This document contains reference information on the following Excel macro functions:

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# A1.R1C1

Displays row and column headings and cell references in either the R1C1 or A1 reference style. A1 is the Microsoft Excel default reference style.

**Syntax**

**A1.R1C1**(**logical**)

Logical    is a logical value specifying which reference style to use. If logical is TRUE, all worksheets and macro sheets use A1 references; if FALSE, all worksheets and macro sheets use R1C1 references.

**Example**

The following macro formula displays an alert box asking you to select either A1 or R1C1 reference style. This is useful in an Auto\_Open macro if several persons who prefer different reference styles must maintain the same workbook.

A1.R1C1(ALERT("Click OK for A1 style; Cancel for R1C1", 1))

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# ABSREF

Returns the absolute reference of the cells that are offset from a reference by a specified amount. You should generally use OFFSET instead of ABSREF. This function is provided for users who prefer to supply an absolute reference in text form.

**Syntax**

**ABSREF**(**ref\_text**, **reference**)

Ref\_text    specifies a position relative to reference. Think of ref\_text as "directions" from one range of cells to another.

* Ref\_text must be an R1C1-style relative reference in the form of text, such as "R[1]C[1]".
* Ref\_text is considered relative to the cell in the upper-left corner of reference.

Reference    is a cell or range of cells specifying a starting point that ref\_text uses to locate another range of cells. Reference can be an external reference.

**Remarks**

* If you use ABSREF in a function or operation, you will usually get the values contained in the reference instead of the reference itself because the reference is automatically converted to the contents of the reference.
* If you use ABSREF in a function that requires a reference argument, then Microsoft Excel does not convert the reference to a value.
* If you want to work with the actual reference, use the REFTEXT function to convert the active-cell reference to text, which you can then store or manipulate (or convert back to a reference with TEXTREF). See the third example following.

**Examples**

ABSREF("R[-2]C[-2]", C3) equals $A$1

ABSREF(RELREF(A1, C3), D4) equals $B$2

REFTEXT(ABSREF("R[-2]C[-2]:R[2]C[2]", C3:G7), TRUE) is equivalent to

REFTEXT(ABSREF("R[-2]C[-2]:R[2]C[2]", C3), TRUE), which equals "$A$1:$E$5"

In Microsoft Excel for Windows ABSREF("R[-2]C[-2]", [FINANCE.XLS]Sheet1!C3) equals [FINANCE.XLS]Sheet1!$A$1.

In Microsoft Excel for the Macintosh ABSREF("R[-2]C[-2]", [FINANCE]Sheet1!C3) equals [FINANCE]Sheet1!$A$1

**Related Function**

RELREF   Returns a relative reference

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# ACTIVATE

Switches to a window if more than one window is open, or a pane of a window if the window is split and its panes are not frozen. Switching to a pane is useful with functions such as VSCROLL, HSCROLL, and GOTO, which operate only on the active pane.

**Syntax**

**ACTIVATE**(window\_text, pane\_num)

**ACTIVATE**?(window\_text, pane\_num)

Window\_text    is text specifying the name of a window to switch to: for example, "Book1" or "Book1:2".

* If a workbook is displayed in more than one window and window\_text does not specify which window to switch to, the first window containing that workbook is switched to.
* If window\_text is omitted, the active window is not changed.

Pane\_num    is a number from 1 to 4 specifying which pane to switch to. If pane\_num is omitted and the window has more than one pane, the active pane is not changed.

|  |  |
| --- | --- |
| **Pane\_num** | **Activates** |
| 1 | Upper-left pane of the active sheet. If the window is not split, this is the only pane. If the window is split only horizontally, this is the upper pane. If the window is split only vertically, this is the left pane. |
| 2 | Upper-right pane of the active sheet. If the window is split only vertically, this is the right pane. If the window is split only horizontally, an error occurs. |
| 3 | Lower-left pane of the active sheet. If the window is split only horizontally, this is the lower pane. If the window is split only vertically, an error occurs. |
| 4 | Lower-right pane of the active sheet. If the window is split into only two panes either vertically or horizontally, an error occurs. |

**Related Functions**

ACTIVATE.NEXT   Switches to the next window, or switches to the next sheet in a workbook

ACTIVATE.PREV   Switches to the previous window, or switches to the previous sheet in a workbook

DOCUMENTS   Returns the names of the specified open workbooks

FREEZE.PANES   Freezes the panes of a window so that they do not scroll

ON.WINDOW   Runs a macro when you switch to a window

SPLIT   Splits a window

WINDOWS   Returns the names of all open windows

WORKBOOK.SELECT   Select a sheet in a workbook

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# ACTIVATE.NEXT, ACTIVATE.PREV

Switches to the next or previous window, respectively, or switches to the next or previous sheet in a workbook.

**Syntax**

**ACTIVATE.NEXT**(workbook\_text)

**ACTIVATE.PREV**(workbook\_text)

Workbook\_text    is the name of the workbook for which you want to activate a window.

* If workbook\_text is specified, ACTIVATE.NEXT and ACTIVATE.PREV are equivalent to pressing CTRL+PAGE DOWN and CTRL+PAGE UP (in Microsoft Excel for Windows) or COMMAND+PAGE DOWN and COMMAND+PAGE UP (in Microsoft Excel for the Macintosh). These functions switch to the next and previous sheets, respectively.
* If workbook\_text is omitted, these functions are equivalent to pressing CTRL+TAB or CTRL+SHIFT+TAB (in Microsoft Excel for Windows) or COMMAND+M or COMMAND+SHIFT+M (in Microsoft Excel for the Macintosh). These functions switch to the next and previous windows, respectively.

**Related Functions**

ACTIVATE   Switches to a window

ON.WINDOW   Runs a macro when you switch to a window

WORKBOOK.NEXT   Switches to the next sheet in a workbook

WORKBOOK.PREV   Switches to the previous sheet in a workbook

WORKBOOK.SELECT   Select a sheet in a workbook

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# ACTIVE.CELL

Returns the reference of the active cell in the selection as an external reference.

**Syntax**

**ACTIVE.CELL**( )

**Remarks**

* If an object is selected, ACTIVE.CELL returns the #N/A error value.
* If a chart sheet is active, ACTIVE.CELL returns a zero value.
* If you use ACTIVE.CELL in a function or operation, you will usually get the value contained in the active cell instead of its reference, because the reference is automatically converted to the contents of the reference. See the third example following.
* If you use ACTIVE.CELL in a function that requires a reference argument, then Microsoft Excel does not convert the reference to a value.
* If you want to work with the actual reference, use the REFTEXT XLM function to convert the active-cell reference to text, which you can then store or manipulate (or convert back to a reference with TEXTREF). See the second example following.

**Tip**Use the following macro formula to verify that the current selection is a cell or range of cells:

=ISREF(ACTIVE.CELL( ))

**Examples**

The following macro formula assigns the name Sales to the active cell:

SET.NAME("Sales", ACTIVE.CELL())

In this example, note that "Sales" refers to a cell on the active worksheet, but the name itself exists only in the macro sheet's list of names. In other words, the preceding formula does not define a name on the worksheet or in the workbook's global list of names.

The following macro formula puts the reference of the active cell into the cell named Temp:

FORMULA("="&REFTEXT(ACTIVE.CELL()), Temp)

The following macro formula checks the contents of the active cell. If the cell contains only the letter "c" or "s", the macro branches to an area named FinishRefresh:

IF(OR(ACTIVE.CELL()="c", ACTIVE.CELL()="s"), GOTO(FinishRefresh))

In Microsoft Excel for Windows, if the sheet in the active window is named SALES and A1 is the active cell, then:

ACTIVE.CELL() equals SALES!$A$1

In Microsoft Excel for the Macintosh, if the sheet in the active window is named SALES 1 and A1 is the active cell, then:

ACTIVE.CELL() equals 'SALES 1'!$A$1

**Related Function**

SELECT   Selects a cell, worksheet object, or chart item

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# ACTIVE.CELL.FONT

Equivalent to formatting individual characters in a cell.

**Syntax**

**ACTIVE.CELL.FONT**(font, font\_style, size, strikethrough, superscript, subscript, outline, shadow, underline, color, normal, background, start\_char, char\_count)

The arguments for this function are the same as those for FONT.PROPERTIES.

**Related Function**

FONT.PROPERTIES   Applies a font and other attributes to the selection

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# ADD.ARROW

Equivalent to clicking the Arrow button on the Drawing toolbar. Adds an arrow to the active chart. If a chart is not the active window, displays an error value.

**Syntax**

**ADD.ARROW**( )

**Remarks**

After you create an arrow with ADD.ARROW, the arrow remains selected, so you can use the arrow form of the PATTERNS function to format the arrow and the FORMAT.MOVE and FORMAT.SIZE functions to change the position and size of the arrow.

**Related Functions**

CREATE.OBJECT   Creates an object

DELETE.ARROW   Deletes the selected arrow

FORMAT.MOVE   Moves the selected object

FORMAT.SIZE   Changes the size of the selected object

PATTERNS   Changes the appearance of the selected object

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# ADD.BAR

Creates a new menu bar and returns the bar ID number. Use the bar ID number to identify the menu in functions that display and add menus and commands to the menu bar. You can also use ADD.BAR to restore a built-in menu bar with its original menus and commands.

**Syntax**

**ADD.BAR**(bar\_num)

Bar\_num    is the number of a built-in menu bar that you want to restore. Use ADD.BAR(bar\_num) to restore an unaltered version of a built-in menu bar after you have made changes to the menu bar's menus and commands. See ADD.COMMAND for a list of ID numbers for built-in menu bars.

**Important**Restoring a built-in menu bar will remove menus and commands added by other macros. Use ADD.COMMAND and ADD.MENU to restore individual commands and menus.

**Remarks**

* ADD.BAR just creates a new menu bar; it does not display it. Use SHOW.BAR to display a menu bar. The argument to the SHOW.BAR function should be the number returned by ADD.BAR or a reference to the cell containing ADD.BAR.
* You can define up to 15 custom menu bars at one time. If you carry out an ADD.BAR function when more than 15 custom menu bars are already defined, Microsoft Excel returns the #VALUE! error value.

**Example**

The following formula creates a new menu bar and returns a bar ID number:

ADD.BAR()

**Related Functions**

ADD.COMMAND   Adds a command to a menu

ADD.MENU   Adds a menu to a menu bar

DELETE.BAR   Deletes a menu bar

SHOW.BAR   Displays a menu bar

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# ADD.CHART.AUTOFORMAT

Adds the format of the currently active chart in the current window to the list of custom formats in the Custom Types tab in the Chart Type dialog box.

**Syntax**

**ADD.CHART.AUTOFORMAT**(**name\_text**, desc\_text)

Name\_text    is the name you want to appear in the list of custom formats.

Desc\_text    is the description you want to appear when the custom format is selected.

**Related Function**

DELETE.CHART.AUTOFORMAT   Deletes a custom template

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# ADD.COMMAND

Adds a command to a menu. ADD.COMMAND returns the position number on the menu of the added command. Use ADD.COMMAND to add one or more custom menu commands to a menu on a built-in or custom menu bar. You can also use ADD.COMMAND to restore a deleted built-in command to its original menu.

**Syntax**

**ADD.COMMAND**(**bar\_num, menu, command\_ref**, position1, position2)

Bar\_num    is the number corresponding to a menu bar or a type of shortcut menu to which you want to add a command.

* Bar\_num can be the ID number of a built-in or custom menu bar. The ID number of a custom menu bar is the number returned by the ADD.BAR function.
* Bar\_num can also refer to a type of shortcut menu; use menu to identify the specific shortcut menu.

The ID numbers of the built-in menu bars and the types of shortcut menus are listed in the following tables. Short menus are abbreviated versions of the normal Microsoft Excel menus. To turn on short menus, use the SHORT.MENUS function.

|  |  |
| --- | --- |
| **Bar\_num** | **Built-in menu bar** |
| 1 | Worksheet and macro sheet (Microsoft Excel 4.0 or later) |
| 2 | Chart (Microsoft Excel 4.0 or later) |
| 3 | Null (the menu displayed when no workbooks are open) |
| 4 | Info |
| 5 | Worksheet and macro sheet (short menus, Microsoft Excel 3.0 and earlier) |
| 6 | Chart (short menus, Microsoft Excel 3.0 and earlier) |
| 7 | Cell, toolbar, and workbook (shortcut menus) |
| 8 | Object (shortcut menus) |
| 9 | Chart (Microsoft Excel 4.0 or later shortcut menus) |
| 10 | Worksheet and macro sheet |
| 11 | Chart |
| 12 | Visual Basic |

Menu    is the menu to which you want the new command added.

* Menu can be either the name of a menu as text or the number of a menu.
* If bar\_num is 1 through 6, menus are numbered starting with 1 from the left of the menu bar.
* If bar\_num is 7, 8, or 9, menu refers to a built-in shortcut menu. The combination of bar\_num and menu determines which shortcut menu to modify, as shown in the following table.

|  |  |  |
| --- | --- | --- |
| **Bar\_num** | **Menu** | **Shortcut menu** |
| 7 | 1 | Toolbars |
| 7 | 2 | Toolbar buttons |
| 7 | 3 | Workbook paging icons in Microsoft Excel 4.0 |
| 7 | 4 | Cells (worksheet) |
| 7 | 5 | Column selections |
| 7 | 6 | Row selections |
| 7 | 7 | Workbook tabs |
| 7 | 8 | Cells (macro sheet) |
| 7 | 9 | Workbook title bar |
| 7 | 10 | Desktop (Microsoft Excel for Windows only) |
| 7 | 11 | Module |
| 7 | 12 | Watch pane |
| 7 | 13 | Immediate pane |
| 7 | 14 | Debug code pane |
| 8 | 1 | Drawn or imported objects on worksheets, dialog sheets, and charts |
| 8 | 2 | Buttons on sheets |
| 8 | 3 | Text boxes |
| 8 | 4 | Dialog sheet |
| 9 | 1 | Chart series |
| 9 | 2 | Chart and axis titles |
| 9 | 3 | Chart plot area and walls |
| 9 | 4 | Entire chart |
| 9 | 5 | Chart axes |
| 9 | 6 | Chart gridlines |
| 9 | 7 | Chart floor and arrows |
| 9 | 8 | Chart legend |

**Note**   Any commands that you add to the toolbar buttons, watch pane, immediate pane or debug code pane shortcut menus will be dimmed.

Command\_ref    is an array or a reference to an area on the macro sheet that describes the new command or commands.

* Command\_ref must be at least two columns wide. The first column specifies command names; the second specifies macro names. Optional columns can be specified for shortcut keys (in Microsoft Excel for the Macintosh), status bar messages, and custom Help topics, in that order.
* Command\_ref is similar to menu\_ref in ADD.MENU. For more information about command\_ref, see the description of menu\_ref in ADD.MENU.
* Command\_ref can be the name, as text, of a previously deleted built-in command that you want to restore. You can also use the value returned by the DELETE.COMMAND formula that deleted the command.

Position1    specifies the placement of the new command.

* Use a hyphen (-) to represent a line separating commands on a menu. If you want to place a command before the second separator on a menu, use two hyphens (--), three hyphens for the third separator, and so on.
* Position1 can be a number indicating the position of the command on the menu. Commands are numbered from the top of the menu starting with 1.
* Position1 can be the name of an existing command, as text, above which you want to add the new command.
* If position1 is omitted, the command is added to the bottom of the menu.
* For the toolbar shortcut menu (bar\_num 7, menu 1) and the shortcut menu for workbook paging icons in Microsoft Excel version 4.0 (bar\_num 7, menu 3), you cannot add commands to the middle of the toolbar name list or the middle of the workbook contents list.

Position2    specifies the placement of the new command on a submenu.

* Position2 can be a number indicating the position of the command on the submenu. Commands are numbered from the top of the menu starting with 1.
* Position2 can be the name of an existing command, as text, above which you want to add the new command.
* If position2 is omitted, the command is added to the main menu, not the submenu.
* To add a command to the bottom of a submenu, use 0 for position2.

**Tip**   In general, use menu and command names rather than numbers for arguments. The numbers assigned to menus and commands change as you add and delete menus and commands. Using names ensures that your menu and command macro functions always refer to the correct items.

**Example**

The following macro formula adds the command described in cells G16:J16 to the bottom of the worksheet cells shortcut menu:

ADD.COMMAND(7, 4, G16:J16)

**Related Functions**

ADD.BAR   Adds a menu bar

ADD.MENU   Adds a menu to a menu bar

ADD.TOOL   Adds one or more buttons to a toolbar

ADD.TOOLBAR   Creates a toolbar with the specified tools

DELETE.COMMAND   Deletes a command from a menu

ENABLE.COMMAND   Enables or disables a menu or custom command

GET.TOOLBAR   Retrieves information about a toolbar

RENAME.COMMAND   Changes the name of a command or menu

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# ADDIN.MANAGER

Equivalent to clicking the Add-Ins command on the Tools menu. Adds or removes an installed add-in from the working set. The add-in file must already be installed.

**Syntax**

**ADDIN.MANAGER**(operation\_num, addinname\_text, copy\_logical)

**ADDIN.MANAGER**?(operation\_num, addinname\_text, copy\_logical)

Operation\_num    determines the operation that the add-in manager will perform.

|  |  |
| --- | --- |
| **Operation\_num** | **Operation** |
| 1 | Adds an add-in to the working set, using the descriptive name in the Add-Ins dialog box. |
| 2 | Removes an add-in from the working set, using the descriptive name in the Add-Ins dialog box. |
| 3 | Adds a new add-in to the list of add-ins that Microsoft Excel knows about. Equivalent to clicking on the Browse button in the Add-Ins dialog box and clicking a file. |

Addinname\_text    specifies the name of the add-in. If operation\_num is 1 or 2, use the descriptive name of the add-in, such as "SOLVER". If operation\_num is 3, this contains the filename of the add-in.

Copy\_logical    specifies whether the add-in should be copied to the library directory. This argument is only used if operation\_num is 3. If omitted, and the file is on removable media, the user will be asked if they want to copy it to removable media.

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# ADD.LIST.ITEM

Adds an item in a list box or drop-down control on a worksheet or dialog sheet control.

**Syntax**

**ADD.LIST.ITEM**(**text**, index\_num)

Text    specifies the text of the item to be added. Instead of text, an empty string may be inserted.

Index\_num    is the list index to be used for the new item. Blank entries are created from the end of the current list to the new item index. If index\_num is omitted the new item is appended to the list.

**Remarks**

If the list box or drop-down box was already filled using the LISTBOX.PROPERTIES function, then adding an item with ADD.LIST.ITEM causes the fillrange contents to be discarded in favor of the new list.

**Related Functions**

REMOVE.LIST.ITEM   Removes an item in a list box or drop-down box

SELECT.LIST.ITEM   Selects an item in a list box or in a group box

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# ADD.MENU

Adds a menu to a menu bar. Use ADD.MENU to add a custom menu to a built-in or custom menu bar. You can also use ADD.MENU to restore built-in menus you have deleted with DELETE.MENU. ADD.MENU returns the position number in the menu bar of the new menu.

