Displays the previous screen.

[Blank](#) – Returns a *blank* value that can be used to insert a NULL value in a data source.

[Boolean](#) – Converts a text string, number, or untyped value to a Boolean value.

## C

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[Calendar](#) – Retrieves information about the calendar for the current locale.

[Char](#) – Translates a character code into a string.

[Choices](#) – Returns a table of the possible values for a lookup column.

[Clear](#) – Deletes all data from a [collection](#).

[ClearCollect](#) – Deletes all data from a collection and then adds a set of [records](#).

[ClearData](#) – Clears a collection or all collections from an app host such as a local device.

[Clock](#) – Retrieves information about the clock for the current locale.

[Coalesce](#) – Replaces *blank* values while leaving non-*blank* values unchanged.

[Collect](#) – Creates a collection or adds data to a data source.

[Color](#) – Sets a property to a built-in color value.

[ColorFade](#) – Fades a color value.

[ColorValue](#) – Translates a CSS color name or a hex code to a color value.

[Compass](#) – Returns your compass heading.

[Concat](#) – Concatenates strings in a data source.

[Concatenate](#) – Concatenates strings.

[Concurrent](#) – Evaluates multiple formulas concurrently with one another.

[Connection](#) – Returns information about your network connection.

[Count](#) – Counts table records that contain numbers.

[Cos](#) – Returns the cosine of an angle specified in radians.

[Cot](#) – Returns the cotangent of an angle specified in radians.

[CountA](#) – Counts table records that aren't [empty](#).

[CountIf](#) – Counts table records that satisfy a condition.

[CountRows](#) – Counts table records.

## D

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[DataSourceInfo](#) – Provides information about a data source.

[Date](#) – Returns a date/time value, based on **Year**, **Month**, and **Day** values.

[DateAdd](#) – Adds days, months, quarters, or years to a date/time value.

[DateDiff](#) – Subtracts two date values, and shows the result in days, months, quarters, or years.

[DateTimeValue](#) – Converts a date and time string to a date/time value.

[DateValue](#) – Converts a date-only string to a date/time value.

[Day](#) – Retrieves the day portion of a date/time value.

[Defaults](#) – Returns the default values for a data source.

[Degrees](#) – Converts radians to degrees.

[Disable](#) – Disables a signal, such as [Location](#) for reading the GPS.

[Distinct](#) – Summarizes records of a table, removing duplicates.

[Download](#) – Downloads a file from the web to the local device.

[DropColumns](#) – Returns a table with one or more columns removed.

## E

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[EditForm](#) – Resets a form control for editing of an item.

[Enable](#) – Enables a signal, such as [Location](#) for reading the GPS.

[EncodeUrl](#) – Encodes special characters using URL encoding.

[EndsWith](#) – Checks whether a text string ends with another text string.

[Error](#) – Create a custom error or pass through an error.

[Errors](#) – Provides error information for previous changes to a data source.

**exactin** – Checks if a text string is contained within another text string or table, case dependent. Also used to check if a record is in a table.

**Exit** – Exits the currently running app and optionally signs out the current user.

**Exp** - Returns  $e$  raised to a power.

## F

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**Filter** – Returns a filtered table based on one or more criteria.

**Find** – Checks whether one string appears within another and returns the location.

**First** – Returns the first record of a table.

**FirstN** – Returns the first set of records (N records) of a table.

**ForAll** – Calculates values and performs actions for all records of a table.

## G

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**GroupBy** – Returns a table with records grouped together.

**GUID** – Converts a GUID string to a GUID value or creates a new GUID value.

## H

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**HashTags** – Extracts the hashtags (#strings) from a string.

**Hour** – Returns the hour portion of a date/time value.

## I

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**If** – Returns one value if a condition is true and another value if not.

**IfError** - Detects errors and provides an alternative value or takes action.

**in** – Checks if a text string is contained within another text string or table, case independent. Also used to check if a record is in a table.

