;; Macro Documentation for Questor

Macros

#begin_macro
alert
Opens an alert panel.
message is the message in the panel.
buttons is the number of buttons (**1 - OK** only, **2 - OK** and **Cancel**)
icon_type is not used
result_range is the cell where the result is put
If you click OK, the result will be 1.
If you click Cancel, the result will be 0.
Ex:
alert("You cannot do that!"; ; ;)
alert("Do you want to do this?"; 2; ;A1)
#end_macro

#begin_macro
beep
Plays the system beep.
#end_macro

#begin_macro
blank
Removes the values in the cells in **range**. If **range** is omitted, then the current selection will be cleared. The format of the cells will not be affected.
#end_macro

#begin_macro
branch
Makes the macro continue at **location**.

location can be either a cell address or a range name.
Also see **{dispatch}**
#end_macro

#begin_macro
break
Programmatic interruption of macro execution. Equivalent to a user interrupt by pressing **Command-.**
#end_macro

#begin_macro
break_off
Disables the possibility for the user to break QScript execution by pressing **Command-.**
Also see **{break_on}** and **{set_break_enabled}**
Note: If the macro goes into an infinite loop, Questor will hang forever.
#end_macro

#begin_macro
break_on
Enables the possibility for the user to break QScript execution by pressing **Command-.**
Also see **{break_off}** and **{set_break_enabled}**
#end_macro

#begin_macro
calculate
Recalculates the worksheet, but does not update it on the screen. Call **{redisplay_changed_cells}** to update the screen.
Also see **{redisplay_changed_cells}** and **{recalculate}**
#end_macro

#begin_macro
cell_enter
Enters **string** in the cell specified by **target_location**. If **target_location** is omitted, the string will be entered in the active cell. You can enter formulas as well.
Note: To make the changes visible in the worksheet, you must use the {recalculate} macro.
Also see **{set_value_at}**
Ex:
{cell_enter "hello world"}
{cell_enter "=sin(0.5)"; A1}
#end_macro

#begin_macro
choose_many
Opens a panel with up to eight switches, an OK button and a Cancel button.
choice_range is the range that contains the switch descriptions. This range should have three rows and one column for each switch:
- Each cell in the first row contains the text that should appear at the corresponding switch.
- Each cell in the second row contains the initial state for the corresponding switch. 1 means that the switch is on, 0 means that the switch is off.
- Each cell in the third row contains the state for the corresponding switch when the panel closes after the user clicks OK or Cancel. 1 means that the switch is on, 0 means that the switch is off.
result_range is the cell where the macro will put **0** if the user clicked Cancel, and **1** if the user clicked OK.
prompt is the prompt in the panel.
title is the tile of the panel.
Ex:
Assume the range A1:C3 looks like this:
Snacks Popcorn Chips

0.00 0.00 0.00

{choose_many A1:C3; D1; "Pick your choices..."; "Choose Panel"}
will open a panel with three switches that are not set.
#end_macro

#begin_macro
choose_one
Opens a panel with up to eight radio buttons, an OK button and a Cancel button.
choice_range is the range that contains the button descriptions. This range should have three rows and one column for each button:
- Each cell in the first row contains the text that should appear at the corresponding radio button.
- Each cell in the second row contains the initial state for the corresponding radio button. 1 means that the radio button is on, 0 means that the switch is radio button.
- Each cell in the third row contains macro commands or the range name of a macro that you want to execute when the corresponding button in the panel is on and the user clicks OK.
result_range is the cell where the macro will put **0** if the user clicked Cancel, and **1** if the user clicked OK.
prompt is the prompt in the panel.
title is the tile of the panel.
Ex:
Assume the range A1:C3 looks like this:

Yes	**No**	**Maybe**
1.00	**0.00**	**0.00**
m1	**m2**	**m3**

{choose_one A1:C2; D1; "Pick your choice..."; "Choose Panel"}
will open a panel with three radio buttons. The first button will be selected. If you select the second button and click OK, the macro **m2** will execute.
#end_macro

#begin_macro
close
Closes a file that has been opened with the **{open}** macro.
If only one file is opened, **path** can be omitted.
If more that one file is opened, **path** can be either the full path name, the full file name or just the file name without extension.
Also see **{open}**
Ex:
If the file **/tmp/my_file.txt** has been opened, all the following expressions will close it:
{close "/tmp/my_file.txt"}
{close "my_file.txt"}
{close "my_file"}
{close} *; if it is the only open file*
#end_macro