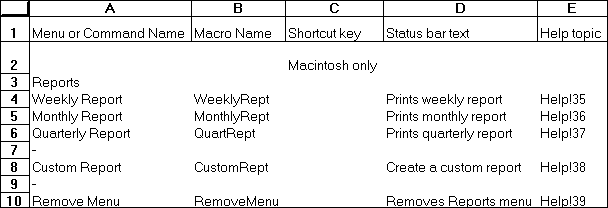
**Syntax**

**ADD.MENU**(**bar\_num, menu\_ref**, position1, position2)

Bar\_num    is the menu bar to which you want a menu added. Bar\_num can be the ID number of a built-in or custom menu bar. See ADD.COMMAND for a list of ID numbers for built-in menu bars.

Menu\_ref    is an array or a reference to an area on the macro sheet that describes the new menu or the name of a deleted built-in menu you want to restore.

* Menu\_ref must be made up of at least two rows and two columns of cells. The upper-left cell of menu\_ref specifies the menu title, which is displayed in the menu bar. In the following example, the range A3:E10 is a valid menu\_ref.



The rest of the first column indicates the names of the commands. The corresponding rows in the second column give the names of the macros that run when the commands are chosen.

* You can also specify status-bar text and Help topics in the fourth and fifth columns of menu\_ref. In Microsoft Excel for the Macintosh, you can specify shortcut keys in the third column of menu\_ref.

Position1    specifies the placement of the new menu. Position can be the name of a menu, as text, or the number of a menu. Menus are numbered from left to right starting with 1. Menus are added to the left of the position specified.

* Use a hyphen (-) to represent a line separating commands on a menu. If you want to place a command before the second separator on a menu, use two hyphens (--), three hyphens for the third separator, and so on.
* If position1 is omitted, the menu is added to the end of the menu bar.
* If there is already a menu at position1, that menu is shifted to the right and the new menu is added in its place.
* If you are using ADD.MENU to restore a deleted built-in menu, you can use the position argument to put it back in its original place on the menu bar. For example, to restore the Data menu on the worksheet and macro sheet menu bar, use position 7. If position1 is omitted, the menu is added to the right of the last menu restored.

Position2    specifies the placement of a submenu.

* Use a hyphen (-) to represent a line separating commands on a menu. If you want to place a command before the second separator on a menu, use two hyphens (--), three hyphens for the third separator, and so on.
* Position2 can be a number indicating the position of the submenu on the menu. Commands are numbered from the top of the menu starting with 1 and include separators.
* Position2 can also be the name, as text, of an existing command above which you want to add the new command.
* If position2 is omitted, the command is added to the main menu, not the submenu.

**Example**

The following macro formula adds a new menu to the end of the worksheet menu bar, where A10:B15 is the menu\_ref describing the menu:

ADD.MENU(1, A10:B15)

**Related Functions**

ADD.BAR   Adds a menu bar

ADD.COMMAND   Adds a command to a menu

DELETE.MENU   Deletes a menu

ENABLE.COMMAND   Enables or disables a menu or custom command

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# ADD.OVERLAY

Equivalent to clicking the Add Overlay command on the Chart menu in Microsoft Excel version 4.0. Adds an overlay to a 2-D chart. If the active chart already has an overlay, ADD.OVERLAY takes no action and returns TRUE. In Microsoft Excel version 5.0 or later, ADD.OVERLAY works with charts that have only one chart type.

**Syntax**

**ADD.OVERLAY**( )

**Related Functions**

ADD.ARROW   Adds an arrow to a chart

LEGEND   Adds a legend to a chart

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# ADD.TOOL

Adds one or more buttons to a toolbar.

**Syntax**

**ADD.TOOL**(**bar\_id, position, tool\_ref**)

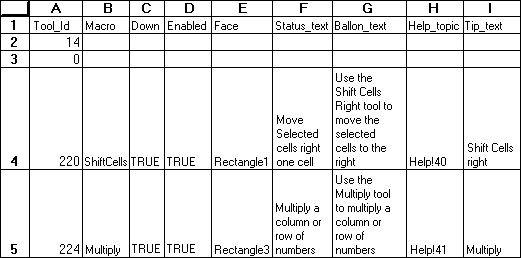
Bar\_id    is either a number specifying one of the built-in toolbars or the name of a custom toolbar.

|  |  |
| --- | --- |
| **Bar\_id** | **Built-in toolbar** |
| 1 | Standard |
| 2 | Formatting |
| 3 | Query and Pivot |
| 4 | Chart |
| 5 | Drawing |
| 6 | TipWizard |
| 7 | Forms |
| 8 | Stop Recording |
| 9 | Visual Basic |
| 10 | Auditing |
| 11 | WorkGroup |
| 12 | Microsoft |
| 13 | Full Screen |

Position    specifies the position of the button within the toolbar. Position starts with 1 at the left side (if horizontal) or at the top (if vertical).

Tool\_ref    is either a number specifying a built-in button or a reference to an area on the macro sheet that defines a custom button or set of buttons (or an array containing this information).

For customized buttons, the following example shows the components of a button reference area on a macro sheet and defines custom tools. The range A1:I5 is a valid tool\_ref. Row 1 refers to a built-in tool. Row 2 defines a gap. For this illustration, values are displayed instead of formulas so that text can wrap in cells.



* Tool\_id is a number associated with the tool. A zero specifies a gap on the toolbar. To specify a custom button, use a name, or a number between 201 and 231.
* Macro is the name of, or a quoted R1C1-style reference to, the macro you want to run when the button is clicked.
* Down is a logical value specifying the default image of the tool. If down is TRUE, the button appears depressed into the screen; if FALSE or omitted, it appears normal (up).
* Enabled is a logical value specifying whether the button can be used. If enabled is TRUE, the button is enabled; if FALSE, it is disabled.
* Face specifies a face associated with the tool. Face must be a reference to a picture-type object, for example "Picture 1". If face is omitted, Microsoft Excel uses the default face for the tool.
* Status\_text is the text, if any, that you want displayed in the status bar when the button is selected.
* Balloon\_text is the balloon help text, if any, associated with the tool. Balloon\_text is available only in Microsoft Excel for the Macintosh using system software version 7.0 or later.
* Help\_topics is a reference to a topic in a Help file, in the form "filename!topic\_number". Help\_topics must be text. If help\_topics is omitted, HELP displays the Contents topic for Microsoft Excel Help.
* Tip\_text is the text, if any, that you want displayed as a ToolTip when the mouse pointer moves over a tool button.

To indicate that a particular component of tool\_ref is not used, clear the contents of the corresponding cell.

**Remarks**

* If you do not want to reserve a section of your macro sheet to define the buttons, you can use an array as the tool\_ref argument as shown in the following syntax:

**ADD.TOOL**(**bar\_id**, position, {**tool\_id1**, macro1, down1, enabled1, face1,  
status\_text1, balloon\_text1, help\_topics1;tool\_id2, macro2, down2, enabled2,  
face2, status\_text2, balloon\_text2, help\_topics2;...})

* Picture objects can be created with the camera button or pasted in from another application. In Microsoft Excel for Windows, the graphic object must be either a Windows bitmap or picture object. In Microsoft Excel for the Macintosh, the object must be a picture object.

**Examples**

The following macro formula adds a button to Toolbar5. The cell range B6:I6 contains tool\_ref.

ADD.TOOL("Toolbar5", 6, B6:I6)

The following macro formula adds the New Macro Sheet button to the fifth position on the Standard toolbar:

ADD.TOOL(1, 5, 6)

**Related Functions**

ADD.COMMAND   Adds a command to a menu

ADD.TOOLBAR   Creates a toolbar with the specified tools

DELETE.TOOL   Deletes a button from a toolbar

DELETE.TOOLBAR   Deletes custom toolbars

RESET.TOOLBAR   Resets a built-in toolbar to its default initial setting

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# ADD.TOOLBAR

Creates a new toolbar with the specified buttons.

**Syntax**

**ADD.TOOLBAR**(**bar\_name**, tool\_ref)

Bar\_name    is a text string identifying the toolbar you want to create.

Tool\_ref    is either a number specifying a built-in button or a reference to an area on the macro sheet that defines a custom button or set of buttons (or an array containing this information).

For a complete description of tool\_ref, see ADD.TOOL.

**Remarks**

If you create a toolbar without buttons, use ADD.TOOL to add them. Use SHOW.TOOLBAR to display the toolbar.

**Example**

The following macro formula creates Toolbar9 with one button in it. The cell range B7:I7 contains tool\_ref.

ADD.TOOLBAR("Toolbar9", B7:I7)

**Related Functions**

ADD.TOOL   Adds a button to a toolbar

DELETE.TOOL   Deletes a button from a toolbar

DELETE.TOOLBAR   Deletes custom toolbars

RESET.TOOLBAR   Resets a built-in toolbar to its default initial setting

SHOW.TOOLBAR   Hides or displays a toolbar

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# ALERT

Displays a dialog box and message and waits for you to click a button. Use ALERT instead of MESSAGE if you want to interrupt the flow of a macro and force the user to make a choice or to notice an important message.

**Syntax**

**ALERT**(message\_text, type\_num, help\_ref)

Message\_text    is the message displayed in the dialog box.

Type\_num    is a number from 1 to 3 specifying which type of dialog box to display. If you omit type\_num, it is assumed to be 2.

* If type\_num is 1, ALERT displays a dialog box containing the OK and Cancel buttons. Click a button to continue or cancel an action. ALERT returns TRUE if you click the OK button and FALSE if you click the Cancel button. See the last example below.
* If type\_num is 2 or 3, ALERT displays a dialog box containing an OK button. Click the button to continue, and ALERT returns TRUE. The only difference between specifying 2 or 3 is that ALERT displays a different icon on the left side of the dialog box as shown in the examples below. So, for example, you could use 2 for notes or to present general information, and 3 for errors or warnings.

Help\_ref    is a reference to a custom online Help topic, in the form "filename! topic\_number".

* If help\_ref is present, a Help button appears in the lower-right corner of the alert message. Clicking the Help button starts Help and displays the specified topic.
* If help\_ref is omitted, no Help button appears.
* Help\_ref must be given in text form.

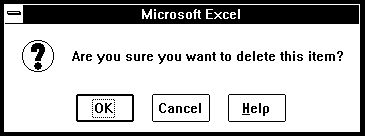
**Note**In Microsoft Excel for the Macintosh, the ALERT dialog box is not a movable window.

**Examples**

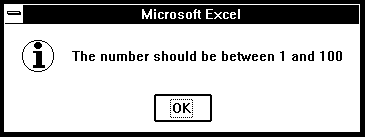
The following dialog boxes show the results of using ALERT with type\_num 1, 2, and 3. The first and fourth examples include a Help button.

In Microsoft Excel for Windows, the following macro formulas display these three dialog boxes.

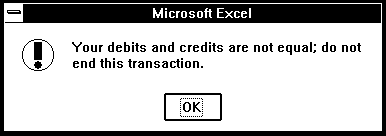
ALERT("Are you sure you want to delete this item?", 1, "CUSTHELP.HLP!101")



ALERT("The number should be between 1 and 100", 2)

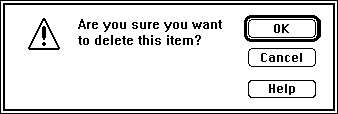


ALERT("Your debits and credits are not equal; do not end this transaction.", 3)

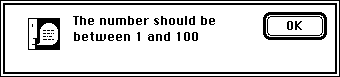


In Microsoft Excel for the Macintosh, the following macro formulas display these three dialog boxes.

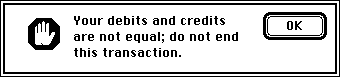
ALERT("Are you sure you want to delete this item?", 1, "'Custom Help'!101")



ALERT("The number should be between 1 and 100", 2)



ALERT("Your debits and credits are not equal; do not end this transaction.", 3)



A common use of the ALERT function is to give the user a choice of two actions. The following macro formula in an Auto\_Open macro asks which reference style to use when the workbook is opened.

A1.R1C1(ALERT("Click OK for A1 style; Cancel for R1C1", 1))

**Related Functions**

INPUT   Displays a dialog box for user input

MESSAGE   Displays a message in the status bar

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# ALIGNMENT

Equivalent to clicking the Alignment tab in the Format Cells dialog box, which is displayed when you click the Cells command on the Format menu. Aligns the contents of the selected cells.

**Syntax**

**ALIGNMENT**(horiz\_align, wrap, vert\_align, orientation, add\_indent, shrink\_to\_fit, merge\_cells)

**ALIGNMENT**?(horiz\_align, wrap, vert\_align, orientation, add\_indent, shrink\_to\_fit, merge\_cells)

Horiz\_align    is a number from 1 to 7 specifying the type of horizontal alignment, as shown in the following table. If horiz\_align is omitted, horizontal alignment does not change.

|  |  |
| --- | --- |
| **Horiz\_align** | **Horizontal alignment** |
| 1 | General |
| 2 | Left |
| 3 | Center |
| 4 | Right |
| 5 | Fill |
| 6 | Justify |
| 7 | Center across selection |

Wrap    is a logical value corresponding to the Wrap Text check box in the Alignment tab. If wrap is TRUE, Microsoft Excel selects the check box and wraps text in cells; if FALSE, Microsoft Excel clears the check box and does not wrap text. If wrap is omitted, wrapping does not change.

Vert\_align    is a number from 1 to 4 specifying the vertical alignment of the text. If vert\_align is omitted, vertical alignment does not change.

|  |  |
| --- | --- |
| **Vert\_align** | **Vertical alignment** |
| 1 | Top |
| 2 | Center |
| 3 | Bottom |
| 4 | Justify |

Orientation    is a number from 0 to 4 specifying the orientation of the text. If orientation is omitted, text orientation does not change.

|  |  |
| --- | --- |
| **Orientation** | **Text orientation** |
| 0 | Horizontal |
| 1 | Vertical |
| 2 | Upward |
| 3 | Downward |
| 4 | Automatic (applies to only chart tick labels) |

Add\_indent     This argument is for only Far East versions of Microsoft Excel.

Shrink\_to\_fit    is a logical value corresponding to the Shrink To Fit check box in the Alignment tab.

Merge\_cells    is a logical value corresponding to the Merge Cells check box in the Alignment tab. If merge\_cells is TRUE, Microsoft Excel selects the check box and merges the selected cells; the merged cell contains the value of the left-most cell that was merged. If FALSE, Microsoft Excel clears the check box and unmerges the selected cells; the left-most cell takes the formula or value of the cell that was unmerged. If merge\_cells is omitted, cell mergers do not change.

**Related Function**

FORMAT.TEXT   Formats a worksheet text box or a chart text item

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# ANOVA1

Performs single-factor analysis of variance, which tests the hypothesis that means from several samples are equal.

If this function is not available, you must install the Analysis ToolPak add-in.

**Syntax**

**ANOVA1**(**inprng**, outrng, grouped, labels, alpha)

**ANOVA1**?(inprng, outrng, grouped, labels, alpha)

Inprng    is the input range.

Outrng    is the first cell (the upper-left cell) in the output table or the name, as text, of a new sheet to contain the output table. If FALSE, blank, or omitted, places the output table in a new workbook.

Grouped    is a text character that indicates whether the data in the input range is organized by row or column.

* If grouped is "C" or omitted, then the data is organized by column.
* If grouped is "R", then the data is organized by row.

Labels    is a logical value that describes where the labels are located in the input range, as shown in the following table:

|  |  |  |
| --- | --- | --- |
| **Labels** | **Grouped** | **Labels are in** |
| TRUE | "C" | First row of the input range. |
| TRUE | "R" | First column of the input range. |
| FALSE or omitted | (ignored) | No labels. All cells in the input range are data. |

Alpha    is the significance level at which to evaluate critical values for the F statistic. If omitted, alpha is 0.05.

**Related Functions**

ANOVA2   Performs two-factor analysis of variance with replication

ANOVA3   Performs two-factor analysis of variance without replication

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# ANOVA2

Performs two-factor analysis of variance with replication.

If this function is not available, you must install the Analysis ToolPak add-in.

**Syntax**

**ANOVA2**(**inprng**, outrng, **sample\_rows**, alpha)

**ANOVA2**?(inprng, outrng, sample\_rows, alpha)

Inprng    is the input range. The input range should contain labels in the first row and column.

Outrng    is the first cell (the upper-left cell) in the output table or the name, as text, of a new sheet to contain the output table. If FALSE, blank, or omitted, places the output table in a new workbook.

Sample\_rows    is the number of rows in each sample.

Alpha    is the significance level at which to evaluate critical values for the F statistic. If omitted, alpha is 0.05.

**Related Functions**

ANOVA1   Performs single-factor analysis of variance

ANOVA3   Performs two-factor analysis of variance without replication

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# ANOVA3

Performs two-factor analysis of variance without replication.

If this function is not available, you must install the Analysis ToolPak add-in.

**Syntax**

**ANOVA3**(**inprng**, outrng, labels, alpha)

**ANOVA3**?(inprng, outrng, labels, alpha)

Inprng    is the input range.

Outrng    is the first cell (the upper-left cell) in the output table or the name, as text, of a new sheet to contain the output table. If FALSE, blank, or omitted, places the output table in a new workbook.

Labels    is a logical value.

* If labels is TRUE, then the first row and column of the input range contain labels.
* If labels is FALSE or omitted, all cells in inprng are considered data. Microsoft Excel will then generate the appropriate data labels for the output table.

Alpha    is the significance level at which to evaluate critical values for the F statistic. If omitted, alpha is 0.05.

**Related Functions**

ANOVA1   Performs single-factor analysis of variance

ANOVA2   Performs two-factor analysis of variance with replication

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# APP.ACTIVATE

Switches to an application. Use APP.ACTIVATE to switch to another application that is already running or that you have started by using EXEC.

**Syntax**

**APP.ACTIVATE**(title\_text, wait\_logical)

**Important**Microsoft Excel for the Macintosh requires system software version 7.0 or later for this function.

Title\_text    is the name of an application as displayed in its title bar.

* If title\_text is omitted, APP.ACTIVATE switches to Microsoft Excel.
* If title\_text is not a currently running application, APP.ACTIVATE returns the #VALUE! error value and interrupts the macro.
* Title\_text is not necessarily the name of the application file. Use the text that appears in the title bar of the application, which might include the name of the open workbook and path information.
* In Microsoft Excel for the Macintosh, title\_text can also refer to the Process Serial Number (PSN) that is returned by an EXEC function.

Wait\_logical    is a logical value determining when to switch to the application specified by title\_text.

* If wait\_logical is TRUE, Microsoft Excel waits to be switched to before switching to the application specified by title\_text.
* If wait\_logical is FALSE or omitted, Microsoft Excel immediately switches to the application specified by title\_text.

**Remarks**

If you are running an application using Microsoft Excel macros, and you want to switch to a third application without switching to Microsoft Excel first, use FALSE as the wait\_logical argument. With FALSE, you can use the application title\_text without having to switch to Microsoft Excel first.

