

## **GS-Calc 4.7 - Help Contents**

[Menu overview](#)

[How to...](#)

[Installing GS-Calc](#)

[Customer support](#)

## **Using GS-Calc 4.7**

[Editing documents](#)

[Entering text, numbers, dates and formulas](#)

[Copying cells and objects](#)

[Adding, deleting, renaming and moving folders and worksheets](#)

[Using definable number styles](#)

[Changing column widths and row heights](#)

[Searching for worksheets or cells](#)

[Exchanging data between worksheets](#)

[Printing worksheets](#)

[Editing charts and OLE objects](#)

[Editing text files](#)

[Editing databases](#)

[Using Drag-Drop functions](#)

[Using OLE functions](#)

[Inserting graphics](#)

[Using DDE commands](#)

[Changing the decimal and group separators](#)

[Changing the currency, date and time formats](#)

[Changing the default font](#)

## Editing documents

Press ENTER or any letter/digit to edit the contents of the current cell. To accept new data press ENTER once again or use one of the following cursor keys: UP ARROW, DOWN ARROW, PAGE UP (+CTRL), PAGE DOWN (+CTRL). Pressing ESC will return the original value. You can enter up to 256 characters. To add quickly an address of a particular cell to the currently edited cell, press SHIFT and click this cell with the left mouse button.

If you want to view and scroll different parts of your document independently, use the **Split** command from the **Window** menu to split the worksheet pane.

To scroll the document contents, you can use the following keys: UP ARROW, DOWN ARROW, PAGE UP (+CTRL), PAGE DOWN (+CTRL), LEFT ARROW (+CTRL), RIGHT ARROW (+CTRL), HOME, END, CTRL+HOME (scrolls to the intersection of the first column and first row), CTRL+END (scrolls to the intersection of the last column and the last row).

You can select cells using mouse or the SHIFT key. If you want to select a group of objects (OLE objects, charts, rectangles, ellipses), you must press and hold down the SHIFT key and click the desirable objects.

GS-Calc enables you to store unlimited numbers of worksheets in one document. You can organize and manage them in a variety of ways to make it easy to locate the worksheet you want. After activating the worksheets' tree pane you can use standard cursor keys to browse available worksheets. The LEFT ARROW and RIGHT ARROW keys are used to collapse and expand the selected folder. To edit the name of the selected item press ENTER or double-click it. Pressing any letters causes searching for an item whose name begins with these letters. Selected worksheets, highlighted by a small blue arrow, are automatically opened and displayed in the worksheet pane.

## Notes

- \* The "last row" and "last column" terms mean the last row and last column containing a not empty cell or a cell for which the background color or frame format has been set.
- \* The folder containing the default worksheet is always expanded after loading the given document
- \* You can change the appearance of the tree expanding or collapsing its folders, scrolling the current selection and changing width of the tree pane. However, such changes are not treated as operations that modify the document contents and you're not prompted to save them. In this case you have to use the **Save** command before closing the document.

## Related Topics

[Entering text, numbers, dates and formulas](#)

[Adding, deleting, renaming and moving folders and worksheets](#)

[Functions](#)

[Operators](#)

## Entering text, numbers, dates and formulas

GS-Calc automatically recognizes the type of the entered data. The type of the cell contents is displayed in the first row of the document window. This can be **Text**, **Number** or **Formula**. By default, text cells are left-aligned. If you want the given formula or number to be treated as text, you may enter the apostrophe (') as the first character (e.g. '3/4+1). Numbers having more than 15 digits are displayed in exponential format unless you use a user-defined style. You may use both the point (.) and the currently system-defined decimal separator when typing decimal places in numbers. If the length of a number exceeds a column width, the program displays a string of "#" characters.

If you set the currency format for some cells, you can enter numbers using the currency format defined in Regional Settings in Control Panel, for example: \$1,500.90 or DM 1.500,90.

Date/time values can be entered as numbers or as formatted strings. The (positive or negative) date/time number consists of the integer portion representing the number of days since 30 December 1899, midnight and the fractional portion representing hours (that is, 1 day -> 1, 1 hour -> 1/24, 1 minute -> 1/24/60, etc.; "1/01/2099" = 72686, "1/1/1680" = -80531, "6:00 PM" = 0.75).

If you set the date/time format for some cells, you can also enter date/time values as formatted strings using the short date format defined in Windows Regional Settings. For example, if you define that format as "M/d/rr" and "h:mm:ss tt", the following expressions will be valid: "1/01/2099", "1/1/1999", "11:00 AM 1/1/1680", "1/01/99 11:00 AM", "11:00:45 PM". For "MMM-d-rrrr" this can be: "Jan-1-2099", "May-30-1999", etc.

The valid date range is 1 January 100 – 31 December 9999.

Formulas can begin with = or + (although it is not necessary). To display and print formulas instead of their values, clear the "**Display values of formulas**" checkbox in the **Options** dialog box.

If you enter one or more formulas containing recurrent expressions (for example, B1 into the A1 cell and A1 into B1), the program displays a list of cells causing such an iterative recalculation as the status bar message. The recurrence level can be changed in the **Options** dialog box.

When entering formulas you may use absolute or relative cell addressing. If you copy formulas from one cell to another, GS-Calc changes the relative addresses to reflect this movement. For example, "A1" copied from B1 to B2 will be replaced by "A2". To avoid this, enter a dollar sign (\$) before columns (to preserve the column number) or rows (to suppress the row change), e.g. \$A\$1, \$A1, A\$1. Clearing the "**Modify cell addresses when copying formulas**" checkbox in the **Options** dialog box has the same effect (the shortcut is ALT+INSERT).

### Examples

Numbers	Text	Formulas
5	abc	A1+A2
5.56	GSCALC	A1:B5
12.45e+12	Table	\$A1+A\$2+\$A\$3
-1995	'123	A1/A2+FACT(A3)
23%	'A1/45	"ab" &
	"123"	IF(A1="cd";A2;A3)
		FVAL(1000;3%;A1)
		FVAL(1000;0,03;A1)

### Related Topics

[Using definable number styles](#)

[Functions](#)

[Operators](#)

## Inserting graphics

To insert text, frames or tables as a graphics:

1. Select the data you want to use and choose the Copy command from the **E**dit menu.
2. Using the Paste special command from the **E**dit menu and selecting the "Graphics" format insert a new object into your document.

## **Using Drag-Drop functions**

Use the Drag-Drop functions to copy cells and objects, copy or move entire worksheets or folders containing worksheets, or to open an existing GS-Calc document. To open an existing document drag its name from within Explorer window to the GS-Calc window.

## **Copying cells and objects**

Use the **Edit** menu commands or Drag-Drop functions to copy cells or objects. To copy data using Drag-Drop functions:

- 1.** Point to a cell, or select a range or object(s) you want to copy.
- 2.** Press and hold down the CTRL key and using the left mouse button drag the selection to the new location.
- 3.** Release the CTRL key and the mouse button to finish copying.

The Drag-Drop functions enable you to copy data within the same document, different GS-Calc documents or different applications. By default, GS-Calc creates an embedded object. If you want to paste a link into another application press and hold down the SHIFT key.

## **Using OLE functions**

GS-Calc is an OLE client and server. It supports in-place-editing and Drag-Drop functions. GS-Calc objects inserted into other applications look like documents printed directly by GS-Calc. The size of the metafile (picture) representation of such objects is always limited to (approx.) 2000x2000 pixels.

GS-Calc activated in-place doesn't display the tree pane - you must open it in the full-window mode. Changing the in-place-edited object's size results in increasing the number of displayed cells. To change the size of the given linked GS-Calc object you may also change its name in the client application. This name includes four coordinates describing visible cells.

If you copy a chart to another program, GS-Calc creates an OLE object which consists of the smallest range of cells covering both the chart and the cells where its data are placed.

GS-Calc doesn't support inserting GS-Calc objects into its own documents.



## **Editing text files**

When saving text files, you can define any character as the cell separator. Cell values containing this separator, double quotation marks (") or CR/LF characters are enclosed in double quotation marks (the inner quotation marks are doubled). You may specify some additional options: saving formulas or their values, saving formatted numbers or whether the entire current folder should be saved.

## Editing databases

GS-Calc enables you to use all the most popular databases/spreadsheets formats. To see the full list of available formats, please check the **File Type** drop-down list in the **Open** and **Save Copy As** dialog boxes.

After opening a database, worksheet rows contain subsequent records. You may edit databases like any other GS-Calc document. GS-Calc performs text length validation as text fields are modified. Use the [Update Records](#) command to save modified fields.

**Note:** GS-Calc saves the current selection. If you don't select any cells, only one field of a single record pointed by the current cell will be updated.

If you want to add new records, enter your data to cells below the last row and save them. If you want to delete one or more records, use the [Remove Rows](#) command from the **Tools** menu.

When importing and exporting databases, GS-Calc uses the following field types:

<i>Type</i>	<i>Length in bytes</i>	<i>Description</i>
<b>Text</b>	0-255	Text and numbers.
<b>Memo</b>	*	Lengthy text. A Memo field's size is limited by the maximum size of the database.
<b>Long Boolean</b>	4 1	Integer values from 2,147,483,648 to 2,147,483,647. Yes/No, <b>True/False</b> , 1/0. A field that contains only one of two values.
<b>Byte</b>	1	Positive values from 0 to 255.
<b>Integer</b>	2	Integer values from -32,768 to +32,767.
<b>Single</b>	4	3.402823E38 to 1.401298E-45 for negative numbers and 1.401298E-45 to 3.402823E38 for positive numbers.
<b>Double</b>	8	Values from 1.79769313486232E308 to 4.94065645841247E-324 for negative values and 4.94065645841247E-324 to 1.79769313486232E308 for positive values.
<b>Date</b>	8	Dates and times (stored together). These values are stored in a 8-byte field and may be treated as a (positive or negative) 8-byte floating point number. The integer portion represents the number of days since December 30, 1899, midnight and the fractional portion represents hours.
<b>Long binary</b>	*	Any value that can be represented in binary (like pictures or OLE objects created in other programs) up to 1.2 gigabytes in size.
<b>Currency</b>	8	Used for monetary values. This data type maintains a fixed number of digits to the right of the decimal point, which helps in avoiding improper rounding during calculation.

If you choose a field type that doesn't apply to the given format, the type that matches it as close as possible will be used. Please note that GS-Calc doesn't display the contents of binary fields and doesn't save binary and memo fields.

## Notes

- \* GS-Base treats Excel files as tables and does not use or convert any formulas when reading, modifying and creating the \*.xls files. To open a range of cells in an Excel table, specify the table name followed by a

dollar sign and the starting and ending cells of the range (e.g. SHEET1\$A1:B5).

- \* By default, GS-Calc saves empty source record fields as empty destiny record fields. If you want any text to be used instead of empty fields, edit the **NullString** entry in the **HKEY\_CURRENT\_USER\Software\JPS Development\GS-Base\Settings** key in the registry database.
- \* The program opens Access databases (\*.mdb) in the read/write mode. To open an Access database placed on CD-ROM or any other read-only media, you must copy it on your hard disk and remove the read-only file attribute.

## Editing charts and OLE objects

To edit a chart, a rectangle or an ellipse double-click it. GS-Calc displays the **Rectangle**, **Ellipse** or **Chart** dialog box which enables you to modify its appearance. Double-clicking an OLE object causes performing the first command from the **Edit/Object** menu. Usually, this means activating and in-place-editing. If you press and hold down SHIFT key, the subsequent command (if exists) from the same menu will be performed.

To change the size of an OLE object, chart, ellipse or rectangle, click it and drag one of the eight points displayed around it as necessary.