#begin_macro
color_clear_background
Sets the background color of the cells in **range** to clear (the default). If **range** is omitted, the active cell will be affected.
Note: To make the changes visible in the worksheet, you must use the {recalculate} macro.
Ex:
{color_clear_background A1:B6}
{color_clear_background coord(1; 2; 1)} *; cell B1*
#end_macro

#begin_macro
color_set_background
Sets the background color of the cells in **range** to a color specified in RGB. The **red**, **green** and **blue** color components should be between 0 and 1. If **range** is omitted, the active cell will be affected.

Note: To make the changes visible in the worksheet, you must use the {recalculate} macro.
Also see **{color_set_text}**
Ex:
{color_set_background 1; 0.4; 0.6; A1:B6}
{color_set_background coord(1; 2; 1)} *; cell B1*
#end_macro

#begin_macro
color_set_text
Sets the text color of the cells in **range** to a color specified in RGB. The **red**, **green** and **blue** color components should be between 0 and 1. If **range** is omitted, the active cell will be affected.
Note: To make the changes visible in the worksheet, you must use the {recalculate} macro.
Also see **{color_set_background}**
Ex:
{color_set_text 1; 0.4; 0.6; A1:B6}
{color_set_text coord(1; 2; 1)} *; cell B1*
#end_macro

#begin_macro
d
Moves the current selection **steps** number of rows down. If **steps** is omitted, then the selection will be moved one row.
Same as **{down}**
#end_macro

#begin_macro
data_fill
Fills **output_range** with values.
To fill a range, you use three values: **start**, **step** and **stop**.

You can specify **now()** or **today()** as the start value to start filling from the current time or date.
- If **step** is not zero, the **stop** value is ignored. The range will be filled with values starting with the **start** value and using the **step** value to generate the next value.
- If **step** is zero, the range will be filled with values starting with the **start** value, stopping with the **stop** value, and automatically generating a step value.
units specifies the type of fill:
- **"linear"** will fill the range with values:
  start, start + 1 * step, start + 2 * step etc.
- **"geometric"** will fill the range with values:
  start, start * step, start * step ^ 2, start * step ^ 3 etc.
- **"seconds"** should be used if you enter a time as a start value. The step value will then represent seconds. The stop value is ignored.
- **"minutes"** should be used if you enter a time as a start value. The step value will then represent minutes. The stop value is ignored.
- **"hours"** should be used if you enter a time as a start value. The step value will then represent hours. The stop value is ignored.
- **"days"** should be used if you enter a date as a start value. The step value will then represent days. The stop value is ignored.
- **"weeks"** should be used if you enter a date as a start value. The step value will then represent weeks. The stop value is ignored.
- **"months"** should be used if you enter a date as a start value. The step value will then represent months. The stop value is ignored.
- **"years"** should be used if you enter a date as a start value. The step value will then represent years. The stop value is ignored.
- **"random"** will fill the selected range with random values between the start and the stop value. The step value is ignored.

by_columns is used to define how the data should be filled: if it is true, the fill will be done by columns.
Note: To make the changes visible in the worksheet, you must use the {recalculate} macro.
Ex:
{data_fill A1:A4; 93-01-01; 3; 0; "months"; true}
will put the following in the range **A1:A4**

01-Jan-93
01-Apr-93
01-Jul-93
01-Oct-93

{data_fill A1:A4; 0; 0; 1200; "linear"; true}
will put the following in the range **A1:A4**
0.00
400.00
800.00
1 200.00
#end_macro

#begin_macro
define
This program flow command works with a subroutine call to pass arguments to the subroutine. The subroutine call in the macro contains the arguments the subroutine will use. The define statement must be the first command of the subroutine. It specifies what cells the arguments should be be placed in and whether each argument should be placed as a label or a value.
Use **:string** if you want the argument to be placed as a label, and **:value** if you want it to be placed as a value.
Ex:
Assume the range **A12:B14** looks like this:
sub {define e1:value; e2:value; e3:value}
{print e1 + e2 + e3}
{return}

The macro command
{sub 1; 2; 3}
will print **6** in the console (i.e. 1 + 2 + 3)
The arguments will be stored in the cells **E1, E2** and **E3.**
#end_macro