**Examples**

The following macro formula switches to Microsoft Word, which is currently displaying the workbook MONTHRPT.DOC in full screen mode:

APP.ACTIVATE("MICROSOFT WORD - MONTHRPT.DOC")

In Microsoft Excel for the Macintosh, the following macro formula switches to Microsoft Word:

APP.ACTIVATE("MICROSOFT WORD")

**Tip**   Use an IF statement with APP.ACTIVATE to run an EXEC function if the application you want to switch to is not yet running.

**Related Functions**

The first five functions following are only for Microsoft Excel for Windows.

APP.MAXIMIZE   Maximizes the Microsoft Excel application window

APP.MINIMIZE   Minimizes the Microsoft Excel application window

APP.MOVE   Moves the Microsoft Excel application window

APP.RESTORE   Restores the Microsoft Excel application window

APP.SIZE   Changes the size of the Microsoft Excel application window

EXEC   Starts another application

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# APP.ACTIVATE.MICROSOFT

Activates a Microsoft application. If the application is not already activated, this function will load the application into memory.

**Syntax**

**APP.ACTIVATE.MICROSOFT**(**app\_id**)

App\_id    is the ID number associated with the Microsoft Application.

|  |  |
| --- | --- |
| **App\_id** | **Application** |
| 1 | Microsoft Word |
| 2 | Microsoft PowerPoint |
| 3 | Microsoft Mail |
| 4 | Microsoft Access (for Microsoft Windows only) |
| 5 | Microsoft Fox Pro |
| 6 | Microsoft Project |
| 7 | Microsoft Schedule + |

**Remarks**

Returns TRUE if the application is activated successfully. Returns FALSE if the application is not activated successfully.

**Related Function**

APP.ACTIVATE   Switches to an application.

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# APPLY.NAMES

Equivalent to clicking the Apply command on the Name submenu on the Insert menu. Replaces definitions with their respective names. If no names are defined in the current selection, APPLY.NAMES returns the #VALUE! error value. Use APPLY.NAMES to replace references and values in formulas with names.

**Syntax**

**APPLY.NAMES**(**name\_array**, ignore, use\_rowcol, omit\_col, omit\_row, order\_num, append\_last)

**APPLY.NAMES**?(name\_array, ignore, use\_rowcol, omit\_col, omit\_row, order\_num, append\_last)

Name\_array    is the name or names to apply as text elements in an array.

* To give more than one name as the argument, you must use an array. For example:
* APPLY.NAMES({"DataRange", "CriteriaRange"})
* If the names indicated by the argument name\_array have already replaced all of the appropriate references or values, the #VALUE! error value is returned.

The next four arguments correspond to check boxes and options in the Apply Names dialog box. Arguments that correspond to check boxes are logical values. If an argument is TRUE, Microsoft Excel selects the check box; if FALSE, Microsoft Excel clears the check box.

Ignore    corresponds to the Ignore Relative/Absolute check box.

Use\_rowcol    corresponds to the Use Row And Column Names check box. If use\_rowcol is FALSE, the next three arguments are ignored.

Omit\_col    corresponds to the Omit Column Name If Same Column check box.

Omit\_row    corresponds to the Omit Row Name If Same Row check box.

Order\_num    determines which range name is listed first when a cell reference is replaced by a row-oriented and a column-oriented range name, as shown in the following table.

|  |  |
| --- | --- |
| **Order\_num** | **Order of range names** |
| 1 | Row Column |
| 2 | Column Row |

Append\_last    determines whether the names most recently defined are also replaced.

* If append\_last is TRUE, Microsoft Excel replaces the definitions of the names in name\_array and also replaces the definitions of the last names defined.
* If append\_last is FALSE or omitted, Microsoft Excel replaces the definitions of the names in name\_array only.

**Related Functions**

CREATE.NAMES   Creates names automatically from text labels on a sheet

DEFINE.NAME   Defines a name in the active workbook

LIST.NAMES   Lists names and their associated information

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# APPLY.STYLE

Equivalent to clicking the Style command on the Format menu, selecting a style, and clicking the OK button. Applies a previously defined style to the current selection.

**Syntax**

**APPLY.STYLE**(style\_text)

**APPLY.STYLE**?(style\_text)

Style\_text    is the name, as text, of a previously defined style. If style\_text is not defined, APPLY.STYLE returns the #VALUE! error value and interrupts the macro. If style\_text is omitted, the Normal style is applied to the selection.

**Related Functions**

DEFINE.STYLE   Defines a cell style

DELETE.STYLE   Deletes a cell style

MERGE.STYLES   Imports styles from another workbook into the active workbook

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# APP.MAXIMIZE

Equivalent to clicking the Maximize command on the Control menu for the application window. Maximizes the Microsoft Excel window.

**Syntax**

**APP.MAXIMIZE**( )

**Note**   This function is only for Microsoft Excel for Windows. You can use this function in macros created with Microsoft Excel for the Macintosh, but it will return the #N/A error value.

**Related Functions**

APP.ACTIVATE   Switches to an application

APP.MINIMIZE   Minimizes the Microsoft Excel application window

APP.MOVE   Moves the Microsoft Excel application window

APP.RESTORE   Restores the Microsoft Excel application window

APP.SIZE   Changes the size of the Microsoft Excel application window

FULL.SCREEN   Controls full screen display

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# APP.MINIMIZE

Equivalent to clicking the Minimize command on the Control menu for the application window. Minimizes the Microsoft Excel window.

**Syntax**

**APP.MINIMIZE**( )

**Note**   This function is only for Microsoft Excel for Windows. You can use this function in macros created with Microsoft Excel for the Macintosh, but it will return the #N/A error value.

**Related Functions**

APP.ACTIVATE   Switches to an application

APP.MAXIMIZE   Maximizes the Microsoft Excel application window

APP.MOVE   Moves the Microsoft Excel application window

APP.RESTORE   Restores the Microsoft Excel application window

APP.SIZE   Changes the size of the Microsoft Excel application window

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# APP.MOVE

Equivalent to clicking the Move command on the Control menu for the application window. Moves the Microsoft Excel window. In Microsoft Excel for Windows, if the application window is already maximized APP.MOVE returns the #VALUE! error value and interrupts the macro.

**Syntax**

**APP.MOVE**(x\_num, y\_num)

**APP.MOVE**?(x\_num, y\_num)

**Note**   This function is only for Microsoft Excel for Windows. You can use this function in macros created with Microsoft Excel for the Macintosh, but it will return the #N/A error value.

X\_num    specifies the horizontal position of the Microsoft Excel window measured in points from the left edge of your screen to the left side of the Microsoft Excel window.

Y\_num    specifies the vertical position of the Microsoft Excel window measured in points from the top edge of your screen to the top of the Microsoft Excel window.

**Remarks**

* APP.MOVE?, the dialog-box form of the function, doesn't display a dialog box. Instead, it is equivalent to pressing ALT + SPACEBAR, M or to dragging the title bar with the mouse. With APP.MOVE?, you can move the window with the keyboard or mouse.
* If you specify x\_num and/or y\_num in the dialog-box form of the function, the window is moved according to the specified coordinates, and you are left in move mode.

**Related Functions**

APP.ACTIVATE   Switches to an application

APP.MAXIMIZE   Maximizes the Microsoft Excel application window

APP.MINIMIZE   Minimizes the Microsoft Excel application window

APP.RESTORE   Restores the Microsoft Excel application window

APP.SIZE   Changes the size of the Microsoft Excel application window

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# APP.RESTORE

Equivalent to clicking the Restore command on the Control menu for the application window. Restores the Microsoft Excel window to its previous size and location.

**Syntax**

**APP.RESTORE**( )

**Note**  This function is only for Microsoft Excel for Windows. You can use this function in macros created with Microsoft Excel for the Macintosh, but it will return the #N/A error value.

**Related Functions**

APP.ACTIVATE   Switches to an application

APP.MAXIMIZE   Maximizes the Microsoft Excel application window

APP.MINIMIZE   Minimizes the Microsoft Excel application window

APP.MOVE   Moves the Microsoft Excel application window

APP.SIZE   Changes the size of the Microsoft Excel application window

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# APP.SIZE

Equivalent to choosing the Size command from the Control menu for the application window. Changes the size of the Microsoft Excel window.

**Syntax**

**APP.SIZE**(x\_num, y\_num)

**APP.SIZE**?(x\_num, y\_num)

**Note**This function is only for Microsoft Excel for Windows. You can use this function in macros created with Microsoft Excel for the Macintosh, but it will return the #N/A error value.

X\_num    specifies the width of the Microsoft Excel window in points.

Y\_num    specifies the height of the Microsoft Excel window in points.

APP.SIZE?, the dialog-box form of the function, doesn't display a dialog box. Instead, it is equivalent to pressing ALT, SPACEBAR, S or to dragging a window border with the mouse. Using APP.SIZE?, you can size the window with the keyboard or mouse. If you specify x\_num and/or y\_num in the dialog-box form of the function, the window is sized according to the specified coordinates, and you are left in size mode.

**Related Functions**

APP.ACTIVATE   Switches to an application

APP.MAXIMIZE   Maximizes the Microsoft Excel application window

APP.MINIMIZE   Minimizes the Microsoft Excel application window

APP.MOVE   Moves the Microsoft Excel application window

APP.RESTORE   Restores the Microsoft Excel application window

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# APP.TITLE

Changes the title of the Microsoft Excel application workspace to the title you specify. The title appears at the top of the application window. Use APP.TITLE to control the application title when you're using Microsoft Excel to create a custom application. This function does not apply to Microsoft Excel for the Macintosh.

**Syntax**

**APP.TITLE**(text)

Text    is the title you want to assign to the Microsoft Excel application workspace. If text is omitted, it is restored to Microsoft Excel.

**Remarks**

* The custom application title, followed by the individual workbook title, will appear in the application title bar if the workbook is maximized.
* APP.TITLE does not affect DDE communications. You will still refer to the application as "Excel".

**Related Function**

WINDOW.TITLE   Changes the title of the active window

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# ARGUMENT

Describes the arguments used in a custom function, which is a type of macro, or in a subroutine. A custom function or subroutine must contain one ARGUMENT function for each argument in the macro itself. There are two forms of the ARGUMENT function. In the first form, only name\_text is required; in the second form, only reference is required. Use the first form if you want to store the argument as a name. Use the second form if you want to store the argument in a specific cell or cells.

**Syntax 1**

For name storage

**ARGUMENT**(**name\_text**, data\_type\_num)

**Syntax 2**

For cell storage

**ARGUMENT**(name\_text, data\_type\_num, **reference**)

Name\_text    is the name of the argument or of the cells containing the argument. Name\_text is required if you omit reference.

Data\_type\_num    is a number that determines what type of values Microsoft Excel accepts for the argument. The following table lists the possible data types.

|  |  |
| --- | --- |
| **Data\_type\_num** | **Type of value** |
| 1 | Number |
| 2 | Text |
| 4 | Logical |
| 8 | Reference |
| 16 | Error |
| 64 | Array |

* Data\_type\_num can be a sum of the preceding different numbers to allow for more than one possible type of data. For example, if data\_type\_num is 7, which is the sum of 1, 2, and 4, then the value can be a number, text, or logical value.
* Data\_type\_num is an optional argument. If you omit data\_type\_num, it is assumed to be 7.
* If the value that is passed to the function macro is not of the type specified by data\_type\_num, Microsoft Excel first attempts to convert it to the specified type. If the value cannot be converted, the macro returns the #VALUE! error value.

Reference    is the cell or cells in which you want to store the argument's value.

* If you specify reference, the value that is passed to ARGUMENT is entered as a constant in the specified cell, and name\_text becomes an optional argument because you can refer to the cell with either reference or name\_text.
* If you omit reference, name\_text is defined on the macro sheet and refers to the value that is passed to ARGUMENT. Once name\_text is defined, you can use it in formulas.

**Remarks**

* Custom functions and subroutines can accept from 1 to 29 arguments.
* If a macro contains an ARGUMENT function and you omit the corresponding argument in the function that starts the macro, the macro uses the #N/A error value as the value of the argument.

**Examples**

To create a custom function that calculates profit, use the following functions to specify arguments for cost, sales, and sales volume:

ARGUMENT("UnitsSold", 1)

ARGUMENT("UnitCost", 1)

ARGUMENT("UnitPrice", 1)

**Related Functions**

RESULT   Specifies the data type a custom function returns

VOLATILE   Makes custom functions recalculate automatically

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# ARRANGE.ALL

Equivalent to clicking the Arrange command on the Window menu. Rearranges open windows and icons and resizes open windows. Also can be used to synchronize scrolling of windows of the active sheet.

**Syntax**

**ARRANGE.ALL**(arrange\_num, active\_doc, sync\_horiz, sync\_vert)

**ARRANGE.ALL**?(arrange\_num, active\_doc, sync\_horiz, sync\_vert)

Arrange\_num    is a number from 1 to 7 specifying how to arrange the windows.

|  |  |
| --- | --- |
| **Arrange\_num** | **Result** |
| 1 or omitted | Tiled (also used to arrange icons in Microsoft Excel for Windows) |
| 2 | Horizontal |
| 3 | Vertical |
| 4 | None |
| 5 | Horizontally arranges and sizes the windows based on the position of the active cell. |
| 6 | Vertically arranges and sizes the windows based on the position of the active cell. |
| 7 | Arranges windows so that they cascade from the upper left to the bottom right of the application workspace. |

If you want to change whether the windows are synchronized for scrolling but not how they are arranged, make sure arrange\_num is 4.

Active\_doc    is a logical value specifying which windows to arrange. If active\_doc is TRUE, Microsoft Excel arranges only windows on the active workbook; if FALSE or omitted, all open windows are arranged.

Sync\_horiz    is a logical value corresponding to the Sync Horizontal check box in Microsoft Excel version 4.0.

* If sync\_horiz is TRUE, Microsoft Excel selects the check box and synchronizes horizontal scrolling.
* If sync\_horiz is FALSE or omitted, Microsoft Excel clears the check box, and windows will not be synchronized when you scroll horizontally.
* This argument is used only when active\_doc is TRUE.

Sync\_vert    is a logical value corresponding to the Sync Vertical check box in Microsoft Excel version 4.0.

* If sync\_vert is TRUE, Microsoft Excel selects the check box and synchronizes vertical scrolling.
* If sync\_vert is FALSE or omitted, Microsoft Excel clears the check box, and windows will not be synchronized when you scroll vertically.
* This argument is used only when active\_doc is TRUE.

**Note**   If arguments are omitted in the dialog box form of this function, the default values are the previous settings, if any; otherwise the default values are as described above.

**Remarks**

* After arranging windows, the top or leftmost window is active.
* In Microsoft Excel for Windows, if all windows are minimized, ARRANGE.ALL ignores its arguments, if any, and arranges the corresponding icons horizontally along the bottom of the workspace.

**Tip**   You can use synchronized horizontal or vertical scrolling when you need to scroll while viewing macro formulas in one window and corresponding macro values in another window of the same macro sheet.

**Related Function**

ACTIVATE   Switches to a window

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# ASSIGN.TO.OBJECT

Assigns a macro to the currently select object.

**Syntax**

**ASSIGN.TO.OBJECT**(**macro\_ref**)

**ASSIGN.TO.OBJECT**?(macro\_ref)

Macro\_ref    is the name of, or a reference to, the macro you want to run when the object is clicked. If macro\_ref is omitted, Microsoft Excel no longer runs the previously specified macro (ASSIGN.TO.OBJECT is turned off).

**Remarks**

* If an object is not selected, ASSIGN.TO.OBJECT returns the #VALUE! error value and interrupts the macro.
* To change the macro assigned to an object, select the object and use ASSIGN.TO.OBJECT again, using the reference to the new macro as macro\_ref. The previous macro is replaced with the new macro.

**Related Functions**

CREATE.OBJECT   Creates an object

RUN   Runs a macro

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# ASSIGN.TO.TOOL

Assigns a macro to be run when a button is clicked with the mouse.

**Syntax**

**ASSIGN.TO.TOOL**(**bar\_id, position**, macro\_ref)

Bar\_id    specifies the number or name of a toolbar to which you want to assign a macro. For more information about bar\_id, see ADD.TOOL.

Position    specifies the position of the button within the toolbar. Position starts with 1 at the left side (if horizontal) or at the top (if vertical).

Macro\_ref    is the name of, or a reference to, the macro you want to run when the button is clicked. If macro\_ref is omitted, Microsoft Excel no longer runs the previously specified macro. After canceling the macro, if the button is a built-in button, Microsoft Excel performs the normal default action when the button is clicked. If the button is a custom button, Microsoft Excel displays the Assign Macro dialog box when the button is clicked.

**Related Functions**

ADD.TOOL   Adds one or more buttons to a toolbar

GET.TOOL   Returns information about a button or buttons on a toolbar

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# ATTACH.TEXT

Attaches text to certain parts of the selected chart. Use ATTACH.TEXT to attach text as a title or as a label for an axis or data point.

**Syntax**

**ATTACH.TEXT**(**attach\_to\_num**, series\_num, point\_num)

**ATTACH.TEXT**?(attach\_to\_num, series\_num, point\_num)

Attach\_to\_num    specifies which item on a chart to attach text to. Attach\_to\_num is different for 2-D and 3-D charts. Attach\_to\_num values for 2-D charts are shown in the following table.

|  |  |
| --- | --- |
| **Attach\_to\_num** | **Attaches text to** |
| 1 | Chart title |
| 2 | Value (y) axis |
| 3 | Category (x) axis |
| 4 | Series and data point |
| 5 | Secondary value (y) axis |
| 6 | Secondary category (x) axis |

Attach\_to\_num values for 3-D charts are shown in the following table.

|  |  |
| --- | --- |
| **Attach\_to\_num** | **Attaches text to** |
| 1 | Chart title |
| 2 | Value (z) axis |
| 3 | Series (y) axis |
| 4 | Category (x) axis |
| 5 | Series and data point |

Series\_num    specifies the series number if attach\_to\_num specifies a series or data point. If attach\_to\_num specifies a series or data point and series\_num is omitted, the macro is interrupted.

Point\_num    specifies the number of the data point, but only if you specify a series number. Point\_num is required if series\_num is specified, unless the chart is an area chart.

**Remarks**

When you record adding an axis title or a chart title, Microsoft Excel records both an ATTACH.TEXT function to attach the text and a FONT.PROPERTIES function to make the text bold.

**Example**

The following macro functions attach the text "Quarterly Sales" to the x (category) axis of the selected chart:

ATTACH.TEXT(3)

FORMULA("Quarterly Sales")

**Related Functions**

DATA.LABEL   Assigns text labels to point on a chart

FORMULA   Enters values into a cell or range or onto a chart

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# ATTACH.TOOLBARS

Displays the Attach Toolbars dialog box, which you use to attach or associate toolbars with documents. The Attach Toolbars dialog box is available when you click the Customize command (View menu, Toolbars submenu), click the Toolbars tab, and then click the Attach button.

**Syntax**

**ATTACH.TOOLBARS**?( )

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# AUTO.OUTLINE

Equivalent to clicking the Auto Outline command on the Group And Outline submenu of the Data menu. Creates an outline within the selection. If a single cell is selected, creates an outline for the entire sheet.

