GedTool

Collection of Macros for GEDCOM Files

Brief User Guide

http://www.GedTool.de

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1 Introduction

GedTool is a collection of small tools for the quick and convenient editing of GEDCOM files (GEDCOM files are briefly described in Chapter 8). GedTool reads a GEDCOM file and stores all of the data in an Excel spreadsheet in a logical structure. The genealogical data can then be processed in the convenient spreadsheet structure using both GedTool and Excel tools and functions. Once the data revision has been completed GedTool is used to write all of the data into a file in GEDCOM format.[1]

Advantages:

All macros are started from a **common menu interface**.

Special characters: GedTool supports the ANSI and ASCII character sets as well as the UTF-8 and UNICODE (UTF-16) character sets.

Data collection from structured birth, baptismal, marriage, or death registers is facilitated as follows:

The function <Create a flat list> can be used to convert tabular datasets into a GEDCOM file. Compared to manually entering the data in a genealogy program this can be done quickly without the otherwise inevitable typos. GedTool supports the process with templates and mapping tables. Template files are available for common structures of birth-, baptism, marriage, or death registers, with all relevant data columns. A mapping table contains the conversion rules (output fields, target fields, implementation instructions) for the conversion of the data acquired using a template source data into a flat list, which can subsequently be exported in GEDCOM format.[2]

Custom structured tables, not complying with the templates supplied can, in principle, be converted into GEDCOM files. However the effort involved, particularly in creating the links between individuals links is higher (see chapter 5.4).

Comparison of two GEDCOM files: the appropriate GedTool function can be used to compare the content of, synchronize (acquisition of supplementary data), or merge two sets of data.

Other useful functions: GedTool offers a variety of commonly used functions such as date validation, formal validation of the GEDCOM file against standard or program-specific GEDCOM variants, the supplementing / calculation of missing date fields, deleting all living or all non-related persons, identification of family islands, labelling all data with your own data source, a name-places list (Tiny Tafel format), global search and replace, or the formation of REFN numbers as defined by Kekulé and Saragossa (simply referred to as REFN numbers below).

Processing XML files: In addition to the widespread GEDCOM functionality of genealogy programs there are now programs that work with the XML format. GedTool can also read, support the editing of, and write XML files,

The following functions are currently implemented in GedTool:

- Import/Export

[1] GedTool was written as a collection of VBA (Visual Basic for Applications) macros based on Excel 97 and can also be run under all later versions of Excel.

[2] With the help of the mapping tables different field structures of individual GEDCOM versions can theoretically be implemented.

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- Add your own source references
- Delete broken links
- Name-places list
- Phonetic search

Kommentar [CvZ1]: Red: check meaning and revisit

2 Initial Setup

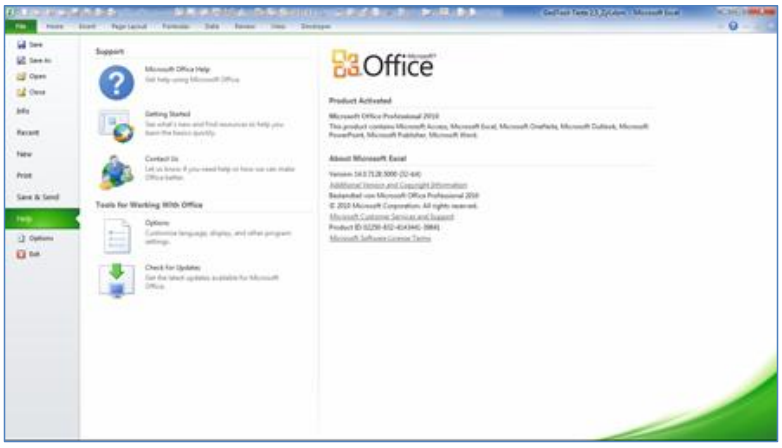
Installation: GedTool need not be explicitly installed[3]. Simply establish a new folder "GedTool" in a suitable place on a local hard drive and put all the files there. A double click on the GedTool Excel file (e.g. gedtool_2.5.x.xls) will launch the program right away and it will be ready for use, provided that the use of macros is not disabled (see below).

Customize the virus protection: To protect against macro viruses, there are different levels of security that can be set in Excel. Generally, we recommend that you use the protection mechanisms provided in Excel against macro viruses. It should be noted that the execution of macros **must** remain possible, otherwise GedTool will not work. Under "high" protection, for example, unsigned macros will be disabled and Excel does not perform the macros without any further notification. Under "medium" protection, there are, however, no problems. In this mode Excel prompts the user whether to enable or disable the macros contained in the Excel file.

HINT: How to check on your Excel version

Open Excel, in the status bar click the question mark, then click "Info".

In Excel 2010 the version information can be found in the **Help** item under the **File** tab.



[3] GedTool was programmed with Visual Basic for Applications (VBA) and is therefore an integral part of the Excel file supplied.

2.1 Excel 97

In Excel 97, the security settings can be found under ***Tools > Options > General***. Activate the "macro virus protection" option here. If this box is checked, then a query window to enable or disable the macros will be shown at every start of GedTool.

2.2 Excel 2000 / Excel XP / Excel 2003

In Excel 2000, Excel XP and Excel 2003 the security settings can be found under ***Tools > Macro > Security > Security level***. Here you can choose between three levels of security against macro viruses: "high", "medium" and "low". Under security setting "high" unsigned macros are disabled, and Excel will simply not run macros from GedTool without any further information. Under the security setting "medium", there are, however, no problems. Under this option, a window asking whether to enable or disable the macros will be shown at every start of GedTool unless it is in a "trusted location". The "low" security setting is not recommended.

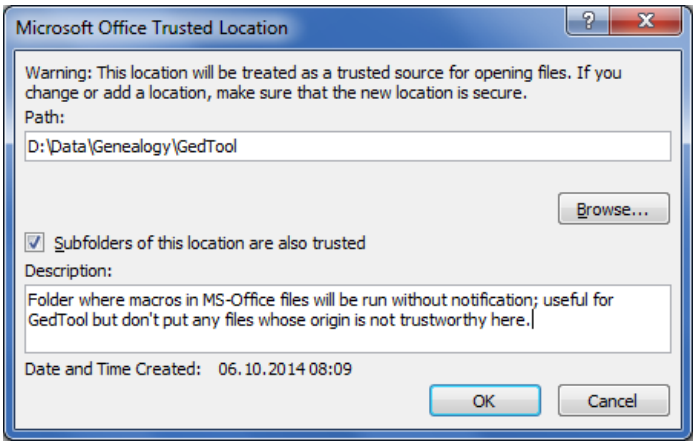
2.3 Excel 2007 / Excel 2010 / Excel 2013

In order to set the security settings in Excel 2007(or later versions) so that the GedTool program code can be executed follow these steps:

Open the menu of the Office start button (upper left corner, ***File*** tab under Excel 2010) and select ***Excel Options*** (at the bottom of the dialog box). Select the ***Trust Center*** (Excel 2007/2010) or the ***Security Center*** (Excel 2013), then the button ***Trust Center Settings***. In the new window, go to the settings for macros and set the radio button ***Disable all macros with notification***. In addition, enable the display of blocked content in the field "Status bar". With these settings the macros must be enabled manually each time you start GedTool.

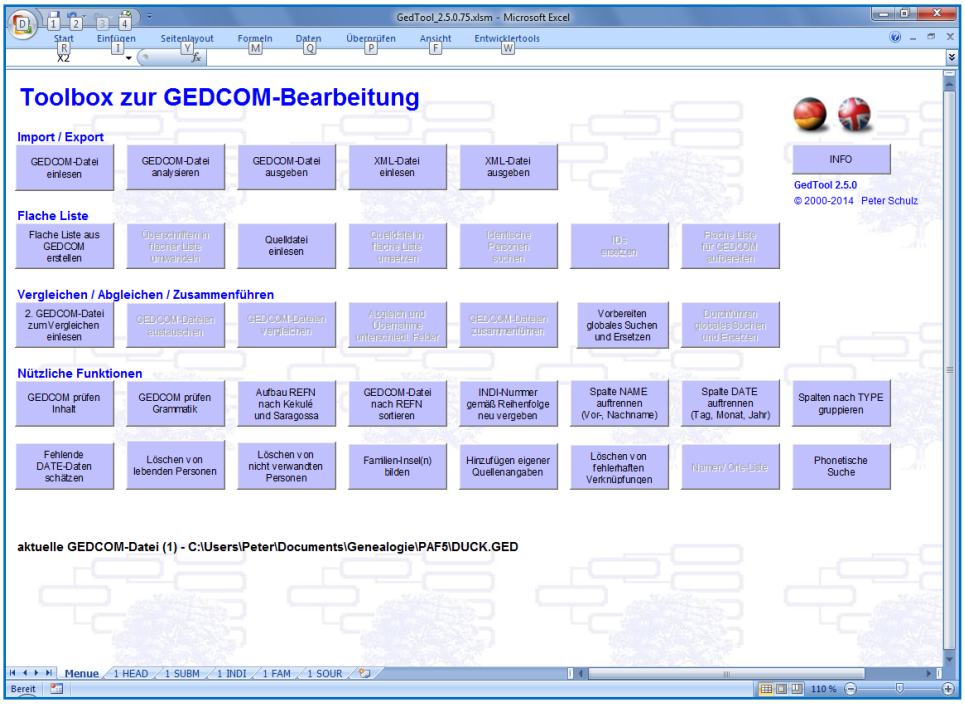
HINT: Trusted locations

You can enable the GedTool macros automatically at each start-up by marking the folder used for your GedTool files as trusted. This can be done in the ***Trust Center*** window ***Trusted locations***. If you use ***Add a new folder*** to add your GedTool folder to the list all macros in Excel files which are started from this folder (and, optionally, subfolders thereof) will be activated when you open them without prompting. If, when you open an Excel file, the SHIFT key is pressed, the macros are not enabled.



3 Menu

All tasks are clearly presented on a common interface in four themes and can be started from there:



The two icons at the top right of the screen allow you to switch between the German and the English user interface.

The buttons for functions that cannot be performed on the basis of the current constellation of data are inactive (visually "greyed out"). So for example, the matching of two GEDCOM files is only activated if a second file has been read in.

The name(s) of GEDCOM file(s) which have been read in appears below the menu.

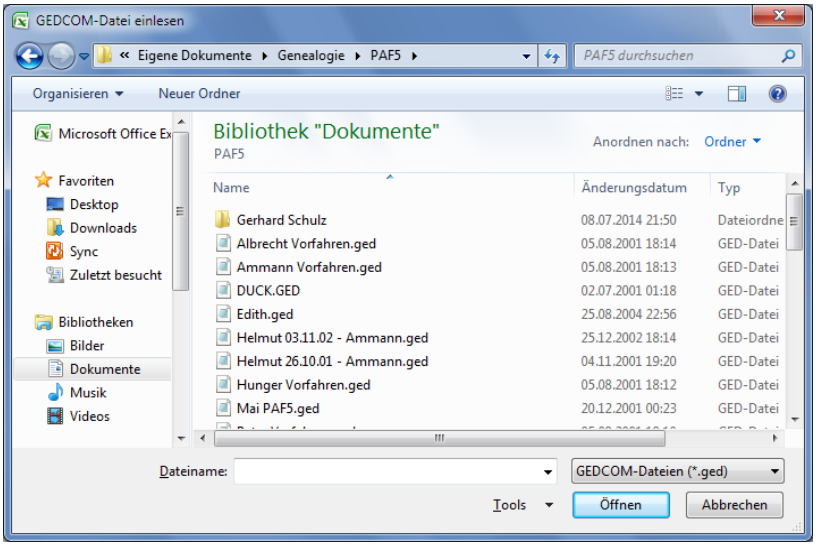
4 Import/Export

This chapter describes how a GEDCOM file is read in for editing as an Excel worksheet (import), and after the processing is written back to a GEDCOM file (export). [4]

4.1 Import a GEDCOM file

This function reads a GEDCOM file and generates a separate worksheet for each of the different types of GEDCOM records (personal data, family data, submitter, sources ...) [5].

After the start of the macro a window for the selection of the GEDCOM file to be read appears.



The time taken to read a file depends on the computer used, but can vary between a few seconds for small data sets (100 to 1000 people) and about 30 minutes for large data sets (several 10,000 persons).

Dedicated columns are generated for the individual tags of the GEDCOM file, and filled with the respective values. The different hierarchy levels of the GEDCOM tags are taken into consideration. Tags with multiple occurrences within a logical record are sequentially numbered internally.

[4] GedTool supports the standard "lineage-linked GEDCOM structure" and GEDCOM files in XML format here.

[5] The name of the worksheet consists of the GEDCOM record type (indicator of the level of "0") and a preceding "1", for example "1 INDI" for personal information or "1 FAM' for family data.

Example:

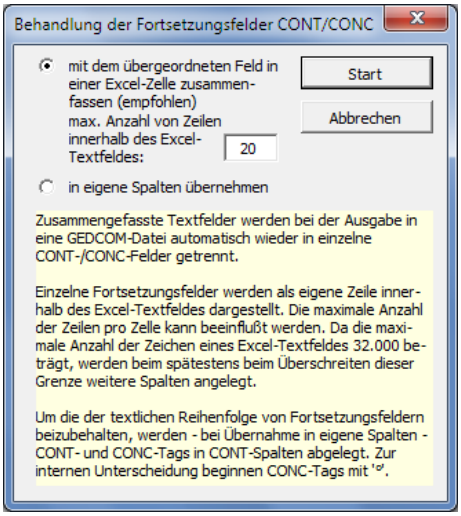
- 0 @1234@ INDI
  1 BIRT
- DATE *12 MAY 1920*
- NOTE *This is a comment line which*
- CONT *is continued on to a second*
- CONC *and a third line*

For the example above, 4 columns are generated.

BIRT	NOTE	NOTE	NOTE
DATE		CONT	CONT

To reduce the number of Excel columns required, no separate column is formed in the above example for the BIRT data set, because it contains no data value except for the tag itself. When exporting the Excel spreadsheet to a GEDCOM file, GedTool again creates a corresponding set.

Extensive notes:



Because the maximum number of 256 columns allowed in Excel 2003 is likely to be reached rapidly if extensive notes exist in the data, continuation fields (CONT - / CONC tags) can optionally be grouped together when importing a GEDCOM file with their previous field in an Excel cell.

In such an Excel cell, the continuation lines are separated by a paragraph mark .

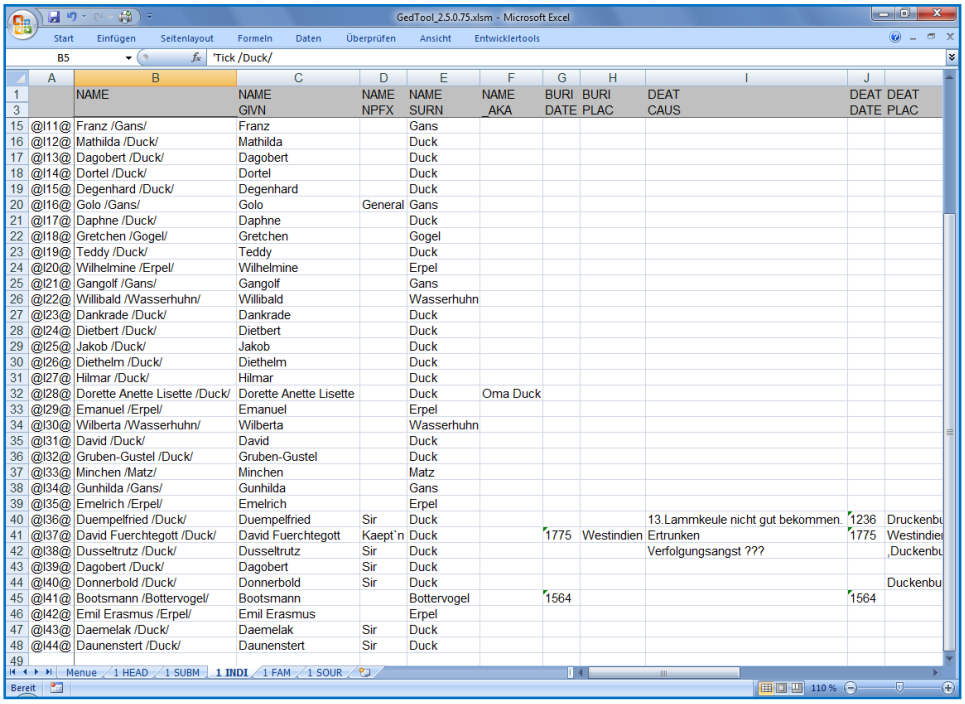
To retain the breaks in the original CONT - / CONC-tags, the data of a line of CONC begins with the character '°'. The maximum number of continuation lines which will be combined within an Excel cell is a modifiable value. Because Excel cannot handle more than 32,000 characters in a cell, additional columns are automatically created should this limit be reached[6]. It is recommended that not too many continuation lines be combined to ensure clarity when reading.