#begin_macro
dispatch
This program flow command instructs the macro to branch to the location specified by the contents of the cell **location**. In other words, the **location** cell is used as variable. In contrast, the **{branch}** command starts executing at **location**.
Also see **{branch}**
Ex:
Assume the cell **B1** contains the string "A1":
{dispatch B1}
will make the macro continue at cell **A1**
#end_macro

#begin_macro
documents_close_all
Closes all open documents.
If **discard_changes** is *true*, then the documents will close without a panel asking you to save changed documents.
#end_macro

#begin_macro
documents_hide_all
Equivalent to choosing *Hide All* in the menu *Documents*.
#end_macro

#begin_macro
document_close
Equivalent to choosing *Close* in the menu *Document*.
If **discard_changes** is *true*, then the document will close without a panel asking you to save a changed document.
#end_macro

#begin_macro
document_hide
Equivalent to choosing *Hide* in the menu *Document*.
#end_macro

#begin_macro
document_inspect
Equivalent to choosing *Inspect* in the menu *Document*.
#end_macro

#begin_macro
document_new_report_layout
Equivalent to choosing *New Report Layout* in the menu *Document*.
#end_macro

#begin_macro
document_new_window
Equivalent to choosing *New Window* in the menu *Document*.
#end_macro

#begin_macro
document_new_worksheet
Equivalent to choosing *New Worksheet* in the menu *Document*.
#end_macro

#begin_macro
document_open
Equivalent to choosing *Open* in the menu *Document*.

#end_macro

#begin_macro
document_recalculate
Equivalent to choosing *Recalculate* in the menu *Document*.
#end_macro

#begin_macro
document_revert
Equivalent to choosing *Revert to Saved* in the menu *Document*.
#end_macro

#begin_macro
document_save
Equivalent to choosing *Save* in the menu *Document*.
#end_macro

#begin_macro
document_save_all
Equivalent to choosing *Save All* in the menu *Document*.
#end_macro

#begin_macro
document_save_as
Equivalent to choosing *Save As* in the menu *Document*.
#end_macro

#begin_macro
document_set_startup

Sets the current document to the **startup document** for Questor. The startup document can also be specified in the **Launch & Misc Preferences Panel**.
#end_macro

#begin_macro
down
Moves the current selection **steps** number of rows down. If **steps** is omitted, then the selection will be moved one row.
Same as **{d}**
#end_macro

#begin_macro
edit_clear_cells
Removes the values in the cells in **range**. If **range** is omitted, then the current selection will be cleared.
Equivalent to choosing *Clear* in the menu *Cells*.
Note: To make the changes visible, you should use the macro {recalculate}.
#end_macro

#begin_macro
edit_copy_cells
Copies the cells in **range** to the pasteboard. If **range** is omitted, then the current selection will be copied.
Equivalent to choosing *Copy* in the menu *Edit*.
#end_macro

#begin_macro
edit_copy_cells_quick
Copies the cells in the range **origin** to the range **destination**. If **origin** is omitted, then the cells in the pasteboard will be used.
Note: To make the changes visible, you should use the macro {recalculate}.

#end_macro

#begin_macro
edit_cut_cells
Removes the cells in **range** completely. If **range** is omitted, then the current selection will be cut.
Equivalent to choosing *Cut* in the menu *Edit*.
Note: To make the changes visible, you should use the macro {redisplay_windows}.
#end_macro

#begin_macro
edit_delete_columns
Deletes the columns that are covered by **column_range**. (Equivalent to choosing *Delete Column* in the menu *Edit)*.
If **column_range** is omitted, then the current selection will be used.
If **partially** is *true*, only the cells in **column_range** will be removed. All cells to the right will be shifted to the left. (Equivalent to choosing *Delete Cells* in the menu *Edit)*
Note: To make the changes visible, you should use the macro {redisplay_windows}.
#end_macro

#begin_macro
edit_delete_rows
Deletes the rows that are covered by **row_range**. (Equivalent to choosing *Delete Row* in the menu *Edit)*.
If **row_range** is omitted, then the current selection will be used.
If **partially** is *true*, only the cells in **row_range** will be removed. All cells below will be shifted upwards.
Note: To make the changes visible, you should use the macro {redisplay_windows}.
#end_macro

