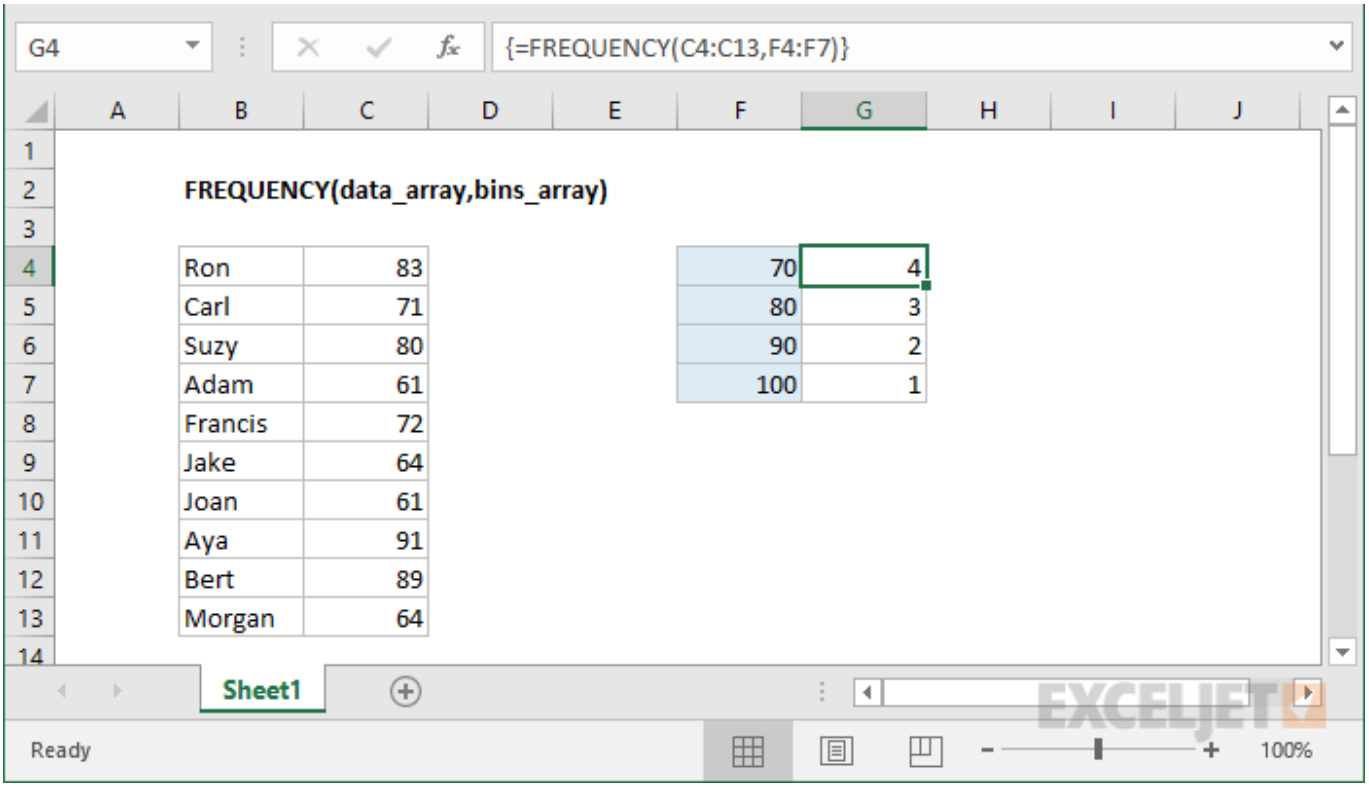
Excel FREQUENCY Function



Summary

The Excel FREQUENCY function returns a frequency distribution, which is a summary table that shows the frequency of each value in a range. FREQUENCY returns multiple values and must be entered as an array formula with control-shift-enter.

Purpose

Get the frequency of values in a data set

Return value

A vertical array of frequencies

Syntax

=FREQUENCY (data_array, bins_array)

Arguments

data_array - An array of values for which you want to get frequencies.

bins_array - An array of intervals ("bins") for grouping values.

Version

Excel 2003

Usage notes

FREQUENCY counts how often values occur in a set of data. You can use Excel's FREQUENCY function to create a frequency distribution - a summary table that shows the frequency (count) of each value in a range. It returns a vertical array of numbers that represent frequencies, and must be entered as an array formula with control + shift + enter.

For example, with data in A1:A100, and bins in B1:B5, you would select C1:C5 and enter a formula like this:

```
{ = FREQUENCY(A1:A100,B1:B5)}
```

Curly braces added by Excel automatically when formula is array-entered.

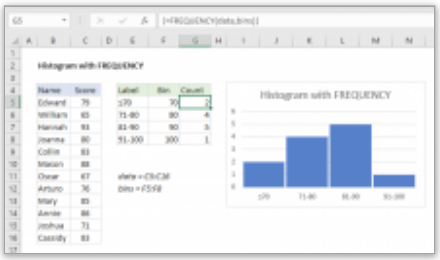
Notes:

1. FREQUENCY returns multiple values and *must be entered as an array formula with control-shift-enter.*
2. FREQUENCY always returns an array with *one more item* than the bins_array. This is by design, to catch any values greater than the largest interval in the bins_array.
3. Each bin shows a count of values up to and including bin value, excluding values already accounted for

To create a frequency distribution using FREQUENCY:

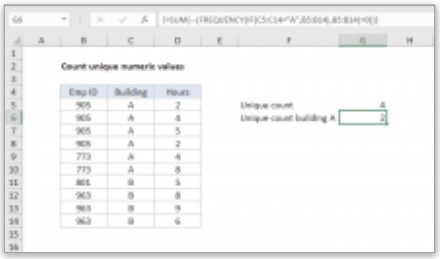
1. Enter numbers that represent the bins you want to group values into
2. Make a selection the same size as the range that contains bins, or one greater if want to include the extra item
3. Enter the FREQUENCY function as an array formula using Control+Shift+Enter

FREQUENCY formula examples



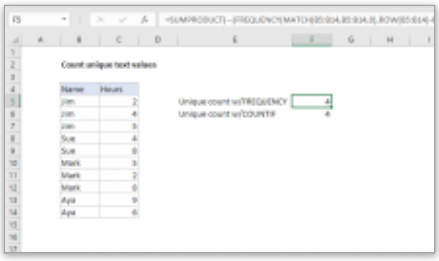
Histogram with FREQUENCY

Note: later versions of Excel include a native histogram chart, which is easy to create, but not as flexible to format. The example on this page shows one way to create your own histogram data with the FREQUENCY...



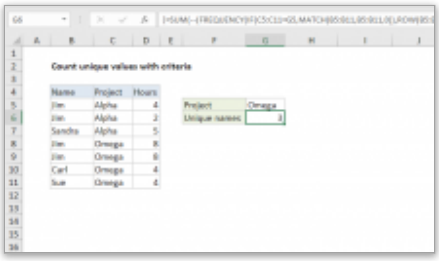
Count unique numeric values with criteria

Note: Prior to Excel 365, Excel did not have a dedicated function to count unique values. This formula shows a one way to count unique values, as long as they are numeric. If you have text values, or a mix of text and...



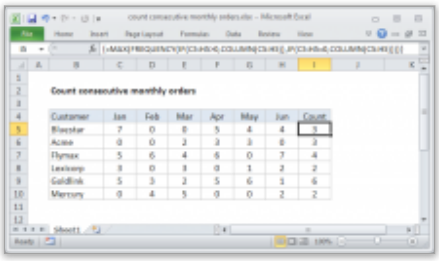
Count unique text values in a range

This formula is more complicated than a similar formula that uses FREQUENCY to count unique numeric values because FREQUENCY doesn't work with non-numeric values. As a result, a large part of the formula simply...



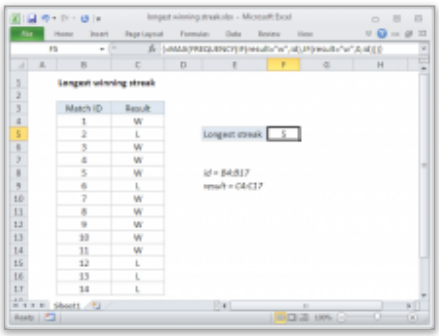
Count unique text values with criteria

This is a complex formula that uses FREQUENCY to count numeric values that are derived with the MATCH function. Working from the inside out, the MATCH function is used to get the position of each value that appears in...



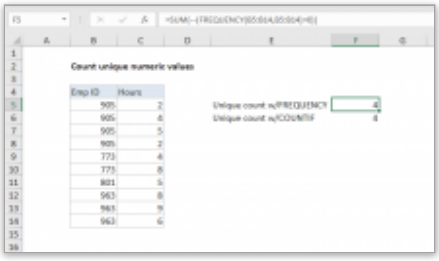
Count consecutive monthly orders

This is a tricky formula to understand, so buckle up! They key to the formula is knowing that FREQUENCY gathers numbers into "bins" in a specific way. Each bin represents an upper limit, and generates a count of all...



Longest winning streak

This is a tricky formula to understand, and it requires that you have a numeric id for each match, and that all matches are sorted by id. They key is in understanding how FREQUENCY gathers numbers into "bins". Each...

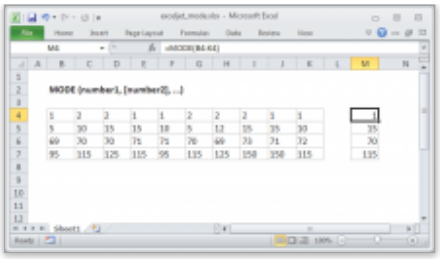


Count unique numeric values in a range

Note: Prior to Excel 365, Excel did not have a dedicated function to count unique values. This formula shows a one way to count unique values, as long as they are numeric. If you have text values, or a mix of text and...

Related functions

Excel MODE Function



The Excel MODE function returns the most frequently occurring number in a numeric data set. For example, =MODE(1,2,4,4,5,5,5,6) returns 5.

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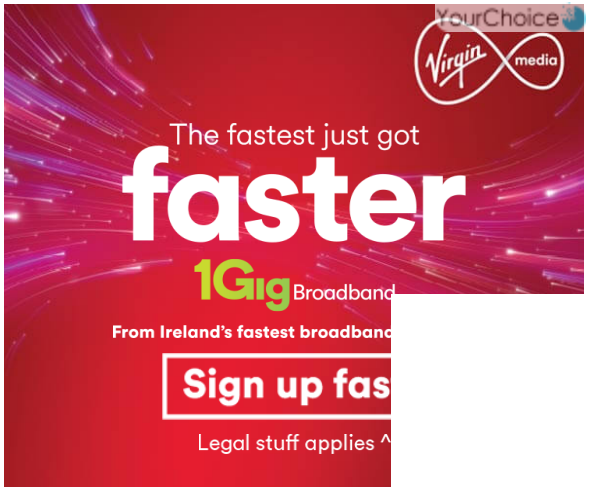

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Key functions

- IF function
- VLOOKUP function
- XLOOKUP function
- FILTER function
- SUMIFS function
- COUNTIFS function
- SUMPRODUCT function
- INDEX and MATCH
- More functions...

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