

Excel Expert

Session 3 – Advanced Formulas

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## IfError –

The IFERROR function in Excel is designed to trap and manage errors in formulas and calculations. More specifically, IFERROR checks a formula, and if it evaluates to an error, returns another value you specify; otherwise, returns the result of the formula.

Use the IfError Function to make sure if there is an division by zero – it doesn't show an error.

```
=IFERROR(((Retail)-[Cost])/[Cost]),"Pure Profit")
```

## SUMIFS

SUMIFS is a function to sum cells that meet multiple criteria. SUMIFS can be used to sum values when adjacent cells meet criteria based on dates, numbers, and text. SUMIFS supports logical operators (>,<,<>=) and wildcards (\*,?) for partial matching.

```
=SUMIFS (sum_range, range1, criteria1, [range2], [criteria2], ...)
```

## AVERAGEIFS

AVERAGEIFS is a function to sum cells that meet multiple criteria. AVERAGEIFS can be used to sum values when adjacent cells meet criteria based on dates, numbers, and text. AVERAGEIFS supports logical operators (>,<,<>=) and wildcards (\*,?) for partial matching.

```
= AVERAGEIFS (sum_range, range1, criteria1, [range2], [criteria2], ...)
```

## COUNTIFS

COUNTIFS is a function to sum cells that meet multiple criteria. COUNTIFS can be used to sum values when adjacent cells meet criteria based on dates, numbers, and text. COUNTIFS supports logical operators (>,<,<>=) and wildcards (\*,?) for partial matching.

```
= COUNTIFS (sum_range, range1, criteria1, [range2], [criteria2], ...)
```

## VLOOKUP

VLOOKUP is an Excel function to lookup and retrieve data from a specific column in table. VLOOKUP supports approximate and exact matching, and wildcards (\* ?) for partial matches. The "V" stands for "vertical". Lookup values must appear in the first column of the table, with lookup columns to the right.

=VLOOKUP (value, table, col\_index, [range\_lookup])

## AND

The Excel AND function is a logical function used to require more than one condition at the same time. AND returns either TRUE or FALSE. To test if a number in A1 is greater than zero and less than 10, use =AND(A1>0,A1<10). The AND function can be used as the logical test inside the IF function to avoid extra nested IFs, and can be combined with the OR function.

=AND (logical1, [logical2], ...)

## OR

The OR function is a logical function to test multiple conditions at the same time. OR returns either TRUE or FALSE. For example, to test A1 for either "x" or "y", use =OR(A1="x",A1="y"). The OR function can be used as the logical test inside the IF function to avoid extra nested IFs, and can be combined with the AND function.

=OR (logical1, [logical2], ...)

## Goal Seek

Technically, Goal Seek is a process of calculating a value by performing what-if analysis on a given set of values. For our purposes, Excel's Goal Seek feature lets you adjust a value used in a formula to achieve a specific goal. Or, put another way, Goal Seek determines input values needed to achieve a specific goal. Use Goal Seek when you don't have an exact value to use.

## Importing Data

Go to [finance.yahoo.com](https://finance.yahoo.com) and download 5 years' worth of stock information from Microsoft (MSFT). When downloaded, you can double-click on the file and it automatically gets loaded into Excel.

Great.

But, we can use open it via the Data tab-> in the Get & Transform group, click New Query, point to the type of data you want to import, and then in the submenu, click the data source type. This now allows us to make transformations on the data before bringing it into our spreadsheet.

MSFT.csv

File Origin: 1252: Western European (Windows) | Delimiter: Comma | Data Type Detection: Based on first 200 rows

Date	Open	High	Low	Close	Adj Close	Volume
12/5/2014	48.82	48.970001	48.380001	48.419998	43.469467	27313400
12/8/2014	48.259998	48.349998	47.450001	47.700001	42.823078	26663100
12/9/2014	47.110001	47.919998	47.049999	47.59	42.724323	24330500
12/10/2014	47.580002	47.66	46.700001	46.900002	42.104874	30431800
12/11/2014	47.080002	47.740002	46.68	47.169998	42.347267	29060400
12/12/2014	46.779999	47.73	46.669998	46.950001	42.149757	34248400
12/15/2014	47.200001	47.669998	46.549999	46.669998	41.898388	29247800
12/16/2014	45.900002	46.34	45.130001	45.16	40.54277	47801400
12/17/2014	45.049999	45.950001	44.900002	45.740002	41.06348	34970900
12/18/2014	46.580002	47.52	46.34	47.52	42.661484	40105600
12/19/2014	47.630001	48.099998	47.169998	47.66	42.78717	64551200
12/22/2014	47.779999	48.119999	47.709999	47.98	43.074444	26566000
12/23/2014	48.369999	48.799999	48.130001	48.450001	43.496403	23648100
12/24/2014	48.639999	48.639999	48.080002	48.139999	43.218105	11437800
12/26/2014	48.41	48.41	47.82	47.880001	42.98468	13197800
12/29/2014	47.700001	47.779999	47.259998	47.450001	42.598644	14439500
12/30/2014	47.439999	47.619999	46.64	47.02	42.212612	16384700
12/31/2014	46.73	47.439999	46.450001	46.450001	41.700874	21552500
1/2/2015	46.66	47.419998	46.540001	46.759998	41.979183	27913900
1/5/2015	46.369999	46.73	46.25	46.330002	41.593143	39673900

The data in the preview has been truncated due to size limits.