If you use commands from the **Object** menu instead of double-clicking, you will save some memory if the current undo level is greater than 0 (the copy of the original object is not created), but you will not be able to undo any changes of this object.

### Related Topic

[Chart command](#)

[Data dialog box](#)

## Using DDE commands

You may use the DDE commands to enter data into the GS-Calc document. The DDE "execute" command should have the following form:

**[insert(file\_name,column,row,value)]**

There should be no whitespaces between parameters and each parameter should be enclosed in quotation marks.

For example:

```
[insert("d:\gscal35\analyze.gsc","2","11","4.5")]
```

The *value* parameter may represent a number or a text string. After accepting a new cell GS-Calc performs recalculation and updates charts and associated OLE server items.

To open or print a document you may also use the following commands

**[open(file\_name)]**

**[print(file\_name)]**

**[printto(file\_name,printer\_name,driver\_name,port\_name)]**

When creating the application and item atoms during the DDE initiation use the "gscal" and "system" text string.

## **Changing the decimal and group separators**

GS-Calc uses the decimal separator and the group separator defined in Regional Settings. You may change them using Control Panel.

## **Changing the currency, date and time formats**

GS-Calc uses the formats defined in Regional Settings. You may change it using Control Panel.

### **Changing the default font**

GS-Calc saves some its parameters in the registry database. It uses the following key name:

**HKEY\_CURRENT\_USER\Software\JPS Development\GS-Calc\Settings**

Change value of the **MainFont** entry in this key to change the global font used by GS-Calc. The default name is "Arial".



## **Printing worksheets**

When you print a single worksheet after choosing the **Print** command from the **File** menu, you can print the entire worksheet, specified pages or the current selection: a range, OLE objects, charts, rectangles or ellipses.

If you use the **Print All** command from the same menu, GS-Calc prints all pages of all worksheets in the current folder and its subfolders one after another. In this case the default printer settings are used.

Using the **Page Setup** command you can change page margins, adjusting, centering and specify additional information that can be printed in headers and footers: the document name, worksheet name, data and time, page numbers or any text.

Page settings are stored separately for each worksheet. To make them the same within the current folder and its subfolders, use the **Duplicate Data** command from the **Tools** menu.

You can turn on or off printing (and displaying) grid lines with the **Grid** command from the **View** menu.

## **Related Topic**

[Defining headers and footers](#)

## Searching for worksheets or cells

**1.** To search for worksheets, activate the tree pane and use the **Find Worksheet/Cell** command from the **Edit** menu. You can find worksheets only if they match the filter specified in the **Find** dialog box.

**(a)** If you clear the **Use simple text search** checkbox:

Filters can be any regular spreadsheet expressions returning numbers. If, for the data of the given worksheet, the expression returns a value different than zero and "error", the worksheet will be found.

**(b)** If you check the **Use simple text search** checkbox:

Filters can be any text strings. They are compared against the (unformatted) contents of all cells from the given worksheet. The text can be a substring of the cell contents. The comparison is not case-sensitive.

You can sort the list of found worksheets by name, size and the last modification date.

**2.** To search for cells containing the given substring, activate the worksheet pane and use the **Find Worksheet/Cell** command from the Edit menu. If you select any cells before using this command, the searching will be limited to those cells.

## Related Topic

[Search expressions](#)

### **Changing column widths and row heights**

To change column width, drag the boundary on the right side of the column heading until the column is the width you want.

To change row height, drag the bottom boundary of the row heading until the row is the height you want.

If you want to specify the exact width or height in pixels or if you want to change the width or height for multiple rows or columns, use the **Change Width/Height** command from the **Tools** menu.

## **Adding, deleting, renaming and moving folders and worksheets**

- 1.** To add a new worksheet or folder use the **New Folder** or **New Worksheet** command from the **Insert** menu. New items are inserted at the end of the selected or current folder. After inserting, the program prompts you to enter a new name for that item. Press enter or click any other item to accept a new name.
- 2.** To copy an existing folder or worksheet(s) do one of the following:
  - (a)** Point to a folder or worksheet, press and hold down the mouse button and the CTRL key, and drag item to the new location. When dragging, the highlighted items show the current target location. You may copy single worksheets, empty folders or folders containing other worksheets or nested folders.
  - (b)** Point to a folder or worksheet and use the **Copy** command from the **Edit** menu. Point to the target location and use the **Paste** command. You may copy single worksheets, empty folders or folders containing other worksheets or nested folders.
- 3.** To move a folder or worksheet to the new location, repeat steps from p. 2 (a), except for pressing the CTRL key. If the destination location is placed within the moved folder, GS-Calc performs the "copy" operation.
- 4.** To rename a worksheet or folder, select it and press the ENTER key or double-click it.

## Using definable number styles

When formatting cells GS-Calc enables you to specify how to display numbers. Apart from some common styles like currency or percent, you can define your own format. To specify a new style select the **New** item from the **Style** list in the **Cell Properties/Format** dialog box. In the presented **New Style** dialog box enter your format definitions for positive (incl. zero) and negative numbers. The format specification must have the following form:

[text] % [flags] [width] [.precision] type [text]

### Examples

Format	Number	How it's displayed
%f	123	123.000000
%06.0f	123	000123
%09.2f	123	000123.00
\$ %.2f	123.357	\$ 123.36
%f	1234567891	1234567891011121400
	01	
	1121314	
%e	123	1.230000e+002
%.3e	123	1.230e+002
%3.e	123	1e+002
%+g	123	+123
(%g)	-123	(-123)
Negative	-123	Negative
abc	123	abc

The optional fields, control the formatting, as follows:

### text

This can be any text - not containing the "%" characters - that will be displayed along with (or instead of) numbers.

### type

- e** Signed value having the form [ - ]*d*.*ddd* **e** [*sign*]*ddd* where *d* is a single decimal digit, *ddd* is one or more decimal digits, *ddd* is exactly three decimal digits, and *sign* is + or -.
- E** Identical to the **e** format except that **E** rather than **e** introduces the exponent.
- f** Signed value having the form [ - ]*ddd*.*ddd*, where *ddd* is one or more decimal digits. The number of digits before the decimal point depends on the magnitude of the number, and the number of digits after the decimal point depends on the requested precision.
- g** Signed value printed in **f** or **e** format, whichever is more compact for the given value and precision. The **e** format is used only when the exponent of the value is less than -4 or greater than or equal to the precision argument. Trailing zeros are truncated, and the decimal point appears only if one or more digits follow it.
- G** Like the **g** format, except that **E**, rather than **e**, introduces the exponent (where appropriate).

### flags

- Left align the result within the given field width.

- +** Prefix the output value with a sign (+ or –) if the output value is of a signed type
- 0** If *width* is prefixed with **0**, zeros are added until the minimum width is reached. If 0 and – appear, the **0** is ignored.
- blank (' ') Prefix the output value with a blank if the output value is signed and positive; the blank is ignored if both the blank and + flags appear.
- #** When used with the **e**, **E**, or **f** format, the **#** flag forces the output value to contain a decimal point in all cases.  
When used with the **g** or **G** format, the **#** flag forces the output value to contain a decimal point in all cases and prevents the truncation of trailing zeros.

### ***width***

The *width* argument is a nonnegative decimal integer controlling the minimum number of characters printed. If the number of characters in the output value is less than the specified width, blanks are added to the left or the right of the values, depending on whether the – flag is specified. If *width* is prefixed with 0, zeros are added until the minimum width is reached. The width specification never causes a value to be truncated.

### ***precision***

It specifies a nonnegative decimal integer, preceded by a period (.) which specifies the number of decimal places. The precision specification can cause rounding of a value.

If **Type** is **e** or **E**, the last printed digit is rounded. Default precision is 6. If **precision** is 0 or the period (.) appears without a number following it, no decimal point is printed.

If **Type** is **f**, If a decimal point appears, at least one digit appears before it. The value is rounded to the appropriate number of digits. Default precision is 6. If **precision** is 0, or if the period (.) appears without a number following it, no decimal point is printed.

If **Type** is **g** or **G**, the **precision** specifies the maximum number of significant digits printed. By default six significant digits are printed. Any trailing zeros are truncated.

## **Exchanging data between worksheets**

In addition to copying and drag-drop functions, you can use the following functions to access cells from other worksheets:

[CELL\\_EX](#)

[SUM\\_EX](#)

[MAX\\_EX](#)

[MIN\\_EX](#)

[FOLDER\\_COUNT](#)

[SHEET\\_COUNT](#)

[GETEXVAL](#)

### **Related Topics**

[Copying cells and objects](#)

[Adding, deleting, renaming and moving folders and worksheets](#)

[Using Drag-Drop functions](#)

## **Commands**

File menu

Edit menu

View menu

Insert menu

Format menu

Tools menu

Window menu

Help menu



**File menu**

New

Open...

Save

Save As

Print

Print All

Print Preview

Print Setup

Page Setup

Password

Summary Info

Send

Exit

## **Edit menu**

Undo

Redo

Repeat

Cut

Copy

Paste

Paste Special

Paste Link

Delete

Find Worksheet/Cell

Replace

Convert Formulas

Object Properties

Links

## **View menu**

Status Bar

Standard Toolbar

Format Toolbar

Zoom

Grid

## **Insert Menu**

Object

Chart

Ellipse

Rectangle

Data Series

Date/Time

Formula

New Folder

New Worksheet

**Format menu**

Cell Properties

Bold

Italic

Underline

Normal

Font

Remove Formatting

## **Tools menu**

Sort

Analyze menu

Insert Column

Remove Columns

Insert Row

Remove Rows

Duplicate

Move to Foreground

Move to Background

Recalculate

Recalculate All

Options

## Analyze menu

Equation System

Linear Optimization

Inverse Matrix

Determinant

Integration

## **Window menu**

Split

Cascade

Tile Horizontally

Tile Vertically

Arrange Icons



## **Help menu**

[Help Topics](#)

[About GS-Calc](#)

**New command (File menu)**

Use this command to create a new document in GS-Calc.

**Open command (File menu)**

Use this command to open an existing document in a new window. You can open multiple documents at once. Use the Window menu to switch among the multiple open documents.

**Notes**

You must select a proper file type from the **File Types** list in the **Open** dialog box.

**Close command (File menu)**

Use this command to close all windows containing the active document. GS-Calc suggests that you save changes to your document before you close it. If you close a document without saving, you lose all changes made since the last time you saved it.

### **Save command (File menu)**

Use this command to save the active document to its current name and directory. If you want to change the name and directory of an existing document before you save it, choose the **Save As** command. If you are editing a database, this command name is replaced by "Update Records".

**Save As command (File menu)**

Use this command to save and name the active document.

**Page Setup command (File menu)**

Use this command to change page layout.

**Summary Info command (File menu)**

Use this command to display a dialog box containing information about the current document.



### **Summary Info dialog box**

GS-Calc displays information on the current document: the number of cells with particular contents, size of the document file and the date of last saving.

**Summary Info dialog box**

GS-Calc displays information on the current document: the number of cells with particular contents, size of the document file and the date of last saving.

**Password command (File menu)**

Use this command to change the current password.

**1,2,3... command (File menu)**

Use the numbers and filenames listed at the bottom of the File menu to open the last four documents you closed. Choose the number that corresponds with the document you want to open.

**Send command (File menu)**

Use this command to send the active document through electronic mail. This command presents a mail window with the active document attached to it. You may then fill out the To: field, Subject: field, etc., and add text to the body of the message if you wish. When you are finished you may click the "Send" button to send the message.

**Exit command (File menu)**

Use this command to end your GS-Calc session.

