

# Excel Array formulas

## e.g., Frequency

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**=FREQUENCY**(data\_array, bins\_array)

returns a frequency distribution as a vertical array. For a given set of values and a given set of bins (or intervals), the frequency distribution counts how many of the values occur in each interval.

**Example 1** (from MS Excel Help)

[Example 2](#): Graphing the results of the frequency function

The Data\_array has the numbers 6, 3, 18, 19, 17, 25, 26, 27, 28, 29, 35, 36, 38, 48, 46, 50, 80, entered into B5:B21. The Bins\_array is another column of intervals by which these numbers are grouped. In this example, the Bins\_array, cells E5:E9, contains the values 9, 19, 29, 39, 49.

Microsoft Excel - Freq1.xls

File Edit View Insert Format Tools Data Window Help

F5 =

|    | A | B                                 | C | D | E  | F | G | H  |
|----|---|-----------------------------------|---|---|----|---|---|--|
| 1  |   | <b>Must use: ctrl+shift+enter</b> |   |   |    |   |   |  |
| 2  |   | to do an array formula            |   |   |    |   |   |  |
| 3  |   |                                   |   |   |    |   |   | 1. highlight F5 to F10 (one more than "bin_array") |
| 4  |   |                                   |   |   |    |   |   | 2. type =frequency(B5:B21,E5:E9) in F5             |
| 5  |   | 6                                 |   |   | 9  |   |   | 3. Do not enter                                    |
| 6  |   | 3                                 |   |   | 19 |   |   | 4. press ctrl+shift+enter                          |
| 7  |   | 18                                |   |   | 29 |   |   |  |
| 8  |   | 19                                |   |   | 39 |   |   |  |
| 9  |   | 17                                |   |   | 49 |   |   |  |
| 10 |   | 25                                |   |   |    |   |   |  |
| 11 |   | 26                                |   |   |    |   |   |  |
| 12 |   | 27                                |   |   |    |   |   |  |
| 13 |   | 28                                |   |   |    |   |   |  |
| 14 |   | 29                                |   |   |    |   |   |  |
| 15 |   | 35                                |   |   |    |   |   |  |
| 16 |   | 36                                |   |   |    |   |   |  |
| 17 |   | 38                                |   |   |    |   |   |  |
| 18 |   | 48                                |   |   |    |   |   |  |
| 19 |   | 46                                |   |   |    |   |   |  |
| 20 |   | 50                                |   |   |    |   |   |  |
| 21 |   | 80                                |   |   |    |   |   |  |
| 22 |   |                                   |   |   |    |   |   |  |

RIGHT X ✓ = =frequency(B5:B21,E5:E9)

|    | A | B                                 | C | D | E  | F    | G         |
|----|---|-----------------------------------|---|---|----|------|-----------|
| 1  |   | <b>Must use: ctrl+shift+enter</b> |   |   |    |      |           |
| 2  |   | to do an array formula            |   |   |    |      |           |
| 3  |   |                                   |   |   |    |      | 1. highli |
| 4  |   |                                   |   |   |    |      | 2. type : |
| 5  |   | 6                                 |   |   | 9  | :E9) | 3. Do nc  |
| 6  |   | 3                                 |   |   | 19 |      | 4. press  |
| 7  |   | 18                                |   |   | 29 |      |           |
| 8  |   | 19                                |   |   | 39 |      |           |
| 9  |   | 17                                |   |   | 49 |      |           |
| 10 |   | 25                                |   |   |    |      |           |
| 11 |   | 26                                |   |   |    |      |           |

Excel's Frequency function used in an array formula

|    | A | B                                 | C | D | E  | F | G         |
|----|---|-----------------------------------|---|---|----|---|-----------|
| 1  |   | <b>Must use: ctrl+shift+enter</b> |   |   |    |   |           |
| 2  |   | to do an array formula            |   |   |    |   |           |
| 3  |   |                                   |   |   |    |   | 1. highli |
| 4  |   |                                   |   |   |    |   | 2. type   |
| 5  |   | 6                                 |   |   | 9  | 2 | 3. Do n   |
| 6  |   | 3                                 |   |   | 19 | 3 | 4. press  |
| 7  |   | 18                                |   |   | 29 | 5 |           |
| 8  |   | 19                                |   |   | 39 | 3 |           |
| 9  |   | 17                                |   |   | 49 | 2 |           |
| 10 |   | 25                                |   |   |    | 2 |           |
| 11 |   | 26                                |   |   |    |   |           |

## Related Functions

|               |  |
|---------------|--|
| <b>COUNT</b>  | Counts how many numbers are in the list of arguments                       |
| <b>DCOUNT</b> | Counts the cells containing numbers from a specified database and criteria |

Frequency ignores blank cells and text.

(from MS Excel Help)