[6] If the (Excel version-dependent) maximum number of columns is exceeded, however, then the macro stops and displays an appropriate message. In this case, an analysis of the GEDCOM file to be read is launched and the result displayed in a new worksheet "ANALYZE". There it is possible to mark tags which are not necessarily required. During a subsequent reading operation (the file names of file to be read and the analyzed file must match) no specific columns are created for the data elements of the excluded features. The data will not be lost but will be grouped together in so-called container column and "parked". When the data are exported to a GEDCOM file the fields which were combined when reading are re-created in the correct order.

To ensure clarity when reading, not too many continuation lines should be created, i.e. this option should only be used if an older version of Excel is being used, and a first attempt to read the data shows that more than 256 columns are needed.

On the export of the data to a GEDCOM file the fields grouped together when reading are separated once again into their original fields (CONT/CONC) and the internal CONC symbol '°' is eliminated.

Presentation of personal data:



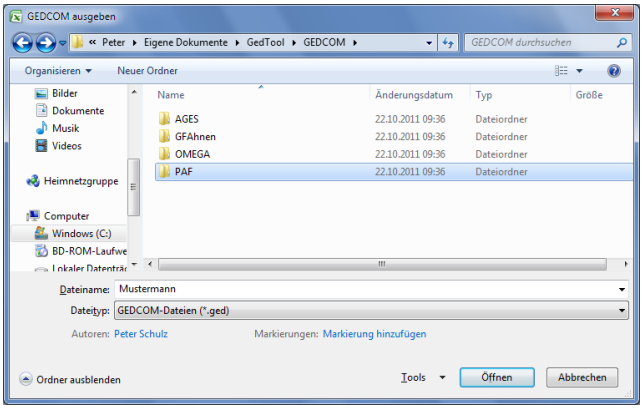
	A	B	C	D	E	F	G	H	I	J	
1		NAME	NAME	NAME	NAME	NAME	BURI	BURI	DEAT	DEAT	DEAT
3			GIVN	NPFX	SURN	_AKA	DATE	PLAC	CAUS	DATE	PLAC
15	@I11@	Franz /Gans/	Franz		Gans						
16	@I12@	Mathilda /Duck/	Mathilda		Duck						
17	@I13@	Dagobert /Duck/	Dagobert		Duck						
18	@I14@	Dortel /Duck/	Dortel		Duck						
19	@I15@	Degenhard /Duck/	Degenhard		Duck						
20	@I16@	Golo /Gans/	Golo	General	Gans						
21	@I17@	Daphne /Duck/	Daphne		Duck						
22	@I18@	Gretchen /Gogel/	Gretchen		Gogel						
23	@I19@	Teddy /Duck/	Teddy		Duck						
24	@I20@	Wilhelmine /Erpel/	Wilhelmine		Erpel						
25	@I21@	Gangolf /Gans/	Gangolf		Gans						
26	@I22@	Willibald /Wasserhuhn/	Willibald		Wasserhuhn						
27	@I23@	Dankrade /Duck/	Dankrade		Duck						
28	@I24@	Dietbert /Duck/	Dietbert		Duck						
29	@I25@	Jakob /Duck/	Jakob		Duck						
30	@I26@	Diethelm /Duck/	Diethelm		Duck						
31	@I27@	Hilmar /Duck/	Hilmar		Duck						
32	@I28@	Dorette Anette Lisette /Duck/	Dorette Anette Lisette		Duck	Oma Duck					
33	@I29@	Emanuel /Erpel/	Emanuel		Erpel						
34	@I30@	Wilberta /Wasserhuhn/	Wilberta		Wasserhuhn						
35	@I31@	David /Duck/	David		Duck						
36	@I32@	Gruben-Gustel /Duck/	Gruben-Gustel		Duck						
37	@I33@	Minchen /Matz/	Minchen		Matz						
38	@I34@	Gunhilda /Gans/	Gunhilda		Gans						
39	@I35@	Emelrich /Erpel/	Emelrich		Erpel						
40	@I36@	Duempelfried /Duck/	Duempelfried	Sir	Duck				13.Lammkeule nicht gut bekommen.	1236	Druckenbu
41	@I37@	David Fuerchtegott /Duck/	David Fuerchtegott	Kaept`n	Duck		1775	Westindien	Ertrunken	1775	Westindie
42	@I38@	Dusseltrutz /Duck/	Dusseltrutz	Sir	Duck				Verfolgungsangst ???		,Duckenbu
43	@I39@	Dagobert /Duck/	Dagobert	Sir	Duck						
44	@I40@	Donnerbold /Duck/	Donnerbold	Sir	Duck						Duckenbu
45	@I41@	Bootsmann /Bottervogel/	Bootsmann		Bottervogel		1564			1564	
46	@I42@	Emil Erasmus /Erpel/	Emil Erasmus		Erpel						
47	@I43@	Daemelak /Duck/	Daemelak	Sir	Duck						
48	@I44@	Daunenstert /Duck/	Daunenstert	Sir	Duck						
49											

Please note the tabs along the lower edge of the above table: five worksheets (1 HEAD … 1 SOUR) were created when the GEDCOM file was read in.

After reading a GEDCOM file tag columns are sorted in ascending order. The NAME column and the CONT columns at the top level of the hierarchy form an exception to this. They appear ahead of all other columns. This sequence of GEDCOM tags is maintained when exporting.

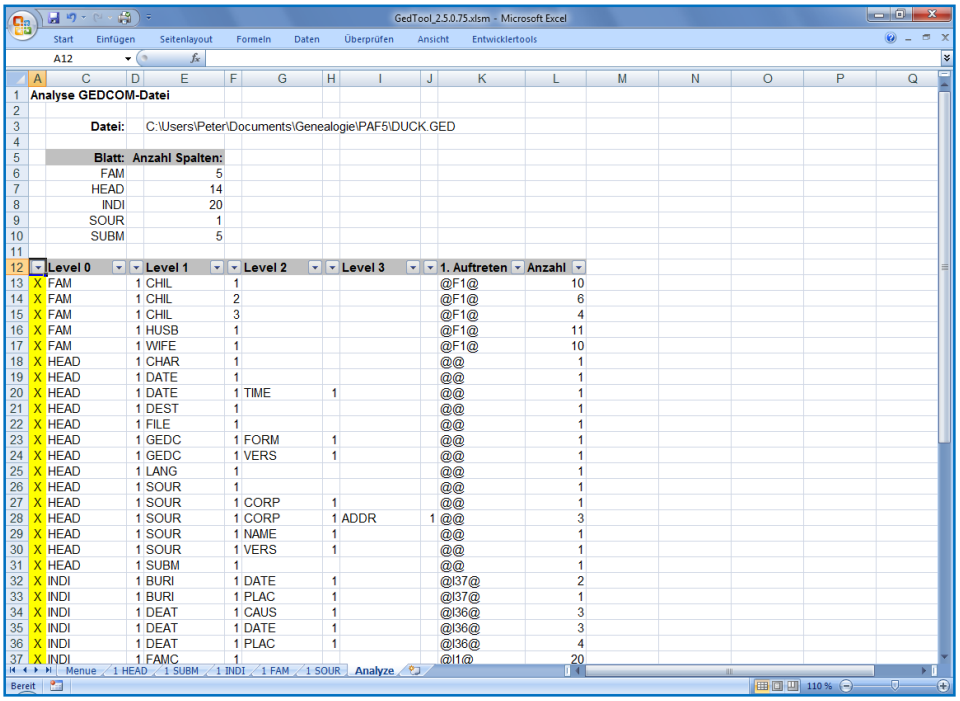
4.2 Analyse a GEDCOM file

This function also reads a GEDCOM file but shows only the GEDCOM structure, unlike the read function, which shows the data as well. All of the GEDCOM tags used in the file are shown in a worksheet named “Analyse”, together with their structure. In addition, the number of occurences and the reference number of the first data set using each tag are determined.



All tags are marked with an “X” in the first column of the table by the Analyse macro. This mark can be manually deleted if the user wishes to exclude any particular tag when the next read operation is performed on the file. These excluded tags and their data but are not lost but collected in "container" columns headed, for example, _TEMP CONTAINER. This can reduce the number of required columns without losing data during processing.

This function is specifically useful for users of Excel version 2003 and older, because here the maximum number of columns is intrinsically limited to 256 columns.



4.3 Write GEDCOM File

This macro creates a GEDCOM file from the individual worksheets with a leading "1" (E.g. "1 INDI"). After the start of the macro a window appears in which the folder or the file name of the GEDCOM file can be specified.

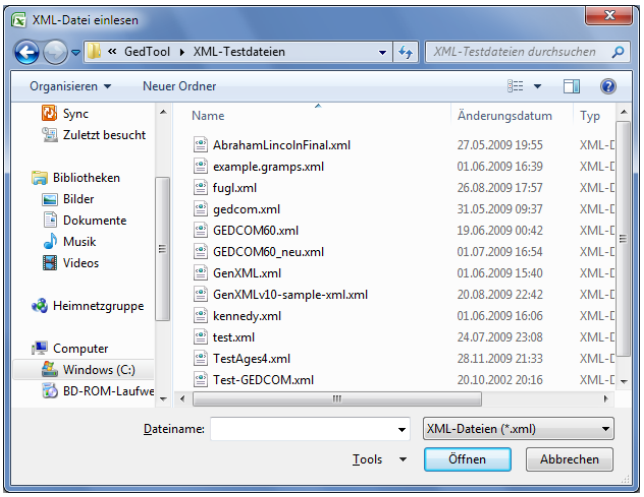
If continuation fields were combined when importing a GEDCOM file, they are separated again during the output of the data in their original CONT/CONC fields and the internal CONC symbol '°' is eliminated.

Some of the functions create so-called TEMP- (temporary) columns to pass data to the following functions. All of the columns, which contain the term “TEMP” in the first row of a worksheet, are not taken into account when generating a GEDCOM file.

During the export all tags in a record are output in an alphabetic order, while respecting their hierarchy level. Exceptions to this are the CONT/CONC indicator at the top level (for example in NOTE sets) and the NAME tag. These tags will be available at the beginning of a set. The tags will be in accordance with their sort order.[7]

4.4 Import an XML file

[7] GedTool uses different character sets of the GEDCOM file, depending on the CHAR tag in the HEAD set during export. The UTF-8 and Unicode character sets are currently directly supported. The ASCII character set is used for export in the case of all other CHAR values.



Apart from genealogical data in GEDCOM format, GEDCOM XML files can be read. In December 2002 the Church of Jesus Christ of Latter-day Saints (Mormons) released a beta specification for GEDCOM XML V6. 0. This document describes how GEDCOM data can be stored in a new data structure using XML. This structure is also supported by GedTool, as well as other GEDCOM XML derivatives, whose hierarchical structures are similar to the GEDCOM structure. Both XML and GEDCOM use hierarchical levels. During an XML import GedTool again creates tags as worksheets at the highest hierarchical level. Tags at a deeper level are mapped as they are in the processing of classic GEDCOM files, keeping the structure in the columns. It is important for the correct representation of the XML data in GedTool that the different types of GEDCOM records (personal data, family data, submitter, sources...) are differentiated at the highest hierarchical level. This is applies in the case of the most well-known XML derivatives (GedML, GeniML, gdmxml, GenXML,...). In the case of GrampsXML the differentiation takes place only at the second level, so this format is not suitable for GedTool. GEDCOM XML is still in its infancy and is not standardized; the supporting functions in GedTool are therefore still rudimentary. So far the import and export of XML files has been implemented.

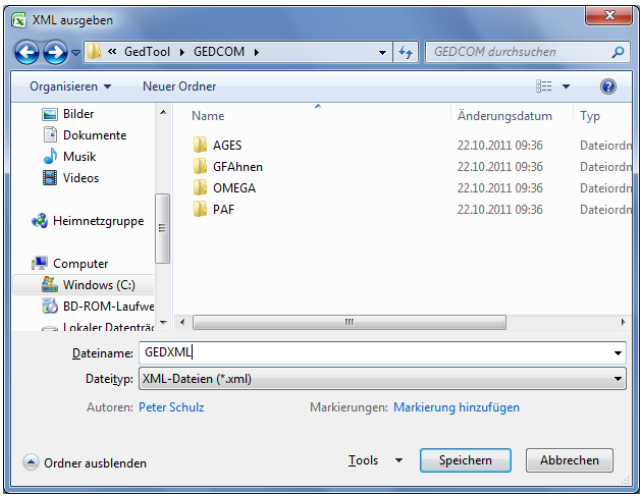
Sample GEDCOM XML file:

```
<?xml version=„1.0“?>
<!DOCTYPE GEDCOM SYSTEM „http://gedcom.org/dtd/gedxml60.dtd“>
<HeaderRec>
    <FileCreation Date=„2 Oct 2000“ Time=„15:20:2.3“>
    <Product>
        <ProductId>DAS</ProductId>
        <Version>6.3</Version>
    </Product>
    …
</HeaderRec>

<FamilyRec Id=„FM001“>
    <HusbFath>
        <Link Target=„IndividualRec“ Ref=„IN001“/>
    </HusbFath>
    <WifeMoth>
        <Link Target=„IndividualRec“ Ref=„IN002“/>
    </WifeMoth>
    <Child>
        <Link Target=„IndividualRec“ Ref=„IN003“/>
    </Child>
    …
</FamilyRec>

<IndividualRec Id=„IN001“>
    <IndivName Type=„married“>
        <PersonalTitle>Duchess </PersonalTitle>
        <GivenName>Neta </GivenName>
        <MaidenName>Eskelson </MaidenName>
        <SurName>Allen</SurName>
…
    </IndivName>
    <IndivName Type=„maiden“ xml:lang=„de“>
        <GivenName>Neta </GivenName>
        <SurName>Eskelson </SurName>
    </IndivName>
    <Gender>F</Gender>
    <DeathStatus>dead</DeathStatus>
    <Note>. . .</Note>
    <Citation>. . .</Citation>
    ...
</IndividualRec>

<IndividualRec Id=„IN002“>
…
```

4.5 Export an XML file

This macro produces an XML file from the individual worksheets with a leading "1" (E.g. "1 INDI") in their names. After the start of the macro window appears in which the folder or the file name of the XML file can be specified.

XML files are only exported with the Unicode character set.



5 Flat Lists

This feature is particularly useful for converting genealogical data in tabular form to GEDCOM.

After importing a GEDCOM file, the imported data is stored in different Excel worksheets in accordance with the GEDCOM structure. The individual sets of data (personal data, family data, sources,...) are interconnected by cross-references. When a flat list is created, these cross references are resolved and all of the data relevant to an individual are put in a single row. Conversely, a GEDCOM structure can be created from a flat list.