**Undo command (Edit menu)**

Use this command to reverse the last editing action. The name of the command changes, depending on what the last action was.

**Redo command (Edit menu)**

Use this command to redo the reversed editing action. The name of the command changes, depending on what the last action was.



**Repeat command (Edit menu)**

Use this command to repeat the last editing action. The name of the command changes, depending on what the last action was. This command is inactive for some types of actions.

### **Cut command (Edit menu)**

Use this command to remove the currently selected data from the document and put it on the clipboard.

Cutting data to the clipboard replaces the contents previously stored there.

To cut:

**(1)** the cell contents - select cells and use this command; you can choose what should be cut:

format,

cells containing text,

cells containing numbers,

cells containing formulas,

all cells;

**(2)** object - select the object and use this command; if you want to select a group of objects hold down the SHIFT key.

**Copy command (Edit menu)**

Use this command to copy selected data onto the clipboard.

Copying data to the clipboard replaces the contents previously stored there.

**Paste command (Edit menu)**

Use this command to insert a copy of the clipboard contents at the insertion point. This command is unavailable if the clipboard is empty.

## **Delete command (Edit menu)**

Use this command to remove the currently selected data from the document.

To delete:

**(1)** the cell contents - select cells and use this command; you can choose what should be cut:  
format,  
cells containing text,  
cells containing numbers,  
cells containing formulas,  
all cells;

**(2)** object - select the object and use this command; if you want to select a group of objects hold down SHIFT key.

### **Formula command (Insert menu)**

Use this command to paste a formula into the current cell. After choosing this command GS-Calc displays the **Paste Formula** dialog box which enables you to retrieve all available formulas (shortcut: right mouse button + SHIFT).

**Find Worksheet/Cell command (Edit menu)**

Use this command to search for worksheets or to search the active document for text. The search mode depends on whether the tree pane is active.

**Related Topic**

[Searching for worksheets and cells](#)

**Find dialog box**

**Related Topic**

[Find command](#)



**Replace command (Edit menu)**

Use this command to find and replace text in the active document. While comparing text GS-Calc uses unformatted cell contents.

If you select any cells before using this command, the searching will be limited to those cells.

**Replace dialog box**

**Related Topic**

[Replace command](#)

**Convert Formulas command (Edit menu)**

Use this command to convert the selected formulas to numbers or text strings.

**Object Properties command (Edit menu)**

Use this command to change properties of the selected OLE object. You can change its type, the way it is displayed, its scaling and link.

### **Standard Toolbar command (View menu)**

Use this command to display and hide the **Standard Toolbar**, which includes buttons for some of the most common commands in GS-Calc, such as **File Open**. A check mark appears next to the menu item when the toolbar is displayed.

**Standard Toolbar**

The toolbar is displayed across the top of the application window, below the menu bar. The toolbar provides quick mouse access to many tools used in GS-Calc.

**Format Toolbar command (View menu)**

Use this command to display and hide the Format Toolbar, which includes buttons for some of the most common commands in GS-Calc. A check mark appears next to the menu item when the Toolbar is displayed.

**Format Toolbar**

The toolbar is displayed across the top of the application window, below the menu bar. The toolbar provides quick mouse access to many tools used in GS-Calc.



**Status Bar command (View menu)**

Use this command to display and hide the Status Bar, which describes the action to be executed by the selected menu item or depressed toolbar button, and keyboard latch state. A check mark appears next to the menu item when the Status Bar is displayed.

## Status Bar

The status bar is displayed at the bottom of the GS-Calc window. To display or hide the status bar, use the **Status Bar** command in the **View** menu.

The left area of the status bar describes actions of menu items as you use the arrow keys to navigate through menus. This area similarly shows messages that describe the actions of toolbar buttons as you depress them, before releasing them. If after viewing the description of the toolbar button command you wish not to execute the command, then release the mouse button while the pointer is off the toolbar button.

The right areas of the status bar indicate:

<b>Indicator</b>	<b>Description</b>
AUTO	Formulas are recalculated automatically.
TRANS	Modifying formulas after changing its location.
CAP	Caps Lock is on.
NUM	Num Lock is on.
SCRL	Scroll Lock is on.

**Zoom command (View menu)**

Use this command to enlarge the view of the current document. Valid scaling factors are from 30 to 400%.

**Grid command (View menu)**

Use this command to hide or show the grid of the active document.

## **Chart command (Insert menu)**

Use this command to insert a new chart. The displayed **Chart** dialog box enables you to select the chart type, data and other options affecting its appearance. Initially all data ranges are determined by the current selection (the first column - the legend, the top row - the X axis description, the remaining cells - data series). You can change them using the **Change** button in the **Data** dialog box. Depending on the current settings, one data series (functions) may occupy a single row or a single column of the given range. Data series may be placed in one or more (up to 16) separated ranges. If you select more than one data series range and if you want the chart to present more than one function, all ranges must contain the same number of cells. GS-Calc uses formats of the respective document cells when displaying the values describing charts.

The 2D charts shown (on the chart list) with a horizontal grid use a logarithmic scale.

Charts are updated after every action that can change the document contents. To edit an existing chart double-click it. Press and hold down the SHIFT key if you want to change the ranges for particular data series.

## **Related Topic**

[Editing charts and OLE objects](#)

[Data dialog box](#)

**Chart Type dialog box**

**Related Topic**

[Chart command](#)

**Options dialog box**

**Related Topic**

[Chart command](#)

**Colors dialog box**

**Related Topic**

[Chart command](#)



**Data dialog box****Data...**

Use this button to display the [Chart Data dialog box](#). It enables you to specify ranges for each data category.

**Related Topic**

[Chart command](#)

## **Chart Data dialog box**

The following buttons enable you to specify ranges for each data category:

### **Data**

The range which contains values of one or more data series. You may select up to 16 different ranges. To add a new one select a range that does not intersect the others.

### **X-Axis**

The range containing titles used to describe the X-axis ticks. For the XY-type charts these are values of arguments for the chosen function(s). If the range is smaller than the number of functions defined in the **Data** section, the subsequent values are repeated when displaying a chart.

### **Legend**

The range containing values used to display the legend of a chart.

To change any range of cells select desirable cells and click the chosen button.

## **Related Topic**

[Chart command](#)

**Data Series (Insert menu)**

Use this command to insert a series of numbers or a text into the selected cells.

**Ellipse command (Insert menu)**

Use this command to insert a new ellipse into the active document. Double-click the inserted ellipse to specify additional parameters.

**Related Topic**

[Editing charts and OLE objects](#)

**Rectangle command (Insert menu)**

Use this command to insert a new rectangle into the active document. Double-click the inserted rectangle to specify additional parameters.

**Related Topic**

[Editing charts and OLE objects](#)

**Date/Time command (Insert menu)**

Use this command to insert a date and/or time value into the selected cells.

**New Folder command (Insert menu)**

Use this command to insert a new folder into the worksheet tree.

**Related Topic**

[Adding, deleting, renaming and moving folders and worksheets](#)

**New Worksheet (Insert menu)**

Use this command to insert a new folder into the worksheet tree.

**Related Topic**

[Adding, deleting, renaming and moving folders and worksheets](#)



**Cell Properties command (Format menu)**

Use this command to change the properties of the selected cells. You may change the style, alignment, displaying options, colors, frame and shadows.

**Bold command (Format menu)**

Use this command to select bold format.

**Italic command (Format menu)**

Use this command to select italic format.

**Underline command (Format menu)**

Use this command to select underline format.

**Strikeout command (Format menu)**

Use this command to select strikeout format.

**Normal command (Format menu)**

Use this command to select normal format.

**Font command (Format menu)**

Use this command to display the **Font** dialog box which enables you to specify font name, size, style, color and effects.

**Font dialog box**

**Related Topic**

[Font command](#)



**Remove Formatting (Format commands)**

Use this command to remove formatting for the selected cells.

**Sort command (Tools menu)**

Use this command to sort the selected cells. The first column of the current range is treated as the sort key. If you don't select any cells, the program will sort the current column.

### **Equation System command (Tools menu)**

After using this command GS-Calc displays the **Equation System** dialog box which enables you to solve linear equations.

### **Linear Optimization command (Tools menu)**

After using this command GS-Calc displays the **Linear Optimization** dialog box which enables you to find optimal solutions using linear programming.

### **Inverse Matrix command (Tools menu)**

After using this command GS-Calc displays the **Inverse Matrix** dialog box which enables you to inverse matrixes.

### **Determinant command (Tools menu)**

After using this command GS-Calc displays the **Determinant** dialog box which enables you to calculate determinants of matrixes.

### **Integration command (Tools menu)**

After using this command GS-Calc displays the **Integration** dialog box which enables you to perform integration of functions.

## **Analyze dialog box**

Equation System

Linear Optimization

Inversion of Matrix/Determinant

Integration



## Equation System dialog box

### To solve an equation system:

1. Select cells containing variables and click the **Variables** button.
2. Select cells containing constants and click the **Constants** button. The number of these cells must be equal to the number of rows selected in step 1.
3. Select cells which will contain the result and click the **Result** button. The number of these cells must be equal to the number of columns selected in step 1.
4. Click the **OK** button.

### Example

the equation system

$$x + 2*y + 4*z = 24$$

$$2*x + z = 13$$

$$5x - y - z = 15$$

can be expressed in the following way:


Variables - B3:D5

Constants - E3:E5

Results - B6:D6

### Linear Optimization dialog box

#### To find a solution using linear optimization:

1. Select cells containing variables and click the **Variables** button.
2. Select cells containing constants and click the **Constants** button. The number of these cells must be equal to the number of rows selected in step 1.
3. Select cells containing optimized function factors and click the **Function** button. The number of these cells must be equal to the number of columns selected in step 1.
4. Select cells which will contain found variables and function value and click the **Result** button. The number of these cells must be equal to the number of columns selected in step 1 plus one for the function result.
5. Click the **OK** button.

**Note:** The result may include a few symmetric solutions.

When finding the solution GS-Calc maximizes the given function.

#### Example

Problem

$$x \leq 4500$$

$$-0.65x + 0.35y \leq 0$$

$$5x + 8y \rightarrow \max$$

can be expressed in the following way:


Variables - B11:C12  
Constants - D11:D12  
Function - B14:C14  
Results - B15:D15

### **Inversion of Matrix dialog box**

#### **To find an inverted Matrix**

- 1.** Select cells containing the matrix and click the **Data** button.
- 2.** Select cells which will contain the result. The number of these cells must be equal to the number of cells selected in step **1**.
- 3.** Click the **OK** button.

#### **To find a determinant**

- 1.** Select cells containing the matrix and click the **Data** button.
- 2.** Select the cell which will contain the computed value and click the **Result** button.
- 3.** Click the **OK** button.

## Integration dialog box

### To perform integration:

1. Select cells containing parameters and click the **Parameters** button. The range must contain the following values:

- the top integration limit,
- the bottom integration limit,
- the precision as a percentage.

The integrated function can have no values in the limit points.

2. Select the cell containing the function and click the **Function** button. This function may consist of any formulas and numbers. The variable must be expressed as the "x" character.

4. Select the cell which will contain the result and click the **Result** button.

### Example


Parameters - B5:D5 (integration from 1 to 100 at 0.01% relative precision)

Function - B6

Result - B7

**Insert Column command (Tools menu)**

Use this command to insert a new column. Inserting column may result in modifying formulas.

**Example**

If you insert the D column, the formula  $E1+E2$  from the A1 cell will be replaced by  $F1+F2$ .

**Remove Columns command (Tools menu)**

Use this command to delete selected columns. Deleting columns may result in modifying formulas.

