Calculated fields Dynamics CRM 2015

In Microsoft Dynamics CRM, *calculated* fields let you automate manual calculations used in your business processes.

- For example, a salesperson may want to know the weighted revenue for an opportunity which is based on the estimated revenue from an opportunity multiplied by the probability.
- Or, they want to automatically apply a discount, if an order is greater than $500. A calculated field can contain values resulting from simple math operations, or conditional operations, such as greater than or if-else, and many others.
- You can accomplish all this by using the CRM user interface, no need to write code.

The calculated field's capabilities:

- The calculated fields comprise of calculations that use the fields from the current entity or related parent entities.
- The expression support is available on the current entity and the related parent entity fields in the Condition sections and the Action sections. The built-in functions include Date and Time (
    1. ADDHOURS,
    2. ADDDAYS,
    3. ADDWEEKS,
    4. ADDMONTHS,
    5. ADDYEARS,
    6. SUBTRACTHOURS,
    7. SUBTRACTDAYS,
    8. SUBTRACTWEEKS,
    9. SUBTRACTMONTHS,
    10. SUBTRACTYEARS)

  And String (
    1. CONCAT,
    2. TRIMLEFT,
    3. TRIMRIGHT).
- A rich conditional support provides branching and multiple conditions. The logical operations include AND and OR operators.
- The visual editing capabilities include modern user interface and intellisense in the ACTION section.
- A seamless integration of the calculated fields with the forms, views, charts, and reports is available in real time.

A few examples of the calculated fields

1. **Weighted Revenue**: Estimated revenue multiplied by probability
2. **Net Worth**: Assets subtracted by the liabilities for a given account
3. **Cost of Labor**: Base rate up to 40 hours, plus additional overtime
4. **Contact Number**: Phone number for an opportunity based on account or contact
5. **Lead Score:** Single field that provides insights to the quality of a given lead
6. **Follow Up By:** Follow up on an activity by a specified number of days based on priority