5.1 Create a Flat List

All data from the individual worksheets with a leading "1" in their names are combined into a single table ("FlatList") using this macro. Starting with the personal data in worksheet "1 INDI" all cross reference pointers (XREF IDs) are disbanded and the data restructured as personal data.

The result is a flat structure of all of the data associated with an individual, even if these were represented across multiple tabs with cross reference pointers. The column headers include all tabs present in the resolved structure. Should tabs occur more than once in a structure (E.g. several children), the tag names will be numbered consecutively (CHIL, CHIL #2, CHIL #3...), starting with the second occurrence.

The individual tag names are separated by the decimal point (.). If a change of worksheet should occur in the structure of a tag, then this is indicated by two points (..).

Example:

NAME.GIVN (forename)

NAME is the indicator for the name

GIVN is the indicator for the forename

FAMC..FAM.WIFE..INDI.NAME.GIVN (mother's forename)

FAMC is a reference to the FAM set of parents

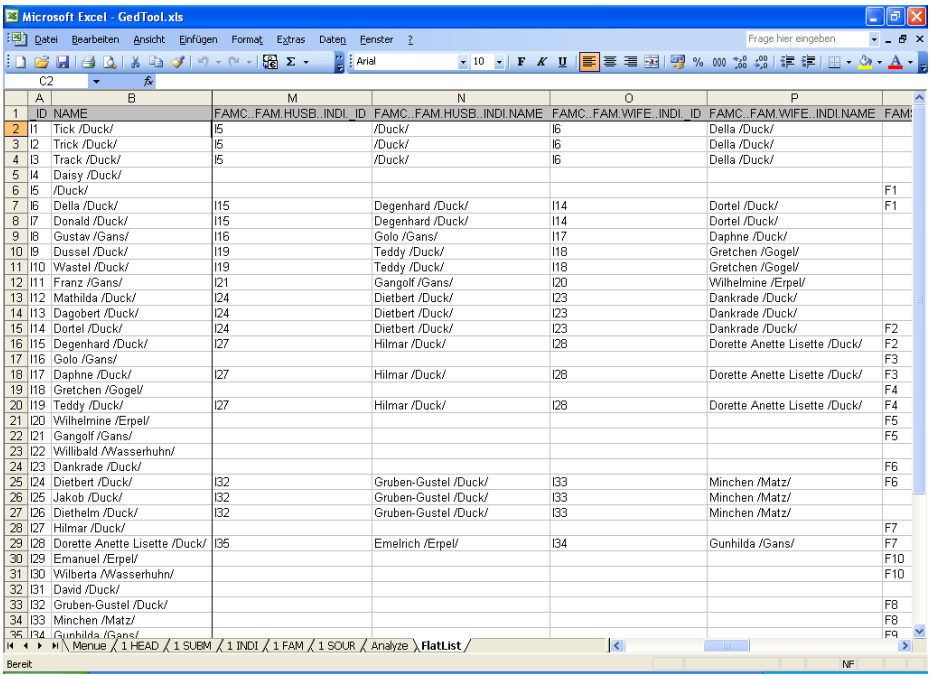
..FAM denotes the set change to the family set

WIFE in turn includes a reference to the person set of the mother

..INDI denotes the set change to the person set

NAME is the indicator for the name

GIVN is the indicator for the forename



	A	B	M	N	O	P	
1	ID	NAME	FAMC..FAM.HUSB..INDI._ID	FAMC..FAM.HUSB..INDI.NAME	FAMC..FAM.WIFE..INDI._ID	FAMC..FAM.WIFE..INDI.NAME	FAM
2	I1	Tick /Duck/	F5	/Duck/	I6	Della /Duck/	
3	I2	Trick /Duck/	F5	/Duck/	I6	Della /Duck/	
4	I3	Track /Duck/	F5	/Duck/	I6	Della /Duck/	
5	I4	Daisy /Duck/					
6	I5	/Duck/					F1
7	I6	Della /Duck/	I15	Degenhard /Duck/	I14	Dortel /Duck/	F1
8	I7	Donald /Duck/	I15	Degenhard /Duck/	I14	Dortel /Duck/	
9	I8	Gustav /Gans/	I16	Golo /Gans/	I17	Daphne /Duck/	
10	I9	Dussel /Duck/	I19	Teddy /Duck/	I18	Gretchen /Gogel/	
11	I10	Wastel /Duck/	I19	Teddy /Duck/	I18	Gretchen /Gogel/	
12	I11	Franz /Gans/	I21	Gangolf /Gans/	I20	Wilhelmine /Erpel/	
13	I12	Mathilda /Duck/	I24	Dietbert /Duck/	I23	Dankrade /Duck/	
14	I13	Dagobert /Duck/	I24	Dietbert /Duck/	I23	Dankrade /Duck/	
15	I14	Dortel /Duck/	I24	Dietbert /Duck/	I23	Dankrade /Duck/	F2
16	I15	Degenhard /Duck/	I27	Hilmar /Duck/	I28	Dorette Anette Lisette /Duck/	F2
17	I16	Golo /Gans/					F3
18	I17	Daphne /Duck/	I27	Hilmar /Duck/	I28	Dorette Anette Lisette /Duck/	F3
19	I18	Gretchen /Gogel/					F4
20	I19	Teddy /Duck/	I27	Hilmar /Duck/	I28	Dorette Anette Lisette /Duck/	F4
21	I20	Wilhelmine /Erpel/					F5
22	I21	Gangolf /Gans/					F5
23	I22	Willibald /Wasserhuhn/					
24	I23	Dankrade /Duck/					F6
25	I24	Dietbert /Duck/	I32	Gruben-Gustel /Duck/	I33	Minchen /Matz/	F6
26	I25	Jakob /Duck/	I32	Gruben-Gustel /Duck/	I33	Minchen /Matz/	
27	I26	Diethelm /Duck/	I32	Gruben-Gustel /Duck/	I33	Minchen /Matz/	
28	I27	Hilmar /Duck/					F7
29	I28	Dorette Anette Lisette /Duck/	I35	Emelrich /Erpel/	I34	Gunhilda /Gans/	F7
30	I29	Emanuel /Erpel/					F10
31	I30	Wilberta /Wasserhuhn/					F10
32	I31	David /Duck/					
33	I32	Gruben-Gustel /Duck/					F8
34	I33	Minchen /Matz/					F8
35	I34	Gunhilda /Gans/					F9

5.2 Convert flat list headings

When a flat list is created from a GEDCOM structure, the column headings are formed from the individual tabs of the GEDCOM. This function allows the headings of the flat list to be changed with the help of a template file, independent of language. After the start of the function you are prompted to select a template file. After selecting the file and a corresponding worksheet the template is implemented based on the selected worksheet.

The template worksheet must contain two columns "Header old" (old titles) and „Header new" (new titles). The items in the column "Header old" are replaced by the words in the column "Header new", line by line.

Example: New column headings

Header old	Header new	
..FAM		(empty)
..INDI		(empty)
FAMC.HUSB	Father	
FAMC.WIFE	Mother	
NAME.GIVN	Forename	
NAME.SURN	Surname	
.	-	„-“ between two spaces

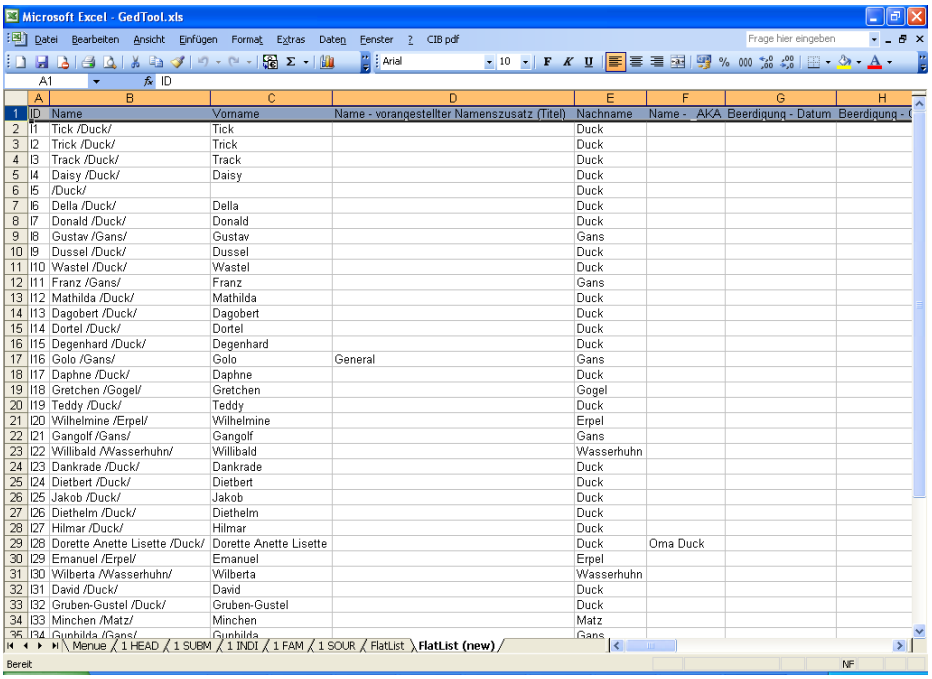
FAMC..FAM.WIFE..INDI.NAME.GIVN

1. FAMC.WIFE..INDI.NAME.GIVN
2. FAMC.WIFE.NAME.GIVN
3. Mother.NAME.GIVN
4. Mother.Forename
5. Mother – Forename

The term can be translated as a whole:

Header old	Header new
FAMC..FAM.WIFE..INDI.NAME.GIVN	Mother's Forename

The original worksheet "FlatList" remains, the result will be written in a new worksheet, whose name can be chosen freely.



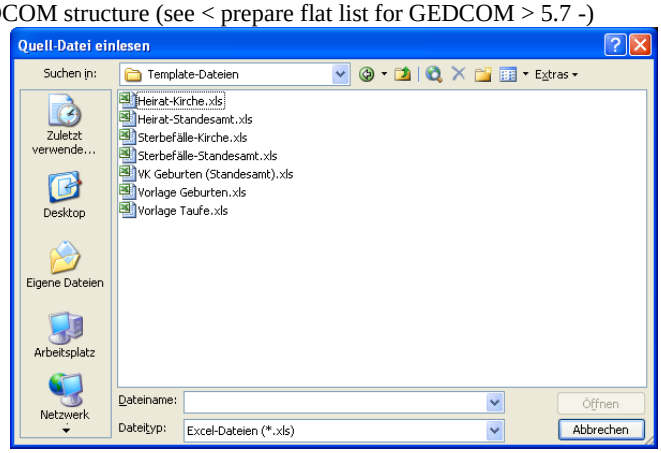
ID	Name	Vorname	Name - vorangestellter Namenszusatz (Titel)	Nachname	Name - AKA	Beerdigung - Datum	Beerdigung -
I1	Tick /Duck/	Tick		Duck			
I2	Trick /Duck/	Trick		Duck			
I3	Track /Duck/	Track		Duck			
I4	Daisy /Duck/	Daisy		Duck			
I5	/Duck/			Duck			
I6	Della /Duck/	Della		Duck			
I7	Donald /Duck/	Donald		Duck			
I8	Gustav /Gans/	Gustav		Gans			
I9	Dussel /Duck/	Dussel		Duck			
I10	Wastel /Duck/	Wastel		Duck			
I11	Franz /Gans/	Franz		Gans			
I12	Mathilda /Duck/	Mathilda		Duck			
I13	Dagobert /Duck/	Dagobert		Duck			
I14	Dortel /Duck/	Dortel		Duck			
I15	Degenhard /Duck/	Degenhard		Duck			
I16	Golo /Gans/	Golo	General	Gans			
I17	Daphne /Duck/	Daphne		Duck			
I18	Gretchen /Gogel/	Gretchen		Gogel			
I19	Teddy /Duck/	Teddy		Duck			
I20	Wilhelmine /Erpel/	Wilhelmine		Erpel			
I21	Gangolf /Gans/	Gangolf		Gans			
I22	Willibald /Wasserhuhn/	Willibald		Wasserhuhn			
I23	Dankrade /Duck/	Dankrade		Duck			
I24	Dietbert /Duck/	Dietbert		Duck			
I25	Jakob /Duck/	Jakob		Duck			
I26	Diethelm /Duck/	Diethelm		Duck			
I27	Hilmar /Duck/	Hilmar		Duck			
I28	Dorette Anette Lisette /Duck/	Dorette Anette Lisette		Duck	Oma Duck		
I29	Emanuel /Erpel/	Emanuel		Erpel			
I30	Wilberta /Wasserhuhn/	Wilberta		Wasserhuhn			
I31	David /Duck/	David		Duck			
I32	Gruben-Gustel /Duck/	Gruben-Gustel		Duck			
I33	Minchen /Matz/	Minchen		Matz			
I34	Gunhilda /Gans/	Gunhilda		Gans			

5.3 Read Source File

Genealogical data already in digital form are often available in a tabular format (E.g. Excel, Access, dBase, etc.). The task at hand is to convert them into a GEDCOM structure, with the aim of then incorporating the data into a modern genealogy program.[8]

With GedTool it is possible to convert an external file in three steps:

1. Read the external file (<Read Source File >)
2. Build a flat list with the help of mapping templates (see 5.4 - < Convert source file into a flat list >)
3. Convert the data to a GEDCOM structure (see < prepare flat list for GEDCOM > 5.7 -)



With this function, an external Excel file for further conversion into a GEDCOM structure is read. The imported data are read into a in the worksheet named "Source". [9]

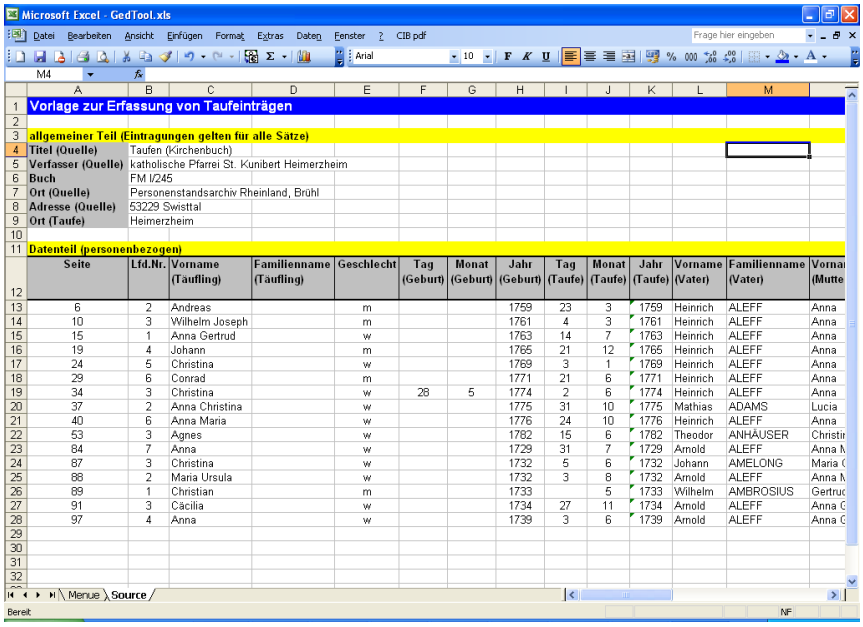
Should the Excel file to be read contain more than one worksheet, a dialog will open which allows the user to select a worksheet.

If the original data are not yet available as an Excel file, it may be possible to create such a file if they are at least available in a text format which is structured as lines (records) separated into individual fields by means of a unique delimiter, such as a comma or semicolon. The user should simply attempt to open the file in Excel. If the delimiter is not recognised, the data will probably all be found in column A. The Excel function *Text to Columns* can be used to parse the data and move the individual fields into separate columns.