Example:

If you delete the D column, the formula  $E1+E2$  from the A1 cell will be replaced by  $D1+D2$ .

**Insert Row command (Tools menu)**

Use this command to insert a new row. Inserting row may result in modifying formulas.

**Example**

If you insert the 10th row, the formula  $E100+E200$  from the A1 cell will be replaced by  $E101+E201$ .

**Remove Rows command (Tools menu)**

Use this command to delete selected rows. Deleting rows may result in modifying formulas.

**Example**

If you delete the 10th row, the formula  $E100+E200$  from the A1 cell will be replaced by  $E99+E199$ .



**Change Width/Height (Tools menu)**

Use this command to change the width or height of selected columns or rows.

**Related Topic**

[Changing column widths and row heights](#)

**Duplicate command (Tools menu)**

Use this command to copy data of the selected type from the current worksheet to all other worksheets in the current folder and its subfolders. This is an easy way to make the same: column widths, row heights, formats, selection, current view coordinates or page settings.

**Move To Foreground command (Tools menu)**

Use this command to move the selected object(s) before any other objects.

**Move To Background (Tools menu)**

Use this command to move the selected object(s) behind any other objects.

**Recalculate command (Tools menu)**

Use this command to recalculate all formulas within the active worksheets.

**Recalculate All (Tools menu)**

Use this command to recalculate all worksheets in the active document.

**Options command (Tools menu)**

Use this command to display the **Options** dialog box which enables you to change the program settings.

**Cascade command (Window menu)**

Use this command to arrange multiple opened windows in an overlapped fashion.



**Tile Horizontal command (Window menu)**

Use this command to vertically arrange multiple opened windows in a non-overlapped fashion.

**Tile Vertical command (Window menu)**

Use this command to arrange multiple opened windows side by side.

**Split command (Window menu)**

Use this command to split the active window into panes. You may then use the mouse or the keyboard arrows to move the splitter bars. When you are finished, press the mouse button or enter to leave the splitter bars in their new location. Pressing ESC keeps the splitter bars in their original location.

**Arrange Icons command (Window menu)**

Use this command to arrange the icons for minimized windows at the bottom of the main window. If there is an open document window at the bottom of the main window, then some or all of the icons may not be visible because they will be underneath this document window.

**1,2,3... command (Window menu)**

GS-Calc displays a list of currently open document windows at the bottom of the Window menu. A check mark appears in front of the document name of the active window. Choose a document from this list to make its window active.

**Help Topics command (Help menu)**

Use this command to display the opening screen of Help. From the opening screen, you can jump to step-by-step instructions for using GS-Calc and various types of reference information.

**About GS-Calc command (Help menu)**

Use this command to display the copyright notice and version number of your copy of GS-Calc.

**Context Help command**

Use the Context Help command to obtain help on some portion of GS-Calc. When you choose the Toolbar's Context Help button, the mouse pointer will change to an arrow and question mark. Then click somewhere in the GS-Calc window, such as another Toolbar button. The Help topic will be shown for the item you clicked.



**Title Bar**

The title bar is located along the top of a window. It contains the name of the application and document. To move the window, drag the title bar.

**Scroll Bars**

Displayed at the right and bottom edges of the document window. The scroll boxes inside the scroll bars indicate your vertical and horizontal location in the document. You can use the mouse to scroll to other parts of the document.

## **Format Toolbar**

Use the **Format Toolbar** buttons to set or remove various formats for the selected cell(s). You can also do the same using the **Cell Properties** dialog box.

## **Editing documents**

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## **Installing GS-Calc**

**System requirements:** PC with Windows 95/98/NT

To install GS-Calc, run the SETUP.EXE program.

To import and export files in formats other than text, GS-Calc uses the DAO v. 3.5 database drivers. If DAO has not been installed in your system by other programs, the following files will be copied to the (Windows) system directory.

DAO350.DLL (to the \Program Files\Common Files\Microsoft Shared\Dao directory)  
DAO2535.TLB (to the \Program Files\Common Files\Microsoft Shared\Dao directory)  
MSJET35.DLL  
MSVCRT40.DLL  
MSJINT35.DLL  
MSJTER35.DLL  
EXPSRV.DLL  
VBAJET32.DLL  
MSRD2X35.DLL  
MSXBSE35.DLL  
MSEXCL35.DLL  
MSLTUS35.DLL

Running the Uninstall program causes removing DAO from the Windows registry database (unless the reference count indicates that it's used by other installed programs).

**Note:** GS-Calc uses these DLLs exclusively for importing and exporting data to the various formats.

**Customer support**

If have any problems with this product or if you have any suggestions, please contact:

E-mail: [support@jps-development.com](mailto:support@jps-development.com)

Web: <http://www.jps-development.com>

JPS Development  
ul. Chopina 13  
58-100 Swidnica, Poland

tel.: +48-74-537581

fax: +48-74-537581

**No information**

No information on this topic.

**No information**

No information on this dialog box.



To change this data select the document cells and click this button. Click **OK** to update the chart.

Specifies the color you want to use to display the background.

Specifies the color you want to use to display the chart, its legend and titles.

Specifies how to fill the chart interior. If you choose Colors, it will be filled with solid colors. Otherwise it will be filled with six predefined patterns.

Specifies the colors used to display subsequent functions. Click one of the buttons to change the desirable color.

Click this button to restore the default color set.

Specifies whether the grid should be displayed and printed.

Specifies the Z-order used to display data series on 3D charts. If you choose this option the default order will be reversed.



Specifies whether values of a single data series are placed in a single row or in a single column.

Specifies whether a legend should be displayed.

Specifies whether a description of the X axis (titles at the X axis ticks) should be displayed.

Clear this option to display on the Y axis the smallest range of numbers containing all function values. If you check this option, the Y axis will start from 0 if there are no negative function values, or from possibly the biggest negative value otherwise.

Specifies the number of ticks displayed on the Y axis. The default value is 5.

Specifies the chart title. You may enter up to 80 characters.

Click this button to display the **Font** dialog box which enables you to change fonts.

Click this button to display the **Font** dialog box which enables you to change fonts.



Click this button to display the **Font** dialog box which enables you to change fonts.

Displays all available charts.

Some of displayed charts can be used to present a numeric relation between functions (data series) and arguments. If you check this option, titles describing the X axis will be treated as values of arguments for the given function(s). The number of ticks on the X axis is equal to the number of arguments. The arguments don't have to be sorted.

Specifies the ranges containing data series. The list may consist of 16 different ranges. If you want the ranges to represent more than one function, they must contain the same number of cells. To add/set a new range select the **Change** button.

After selecting this button GS-Calc displays the **Chart Data** dialog box which enables you to change each data range. To display this dialog quickly, press SHIFT key and double-click the selected chart.

Specifies where the description of the X axis and the chart legend are placed.

Specifies the name of the table and its fields you want to read. A check mark which appears in front of the field name indicates that the field will be included. If you are opening a database which contains more than one table per file, the name of the table may differ from the file name.

Specifies fields you want to read from the selected table.



Specifies the expression to be used as a filter for records you want to read. This may be a string conforming to the SQL WHERE clause syntax. You may leave this field blank.

Examples:

- (1) City>="Ne" AND Number=12
- (2) City<= "W" OR Number>10
- (3) (April\_Sales+May\_Sales+June\_Sales)/3>50000
- (4) Title+Name="Mr.Smith" OR Title+Name="Mr.Jones"
- (5) Name LIKE "\*son"

### **Notes**

You must use square brackets if the field name contains spaces or some special characters (e.g. "[Product number]").

Specifies whether you want to sort records.

Specifies the field that will be used as a sort key. By default GS-Calc performs ascending sorting. If you want to perform descending sorting, add the DESC keyword to the selected field name (e.g. "Name DESC" instead of "Name").

**Notes**

You must use square brackets if the field name contains spaces or some special characters (e.g. "[Product number]").

Specifies the field name in a newly created table.

Specifies the type of a field in a newly created table. You have to choose one of several predefined types. After retrieving spreadsheet columns the program initially selects one of them.

<i>Type</i>	<i>Length in bytes</i>	<i>Description</i>
<b>Text</b>	0-255	Text and numbers.
<b>Memo</b>	*	Lengthy text, such as comments or explanations. A Memo field's size is limited by the maximum size of the database.
<b>Long Boolean</b>	4	Integer values from 2,147,483,648 to 2,147,483,647.
<b>Boolean</b>	1	Yes/No, <b>True/False</b> , 1/0. A field that contains only one of two values.
<b>Byte</b>	1	Positive values from 0 to 255.
<b>Integer</b>	2	Integer values from -32,768 to +32,767.
<b>Single</b>	4	3.402823E38 to 1.401298E-45 for negative numbers and 1.401298E-45 to 3.402823E38 for positive numbers.
<b>Double</b>	8	Values from 1.79769313486232E308 to 4.94065645841247E-324 for negative values and 4.94065645841247E-324 to 1.79769313486232E308 for positive values.
<b>Date</b>	8	Dates and times (stored together). These values are stored in a 8-byte field and may be treated as a (positive or negative) 8-byte floating point number. The integer portion represents the number of days since December 30, 1899, midnight and the fractional portion represents hours.
<b>Long binary</b>	*	Any value that can be represented in binary (like pictures or OLE objects created in other programs) up to 1.2 gigabytes in size.
<b>Currency</b>	8	Used for monetary values. This data type maintains a fixed number of digits to the right of the decimal point, which helps in avoiding improper rounding during calculation.

Specifies the length of a field in a newly created table. Only text field length can be changed.

Specifies the list of currently defined fields. To change properties of a given field select it and edit its description.

Specifies the columns or rows you want to delete.

Ascending sorting of selected data.



Descending sorting of selected data.

Specifies whether the reverse order of words should be used when comparing. For example, if some fields contain two names:

Tom A. Jones  
Mark Smith

GS-Calc will use the following keys:

Jones A. Tom  
Smith Mark

Specifies the sort keys. You can define more than one key to perform two- or three-level sorting.

Specifies the type of data that will be inserted into the active document.

Specifies the first inserted value. The number of cells in the data series depends on the size of the current selection.

Specifies the text which has to be inserted. The number of cells in the data series depends on the size of the current selection.

Specifies the number of empty cells between each two inserted elements of the data series. The cell values are inserted in lines from left to right and from top to bottom.

Specifies the step by which subsequent values are incremented. This can be any number or formula returning numbers. The number of cells in the inserted data series depends on the size of the current selection.



Specifies the horizontal alignment for the selected cells.

Specifies the vertical alignment for the selected cells.

Specifies the style for the selected cells.

Specifies the number of decimal places you want to use while displaying numbers.

Specifies whether separators in numbers in numbers should be displayed.

Specifies whether the cell contents should be displayed in multiple lines within the same cell.

Specifies whether the selected cells should be protected.

Specifies whether the contents of the selected cells should be hidden.



Specifies the cell color.

Specifies the pattern to be used to fill the selected cells.

Specifies whether the selected cell color should be applied.

Specifies whether the selected font color should be applied.

Specifies whether the selected shadow should be applied.

Specifies the shadow color.

Specifies the horizontal and vertical offset of a shadow. These values are treated as a percentage respectively of the average character width and height.

Specifies whether the frames with selected edges should be displayed.



Specifies the frame edges you want to display.

Specifies the frame thickness.

Specifies the frame color.

Specifies whether you want to use round frames.

Specifies whether you want to display frame around the current selection.

Specifies the group of formulas.

Displays all formulas from the selected group. To paste one of them into the active document double-click it.

Displays descriptions of formulas.



