Lesson 5 Topics:

The IF function

The IF function runs a logical test and returns one value for a TRUE result, and another for a FALSE result. For example, to "pass" scores above 70: =IF(A1>70,"Pass","Fail"). More than one condition can be tested by nesting IF functions. The IF function can be combined with logical functions like AND and OR to extend the logical test.

Purpose
Test for a specific condition

Return value
The values you supply for TRUE or FALSE

Syntax
=IF (logical_test, [value_if_true], [value_if_false])
Arguments
- logical_test - A value or logical expression that can be evaluated as TRUE or FALSE.
- value_if_true - [optional] The value to return when logical_test evaluates to TRUE.
- value_if_false - [optional] The value to return when logical_test evaluates to FALSE.

Usage notes

The IF function is used to run a logical test, and react differently depending on whether the result is TRUE or FALSE. The first argument, logical_test, is an expression that returns either TRUE or FALSE. Both value_if_true and value_if_false are optional, but at least one of them must be provided. The result from IF can be a value, a cell reference, or even another formula.

In the example shown above, we want to assign either "Pass" or "Fail" based on a test score. A passing score is 70 or higher. The formula in D6, copied down, is:

=IF(C6>=70,"Pass","Fail")

Translation: If the value in C6 is greater than or equal to 70, return "Pass". Otherwise, return "Fail".

The logical flow this formula can be reversed. The formula below returns the same result:

=IF(C6<70,"Fail","Pass")

Translation: If the value in C6 is less than 70, return "Fail". Otherwise, return "Pass".

Both formulas above, when copied down, will return correct results.

Note: If you are new to the idea of formula criteria, this article explains many examples. Another formula

The IF function can return another formula as a result. For example, the formula below will return A1*5% when A1 is less than 100, and A1*7% when A1 is greater than or equal to 100:

=IF(A1<100,A1*5%,A1*7%)