



Free Training Transcript: Calculation Syntax

Welcome to this video on the syntax of basic calculations in Tableau. You can download the Exercises workbook to follow along in your own copy of Tableau.

Example IF Statement

Calculated fields are created by defining a formula. The formula is composed of built-in functions or operators and fields from the data pane. Let's right click on "IF Calculation" and select Edit to take a look. The right hand side of the calculation editor provides information about the functions. It can be collapsed to save space, or expanded. If we select the Logical category, and then IF, we see information on how to use the IF function.

We need to say IF (something) THEN (what to do if it's true). We could add an ELSEIF, with another expression for evaluation, and then what to do if that expression is true. Followed by an ELSE, a final condition if nothing else has been true, followed by END.

Syntax for Calculations in Tableau

Let's create a simple logical calculation on our profit field. Right click in the data pane and select "Create Calculated Field". We'll name it Profit cutoff. First, we'll type IF—note the autocomplete coming up as I type. Down here, we see that the calculation contains errors. We can ignore it for now because we're not done, but it's a good idea to keep an eye on this indicator as we build our calculations. Next we'll type "SUM(". This is because we want to aggregate the measure so that our results are computed correctly regardless of the structure of the view. For more information, see the Aggregation, Granularity, & Profit Ratio video. Aggregations are colored light blue in the formula. Here we can either type in "Profit" or drag the field in from the data pane. Field names are colored orange in the formula. Note those square brackets – this isn't necessary for a single-word field name, but if we were using a field like Shipping Cost, we'd need those brackets because of the space. We'll close the parentheses to wrap up the aggregation SUM.

Now let's think about what we want to show – if profits are over 150,000 dollars, we want to call those Sub-Categories High Profit. To write this in a calculation, we'd use the greater than operator and then our value, > 150000. standard operators (like addition, multiplication, and comparisons like less than or equal to) are supported in Tableau. We need to tell the calculation what to do if that condition of greater than 150,000 is met – we want it to call those marks "High Profit" we do this by saying THEN "High Profit".

THEN doesn't need to be in all caps, but it can be a good habit to get into. And note that the words themselves must be set off in quotes to let the calculation editor know they are text. We have to specify what will happen if the condition is NOT met. ELSE "Not High Profit".

Hmmm. We see the indicator at the bottom says the calculation still contains errors. Clicking on the indicator gives us more information – ahh yes, an IF statement needs to end with END. Add that in and now the calculation is valid. We'll hit OK. If we bring that calculated field to Color, we see that all bars above our reference line are coded High Profit, and anything below is coded Not High Profit.

Conclusion

Thank you for watching this Calculation Syntax training video. We invite you to continue with the Free Training videos to learn more about using Tableau.