Specifies the current password. The password can consist of 15 characters.

Specifies the current password. The password can consist of 15 characters.

Specifies whether you want the password to be checked only when saving the document. Otherwise it will be checked each time you try to open the document.

Specifies the current password.

Specifies the text printed at the top (header) and at the bottom (footer) of each printed page. It may contain up to 80 characters. You may place the following special characters within this text:

- &f**     Filename
- &w**     Worksheet name
- &s**     File date
- &z**     File time
- &d**     Current system date
- &e**     Current system date (long format)
- &t**     Current system time
- &p**     Page number
- &l**     Left aligned (starting from the next character and up to the end or to &r/&c characters)
- &r**     Right aligned (starting from the next character and up to the end or to &l/&c characters)
- &c**     Centered (starting from the next character and up to the end or to &l/&r characters)

Specifies the position of headers and footers.

Specifies whether you want to start the page numbering and the printing headers or footers from the first page.

Specifies whether to print row and column headers.

Specifies whether you want to shrink the printed document so that it can be printed on a single page.



Specifies how the current document should be scaled when printing.

Specifies the width of each margin on printed page.

Specifies whether you want to center printed cells horizontally or vertically.

Specifies the line thickness.

Specifies the line color.

Specifies the interior color.

Specifies whether you want to display the object interior.

Specifies whether you want the rectangle corners to be round.



To choose a new data range select cells and click the desirable button.

Specifies the author name.

Specifies the notes which will be stored with the active document file.

Specifies the title of the active document.

Specifies the subject of the active document.

Specifies the document size.

Displays the date of the last saving.

Displays the total number of folders.



Displays the total number of worksheets.

Displays the size of the current worksheet.

Displays the date when the current worksheet was modified.

Displays the number of cells containing text, formulas and numbers.

Specifies the recurrence level. This is the number of circular recalculations the program performs after finding the recurrence references. For example, if A1 contains A1+1 and this value is equal to 10, the final value (in A1) will be 10. The list of cells causing such iterations is displayed as a status bar message.

Specifies whether all formulas should be recalculated after each action which may change the document contents. If this option is not selected, formulas are recalculated after using the **Recalculate** command from the **Tools** menu.

Specifies the undo level. You may enter values from 0 to 16347.

Specifies how the current selection should be scrolled after pressing the Enter key.



Specifies whether to display computed values of formulas.

Specifies whether the program should use only True-Type fonts when formatting. If you don't select this option, you will be able to apply any currently installed Windows font.

Specifies whether you want the formulas to be modified when copying or moving data. This option doesn't affect formulas containing the "\$" operator.

Specifies whether the formulas having a constant value (i.e. not containing references) are automatically converted to numbers or text values.

Specifies whether the AutoComplete feature should be used when editing cells with attached drop-lists. If selected, this option causes GS-Calc to search the drop-list for text beginning with the characters you've already entered, then - if it finds such an list item - the remaining characters are automatically added to the edited text.

Specifies the displaying scale.

Specifies the character set you want to use when opening or saving the text file. If you choose DOS character set, GS-Calc will perform conversion from the DOS to the ANSI set.

Select the type of the cell separator you want to use when opening or saving the text file.



Specifies whether formulas or their values should be used when saving the text file.

Specifies whether formatted (containing separators and currency or percent symbols) should be used when saving the text file.

Specifies whether the contents of all worksheet from the current folder and its subfolders should be saved.

## Operators

Operator	Operation	Comments	Precedence
=	Equal	Compares numbers or text strings (the comparison is not case-sensitive). Example: A1 = 4 , B2 = "abc"	7
<	Less than	Compares numbers or text strings (the comparison is not case-sensitive). Example: A1 < 4 , B2 < "abc"	7
>	Greater than	Compares numbers or text strings (the comparison is not case-sensitive). Example: A1 > 4 , B2 > "abc"	7
<=	Less than or equal	Compares numbers or text strings (the comparison is not case-sensitive). Example: A1 <= 4 , B2 <= "abc"	7
>=	Greater than or equal	Compares numbers or text strings (the comparison is not case-sensitive). Example: A1 >= 4 , B2 >= "abc"	7
<>	Not equal	Compares numbers or text strings (the comparison is not case-sensitive). Example: A1 <> 4 , B2 <> "abc"	7
+	Addition	Adds numbers.	6
-	Subtraction	Subtracts numbers.	6
&	String concatenation	Merges text strings. Example: A1 & "abc" , "a" & "b"	6
*	Multiplication	Multiplies numbers.	5
/	Division	Divides numbers.	5
^	To the power of	Calculates the power of.	4
-	Negative	Changes the sign of a number. Example: -A1	3
:	Range of cells	Creates a range. Example: A1:B5	2
%	Percent	Specifies a number entered as a percentage. Example: 12%	1

Specifies whether a drop-list should be used when editing the selected cells.

Specify the name of the drop-list to be used when editing the selected cells.

Click this button to manage lists available with the current document.

Specifies whether new values entered in the worksheet cells should be added to the selected list. Each unique value is added only once.



Drag the slider to the new position to change the size of buttons. This may be helpful if the range displayed as the button text is particularly long.

Shows the state of the currently performed operation.

Click this button to stop the current operation.

Specifies the text to be used as a search filter.

If you check the **Use simple text search** checkbox, this can be any text that will be compared against unformatted cell contents of the subsequent worksheets.

If the checkbox is cleared, this must be a valid spreadsheet expression (returning a number value) that can be evaluated for the data of the retrieved worksheets. If the returned value is different from zero and error, the worksheet is added to the found list. In the simplest form it can be a constant expression, for example:

1

which causes finding all worksheets.

### **Examples**

A1=1998

B2:B10 >= 1000

(C2="New York") \* (C5="John")

HAS\_OBJECT(2) + HAS\_OBJECT(3)

MATCH("Alien"; A2:D7; 0)

Specifies whether the searching should be limited to the current folder and its subfolders.

Specifies how to search for worksheets.

If you check the **Use simple text search** checkbox, this can be any text that will be compared against unformatted cell contents of the subsequent worksheets.

If the checkbox is cleared, this must be a valid spreadsheet expression (returning a number value) that can be evaluated for the data of the retrieved worksheets. If the returned value is different from zero and error, the worksheet is added to the found list. In the simplest form it can be a constant expression, for example:

1

which causes finding all worksheets.

### **Examples**

A1=1998

B2:B10 >= 1000

(C2="New York") \* (C5="John")

HAS\_OBJECT(2) + HAS\_OBJECT(3)

MATCH("Alien"; A2:D7; 0)

Select this button to find the next matching worksheet. If found, it is added to the **Found Worksheets** list, then selected within the tree pane and opened.

The list of found worksheets can be sorted by name, size and date.

Select this button to found all matching worksheets. They are added to the **Found Worksheets** list. Any previous items are removed.

The list of found worksheets can be sorted by name, size and date.



Click this button to display or hide the list of found worksheets.

Displays the list of found worksheets. To open the given worksheet, double-click it or use the **Open** button. The list can be sorted by name, size and date.

Click this button to open the selected worksheet.

Specifies the list name.

Specify the list items. When editing, you can use copying and pasting to modify it quickly.

Click the **Add**, **Rename** and **Remove** buttons to add, rename or remove lists. You may create up to 65,535 lists in one document. They are shared across all worksheets in the given document.

Specify the category of the data to be copied to all other worksheets in the current folder and its subfolders. This is an easy way to make the same: column widths, row heights, formats, selection, current view coordinates or page settings.

Specifies whether the long date format defined in Regional Settings should be used.



Specifies whether the chosen date/time should be inserted as a date/time number or as a formatted string.

Specifies whether the current time should be included in the inserted value.

Specifies whether the current date should be included in the inserted value.

## **Functions**

[mathematical functions](#)

[statistical functions](#)

[lookup and reference functions](#)

[financial functions](#)

[date/time functions](#)

[text functions](#)

[logical functions](#)

[special functions](#)

## Mathematical functions

ABS

AND

BJ0

BJ1

BJN

BY0

BY1

BYN

CEIL

COMBNR

COMBNS

DEGREES

EVEN

EXP

EXPE

EXPM

FACT

GCD

GRANDTOTAL

INTERPOL

LOG

LOG10

LOGX

MAX

MAX\_EX

MIN

MIN\_EX

MOD

NOT

ODD

OR

PI

POW10

PRODUCT

PRODUCTIF

RADIANS

RAND

ROUND

ROUNDE

ROUNDQ

ROUNDX

SCM

SGN

SHIFTL

SHIFTR

SQR

SQRT

SUBTOTAL

SUM

SUM2

SUM3

SUMIF

SUM2IF

SUM3IF  
SUM\_EX  
TRUNC  
XOR

*Hyperbolic functions*

ARCOSH  
ARSINH  
ARTGH  
COSH  
COSECH  
SECH  
SINH  
TANH

*Trygonometrical functions*

ACOS  
ASIN  
ATAN  
COS  
SIN  
TAN

## **Statistical functions**

AVE

AVE2

AVEG

AVEH

CHI2

STD

CORREL

ENTROPY

ERF

ERFV

EST

ESTN

## **Text functions**

BIN

CHAR

CODE

ETEXT

EXACT

FIND

HEX

LEFT

LENGTH

LOWER

LTRIM

MERGE

MID

NUM2STR

OCT

PROPER

REPEAT

REPLACE

RIGHT

RTRIM

STEXT

TEXT

TRAIL

TRIM

UPPER

VALUE



## **Financial functions**

CTERM

FV

FVAL

PMT

PV

RATE

SLN

SYD

TERM

## **Date/Time functions**

DATE

DATEDIF

DATEVALUE

DAY

DAYOFWEEK

DAYOFYEAR

FORMATDATE

FORMATTIME

HOUR

MINUTE

MONTH

NOW

SECOND

TIME

TIMEVALUE

TODAY

YEAR

## **Lookup and Reference functions**

ADDRESS

AREA

CELL

CELL\_EX

COLS

COUNT

COUNTV

FOLDER\_COUNT

GETEXVAL

HLOOKUP

INDEX

MATCH

SHEET\_COUNT

OBJECT\_COUNT

OFFSET

RANGE

ROWS

VLOOKUP

## **Logical functions**

HAS\_OBJECT

IF

ISERROR

ISFILE

ISNUMBER

ISOPEN

ISSTRING

TEST

## **Special functions**

OPENDOC

OPENSHEET

MESSAGE

PLAYSOUND

**ABS(Number)**

Returns the absolute value of **Number**.

Example:  $\text{ABS}(-10) = 10$

**SGN(Number)**

Returns -1 if **Number** < 0, 0 if **Number** = 0 and 1 if **Number** > 0.

Example:  $\text{SGN}(10) = 1$

**AND(Number1; Number2)**

Returns the bitwise AND of **Number1** and **Number2**.

Example: AND(12; 4) = 4



**NOT(Number)**

Returns the bitwise negation of *Number*.

Example: NOT(10) = -11

**OR(Number1; Number2)**

Returns the bitwise OR of *Number1* and *Number2*.

Example: OR(8; 4) = 12

**XOR(Number1; Number2)**

Returns the bitwise XOR of *Number1* and *Number2*.

Example: XOR(12; 4) = 8

**ARCOSH(Number)**

Returns the inverse hyperbolic cosine of *Number*.

Example:  $\text{ARCOSH}(1.5) = 0.96242365$

**ARSINH(Number)**

Returns the inverse hyperbolic sine of *Number*.

Example: ARSINH(1.5) = 1.19476322

**ARTGH(Number)**

Returns the inverse hyperbolic tangent of *Number*.