#begin_macro
edit_paste_cells
Pastes the cells in the pasteboard to **range** in the worksheet. If **range** is larger than one cell, then the contents of the pasteboard will be repeated the fill the range. If **range** is omitted, then the current selection will be used.
Equivalent to choosing *Paste Cells* in the menu *Edit*.
Note: To make the changes visible, you should use the macro {recalculate}.
#end_macro

#begin_macro
fc
Selects the upper left cell of the worksheet (cell **A1**).
Same as **{firstcell}**
Also see **{lc}**
#end_macro

#begin_macro
filesize
Retrieves the number of bytes in an open ASCII file.
location is the cell where the result will be stored.
path is the full name of the file.
If only one file is opened, **path** can be omitted.
If more that one file is opened, **path** can be either the full path name, the full file name or just the file name without extension.
Ex:
{open "/tmp/my_file"}
{write "a string"}
{filesize A1}
puts **7** in cell **A1**
{close}
#end_macro

#begin_macro
firstcell
Selects the upper left cell of the worksheet (cell **A1**).
Same as **{fc}**
Also see **{lastcell}**
#end_macro

#begin_macro
font_bold
Makes the font boldface in all the cells in **range**. If **range** is omitted, then the selected cells will be affected.
Note: To make the changes visible, you should use the macro {recalculate}.
#end_macro

#begin_macro
font_heavier
Makes the fonts heavier in all the cells in **range**. If **range** is omitted, then the selected cells will be affected.
Note: To make the changes visible, you should use the macro {recalculate}.
#end_macro

#begin_macro
font_italic
Makes the font italic in all the cells in **range**. If **range** is omitted, then the selected cells will be affected.
Note: To make the changes visible, you should use the macro {recalculate}.
#end_macro

#begin_macro
font_larger
Makes the fonts larger in all the cells in **range**. If **range** is omitted, then the

selected cells will be affected.
Note: To make the changes visible, you should use the macro {recalculate}.
#end_macro

#begin_macro
font_lighter
Makes the fonts lighter in all the cells in **range**. If **range** is omitted, then the selected cells will be affected.
Note: To make the changes visible, you should use the macro {recalculate}.
#end_macro

#begin_macro
font_panel
Opens the font panel.
#end_macro

#begin_macro
font_set
Sets the fonts in the cells in **range**.
Note: To make the changes visible, you should use the macro {recalculate}.
Ex:
{font_set "Helvetica-Bold"; 16; A1:F1}
{font_set "Courier"; 16; A1:F1}
#end_macro

#begin_macro
font_smaller
Makes the fonts smaller in all the cells in **range**. If **range** is omitted, then the selected cells will be affected.
Note: To make the changes visible, you should use the macro {recalculate}.
#end_macro

#begin_macro
font_unbold
Turns off boldface in the fonts in the cells in **range**. If **range** is omitted, then the selected cells will be affected.
Note: To make the changes visible, you should use the macro {recalculate}.
#end_macro

#begin_macro
font_unitalic
Turns off italic in the fonts in the cells in **range**. If **range** is omitted, then the selected cells will be affected.
Note: To make the changes visible, you should use the macro {recalculate}.
#end_macro

#begin_macro
for
This program flow command performs a subroutine a specified number of times. The number of repetitions is determined by the **start**, **step** and **stop** values.
Ex:
{for a1; 1; 10; 1; my_subroutine}
calls **my_subroutine** 10 times
#end_macro

#begin_macro
forbreak
This program flow command in a **{for}** command subroutine to stop the looping process. **{forbreak}** is usually used in combination with an **{if}** command that tests a condition on the worksheet. When the condition becomes true, the **{forbreak}** terminates the loop, returning control to the macro at the command following the **{for}** command.

