Technical Disclosure Commons

April 09, 2018

Analysis of variants within a spreadsheet

Daniel Hoppe

Bertrandt Ingenieurbüro GmbH

Follow this and additional works at: https://www.tdcommons.org/dpubs_series

ANALYSIS OF VARIANTS WITHIN A SPREADSHEET PROGRAM

Technical task:

The task of the technical innovation is to enable an efficient analysis of the variants within a spreadsheet program.

Initial situation:

Tables are constructed in two dimensions with rows and columns. A cell is uniquely addressed via a defined row and column. A marker may include one or any selection of cells.

In practice, for example, there are several cells with data to be analyzed for variants. The starting point is the following data, see Figure 1 left. The addresses to be analyzed are marked. The variants for this are marked in Figure 1 on the right. The variant „Ingolstadt" occurs three times. In Figure 1 on the right, only the first occurrence is marked „Ingolstadt". The duplicates are excluded from the mark.

In Figure 2, the variants are marked with the number 1 and on the right next to them the frequency or the frequency proportion in relation to all cells.

The popular spreadsheet program Microsoft Excel does not provide any direct analysis functionality on the variants and frequencies.

The following is the traditional way of variant analysis through a pivot table in Excel.

1. Copy the selected content into a new column and rename the column header, see Figure 3.
2. Create a pivot table for the „Address" and „Analysis" columns.
   Figure 4 on the left shows the number of entries. In Figure 4, right, in the settings of the pivot table, the display is set to „% of Overall result „changed. Excel does not provide a straightforward way to analyze variants. The marking of variants is not implemented.

Solution:

An additional functionality for a spreadsheet program offers an analysis function for the variants.

As a technical innovation, the following variant analysis function of marked cells of a column are presented. The cells to be analyzed are marked.

The following example serves to understand, see Figure 5.

The result of the analysis is an overview of the so-called population (the number of cells with contents without empty cells), the number of variants, and the minimum and maximum frequencies.

In addition, the variant analysis receives the following parameters with which the Operation is controlled:

Optional marking of variants, example result see Figure 6.

Optional output of the frequencies as absolute and relative indication and identification of the variant, example result see Figure 7.

Optional functions for duplicates

For the duplicates two additional options are offered:

a) the lines containing the duplicates are hidden (including empty cells)

b) the lines containing the duplicates are completely removed (including empty cells)

Figure 8 shows an example of hiding lines for duplicates. You can see that lines 7 and 10 are hidden (yellow background).

Optional distinction between uppercase and lowercase

Normally, textual content is not case-sensitive in Variant Analysis. Optionally, however, this is adjustable.

The technical implementation of a variant analysis is exemplified by the tool AXCEL, see Figure 9.

Calling the function „Variant count" within the tool „AXCEL" with the key combination CTRL + d, see Figure 10.

Under „Analyze Settings" the case sensitivity can be set. The parameters set as actions above are highlighted in yellow in Figure 10.

Hiding or deleting duplicates (duplicates) is optional and always refers to complete lines including empty cells.

As a result, the analysis result is reported and generated accordingly on the worksheet, see Figure 11.

The columns „Variant", „Frequency" and „Frequency share" are also inserted, see Figure 12.

Advantages:

- Possibility of a quick analysis of variants.
- Possibility of a quick check for the presence of duplicates.
- Optionally output frequency statistics and marking of variants can be used for functional further processing.
- Hiding lines with duplicates Displaying a compact variant overview, without losing the output data.

Possible application:

- Applicable in spreadsheet programs.

Stand der Technik

Abbildung 1

Abbildung 2

Abbildung 3

Abbildung 4

Technische Neuerung

Beispielablauf:

Abbildung 5

Abbildung 6

Abbildung 7

Abbildung 8

Abbildung 9

Technische Neuerung
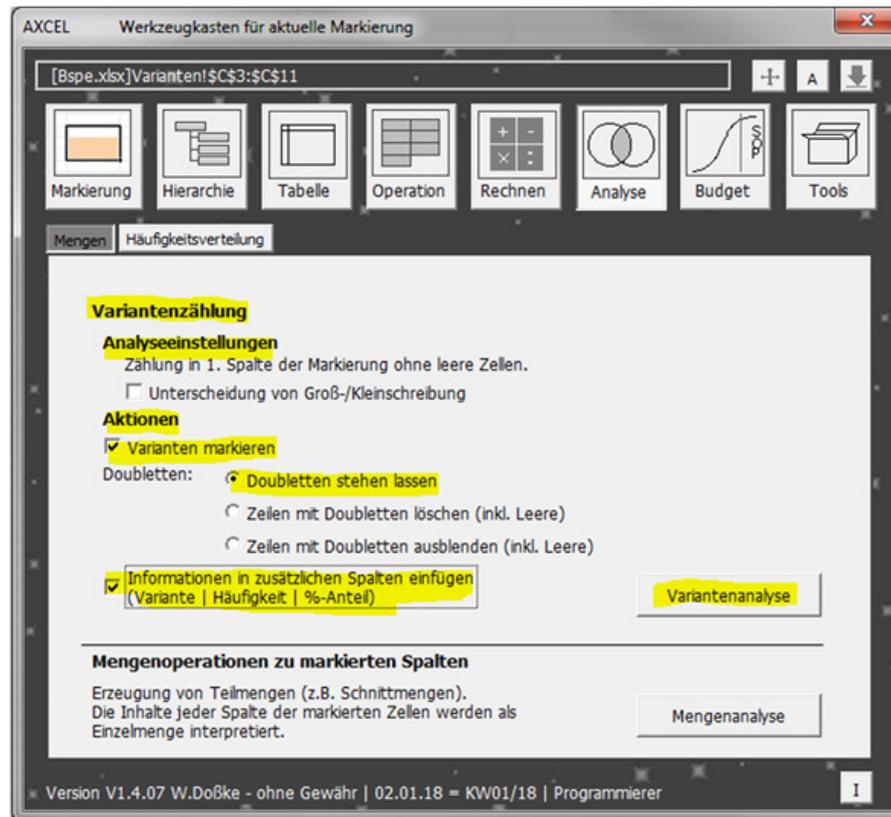
Abbildung 10
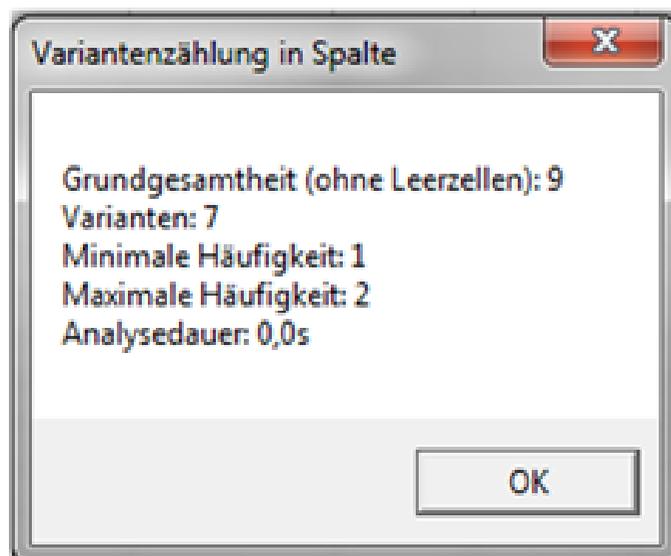
Abbildung 11

Technische Neuerung

Abbildung 12