Example:  $\text{ATGH}(0.5) = 0.54930614$

**COSECH(Number)**

Returns the hyperbolic cosecant of *Number*.

Example:  $\text{COSECH}(1.5) = 0.46964244$

**COSH(Number)**

Returns the hyperbolic cosine of *Number*.

Example:  $\text{COSH}(1.5) = 2.35240962$



**SECH(Number)**

Returns the hyperbolic secant of *Number*.

Example:  $\text{SECH}(1.5) = 0.42509603$

**SINH(Number)**

Returns the hyperbolic sine of *Number*.

Example:  $\text{SINH}(1.5) = 2.12927946$

**TANH(Number)**

Returns the hyperbolic tangent of *Number*.

Example:  $\text{TANH}(1.5) = 0.90514825$

**ACOS(Number)**

Returns the arccosine of *Number*.

Example:  $\text{ACOS}(0.5) = 1.04719755 (= \text{PI}/3)$

**ASIN(Number)**

Returns the arcsine of *Number*.

Example:  $\text{ASIN}(0.5) = 0.52359878 (= \pi/6)$

**ATAN(Number)**

Returns the arctangent of Number.

Example:  $\text{ATAN}(1) = 0.78539816$  (PI/4)

**COS(Number)**

Returns the cosine of *Number*.

Example:  $\text{COS}(\text{PI}(1)/3) = 0.5$

**SIN(Number)**

Returns the sine of *Number*.

Example:  $\text{SIN}(\text{PI}(1)/6) = 0.5$



**TAN(Number)**

Returns the tangent of *Number*.

Example:  $\text{TAN}(\text{PI}()/4) = 1$

**BJ0(Number)**

Returns the value of the Bessel function of the first kind and zero level for *Number*.

Example:  $\text{BJ0}(0.9) = 0.8075238$

**BJ1(Number)**

Returns the value of the Bessel function of the first kind and second level for *Number*.

Example:  $\text{BJ1}(0.9) = 0.40594955$

**BJN(Level; Number)**

Returns the value of the Bessel function of the first kind for the given *Level* and *Number*.

Example:  $\text{BJN}(1;0.9) = 0.40594955$

**BY0(Number)**

Returns the value of the Bessel function of the second kind and zero level for *Number*.

Example:  $BY0(0.9) = 0.00562831$

**BY1(Number)**

Returns the value of the Bessel function of the second kind and first level for *Number*.

Example:  $BY1(0.9) = -0.87312658$

**BYN(Level; Number)**

Returns the value of the Bessel function of the second kind for the given *Level* and *Number*.

Example:  $BY1(1; 0.9) = -0.87312658$

**DEGREES(Number)**

Converts *Number*, which represents an angle in radians, to degrees.

Example:  $\text{DEGREES}(\text{PI}(1)/4) = 45$



**RADIANS(Number)**

Converts *Number*, which represents an angle in degrees, to radians.

Example:  $\text{RADIANS}(45) = 0.78539816$  ( $=\text{PI}(1)/4$ )

**EXPM(Number)**

Returns the mantissa  $m$  of  $Number$  ( $m$  is greater than or equal to 0.5 and less than 1) so that  $Number = m * 2^k$ , where  $k$  is the exponent.

Example:  $EXPM(1.5) = 0.75$

**EXPE(Number)**

Returns the exponent  $k$  of  $Number$  so that  $Number = m*2^k$ , where  $m$  is the mantissa.

Example: EXPE(1.5) = 1

**EXP(Number)**

Returns the base of the natural logarithm ("e") raised to the power of *Number*.

Example: EXP(2) = 7.3890561

**FACT(Number)**

Returns the factorial of *Number*: the product of all integers greater than zero and not greater than *Number*.

Example:  $\text{FACT}(5) = 120$

**GCD(Number1; Number2)**

Returns the greatest common divisor of *Number1* and *Number2*.

Example:  $\text{GCD}(24;16) = 8$

**SCM(Number1; Number2)**

Returns the smallest common multiplicity of *Number1* and *Number2*.

Example:  $\text{SCM}(12; 8) = 24$

**LOG10(Number)**

Returns the base 10 logarithm of *Number*.

Example:  $\text{LOG10}(100) = 2$



**LOG(Number)**

Returns the natural logarithm of *Number*.

Example:  $\text{LOG}(\text{EXP}(2)) = 2$

**LOGX(Number; Base)**

Returns the *Base* logarithm of *Number*.

Example:  $\text{LOGX}(2^5; 2) = 5$

**MOD(Number1; Number2)**

Returns the remainder of *Number1* / *Number2*.

Example: MOD(9; 4) = 1

**POW10(Number)**

Returns 10 to the power of *Number*.

Example: POW10(2) = 100

**PI(Number)**

Returns the product of *Number* and the value PI (3.141592653589).

Example:  $PI(1) = 6.2831853$

**CEIL(Number)**

Returns a number representing the smallest integer greater than or equal to *Number*.

Example:  $\text{CEIL}(2.6) = 3$

**ROUND(Number)**

Returns *Number* rounded to the nearest integer.

Example: ROUND(2.4) = 2

**ROUNDE(Number)**

Returns *Number* rounded to the nearest even number.

Example:  $\text{ROUNDE}(3.1) = 4$

Note: The "TEST", "ETEXT", "STEXT", "ROUNDE", "ROUND0" functions are provided for compatibility with the earlier version of GS-Calc. In GS-Calc 4.0 and later use respectively the "IF", "UPPER", "LOWER", "EVEN", "ODD" functions.



**EVEN(Number)**

Returns *Number* rounded to the nearest even number.

Example:  $\text{EVEN}(3.1) = 4$

**ROUND0(Number)**

Returns *Number* rounded to the nearest odd number.

Example: ROUND0(2.1) = 3

Note: The "TEST", "ETEXT", "STEXT", "ROUNDE", "ROUND0" functions are provided for compatibility with the earlier version of GS-Calc. In GS-Calc 4.0 and later use respectively the "IF", "UPPER", "LOWER", "EVEN", "ODD" functions.

**ODD(Number)**

Returns *Number* rounded to the nearest odd number.

Example:  $\text{ODD}(2.1) = 3$

**ROUNDX(Number; Precision)**

Returns *Number* rounded to the factor specified by *Precision*.

Example: ROUNDX(2.1; 0.5) = 2.5

**TRUNC(Number)**

Returns the integer portion of *Number*.

Example: TRUNC(2.5) = 2

**SHIFTL(*Number*; *Positions*)**

Returns the value of *Number* after shifting its bits by *Positions* to the left.

Example: SHIFTL(2; 3) = 16

**SHIFTR(Number; Positions)**

Returns the value of *Number* after shifting its bits by *Positions* to the right.

Example: SHIFTR(16; 3) = 2

**SQR(Number)**

Returns the square of *Number*.

Example:  $\text{SQR}(3) = 9$



**SQRT(Number)**

Returns the square root of *Number*.

Example:  $\text{SQRT}(9) = 3$

**INTERPOL(X\_range; Y\_range; Point)**

Performs interpolation of a function in *Point* based on points from *X\_range* and function values from *Y\_range*.

Example: INTERPOL(A1:A10; B1:B10; 3) = 2.3

**AREA(Range)**

Returns the number of cells in *Range*.

Example: AREA(A1:B10) = 20

**AVE(Range)**

Returns the arithmetic mean for cells in *Range*.

Example:  $\text{AVE}(\text{A1:B10}) = 1.1$

**AVE2(Range)**

Returns the square mean for cells in *Range*.

Example: AVE2(A1:B10) = 1.1

**AVEG(Range)**

Returns the geometric mean for cells in *Range*.

Example: AVEG(A1:B10) = 1.1

**AVEH(Range)**

Returns the harmonic mean for cells in *Range*.

Example: AVEH(A1:B10) = 1.1

**CHI2(Degree; Chi2Expression)**

Returns the confidence level for *Chi2Expression*, which has the chi-square distribution.

Example:  $\text{CHI2}(4; 1.1) = 0.89427221$



**STD(Degree; TExpression)**

Returns the confidence level for *TExpression*, which has the Student distribution.

Example:  $\text{STD}(4; 1.1) = 0.33308365$

**COMBNR(*n*; *k*)**

Returns the number of *k*-element combinations with repeating from the *n*-element set.

Example: COMBNR(5; 3) = 35

**COMBNS(*n*; *k*)**

Returns the number of *k*-element combinations without repeating from the *n*-element set.

Example: COMBNS(5; 3) = 10

**CORREL(Range1; Range2)**

Returns the correlation between numbers from *Range1* and *Range2*.

Example: CORREL(A1:A10; B1:B10) = 0.9

**COUNT(Range)**

Returns the number of not empty cells in the given range.

Example: COUNT(A1:B10) = 4

**COUNTV(Value; SearchRange)**

Returns the number of cells containing *Value* in the given range. *Value* may represent a number or a text.

Example: COUNTV(2.2; A1:B10) = 3

**ENTROPY(Range)**

Returns the entropy of an information source based on probability factors from the given range.

Example: ENTROPY(A1:A2) = 1

**ERF(Number)**

Returns the integral of the Gauss function in the range  $\{-Number*\sqrt{2}, Number*\sqrt{2}\}$ .

Example:  $ERF(1.5) = 0.96610809$



**ERFV(Number)**

Returns the argument for which the ERF function returns *Number*.

Example:  $\text{ERFV}(0.96610809) = 1.5$

**EST(Range)**

Returns the standard deviation of a sample from the given range.

Example:  $\text{EST}(A1:B10) = 1.1$

**ESTN(Range)**

Returns the standard deviation of a population.

Example:  $\text{ESTN}(A1:B10) = 1.1$

**GRANDTOTAL(Range)**

Returns the sum of values of formulas from the given range containing the SUBTOTAL function.

Example: GRANDTOTAL(A1:B10) = 12

**SUBTOTAL(Range)**

Returns the sum of numbers from the given range.

Example: SUBTOTAL(A1:B10) = 12

**MAX(Range)**

Returns the largest number in the given range.

Example: MAX(A1:B10) = 5

**MAX\_EX(Range)**

Returns the largest number in the given range in all worksheets from the current folder and its subfolders except the active worksheet.

Example: MAX\_EX(A1:B5) = 10

**MIN(Range)**

Returns the smallest number in the given range.

Example: MIN(A1:B10) = -1



**MIN\_EX(Range)**

Returns the smallest number in the given range in all worksheets from the current folder and its subfolders except the active worksheet.

Example: MIN\_EX(A1:B5) = 10

**PRODUCT(Range)**

Returns the product of not empty cells from the given range.

Example:  $\text{PRODUCT}(A1:B10) = 24.6$

**RAND(Number)**

Returns a random number greater or equal to 0 and less or equal to *Number*.

Example:  $\text{RAND}(60) = 34.56$

**SUM(Range)**

Returns the sum of numbers from the given range.

Example:  $\text{SUM}(A1:B10) = 14$

**SUM\_EX(Range)**

Returns the sum of numbers from the given range for all worksheets from the current folder and its subfolders except the active worksheet.

Example: SUM\_EX(A1:B10)

**SUM2(Range)**

Returns the sum of squares of numbers from the given range.

Example:  $\text{SUM2}(\text{A1:B10}) = 34$

**SUM3(Range)**

Returns the sum of cubes of numbers from the given range.

Example:  $\text{SUM3}(\text{A1:B10}) = 46.55$











**BIN(Number)**

Returns the text string representing *Number* in the binary notation.

Example: BIN(23) = "10111"

**CHAR(Number)**

Returns a text string consisting of one character with the character set code equal to *Number*.

