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Digital Area for Networking
Teachers and Educators



Co-funded by
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Data Analysis Using Formulas

Using Defined Names

WEEK 6

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Data Analysis Using Formulas

Formulas Using Defined Names

So far, in our formulas, we have used only cell addresses, either relative, absolute or mixed, to specify a range of cells. However, it is often advantageous, e.g. in the case of large tables, to name the used cell ranges and then use names instead of addresses in formulas. The names can then be used in the following ways:

- A single named cell is usable instead of an absolute address.
- Named ranges of multiple cells can be used as function parameters. In this case, however, the formulas should be entered as array formulas.

Generally speaking, there are two types of names in Excel:

- **Defined names** - defined by the user for a cell or range of cells. If you require names for entire table columns, it is more advantageous to use structured tables and their table names.
- **Table names** - they are created automatically in structured tables (see later in the Structured Tables chapter).

The name in Excel cannot contain any characters, but must meet the following rules:

- The name must not contain spaces.
- The name must not start with a number.
- The name must start with a letter or an underscore.
- No symbols (except the underscore) can be used in the name.
- The maximum name length is 255 characters.
- Do not use the letters C and R in combination with numbers in the names due to the similarity with cell addresses in R1C1 notation.
- Names are case insensitive.
- The defined name should not be the same as the function name to avoid confusion with the function.



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Creating Defined Names

Defined name can be created in several ways:

- Select the cells you want to name and write the name in the **NAME BOX** in the formula bar.
- From a column or row header using the **FORMULAS** tab - **CREATE FROM SELECTION**. First, it is necessary to select the cells, including headers. If multiple columns are selected, one name is created for each column. It is necessary to check in the **CREATE NAMES FROM SELECTION** dialog box from which part of the selected range of cells the names will be created.
- Using the **FORMULAS** tab - **DEFINE NAME** (or use the **NAME MANAGER**).

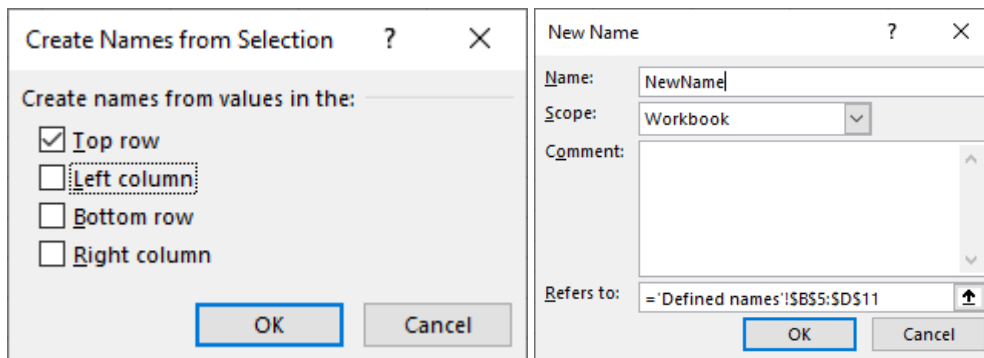


Figure 1 Dialog boxes Create Names from Selection and New Name

The existing defined names can also be retroactively changed or deleted. To manage names, use the **NAME MANAGER** dialog box, which can be opened on the **FORMULAS** tab with the **NAME MANAGER** button.



