

Find the Smallest Number in an Excel Database

| | | | | | | |
|------------------------|---------|------------------------------|---------------|-------|---|---|
| fx | | =DMIN(Planets,"Rings",D2:G3) | | | | |
| C | D | E | F | G | H | I |
| Planet Facts | | | | | | |
| Function wizard button | Planet | Orbit | Moons | Rings | | |
| | >5 | | | | | |
| | | | | | | |
| | | | Fewest Rings: | 4 | | |
| | Planet | Orbit | Moons | Rings | | |
| | Mercury | 0.24 | 0 | 0 | | |
| | Venus | 0.62 | 0 | 0 | | |
| | Earth | 1 | 1 | 0 | | |
| | Mars | 1.88 | 2 | 0 | | |
| | Jupiter | 11.86 | 50 | 4 | | |
| | Saturn | 29.46 | 53 | 23 | | |
| | Uranus | 84.01 | 27 | 14 | | |
| | Neptune | 164.79 | 13 | 9 | | |
| | Pluto | 248.6 | 5 | 0 | | |

DMIN Function Overview

The DMIN function is one of Excel's database functions.

This group of functions is designed to make it easy to summarize information from large tables of data.

They do this by returning specific information based on one or more criteria chosen by the user.

The DMIN function can be used to find the smallest or minimum number for data that meets the set criteria.

DMIN Syntax and Arguments

The syntax for the DMIN function is:

=DMIN (database, field, criteria)

All database functions have the same three arguments:

Database: (required) Specifies the range of cell references containing the database. The field names must be included in the range.

Field: (required) Indicates which column or field is to be used by the function in its calculations. Enter the argument either by typing the field name in quotes - such as "Rings" - or enter the column number - such as 4.

Criteria: (required) Lists the range of cells containing the conditions specified by the user. The range must include at least one field name from the database and at least one other cell reference indicating the condition to be evaluated by the function.

Example Using Excel's DMIN Function

This example will use DMIN to find which of the four largest planets: (Jupiter, Saturn, Uranus, and Neptune) has the fewest number of rings.

Note: The tutorial does not include formatting steps.

Entering the Tutorial Data

Entering the Tutorial Data

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1. Download Database Function Workbook file from moodle
2. Click the DMIN worksheet tab
3. Leave cell G5 blank - this is where the DMIN formula will be located
4. The field names in cells D2 to G2 will be used as part of the function's *Criteria* argument

Selecting a Criterion

Since we only want DMIN to look at data for the four largest planets, we need to choose a criterion that will eliminate the other five planets.

Since only the four largest planets have more than five moons we can use "> 5

" under *Moons* as a criterion that will prevent DMIN from looking at data for the five smallest planets.

In Excel, the ">" character is the *greater than* symbol.

1. In cell F3 type the criteria > 5

2. In cell F5 type the heading *Fewest Rings*: to indicate the information we will be finding with DMIN

Naming the Database

Using a named range for large ranges of data such as a database can not only make it easier to enter this argument into the function, but it can also prevent errors caused by selecting the wrong range.

Named ranges are very useful if you use the same range of cells frequently in calculations or when creating charts or graphs.

1. Highlight cells D6 to G15 in the worksheet to select the range
2. Click on the name box above column A in the worksheet
3. Type *Planets* into the name box to create the named range
4. Press the **Enter** key on the keyboard to complete the entry

Opening the DMIN Dialog Box

A function's dialog box provides an easy method for entering data for each of the function's arguments.

Opening the dialog box for the database group of functions is done by clicking on the function wizard button (fx) located next to the formula bar above the worksheet - see image above.

1. Click on cell G5 - the location where the results of the function will be displayed
2. Click on the *function wizard button (fx)* icon to bring up the *Insert Function* dialog box
3. Type **DMIN** in the *Search for a function* window at the top of the dialog box
4. Click on the *GO* button to search for the function
5. The dialog box should find DMIN and list it in the *Select a function* window
6. Click OK to open the DMIN function dialog box

Completing the Arguments

1. Click on the *Database* line of the dialog box
2. Type the range name *Planets* into the line
3. Click on the *Field* line of the dialog box
4. Type the field name *"Rings"* into the line - be sure to include the quotation marks
5. Click on the *Criteria* line of the dialog box
6. Highlight cells D2 to G3 in the worksheet to enter the range
7. Click OK to close the DMIN function dialog box and complete the function
8. The answer **4** should appear in cell G5
9. This number shows the number of rings that Jupiter has - which is the fewest for the planets Jupiter, Saturn, Uranus, and Neptune
10. When you click on cell G5 the complete function **=DMIN (Planets, "Rings", D2:G3)** appears in the formula bar above the worksheet

Note: If we wanted to find the fewest number of rings for all the planets, we could use the regular MIN function, since we do not need to specify criteria to limit what data is used by the function.

Database Function Errors

#Value: Occurs most often when the field names were not included in the database argument. For the example above, be sure that the field names in cells D6:G6 were included in the named range *Planets*.