Example: CHAR(65) = "A"

**CODE(Text)**

Returns the character set code of the first character in *Text*.

Example: CODE("Word") = 87

**HEX(Number)**

Returns the text string representing *Number* in the hex notation.

Example: HEX(1998) = "7ce"

**KWOTA(Number)**



**OCT(Number)**

Returns the text string representing *Number* in the octal notation.

Example: OCT(1998) = "3716"

**TEXT(Number)**

Returns the text string representing *Number* in textual ("verbal") form.

Example: TEXT(23) = "twenty three"

**EXACT(Text1; Text2)**

Compares two text strings. If *Text1* = *Text2*, 1 (True) is returned. If they are different, 0 (False) is returned. The comparison is case-sensitive.

Example: EXACT("Thing"; "Thing") = 1

**FIND(Text1; Text2; Position)**

Returns the position (as a 1-base index) of *Text1* in *Text2*. Searching starts in *Text2* from *Position*.

Example: FIND("word"; "two words"; 1) = 5

**LEFT(Text; Number)**

Returns the first *Number* characters from *Text*.

Example: LEFT("abcdef"; 3) = "abc"

**LENGTH(Text)**

Returns the length of *Text*.

Example: LENGTH("abcdef") = 6

**LOWER(Text)**

Converts all letters in *Text* to lowercase.

Example: LOWER("ABCDEF") = "abcdef"

**REPLACE(Text1; Number1; Number2; Text2)**

Replaces *Number2* characters in *Text1* starting from *Number1* position by *Text2*. For the first character in *Text1* *Number1* = 1.

Example: REPLACE("abcdef"; 3; 2; "x") = "abxef"



**STEXT(Text)**

Converts all letters in *Text* to lowercase.

Example: STEXT("ABCDEF") = "abcdef"

Note: The "TEST", "ETEXT", "STEXT", "ROUNDE", "ROUND0" functions are provided for compatibility with the earlier version of GS-Calc. In GS-Calc 4.0 and later use respectively the "IF", "UPPER", "LOWER", "EVEN", "ODD" functions.

**MID(Text; StartPosition; EndPosition)**

Returns the substring of *Text*. The substring starts at *StartPosition* and includes all characters up to *EndPosition*. The position of the first character in *Text* is 1.

Example: MID("abcdef"; 3; 4) = "cd"

**PROPER(Text)**

Converts first letters of words in *Text* to uppercase and all other letters to lowercase.

Example: PROPER("two WORDS") = "Two Words"

**REPEAT(Text; Number)**

Returns string that consists of *Text* repeated *Number* times.

Example: REPEAT("abc "; 3) = "abc abc abc "

**RIGHT(Text; Number)**

Returns the last *Number* characters from *Text*.

Example: RIGHT("abcdef"; 3) = "def"

**TRIM(Text)**

Removes all trailing and leading whitespaces from Text.

Example: TRIM(" abcdef ") = "abcdef"

**LTRIM(Text)**

Removes all leading whitespaces from Text.

Example: LTRIM(" abcdef") = "abcdef"

**RTRIM(Text)**

Removes all trailing whitespaces from Text.

Example: RTRIM("abcdef ") = "abcdef"



**UPPER(Text)**

Converts all letters in *Text* to uppercase.

Example: UPPER("abcdef") = "ABCDEF"

**ETEXT(Text)**

Converts all letters in *Text* to uppercase.

Example: ETEXT("abcdef") = "ABCDEF"

Note: The "TEST", "ETEXT", "STEXT", "ROUNDE", "ROUND0" functions are provided for compatibility with the earlier version of GS-Calc. In GS-Calc 4.0 and later use respectively the "IF", "UPPER", "LOWER", "EVEN", "ODD" functions.

**TRAIL(Text; Number)**

If *Text* length is less than *Number*, this function adds trailing spaces to *Text* so that *Text* contains exactly of *Number* characters.

Example: TRAIL("abc", 6) = "abc "

**VALUE(Text)**

Converts *Text* to number.

Example: VALUE("123") = 123

**NUM2STR(Number; Radix)**

Returns the text string representing *Number* in the *Radix* notation.

Example: NUM2STR(1998; 10) = "1998"

**MERGE(Text1; Text2)**

Returns the text string consisting of merged *Text1* and *Text2*.

Example: MERGE("abc"; "def") = "abcdef"

**CTERM(Rate; Fv; Pv)**

Returns the number of compounding periods after which the initial amount (*Pv*) will obtain the value specified by *Fv* at the given interest rate *Rate*.

Example: CTERM(9%/12; 10000; 5000) = 92.76576606

**FVAL(Pv; Rate; Periods)**

Returns the future value of an investment or loan  $Pv$  (with no periodic payments) at the given interest rate and the given number of periods.

Example:  $FVAL(5000; 9\%/12; 93) = 10017.51731932$



**FV(Payment; Rate; Periods)**

Returns the future value of an investment (with periodic payments) after the given number of periods and with the given interest rate.

Example:  $FV(500; 9\%/12; 24) = 13094.23529284$

**PMT(Pv; Rate; Periods)**

Returns the payment amount for a loan during the given number of periods.

Example:  $\text{PMT}(20000; 9\%/12; 24) = 913.69484558$

**PV(Payment; Rate; Periods)**

Returns the present value for a loan or investment.

Example:  $PV(500; 9\%/12; 24) = 10944.57306872$

**RATE(Fv; Pv; Periods)**

Returns the periodic interest rate for a loan or investment (*Pv*) at the given number of periods.

Example:  $\text{RATE}(10000; 5000; 48) = 0.01454533$

**SLN(Cost; Salvage; Life)**

Returns the straight-line depreciation for one period.

Example:  $\text{SLN}(3000; 400; 5) = 520$

**SYD(Cost; Salvage; Life; Period)**

Returns the sum-of-the-years'-digits' depreciation for the given period.

Example:  $\text{SYD}(3000; 400; 5; 4) = 346.6666667$

**TERM(Payment; Rate; Pv)**

Returns the number of payment periods for an investment or loan (*Pv*) with the given interest rate and payment.

Example:  $\text{TERM}(500; 9\%/12; 10000) = 18.7047196$

**DATE(Year; Month; Day)**

Returns the date/time number for the given *Year*, *Month* and *Day*. This integer portion represents the number of days since December 30, 1899, midnight and the fractional portion represents hours.

Example: DATE(1998; 1; 1) = 35796



**TIME(Hour; Minute; Second)**

Returns the date/time number for the given *Year*, *Month* and *Day*. This integer portion represents the number of days since December 30, 1899, midnight and the fractional portion represents hours.

Example: TIME(11; 53; 44) = 0.49564815

**DATEDIF(DateNumber1; DateNumber2; Type)**

Calculates the difference between two dates. The result depends on *Type*:

- 1 - difference as the number of days
- 2 - remaining hours of the difference
- 3 - remaining minutes of the difference
- 4 - remaining seconds of the difference
- 5 - difference as the total number of hours
- 6 - difference as the total number of minutes
- 7 - difference as the total number of seconds

Example: DATEDIF(DATE(1998;3;1)+TIME(10;45;0); DATE(1998;1;1)+TIME(9;45;0); 6) = 85020 (minutes)

**DATEVALUE(Text)**

Returns the date/time number for the given date string *Text*. To be parsed correctly, the text string must conform to the currently defined in system short date/time format.

Example: DATEVALUE("13/1/98") = 35808

**TIMEVALUE(Text)**

Returns the date/time number for the given time string *Text*. To be parsed correctly, the text string must conform to the currently defined in system short date/time format.

Example: TIMEVALUE("9:45:34 PM") = 0.90664352

**DAY(DateNumber)**

Returns the day of the month (1-31) for the *DateNumber*.

Example: DAY(DATE(1998;1;1)) = 1

**HOUR(DateNumber)**

Returns the hour(0-23) for the *DateNumber*.

Example: HOUR(TIME(23;12;56)) = 23

**MINUTE(DateNumber)**

Returns the minute (0-59) for the *DateNumber*.

Example: MINUTE(TIME(23;12;56)) = 12

**SECOND(DateNumber)**

Returns the second (0-59) for the *DateNumber*.

Example: `SECOND(TIME(23;12;56)) = 56`



**MONTH(DateNumber)**

Returns the month (1-12) for the *DateNumber*.

Example: MONTH(DATE(1998;1;1)) = 1

**YEAR(DateNumber)**

Returns the year for the *DateNumber*.

Example: YEAR(DATE(1998;1;1)) = 1998

**DAYOFWEEK(DateNumber)**

Returns the day of the week (Sun = 1) for the *DateNumber*.

Example: DAYOFWEEK(DATE(1998;1;1)) = 5

**DAYOFYEAR(DateNumber)**

Returns the day of the year (Jan 1 = 1) for the *DateNumber*.

Example: DAYOFYEAR(DATE(1998;1;1)) = 1

## **FORMATDATE(DateNumber; FormattingText)**

Returns the text representing date/time formatted according to *FormattingText*. If *FormattingText* is an empty string (""), the default Windows format for the date representation is used. Otherwise, it may contain any text combined with the following special character sequences:

**%a** Abbreviated weekday name  
**%A** Full weekday name  
**%b** Abbreviated month name  
**%B** Full month name  
**%c** Date and time representation appropriate for locale  
**%d** Day of month as decimal number (01 – 31)  
**%H** Hour in 24-hour format (00 – 23)  
**%I** Hour in 12-hour format (01 – 12)  
**%j** Day of year as decimal number (001 – 366)  
**%m** Month as decimal number (01 – 12)  
**%M** Minute as decimal number (00 – 59)  
**%p** Current locale's A.M./P.M. indicator for 12-hour clock  
**%S** Second as decimal number (00 – 59)  
**%U** Week of year as decimal number, with Sunday as first day of week (00 – 51)  
**%w** Weekday as decimal number (0 – 6; Sunday is 0)  
**%W** Week of year as decimal number, with Monday as first day of week (00 – 51)  
**%x** Date representation for current locale  
**%X** Time representation for current locale  
**%y** Year without century, as decimal number (00 – 99)  
**%Y** Year with century, as decimal number  
**%z, %Z** Time-zone name or abbreviation; no characters if time zone is unknown  
**%%** Percent sign  
**##c** Long date and time representation  
**##x** Long date representation, appropriate to current locale  
**##d, ##H, ##I, ##j, ##m, ##M, ##S, ##U, ##w, ##W, ##y, ##Y** Remove leading zeros in the values explained above

Example:

```
FORMATDATE(DATE(1998;1;1); "") = "1/1/98"
```

```
FORMATDATE(DATE(1998;1;1); "%A, %B") = "Thursday, January"
```

```
FORMATDATE(DATE(1998;1;1)+TIME(10;30;0); "##c") = "Thursday, January 01, 1998 10:30:00"
```

## **FORMATTIME(DateNumber; FormattingText)**

Returns the text representing date/time formatted according to *FormattingText*. If *FormattingText* is an empty string (""), the default Windows format for the date representation is used. Otherwise, it may contain any text combined with the following special character sequences:

**%a** Abbreviated weekday name  
**%A** Full weekday name  
**%b** Abbreviated month name  
**%B** Full month name  
**%c** Date and time representation appropriate for locale  
**%d** Day of month as decimal number (01 – 31)  
**%H** Hour in 24-hour format (00 – 23)  
**%I** Hour in 12-hour format (01 – 12)  
**%j** Day of year as decimal number (001 – 366)  
**%m** Month as decimal number (01 – 12)  
**%M** Minute as decimal number (00 – 59)  
**%p** Current locale's A.M./P.M. indicator for 12-hour clock  
**%S** Second as decimal number (00 – 59)  
**%U** Week of year as decimal number, with Sunday as first day of week (00 – 51)  
**%w** Weekday as decimal number (0 – 6; Sunday is 0)  
**%W** Week of year as decimal number, with Monday as first day of week (00 – 51)  
**%x** Date representation for current locale  
**%X** Time representation for current locale  
**%y** Year without century, as decimal number (00 – 99)  
**%Y** Year with century, as decimal number  
**%z, %Z** Time-zone name or abbreviation; no characters if time zone is unknown  
**%%** Percent sign  
**##c** Long date and time representation  
**##x** Long date representation, appropriate to current locale  
**##d, ##H, ##I, ##j, ##m, ##M, ##S, ##U, ##w, ##W, ##y, ##Y** Remove leading zeros in the values described above

Example:

```
FORMATTIME(TIME(10;30;45); "") = "10:30:45 AM"
```

```
FORMATTIME(TIME(10;30;45); "minutes: %M, seconds: %S") = "minutes: 30, seconds: 45"
```

```
FORMATTIME(DATE(1998;1;1)+TIME(10;30;0); "##c") = "Thursday, January 01, 1998 10:30:00"
```

**TODAY(DaysNumber)**

Returns the current date/time string +/- *DaysNumber*.