[8] In a GEDCOM structure the data (personal data, family data, sources …) are separated; in the original file the data are often in structured as records (lines). Because the flat list also represents this information in Excel rows (lines), it forms a useful intermediate step to the GEDCOM structure.

[9] As the source file is read each field is cleaned (deletion of leading and trailing spaces, deletion of empty fields and those which contain only spaces or a value of "0"). Grouping fields from the template are populated, if the associated data regarding the person or the event is available.

Example: Template for Christenings



5.4 Convert source file into a flat list

A conversion of data to GEDCOM is possible with this function, if the following conditions are met:

- The data must have been read into the "Source" sheet
- A mapping file with the conversion rules must be available
- The column heading structure must comply with the GEDCOM structure (GEDCOM tags and hierarchy) following completion of this function
- As a minimum the column NAME (format: "First name/last name /"), or alternatively, columns NAME.GIVN (Forename) und NAME.SURN (Surname) must be present
- The ID of a record type should be unique if possible. For example, in the case of a record concerning an individual person, by a sequential number or by a unique name. Identical IDs (key words) are always combined, which may be desirable.

HINT:

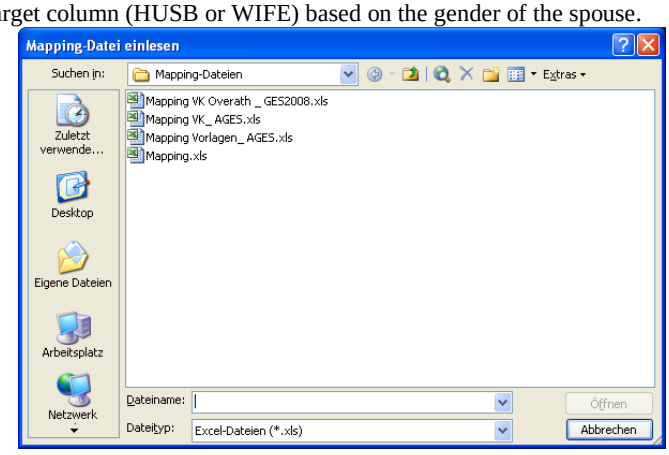
To establishing the correct and complete column headings one can

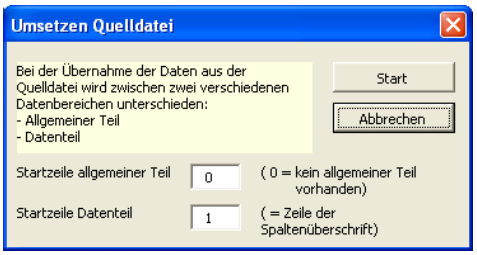
- Enter sample data, containing all the data fields to be transferred, in a genealogy program, such as PAF - available as freeware on the Internet - which supports GEDCOM export
- Export the test data as a GEDCOM file
- Read the data into in GedTool < importing a GEDCOM file >
- Generate a flat list with the function < create flat list from GEDCOM > a table template (sheet "FlatList").
- Use the column headings thus generated to create a mapping to the corresponding column headings in the "SOURCE" worksheet resulting from your source file. This mapping is performed in a separate mapping file.

In the mapping file (Mapping.xls) included with GedTool, there are several examples explaining the column layout, and the column contents. In the forum of the website www.GedTool.de you will find other examples of templates (birth, baptism, marriage, death records), as well as program-specific mapping files (E.g. for PAF or AGES!) to convert these templates.

The order of the column headings is not important. What is important is that the headers used in the mapping file (flat list item) correspond to the GEDCOM conventions. An exception is the heading FAMS.SPOUSE.NAME. A unique person assignment for HUSB (husband) and WIFE (wife) is required for the implementation of the GEDCOM in the family records. Often, however, the data in an external file exists only in a single column "Spouse". With the column FAMS.SPOUSE.NAME, it is now possible to enter the data of the spouse and GedTool maps the personal data to the correct target column (HUSB or WIFE) based on the gender of the spouse.

After the start of the function you are prompted first to select a mapping file. The mapping file contains the rules of implementation so that the individual data columns in the source file are converted into a GEDCOM-like structure.





If a template file is to be implemented, it may contain of two distinct data ranges: firstly, a general range, which includes for example the source of a name index, and secondly, the actual data portion, with one row per person. In this case, the starting lines of the individual ranges must be specified.

The mappings are governed by the columns "Source Item" (worksheet "Source") and "FlatList Item" (flat list). The contents of the data are not changed by this.

Example 1:

Source Item	FlatList Item
Name	NAME
Sex	SEX
Birthday	BIRT.DATE
Place of birth	BIRT.PLAC
Date of death	DEAT.DATE
Place of death	DEAT.PLAC
Husband	FAMS..FAM.HUSB..INDI.NAME
Wife	FAMS..FAM.WIFE..INDI.NAME
Date of marriage	FAMS..FAM.MARR.DATE
Place of marriage	FAMS..FAM.MARR.PLAC
Child 1	FAMS..FAM.CHIL..INDI.NAME
Child 2	FAMS..FAM.CHIL#2..INDI.NAME

If a 1:1 – data transfer is not possible then the possibility exists of converting the contents of the data using the column "Conversion".

Example 2:

Source Item	FlatList Item	Conversion
Sex	SEX	male=M, female=F, unknown=U

The value "male" from the column "Sex" is converted to the value "M" in the column "Sex" in this example.

Sometimes the data for a destination column is contained in different columns of the source file. This problem can be solved through the column “Completion “, using placeholders in square brackets" [] ".

Example 3:

Source Item	FlatList Item	Conversion	Completion
Birth – Day			
Birth - Month			
Birth - Year	BIRT.DATE		[Birth- Day] [Birth- Month] [Birth- Year]

The column BIRT.DATE in the worksheet "FlatList" is made up from the columns "Birth - day", "birth - month" and "birth - year" in the "Source" sheet, each separated by a space.

Should the month not be in the GEDCOM-specific spelling, a conversion can be made using the "Conversion" column, as in the following example.

Example 4:

Source Item	FlatList Item	Conversion	Completion
Name	NAME		
Sex	SEX	male=M, female=F, unknown=U	
Birth - Day			
Birth - Month		1=JAN, 2=FEB, 3=MAR, 4=APR, 5=MAY, 6=JUN, 7=JUL, 8=AUG, 9=SEP, 10=OCT, 11=NOV, 12=DEC	
Birth - Year	BIRT.DATE		[Birth - Day] [Birth - Month] [Birth - Year]

More complex conversions can also be performed with this function. For example, in the capture of data from church baptismal registers, details of the godparents may be captured in addition to the information on the baptised person and his parents. While the referencing of parents through direct cross-references is possible in the GEDCOM structure, the data concerning godparents cannot be easily handled. Often this information is entered as a comment because of the lack of specific fields in genealogy programs.

In the example below, individual records for the two godparents are created in addition to the EVEN listings on the baptised person due to this structural problem. The individual records of the godparents contain an appropriate comment in the notes on this event or this link.

Example 5:

Source Item	FlatList Item	Conversion	Completion
Name	NAME		
Sex	SEX		
Birthday	BIRT.DATE		
Date of Christening	CHR. DATE		
Place of Christening	CHR.PLAC		
Father	FAMC..FAM.HUSB..INDI.NAME		
Mother	FAMC..FAM.WIFE..INDI.NAME		
Godparent-1	EVEN		
Godparent-1	EVEN.TYPE		Godparent
Godparent-1	.INDI.NAME		
Godparent-1	.INDI.NOTE.CONT		Godparent of [Name]
Godparent-1	.INDI.NOTE.CONT#2		Date of Christening: [Date of christening]
Godparent-1	.INDI.NOTE.CONT#3		Place of Christening: [Place of christening]
Godparent-2	EVEN#2		
Godparent-2	EVEN#2.TYPE		Second Godparent
Godparent-2	.INDI#2.NAME		
Godparent-2	.INDI#2.NOTE.CONT		Second Godparent of [Name]
Godparent-2	.INDI#2.NOTE.CONT#2		Date of Christening: [Date of christening]
Godparent-2	.INDI#2.NOTE.CONT#3		Place of Christening: [Place of christening]

The cell value of a field can also be generated by a formula, which should be entered in the column "Completion" and uses place holders. In the following example, the surname of the child consists of the last name of the father, unless another name has been entered in the "Surname child" column.

Example 6:

Source Item	FlatList Item	Conversion	Completion
Forename Child	NAME.GIVN		

Surname Child	NAME.SURN		=IF("[Surname Child]"<>"", "[Surname Child]","[Surname Father]")
Sex	SEX		
Date of birth	BIRT.DATE		
Date of christening	CHR. DATE		
Forename Father	FAMC..FAM.HUSB..INDI.NAME.GIVN		
Surname Father	FAMC..FAM.HUSB..INDI.NAME.SURN		
Forename Mother	FAMC..FAM.WIFE..INDI.NAME.GIVN		
Surname Mother	FAMC..FAM.WIFE..INDI.NAME.SURN		

Before you enter data or values in Excel cells ensure that these are formatted as "Text". This is required because Excel treats certain values as numbers, internal date values or formulas and then converts the data if the cells are formatted as "General" or another format. This causes problems when generating the GEDCOM file (if not before), because for example GEDCOM expects dates in the "`dd MMM yyyy`" format but Excel represents Excel dates internally as a continuous number.

Values which commence with a "-" or "=" character can also cause problems, because Excel interprets these leading characters of a cell as a characteristic of a formula. To avoid these formatting problems it is recommended that the columns to be used for data entry be formatted as "Text" **before** the data entry commences. An alternative is to prefix all data with an apostrophe (‘). This causes the data to be treated as text and aligned accordingly, even if they contain only numbers or dates. In the Excel spreadsheet itself or in creating GEDCOM files from the data this apostrophe has no effect.

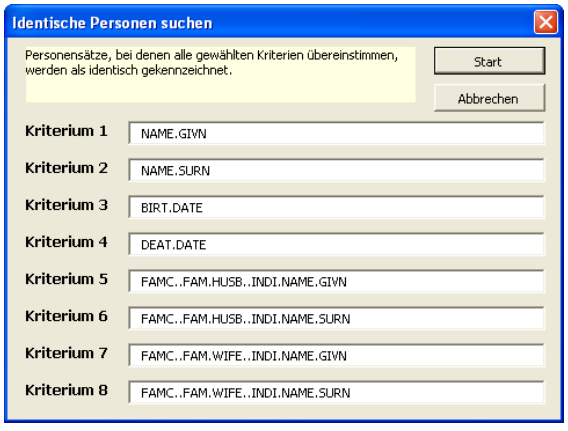
Example 7:

‘1 DEC 1900

Example 8:

‘- Text in a NOTE column

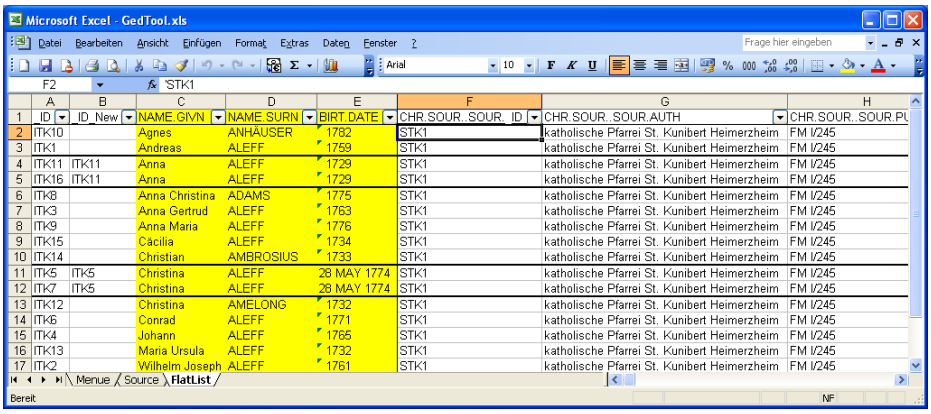
5.5 Search for identical individuals



This function is used to search for multiple occurrences of individuals in the flat list and to propose possible merges.

Up to eight criteria can be specified to identify identical individuals. Should the contents of all of these columns match for various

individuals, then they are grouped together and all individuals in this group are given the ID of the first person in the group in a column denoted "_ID_new". The criteria must exist as column headings in the flat list.



	A	B	C	D	E	F	G	H
1	_ID	_ID_New	NAME.GIVN	NAME.SURN	BIRT.DATE	CHR.SOUR..SOUR._ID	CHR.SOUR..SOUR.AUTH	CHR.SOUR..SOUR.PU
2	ITK10		Agnes	ANHÄUSER	1782	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
3	ITK1		Andreas	ALEFF	1759	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
4	ITK11	ITK11	Anna	ALEFF	1729	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
5	ITK16	ITK11	Anna	ALEFF	1729	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
6	ITK8		Anna Christina	ADAMS	1775	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
7	ITK3		Anna Gertrud	ALEFF	1763	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
8	ITK9		Anna Maria	ALEFF	1776	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
9	ITK15		Cäcilia	ALEFF	1734	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
10	ITK14		Christian	AMBROSIUS	1733	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
11	ITK5	ITK5	Christina	ALEFF	28 MAY 1774	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
12	ITK7	ITK5	Christina	ALEFF	28 MAY 1774	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
13	ITK12		Christina	AMELONG	1732	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
14	ITK6		Conrad	ALEFF	1771	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
15	ITK4		Johann	ALEFF	1765	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
16	ITK13		Maria Ursula	ALEFF	1732	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245
17	ITK2		Wilhelm Joseph	ALEFF	1761	STK1	katholische Pfarrei St. Kunibert Heimerzheim	FM I/245

5.6 Replace IDs

For all individuals and links the IDs are replaced with this function, if there is an entry in the column "_ID_new". Individuals with the same ID are treated as one and the same person in the preparation of the GEDCOM structure.

5.7 Prepare flat list for GEDCOM

This function generates a set of worksheets from the "FlatList" worksheet, with separate sheets for personal data, family data, submitter, sources, etc. This arrangement of the data is necessary for the subsequent conversion into a GEDCOM file.

A conversion of user data to GEDCOM is possible with this function, if the following conditions are met:
A "FlatList" worksheet must exist / be created

- The structure of the column headings must comply with the GEDCOM structure (GEDCOM tags and hierarchy)
- As a minimum, the following columns must be present:
  - NAME - Format: „Forename(s) /Surname/“
  - SEX - Sex (valid values: „M“, „F“ or „U“)
- Individuals should preferably be linked, which can be done for example by numbering each person and using additional columns with the number of the relevant partner or parent (Columns for the numbers of children are not necessary if the children are linked with the parents using their numbers)
- Individuals must be unique

The syntax for the NAME field is "First name/last name /". However, separate first and last names may be entered in the columns NAME.GIVN and NAME.SURN instead. If the NAME column is missing then the NAME.GIVN (forename) and NAME.SURN (last name) columns

are searched for and the NAME column is automatically generated, with the surname being denoted by a "/" at the beginning and at the end.

If the SEX (gender) column is missing, and then it is created and filled with the value "U" (unknown). If the gender of an individual is unknown, then an attempt is made to infer it during the generation of the GEDCOM structure, using existing family relationships (husband/wife, father/mother).

Should the husband (FAMS..FAM.HUSB..INDI.NAME) and wife (FAMS..FAM.WIFE..INDI.NAME) not be shown separately in the source file, , then the program searches for the column FAMS..FAM.SPOUSE..INDI.NAME and creates the two columns FAMS..FAM.HUSB..INDI.NAME and FAMS..FAM.WIFE..INDI.NAME. The contents of the two columns are then filled in, depending on the gender of the persons.