#end_macro

#begin_macro
getlabel
Opens a panel where you can enter a string. **prompt** is the title of the panel.
The string that was entered in the panel will be put in cell **location**.
Ex:
{getlabel "Enter a string"; A1}
#end_macro

#begin_macro
getnumber
Opens a panel where you can enter a number. **prompt** is the title of the panel.
The number that was entered in the panel (or an error value if not a number)
will be put in cell **location**.
Ex:
{getnumber "Enter a number"; A1}
#end_macro

#begin_macro
getpos
Retrieves the position of the file pointer in a file opened by the **{open}** macro.
The first character position in a file is zero.
location is the cell where the result will be stored.
If only one file is opened, **path** can be omitted.
If more that one file is opened, **path** can be either the full path name, the full file name or just the file name without extension.
Also see **{setpos}**
Ex:
{open "/tmp/my_file"}
{getpos A1}
puts **0** in cell **A1**

{write "a string"}
{getpos A1}
puts **8** in cell **A1**
{close}
#end_macro

#begin_macro
hide_columns
Hides the columns that are covered by **range**, i.e the column width is set to 0. If **range** is omitted, then the current selection will be used.
#end_macro

#begin_macro
hide_questor
Hides the Questor application in Workspace.
#end_macro

#begin_macro
hide_rows
Hides the rows that are covered by **range**, i.e the row height is set to 0. If **range** is omitted, then the current selection will be used.
#end_macro

#begin_macro
home
Selects the upper left cell of the worksheet (cell **A1**).
Same as **{firstcell}**
#end_macro

#begin_macro

if
This program flow command tests if the **condition** argument is true. If it is true, the macro command that follows on the same line will be executed. Otherwise, the macro continues to execute from the next cell.
Ex:
{if A1 = 12} {print "A1 is 12"}
#end_macro

#begin_macro
indicate
Displays **string** in the **information field** in the lower left corner of the worksheet window.
Same as **{print_status string}**
Note: Questor will continue to display information messages in the information field, so the string will eventually be overwritten.
#end_macro

#begin_macro
info_help
Equivalent to choosing *Help* in the menu *Info*.
#end_macro

#begin_macro
info_license
Equivalent to choosing *License* in the menu *Info*.
#end_macro

#begin_macro
info_panel
Equivalent to choosing *Info Panel* in the menu *Info*.
#end_macro

#begin_macro
info_preferences
Equivalent to choosing *Preferences* in the menu *Info*.
#end_macro

#begin_macro
info_release_notes
Equivalent to choosing *Release Notes* in the menu *Info*.
#end_macro

#begin_macro
l
Moves the current selection **steps** number columns to the left. If **steps** is omitted, then the selection will be moved one column.
Same as **{left}**
#end_macro

#begin_macro
lastcell
Selects the lower right cell of the used part of the worksheet.
Same as **{lc}**
Also see **{firstcell}**
#end_macro

#begin_macro
lc
Selects the lower right cell of the used part of the worksheet.
Same as **{lastcell}**
Also see **{fc}**

#end_macro

#begin_macro
left
Moves the current selection **steps** number columns to the left. If **steps** is omitted, then the selection will be moved one column.
Same as **{l}**
#end_macro

#begin_macro
let
Places **entry** into **target_location.**
Ex:
{let A1; 123}
will place **123** in cell **A1**
{let my_name; A1 + 123}
will place the value in cell **A1** plus **123** in the cell referenced by **my_name**
#end_macro

#begin_macro
onerror
This program flow command allows macro execution to continue even if the macro encounters a system error condition like a division by zero or reading a non-existent file. If an error occurs, the macro will contine at **branch_location.**
The error message will be printed in cell **message_location.**
The **{onerror}** command should be placed before an error might occur.
Ex:
If you execute the macro **open** and enters a non-existant file, the **{readln}** command will cause an error that will call the subroutine **message:**

```
open    {onerror message}
        {getlabel "Open file"; A1}
        {open A1; "r"}
```

```
        {readln A2; A1}

message {print "no such file"}
#end_macro


#begin_macro
open
Opens a new or an old file for reading or writing ASCII text.
path is the complete filename for the file.
mode specifies how the file will be accessed. If it is omitted, the file will be
opened in write ("w") mode.
"r" - opens and reads a file that already exists.
"m" - opens a modifies a file that already exists. You can use all the file
commands, including {write} and {writeln}.
"w" - creates a new file (erasing any file with that name). You can use all the
file commands, including {write} and {writeln}.
"a" - opens an existing file with the file pointer at the end of the file. You
can use all the file commands.
More than one file can be opened at the same time.
Also see {close}
Ex:
{open "/tmp/new_file", "w"}
creates a new file.
{open "/tmp/old_file", "r"}
opens the file /tmp/old_file for reading.
#end_macro


#begin_macro
print
Prints value in the Console window.
#end_macro
```