**Syntax**

**AUTO.OUTLINE**( )

**Related Functions**

CLEAR.OUTLINE   Removes outlining from the current sheet

OUTLINE   Creates an outline and defines settings for automatically creating outlines

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# AXES

Controls whether the axes on a chart are visible. There are two syntax forms of this function. Syntax 1 is for 2-D charts; syntax 2 is for 3-D charts.

**Syntax 1**

For 2-D charts

**AXES**(x\_primary, y\_primary, x\_secondary, y\_secondary)

**AXES**?(x\_primary, y\_primary, x\_secondary, y\_secondary)

**Syntax 2**

For 3-D charts

**AXES**(x\_primary, y\_primary, z\_primary)

**AXES**?(x\_primary, y\_primary, z\_primary)

Arguments are logical values corresponding to the check boxes in the Axes dialog box.

* If an argument is TRUE, Microsoft Excel selects the check box and displays the corresponding axis.
* If an argument is FALSE, Microsoft Excel clears the check box and hides the corresponding axis.
* If an argument is omitted, the display of that axis is unchanged.

X\_primary    corresponds to the primary category (x) axis.

Y\_primary    corresponds to the primary value (y) axis.

Z\_primary    corresponds to the value (z) axis on the primary 3-D chart.

X\_secondary    corresponds to the secondary category (x) axis on a 2-D chart only.

Y\_secondary    corresponds to the secondary value (y) axis on a 2-D chart only.

If a 2-D chart has no secondary axis, only the first two arguments are used.

**Related Function**

GRIDLINES   Controls whether chart gridlines are visible

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# BEEP

Sounds a tone. Use BEEP to signal a message, a dialog box, or the end of a macro, or whenever you need to get the user's attention.

**Syntax**

**BEEP**(tone\_num)

Tone\_num    is a number from 1 to 4 specifying the tone to be played.

* On most computers, all numbers produce the same sound, the sound that you hear when an error occurs or when you click outside some dialog boxes.
* If tone\_num is omitted, it is assumed to be 1.

**Remarks**

* With a Macintosh, you can control the volume of the tone by using the Control Panel desk accessory.
* With Microsoft Windows version 3.0 or later, you can turn off the tone by using the Control Panel.

**Related Functions**

ALERT   Displays a dialog box and a message

MESSAGE   Displays a message in the status bar

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# BORDER

Equivalent to clicking the Border tab in the Format Cells dialog box, which appears when you click the Cells command on the Format menu. Adds a border to the selected cell or range of cells.

**Syntax**

**BORDER**(outline, left, right, top, bottom, shade, outline\_color, left\_color, right\_color, top\_color, bottom\_color)

**BORDER**?(outline, left, right, top, bottom, shade, outline\_color, left\_color, right\_color, top\_color, bottom\_color)

Outline, left, right, top, and bottom are numbers from 0 to 7 corresponding to the line styles in the Border dialog box, as shown in the following table.

|  |  |
| --- | --- |
| **Argument** | **Line type** |
| 0 | No border |
| 1 | Thin line |
| 2 | Medium line |
| 3 | Dashed line |
| 4 | Dotted line |
| 5 | Thick line |
| 6 | Double line |
| 7 | Hairline |

**Note**For compatibility with earlier versions of Microsoft Excel, TRUE and FALSE values for the above arguments create a thin border or no border, respectively.

Shade    corresponds to the Shade check box in the Border dialog box of Microsoft Excel version 4.0. This argument is included for compatibility only.

Outline\_color, left\_color, right\_color, top\_color, and bottom\_color are numbers from 1 to 56 corresponding to the Color box in the Border dialog box. Zero corresponds to automatic color.

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# BREAK

Interrupts a FOR-NEXT, a FOR.CELL-NEXT, or a WHILE-NEXT loop. If BREAK is encountered within a loop, that loop is terminated and the macro proceeds to the statement following the NEXT statement at the end of the current loop.

**Syntax**

**BREAK**( )

**Example**

Use BREAK to test for conditions not anticipated by the FOR or WHILE statement. For example, use the BREAK nested in an IF statement to exit a WHILE-NEXT loop when a certain value is encountered:

=IF(Counter=8, BREAK())

**Related Functions**

FOR   Starts a FOR-NEXT loop

FOR.CELL   Starts a FOR.CELL-NEXT loop

NEXT   Ends a FOR-NEXT, FOR.CELL-NEXT, or WHILE-NEXT loop

WHILE   Starts a WHILE-NEXT loop

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# BRING.TO.FRONT

Puts the selected object or objects on top of all other objects. For example, if some worksheet objects are covering part of an embedded chart, you can select the chart and use BRING.TO.FRONT to display the chart on top of the worksheet objects.

**Syntax**

**BRING.TO.FRONT**( )

If the selection is not an object or a group of objects, BRING.TO.FRONT returns the #VALUE! error value.

**Related Function**

SEND.TO.BACK   Sends selected objects behind other objects

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# CALCULATE.DOCUMENT

Equivalent to choosing the Calc Sheet button in the Calculation tab on the Options dialog, which appears when you choose the Options command from the Tools menu. Calculates only the active worksheet.

**Syntax**

**CALCULATE.DOCUMENT**( )

**Remarks**

If a chart is active, CALCULATE.DOCUMENT returns the #VALUE! error value.

**Related Functions**

CALCULATE.NOW   Calculates all open workbooks immediately

CALCULATION   Controls calculation settings

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# CALCULATE.NOW

Equivalent to clicking the Calculation tab in the Options dialog box and then clicking the Calc Now button. Calculates all sheets in all open workbooks. Use CALCULATE.NOW to calculate all open workbooks when calculation is set to manual.

**Syntax**

**CALCULATE.NOW**( )

**Related Functions**

CALCULATE.DOCUMENT   Calculates the active sheet only

CALCULATION   Controls calculation settings

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# CALCULATION

Controls when and how formulas in open workbooks are calculated. This function is included for compatibility with Microsoft Excel version 4.0. For controlling calculation in Microsoft Excel version 5.0 or later, see OPTIONS.CALCULATION.

**Syntax**

**CALCULATION**(**type\_num**, iter, max\_num, max\_change, update, precision, date\_1904, calc\_save, save\_values, alt\_exp, alt\_form)  
**CALCULATION**?(type\_num, iter, max\_num, max\_change, update, precision, date\_1904, calc\_save, save\_values, alt\_exp, alt\_form)

Arguments correspond to check boxes and options in the Calculation dialog box. Arguments that correspond to check boxes are logical values. If an argument is TRUE, Microsoft Excel selects the check box; if FALSE, Microsoft Excel clears the check box.

Type\_num    is a number from 1 to 3 indicating the type of calculation.

|  |  |
| --- | --- |
| **Type\_num** | **Type of calculation** |
| 1 | Automatic |
| 2 | Automatic except tables |
| 3 | Manual |

Iter    corresponds to the Iteration check box. The default is FALSE.

Max\_num    is the maximum number of iterations. The default is 100.

Max\_change    is the maximum change of each iteration. The default is 0.001.

Update    corresponds to the Update Remote References check box. The default is TRUE.

Precision    corresponds to the Precision As Displayed check box. The default is FALSE.

Date\_1904    corresponds to the 1904 Date System check box. The default is FALSE in Microsoft Excel for Windows and TRUE in Microsoft Excel for the Macintosh.

Calc\_save    corresponds to the Recalculate Before Save check box. If calc\_save is FALSE, the workbook is not recalculated before saving when in manual calculation mode. The default is TRUE.

Save\_values    corresponds to the Save External Link Values check box. The default is TRUE.

Alt\_exp    corresponds to the Transition Formula Evaluation check box in the Transition tab of the Options dialog box.

* If alt\_exp is TRUE, Microsoft Excel uses a set of rules compatible with that of Lotus 1-2-3 when calculating formulas. Text is treated as 0; TRUE and FALSE are treated as 1 and 0; and certain characters in database criteria ranges are interpreted the same way Lotus 1-2-3 interprets them.
* If alt\_exp is FALSE or omitted, Microsoft Excel calculates normally.

Alt\_form    corresponds to the Transition Formula Entry check box in the Transition tab of the Options dialog box.

* This argument is available only in Microsoft Excel for Windows.
* If alt\_form is TRUE, Microsoft Excel accepts formulas entered in Lotus 1-2-3 style.
* If alt\_form is FALSE or omitted, Microsoft Excel only accepts formulas entered in Microsoft Excel style.

**Note**Microsoft Excel for Windows and Microsoft Excel for the Macintosh use different date systems as their default. Excel for Windows uses the 1900 date system, in which serial numbers correspond to the dates January 1, 1900, through December 31, 9999. Excel for the Macintosh uses the 1904 date system, in which serial numbers correspond to the dates January 1, 1904, through December 31, 9999.

**Remarks**

Use GET.DOCUMENT to return the current calculation settings for your workbook. For more information, see GET.DOCUMENT.

**Related Functions**

CALCULATE.DOCUMENT   Calculates the active sheet only

CALCULATE.NOW   Calculates all open workbooks immediately

GET.DOCUMENT   Returns information about a workbook

OPTIONS.CALCULATION   Controls calculation

OPTIONS.TRANSITION   Controls transition options

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# CALLER

Returns information about the cell, range of cells, command on a menu, tool on a toolbar, or object that called the macro that is currently running. Use CALLER in a subroutine or custom function whose behavior depends on the location, size, name, or other attribute of the caller.

**Syntax**

**CALLER**( )

**Remarks**

* If the custom function is entered in a single cell, CALLER returns the reference of that cell.
* If the custom function was part of an array formula entered in a range of cells, CALLER returns the reference of the range.
* If CALLER appears in a macro called by an Auto\_Open, Auto\_Close, Auto\_Activate, or Auto\_Deactivate macro, it returns the name of the calling sheet.
* If CALLER appears in a macro called by a command on a menu, it returns a horizontal array of three elements including the command's position number, the menu number, and the menu bar number.
* If CALLER appears in a macro called by an assigned-to-object macro, it returns the object identifier.
* If CALLER appears in a macro called by a tool on a toolbar, it returns a horizontal array containing the position number and the toolbar name.
* If CALLER appears in a macro called by an ON.DOUBLECLICK or ON.ENTRY function, CALLER returns the name of the chart object identifier or cell reference, if applicable, to which the ON.DOUBLECLICK or ON.ENTRY macro applies.
* If CALLER appears in a macro that was run manually, or for any reason not described above, it returns the #REF! error value.

**Examples**

If the custom function MACROS!VALUEONE is entered in cell B3 on a sheet named SALES, the nested CALLER function returns the following values.

|  |  |
| --- | --- |
| **Nested function** | **Returns** |
| COLUMN(CALLER()) | 2 |
| COLUMNS(CALLER()) | 1 |
| GET.CELL(1, CALLER()) | SALES!$B$3 |
| ROW(CALLER()) | 3 |
| ROWS(CALLER()) | 1 |

If the same custom function was entered into an array in cells B2:C3, the following values would be returned.

|  |  |
| --- | --- |
| **Nested function** | **Returns** |
| COLUMN(CALLER()) | 2 |
| COLUMNS(CALLER()) | 2 |
| ROW(CALLER()) | 2 |
| ROWS(CALLER()) | 2 |

**Related Functions**

GET.BAR   Returns the name or position number of menu bars, menus, and commands

GET.CELL   Returns information about the specified cell

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# CANCEL.COPY

Equivalent to pressing ESC in Microsoft Excel for Windows or ESC or COMMAND+PERIOD in Microsoft Excel for the Macintosh to cancel the marquee after you copy or cut a selection.

**Syntax**

**CANCEL.COPY**(render\_logical)

Render\_logical    is a logical value that, if TRUE, places the contents of the Microsoft Excel Clipboard on the Clipboard or, if FALSE or omitted, does not place them on the Clipboard. Render\_logical is available only in Microsoft Excel for the Macintosh.

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# CANCEL.KEY

Disables macro interruption, or specifies a macro to run when a macro is interrupted. Use CANCEL.KEY to control what happens when a macro is interrupted.

**Syntax**

**CANCEL.KEY**(**enable**, macro\_ref)

Enable    specifies whether the macro can be interrupted by pressing ESC in Microsoft Excel for Windows or ESC or COMMAND+PERIOD in Microsoft Excel for the Macintosh.

|  |  |
| --- | --- |
| **If enable is** | **Then** |
| FALSE | Pressing ESC or COMMAND+PERIOD does not interrupt a macro |
| TRUE and macro\_ref is omitted | Pressing ESC or COMMAND+PERIOD interrupts a macro |
| TRUE and macro\_ref is specified | Macro\_ref runs when ESC or COMMAND+PERIOD is pressed |

Macro\_ref    is a reference to a macro, as a cell reference or a name, that runs when enable is TRUE and ESC or COMMAND+PERIOD is pressed.

**Remarks**

* CANCEL.KEY affects only the macro that is currently running. Once the macro is stopped by a RETURN or HALT function, ESC or COMMAND+PERIOD is reactivated.
* When CANCEL.KEY is in effect, users can still cancel a dialog box displayed while the macro is running.

**Examples**

The following macro formula prevents the macro from being interrupted by pressing ESC or COMMAND+PERIOD:

CANCEL.KEY(FALSE)

The following macro formula reactivates ESC or COMMAND+PERIOD to cancel macro execution:

CANCEL.KEY(TRUE)

The following line in a macro runs CheckCancel when ESC or COMMAND+PERIOD is pressed:

CANCEL.KEY(TRUE, CheckCancel)

**Related Functions**

ERROR   Specifies an action to take if an error occurs while a macro is running

ON.KEY   Runs a macro when a specified key is pressed

ON.TIME   Runs a macro at a specified time

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# CELL.PROTECTION

Equivalent to choosing the Protection tab in the Format Cells dialog box, which appears when you choose the Cells command from the Format menu. Allows you to control cell protection and display.

Arguments are logical values corresponding to check boxes in the Protection tab. If an argument is TRUE, Microsoft Excel selects the check box; if FALSE, Microsoft Excel clears the check box. If an argument is omitted and the setting has been previously changed from the defaults, the setting is not changed.

**Syntax**

**CELL.PROTECTION**(locked, hidden)

**CELL.PROTECTION**?(locked, hidden)

Locked    corresponds to the Locked check box. The default is TRUE.

Hidden    corresponds to the Hidden check box. The default is FALSE.

**Remarks**

Options selected in the Protection tab of the Format Cells dialog box or with the CELL.PROTECTION function are activated only when the Protect Sheet command is chosen from the Protection submenu on the Tools menu or the PROTECT.DOCUMENT function is used to select protection.

**Related Functions**

PROTECT.DOCUMENT   Controls protection for the active sheet

SAVE.AS   Saves a workbook and allows you to specify the name, file type, password, backup file, and location of the workbook

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# CHANGE.LINK

Equivalent to clicking the Change Source button in the Links dialog box, which appears when you click the Links command on the Edit menu. Changes a link from one supporting workbook to another.

**Syntax**

**CHANGE.LINK**(**old\_text, new\_text**, type\_of\_link)

**CHANGE.LINK**?(old\_text, new\_text, type\_of\_link)

Old\_text    is the path of the link from the active dependent workbook you want to change.

New\_text    is the path of the link you want to change to.

Type\_of\_link    is the number 1 or 2 specifying what type of link you want to change.

|  |  |
| --- | --- |
| **Type\_of\_link** | **Link document type** |
| 1 or omitted | Microsoft Excel link |
| 2 | DDE/OLE link |

**Remarks**

The workbook whose links you want to change must be active when this function is calculated.

**Related Functions**

GET.LINK.INFO   Returns information about a link

LINKS   Returns the name of all linked workbooks

OPEN.LINKS   Opens specified supporting workbooks

SET.UPDATE.STATUS   Controls the update status of a link

UPDATE.LINK   Updates a link to another workbook

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# CHART.ADD.DATA

Equivalent to dragging data from a worksheet onto a chart. Adds data to an existing chart.

**Syntax**

**CHART.ADD.DATA**(**ref**, rowcol, titles, categories, replace, series)

Ref    is the cell reference for the data that is being dragged onto the chart

Rowcol    is the number 1 or 2 and specifies whether the values corresponding to a particular data series are in rows or columns. Enter 1 for rows or 2 for columns.

Titles    is a logical value corresponding to the Series Names In First Column check box (or First Row, depending on the value of rowcol) in the Paste Special dialog box.

* If titles is TRUE, Microsoft Excel selects the check box and uses the contents of the cell in the first column of each row (or first row of each column) as the name of the data series in that row (or column).
* If titles is FALSE, Microsoft Excel clears the check box and uses the contents of the cell in the first column of each row (or first row of each column) as the first data point of the data series.

Categories    is a logical value corresponding to the Categories (X Labels) In First Row (or First Column, depending on the value of rowcol) check box in the Paste Special dialog box.

* If categories is TRUE, Microsoft Excel selects the check box and uses the contents of the first row (or column) of the selection as the categories for the chart.
* If categories is FALSE, Microsoft Excel clears the check box and uses the contents of the first row (or column) as the first data series in the chart.

Replace    is a logical value corresponding to the Replace Existing Categories check box in the Paste Special dialog box.

* If replace is TRUE, Microsoft Excel selects the check box and applies categories while replacing existing categories with information from the copied cell range.
* If replace is FALSE, Microsoft Excel clears the check box and applies new categories without replacing any old ones.

Series    is a number specifying how cells are added to a chart.

|  |  |
| --- | --- |
| **Series** | **Added as** |
| 1 | New series |
| 2 | New point(s) |

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# CHART.TREND

A trendline can be added to only to the these chart types: bar, column, stacked column, scatter, line, and area.

**Syntax**

**CHART.TREND**(**type**, ord\_per, forecast, backcast, intercept, equation, r\_squared, name)

Type    is the type of trend or regression.

|  |  |
| --- | --- |
| **Number** | **Type used** |
| 1 | Linear |
| 2 | Logarithmic |
| 3 | Polynomial |
| 4 | Power |
| 5 | Exponential |
| 6 | Moving Average |

Ord\_per    depends on type. If type is 3, then ord\_per is the order of the polynomial. If type is 6, ord\_per is the number of periods for the moving average. If type is neither 3 nor 6, then ord\_per is ignored.

Forecast    is the number of periods or units to extrapolate the trendline in the positive or forward direction. This argument is ignored for moving averages (type 6). The default is zero.

Backcast    is a number specifying the number of periods or units to extrapolate the trendline in the negative or backward direction. This argument is ignored for moving averages (type 6). The default is zero.

Intercept    is a number specifying the value of the y-intercept of the trendline, if it is already known. If FALSE or omitted, Microsoft Excel will calculate the y-intercept . This argument is ignored for moving averages.

Equation    is a logical value specifying whether the trend equation should be displayed on the chart. If TRUE, the equation will be displayed on the chart. If FALSE or omitted, the equation will not be displayed on the chart.

R\_squared    is a logical value specifying whether the r-squared equation should be displayed on the chart. If TRUE, the value will be displayed on the chart. If FALSE or omitted, the equation will not be displayed on the chart.