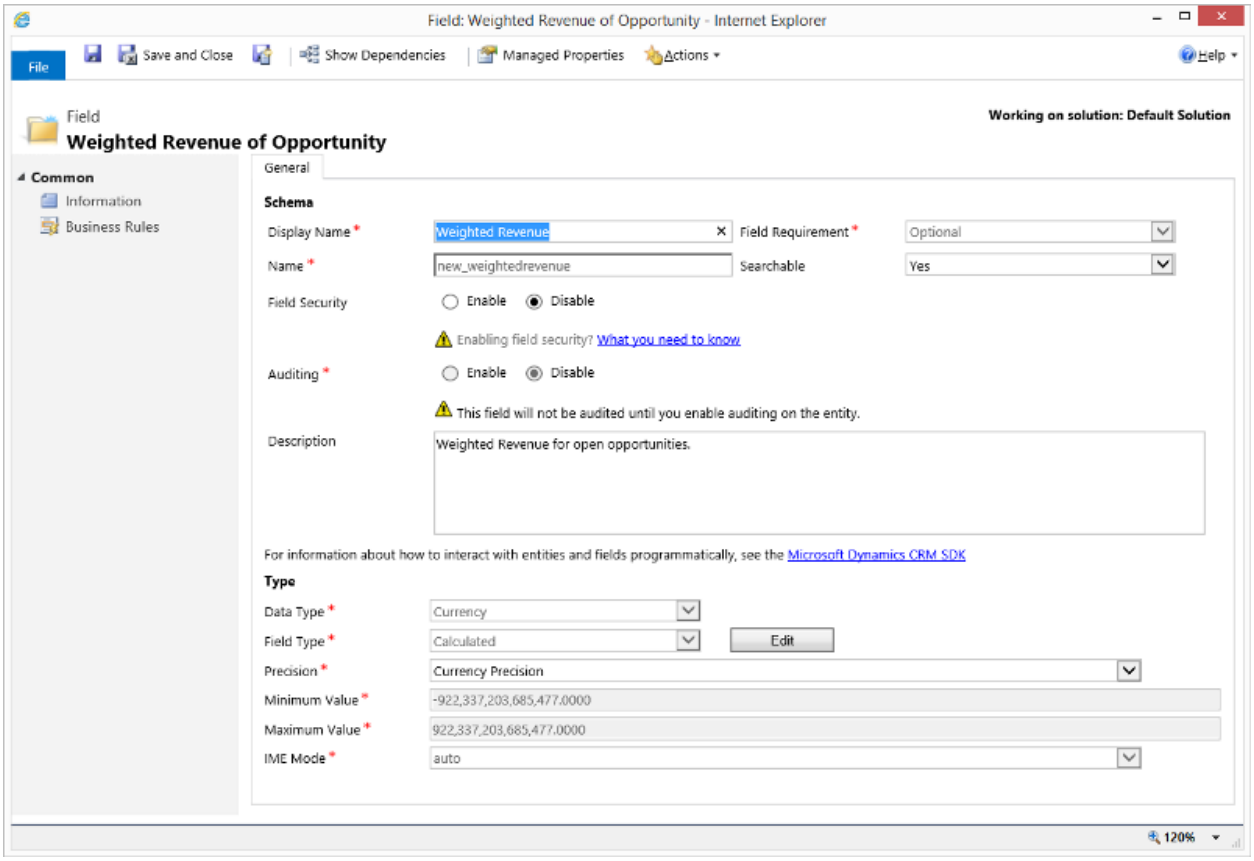
Important

To create a calculated field you must have the Write privilege on the Field Security Profile entity. If the calculated field uses the secured fields in a calculation, you should consider securing the calculated field as well, to prevent users from accessing data for which they don't have sufficient permissions. The calculated field editor gives you a warning if you are creating a calculated field that uses secured fields in a calculation, suggesting you secure the calculated field.

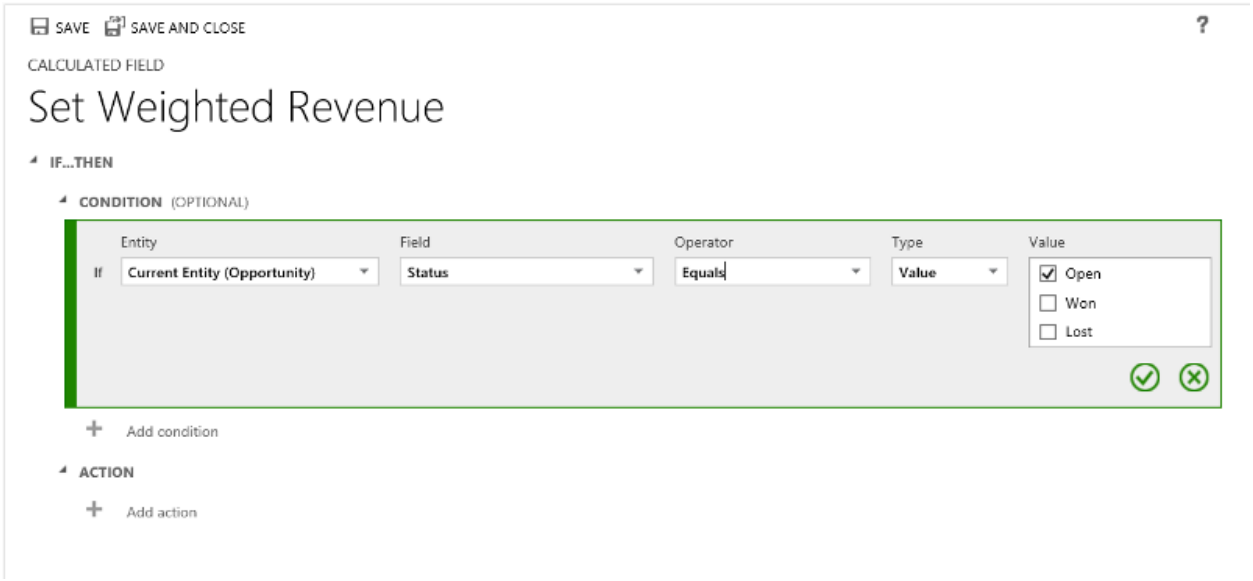
Weighted revenue of opportunity

In this example, we are using the fields of the opportunity entity to calculate the weighted revenue based on the opportunity's probability. In the field editor for an opportunity entity, we create a field called "Weighted Revenue" and specify the field type as Calculated and the data type is Currency. In the calculated field definition editor, in the Condition section, we specify the opportunity with the Status = Open. In the ACTION, the formula calculates the weighted revenue based on the opportunity estimated revenue multiplied by the probability of the opportunity. The following screenshots show step-by-step how to define the Weighted Revenue calculated field.