#begin_macro
print_page_layout
Equivalent to choosing *Page Layout* in the menu *Print*.
#end_macro

#begin_macro
print_print
Equivalent to choosing *Print* in the menu *Print*.
#end_macro

#begin_macro
print_report_layout
Equivalent to choosing *Report Layout* in the menu *Print*.
#end_macro

#begin_macro
print_status
Displays **string** in the **information field** in the lower left corner of the worksheet window.
Note: Questor will continue to display information messages in the information field, so the string will eventually be overwritten.
#end_macro

#begin_macro
quit
This command causes a macro to stop. You usually put it at the end of your macro.
#end_macro

#begin_macro

quit_questor
Quits the Questor application. If **discard_changes** is *true*, then Questor will close without a panel asking you to save changed documents.
#end_macro

#begin_macro
r
Moves the current selection **steps** number of columns to the right. If **steps** is omitted, then the selection will be moved one column.
Same as **{right}**
#end_macro

#begin_macro
range_name_create
Assigns a name to a range address.
*Note: This is equivalent to naming a range in the **Names** aspect of the **Document inspector.***
Ex:
{range_name_create "dates"; A1:B12}
assignes the name **dates** to the range **A1:B12**
#end_macro

#begin_macro
range_name_delete
Deletes a defined range name in the document.
Ex:
{range_name_delete "dates"}
deletes the range name **dates** from the document
#end_macro

#begin_macro

range_name_delete_all
Deletes all defined range names in the document.
#end_macro

#begin_macro
range_name_label_create
Assigns range names to one or more single-cell ranges, using the text in adjacent cells as te range names.
direction specifies the position of the single-cell range(s) relative to **text_range**. You can specify **"right"**, **"left"**, **"up"** or **"down"**. If you omit the direction argument, **"right"** will be used.
*Note: This is equivalent to choosing **Label Range to Right/Left/Up/Down** in the menu **Ranges**.*
Ex:
{range_name_label_create "right"; A1:A3}
will assign the names in **A1**, **A2** and **A3** to the cell ranges to the right of respecive cell (i.e. **B1**, **B2** and **B3**)
#end_macro

#begin_macro
range_name_table
Creates a two-column table with the names of all defined ranges in the document listed alphabetically in the left column, and the corresponding range addresses listed in the right column.
table_location specifies the location of the upper left corner of the table.
#end_macro

#begin_macro
range_note_create
Attaches a note (comment) to a named range.
Ex:
{range_note_create "dates"; "a comment..."}

will add a note to the range name **dates**
#end_macro

#begin_macro
range_note_delete
Deletes the note (comment) currently attached to a range name.
#end_macro

#begin_macro
range_note_delete_all
Deletes all notes (comments) currently attached to a range names in the document.
#end_macro

#begin_macro
range_note_table
Creates a three-column table with the names of all defined ranges in the document listed alphabetically in the left column, the corresponding range addresses listed in the middle column, and the corresponding note (comment) in the right column.
table_location specifies the location of the upper left corner of the table.
#end_macro

#begin_macro
read
Retrieves a portion of an ASCII file that is opened with the **{open}** macro. The macro will start reading from the current position of the file pointer. The file pointer then moves to the first character after those that are read.
count is the number of characters that should be read.
location is the cell where the text will be stored.
path is the file name of the file.

If **count** is omitted, the macro will read one character.
If only one file is opened, **path** can be omitted.
If more that one file is opened, **path** can be either the full path name, the full file name or just the file name without extension.
Also see **{open}**, **{close}** and **{readln}**
Ex:
{open "/tmp/oldfile", "r"}
{read 25; A1}
puts the 25 first characters in the file in cell **A1**
{close}
#end_macro

#begin_macro
readln
Retrieves a portion of an ASCII file that is opened with the **{open}** macro The macro will start reading from the current position of the file pointer to the next carriage return. The file pointer then moves to the first character after those that are read.
location is the cell where the text will be stored.
If only one file is opened, **path** can be omitted.
If more that one file is opened, **path** can be either the full path name, the full file name or just the file name without extension.
Also see **{open}**, **{close}** and **{read}**
Ex:
{open "/tmp/oldfile", "r"}
{readln; A1}
puts the first line of the file in cell **A1**
{close}
#end_macro