**Index** – Returns a record from a table based on ordered position.

**Int** – Rounds down to the nearest integer.

**IsBlank** – Checks for a **blank** value.

**IsBlankOrError** – Checks for a **blank** value or error.

**IsEmpty** – Checks for an empty table.

**IsError** – Checks for an error.

**IsMatch** – Checks a string against a pattern. Regular expressions can be used.

[IsNumeric](#) – Checks for a numeric value.

[ISOWeekNum](#) – Returns the ISO week number of a date/time value.

[IsToday](#) – Checks whether a date/time value is sometime today in the user's time zone.

[IsType](#) – Checks whether a record reference refers to a specific table type.

[IsUTCToday](#) – Checks whether a date/time value is sometime today in Coordinated Universal Time (UTC).

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## J

[JSON](#) - Generates a JSON text string for a table, a record, or a value.

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## L

[Language](#) – Returns the language tag of the current user.

[Last](#) – Returns the last record of a table.

[LastN](#) – Returns the last set of records (N records) of a table.

[Launch](#) – Launches a webpage or a canvas app.

[Left](#) – Returns the left-most portion of a string.

[Len](#) – Returns the length of a string.

[Ln](#) – Returns the natural log.

[LoadData](#) – Loads a collection from an app host such as a local device.

[Location](#) – Returns your location as a map coordinate by using the Global Positioning System (GPS) and other information.

[Log](#) – Returns the logarithm in any base of a number.

[LookUp](#) – Looks up a single record in a table based on one or more criteria.

[Lower](#) – Converts letters in a string of text to all lowercase.

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## M

[Match](#) – Extracts a substring based on a pattern. Regular expressions can be used.

[MatchAll](#) – Extracts multiple substrings based on a pattern. Regular expressions can be used.

[Max](#) – Maximum value of a table expression or a set of arguments.

[Mid](#) – Returns the middle portion of a string.

[Min](#) – Minimum value of a table expression or a set of arguments.

**Minute** – Retrieves the minute portion of a date/time value.

**Mod** – Returns the remainder after a dividend is divided by a divisor.

**Month** – Retrieves the month portion of a date/time value.

## N

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**Navigate** – Changes which screen is displayed.

**NewForm** – Resets a form control for creation of an item.

**Not** – Boolean logic NOT. Returns **true** if its argument is **false**, and returns **false** if its argument is **true**. You can also use the [!operator](#).

**Notify** – Displays a banner message to the user.

**Now** – Returns the current date/time value in the user's time zone.

## O

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**Or** – Boolean logic OR. Returns **true** if any of its arguments are **true**. You can also use the [|| operator](#).

## P

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**Param** – Access parameters passed to a canvas app when launched.

**Parent** – Provides access to a container control's properties.

**ParseJSON** – Converts JSON document represented as text to an [Untyped object](#) value.

**Patch** – Modifies or creates a record in a data source, or merges records outside of a data source.

**Pi** – Returns the number  $\pi$ .

**PlainText** – Removes HTML and XML tags from a string.

**Power** – Returns a number raised to a power. You can also use the [^ operator](#).

**Proper** – Converts the first letter of each word in a string to uppercase, and converts the rest to lowercase.

## R

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**Radians** - Converts degrees to radians.

**Rand** – Returns a pseudo-random number between 0 and 1.

**RandBetween** – Returns a pseudo-random number between two numbers.

**ReadNFC** – Reads a Near Field Communication (NFC) tag.

**RecordInfo** – Provides information about a record of a data source.

**Refresh** – Refreshes the records of a data source.

**Relate** – Relates records of two tables through a one-to-many or many-to-many relationship.

**Remove** – Removes one or more specific records from a data source.

**RemoveIf** – Removes records from a data source based on a condition.

**RenameColumns** – Renames columns of a table.

**Replace** – Replaces part of a string with another string, by starting position of the string.

**RequestHide** – Hides a SharePoint form.

**Reset** – Resets an input control to its default value, discarding any user changes.

**ResetForm** – Resets a form control for editing of an existing item.

**Revert** – Reloads and clears errors for the records of a data source.

**RGBA** – Returns a color value for a set of red, green, blue, and alpha components.

**Right** – Returns the right-most portion of a string.

**Round** – Rounds to the closest number.

**RoundDown** – Rounds down to the largest previous number.

**RoundUp** – Rounds up to the smallest next number.

## S

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**SaveData** – Saves a collection to an app host such as a local device.