Name    is a text string specifying the custom name of the trendline. Can also be a logical value. If TRUE or omitted, the automatic name will be used instead.

**Remarks**

* A trendline can not be added to a 3-D chart, a stacked chart, or an 100% chart.
* The linear model calculates the least squares fit for a line represented by the equation y = mx + b, where m is the slope and b is the intercept.
* The logarithmic model calculates the least squares fit through points using the equation y = c\*ln(x) + b, where c and b are constants.
* The exponential model calculates the least squares fit through points using the following equation:



where c and b are constants.

* The polynomial model calculates the least squares fit through points using the following equation:



where b, c1, c2, c3, etc. are constants.

* The power model calculates the least squares fit through points using the following equation:



where b and c are constants.

**Related Function**

CHART.WIZARD   Equivalent to clicking the ChartWizard button on the Standard toolbar

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# CHART.WIZARD

Equivalent to clicking the ChartWizard button on the standard or chart toolbar. Creates a chart. It is generally easier to use the macro recorder to enter this function on your macro sheet.

**Syntax**

**CHART.WIZARD**(long, **ref**, gallery\_num, type\_num, plot\_by, categories, ser\_titles, legend, title, x\_title, y\_title, z\_title, number\_cats, number\_titles)

**CHART.WIZARD**?(long, ref, gallery\_num, type\_num, plot\_by, categories, ser\_titles, legend, title, x\_title, y\_title, z\_title, number\_cats, number\_titles)

Long    is a logical value that determines which type of ChartWizard button CHART.WIZARD is equivalent to.

* If long is TRUE, CHART.WIZARD is equivalent to using the five-step ChartWizard button.
* If long is FALSE or omitted, CHART.WIZARD is equivalent to using the two-step ChartWizard button, and gallery\_num, type\_num, legend, and the title arguments are ignored.

Ref    is a reference to the range of cells on the active worksheet that contains the source data for the chart, or the object identifier of the chart if it has already been created.

Gallery\_num    is a number from 1 to 15 specifying the type of chart you want to create.

|  |  |
| --- | --- |
| **Gallery\_num** | **Chart** |
| 1 | Area |
| 2 | Bar |
| 3 | Column |
| 4 | Line |
| 5 | Pie |
| 6 | Radar |
| 7 | XY (scatter) |
| 8 | Combination |
| 9 | 3-D area |
| 10 | 3-D bar |
| 11 | 3-D column |
| 12 | 3-D line |
| 13 | 3-D pie |
| 14 | 3-D surface |
| 15 | Doughnut |

Type\_num    is a number identifying a formatting option. The first formatting option in any gallery is 1.

Plot\_by    is the number 1 or 2 and specifies whether the data for each data series is in rows or columns. 1 specifies rows; 2 specifies columns. If plot\_by is omitted, Microsoft Excel uses the appropriate value for the chart you're creating.

Categories    is the number 1 or 2 and specifies whether the first row or column contains a list of x-axis labels, or data for the first data series. 1 specifies x-axis labels; 2 specifies the first data series. If categories is omitted, Microsoft Excel uses the appropriate value for the chart you're creating. If number\_cats is specified, this argument is ignored.

Ser\_titles    is the number 1 or 2 and specifies whether the first column or row contains series titles, or data for the first data point in each series. 1 specifies series titles; 2 specifies the first data point. If ser\_titles is omitted, Microsoft Excel uses the appropriate value for the chart you're creating. If number\_titles is specified, this argument is ignored.

Legend    is the number 1 or 2 and specifies whether to include a legend. 1 specifies a legend; 2 specifies no legend. If legend is omitted, Microsoft Excel does not include a legend.

For the following arguments, if an argument is omitted or is empty text (""), no title is specified.

Title    is text that you want to use as a chart title.

X\_title    is text that you want to use as an x-axis title.

Y\_title    is text that you want to use as a y-axis title.

Z\_title    is text that you want to use as a z-axis title.

Number\_cats    specifies the number of rows or columns (depending on the value of plot\_by) to use for the category labels in the chart. This argument overrides the categories argument.

Number\_titles    specifies the number of rows or columns (depending on the value of plot\_by) to use for the series labels in the chart. This argument overrides the ser\_title argument.

**Remarks**

If you are using the macro recorder, Microsoft Excel records a CREATE.OBJECT and a COPY function when the chart is created and a CHART.WIZARD function when the chart is formatted. You must precede this function with a CREATE.OBJECT function if you are not using the macro recorder.

**Related Function**

CREATE.OBJECT   Creates an object

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# CHECKBOX.PROPERTIES

Sets various properties of check box and option box controls on a worksheet or dialog sheet.

**Syntax**

**CHECKBOX.PROPERTIES**(value, link, accel\_text, 3d\_shading, accel\_text2)

**CHECKBOX.PROPERTIES**?(value, link, accel\_text, 3d\_shading, accel\_text2,)

Value    is the value of the check box or option button setting that determines whether it is selected or not.

|  |  |
| --- | --- |
| **Value** | **Box or Button Setting** |
| 0 or FALSE | Off |
| 1 or TRUE | On |
| 2 | Mixed |

Link    is the cell on the sheet to which the check box or option button value is linked. Whenever one of these two controls is changed, the value of the control is entered into the cell. Similarly, whenever the value in the cell is changed, the setting for the corresponding check box or option button is also changed. To clear the link, set this value to an empty string. For example, entering "TRUE" into a cell linked to a check box will select that check box.

3d\_shading    is a logical value that specifies whether the check box appears as 3-D. If TRUE, the check box will appear as 3-D. If FALSE or omitted, the check box will not be 3-D. This argument is available for only worksheets.

Accel\_text    is a text string containing the character to use as the control's accelerator key on a dialog sheet. The character is matched against the text of the control, and the first matching character is underlined. When the user presses ALT+accel\_text in Microsoft Excel for Windows or COMMAND+accel\_text in Microsoft Excel for the Macintosh, the control is clicked.

Accel\_text2    is a text string containing the second accelerator key on a dialog sheet. This argument is for only Far East versions of Microsoft Excel.

**Remarks**

Only controls on dialog sheets can have accelerator keys. Worksheet controls cannot have accelerator keys.

**Related Functions**

PUSHBUTTON.PROPERTIES   Sets the properties of the push button control

EDITBOX.PROPERTIES   Sets the properties of an edit box on a worksheet or dialog sheet

LABEL.PROPERTIES   Sets the accelerator property of the label and group box control

LISTBOX.PROPERTIES   Sets the properties of a list box and drop-down box controls on a worksheet or dialog sheet

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# CHECK.COMMAND

Adds or removes a check mark to or from a command name on a menu. A check mark beside a command indicates that the command has been chosen.

**Syntax**

**CHECK.COMMAND**(**bar\_num**, **menu**, **command**, **check**, position)

Bar\_num    is the menu bar containing the command. Bar\_num can be the ID number of a built-in or custom menu bar.

Menu    is the menu containing the command. Menu can be either the name of a menu as text or the number of a menu. Menus are numbered starting with 1 from the left of the screen.

Command    is the command you want to check or the submenu containing the command you want to check. Command can be the name of the command as text or the number of the command; the first command on a menu is in position 1.

Check    is a logical value corresponding to the check mark. If check is TRUE, Microsoft Excel adds a check mark to the command; if FALSE, Microsoft Excel removes the check mark.

position    is the name of a command on a submenu that you want to check.

**Remarks**

* The check mark doesn't affect execution of the command. Microsoft Excel automatically adds and deletes check marks to some commands, such as the name of the active workbook in the Window menu. If you have assigned a check mark to a built-in command that Microsoft Excel automatically changes in response to the user's actions, the check mark will be added or removed as appropriate, and any check marks you have added or deleted with CHECK.COMMAND will be ignored.
* If you use CHECK.COMMAND with a command on a Microsoft Excel version 4.0 menu bar, the corresponding command on the Microsoft Excel version 5.0 or later menu bar will not be effected.

**Example**

The following macro formula adds a check mark to the Sales command on the Weekly menu on a custom menu bar created by the ADD.BAR function in a cell named Reports:

CHECK.COMMAND(Reports, "Weekly", "Sales", TRUE)

**Related Functions**

ADD.COMMAND   Adds a command to a menu

DELETE.COMMAND   Deletes a command from a menu

ENABLE.COMMAND   Enables or disables a menu or custom command

RENAME.COMMAND   Changes the name of a command or menu

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# CLEAR

Equivalent to clicking the Clear command on the Edit menu. Clears contents, formats, notes, or all of these from the active worksheet or macro sheet. Clears series or formats from the active chart.

**Syntax**

**CLEAR**(type\_num)

**CLEAR**?(type\_num)

Type\_num    is a number from 1 to 4 specifying what to clear. Only values 1, 2, and 3 are valid if the selected item is a chart.

On a worksheet or macro sheet, or if an entire chart is selected, the following occurs.

|  |  |
| --- | --- |
| **Type\_num** | **Clears** |
| 1 | All |
| 2 | Formats (if a chart, clears the chart format or clears pictures) |
| 3 | Contents (if a chart, clears all data series) |
| 4 | Comments (this does not apply to charts) |

On a chart, if a single point, an entire data series, error bars, or a trend line is selected, the following occurs.

|  |  |
| --- | --- |
| **Type\_num** | **Clears** |
| 1 | Selected series, error bars, or trend line |
| 2 | Format in the selected point, series, error bars, or trend line |

If type\_num is omitted, the default values are set as shown in the following table.

|  |  |
| --- | --- |
| **Active sheet** | **Type\_num** |
| Worksheet | 3 |
| Macro sheet | 3 |
| Chart (with no selection) | 1 |
| Chart (with item selected) | Deletes the selected item |

**Related Function**

EDIT.DELETE   Removes cells from a sheet

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# CLEAR.OUTLINE

Equivalent to clicking the Clear Outline command on the Group And Outline submenu of the Data menu. Clears the outline within the selection. If a single cell is selected, it clears the outline from the entire sheet.

**Syntax**

**CLEAR.OUTLINE**( )

**Related Functions**

AUTO.OUTLINE   Creates an outline

OUTLINE   Creates an outline and defines settings for automatically creating outlines

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# CLEAR.ROUTING.SLIP

Equivalent to the Clear button in the Routing Slip dialog box. Clears the routing slip.

**Syntax**

**CLEAR.ROUTING.SLIP**(reset\_only\_logical)

Reset\_only\_logical    is a logical value that specifies whether the routing slip should be cleared.

* This option is valid only after every recipient on the routing slip has received and forwarded the workbook. Setting reset\_only\_logical to TRUE in this case is equivalent to the Reset button in the routing slip dialog.
* If some recipients have not received or routed the workbook, reset\_only\_logical is ignored.
* If reset\_only\_logical is FALSE or omitted and the workbook has been routed to all recipients, then the routing slip is removed from the workbook. A new slip can be subsequently added using ROUTING.SLIP.

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# CLOSE

Closes the active window. In Microsoft Excel for Windows, CLOSE is equivalent to clicking the Close command on the Document Control menu. In Microsoft Excel for the Macintosh, CLOSE is equivalent to clicking the close box.

**Syntax**

**CLOSE**(save\_logical, route\_logical)

Save\_logical    is a logical value that specifies whether to save the file before closing the window.

|  |  |
| --- | --- |
| **Save\_logical** | **Result** |
| TRUE | Saves the file |
| FALSE | Does not save the file |
| Omitted | If you've made changes to the file, displays a dialog box asking if you want to save the file |

Route\_logical    is a logical value that specifies whether to route the file after closing it. This argument is ignored if there is not a routing slip present.

|  |  |
| --- | --- |
| **Route\_logical** | **Result** |
| TRUE | Routes the file |
| FALSE | Does not route the file |
| Omitted | If you've specified recipients for routing, displays a dialog box asking if you want to save the file |

**Remarks**

Users of Microsoft Excel versions earlier than 4.0 should note that if the macro sheet containing the function is the active sheet, CLOSE now closes the workbook.

**Note**When you use the CLOSE function, Microsoft Excel does not run any Auto\_Close macros before closing the workbook.

**Related Functions**

CLOSE.ALL   Closes all windows

FILE.CLOSE   Closes the active workbook

SAVE   Saves the active workbook

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# CLOSE.ALL

Equivalent to clicking the Close All command on the File menu. The Close All command appears when you hold down SHIFT while selecting the File menu. Closes all protected and unprotected windows and all hidden windows. If unsaved changes have been made to the workbook in one or more windows, a message is displayed asking if you want to save each workbook.

**Syntax**

**CLOSE.ALL**( )

**Related Functions**

CLOSE   Closes the active window

FILE.CLOSE   Closes the active workbook

QUIT   Ends a Microsoft Excel session

SAVE   Saves the active workbook

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# COLOR.PALETTE

Copies a color palette from an open workbook to the active workbook. Use COLOR.PALETTE to share color palettes between workbooks.

**Syntax**

**COLOR.PALETTE**(**file\_text**)

**COLOR.PALETTE**?(file\_text)

File\_text    is the name of a workbook, as a text string, that you want to copy a color palette from. The workbook specified by file\_text must be open, or COLOR.PALETTE returns the #VALUE! error value and interrupts the macro. If file\_text is empty text (""), then COLOR.PALETTE sets colors to the default values.

**Related Function**

EDIT.COLOR   Defines a color on the color palette

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# COLUMN.WIDTH

Equivalent to choosing the Width command on the Column submenu of the Format menu. Changes the width of the columns in the specified reference.

**Syntax**

**COLUMN.WIDTH**(width\_num, reference, standard, type\_num, standard\_num)

**COLUMN.WIDTH**?(width\_num, reference, standard, type\_num, standard\_num)

Width\_num    specifies how wide you want the columns to be in units of one character of the font corresponding to the Normal cell style. Width\_num is ignored if standard is TRUE or if type\_num is provided.

Reference    specifies the columns for which you want to change the width.

* If reference is specified, it must be either an external reference to the active worksheet, such as !$A:$C or !Database, or an R1C1-style reference in the form of text, such as "C1:C3", "C[-4]:C[-2]", or "Database".
* If reference is a relative R1C1-style reference in the form of text, it is assumed to be relative to the active cell.
* If reference is omitted, it is assumed to be the current selection.

Standard\_num    is a logical value corresponding to the Standard Width command from the Column submenu on the Format menu.

* If standard is TRUE, Microsoft Excel sets the column width to the currently defined standard (default) width and ignores width\_num.
* If standard is FALSE or omitted, Microsoft Excel sets the width according to width\_num or type\_num.

Type\_num    is a number from 1 to 3 corresponding to the Hide, Unhide, or AutoFit Selection commands, respectively, on the Column submenu of the Format menu.

|  |  |
| --- | --- |
| **Type\_num** | **Action taken** |
| 1 | Hides the column selection by setting the column width to 0 |
| 2 | Unhides the column selection by setting the column width to the value set before the selection was hidden |
| 3 | Sets the column selection to a best-fit width, which varies from column to column depending on the length of the longest data string in each column |

Standard\_num    specifies how wide the standard width is, and is measured in points. If standard\_num is omitted, the standard width setting remains unchanged.

**Remarks**

* Changing the value of standard\_num changes the width of all columns except those that have been set to a custom value.
* If any of the argument settings conflict, such as when standard is TRUE and type\_num is 3, Microsoft Excel uses the type\_num argument and ignores any arguments that conflict with type\_num.
* If you are recording a macro while using a mouse and you change column widths by dragging the column border, Microsoft Excel records the references of the columns using R1C1-style references in the form of text.

**Related Function**

ROW.HEIGHT   Changes the heights of rows

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# COMBINATION

Changes the format of the active chart to one of six built-in combination chart types.

**Syntax**

**COMBINATION**(**type\_num**)

**COMBINATION**?(type\_num)

Type\_num    is a number corresponding to the combination chart you want.

|  |  |
| --- | --- |
| **Type\_num** | **Result** |
| 1 | Column chart overlaid by a line chart |
| 2 | Column chart overlaid by a line chart with an independent y-axis scale |
| 3 | Line chart overlaid by a line chart with an independent y-axis scale |
| 4 | Area chart overlaid by a column chart |
| 5 | Column chart overlaid by a line chart containing three data series (for showing stock volumes related to high, low, and closing prices) |
| 6 | Column chart overlaid by a line chart containing four data series (for showing stock volumes related to open, high, low, and closing prices |

**Related Functions**

FORMAT.MAIN   Formats a main chart

FORMAT.OVERLAY   Formats an overlay chart

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# CONSOLIDATE

Equivalent to clicking the Consolidate command on the Data menu. Consolidates data from multiple ranges on multiple worksheets into a single range on a single worksheet.

**Syntax**

**CONSOLIDATE**(source\_refs, function\_num, top\_row, left\_col, create\_links)

**CONSOLIDATE**?(source\_refs, function\_num, top\_row, left\_col, create\_links)

Source\_refs    are references to areas that contain data to be consolidated on the destination worksheet. Source\_refs must be in text form and include the full path of the file and the cell reference or named ranges in the workbook to be consolidated. Source\_refs are usually external references and must be given as an array, for example: {"SHEET1!IncomeOne", "SHEET2!IncomeTwo"}.

To add or delete source\_refs from an existing consolidation on a worksheet, reuse the CONSOLIDATE function, specifying the new source\_refs.

Function\_num    is a number from 1 to 11 that specifies one of the 11 functions you can use to consolidate data. If function\_num is omitted, the SUM function, number 9, is used. The functions and their corresponding numbers are listed in the following table.

|  |  |
| --- | --- |
| **Function\_num** | **Function** |
| 1 | AVERAGE |
| 2 | COUNT |
| 3 | COUNTA |
| 4 | MAX |
| 5 | MIN |
| 6 | PRODUCT |
| 7 | STDEV |
| 8 | STDEVP |
| 9 | SUM |
| 10 | VAR |
| 11 | VARP |

The following arguments correspond to text boxes and check boxes in the Consolidate dialog box. Arguments that correspond to check boxes are logical values. If an argument is TRUE, Microsoft Excel selects the check box; if FALSE, Microsoft Excel clears the check box.

Top\_row    corresponds to the Top Row check box. The default is FALSE.

Left\_col    corresponds to the Left Column check box. The default is FALSE.

If top\_row and left\_col are both FALSE or omitted, the data is consolidated by position.

Create\_links    corresponds to the Create Links To Source Data check box.

**Remarks**

* If you use the CONSOLIDATE function with no arguments and there is a consolidation on the active worksheet, Microsoft Excel reconsolidates, using the sources, function, and position attributes used to create the existing consolidation.
* If you use the CONSOLIDATE function with no arguments and there is no consolidation on the active worksheet, the function returns the #VALUE! error value.

**Related Functions**

CHANGE.LINK   Changes supporting workbook links

LINKS   Returns the names of all linked workbooks

OPEN.LINKS   Opens specified supporting workbooks

UPDATE.LINK   Updates a link to another workbook

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# CONSTRAIN.NUMERIC

Equivalent to pressing the Constrain Numeric button. The Constrain Numeric button can be found in the Insert category on the Commands tab (Customize dialog box). The Customize dialog box appears when you choose the Toolbars command from the View menu and then choose the Customize command. Constrains handwriting recognition to numbers and punctuation only. Use this function in a macro to improve the accuracy of handwriting recognition when the user is entering a series of numbers or formulas.