Relationships between parent and child can be held in one or in both sets of the parents data using the column(s) FAMS..FAM.CHIL(#n)..INDI.NAME (child), or in the data set for the child in the columns FAMC..FAM.WIFE..INDI.NAME (mother) or FAMC..FAM.HUSB..INDI.NAME (father). Both procedures are possible.

If columns occur a number of times (e.g. for children, marriages, etc.), then from the second occurrence they are numbered using the character "#" and an incremental number.

Example :

1. Child	FAMS..FAM.CHIL..INDI.NAME
2. Child	FAMS..FAM.CHIL#2..INDI.NAME
3. Child	FAMS..FAM.CHIL#3..INDI.NAME

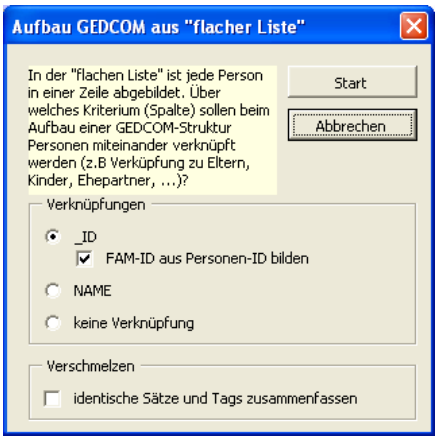
or

1. Marriage	FAMS..FAM.WIFE..INDI.NAME
2. Marriage	FAMS#2..FAM.WIFE..INDI.NAME

...

Because the personal and family data are held separately in the GEDCOM structure and are linked only by cross references, it is imperative that each individual is unique.

Links



In GedTool it is possible to make a link, i.e. depict a relationship between persons (parents, children, spouses,...) on the basis of a unique person marking (serial number, UID...).

If you already have unique personal ID numbers or labels, which are used exclusively each individual in your database, then you should use these for the GEDCOM structure and select the “ID" link option. Under this option the "_ID" columns of each record are used for the formation of cross reference IDs.

Merge

Multiple records with the same ID are grouped together (merged) into a single record. If the data records concerning an individual contain multiple tags with the same name but different content, then this tag is created several times. Thus it is ensured that no information is lost during the merge. However, before the data is exported to a GEDCOM file the user should check whether the multiple tags conform to the GEDCOM standard. For example if different birth dates are found in two merging data sets, then both dates of birth are retained during the merge; two columns are needed to do this. The GEDCOM standard calls for one single date of birth, so the user will have to resolve the problem before exporting the data. Possible solutions include deleting one (erroneous) birth date, or moving the less reliable birth date to the comment field with a note as to why it is there.

Kommentar [CvZ2]: See ToDo 32

The “Prepare Flat List...” dialog offers an option as to whether the IDs of family records (FAM-IDs) are simply to be transferred (check box unchecked), or to be derived from the individual IDs (check box checked). If the FAM-ID is to be derived from the individual IDs, then this always begins with the ID of the husband, followed by the ID of the wife. In same-sex relationships or when the sex of both persons is unknown, the smaller person ID is used first.

If the option NAME of the “Prepare Flat List...” dialog is used, then the ID fields of individuals are internally filled with the contents of the NAME field. This must exist, either as an entry in the NAME column or as entries in the columns NAME.GIVN and NAME.SURN. Under this option all personal data with identical entries are also summarized in the ID fields. The IDs of family records (FAM-IDs) are derived from the individual IDs.

If no linkages between the individual records are possible because of the data structure, or if linkages are not desired, then the option "no link" can be selected. In this case, only individuals found in the same data record (same line) are linked (E.g. in the case of christenings, links to parents and godparents). Here, it is advisable to possibly merge individual records at a later date in a genealogy program.

To ensure a uniqueness of the individual IDs, a checked is made under the first two options (ID and NAME) to find out whether multiple instances of any IDs occur. If so, these IDs are marked in red and a warning message is issued. This warning message does not appear if the "summarize identical sets and tags" option was selected under "Merge".

The merging of records relating to an identical individual can result in the occurrence of multiple tags with the same content or of records with identical content but different cross references

(XREF-ID). Optionally these tags and records can also be grouped together. Persons with records with identical content but different cross references (XREF-ID) are excluded.

After the start of the function < prepare flat list for GEDCOM > GedTool parses the data into the different GEDCOM structures (person, family and source data) and builds relationships through key fields or cross reference (XREF IDs). A separate row is generated in the INDI (person) worksheet for each individual name. Family data is generated either through the details of a marriage partner (FAMS..FAM.HUSB..INDI.NAME, FAMS..FAM.WIFE..INDI.NAME or FAMS...FAM.SPOUSE..INDI.NAME), or through the reference to the parents (FAMC...FAM.HUSB..INDI.NAME and FAMC..FAM.WIFE..INDI.NAME). The child-parent relationship is created either by providing parental data in a personal record (FAMC..FAM.HUSB..INDI.NAME and FAMC..FAM.WIFE..INDI.NAME) or through the column for the children in the personal record of the parents (FAMS..FAM.CHIL(#n)..INDI.NAME).

In Excel, the following worksheets are created by this function:

- „1 HEAD“
- „1 SUBM“
- „1 INDI“
- „1 FAM“
- „1 SOUR“ (as necessary)
- „1 REPO“ (as necessary)
- „1 OBJE“ (as necessary)
- „1 SUBN“ (as necessary)
-

6 Compare / Match / Merge

The functions to compare or merge two GEDCOM files as well as the possibilities of global changes are described in this chapter.

6.1 Read second file for comparison

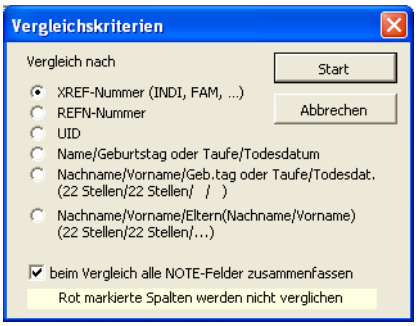
To perform a table comparison between two GEDCOM files, a second GEDCOM file is read in with this function. The structure of the worksheets is carried out as described in the section on importing a GEDCOM file, but the worksheet names are prefixed by a "2".

6.2 Swap GEDCOM files

The worksheets of the "1xxx" and "2 xxx" GEDCOM files are swapped round. This function is necessary because required data transfers always take place from GEDCOM-2 to GEDCOM-1 (see Chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**).

6.3 Compare GEDCOM files

This function compares the worksheets of the "1" and "2" GEDCOM files, column by column. Various key words can be used for the comparison.

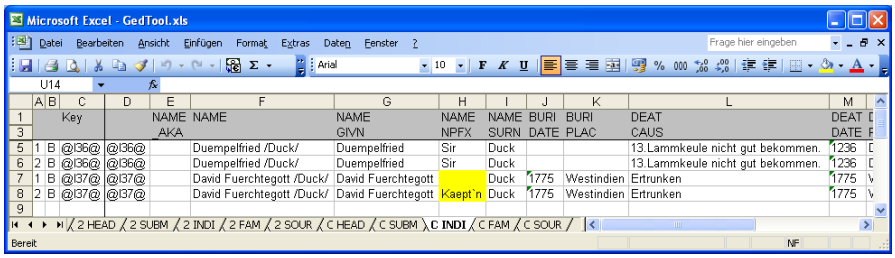


If different field contents are found in the columns of GEDCOM-1 and GEDCOM-2 relating to a particular keyword in a particular record, then the two records are copied to a new worksheet ("C xxx") and the differing fields are marked in yellow. If no identical key words are found in the spreadsheets to be compared, then these records are given the fill colour red (occurrence only in GEDCOM-1) or green (occurrence only in GEDCOM-2).

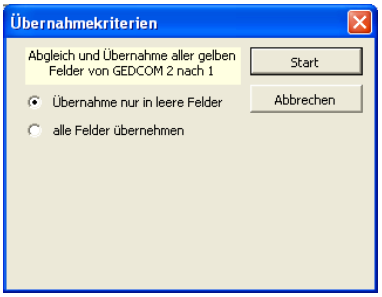
Columns/column headers marked in red in the files to be compared are ignored during the comparison.

Optionally, NOTE fields can be considered as one consolidated field when comparing. This makes sense if the GEDCOM files created by various genealogy programs allow NOTE fields of varying lengths.

Example: Comparison referred to INDI-Number



6.4 Matching and adoption of different fields

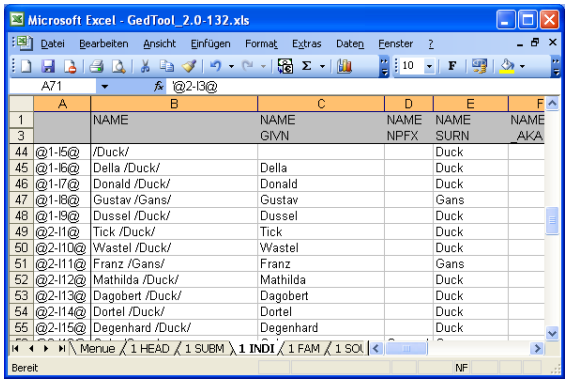


This function applies the data differences found when comparing by copying data from the GEDCOM-2 files to GEDCOM-1. Here, only the fields marked in yellow are taken into account. Columns missing in the GEDCOM-1 file are created as necessary.

If the copying from GEDCOM-2 to GEDCOM-1 should only take place into fields which are empty, this can be specified.

Particular columns which the user does not want matched can be excluded by removing the fill colour markings using the formatting capabilities of Excel.

6.5 Merge GEDCOM files



All records in the GEDCOM-2 file are added to the GEDCOM-1 file by this function. Missing columns in the GEDCOM-1 file will be created as necessary. The worksheets originating from the GEDCOM-2 file are then deleted from the Excel workbook. The (XREF IDs) IDs are prefixed with the original sheet numbers to distinguish them. For example, an XREF-ID @I1234@ from GEDCOM-1 becomes @1-I1234@ and the XREF-ID @I1234@ from GEDCOM-2 becomes @2-I1234@.

With this feature, no records are merged; new records are added!

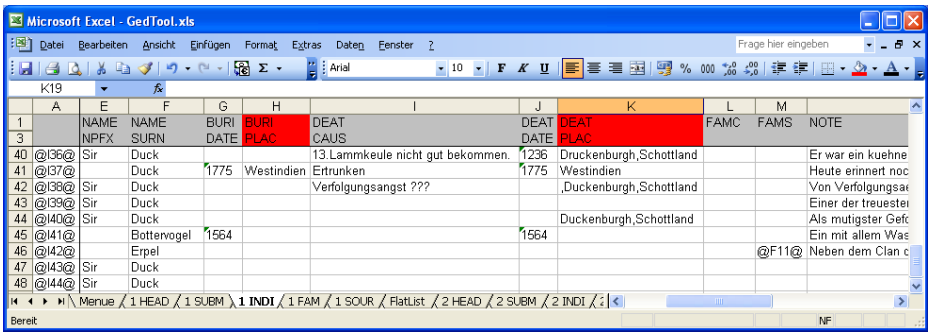
The integration of the data (merging identical people and records) is possible via the flat list functions (see Chapter 5.7). To do this, perform the following functions after merging the two GEDCOM files:

1. Build a flat list from the GEDCOM structure (function < Create a flat list >)
2. Search for identical individuals (function < Search for identical individuals >)
3. Replace the IDs of identical people (function <replace IDs >)
4. Merge and prepare the GEDCOM structure from the flat list (function < prepare flat list for GEDCOM>)

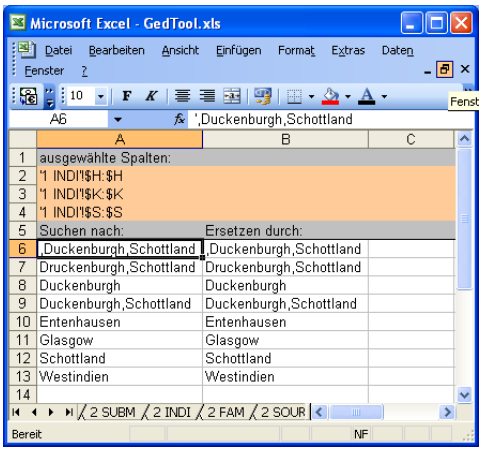
6.6 Global Search and Replace

Using global search and replace the contents of one or more arbitrary columns in the first GEDCOM file can be replaced by new content.

In this way, it is possible, for example, to change all locations in a genealogy file across multiple sheets (personal data, family data …).



In the first step, the fill colour of the header cells of the columns of which should be changed must be set to red using the formatting capabilities of Excel. This can be done in multiple worksheets.

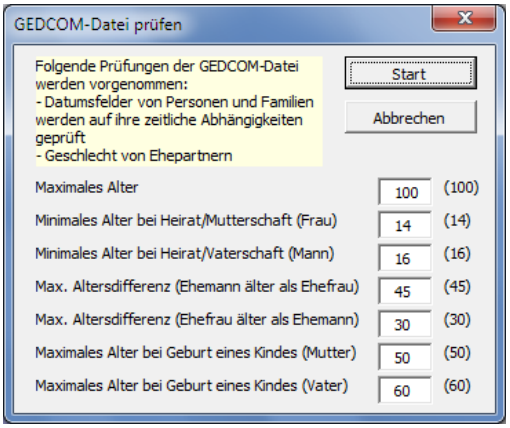


After starting the function "Prepare global search and replace", all marked columns are analysed and any contents found are stored sorted in list form in a new worksheet named "change". In this worksheet now the new content can be entered in the column headed "replace".

The contents of the selected columns are changed in the second step using the "Perform global search and replace" function.

7 Other useful functions

7.1 GEDCOM file plausibility check



This function checks the date fields of a GEDCOM file with regard to their chronological order using predetermined parameters.

The threshold values of the seven criteria can be customized, deviating from the default values if required.

Following date dependencies are checked and the variations output to an error list:

- Date of death ≤ [10] Date of birth
- Date of death ≥ Date of christening
- Date of birth ≥ Date of death - max. age
- Date of christening ≥ Date of birth
- Date of birth ≥ Date of christening - max. age
- Date of burial ≥ Date of death
- Date of death ≥ Date of marriage
- Date of marriage ≥ Date of birth + Marriageable age (F/M)
- Date of birth ≥ Spouse's date of birth - max. age difference (F/M)
- Date of birth ≥ Father's date of birth + min. reproductive age
- Father's date of death ≥ Child's date of birth - 1 year
- Date of birth ≥ Mother's date of birth + min. fertile age
- Mother's date of death ≥ Child's date of birth
- Mother's date of birth ≥ Child's date of birth - max. menopausal age
- Father's date of birth ≥ Child's date of birth - max. reproductive age

In addition, the gender of the spouse is checked in family records.

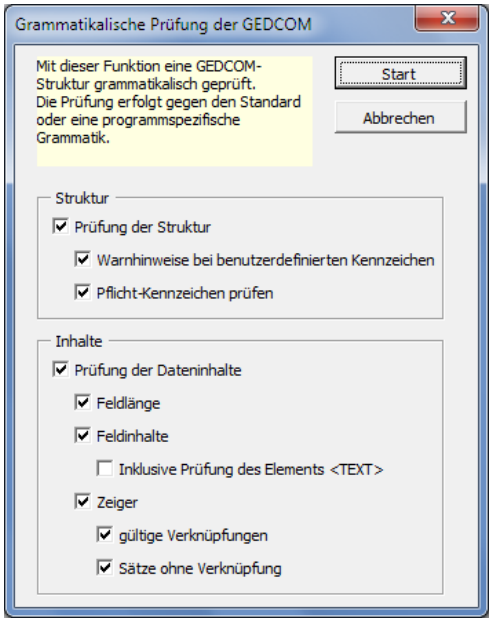
[10] ≤ means "less than or equal to", ≥ "greater than or equal to" ...