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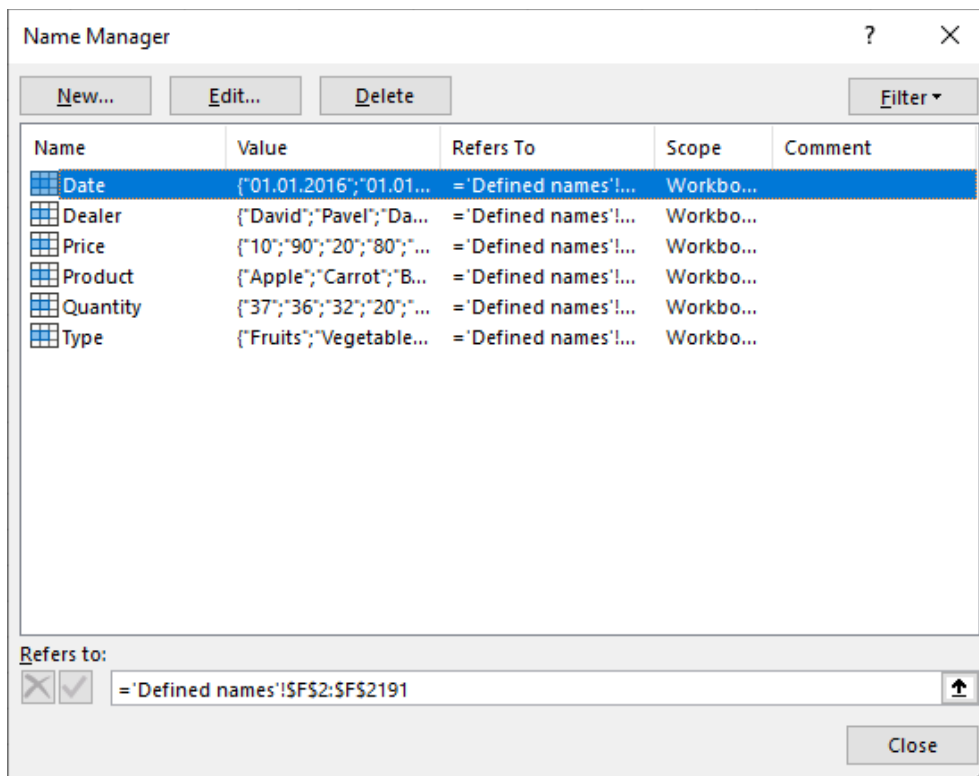


Figure 2 Dialog box Name Manager

Using Defined Names

An existing defined name can be used in a formula in the following ways:

- **By writing** - works similarly to inserting a function into a formula. When you type a name, Excel offers all function names and names that begin with the letters you enter. Just select the wanted name with the **TAB** key.
- The **USE IN FORMULA** button on the **FORMULAS** tab contains a list of all names, just select the wanted name from it with the mouse.
- The **F3** function key displays the **PASTE NAME** dialog box from which the wanted name can be pasted into the formula.



Data Analysis Using Formulas

Practical Use of Array Formulas

Imagine the example again used in previous chapter. We should calculate again the payment for all months and markets when the payment is calculated as (SPACE * PRICE + TAX + TRANSPORT) * (1 - DISCOUNT) but now try to make your formula really look like this. You can find the tables in exercise workbook.

L5																
=(Space*Price+Tax+Transport)*(1-Discout)																
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Tax										Market 1	Market 2	Market 3			
2	200									Transport	500	1200	400			
3																
4	Space (m2)	Market 1	Market 2	Market 3		Price/m2	Market 1	Market 2	Market 3	Payment	Market 1	Market 2	Market 3		Month	Discount
5	January	16	20	52		January	180	70	120	January	2864	2240	5472		January	0,2
6	February	23	30	70		February	175	65	115	February	4016,25	2847,5	7352,5		February	0,15
7	March	31	43	87		March	170	60	110	March	5373	3582	9153		March	0,1
8	April	38	58	103		April	165	55	105	April	6621,5	4360,5	10844,25		April	0,05
9	May	45	72	114		May	160	50	100	May	7505	4750	11400		May	0,05
10	June	50	85	120		June	165	55	105	June	8681,5	5892,75	12804		June	0,03
11	July	50	90	130		July	170	60	110	July	8924	6596	14453		July	0,03
12	August	50	85	120		August	175	65	115	August	9166,5	6717,25	13968		August	0,03
13	September	31	43	87		September	180	70	120	September	6091,6	4277,7	10708,8		September	0,03
14	October	23	30	70		October	185	75	125	October	4459,5	3285	8415		October	0,1
15	November	16	20	52		November	190	80	130	November	2992	2400	5888		November	0,2
16	December	16	20	52		December	195	85	135	December	2865	2325	5715		December	0,25

Figure 3 Example for using defined names

First you must name all number ranges, then enter the formula using the defined names and then confirm the finished formula as an array formula.



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Project Number: 2020-1-CZ01-KA226-HE-094368