Example: TODAY(0) = "12/11/97"

**NOW(HoursNumber)**

Returns the current date/time string +/- *HoursNumber*.

Example: NOW(0) = "2:49:43 PM"



**COLS(Range)**

Returns the number of columns in *Range*.

Example: COLS(A1:B10) = 2

**ROWS(Range)**

Returns the number of rows in *Range*.

Example: ROWS(A1:B10) = 10

**HLOOKUP(SearchItem; SearchRange; RowIndex)**

*SearchItem* is compared against values in the first row of *SearchRange*. If a matching value is found, the contents of the cell from the corresponding column and the *RowIndex* row are returned. If *SearchItem* can not be found in the first row of *SearchRange*, the largest value that is less than *SearchItem* is used. *SearchItem* and the cells from the first row of *SearchRange* may represent numbers or text. The data in the first row of *SearchRange* must be sorted in ascending order. The *RowIndex* numbering starts from 1 (the first row of *SearchRange*). If no matching value is found, the *error* value is returned. The search is not case-sensitive.

Example: HLOOKUP(10251; B1:F4; 3) = 3




**INDEX(Range; ColumnNumber; RowNumber)**

Returns the contents of the cell from *Range*. The cell position is relative to *Range*, i.e. *ColumnNumber* equal to 1 and *RowNumber* equal to 1 refers to the upper left corner of *Range*.

Example: INDEX(A1:B10; 1; 1) (= A1)

**RANGE(*LeftColumn*; *TopRow*; *RightColumn*; *BottomRow*)**

Creates and returns the range specified by two columns *LeftColumn*, *RightColumn* (1-512) and two rows *TopRow*, *BottomRow* (1-8192).

Example: RANGE(1; 1; 2; 10) (=A1:B10)



**ADDRESS(ColumnNumber; RowNumber)**

Returns the cell address specified as *ColumnNumber* (1 - 512) and *RowNumber* (1 - 8192).

Example: ADDRESS(3; 4) (=C4)



**CELL(Feature; CellAddress)**

Returns the chosen feature of a cell. *Feature* may have one of the following values:

0 - cell column is returned

1 - cell row is returned

2 - cell value is returned

Example: CELL(0; B5) = 2

### **CELL\_EX(Feature; CellAddress; Worksheet)**

Returns the chosen feature of a cell from another worksheet in the same file. *Feature* may have one of the following values:

- 0 - cell column is returned
- 1 - cell row is returned
- 2 - cell value is returned

A full path (incl. the initial backslash) must be used to access worksheets in other (non-descendant) folders. For worksheets in the same folder and its subfolders you may use a relative path.

Example:

CELL\_EX(2; B5; "\\Reports\July\021") = 2

CELL\_EX(2; B5; "July\021") = 2

CELL\_EX(2; B5; "021") = 2

**OFFSET(Range; ColumnsNumber; RowsNumber)**

Returns *Range* shifted horizontally and/or vertically by *ColumnsNumber* and *RowsNumber*.

Example: OFFSET(A1:B10; 1; 1) (=B2:C11)

**GETEXVAL(Document; CellAddress; AutoOpen)**

Returns the value of the specified cell from another spreadsheet document and the default worksheet (that is, a worksheet that was active when the document was saved). *Document* should contain the full path of an existing \*.gsc file. Before obtaining this value, *Document* must be opened. If *AutoOpen* is equal to 1, *Document* is opened automatically. If *AutoOpen* is equal to 0 and *Document* is not loaded, the *error* value is returned.

Example: GETEXVAL("d:\gscal47\analyze.gsc"; E9; 1) = 100

**OBJECT\_COUNT(Type)**

Returns the number of objects of the given *Type* (0 - any object, 1 - OLE objects, 2 - charts, 3 - rectangles or ellipses) in the current worksheet.

Example: OBJECT\_COUNT(2) = 1

**SHEET\_COUNT(Type)**

Returns the number of worksheets in the current folder and its subfolders if *Type* = 1 or in all folders if *Type* = 0.

Example: SHEET\_COUNT(0) = 1

**FOLDER\_COUNT(Type)**

Returns the number of folders in the current folder and its subfolders if *Type* = 1 or in all folders if *Type* = 0.

Example: FOLDER\_COUNT(0) = 1

**TEST(Number; TrueValue; FalseValue)**

If *Number* is greater than or equal to 0, the *TrueValue* is returned. If *Number* is less than 0, *FalseValue* is returned. *TrueValue* and *FalseValue* may represent any text or numbers.

Example: TEST(10; "abc"; "cde") = "abc"

Note: The "TEST", "ETEXT", "STEXT", "ROUNDE", "ROUND0" functions are provided for compatibility with the earlier version of GS-Calc. In GS-Calc 4.0 and later use respectively the "IF", "UPPER", "LOWER", "EVEN", "ODD" functions.



**HAS\_OBJECT(Type)**

Returns 1 if the current worksheet contains an object of the given *Type* (0 - any object, 1 - OLE object, 2 - chart, 3 - rectangle or ellipse) or 0 otherwise.

Example: HAS\_OBJECT(2) = 1

**IF(Condition; TrueValue; FalseValue)**

If *Condition*, which may be any expression returning numbers, is different than 0, the *TrueValue* is returned. If *Condition* is equal to 0, *FalseValue* is returned. *TrueValue* and *FalseValue* may represent any text or numbers.

Example:  $\text{IF}((A1>1)*(A1<10); 1; 2) = 1$

**ISERROR(Value)**

Returns 1 (True) if *Value* represents the *error* value or a range containing at least one *error* value. If no error is found, 0 is returned.

Example: ISERROR(1/0) = 1

**ISNUMBER(Value)**

Returns 1 (True) if *Value* represents a number, cell or a range containing (only) numbers or expressions returning numbers. Otherwise 0 (False) is returned.

Example: ISNUMBER(12) = 1

**ISSTRING(Value)**

Returns 1 (True) if *Value* represents a text string or a range containing only text. Otherwise 0 (False) is returned.

Example: ISSTRING("abc") = 1

**ISFILE(Text)**

Returns 1 (True) if *Text* represents a name of an existing file or 0 (False) otherwise.

Example: ISFILE("d:\gscal47\analyze.gsc") = 1

**ISOPEN(Text)**

Returns 1 (True) if *Text* represents a name (full path) of the currently open spreadsheet document or 0 (False) otherwise.

Example: ISOPEN("d:\gscal47\analyze.gsc") = 1

**PLAYSOUND(Condition; SoundName; Type)**

If *Condition*, which may be any expression returning numbers, is different than 0, this function plays sound specified as *SoundName*. If *Type* is equal to 1, *SoundName* is assumed to be a complete file path, otherwise it's treated as a system sound name alias.

Example: `PLAYSOUND(ISERROR(B15); "c:\sound\theme.wav"; 1)`



**OPENDOC(Condition; Document)**

If *Condition*, which may be any expression returning numbers, is different than 0, this function opens a document specified as *Document*. This can be a complete file path of the given document, executable file name, name of a folder or an Internet URL.

Example:

```
OPENDOC(B15 > 10000; "d:\report.txt")  
OPENDOC(B15="xyz"; "http://www.xyz.com")  
OPENDOC(B15=10; "d:\gsbase47\gsbase.exe")
```

**OPENSHEET(Condition; SheetName)**

If *Condition*, which may be any expression returning numbers, is different than 0, this function opens an existing spreadsheet document specified as *SheetName*. *SheetName* must contain a full path name of a given document.

Example: OPENSHEET(B15<100; "d:\form1.gsc")

**MESSAGE(Condition; MessageText)**

If *Condition*, which may be any expression returning numbers, is different than 0, this function displays a message specified as MessageText.

Example: MESSAGE(ISERROR(B15); "Error Value in B15!")



### **Print command (File menu)**

Use this command to print a document. This command presents a **Print dialog box**, where you may specify the range of pages to be printed, the number of copies, the destination printer, and other printer setup options.

**Print All command (File menu)**

Use this command to print all worksheets from the current folder (that is, from the folder containing the current worksheet) and its subfolders.

**Print dialog box**

See: [Print command](#).

### **Print Progress Dialog**

The Printing dialog box is shown during the time that GS-Calc is sending output to the printer. The page number indicates the progress of the printing.

To abort printing, choose **Cancel**.



**Print Preview command (File menu)**

Use this command to display the active document as it would appear when printed. When you choose this command, the main window will be replaced with a print preview window in which one or two pages will be displayed in their printed format. The print preview toolbar offers you options to view either one or two pages at a time; move back and forth through the document; zoom in and out of pages; and initiate a print job.

## **Print Preview toolbar**

The print preview toolbar offers you the following options:

### **Print**

Bring up the print dialog box, to start a print job.

### **Next Page**

Preview the next printed page.

### **Prev Page**

Preview the previous printed page.

### **One Page / Two Page**

Preview one or two printed pages at a time.

### **Zoom In**

Take a closer look at the printed page.

### **Zoom Out**

Take a larger look at the printed page.

### **Close**

Return from print preview to the editing window.

**Print Setup command (File menu)**

Use this command to select a printer and a printer connection. This command presents the **Print Setup dialog box** where you specify the printer and its connection.

**Print Setup dialog box**

See: [Print Setup command](#).



**Paste Link command (Edit menu)**

Use this command to paste link. This command is inactive when the Clipboard doesn't contain any link.

**Links command (Edit menu)**

Use this command to display the Links dialog box which lets you edit links between your document and other documents.

This command is unavailable if you have no links in your document.

## **Links dialog box**

See: [Links command](#)



**Object verb (Edit menu)**

After selecting an OLE object this command is replaced by a new menu. Its contents depends on what type of object you selected.

**New Object (Insert menu)**

Inserts and embeds an object in a document. The application in which the object was created becomes active on the screen.

Select the object you want to insert into your document using the Insert New Object dialog box.

**Insert New Object dialog box**

See: [New Object](#).

**Paste Special command (Edit menu)**

Use this command to paste the Clipboard contents using one of the available formats.

**Paste Special dialog box**

See: [Paste Special command](#)

**Update command**

Use this command to update the currently edited GS-Calc objects which are not updated automatically.

**Save Copy As... command**

Use this command to create and save a new copy of the currently edited GS-Calc object.

**OLE object frame**

If you want to change the position or size of the currently edited OLE object, move or change the size of the frame displayed around it.



