

Excel Array Formulae

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Exercise Description

- **Excel “Array Formulae” can be a very powerful analysis tool**
- **It allows you to count up raw data by time interval**
- **They can also be used for creating histograms (next topic)**
- **You have much greater control than when using pivot tables**

Exercise

- Open file [Array Data.xls](#)
- This has been loaded with RL prefix occurrence reports from the Access File (or_num like “RL*”)
- We will count up the number of reports by month, based upon Categorization Date (Column H)

Concept

- **Look at the “calcs” sheet**
- **The number of reports per month have been tallied in column B**
- **Note that the formula starts with “= sum”, has a series of IF statements, and ends with “1,0”**
- **This means that if the IF statements are true, it sums in a 1, if any IF statement is false, it sums in a 0**

Array “If” Statements

- **The first IF statement is**

(IF('RL Occurrence Reports'!\$H\$2:\$H\$100>=Calcs!A2

This statement is going to the RL Occurrence Reports sheet, column H from row 2 to 100.

The dollar signs lock in the cell references so we may copy the formula down from month to month

Array “If” Statements – How it Works

- **The first IF statement is**

(IF('RL Occurrence Reports'!\$H\$2:\$H\$100>=Calcs!A2

Note that it compares the dates in column H to cell A2 on the Calcs sheet. If the date is the same or greater than A2, then this IF statement is true.

Array “If” Statements Continued

- **The second IF statement is**
(IF('RL Occurrence Reports'!\$H\$2:\$H\$100<Calcs!A3

Note that it compares the dates in column H to cell A3 on the Calcs sheet. If the date is less than A3, then this IF statement is true.

Determining if Data are in a Given Month

- **If both IF statements are true**
 - The categorization date is greater than or equal to November 1, 2003 AND
 - The categorization date is less than December 1, 2003
- **Then the record is summed in as a “1”**
 - If not, then a “0” is summed in
 - End result is a count of reports in November 2003 is calculated

Ctrl-Shift-Enter

- **Note:** After entering an array formulae, and while the cursor is still in the formulae, you must hit the Control key, Shift key, and Enter key simultaneously for the formula to recognize it is an array formula
- You will then see squiggly brackets { } around the array formula

You Try It

- **Let's count up the reports by Occurrence Date**
 - Compare the Occurrence Date to the months in the A Column
 - After the beginning of the month AND before the beginning of the next month
 - Sum up 1's and 0's