**Logical Functions in Tableau**

**CASE**

**IF**

**IFNULL**

**IIF**

**ISDATE**

**ISNULL**

**ZN**

**CASE:**

**CASE expression WHEN value1 THEN return1 WHEN value2 THEN return2 … ELSE defaults return END**

The CASE function is used to perform a logical test and return values based on the result. CASE functions can be rewritten as an IF function, but the CASE function is often times simpler to write and shorter.

Here’s an example of a formula:

CASE [country] when “United States” then “US”

When “United Kingdom” then “UK”

Else “World” end

This CASE function creates a new field by looking through the country field. When the value “United States” is found, it uses “USA.” When “United Kingdom” is found, it uses “UK.” All other values receive the value “World.”

**IF Function**

**IF test THEN value END / IF test THEN value ELSE END**

The IF function creates a logical test. IF *test* is true THEN do y. The test part of the function must be Boolean, either by using a Boolean field in the data source or as the result of an expression using operators or logical comparisons (AND, OR, NOT).

Here’s an example:

IF [2014 users] > [2012 users] then “Improvement” else “Regression” end

## IFNULL Function

**IFNULL(expression1, expression2)**

The IFNULL function basically runs a true/false test on whether the value in the tested field is NULL. The first value in the function is used if the value is not null, and the second is used if it is null.

Example: IFNULL([total population],0)

If any country’s **Total Population** does not have a value, then it will be reset as zero and removing the null from the newly created field.

**IFF Function**

**IIF(test, then, else, [unknown])**

IFF([% of change]<0.05 “poor”, “good”)

If the field **% of Change** is less than 5% then my formula above will return a value of poor, otherwise it will return good.

**ISDATE Function:**

ISDATE(string)

The ISDATE function tests whether the string argument can be converted to a valid date (TRUE) or if it cannot (FALSE). Here’s an example:

ISDATE([COUNTRY])

**ISNULL Function:**

**ISNULL(expression)**

Another simple function, ISNULL, simply tests whether an expression is null (TRUE) or not (FALSE).

ISNULL([country])

If you want to filter null values from your visualization, you can filter null values with the **Filter**card.

**ZN Function:**

**ZN(expression)**

The last logical function is the ZN function. It is a variation on the ISNULL and IFNULL function. ZN tests to see if a function is null, and if it is, it will return a value of zero.