**Search** – Finds records in a table that contain a string in one of their columns.

**Second** – Retrieves the second portion of a date/time value.

**Select** – Simulates a select action on a control, causing the **OnSelect** formula to be evaluated.

**Self** – Provides access to the properties of the current control.

**Sequence** – Generate a table of sequential numbers, useful when iterating with **ForAll**.

**Set** – Sets the value of a global variable.

**SetFocus** – Moves input focus to a specific control.

**SetProperty** – Simulates interactions with input controls.

**ShowColumns** – Returns a table with only selected columns.

**Shuffle** – Randomly reorders the records of a table.

**Sin** – Returns the sine of an angle specified in radians.

[Sort](#) – Returns a sorted table based on a formula.

[SortByColumns](#) – Returns a sorted table based on one or more columns.

[Split](#) – Splits a text string into a table of substrings.

[Sqrt](#) – Returns the square root of a number.

[StartsWith](#) – Checks if a text string begins with another text string.

[StdevP](#) – Returns the standard deviation of its arguments.

[Substitute](#) – Replaces part of a string with another string, by matching strings.

[SubmitForm](#) – Saves the item in a form control to the data source.

[Sum](#) – Calculates the sum of a table expression or a set of arguments.

[Switch](#) – Matches with a set of values and then evaluates a corresponding formula.

## T

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[Table](#) – Creates a temporary table.

[Tan](#) - Returns the tangent of an angle specified in radians.

[Text](#) – Converts any value and formats a number or date/time value to a string of text.

[ThisItem](#) – Returns the record for the current item in a gallery or form control.

[ThisRecord](#) – Returns the record for the current item in a record scope function, such as **ForAll**, **With**, and **Sum**.

[Time](#) – Returns a date/time value, based on **Hour**, **Minute**, and **Second** values.

[TimeValue](#) – Converts a time-only string to a date/time value.

[TimeZoneOffset](#) – Returns the difference between UTC and the user's local time in minutes.

[Today](#) – Returns the current date-only value.

[Trace](#) - Provide additional information in your test results.

[Trim](#) – Removes extra spaces from the ends and interior of a string of text.

[TrimEnds](#) – Removes extra spaces from the ends of a string of text only.

[Trunc](#) – Truncates the number to only the integer portion by removing any decimal portion.

## U

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[Ungroup](#) – Removes a grouping.

[Unrelate](#) – Unrelates records of two tables from a one-to-many or many-to-many relationship.



**Update** – Replaces a record in a data source.

**UpdateContext** – Sets the value of one or more [context variables](#) of the current screen.

**UpdateIf** – Modifies a set of records in a data source based on a condition.

**Upper** – Converts letters in a string of text to all uppercase.

**User** – Returns information about the current user.

**UTCNow** – Returns the current date/time value in Coordinated Universal Time (UTC).

**UTCToday** – Returns the current date-only value in Coordinated Universal Time (UTC).

## V

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**Validate** – Checks whether the value of a single column or a complete record is valid for a data source.

**Value** – Converts a string to a number.

**VarP** – Returns the variance of its arguments.

**ViewForm** – Resets a form control for viewing of an existing item.

## W

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**Weekday** – Retrieves the weekday portion of a date/time value.

**WeekNum** – Returns the week number of a date/time value.

**With** – Calculates values and performs actions for a single record, including inline records of named values.

## Y

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**Year** – Retrieves the year portion of a date/time value.