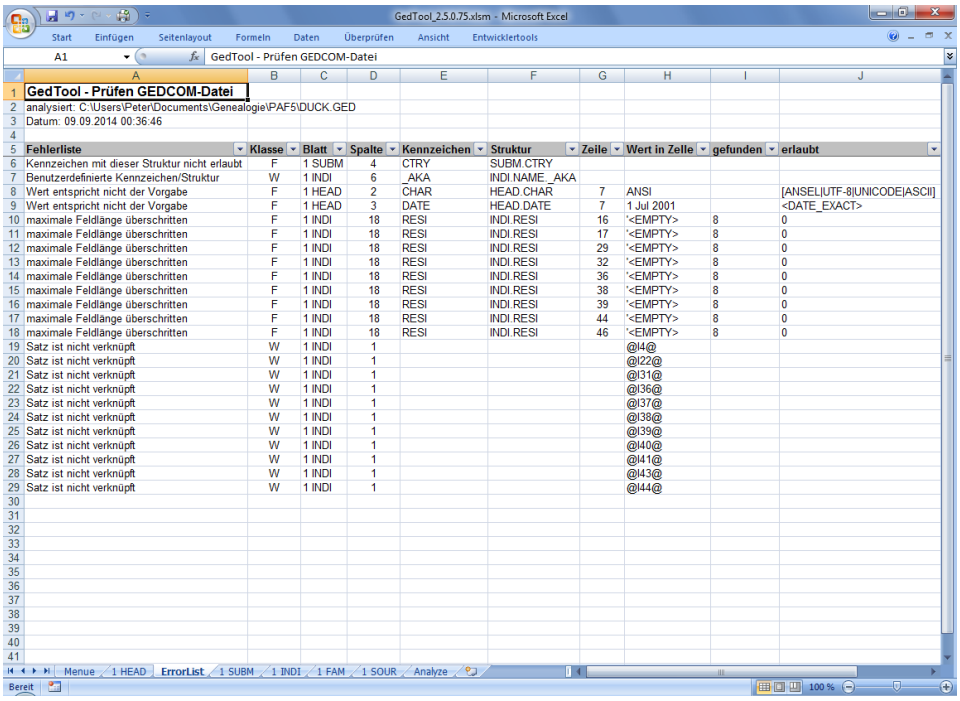
7.2 Check syntax of the GEDCOM file

The imported GEDCOM file can be validated against the GEDCOM standard or program-specific variants of GEDCOM. To do this, an external file is read (for example the file GED-Grammar.xls included in the delivery), which contains the syntax of the GEDCOM standard (5.5.1) as well as that of other genealogy programs.

During the test, the structure of the GEDCOM tags is checked as well as data content (maximum field lengths, field content, or links). All checks are optional and can be disabled if necessary.

The result of the test is output to a new worksheet named “ErrorList”. On output, a distinction is made between warnings and errors.





GedTool_2.5.0.75.xlsm - Microsoft Excel

Start Einfügen Seitenlayout Formeln Daten Überprüfen Ansicht Entwicklertools

A1 GedTool - Prüfen GEDCOM-Datei

GedTool - Prüfen GEDCOM-Datei

analysiert: C:\Users\Peter\Documents\Genealogie\PAF5\DUCK.GED

Datum: 09.09.2014 00:36:46

Fehlerliste	Klasse	Blatt	Spalte	Kennzeichen	Struktur	Zeile	Wert in Zelle	gefunden	erlaubt
Kennzeichen mit dieser Struktur nicht erlaubt	F	1 SUBM	4	CTRY	SUBM.CTRY				
Benutzerdefinierte Kennzeichen/Struktur	W	1 INDI	6	_AKA	INDI.NAME._AKA				
Wert entspricht nicht der Vorgabe	F	1 HEAD	2	CHAR	HEAD.CHAR	7	ANSI		[ANSEL|UTF-8|UNICODE|ASCII]
Wert entspricht nicht der Vorgabe	F	1 HEAD	3	DATE	HEAD.DATE	7	1 Jul 2001		<DATE_EXACT>
maximale Feldlänge überschritten	F	1 INDI	18	RESI	INDI.RESI	16	'<EMPTY>	8	0
maximale Feldlänge überschritten	F	1 INDI	18	RESI	INDI.RESI	17	'<EMPTY>	8	0
maximale Feldlänge überschritten	F	1 INDI	18	RESI	INDI.RESI	29	'<EMPTY>	8	0
maximale Feldlänge überschritten	F	1 INDI	18	RESI	INDI.RESI	32	'<EMPTY>	8	0
maximale Feldlänge überschritten	F	1 INDI	18	RESI	INDI.RESI	36	'<EMPTY>	8	0
maximale Feldlänge überschritten	F	1 INDI	18	RESI	INDI.RESI	38	'<EMPTY>	8	0
maximale Feldlänge überschritten	F	1 INDI	18	RESI	INDI.RESI	39	'<EMPTY>	8	0
maximale Feldlänge überschritten	F	1 INDI	18	RESI	INDI.RESI	44	'<EMPTY>	8	0
maximale Feldlänge überschritten	F	1 INDI	18	RESI	INDI.RESI	46	'<EMPTY>	8	0
Satz ist nicht verknüpft	W	1 INDI	1				@I4@		
Satz ist nicht verknüpft	W	1 INDI	1				@I22@		
Satz ist nicht verknüpft	W	1 INDI	1				@I31@		
Satz ist nicht verknüpft	W	1 INDI	1				@I36@		
Satz ist nicht verknüpft	W	1 INDI	1				@I37@		
Satz ist nicht verknüpft	W	1 INDI	1				@I38@		
Satz ist nicht verknüpft	W	1 INDI	1				@I39@		
Satz ist nicht verknüpft	W	1 INDI	1				@I40@		
Satz ist nicht verknüpft	W	1 INDI	1				@I41@		
Satz ist nicht verknüpft	W	1 INDI	1				@I43@		
Satz ist nicht verknüpft	W	1 INDI	1				@I44@		

Menue 1 HEAD ErrorList 1 SUBM 1 INDI 1 FAM 1 SOUR Analyze

Bereit 100 %

7.3 Building REFN (Kekulé and Saragossa) numbers

Many genealogy programs allow you to use a personalised system of ordering the data (E.g. personal ancestral file - PAF). By using this macro, you can build your own order system in the column **REFN**.

After the start of the macro a dialog for the entry of the INDI number of the proband (base individual, freely selectable) appears. In generating the Kekulé number the proband gets the number "1", his/her father "2", his/her mother "3", his/her paternal grandfather "4", etc.

In addition the generation of each ancestor can be shown, preceded by the Kekulé number. The generation can optionally be output either in Roman or Arabic numerals.

Apart from the Kekulé numbering of the ancestors, the Kekulé number can be expanded by a Saragossa order number starting from each individual ancestor.

The Saragossa numbering system numbers all of the descendants of an individual, with children being consecutively numbered.

The system behind Saragossa numbering is as follows:

The direct descendants of an individual (in the above example, the grandfather with the number 4) are separated by a delimiter and continuously numbered (4.1, 4.2, 4.3, etc.), with the exception

of an individual in the direct line of descent to/from the proband (in this example the father, Kekulé No. 2). This approach will be continued for any other generation.

Example:

1 proband
2 father
3 mother
4 grandfather
4.1, 4.2,... brothers and sisters of the father, i.e. uncles / aunts
4.1.1, 4.1.2... children of an uncle / aunt = cousin or cousin
4.1.1.1... child of a cousin
5 grandmother
...

Thus, the combination of Kekulé and Saragossa includes any blood relations.

For the labelling of persons who are not blood relations (e.g. marriage partners) a letter (a, b, c,...) can be used instead of a number.

Examples:

4.a	first wife of the grandfather
5	second wife of the grandfather, grandmother of the proband
4.b	third wife of the grandfather
4.1.1.a	spouse of a cousin

If required, the parents of a non-blood relative can be denoted by the addition of an F or M.

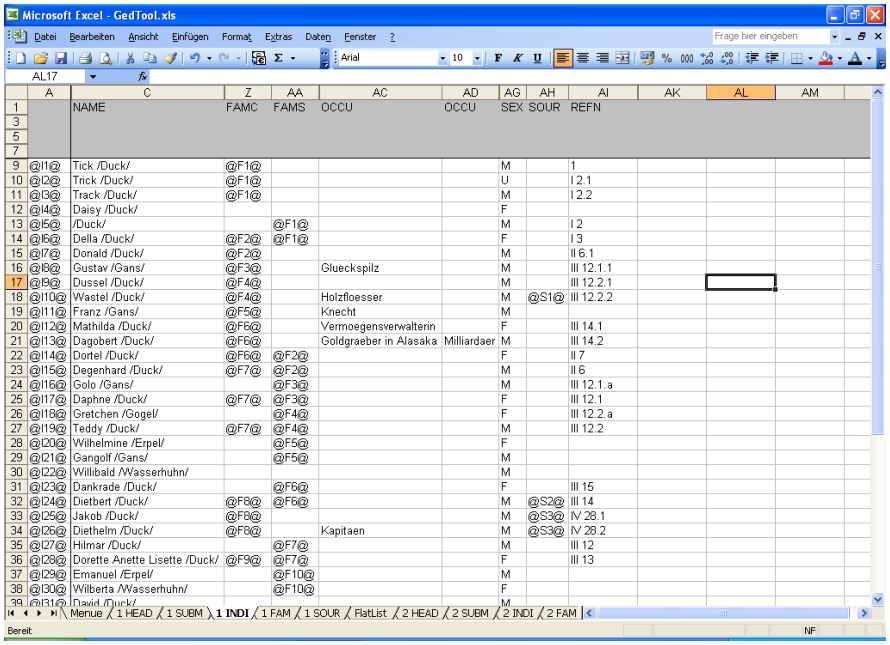
Example:

4.1.1.a.V father-in-law of a cousin

Whenever an implex[11] or ancestral erosion (relatives intermarried) the already determined number is retained and marked with an asterisk appended to the Kekulé number.

[11] "..pedigree collapse describes how reproduction between two individuals who share an ancestor causes the number of distinct ancestors in the family tree of their offspring to be smaller than it could otherwise be." (http://en.wikipedia.org/wiki/Pedigree_collapse, October 2014.)

Example of a REFN column:



	A	C	Z	AA	AC	AD	AG	AH	AI	AK	AL	AM
1		NAME	FAMC	FAMS	OCCU	OCCU	SEX	SOUR	REFN			
3												
5												
7												
9	@I1@	Tick /Duck/	@F1@				M		1			
10	@I2@	Trick /Duck/	@F1@				U		I 2.1			
11	@I3@	Track /Duck/	@F1@				M		I 2.2			
12	@I4@	Daisy /Duck/					F					
13	@I5@	/Duck/		@F1@			M		I 2			
14	@I6@	Della /Duck/	@F2@	@F1@			F		I 3			
15	@I7@	Donald /Duck/	@F2@				M		II 6.1			
16	@I8@	Gustav /Gans/	@F3@		Gluecksplz		M		III 12.1.1			
17	@I9@	Dussel /Duck/	@F4@				M		III 12.2.1			
18	@I10@	Wastel /Duck/	@F4@		Holzfloesser		M	@S1@	III 12.2.2			
19	@I11@	Franz /Gans/	@F5@		Knecht		M					
20	@I12@	Mathilda /Duck/	@F6@		Vermoegensverwalterin		F		III 14.1			
21	@I13@	Dagobert /Duck/	@F6@		Goldgraeber in Alasaka	Milliardaer	M		III 14.2			
22	@I14@	Dortel /Duck/	@F6@	@F2@			F		II 7			
23	@I15@	Degenhard /Duck/	@F7@	@F2@			M		II 6			
24	@I16@	Golo /Gans/		@F3@			M		III 12.1.a			
25	@I17@	Daphne /Duck/	@F7@	@F3@			F		III 12.1			
26	@I18@	Gretchen /Gogel/		@F4@			F		III 12.2.a			
27	@I19@	Teddy /Duck/	@F7@	@F4@			M		III 12.2			
28	@I20@	Wilhelmine /Erpel/		@F5@			F					
29	@I21@	Gangolf /Gans/		@F5@			M					
30	@I22@	Willibald /Wasserhuhn/					M					
31	@I23@	Dankrade /Duck/		@F6@			F		III 15			
32	@I24@	Dietbert /Duck/	@F8@	@F6@			M	@S2@	III 14			
33	@I25@	Jakob /Duck/	@F8@				M	@S3@	IV 28.1			
34	@I26@	Diethelm /Duck/	@F8@		Kapitaen		M	@S3@	IV 28.2			
35	@I27@	Hilmar /Duck/		@F7@			M		III 12			
36	@I28@	Dorette Anette Lisette /Duck/	@F9@	@F7@			F		III 13			
37	@I29@	Emanuel /Erpel/		@F10@			M					
38	@I30@	Wilberta /Wasserhuhn/		@F10@			F					
39	@I31@	David /Duck/					M					

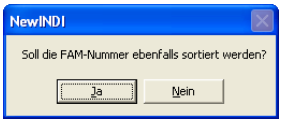
7.4 Sort a GEDCOM file by REFN Numbers

The order of records in the "1 INDI" worksheet is sorted by ascending REFN numbers or by a column TEMP.SORT generated by the function < Building REFN (Kekulé and Saragossa) numbers >.

7.5 Reassign INDI numbers according to newly assigned order

The INDI number in the worksheet for individuals is reassigned according to the sorted order. If the sheet had been previously sorted by REFN, then the subject is in the first place, followed by his next of kin. In this manner, the person data sorted by the degree of kinship will be renumbered, which means that close relatives will receive a low number, distant relatives a higher.

Optionally the FAM numbers can also be renumbered. In this case, the family worksheet is previously sorted by the column HUSB.



7.6 Split NAME column (name and surname)

The complete name specified in the NAME column of the individuals' worksheet "1 INDI" is parsed and entered, divided into first name and last name, in two new columns (NAME.GIVN and NAME.SURN) created at the end of the individuals' worksheet.

The string between the two "/" delimiters is put in the SURN column as a surname, the string before the delimiter is interpreted as one (or more) forename(s) and written to the GIVN column.[12]

Existing SURN and GIVN columns are deleted and rebuilt by this function.

7.7 Split DATE column (day, month, year)

GEDCOM saves dates in the format DD MMM YYYY, for example 1 JAN 1900. In this format the dates in Excel are not immediately evaluable and calculations with the help of the date are not possible. This function is also needed to create a name-place list, also known as a "Tiny Tafel" (see section 7.15).

GedTool now offers a function which breaks down the date format and represents each item in a separate column. To do this, GedTool extends each DATE column by seven more temporary columns. The names of these columns start with _TEMP and they are thus not included in a later export.

For example the Date of birth (column BIRT.DATE) becomes extended by the following columns:

- _TEMP.BIRT.DATE.APPDX (Approximation)
- _TEMP.BIRT.DATE.DDMIN (Day)
- _TEMP.BIRT.DATE.MMMIN (Month)
- _TEMP.BIRT.DATE.YYMIN (Year)
- _TEMP.BIRT.DATE.DDMAX (Day - maximum)
- _TEMP.BIRT.DATE.MMMAX (Month - maximum)
- _TEMP.BIRT.DATE.YYMAX (Year - maximal)

The following examples show the layout logic:

DATE	APPDX	DDMIN	MMMIN	YYMIN	DDMAX	MMMAX	YYMAX
1 JAN 1900		1	1	1900			
DEC 1920			12	1920			
1875				1875			

[12] If the name field begins with the surname, then the string after the second delimiter is interpreted as a forename.