**Note**This function is only available if you are using Microsoft Windows for Pen Computing.

**Syntax**

**CONSTRAIN.NUMERIC**(numeric\_only)

Numeric\_only    is a logical value that turns the numeric constraint on or off. If numeric\_only is TRUE, only numbers and digits are recognized; if FALSE, all characters are recognized as usual. if numeric\_only is omitted, the numeric constraint is toggled.

**Remarks**

When the numeric constraint is on, Microsoft Excel recognizes only the following symbols:

0 1 2 3 4 5 6 7 8 9 $ # @ % ( ) - + = { } : < > , ? | .

**Tip**   Use GET.WORKSPACE(45) to make sure you're running Microsoft Windows for Pen Computing.

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# COPY

Equivalent to clicking the Copy command on the Edit menu. Copies and pastes data or objects.

**Syntax**

**COPY**(from\_reference, to\_reference)

From\_reference    is a reference to the cell or range of cells you want to copy. If from\_reference is omitted, it is assumed to be the current selection.

To\_reference    is a reference to the cell or range of cells where you want to paste what you have copied.

* To\_reference should be a single cell or an enlarged multiple of from\_reference. For example, if from\_reference is a 2 by 4 rectangle, to\_reference can be a 4 by 8 rectangle.
* To\_reference can be omitted so that you can subsequently paste using the PASTE, PASTE.LINK, or PASTE.SPECIAL functions.

**Related Functions**

CUT   Cuts or moves data or objects

PASTE   Pastes cut or copied data

PASTE.LINK   Pastes copied data or objects and establishes a link to the source of the data or object

PASTE.SPECIAL   Pastes specific components of copied data

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# COPY.CHART

Equivalent to choosing the Copy Chart command from the Edit menu in Microsoft Excel for the Macintosh version 1.5 or earlier. This function is included only for macro compatibility. You can copy a chart with the COPY.PICTURE function by omitting the appearance\_num argument.

**Syntax**

**COPY.CHART**(**size\_num**)

Size\_num    is a number describing how to copy the picture and is only available if the current selection is a chart.

|  |  |
| --- | --- |
| **Size\_num** | **Action** |
| 1 or omitted | Copies the chart in the same size as the window on which it is displayed |
| 2 | Copies what you would see if you printed the chart |

**Related Function**

COPY.PICTURE   Creates a picture of the current selection for use in another program

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# COPY.PICTURE

Equivalent to choosing the Copy Picture command from the Edit menu. The Copy Picture command appears if you hold down SHIFT while choosing the Edit menu. It copies a chart or range of cells to the Clipboard as a graphic. Use COPY.PICTURE to create an image of the current selection or chart for use in another program.

**Syntax**

**COPY.PICTURE**(appearance\_num, size\_num, type\_num)

**COPY.PICTURE**?(appearance\_num, size\_num, type\_num)

**Remarks**

Graphics are created differently on screen and on a printer. Thus, the printed picture may look different from the one on screen.

Appearance\_num    is a number describing how to copy the picture.

|  |  |
| --- | --- |
| **Appearance\_num** | **Action** |
| 1 or omitted | Copies a picture as closely as possible to the picture displayed on your screen |
| 2 | Copies what you would see if you printed the selection |

Size\_num    is a number describing how to copy the picture and is only available if the current selection is a chart.

|  |  |
| --- | --- |
| **Size\_num** | **Action** |
| 1 or omitted | Copies the chart in the same size as the window on which it is displayed |
| 2 | Copies what you would see if you printed the chart |

Type\_num    is a number specifying the format of the picture. This argument is available only in Microsoft Excel for Windows.

|  |  |
| --- | --- |
| **Type\_num** | **Format of the picture** |
| 1 or omitted | Picture |
| 2 | Bitmap |

**Related Functions**

COPY   Copies and pastes data or objects

CUT   Cuts or moves data or objects

PASTE   Pastes cut or copied data

PASTE.PICTURE.LINK   Pastes a linked picture of the currently copied area

PASTE.SPECIAL   Pastes specific components of copied data

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# COPY.TOOL

Copies a button face to the Clipboard.

**Syntax**

**COPY.TOOL**(bar\_id, position)

Bar\_id    specifies the number or name of a toolbar from which you want to copy the button face. For detailed information about bar\_id, see ADD.TOOL.

Position    specifies the position of the button within the toolbar. Position starts with 1 at the left side (if horizontal) or at the top (if vertical).

**Related Functions**

ADD.TOOL   Adds one or more buttons to a toolbar

GET.TOOL   Returns information about a button or buttons on a toolbar

PASTE.TOOL   Pastes a button face from the Clipboard to a specified position on a toolbar

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# CREATE.NAMES

Equivalent to clicking the Create command on the Name submenu of the Insert menu. Use CREATE.NAMES to quickly create names from text labels on a sheet.

Arguments are logical values corresponding to check boxes in the Create Names dialog box. If an argument is TRUE, Microsoft Excel selects the check box; if FALSE or omitted, Microsoft Excel clears the check box.

**Syntax**

**CREATE.NAMES**(top, left, bottom, right)

**CREATE.NAMES**?(top, left, bottom, right)

Top    corresponds to the Top Row check box.

Left    corresponds to the Left Column check box.

Bottom    corresponds to the Bottom Row check box.

Right    corresponds to the Right Column check box.

**Remarks**

The cell containing the label text that Microsoft Excel uses to create the names is not included in the resulting named range.

**Related Functions**

APPLY.NAMES   Replaces references and values with their corresponding names

DEFINE.NAME   Defines a name on the active sheet or macro sheet

DELETE.NAME   Deletes a name

FORMULA.GOTO   Selects a named area or reference on any open workbook

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# CREATE.OBJECT

Draws an object on a sheet or macro sheet and returns a value identifying the object created. It is generally easier to use the macro recorder to enter this function on your macro sheet.

**Syntax 1**

Lines, rectangles, ovals, arcs, pictures, text boxes, and buttons

**CREATE.OBJECT**(**obj\_type**, **ref1**, x\_offset1, y\_offset1, **ref2**, x\_offset2, y\_offset2, text, fill, editable)

**Syntax 2**

Polygons

**CREATE.OBJECT**(**obj\_type**, **ref1**, x\_offset1, y\_offset1, **ref2**, x\_offset2,  
y\_offset2, **array**, fill)

**Syntax 3**

Embedded charts

**CREATE.OBJECT**(**obj\_type**, **ref1**, x\_offset1, y\_offset1, **ref2**, x\_offset2,  
y\_offset2, xy\_series, fill, gallery\_num, type\_num, plot\_visible)

Obj\_type    is a number specifying the type of object to create.

|  |  |
| --- | --- |
| **Obj\_type** | **Object** |
| 1 | Line |
| 2 | Rectangle |
| 3 | Oval |
| 4 | Arc |
| 5 | Embedded chart |
| 6 | Text box |
| 7 | Button |
| 8 | Picture (created with the camera tool) |
| 9 | Closed polygon |
| 10 | Open polygon |
| 11 | Check box |
| 12 | Option button |
| 13 | Edit box |
| 14 | Label |
| 15 | Dialog frame |
| 16 | Spinner |
| 17 | Scroll bar |
| 18 | List box |
| 19 | Group box |
| 20 | Drop down list box |

Ref1    is a reference to the cell from which the upper-left corner of the object is drawn, or from which the upper-left corner of the object's bounding rectangle is defined.

X\_offset1    is the horizontal distance from the upper-left corner of ref1 to the upper-left corner of the object or to the upper-left corner of the object's bounding rectangle. X\_offset1 is measured in points. A point is 1/72nd of an inch. If x\_offset1 is omitted, it is assumed to be 0.

Y\_offset1    is the vertical distance from the upper-left corner of ref1 to the upper-left corner of the object or to the upper-left corner of the object's bounding rectangle. Y\_offset1 is measured in points. If y\_offset1 is omitted, it is assumed to be 0.

Ref2    is a reference to the cell from which the lower-right corner of the object is drawn, or from which the lower-right corner of the object's bounding rectangle is defined.

X\_offset2    is the horizontal distance from the upper-left corner of ref2 to the lower-right corner of the object or to the lower-right corner of the object's bounding rectangle. X\_offset2 is measured in points. If x\_offset2 is omitted, it is assumed to be 0.

Y\_offset2    is the vertical distance from the upper-left corner of ref2 to the lower-right corner of the object or to the lower-right corner of the object's bounding rectangle. Y\_offset2 is measured in points. If y\_offset2 is omitted, it is assumed to be 0.

Text    specifies the text that appears in a text box or button. If text is omitted for a button, the button is named "Button n", where n is a number. If obj\_type is not 6 or 7, text is ignored.

Fill    is a logical value specifying whether the object is filled or transparent. If fill is TRUE, the object is filled; if FALSE, the object is transparent; if omitted, the object is filled with an applicable pattern for the object being created.

Array    is an n by 2 array of values, or a reference to a range of cells containing values, that indicate the position of each vertex in a polygon, relative to the upper-left corner of the polygon's bounding rectangle.

* A vertex is a point that is defined by a pair of coordinates in one row of array.
* If the polygon contains many vertices, one array may not be sufficient to define it. If the number of characters in the formula exceeds 1024, you must include one or more EXTEND.POLYGON functions. If you're recording a macro, Microsoft Excel automatically records EXTEND.POLYGON functions as needed. For more information, see EXTEND.POLYGON.

Xy\_series    is a number from 0 to 3 that specifies how data is arranged in a chart and corresponds to options in the Paste Special dialog box.

|  |  |
| --- | --- |
| **Xy\_series** | **Result** |
| 0 | Displays a dialog box if the selection is ambiguous |
| 1 or omitted | First row/column is the first data series |
| 2 | First row/column contains the category (x) axis labels |
| 3 | First row/column contains the x-values; the created chart is an xy (scatter) chart |

* Xy\_series is ignored unless obj\_type is 5 (chart).
* If you want more control over how the data is arranged, use the plot\_by, categories, and ser\_titles arguments to the CHART.WIZARD function. For more information, see CHART.WIZARD.

Gallery\_num    is a number from 1 to 15 specifying the type of embedded chart you want to create.

|  |  |
| --- | --- |
| **Gallery\_num** | **Chart** |
| 1 | Area |
| 2 | Bar |
| 3 | Column |
| 4 | Line |
| 5 | Pie |
| 6 | Radar |
| 7 | XY (scatter) |
| 8 | Combination |
| 9 | 3-D area |
| 10 | 3-D bar |
| 11 | 3-D column |
| 12 | 3-D line |
| 13 | 3-D pie |
| 14 | 3-D surface |
| 15 | Doughnut |

Type\_num    is a number identifying a formatting option for a chart. The formatting options are shown in the dialog box of the AutoFormat command that corresponds to the type of chart you're creating. The first formatting option in any gallery is 1.

Plot\_visible    is a logical value that corresponds to the Plot Visible Cells Only checkbox in the Chart tab of the Options dialog box. If FALSE or omitted, all values are plotted.

Editable    is a logical value that determines whether the drop down list box is editable or not. If TRUE, the drop down list box is editable. If FALSE, the drop down list box is not editable. If obj\_type is not 20, this argument is ignored.

**Remarks**

* CREATE.OBJECT returns the object identifier of the object it created. Object identifiers include text describing the object, such as "Text" or "Oval", and a number indicating the order in which the object was created. For example, CREATE.OBJECT returns "Oval 3" after creating an oval that is the third object in the workbook.
* If the offsets are not specified, the object is drawn from the upper-left corner of ref1 to the upper-left corner of ref2.
* If the object is not a picture and either ref1 or ref2 is omitted, CREATE.OBJECT returns the #VALUE! error value and does not create the object.
* CREATE.OBJECT also selects the object.
* You must use the COPY function before the CREATE.OBJECT function to create a chart or a picture.

**Tip**   To assign a macro to an object, use the ASSIGN.TO.OBJECT function immediately after creating the object.

**Related Functions**

ASSIGN.TO.OBJECT   Assigns a macro to an object

EXTEND.POLYGON   Adds vertices to a polygon

FORMAT.MOVE   Moves the selected object

FORMAT.SHAPE   Inserts, moves, or deletes vertices of the selected polygon

FORMAT.SIZE   Sizes an object

GET.OBJECT   Returns information about an object

OBJECT.PROPERTIES   Determines an object's relationship to underlying cells

TEXT.BOX   Replaces text in a text box

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# CREATE.PUBLISHER

Equivalent to clicking the Create Publisher command on the Publishing submenu of the Edit menu. Publishes the selected range or chart to an edition file for use by other Macintosh applications.

**Important**   This function is only available if you are using Microsoft Excel for the Macintosh with system software version 7.0 or later.

**Syntax**

**CREATE.PUBLISHER**(file\_text, appearance, size, formats)

**CREATE.PUBLISHER**?(file\_text, appearance, size, formats)

File\_text    is a text string to be used as the name of the new file that will contain the selected data. If file\_text is omitted, Microsoft Excel uses the format "<WorkbookName> Edition #n", where WorkbookName is the name of the workbook from which the publisher is being created, Edition indicates that the file is an edition file, and n is a unique integer.

For example, if you omit file\_text and are publishing a selection from a workbook named Seasonal, and it is your third publisher from that workbook in the current work session, the default name of the publisher would be "Seasonal Edition #3".

Appearance    specifies whether the selection is to be published as shown on screen or as shown when printed. The default value for appearance is 1 if the selection is a sheet and 2 if the selection is a chart.

|  |  |
| --- | --- |
| **Appearance** | **Selection is published** |
| 1 | As shown on screen |
| 2 | As shown when printed |

Size    specifies the size at which to publish a chart. Size is only available if a chart is to be published.

|  |  |
| --- | --- |
| **Size** | **Chart is published** |
| 1 or omitted | As shown on screen |
| 2 | As shown when printed |

Formats    is number specifying what file format or formats CREATE.PUBLISHER should use when it creates the Edition file.

|  |  |
| --- | --- |
| **Formats** | **File format** |
| 1 | PICT |
| 2 | BIFF |
| 4 | RTF |
| 8 | VALU |

* You can also use the sum of the allowable file formats for formats. For example, a value of 6 specifies BIFF and RTF.
* If formats is omitted and the document is a sheet, formats is assumed to be 15 (all formats); if the document is a chart, formats is assumed to be 1 (PICT).

**Related Functions**

EDITION.OPTIONS   Sets publisher and subscriber options

GET.LINK.INFO   Returns information about a link

SUBSCRIBE.TO   Inserts contents of an edition into the active workbook

UPDATE.LINK   Updates a link to another workbook

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# CUSTOMIZE.TOOLBAR

Equivalent to choosing the Toolbars command from the View menu and choosing the Customize button in Microsoft Excel 95. Displays the Customize Toolbars dialog box. In Microsoft Excel 97 or later, this function displays the Commands tab on the Customize dialog box. The Customize dialog box appears when you choose the Toolbars command from the View menu and then choose the Customize command. This function has a dialog-box syntax only.

**Syntax**

**CUSTOMIZE.TOOLBAR**?(category)

Category    is a number that specifies which category of tools you want displayed in the dialog box. If omitted, the previous setting is used. This argument is for compatibility with Microsoft Excel 95.

|  |  |
| --- | --- |
| **Category** | **Category of tools** |
| 1 | File |
| 2 | Edit |
| 3 | Formula |
| 4 | Formatting |
| 5 | Text Formatting |
| 6 | Drawing |
| 7 | Macro |
| 8 | Charting |
| 9 | Utility |
| 10 | Data |
| 11 | TipWizard |
| 12 | Auditing |
| 13 | Forms |
| 14 | Custom |

**Related Functions**

ADD.TOOLBAR   Creates a new toolbar with the specified tools

SHOW.TOOLBAR   Hides or displays a toolbar

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# CUSTOM.REPEAT

Allows custom commands to be repeated using the Repeat tool or the Repeat command on the Edit menu. Also allows custom commands to be recorded using the macro recorder.

**Syntax**

**CUSTOM.REPEAT**(macro\_text, repeat\_text, record\_text)

Macro\_text    is the name of, or a reference to, the macro you want to run when the Repeat command is chosen. If macro\_text is omitted, no repeat macro is run, but the custom command can still be recorded.

Repeat\_text    is the text you want to use as the repeat command on the Edit menu (for example, "Repeat Reports"). You can omit repeat\_text and macro\_text if you only want to record the formula specified by record\_text when using the macro recorder.

Record\_text    is the formula you want to record. For example, if the user clicks a command named Run Reports in Macro 1, the record\_text argument would be "=Macro1!RunReports()", where RunReports is the name of the macro called by the Run Reports command.

* References in record\_text must be in R1C1 format.
* If record\_text is omitted, the macro recorder records normally (a RUN function with the first cell of the macro as its argument).
* If you are not recording a macro, record\_text is ignored.

**Tip**   Place CUSTOM.REPEAT at the end of the macro you will want to repeat. If you place it before the end, then the macro formulas that follow CUSTOM.REPEAT may interfere with the desired effects of CUSTOM.REPEAT. The Repeat tool and the Repeat command continue to change as you click subsequent commands that can be repeated.

**Example**

The following macro formula specifies that the macro RepeatReport on the MenuMacros macro sheet in the current workbook will be run when the Repeat Report command is chosen:

CUSTOM.REPEAT("MenuMacros!RepeatReport", "Repeat Report")

**Related Function**

CUSTOM.UNDO   Specifies a macro to run to undo a custom command

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# CUSTOM.UNDO

Creates a customized Undo tool and Undo or Redo command on the Edit menu for custom commands.

**Syntax**

**CUSTOM.UNDO**(**macro\_text**, undo\_text)

Macro\_text    is the name of, or an R1C1-style reference to, the macro you want to run when the Undo command is chosen. Macro\_text can be the name or cell reference of a macro.

Undo\_text    is the text you want to use as the Undo command.

**Example**

The following macro function runs the UndoMult macro when the user clicks the Undo Times100 command, a custom command that multiples the current cell by 100.

=CUSTOM.UNDO("UndoMult", "&Undo Times100")

**Tip**   Use CUSTOM.UNDO directly after the macro functions you want to be able to repeat, because other macro functions following CUSTOM.UNDO might reset the Undo command.

**Related Function**

CUSTOM.REPEAT   Specifies a macro to run to repeat a custom command

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# CUT

Equivalent to choosing the Cut command from the Edit menu. Cuts or moves data or objects.

**Syntax**

**CUT**(from\_reference, to\_reference)

From\_reference    is a reference to the cell or range of cells you want to cut. If from\_reference is omitted, it is assumed to be the current selection.

To\_reference    is a reference to the cell or range of cells where you want to paste what you have cut.

* To\_reference should be a single cell or an enlarged multiple of from\_reference. For example, if from\_reference is a 2 by 4 rectangle, to\_reference can be a 4 by 8 rectangle.
* To\_reference can be omitted so that you can paste from\_reference later using the PASTE or PASTE.SPECIAL functions.