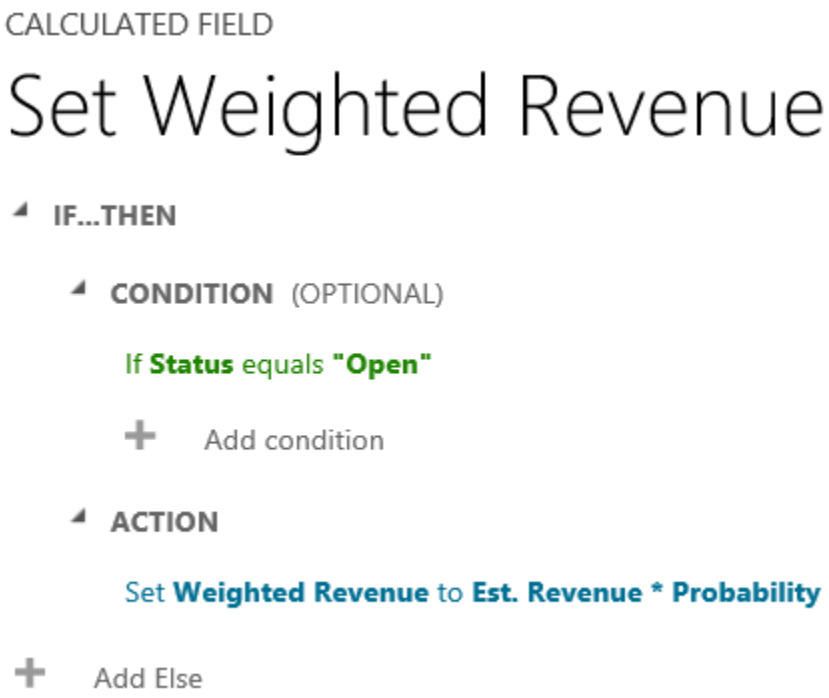
Create the calculated field called "Weighted Revenue":



Set the condition on the opportunities:



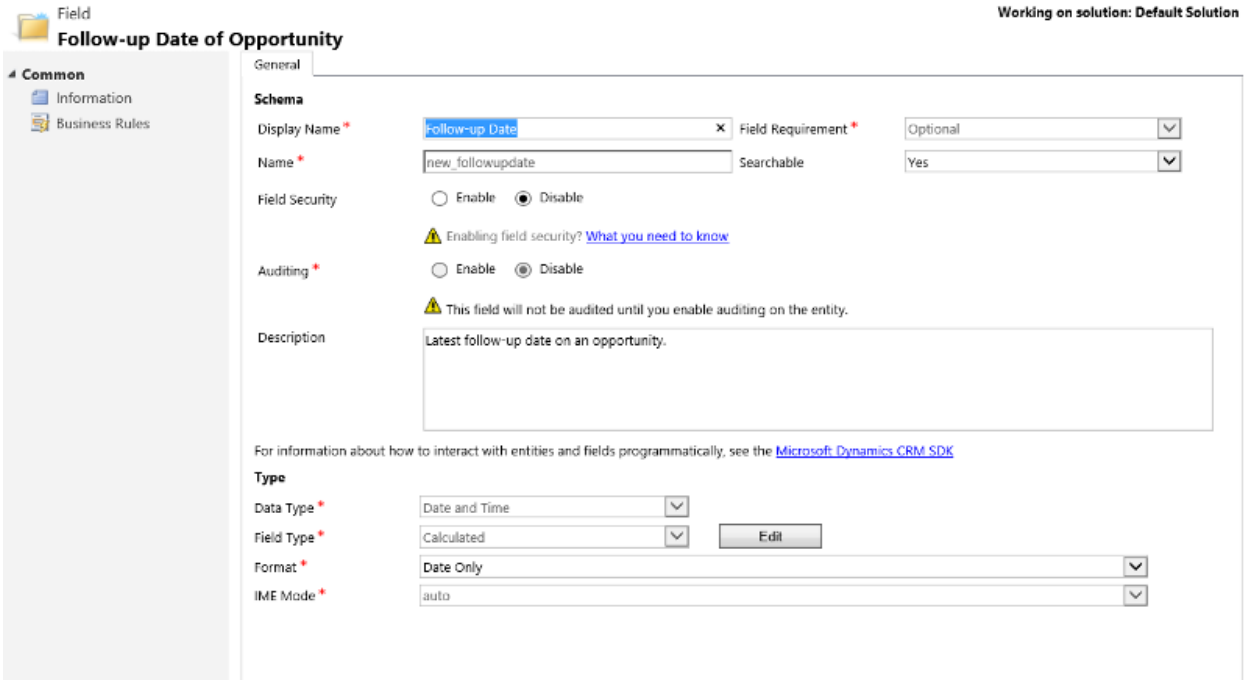
Provide the formula for the weighted revenue:



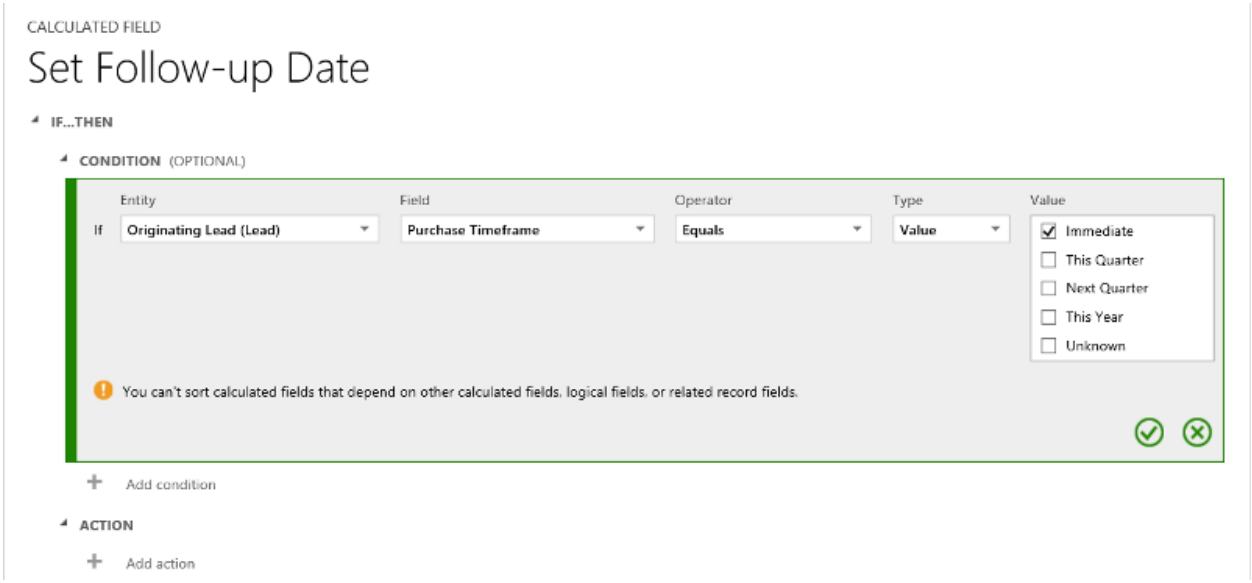
Follow-up date of opportunity

In this example, we are using the fields of the originated lead of an opportunity, to calculate the appropriate date when to follow up on the opportunity. In the field editor for an opportunity entity, we create a field called “Follow-up date” and specify the type as **Calculated** and the data type is **Date and Time**. In the calculated field definition editor, in the **Condition** section, we specify two conditions: the purchase time frame and the estimated value of the lead. In the **ACTION**, we provide two formulas, one, to follow up in one week on the immediate opportunity, another one, to follow up in one month, if the opportunity is not likely to happen right away. The following screenshots show step-by-step how to define the “Follow-up date” calculated field.