#begin_macro
recalculate
Recalculates and updates the worksheet on the screen. It is the same as a

{calculate} followed by a **{redisplay_changed_cells}.**
Note: This function should always be called after changing cell values or cell formatting.
Also see **{calculate}** and **{redisplay_changed_cells}**
#end_macro

#begin_macro
redisplay_changed_cells
Redisplays the changed cells only in the worksheet. This macro should be called after a **{calculate}**
Also see **{calculate}** and **{recalculate}**
#end_macro

#begin_macro
redisplay_windows
Redisplays all worksheet windows completely. Usually it is much faster to use **{redisplay_changed_cells}.**
Also see **{redisplay_changed_cells}**
#end_macro

#begin_macro
restart
This program flow command is used with subroutine calls to terminate the subroutine call and to clear the subroutine stack.
#end_macro

#begin_macro
return
This program flow command terminates a subroutine and directs the macro execution to the commands that follow the subroutine call in the calling macro. If the macro contains several consecutive subroutine calls, the macro returns to

the preceeding call each time it encounters **{return}**.
#end_macro

#begin_macro
right
Moves the current selection **steps** number of columns to the right. If **steps** is omitted, then the selection will be moved one column.
Same as **{r}**
#end_macro

#begin_macro
scroll_columns
Scrolls the current worksheet window **amount** number of columns. If **amount** is omitted, the worksheet window will be scrolled 1 column.
#end_macro

#begin_macro
scroll_rows
Scrolls the current worksheet window **amount** number of rows. If **amount** is omitted, the worksheet window will be scrolled 1 row.
#end_macro

#begin_macro
scroll_to_cell
Scrolls the current worksheet window so that the cell **position** scrolls to the upper left corner of the window.
Ex:
{scroll_to_cell B2}
#end_macro

#begin_macro
scroll_to_column
Scrolls the current worksheet window so that the column **number** scrolls to the left side of the window. You can also specify the column as a cell position.
Ex:
{scroll_to_column 3}
{scroll_to_column B2}
#end_macro

#begin_macro
scroll_to_row
Scrolls the current worksheet window so that the row **number** scrolls to the top of the window. You can also specify the row as a cell position.
Ex:
{scroll_to_row 3}
{scroll_to_row B2}
#end_macro

#begin_macro
select_active_cell
Positions the active cell within the current selection. If the current selection consists of more than one range, and they overlap, then **index** specifies which of the ranges that should be used.
Ex:
{select_range A1:B3}
{select_range_append B3:C6}
{select_active_cell B3; 1}
selects cell **B3** in range **A1:B3**
{select_active_cell B3; 2}
selects cell **B3** in range **B3:C6**
#end_macro

#begin_macro
select_range
Makes **range** the current selection.
Ex:
{select_range A2:B6}
#end_macro

#begin_macro
select_range_append
Adds **range** to the current selection.
Ex:
{select_range A2:B6}
{select_range_append C2:D6}
#end_macro

#begin_macro
select_range_relative
Selects a range whose corners are the active cell and a cell specified by offsets from the active cell.
sheet_offset is not used in version 1.0
Ex:
Assume the active cell is **B2**
{select_range_relative 2; 2}
will select the range **B2:D4**
#end_macro

#begin_macro
select_range_remove
Removes a specified range from the current selection.
#end_macro

#begin_macro
select_range_reshape
Moves a specified range in the current selection to **location.**
#end_macro

#begin_macro
setpos
Places the file pointer at position in a file that has bee opened with the **{open}** macro. The first character position in a file is zero.
If only one file is opened, **path** can be omitted.
If more that one file is opened, **path** can be either the full path name, the full file name or just the file name without extension.
Also see **{open}**
Ex:
Assume the file **/tmp/my_file.txt** is opened.
Then all the following are correct:
{setpos 2; "/tmp/my_file.txt"}
{setpos 2; "my_file.txt"}
{setpos 2; "my_file"}
#end_macro

#begin_macro
set_break_enabled
Disables or enables the possibility for the user to break macro execution by pressing **Command-.**
Also see **{break_on}** and **{break_off}**
Note: If the macro code goes into an infinite loop, Questor will hang forever.
#end_macro