**Remarks**

The following information may be helpful if you're having problems with CUT updating references in unexpected ways. When you move cells using CUT, formulas that referred to from\_reference will refer to to\_reference, and formulas that referred to to\_reference may return #REF! error values. However, if from\_reference or to\_reference contains references that are calculated at runtime (for example, CUT(ACTIVE.CELL(), !B1)), then Microsoft Excel does not update those references when the CUT function is run, so no error values are returned.

**Related Functions**

COPY   Copies and pastes data or objects

PASTE   Pastes cut or copied data

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# DATA.DELETE

Equivalent to clicking the Delete command on the Data menu in Microsoft Excel version 4.0. Deletes data that matches the current criteria in the current database.

In the dialog-box form, DATA.DELETE?, Microsoft Excel displays a message warning you that matching records will be permanently deleted, and you can approve or cancel. In the plain form, DATA.DELETE, matching records are deleted without any message being displayed.

**Syntax**

**DATA.DELETE**( )

**DATA.DELETE**?( )

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# DATA.FIND

Equivalent to clicking the Find and Exit Find commands on the Data menu in Microsoft Excel version 4.0. Selects records in the database range which match criteria in the criteria range.

**Syntax**

**DATA.FIND**(**logical**)

Logical    is a logical value that specifies whether to enter or exit the Data Find mode. If logical is TRUE, Microsoft Excel carries out the Find command; if FALSE, Microsoft Excel carries out the Exit Find command. If logical is omitted, the function toggles between Find and Exit Find.

**Related Functions**

DATA.FIND.NEXT   Finds next matching record in a database

DATA.FIND.PREV   Finds previous matching record in a database

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# DATA.FIND.NEXT, DATA.FIND.PREV

Equivalent to pressing the DOWN ARROW or UP ARROW key after the Find command has been chosen from the Data menu in Microsoft Excel version 4.0. Finds the next or previous matching record in a database. If the function cannot find a matching record, it returns the logical value FALSE.

**Syntax**

**DATA.FIND.NEXT**( )

**DATA.FIND.PREV**( )

**Related Function**

DATA.FIND   Enters or exits Data Find mode

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# DATA.FORM

Equivalent to clicking the Form command on the Data menu. Displays the data form.

If Microsoft Excel cannot determine what database or list of information to use, the function returns the #VALUE! error value and interrupts the macro.

**Syntax**

**DATA.FORM**( )

**Remarks**

* You can still use custom data forms created in Microsoft Excel version 4.0 or earlier. To edit the definition table of the custom data form, use the Dialog Editor from Microsoft Excel version 4.0.
* The data form can handle up to 32 fields.

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# DATA.LABEL

Specifies label contents and position.

**Syntax**

**DATA.LABEL**(show\_option, auto\_text, show\_key)

Show\_option    is a number that specifies what type of labels to display.

|  |  |
| --- | --- |
| **Show\_option** | **Type displayed** |
| 1 | none |
| 2 | Show value |
| 3 | Show percent |
| 4 | Show label |
| 5 | Show label and percent |

Auto\_text    is a logical value that corresponds the Automatic Checkbox in the Data Labels dialog box. If TRUE, resets a chart's data labels back to their actual values. If FALSE, they are not reset. The Automatic Text checkbox appears only if the label has been selected and its value changed.

Show\_key    is a logical value that specified whether to show the legend key next to the label. If TRUE, displays the legend key. If FALSE or omitted, does not display the legend key.

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# DATA.SERIES

Equivalent to clicking the Series command on the Fill submenu of the Edit menu. Use DATA.SERIES to enter an interpolated or incrementally increasing or decreasing series of numbers or dates on a sheet or macro sheet.

**Syntax**

**DATA.SERIES**(rowcol, type\_num, date\_num, step\_value, stop\_value, trend)

**DATA.SERIES**?(rowcol, type\_num, date\_num, step\_value, stop\_value, trend)

Rowcol    is a number that specifies where the series should be entered. If rowcol is omitted, the default value is based on the size and shape of the current selection.

|  |  |
| --- | --- |
| **Rowcol** | **Enter series in** |
| 1 | Rows |
| 2 | Columns |

Type\_num    is a number from 1 to 4 that specifies the type of series.

|  |  |
| --- | --- |
| **Type\_num** | **Type of series** |
| 1 or omitted | Linear |
| 2 | Growth |
| 3 | Date |
| 4 | AutoFill |

Date\_num    is a number from 1 to 4 that specifies the date unit of the series, as shown in the following table. To use the date\_num argument, the type\_num argument must be 3.

|  |  |
| --- | --- |
| **Date\_num** | **Date unit** |
| 1 or omitted | Day |
| 2 | Weekday |
| 3 | Month |
| 4 | Year |

Step\_value    is a number that specifies the step value for the series. If step\_value is omitted, it is assumed to be 1.

Stop\_value    is a number that specifies the stop value for the series. If stop\_value is omitted, DATA.SERIES continues filling the series until the end of the selected range.

Trend    is a logical value corresponding to the Trend check box. If trend is TRUE, Microsoft Excel generates a linear or exponential trend; if FALSE or omitted, Microsoft Excel generates a standard data series.

**Remarks**

* If you specify a positive value for stop\_value that is lower than the value in the active cell of the selection, DATA.SERIES takes no action.
* If type\_num is 4 (AutoFill), Microsoft Excel performs an AutoFill operation just as if you had filled the selection by dragging the fill selection handle or had used the FILL.AUTO macro function.

**Related Function**

FILL.AUTO   Copies cells or automatically fills a selection

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# DEFINE.NAME

Equivalent to clicking the Define command on the Name submenu of the Insert menu. Defines a name on the active sheet or macro sheet. Use DEFINE.NAME instead of SET.NAME when you want to define a name on the active sheet.

**Syntax**

**DEFINE.NAME**(**name\_text**, refers\_to, macro\_type, shortcut\_text, hidden, category, local)

**DEFINE.NAME**?(name\_text, refers\_to, macro\_type, shortcut\_text, hidden, category, local)

Name\_text    is the text you want to use as the name. Names cannot include spaces, and cannot look like cell references.

Refers\_to    describes what name\_text should refer to, and can be any of the following values.

|  |  |
| --- | --- |
| **If refers\_to is** | **Then name\_text is** |
| A number, text, or logical value | Defined to refer to that value |
| An external reference, such as !$A$1 or SALES!$A$1:$C$3 | Defined to refer to those cells |
| A formula in the form of text, such as "=2\*PI()/360" (if the formula contains references, they must be R1C1-style references, such as "=R2C2\*(1+RC[-1])") | Defined to refer to that formula |
| Omitted | Defined to refer to the current selection |

The next two arguments, macro\_type and shortcut\_text, apply only if the sheet in the active window is a macro sheet.

Macro\_type    is a number from 1 to 3 that indicates the type of macro.

|  |  |
| --- | --- |
| **Macro\_type** | **Type of macro** |
| 1 | Custom function (also known as a function macro) |
| 2 | Command macro. |
| 3 or omitted | None (that is, name\_text does not refer to a macro) |

Shortcut\_text    is a text value that specifies the macro shortcut key. Shortcut\_text must be a single letter, such as "z" or "Z".

Hidden    is a logical value specifying whether to define the name as a hidden name. If hidden is TRUE, Microsoft Excel defines the name as a hidden name; if FALSE or omitted, Microsoft Excel defines the name normally.

Category    is a number or text identifying the category of a custom function and corresponds to categories in the Function Category list box.

* Categories are numbered starting with 1, the first category in the list.
* If category is text but is not one of the existing function types, Microsoft Excel creates a new category and assigns your custom function to it.

Local    is a logical value which, if TRUE, defines the name on just the current sheet or macro sheet. If FALSE or omitted, defines the name for all sheets in the workbook.

**Remarks**

* You can use hidden names to define values that you want to prevent the user from seeing or changing; they do not appear in the Define Name, Paste Name, or Goto dialog boxes. Hidden names can only be created with the DEFINE.NAME macro function.
* If you are recording a macro and you define a name to refer to a formula, Microsoft Excel converts A1-style references to R1C1-style references. For example, if the active cell is C2, and you define the name Previous to refer to =B2, Microsoft Excel records that command as DEFINE.NAME("Previous","=RC[-1]").
* In DEFINE.NAME?, the dialog-box form of the function, if refers\_to is not specified, the current selection is proposed in the Refers To box. Also, if a name is not specified, text in the active cell is proposed as the name.

**Related Functions**

DELETE.NAME   Deletes a name

GET.DEF   Returns a name matching a definition

GET.NAME   Returns the definition of a name

NAMES   Returns the names defined in a workbook

SET.NAME   Defines a name as a value

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# DEFINE.STYLE

Equivalent to clicking the Define button in the Style dialog box, which appears when you click the Style command on the Format menu. Creates and changes cell styles. There are seven syntax forms of this function. Use syntax 1 of DEFINE.STYLE to define styles based on the format of the active cell. To create a style by specifying number, font, and other formats, use syntaxes 2 through 7 of DEFINE.STYLE.

Syntax 1

Syntaxes 2-7

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# DEFINE.STYLE Syntax 1

Equivalent to clicking the Define button in the Style dialog box, which appears when you click the Style command on the Format menu. Creates and changes cell styles. There are seven syntax forms of this function. Use syntax 1 of DEFINE.STYLE to define styles based on the format of the active cell. To create a style by specifying number, font, and other formats, use syntaxes 2 through 7 of DEFINE.STYLE.

**Syntax**

**DEFINE.STYLE**(**style\_text**, number, font, alignment, border, pattern, protection)

**DEFINE.STYLE**?(style\_text, number, font, alignment, border, pattern, protection)

Style\_text    is the name, as text, that you want to assign to the style.

The following arguments are logical values corresponding to check boxes in the Style dialog box. If an argument is TRUE, Microsoft Excel selects the check box and uses the corresponding format of the active cell in the style; if FALSE, Microsoft Excel clears the check box and omits formatting descriptions for that attribute. If style\_text is omitted and all selected cells have identical formatting, the default is TRUE; if cells have different formatting, the default is FALSE.

Number    corresponds to the Number check box.

Font    corresponds to the Font check box.

Alignment    corresponds to the Alignment check box.

Border    corresponds to the Border check box.

Pattern    corresponds to the Pattern check box.

Protection    corresponds to the Protection check box.

**Related Functions**

DEFINE.STYLE Syntaxes 2-7

APPLY.STYLE   Applies a style to the selection

DELETE.STYLE   Deletes a cell style

MERGE.STYLES   Imports styles from another workbook into the active workbook

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# DEFINE.STYLE Syntaxes 2 - 7

Equivalent to clicking the Define button in the Style dialog box, which appears when you click the Style command on the Format menu. Creates and changes cell styles. Use one of the following syntax forms of DEFINE.STYLE to select cell formats for a new style or to alter the formats of an existing style. Use syntax 1 of DEFINE.STYLE to define styles based on the format of the active cell.

**Syntax 2**

Number format, using the arguments from the FORMAT.NUMBER function

**DEFINE.STYLE**(**style\_text, attribute\_num**, format\_text)

**Syntax 3**

Font format, using the arguments from the FORMAT.FONT and FONT.PROPERTIES functions

**DEFINE.STYLE**(**style\_text, attribute\_num**, name\_text, size\_num, bold, italic, underline, strike, color, outline, shadow, superscript, subscript)

**Syntax 4**

Alignment, using the arguments from the ALIGNMENT function

**DEFINE.STYLE**(**style\_text**, **attribute\_num**, horiz\_align, wrap, vert\_align, orientation)

**Syntax 5**

Border, using the arguments from the BORDER function

**DEFINE.STYLE**(**style\_text**, **attribute\_num**, left, right, top, bottom, left\_color, right\_color, top\_color, bottom\_color)

**Syntax 6**

Pattern, using the arguments from the cell form of the PATTERNS function

**DEFINE.STYLE**(**style\_text, attribute\_num**, apattern, afore, aback)

**Syntax 7**

Cell protection, using the arguments from the CELL.PROTECTION function

**DEFINE.STYLE**(**style\_text, attribute\_num**, locked, hidden)

Style\_text    is the name, as text, that you want to assign to the style.

Attribute\_num    is a number from 2 to 7 that specifies which attribute of the style, such as its font, alignment, or number format, you want to designate with this function.

|  |  |
| --- | --- |
| **Attribute\_num** | **Specifies** |
| 2 | Number format |
| 3 | Font format |
| 4 | Alignment |
| 5 | Border |
| 6 | Pattern |
| 7 | Cell protection |

**Remarks**

* The remaining arguments are different for each form and are identical to arguments in the corresponding function. For example, form 2 of DEFINE.STYLE defines the number format of a style and corresponds to the FORMAT.NUMBER function. The exception is form 5, which does not include every argument for BORDER. For details on the values you can use for these arguments, see the description under the corresponding function.
* If you define a style using one of these forms, then any attributes you don't explicitly define are not changed.

**Related Functions**

DEFINE.STYLE Syntax 1

ALIGNMENT   Aligns or wraps text in cells

APPLY.STYLE   Applies a style to the selection

BORDER   Adds a border to the selected cell or object

CELL.PROTECTION   Allows you to control cell protection and display

DELETE.STYLE   Deletes a cell style

FONT.PROPERTIES   Applies a font to the selection

FORMAT.NUMBER   Formats numbers, dates, and times in the selected cells

MERGE.STYLES   Imports styles from another workbook into the active workbook

PATTERNS   Changes the appearance of the selected object

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# DELETE.ARROW

Deletes the selected arrow, either drawn as an arrow with the arrow tool or as a line that is later formatted as an arrow. In Microsoft Excel version 5.0 or later, arrows are named lines.

**Syntax**

**DELETE.ARROW**( )

If the selection is not an arrow or a line formatted as an arrow, or if the active window is not a chart, DELETE.ARROW interrupts the macro.

**Tip**   Use the SELECT function (chart syntax), with the number of the arrow (or line) you want to delete in order to select the arrow before using the DELETE.ARROW function. For example, SELECT ("Line 1"). You can also use the CLEAR function to delete the arrow.

**Related Functions**

CLEAR   Clears specified information from the selected cells or chart

DELETE.OVERLAY   Deletes the overlay on a chart

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# DELETE.BAR

Deletes a custom menu bar.

**Syntax**

**DELETE.BAR**(**bar\_num**)

Bar\_num    is the ID number of the custom menu bar you want to delete.

**Tip**   Rather than trying to discover the ID number of the menu bar you want to delete, use a reference to the ADD.BAR function that created the bar. For example, the following macro formula deletes the menu bar created by the ADD.BAR function in the cell named ReportsBar:

DELETE.BAR(ReportsBar)

**Related Functions**

ADD.BAR   Adds a menu bar

SHOW.BAR   Displays a menu bar

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# DELETE.CHART.AUTOFORMAT

Deletes a custom format from the list of formats shown in the Custom Types tab in the Chart Type dialog box.

**Syntax**

**DELETE.CHART.AUTOFORMAT**(**name\_text**)

Name\_text    is the template name you want to delete from the list of custom templates.

**Related Function**

ADD.CHART.AUTOFORMAT   Adds a custom template

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# DELETE.COMMAND

Deletes a command from a custom or built-in menu. Use DELETE.COMMAND to remove commands you don't want the user to have access to or to remove custom commands that you have added.

**Syntax**

**DELETE.COMMAND**(**bar\_num, menu, command**, subcommand)

Bar\_num    is the menu bar from which you want to delete the command. Bar\_num can be the ID number of a built-in or custom menu bar. See ADD.COMMAND for a list of ID numbers for built-in menu bars and shortcut menus.

Menu    is the menu from which you want to delete the command. Menu can be the name of a menu as text or the number of a menu. Menus are numbered starting with 1 from the left of the screen.

Command    is the command you want to delete, or the name of a submenu. Command can be the name of the command as text or the number of the command; the first command on a menu is in position 1.

Subcommand    is the command you want to delete from a submenu. If you use subcommand, you must use command as the name of the submenu.

**Remarks**

* If the specified command does not exist, DELETE.COMMAND returns the #VALUE! error value and interrupts the macro.
* After a command is deleted, the command number for all commands below that command is decreased by one.
* When you delete a built-in command, DELETE.COMMAND returns a unique ID number for that command. You can use this ID number with ADD.COMMAND to restore the built-in command to the original menu.

**Example**

The following macro formula removes the Compile Reports command from the Reports menu on a custom menu bar created by the ADD.BAR function in a cell named Financials.

DELETE.COMMAND(Financials, "Reports", "Compile Reports...")

**Related Functions**

ADD.COMMAND   Adds a command to a menu

CHECK.COMMAND   Adds or deletes a check mark to or from a command

ENABLE.COMMAND   Enables or disables a menu or custom command

RENAME.COMMAND   Changes the name of a command or menu

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# DELETE.FORMAT

Equivalent to deleting the specified format in the Number tab in the Format Cells dialog box, which appears when you click the Cells command on the Format menu, or in the Number tab for selected chart objects. Deletes a specified built-in or custom number format.

**Syntax**

**DELETE.FORMAT**(**format\_text**)

Format\_text    is the format given as a text string, for example, "000-00-0000".

**Remarks**

When you delete a custom number format, all numbers formatted with that number format are formatted with the General format.

**Related Functions**

FORMAT.NUMBER   Applies a number format to the selection

GET.CELL   Returns information about the specified cell

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# DELETE.MENU

Deletes a menu or submenu. Use DELETE.MENU to delete menus you have added to menu bars when the supporting macro sheet is closed (using an Auto\_Close macro), or any time you want to remove a menu.

**Syntax**

**DELETE.MENU**(**bar\_num, menu**, submenu)

Bar\_num    is the menu bar from which you want to delete the menu. Bar\_num can be the number of a Microsoft Excel built-in menu bar or the number returned by a previously run ADD.BAR function. For a list of ID numbers for built-in menu bars, see ADD.COMMAND.

Menu    is the menu you want to delete. Menu can be either the name of a menu as text or the number of a menu. Menus are numbered starting with 1 from the left of the screen. If the specified menu does not exist, DELETE.MENU returns the #VALUE! error value and interrupts the macro. After a menu is deleted, the menu number for each menu to the right of that menu is decreased by 1.

Submenu    is the name of the submenu you want to delete or the number of the menu in the list of commands.

**Remarks**

You cannot delete a shortcut menu. Instead, use ENABLE.COMMAND to prevent the user from accessing a shortcut menu.

**Example**

The following macro formula deletes the Reports menu from the custom menu bar created by the ADD.BAR function in a cell named Financials:

DELETE.MENU(Financials, "Reports")

**Related Functions**

ADD.MENU   Adds a menu to a menu bar

ADD.BAR   Adds a menu bar

DELETE.BAR   Deletes a menu bar

DELETE.COMMAND   Deletes a command from a menu

ENABLE.COMMAND   Enables or disables a menu or custom command

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# DELETE.NAME

Equivalent to clicking the Delete button in the Define Name dialog box, which appears when you click the Define command on the Name submenu of the Insert menu. Deletes the specified name.

**Syntax**

**DELETE.NAME**(**name\_text**)

Name\_text    is a text value specifying the name that you want to delete.