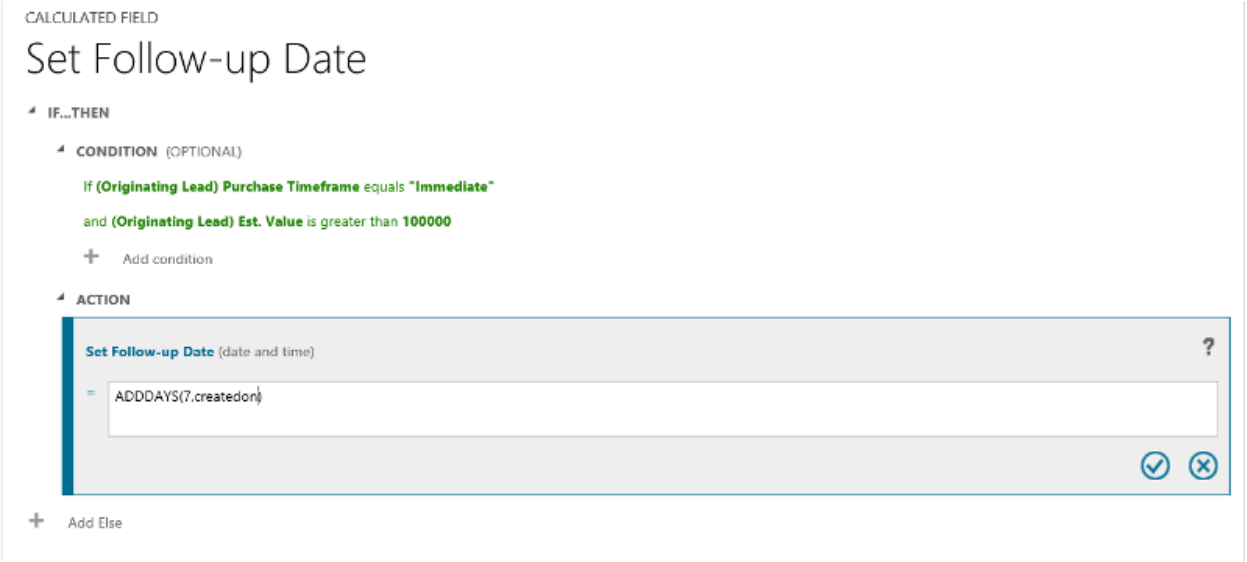
Create the calculated field called “Follow-up Date”:



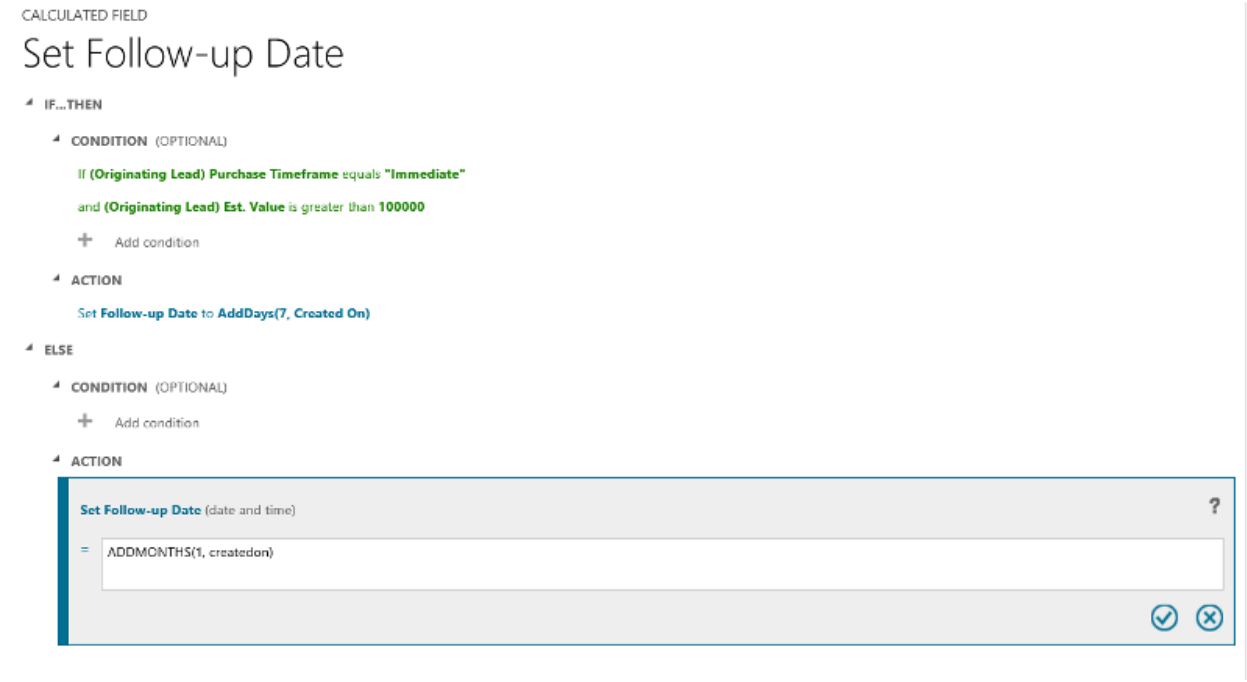
Set the two conditions on the originating lead:



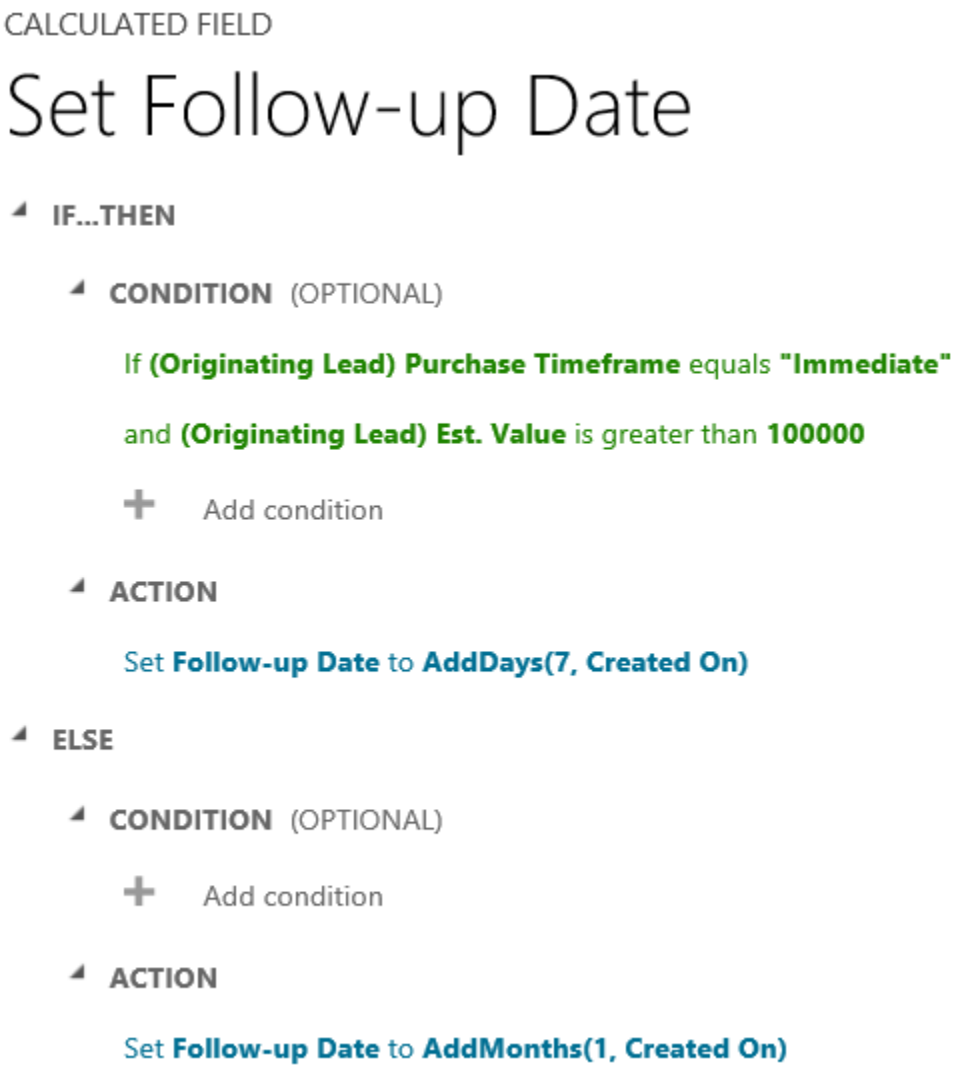
Provide the formula to follow up in one week:



Provide the formula to follow up in one month:



Altogether:



Function Syntax	***Description***	***Return type***
ADDDAYS (whole number, date and time)	*Returns a new date and time that is equal to the given date and time, plus the specified number of days.*	*DateTime*