EST 1879	EST			1979			
BET 1860 AND 1862	BET…AND…			1860			1862
FROM 1875 TO 1879	FROM...TO...			1875			1879
ABT 2000 B.C.	ABT			-2000			
CAL 1 JAN 2000	CAL	1	1	2000			

If a date is denoted as "B.C." (Before Christ) the year is shown as a negative number.

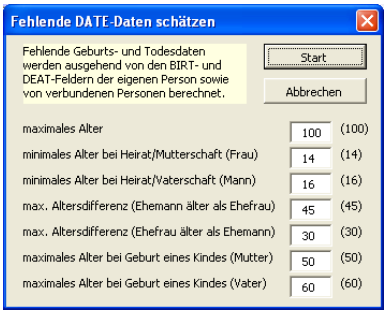
7.8 Group columns by TYPE

In addition to specific events and facts with their own GEDCOM tag, the GEDCOM standard also supports the "neutral" GEDCOM tag EVEN (for events), and FACT (for facts). These tags are more closely specified by a subsequent TYPE tag. Multiple occurring NAME tags can be classified using TYPE (maiden name, married name...).

This function groups all GEDCOM tags which include TYPE tag in their structures in a table by their TYPE content. This means that separate columns are created for each TYPE expression. Thus the processing of data is simplified and/or the contents of the data logically presented.

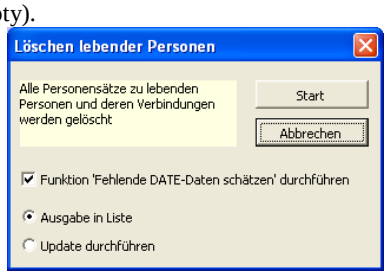
7.9 Estimate missing DATE values

Often date fields are not filled in in genealogical files, because accurate information is missing. This function in GedTool attempts to calculate the missing data by correlating personal dates or using the dates of connected persons. In an iterative process, the missing dates are added taking event parameters into account. During this process a separate source record is additionally created in the documentation and the estimated date fields expanded with a reference to this source set.



7.10 Deletion of living individuals

Before sharing of genealogical data with other researchers or before the publication of data on the Internet, the data from living persons may need to be excluded because of legal (Privacy Legislation) requirements. GedTool now offers the possibility of deleting all records relating to living persons (i.e. those whose DEAT.DATE field is empty).

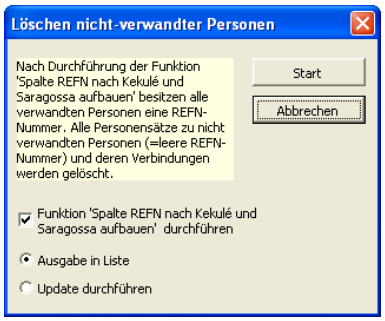


Before performing this function, it is recommended to estimate missing data fields with the appropriate function. If this has not yet been done, it can first be done optionally by this function.

The function can return either a deletion proposal list or directly perform the updates.

The function <Delete broken links > can subsequently be used to perform the correction or deletion of all records connected with these people.

7.11 Deletion of unrelated individuals

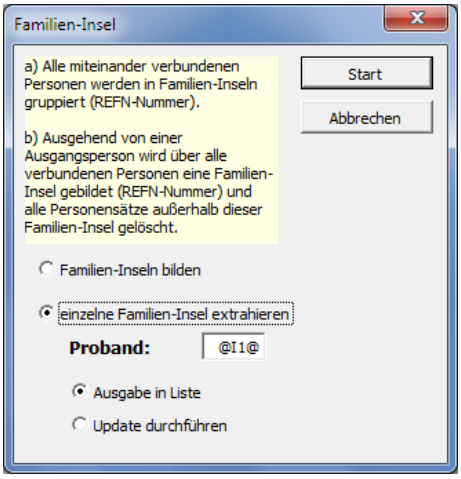


This function can be used for example to extract a family association from a large file. After performing the function < Build REFN after Kekulé and Saragossa > all related persons of subjects have an entry in the REFN field. With this function, all records of individuals without such an entry are deleted.

The function can return either a deletion proposal list or directly perform the updates.

Also here it is advisable to subsequently perform the function < delete broken links >.

7.12 Create Family Islands

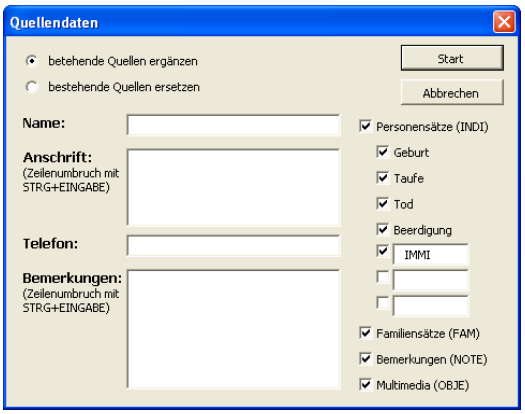


Through the connections of individuals with each other (parents-children, spouses, associated persons...) Family Islands are formed.

All individuals, who are connected by a link, are grouped by this function.

The mapping to a family island is shown in the REFN field. Thus, for example, starting from a given individual, all connected persons can be – extracted, or all non-affiliated persons deleted.

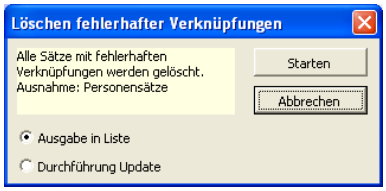
7.13 Add custom citations



Using this function, information on the author as a source can be added to each individual person record or at the event level. All existing citations can be replaced if desired. This function is intended for researchers, who want to mark the data accordingly prior to the disclosure thereof to others. Furthermore the function is also suitable to designate data from external GEDCOM files that the user wants to insert in his/her own data stock.

7.14 Delete broken links

This function is designed for use especially in conjunction with the <Deletion of all living persons> or < Deletion all unrelated persons > functions. The result is a coherent GEDCOM file which contains only the relevant data.



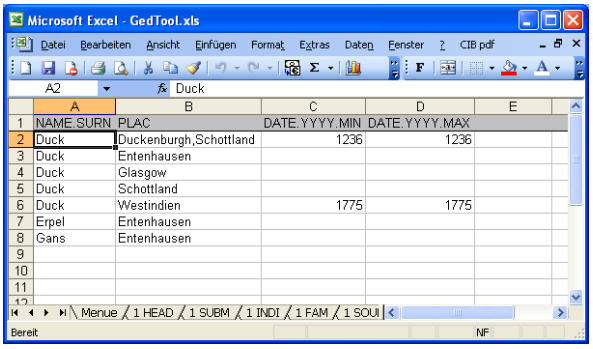
Starting from the entries in the personal worksheet "1 INDI" all key terms and their relationships are checked and, if necessary, adjusted. If a record contains a cross reference pointer set to a non-existent cross-reference ID (starting with the "@"-characters), then the cross reference will be deleted. If any other worksheets contain cross reference IDs, which are not linked by a cross reference pointer, then these cross reference IDs will be deleted with their data. In the INDI worksheet itself only cross reference pointers cleaned, but no cross reference IDs are deleted.

The function can return either a deletion proposal list or directly perform the updates.

Note: This function will not clean up an accidental marriage link of a woman with her father or grandfather (circular link), because such a connection is not technically incorrect for the program.

7.15 Name/places list (Tiny Tafel)

This function creates a listing of names and locations based on a flat list. If the date fields had been previously split, then the earliest and the latest occurrence of the name-places combination is shown in the list.

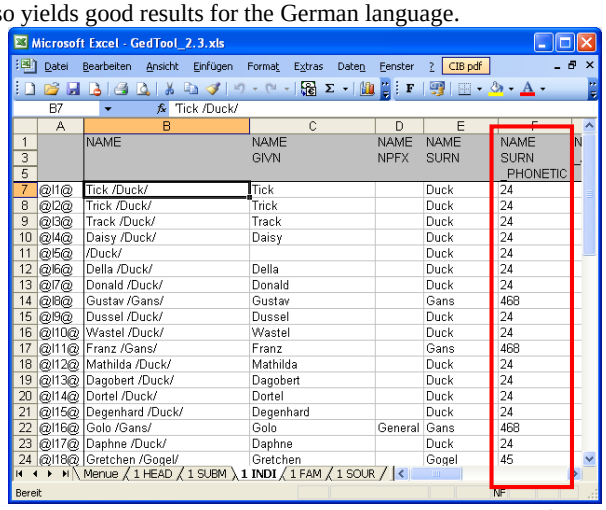


7.16 Phonetic Search

The phonetic search is used to identify identical or related persons even though there may be different spellings or variations of the name. In this way "S" and "Smyth" can be found when "Smith" is searched for.

With this function, an additional column with the phonetic search query is created for a selected column. For the formation of the phonetic search term, three different algorithms are supported:

- **SoundEx**
  SoundEx is a phonetic algorithm for indexing words and phrases by sound in the English language. Words which sound the same should be coded into an identical string. The SoundEx algorithm often also yields good results for the German language.
- **Cologne Phonetics**
  The Cologne Phonetics (also Cologne process) is a phonetic algorithm, which also associates words to a phonetic code according to their sound. The Cologne Phonetics is better tailored to the German language compared to the better-known SoundEx method.
- **Double Metaphone**
  Metaphone is more accurate than SoundEx, and takes more account of the pronunciation rules. The algorithm is named double metaphone, because it can calculate two codes. The first



code (value 1) is reminiscent of the American pronunciation; the second code (value 2) takes into account the native pronunciation. The double metaphone algorithm can thus handle with the characteristics of the languages English, French, Spanish, Italian and some Slavic and Germanic languages as well.

8 GEDCOM and GedTool

GEDCOM (English: GEnealogical Data COMmunication) is the specification of a data format, which enables the exchange of data between different genealogy software packages.

It was designed in 1980 by the Church of Jesus Christ of Latter Day Saints (Mormons) to assist their members in their family research. Since then GEDCOM has become established as a quasi-standard and is supported by all popular genealogy programs, as well as many genealogical sites on the Internet.

The GEDCOM format (file extension: .ged) is text-based and contains the data of the individuals in a family tree, as well as information about their family relationships.

The definition of GEDCOM (English) can be found on the Internet, for example at the following links:

- https://familysearch.org/learn/wiki/en/GEDCOM (last access in November 2014)
- http://homepages.rootsweb.ancestry.com/~pmcbride/gedcom/55gctoc.htm (last access in November 2014)

German translations of the GEDCOM 5.5.1 definition can also be found, for example under

- http://www.daubnet.com/ftp/gedcom-551-deutsch.pdf (last access October 2014)

8.1 Structure of a GEDCOM File

A GEDCOM file contains an ordered consecutive sequence of genealogical information (persons, families, sources of data...), which are grouped together in records. The data elements grouped together in a record are hierarchically divided into individual lines. Each line contains a unique identifier (tag) and a hierarchy level (represented by a number at the beginning of the line) in addition to the actual data value. Relationships between individual records (parents, children, spouses...) are formed by cross reference pointers and cross reference identifiers.

A new record always begins at hierarchy level 0 and includes a prefixed unique key term enclosed between two ' @ ' characters, in addition to the record type.

Example of an individual record (INDIVIDUAL):

```
0 @I1@ INDI          (hierarchy level / key term / record type)
```

The person record in turn consists of different data items with one digit (level number) at the beginning of the sentence, for example:

```
1 NAME John /Anyman/  (Name: level number / tag / data value)
2 GIVN John                 (Forename)
2 SURN Anyman         (Surname)
```

or

```
1 BIRT                      (Birth)
2 DATE 17 OCT 1937    (Date of birth)
2 PLAC Duck Ville           (Place of birth)
```

Links with other sets are made up as in the following example:

```
1 FAMC @F1@           (cross reference to the family set of parents)
```

The tags in the GEDCOM format are standardized and can be used only in the described form and structure. The GEDCOM standard does, however, permit the use of custom, program-specific tags. The names of these tags must commence with an underscore, e.g. "_UID".

8.2 Structures in GedTool

GedTool groups all similar records (persons, families, data sources ...) together in an appropriately named Excel worksheet. Each individual record, for example that of an individual is a separate row in Excel. The respective tags are depicted in the columns; the headers consist of multiple rows due to several levels of hierarchy. The data values themselves are written in the appropriate cells (row of the person, column of the tag). Multiply occurring tags within a record are numbered internally (in hidden lines in the headers).

9 Excel: Technical limitations

The maximum size of the GEDCOM file which can be read depends on the technical limitations of the version of Excel used.

For example, versions prior to Excel 2007 allow no more than 256 columns (A) to (IV) or more than 65,536 rows. Because each GEDCOM tag requires a separate column, this technical upper limit can be reached very quickly, for example with extensive notes. GedTool meets this restriction by two built-in program features.

Firstly, continuation fields (CONT / CONC tags) can optionally be grouped together with the corresponding parent field in a shared Excel cell when importing a GEDCOM file. As an Excel cell can contain no more than 32,000 characters, additional columns are created if this limit is exceeded. When the data is subsequently output to a GEDCOM file, the fields thus grouped together when reading will be separated again into their original fields (CONT/CONC).

Secondly, if the number of possible columns is exceeded when reading a GEDCOM file, it can be analysed afterwards using a GedTool function. As a result, all GEDCOM tags occurring in the data are listed. The user can then mark unimportant individual tags, which will cause them to be excluded from being put into a dedicated column during the next import run. These excluded tags are then grouped into so-called "container" columns and are written as stand-alone GEDCOM tags again when exporting. These fields are not taken into account in all other GedTool functions and are only "parked" until the export.

The limitation to 65,536 rows in Excel 2003 and prior versions means that no more than 65,530 person sets can be processed (minus the headers).

As of Excel 2007, a spreadsheet can include 1,048,576 rows and 16,384 columns (A to XFD).

9.1 Note for users of Excel 2007 and subsequent versions

To take advantage of the full functionality of Excel 2007 (more than 256 columns or more than 65,536 rows) the GedTool.xls file must first be saved as an .xlsm file (Excel macro-enabled workbook, *.xlsm). This can be done using the "Office" or “File” button (upper left) and then "Save As“.

GedTool is currently always supplied in .xls format to ensure backward compatibility through Excel 97. Internally the Excel version is taken into account by various functions as necessary.

10 Problems with special characters (e.g. umlauts)

Standard characters (a-z, A-Z, 0-9) are normally correctly interpreted when a text file is read by Excel. If the data contains special characters, such as the German "umlauts" (äöü ÄÖÜ), ß etc. then the character set used by the program from which the data were exported becomes important and if problems occur it may be necessary to re-export the data using a different character set.

10.1 Umlauts are not displayed correctly

It sometimes happens that umlauts or special characters are incorrectly interpreted when reading a GEDCOM file. In these cases, the GEDCOM file was created with a character set which misrepresents the umlauts in the Windows character set used by Excel.

When using data with umlauts, then this should be exported with the UTF-8 or ANSI character set. Many genealogy programs offer this option when exporting a GEDCOM file. When using the ANSI character set, umlauts appear correctly, but for example Polish or Czech special do not; these characters are supported only in UTF-8. The character set used is normally shown in the header part of the GEDCOM file in the CHAR entry at level 1. This entry supplies other genealogy programs which may read the GEDCOM file with character set information, e.g.

1 CHAR ANSI

shows that it the ANSI character set is used in this file.
Some programs unfortunately write no entry, or an incorrect entry in the header of the GEDCOM file (E.g. ANSII or IBM PC) when exporting. In these cases, for example the genealogy program PAF imports the GEDCOM files with the ANSEL character set, which causes incorrect interpretation of umlauts and special characters.

