Rounding numbers

Overview

You can put the relevant expression into a hidden value that represents the integer form of the value.

Round a number down to the nearest integer

If you want to round a number down you can use the int() function to cut off the decimal point (i.e. 2.2 -> 2; 2.7 -> 2)

\[ \text{int(#form/value)} \]

Round a number up to the nearest integer

Use the following calculation to always round a number up (i.e. 2.2 -> 3; 2.7 -> 3)

\[ \text{If( int(#form/value) < #form/value, int(#form/value) + 1, int(#form/value) )} \]

This compares whether the decimal form of the lowest integer is smaller than the current value, and if so, rounds up, and otherwise truncates the value.

Round a number up from .5, otherwise down

As of CommCare 2.19, the "round" function is available. Simply write round(#form/value). Read more here.

You can also use the int() function in combination with multiplying the input by 2, adding 1, and then dividing by 2 (i.e. 2.2 -> 2; 2.7 -> 3)

\[ \text{int}( (\text{#form/value}*2 +1) \text{ div } 2) \]

To round to a different number of decimal places, appropriately adjust the constant '2' in the preceding calculation. The constant should be twice the inverse of the desired precision. For example, for a precision of 0.1, constant = 1 / precision * 2 = 1 / 0.1 * 2 = 20. Consequently use int ( ( #form/value*20 +1 ) div 20 ).

Round a number to a certain decimal place

You can use the same principles to round to the nearest .1, .01, .001, etc. with the following formula:

Round to nearest decimal: \[ \text{round(#form/value*10) div 10} \]

To round to two decimals change the 10's in the formula above to 100. To three decimals change them to 1000, etc.