Buttons: Load, Transform Data, Cancel

MSFT - Power Query Editor

File Home Transform Add Column View

Close & Load Close Refresh Preview Advanced Editor Manage Query Properties Advanced Editor Choose Columns Remove Columns Manage Columns Keep Rows Remove Rows Reduce Rows Sort Split Column Group By Data Type: Date Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Combine Parameters Data source settings Data Sources New Source Recent Sources New Query

Date	1.2 Open	1.2 High	1.2 Low	1.2 Close	1.2 Adj Close	i2 <sub>3</sub> Volume	
1	12/5/2014	48.82	48.970001	48.380001	48.419998	43.469467	27313400
2	12/8/2014	48.259998	48.349998	47.450001	47.700001	42.823078	26663100
3	12/9/2014	47.110001	47.919998	47.049999	47.59	42.724323	24330500
4	12/10/2014	47.580002	47.66	46.700001	46.900002	42.104874	30431800
5	12/11/2014	47.080002	47.740002	46.68	47.169998	42.347267	29060400
6	12/12/2014	46.779999	47.73	46.669998	46.950001	42.149757	34248400
7	12/15/2014	47.200001	47.669998	46.549999	46.669998	41.898388	29247800
8	12/16/2014	45.900002	46.34	45.130001	45.16	40.54277	47801400
9	12/17/2014	45.049999	45.950001	44.900002	45.740002	41.06348	34970900
10	12/18/2014	46.580002	47.52	46.34	47.52	42.661484	40105600
11	12/19/2014	47.630001	48.099998	47.169998	47.66	42.78717	64551200
12	12/22/2014	47.779999	48.119999	47.709999	47.98	43.074444	26566000

You can also split columns by using the column splitter. So, you can split the date by the /.

MSFT - Power Query Editor

File Home Transform Add Column View

Close & Load Refresh Preview Properties Advanced Editor Manage Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Data Type: Whole Number Use First Row as Headers Merge Queries Append Queries Combine Files Manage Parameters Data Settings

	1 <sup>2</sup> 3 Date.1	1 <sup>2</sup> 3 Date.2	1 <sup>2</sup> 3 Date.3	1.2 Open	1.2 High	1.2 Low
1	12		5	2014	48.82	48.970001
2	12		8	2014	48.259998	48.349998
3	12		9	2014	47.110001	47.919998
4	12		10	2014	47.580002	47.66
5	12		11	2014	47.080002	47.740002
6	12		12	2014	46.779999	47.73
7	12		15	2014	47.200001	47.669998

You can also rename the columns before importing them.

Close & Load Refresh Preview Properties Advanced Editor Manage Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Data Type: Whole Use First Row Replace Values

	1 <sup>2</sup> 3 Month	1 <sup>2</sup> 3 Day	1 <sup>2</sup> 3 Year	1.2 Open
1		12	5	2014
2		12	8	2014
3		12	9	2014
4		12	10	2014

If you did something you don't want to do – you can remove it from the Applied Steps

Query Settings

PROPERTIES

Name: MSFT

APPLIED STEPS

- Source
- Promoted Headers
- Changed Type
- Split Column by Delimiter
- Changed Type1
- Renamed Columns
- Grouped Rows**

## Notes from previous classes:

Mac F8 key is for Excel Macros:

You can use this: Shift-CMD-i

Underscore in formatting near the @

<b>Format Code</b>	<b>Description</b>
General	General number format
#	Digit placeholder that represents optional digits and does not display extra zeros.
0	Digit placeholder that displays insignificant zeros.
?	Digit placeholder that leaves a space for insignificant zeros but doesn't display them.
@	Text placeholder
. (period)	Decimal point
, (comma)	Thousands separator. A comma that follows a digit placeholder scales the number by a thousand.
\	Displays the character that follows it.
" "	Display any text enclosed in double quotes.
%	Multiplies the numbers entered in a cell by 100 and displays the
/	Represents decimal numbers as fractions.
E	Scientific notation format
_ (underscore)	Skips the width of the next character. It's commonly used in combination with parentheses to add left and right indents, _( and _) respectively.

* (asterisk)	Repeats the character that follows it until the width of the cell is filled. It's often used in combination with the space character to change alignment.
[]	Create conditional formats.

Only start of functions displayed:

My guess – lower version. Works on: Build 12130.20390 and 12130.20272