ADDHOURS (whole number, date and time)	*Returns a new date and time that is equal to the given date and time, plus the specified number of hours.*	*DateTime*
ADDMONTHS (whole number, date and time)	*Returns a new date and time that is equal to the given date and time, plus the specified number of months.*	*DateTime*
ADDWEEKS (whole number, date and time)	*Returns a new date and time that is equal to the given date and time, plus the specified number of weeks.*	*DateTime*
ADDYEARS (whole number, date and time)	*Returns a new date and time that is equal to the given date and time, plus the specified number of years.*	*DateTime*
SUBTRACTDAYS (whole number, date and time)	*Returns a new date and time that is equal to the given date and time, minus the specified number of days.*	*DateTime*
SUBTRACTHOURS (whole number, date and time)	*Returns a new date and time that is equal to the given date and time, minus the specified number of hours.*	*DateTime*
SUBTRACTMONTHS (whole number, date and time)	*Returns a new date and time that is equal to the given date and time, minus the specified number of months.*	*DateTime*
SUBTRACTWEEKS (whole number, date and time)	*Returns a new date and time that is equal to the given date and time, minus the specified number of weeks.*	*DateTime*
SUBTRACTYEARS (whole number, date and time)	*Returns a new date and time that is equal to the given date and time, minus the specified number of years.*	*DateTime*
CONCAT (single line of text, single line of text, … single line of text)	*Returns a string that is the result of concatenating two or more strings.*	*string*
TRIMLEFT (single line of text, whole number)	*Returns a string that contains a copy of a specified string without the first N-characters.*	*string*
TRIMRIGHT (single line of text, whole number)	*Returns a string that contains a copy of a specified string without the last N-characters.*	*string*

In the **CONCAT** function, you can use literal strings as single lines of text, entity fields that contain a single line of text, or a combination of both. For example: **CONCAT** (FirstName, LastName, “is a manager.”). If a literal string contains quotation marks, precede each mark with the backslash (\) escape character, like this: “This string contains the \”quotation marks.\”” This

ensures that the quotation marks inside the string aren't treated as special characters that separate the strings.

The following examples show how to use the **TRIMLEFT** and **TRIMRIGHT** functions. They contain the initial strings and the resulting strings, returned by the **TRIMLEFT** and **TRIMRIGHT** functions:

TRIMLEFT ("RXX10-3456789", 3), returns the string "10-3456789"
TRIMRIGHT ("20-3456789RXX", 3), returns the string "20-3456789"

Calculated fields considerations

You should be aware of certain conditions and limitations when working with calculated fields:

- Saved queries, charts, and visualizations can have a maximum of 10 unique calculated fields.
- The calculated field values are not displayed in the CRM Outlook Offline mode in the tile views or on entity main forms.
- A maximum number of chained calculated fields is 5.
- A calculated field can't refer to itself or have cyclic chains.
- If you change one of the condition operators in a multiple condition clause, all of the condition operators will update to that condition. For example, in the clause **IF (x > 50) OR (y ==10) OR (z < 5)**, if you change the **OR** operator to the **AND** operator, then all **OR** operators in the clause will become **AND** operators.
- You can access parental fields via the Lookup field to the parent entity, such as **<LookupFieldName>.<FieldName>**. This is not possible with multi-entity Lookup fields like **Customer** which can be **Account** or **Contact**. However, some entities have individual Lookup fields for a specific entity, such as **ParentAccountid.<FieldName>** or **ParentContactid.<FieldName>**.
- Sorting is disabled on:
    - A calculated field that contains a field from a parent record.
    - A calculated field that contains a logical field (for example, address field).
    - A calculated field that contains another calculated field.
- Calculated fields can span two entities only.

    - A calculated field can contain a field from another entity (spanning two entities – current entity and parent record).
    - A calculated field can't contain a calculated field from another entity that also contains another field from a different entity (spanning three entities): (Current Entity)Calculated Field <- (Parent Record) Calculated Field 1 <- (Parent Record) Calculated Field 2.
- You can't trigger workflows or plugins on calculated fields.
- You can't change an existing simple field to a calculated field. If your current application is using JavaScript or plug-ins to calculate a field, you would not be able to use the calculated fields feature without creating a new field.