**Important**Formulas that use names in their arguments may return incorrect or error values when a name used in the formula is deleted.

**Related Functions**

DEFINE.NAME   Defines a name in the active workbook

GET.NAME   Returns the definition of a name

SET.NAME   Defines a name as a value

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# DELETE.OVERLAY

Equivalent to clicking the Delete Overlay command on the Chart menu in Microsoft Excel version 4.0. Deletes all overlays from a chart. If the chart has no overlay, DELETE.OVERLAY takes no action and returns TRUE.

**Syntax**

**DELETE.OVERLAY**( )

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# DELETE.STYLE

Equivalent to choosing the Delete button from the Style dialog box, which appears when you choose the Style command from the Format menu. Deletes a style from a workbook. Cells formatted with the deleted style revert to the Normal style.

**Syntax**

**DELETE.STYLE**(style\_text)

Style\_text    is the name of a style to be deleted. If style\_text does not exist, DELETE.STYLE returns the #VALUE! error value and interrupts the macro.

**Remarks**

You can only delete styles from the active workbook. External references are not permitted as part of the style\_text argument.

**Related Functions**

APPLY.STYLE   Applies a style to the selection

DEFINE.STYLE   Creates or changes a cell style

MERGE.STYLES   Merges styles from another workbook into the active workbook

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# DELETE.TOOL

Equivalent to selecting a button and dragging it to an area other than a toolbar. Deletes a button from a toolbar.

**Syntax**

**DELETE.TOOL**(**bar\_id, position**)

Bar\_id    specifies the name or number of a toolbar from which you want to delete a button. For detailed information about bar\_id, see ADD.TOOL.

Position    specifies the position of the button within the toolbar. Position starts with 1 at the left side (if horizontal) or at the top (if vertical).

**Related Functions**

ADD.TOOL   Adds one or more buttons to a toolbar

ADD.TOOLBAR   Creates a new toolbar with the specified buttons

DELETE.TOOLBAR   Deletes custom toolbars

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# DELETE.TOOLBAR

Equivalent to clicking the Delete button in the Toolbars dialog box, which appears when you click the Customize command (View menu, Toolbars submenu). Deletes a custom toolbar.

**Syntax**

**DELETE.TOOLBAR**(**bar\_name**)

Bar\_name    specifies the name of the toolbar that you want to delete. For detailed information about bar\_name, see ADD.TOOL.

**Remarks**

* You cannot delete built-in toolbars.
* If DELETE.TOOLBAR successfully deletes the toolbar, it returns TRUE. If you try to delete a built-in toolbar, DELETE.TOOLBAR returns the #VALUE! error value, interrupts the macro, and takes no other action.

**Related Functions**

ADD.TOOL   Adds or more buttons to a toolbar

ADD.TOOLBAR   Creates a new toolbar with the specified buttons

RESET.TOOLBAR   Resets a built-in toolbar to its initial default setting

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# DEMOTE

Equivalent to clicking the Group tool. Demotes, or groups, the selected rows or columns in an outline. Use DEMOTE to change the configuration of an outline by grouping rows or columns of information.

**Syntax**

**DEMOTE**(**row\_col**)

**DEMOTE**?(row\_col)

Row\_col    specifies whether to group rows or columns.

|  |  |
| --- | --- |
| **Row\_col** | **Demotes** |
| 1 or omitted | Rows |
| 2 | Columns |

**Remarks**

* If the selection consists of an entire row or rows, then rows are demoted even if row\_col is 2. Similarly, selection of an entire column overrides row\_col 1.
* If the selection is unambiguous (an entire row or column), then DEMOTE? will not display the dialog box.

**Related Functions**

PROMOTE   Promotes the selection in an outline

SHOW.DETAIL   Expands or collapses a portion of an outline

SHOW.LEVELS   Displays a specific number of levels of an outline

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# DEREF

Returns the value of the cells in a reference.

**Syntax**

**DEREF**(**reference**)

Reference    is the cell or cells from which you want to obtain a value. If reference is the reference of a single cell, DEREF returns the value of that cell. If reference is the reference of a range of cells, DEREF returns the array of values in those cells. If reference refers to the active sheet, it must be an absolute reference. Relative references are converted to absolute references.

**Remarks**

In most formulas, there is no difference between using a value and using the reference of a cell containing that value. The reference is automatically converted to the value, as necessary. For example, if cell A1 contains the value 2, then the formula =A1+1, like the formula =2+1, returns the result 3, because the reference A1 is converted to the value 2. However, in a few functions, such as the SET.NAME function, references are not automatically converted to values. Instead, those functions behave differently depending on whether an argument is a reference or a value.

**Example**

See the sixth example for SET.NAME.

**Related Function**

SET.NAME   Defines a names as a value

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# DESCR

Generates descriptive statistics for data in the input range.

If this function is not available, you must install the Analysis ToolPak add-in.

**Syntax**

**DESCR**(**inprng**, outrng, grouped, labels, summary, ds\_large, ds\_small, confid)

**DESCR**?(inprng, outrng, grouped, labels, summary, ds\_large, ds\_small, confid)

Inprng    is the input range.

Outrng    is the first cell (the upper-left cell) in the output table or the name, as text, of a new sheet to contain the output table. If FALSE, blank, or omitted, places the output table in a new workbook.

Grouped    is a text character that indicates whether the data in the input range is organized by row or column.

* If grouped is "C" or omitted, then the data is organized by column.
* If grouped is "R" then the data is organized by row.

Labels    is a logical value that describes where the labels are located in the input range, as shown in the following table:

|  |  |  |
| --- | --- | --- |
| **Labels** | **Grouped** | **Labels are in** |
| TRUE | "C" | First row of the input range. |
| TRUE | "R" | First column of the input range. |
| FALSE or omitted | (ignored) | No labels. All cells in the input range are data. |

Summary    is a logical value. If TRUE, DESCR reports the summary statistics. If FALSE or omitted, no summary statistics are reported.

Ds\_large    is an integer k. If ds\_large is present, DESCR reports the k-th largest data point. If ds\_large is omitted, the value is not reported.

Ds\_small    is an integer k. If ds\_small is present, DESCR reports the k-th smallest data point. If ds\_small is omitted, the value is not reported.

Confid    is the confidence level of the mean. If confid is given, DESCR reports the confidence interval for the input range. If confid is omitted, the confidence interval is 95%.

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# DIALOG.BOX

Displays the dialog box described in a dialog box definition table.

**Syntax**

**DIALOG.BOX**(**dialog\_ref**)

Dialog\_ref    is a reference to a dialog box definition table on sheet, or an array containing the definition table.

* If an OK button in the dialog box is chosen, DIALOG.BOX enters values in fields as specified in the dialog\_ref area and returns the position number of the button chosen. The position numbers start with 1 in the second row of the dialog box definition table.
* If the Cancel button in the dialog box is chosen, DIALOG.BOX returns FALSE.

The dialog box definition table must be at least seven columns wide and two rows high. The definitions of each column in a dialog box definition table are listed in the following table.

|  |  |
| --- | --- |
| **Column type** | **Column number** |
| Item number | 1 |
| Horizontal position | 2 |
| Vertical position | 3 |
| Item width | 4 |
| Item height | 5 |
| Text | 6 |
| Initial value or result | 7 |

The first row of dialog\_ref defines the position, size, and name of the dialog box. It can also specify the default selected item and the reference for the Help button. The position is specified in columns 2 and 3, the size in columns 4 and 5, and the name in column 6. To specify a default item, place the item's position number in column 7. You can place the reference for the Help button in row 1, column 1 of the table, but the preferred location is column 7 in the row where the Help button is defined. Row 1, column 1 is usually left blank.

The following table lists the numbers for the items you can display in a dialog box.

|  |  |
| --- | --- |
| **Dialog-box item** | **Item number** |
| Default OK button | 1 |
| Cancel button | 2 |
| OK button | 3 |
| Default Cancel button | 4 |
| Static text | 5 |
| Text edit box | 6 |
| Integer edit box | 7 |
| Number edit box | 8 |
| Formula edit box | 9 |
| Reference edit box | 10 |
| Option button group | 11 |
| Option button | 12 |
| Check box | 13 |
| Group box | 14 |
| List box | 15 |
| Linked list box | 16 |
| Icons | 17 |
| Linked file list box (Windows only) | 18 |
| Linked drive and directory box (Windows only) | 19 |
| Directory text box | 20 |
| Drop-down list box | 21 |
| Drop-down combination edit/list box | 22 |
| Picture button | 23 |
| Help button | 24 |

**Remarks**

* Add 100 to an item number in the above table to define the item as a trigger. A trigger is a dialog box item that, when chosen, returns to your macro (as clicking OK would) but continues to display the dialog box, allowing your macro to change the dialog box definition or display an alert message or another dialog box. The Help button, edit boxes, group boxes, static text, and icons cannot be triggers.
* Add 200 to an item number to define it as dimmed. A dimmed (gray) item cannot be chosen or selected. For example, 203 is a dimmed OK button. You can use item 223 to include a picture in your dialog box that does not behave like a button.
* If a trigger has been chosen and you still want to clear a dynamic dialog box from the screen, use DIALOG.BOX(FALSE). This is useful if you want to confirm that the dialog box has been filled out correctly before dismissing it.
* The dialog box definition table can be an array. If dialog\_ref is an array instead of a reference, DIALOG.BOX returns a modified copy of that array, along with the results of the dialog box in the seventh column. (The first item in the seventh column is the position number of the chosen button or of a triggered item.) This is useful if you want to preserve the original dialog box definition table since DIALOG.BOX does not modify the original array argument. If you cancel the dialog box, or if a dialog box error occurs, DIALOG.BOX returns FALSE instead of an array.

**Related Functions**

ALERT   Displays a dialog box and a message

INPUT   Displays a dialog box for user input

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# DIRECTORY

Sets the current drive and directory or folder to the specified path and returns the name of the new directory or folder as text. Use DIRECTORY to get the name of the current directory or folder for use with the OPEN and SAVE.AS functions or to specify a directory or folder from which to return a list of files with the FILES function.

**Syntax**

**DIRECTORY**(**path\_text**)

Path\_text    is the drive and directory or folder you want to change to.

* If path\_text is not specified, DIRECTORY returns the name of the current directory or folder as text.
* If path\_text does not specify a drive, the current drive is assumed.

**Examples**

In Microsoft Excel for Windows, the following macro formula sets the directory to \EXCEL\MODELS on the current drive and returns the value "drive:\EXCEL\MODELS":

DIRECTORY("\EXCEL\MODELS")

The following macro formula sets the current drive to E and sets the directory to \EXCEL\MODELS on E. It returns the value "E:\EXCEL\MODELS":

DIRECTORY("E:\EXCEL\MODELS")

In Microsoft Excel for the Macintosh, the following macro formula sets the folder to HARD DISK: APPS:EXCEL:FINANCIALS and returns the value "HARD DISK:APPS:EXCEL:FINANCIALS":

DIRECTORY("HARD DISK:APPS:EXCEL:FINANCIALS")

**Related Function**

FILES   Returns the filenames in the specified directory or folder

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# DISABLE.INPUT

Blocks all input from the keyboard and mouse to Microsoft Excel (except input to displayed dialog boxes). Use DISABLE.INPUT to prevent input from the user or from other applications.

**Syntax**

**DISABLE.INPUT**(**logical**)

Logical    is a logical value specifying whether input is currently disabled. If logical is TRUE, input is disabled; if FALSE, input is reenabled.

**Remarks**

Disabling input can be useful if you are using dynamic data exchange (DDE) to communicate with Microsoft Excel from another application.

**Important**   Be sure to end any macro that uses DISABLE.INPUT(TRUE) with a DISABLE.INPUT(FALSE) function. If you do not include DISABLE.INPUT(FALSE) to allow non-dialog-box input, you will not be able to take any actions on your computer after the macro has finished.

**Related Functions**

CANCEL.KEY   Disables macro interruption

ENTER.DATA   Turns Data Entry mode on and off

WORKSPACE   Changes workspace settings

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# DISPLAY

Controls whether the screen displays formulas, gridlines, row and column headings, and other screen attributes. There are two syntax forms of this function. Use syntax 1 to control screen display. Use syntax 2 to control the display of the Info Window.

Syntax 1   Controls screen display

Syntax 2   Controls display of Info Window

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# DISPLAY Syntax 1

Controls whether the screen displays formulas, gridlines, row and column headings, and other screen attributes. There are two syntax forms of this function. Use syntax 1 to control screen display. This function is provided for compatibility with Microsoft Excel version 4.0. To control screen display in Microsoft Excel version 5.0 or later, see OPTIONS.VIEW.

Arguments for this syntax form correspond to options and check boxes in the Display Options dialog box in Microsoft Excel version 4.0. Arguments that correspond to check boxes are logical values. If an argument is TRUE, Microsoft Excel selects the check box; if FALSE, Microsoft Excel clears the check box. If an argument is omitted, no action is taken.

**Syntax**

**DISPLAY**(formulas, gridlines, headings, zeros, color\_num, reserved, outline, page\_breaks, object\_num)

**DISPLAY**?(formulas, gridlines, headings, zeros, color\_num, reserved, outline, page\_breaks, object\_num)

Formulas    corresponds to the Formulas check box. The default is FALSE on worksheets and TRUE on macro sheets.

Gridlines    corresponds to the Gridlines check box. The default is TRUE.

Headings    corresponds to the Row & Column Headings check box. The default is TRUE.

Zeros    corresponds to the Zero Values check box. The default is TRUE.

Color\_num    is a number from 0 to 56 corresponding to the gridline and heading colors in the Display Options dialog box; 0 corresponds to automatic color and is the default value.

Reserved    is reserved for certain international versions of Microsoft Excel.

Outline    corresponds to the Outline Symbols check box. The default is TRUE.

Page\_breaks    corresponds to the Automatic Page Breaks check box. The default is FALSE.

Object\_num    is a number from 1 to 3 corresponding to the display options in the Object box.

|  |  |
| --- | --- |
| **Object\_num** | **Corresponds to** |
| 1 or omitted | Show All |
| 2 | Show Placeholders |
| 3 | Hide |

**Related Functions**

OPTIONS.VIEW   Controls display

WORKSPACE   Changes workspace settings

ZOOM   Enlarges or reduces a sheet in the active window

Syntax 2   Controls display of Info Window

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# DISPLAY Syntax 2

Equivalent to clicking the commands on the Info menu when the Info Window is active. Controls which commands on the Info Window are in effect. There are two syntax forms of this function. Use syntax 2 to control the display of the Info Window. The Info Window must be active to use this form of DISPLAY. This function is included for compatibility with Microsoft Excel 95 or earlier; the Info Window is not available in Microsoft Excel 97 or later.

Arguments in this syntax form correspond to commands on the Info menu with the same names.

For these arguments:

* If the argument is TRUE, Microsoft Excel displays the corresponding Info item.
* If the argument is FALSE, Microsoft Excel does not display the corresponding Info item.
* If the argument is omitted, the status of the item is unchanged.

**Syntax**

For controlling Info Window display

**DISPLAY**(cell, formula, value, format, protection, names, precedents, dependents, note)

Cell    is a logical value that corresponds to the Cell command and controls the display of cell information in the Info Window. If TRUE, cell information will be displayed; if FALSE, cell information will not be displayed.

Formula    is a logical value that corresponds to the Formula command and controls the display of formula information in the Info Window. If TRUE, formula information will be displayed; if FALSE, formula information will not be displayed.

Value    is a logical value that corresponds to the Value command and controls the display of value information in the Info Window. If TRUE, value information will be displayed; if FALSE, value information will not be displayed.

Format    is a logical value that corresponds to the Format command and controls the display of format information in the Info Window. If TRUE, format information will be displayed; if FALSE, format information will not be displayed.

Protection    is a logical value that corresponds to the Protection command and controls the display of protection information in the Info Window. If TRUE, protection information will be displayed; if FALSE, protection information will not be displayed.

Names    is a logical value that corresponds to the Names command and controls the display of name information in the Info Window. If TRUE, name information will be displayed; if FALSE, name information will not be displayed.

Precedents    is a number from 1 to 3 that specifies which precedents to list, according to the following table.

Dependents    is a number from 1 to 3 that specifies which dependents to list, according to the following table.

|  |  |
| --- | --- |
| **Precedents or dependents** | **List** |
| 0 | None |
| 1 | Direct only |
| 2 | All levels |

Note    is a logical value that corresponds to the Note command and controls the display of note information in the Info Window. If TRUE, note information will be displayed; if FALSE, note information will not be displayed.

**Related Functions**

SHOW.INFO   Controls the display of the Info Window

ZOOM   Enlarges or reduces a sheet in the active window

Syntax 1   Controls screen display

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# DOCUMENTS

Returns, as a horizontal array in text form, the names of the specified open workbooks. Use DOCUMENTS to retrieve the names of open workbooks to use in other functions that manipulate open workbooks.

**Syntax**

**DOCUMENTS**(type\_num, match\_text)

Type\_num    is a number specifying whether to include add-in workbooks in the array of workbooks, according to the following table.

|  |  |
| --- | --- |
| **Type\_num** | **Returns** |
| 1 or omitted | Names of all open workbooks except add-in workbooks |
| 2 | Names of add-in workbooks only |
| 3 | Names of all open workbooks |

Match\_text    specifies the workbooks whose names you want returned and can include wildcard characters. If match\_text is omitted, DOCUMENTS returns the names of all open workbooks.

**Remarks**

* Use the INDEX function to select individual workbook names from the array to use in other functions that take workbook names as arguments.
* Use COLUMNS to count the number of entries in the horizontal array.
* Use TRANSPOSE to change a horizontal array to a vertical one.
* Since the DOCUMENTS function only returns actual workbook names, it ignores any changes made by the WINDOW.TITLE function.

**Examples**

In Microsoft Excel for Windows, if your workspace contains windows named BUDGET.XLS, CHART1, ACTUAL.XLS:1, ACTUAL.XLS:2, and BOOK.XLS, then:

DOCUMENTS (1) equals the four-cell array {"ACTUAL.XLS", "BOOK.XLS",  
"BUDGET.XLS", "CHART1"}

SET.NAME("Document\_array", DOCUMENTS()) defines the name, Document\_array, as {"ACTUAL.XLS", "BOOK.XLS", "BUDGET.XLS", "CHART1"}

In Microsoft Excel for the Macintosh, if your workspace contains windows named BUDGET CHART1, ACTUALS, ACTUALS:2, and BOOK then:

DOCUMENTS(1) equals the four-cell array {"ACTUALS", "BOOK", "BUDGET", "CHART1"}

**Related Functions**

FILES   Returns the filenames in the specified directory or folder

GET.DOCUMENT   Returns information about a workbook

GET.WINDOW   Returns information about a window

WINDOWS   Returns the names of all open windows

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# DUPLICATE

Duplicates the selected object. If an object is not selected, returns the #VALUE! error value and interrupts the macro.

**Syntax**

**DUPLICATE**( )

**Related Functions**

COPY   Copies and pastes data or objects

PASTE   Pastes cut or copied data

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