With the exception of the character sets UTF-8 and UTF-16 GedTool has, unfortunately, no way of parsing the header set of the GEDCOM file and then converting the character set. There are, however, alternative ways of converting the GEDCOM file before reading it into GedTool.
For this purpose, perform a web search for a free small utility, which, for example, convert ASCII files (DOS character set) to ANSI (Windows character set) or vice versa convert. The program GEKo, for example, can be found on the homepage of Stefan Mettenbrink (http://www.familienbande-genealogie.de/en/index.html) (last access in November 2014)under the heading "Download" and is available for free downloading. Some text editors (e.g. NoteTab) also allow saving with different character sets and can thus be used for conversion.

10.2 Genealogy program crashes when importing a GEDCOM file

If a GEDCOM file causes problems when it is read in a genealogical program, the reason is often that the user has mistakenly entered a text with a special character (E.g. meßdiener) in a date field.

This problem can be easily solved by reading the GEDCOM file into GedTool and checking the date column for text (see also **Fehler! Verweisquelle konnte nicht gefunden werden.**, Errors when importing a GEDCOM file).

11 Appendices

11.1 Appendix A - Definition of the GEDCOM Tags

This appendix contains a list of all tags which are used in the GEDCOM 5.5 specification. These tags are used in a hierarchical structure, for example to describe individuals in connection with their families. The tag can have different meanings depending on its parent structure.

The GEDCOM standard allows also the use of individual user tags - starting with an underscore - too.

Tag	Formal Designation	Description
ABBR	ABBREVIATION	A short name of a title, description, or name.
ADDR	ADDRESS	The contemporary place, usually required for postal purposes, of an individual, a submitter of information, a repository, a business, a school, or a company.
ADR1	ADDRESS1	The first line of an address.
ADR2	ADDRESS2	The second line of an address.
ADOP	ADOPTION	Pertaining to creation of a child-parent relationship that does not exist biologically.
AFN	AFN	A unique permanent record file number of an individual record stored in Ancestral File.
AGE	AGE	The age of the individual at the time an event occurred, or the age listed in the document.
AGNC	AGENCY	The institution or individual having authority and/or responsibility to manage or govern.
ALIA	ALIAS	An indicator to link different record descriptions of an individual who may be the same person.
ANCE	ANCESTORS	Pertaining to forbearers of an individual.
ANCI	ANCES_INTEREST	Indicates an interest in additional research for ancestors of this individual. (See also DESI)
ANUL	ANNULMENT	Declaring a marriage void from the beginning (never existed).
ASSO	ASSOCIATES	An indicator to link friends, neighbours, relatives, or associates of an individual.
AUTH	AUTHOR	The name of the individual who created or compiled information.
BAPL	BAPTISM-LDS	The event of baptism performed at age eight or later by priesthood authority of the LDS Church. (See also BAPM)
BAPM	BAPTISM	The event of baptism (not LDS), performed in infancy or later. (See also BAPL and CHR)
BARM	BAR_MITZVAH	The ceremonial event held when a Jewish boy reaches age 13.
BASM	BAS_MITZVAH	The ceremonial event held when a Jewish girl reaches age 13, also known as „Bat Mitzvah.“
BIRT	BIRTH	The event of entering into life.
BLES	BLESSING	A religious event of bestowing divine care or intercession. Sometimes given in connection with a naming ceremony.

Tag	Formal Designation	Description
BLOB	BINARY_OBJECT	A grouping of data used as input to a multimedia system that processes binary data to represent images, sound, and video.
BURI	BURIAL	The event of the proper disposing of the mortal remains of a deceased person.
CALN	CALL_NUMBER	The number used by a repository to identify the specific items in its collections.
CAST	CASTE	The name of an individual's rank or status in society, based on racial or religious differences, or differences in wealth, inherited rank, profession, occupation, etc.
CAUS	CAUSE	A description of the cause of the associated event or fact, such as the cause of death.
CENS	CENSUS	The event of the periodic count of the population for a designated locality, such as a national or state Census.
CHAN	CHANGE	Indicates a change, correction, or modification. Typically used in connection with a DATE to specify when a change in information occurred.
CHAR	CHARACTER	An indicator of the character set used in writing this automated information.
CHIL	CHILD	The natural, adopted, or sealed (LDS) child of a father and a mother.
CHR	CHRISTENING	The religious event (not LDS) of baptizing and/or naming a child.
CHRA	ADULT_CHRISTENING	The religious event (not LDS) of baptizing and/or naming an adult person.
CITY	CITY	A lower level jurisdictional unit. Normally an incorporated municipal unit.
CONC	CONCATENATION	An indicator that additional data belongs to the superior value. The information from the CONC value is to be connected to the value of the superior preceding line without a space and without a carriage return and/or new line character. Values that are split for a CONC tag must always be split at a non-space. If the value is split on a space the space will be lost when concatenation takes place. This is because of the treatment that spaces get as a GEDCOM delimiter, many GEDCOM values are trimmed of trailing spaces and some systems look for the first non-space starting after the tag to determine the beginning of the value.
CONF	CONFIRMATION	The religious event (not LDS) of conferring the gift of the Holy Ghost and, among protestants, full church membership.
CONL	CONFIRMATION_L	The religious event by which a person receives membership in the LDS Church.
CONT	CONTINUED	An indicator that additional data belongs to the superior value. The information from the CONT

Tag	Formal Designation	Description
		value is to be connected to the value of the superior preceding line with a carriage return and/or new line character. Leading spaces could be important to the formatting of the resultant text. When importing values from CONT lines the reader should assume only one delimiter character following the CONT tag. Assume that the rest of the leading spaces are to be a part of the value.
COPR	COPYRIGHT	A statement that accompanies data to protect it from unlawful duplication and distribution.
CORP	CORPORATE	A name of an institution, agency, corporation, or company.
CREM	CREMATION	Disposal of the remains of a person's body by fire.
CTRY	COUNTRY	The name or code of the country.
DATA	DATA	Pertaining to stored automated information.
DATE	DATE	The time of an event in a calendar format.
DEAT	DEATH	The event when mortal life terminates.
DESC	DESCENDANTS	Pertaining to offspring of an individual.
DESI	DESCENDANT_INT	Indicates an interest in research to identify additional descendants of this individual. (See also ANCI)
DEST	DESTINATION	A system receiving data.
DIV	DIVORCE	An event of dissolving a marriage through civil action.
DIVF	DIVORCE_FILED	An event of filing for a divorce by a spouse.
DSCR	PHY_DESCRIPTION	The physical characteristics of a person, place, or thing.
EDUC	EDUCATION	Indicator of a level of education attained.
EMIG	EMIGRATION	An event of leaving one's homeland with the intent of residing elsewhere.
ENDL	ENDOWMENT	A religious event where an endowment ordinance for an individual was performed by priesthood authority in an LDS temple.
ENGA	ENGAGEMENT	An event of recording or announcing an agreement between two people to become married.
EVEN	EVENT	A noteworthy happening related to an individual, a group, or an organization.
FAM	FAMILY	Identifies a legal, common law, or other customary relationship of man and woman and their children, if any, or a family created by virtue of the birth of a child to its biological father and mother.
FAMC	FAMILY_CHILD	Identifies the family in which an individual appears as a child.
FAMF	FAMILY_FILE	Pertaining to, or the name of, a family file. Names stored in a file that are assigned to a family for doing temple ordinance work.
FAMS	FAMILY_SPOUSE	Identifies the family in which an individual appears as a spouse.
FCOM	FIRST_COMMUNION	A religious rite, the first act of sharing in the Lord's supper as part of church worship.

Tag	Formal Designation	Description
FILE	FILE	An information storage place that is ordered and arranged for preservation and reference.
FORM	FORMAT	An assigned name given to a consistent format in which information can be conveyed.
GEDC	GEDCOM	Information about the use of GEDCOM in a transmission.
GIVN	GIVEN_NAME	A given or earned name used for official identification of a person.
GRAD	GRADUATION	An event of awarding educational diplomas or degrees to individuals.
HEAD	HEADER	Identifies information pertaining to an entire GEDCOM transmission.
HUSB	HUSBAND	An individual in the family role of a married man or father.
IDNO	IDENT_NUMBER	A number assigned to identify a person within some significant external system.
IMMI	IMMIGRATION	An event of entering into a new locality with the intent of residing there.
INDI	INDIVIDUAL	A person.
LANG	LANGUAGE	The name of the language used in a communication or transmission of information.
LEGA	LEGATEE	A role of an individual acting as a person receiving a bequest or legal devise.
MARB	MARRIAGE_BANN	An event of an official public notice given that two people intend to marry.
MARC	MARR_CONTRACT	An event of recording a formal agreement of marriage, including the prenuptial agreement in which marriage partners reach agreement about the property rights of one or both, securing property to their children.
MARL	MARR_LICENSE	An event of obtaining a legal license to marry.
MARR	MARRIAGE	A legal, common-law, or customary event of creating a family unit of a man and a woman as husband and wife.
MARS	MARR_SETTLEMENT	An event of creating an agreement between two people contemplating marriage, at which time they agree to release or modify property rights that would otherwise arise from the marriage.
MEDI	MEDIA	Identifies information about the media or having to do with the medium in which information is stored.
NAME	NAME	A word or combination of words used to help identify an individual, title, or other item. More than one NAME line should be used for people who were known by multiple names.
NATI	NATIONALITY	The national heritage of an individual.
NATU	NATURALIZATION	The event of obtaining citizenship.
NCHI	CHILDREN_COUNT	The number of children that this person is known to be the parent of (all marriages) when subordinate to an individual, or that belong to this family when

Tag	Formal Designation	Description
		subordinate to a FAM_RECORD.
NICK	NICKNAME	A descriptive or familiar that is used instead of, or in addition to, one's proper name.
NMR	MARRIAGE_COUNT	The number of times this person has participated in a family as a spouse or parent.
NOTE	NOTE	Additional information provided by the submitter for understanding the enclosing data.
NPFX	NAME_PREFIX	Text which appears on a name line before the given and surname parts of a name. i.e. (Lt. Cmndr.) Joseph /Allen/ jr. In this example Lt. Cmndr. is considered as the name prefix portion.
NSFX	NAME_SUFFIX	Text which appears on a name line after or behind the given and surname parts of a name. i.e. Lt. Cmndr. Joseph /Allen/ (jr.) In this example jr. is considered as the name suffix portion.
OBJE	OBJECT	Pertaining to a grouping of attributes used in describing something. Usually referring to the data required to represent a multimedia object, such an audio recording, a photograph of a person, or an image of a document.
OCCU	OCCUPATION	The type of work or profession of an individual.
ORDI	ORDINANCE	Pertaining to a religious ordinance in general.
ORDN	ORDINATION	A religious event of receiving authority to act in religious matters.
PAGE	PAGE	A number or description to identify where information can be found in a referenced work.
PEDI	PEDIGREE	Information pertaining to an individual to parent lineage chart.
PHON	PHONE	A unique number assigned to access a specific telephone.
PLAC	PLACE	A jurisdictional name to identify the place or location of an event.
POST	POSTAL_CODE	A code used by a postal service to identify an area to facilitate mail handling.
PROB	PROBATE	An event of judicial determination of the validity of a will. May indicate several related court activities over several dates.
PROP	PROPERTY	Pertaining to possessions such as real estate or other property of interest.
PUBL	PUBLICATION	Refers to when and/or were a work was published or created.
QUAY	QUALITY_OF_DATA	An assessment of the certainty of the evidence to support the conclusion drawn from evidence.
REFN	REFERENCE	A description or number used to identify an item for filing, storage, or other reference purposes.
RELA	RELATIONSHIP	A relationship value between the indicated contexts.
RELI	RELIGION	A religious denomination to which a person is affiliated or for which a record applies.
REPO	REPOSITORY	An institution or person that has the specified item as

Tag	Formal Designation	Description
		part of their collection(s).
RESI	RESIDENCE	The act of dwelling at an address for a period of time.
RESN	RESTRICTION	A processing indicator signifying access to information has been denied or otherwise restricted.
RETI	RETIREMENT	An event of exiting an occupational relationship with an employer after a qualifying time period.
RFN	REC_FILE_NUMBER	A permanent number assigned to a record that uniquely identifies it within a known file.
RIN	REC_ID_NUMBER	A number assigned to a record by an originating automated system that can be used by a receiving system to report results pertaining to that record.
ROLE	ROLE	A name given to a role played by an individual in connection with an event.
SEX	SEX	Indicates the sex of an individual--male or female.
SLGC	SEALING_CHILD	A religious event pertaining to the sealing of a child to his or her parents in an LDS temple ceremony.
SLGS	SEALING_SPOUSE	A religious event pertaining to the sealing of a husband and wife in an LDS temple ceremony.
SOUR	SOURCE	The initial or original material from which information was obtained.
SPFX	SURN_PREFIX	A name piece used as a non-indexing pre-part of a surname.
SSN	SOC_SEC_NUMBER	A number assigned by the United States Social Security Administration. Used for tax identification purposes.
STAE	STATE	A geographical division of a larger jurisdictional area, such as a State within the United States of America.
STAT	STATUS	An assessment of the state or condition of something.
SUBM	SUBMITTER	An individual or organization who contributes genealogical data to a file or transfers it to someone else.
SUBN	SUBMISSION	Pertains to a collection of data issued for processing.
SURN	SURNAME	A family name passed on or used by members of a family.
TEMP	TEMPLE	The name or code that represents the name a temple of the LDS Church.
TEXT	TEXT	The exact wording found in an original source document.
TIME	TIME	A time value in a 24-hour clock format, including hours, minutes, and optional seconds, separated by a colon (:). Fractions of seconds are shown in decimal notation.
TITL	TITLE	A description of a specific writing or other work, such as the title of a book when used in a source context, or a formal designation used by an individual in connection with positions of royalty or other social status, such as Grand Duke.

Tag	Formal Designation	Description
TRLR	TRAILER	At level 0, specifies the end of a GEDCOM transmission.
TYPE	TYPE	A further qualification to the meaning of the associated superior tag. The value does not have any computer processing reliability. It is more in the form of a short one or two word note that should be displayed any time the associated data is displayed.
VERS	VERSION	Indicates which version of a product, item, or publication is being used or referenced.
WIFE	WIFE	An individual in the role as a mother and/or married woman.
WILL	WILL	A legal document treated as an event, by which a person disposes of his or her estate, to take effect after death. The event date is the date the will was signed while the person was alive. (See also PROBate)

11.2 Appendix B - Error messages

If Error messages not mentioned below occur when using GedTool, then please send a detailed error message via E-Mail, including details regarding the GedTool version; Excel version; operating system; error description; and exact error message (possibly as a screenshot) etc. to us at Info@Gedtool.de.

As a registered user you will receive error corrections by E-Mail free.

Error 1004 ... associated with the add-in "EuroTool"

Using GedTool in combination with an enabled Excel add-in "EuroTool" (so far only in Excel 2007) can cause error messages when running the GedTool macros. The error message reads: "Error 1004: a worksheet cannot be given the same name as another sheet, object library or workbook with a reference in Visual Basic."
This no longer occurs when the add-in is disabled (Tools/add-ins).

Error 1004 ... in connection with the procurement of row names

When assigning a row name an error message may occur if there are more than 65,000 individuals. There is currently no solution.

Error messages when importing a GEDCOM file

Should error messages occur when importing a GEDCOM file, they usually indicate a data format which cannot be processed.

GEDCOM files should be created using the UTF-8 character code if possible, to ensure the correct representation of all umlauts and special characters. Most genealogy programs allow you to specify different character sets when exporting.

If the character set of a GEDCOM file is not supported by GedTool, then the following workaround for this GEDCOM file is:
Read the GEDCOM file with WORD and save it as a text file (Save as ...). **N.B.** The “Text only (* .txt)" or “Plain text (*.txt)” file format must be selected from the list, otherwise WORD uses the original format.