#begin_macro
set_trace_granularity
Specifies the granularity that should be used by the **Macro Tracer.**

granularity can be:
0 - trace only subroutine calls
1 - trace each subroutine row
2 - trace each element on each row
#end_macro

#begin_macro
set_trace_mode
Specifies the mode of the **Macro Tracer**.
mode can be:
0 - disabled
1 - trace enabled
2 - step enabled
#end_macro

#begin_macro
system
Executes **string** in a UNIX shell.
Ex:
{system "open /NextApps/Grab.app"}
launches the **Grab** application.
#end_macro

#begin_macro
text_align
Sets the text alignment of the cells in data_range to style, that can be one of the following:
"left" - left aligned
"centered" - centered aligned
"right" - right aligned
"smart" - smart aligned (numbers right, strings left and dates centered)
If **data_range** is omitted, then the current selection will be used.

Note: To make the changes visible in the worksheet, you must use the {recalculate} macro.
Ex:
{text_align "centered"; A1:B3}
#end_macro

#begin_macro
tools_colors
Equivalent to choosing *Colors* in the menu *Tools*.
#end_macro

#begin_macro
tools_console
Equivalent to choosing *Console* in the menu *Tools*.
#end_macro

#begin_macro
tools_databases
Equivalent to choosing *Databases* in the menu *Tools*.
#end_macro

#begin_macro
tools_input
Equivalent to choosing *Input* in the menu *Tools*.
#end_macro

#begin_macro
tools_inspector
Equivalent to choosing *Inspector* in the menu *Tools*.
#end_macro

#begin_macro
tools_macro_tracer
Equivalent to choosing *Macro Tracer* in the menu *Tools*.
#end_macro

#begin_macro
tools_toolbox
Equivalent to choosing *ToolBox* in the menu *Tools*.
#end_macro

#begin_macro
u
Moves the current selection **steps** number of rows up. If **steps** is omitted, then the selection will be moved one row.
Same as **{up}**
#end_macro

#begin_macro
up
Moves the current selection **steps** number of rows down. If **steps** is omitted, then the selection will be moved one row.
Same as **{u}**
#end_macro

#begin_macro
wait
Halts the execution for a number of milliseconds.
Ex:
{wait 2000}

will wait for 2 seconds
#end_macro

#begin_macro
windowsoff
Turns off the screen update. This makes QScript and 1-2-3 macros execute faster and avoids flicker on the screen. You turn on the screen update with the command **{windowson}**.
#end_macro

#begin_macro
windowson
Turns on the screen update that was turned of with the command **{windowson}**.
#end_macro

#begin_macro
windows_arrange
Equivalent to choosing *Arrange in Front* in the menu *Windows*.
#end_macro

#begin_macro
windows_close
Closes the current worksheet window. Equivalent to choosing *Close Window* in the menu *Windows*.
The **name** argument is ignored in version 1.0
#end_macro

#begin_macro
windows_miniaturize
Miniaturizes the current worksheet window. Equivalent to choosing *Miniaturize*

Window in the menu *Windows*.
The **name** argument is ignored in version 1.0
#end_macro

#begin_macro
windows_open
Makes the current worksheet window the key (topmost) window.
The **name** argument is ignored in version 1.0
#end_macro

#begin_macro
windows_split
Splits the key worksheet window into two windows. Equivalent to choosing *Split Window* in the menu *Windows*.
#end_macro

#begin_macro
windows_tile
Tiles all the worksheet windows to fill the screen. Equivalent to choosing *Tile* in the menu *Windows*.
#end_macro

#begin_macro
write
Writes a string into a text file that has been opened with the **{open}** macro. It starts writing at the current position of the file pointer.
string is the string that should be written to the file.
path is the file it should be written to.
The file pointer moves to the first character after the inserted string.
If only one file is opened, **path** can be omitted.
If more that one file is opened, **path** can be either the full path name, the full

file name or just the file name without extension.
Also see **{open}** and **{writeln}**
Ex:
```
{open "/tmp/new_file.txt"}
```
Any of these are ok:
```
{write "a string"; "/tmp/new_file.txt"}
{write "a string"; "new_file.txt"}
{write "a string"; "new_file"}
{write "a string"}      ; if no other files are open
{close "/tmp/new_file.txt"}
```
#end_macro

#begin_macro
writeln
Writes a string into a text file that has been opened with the **{open}** macro. It starts writing at the current position of the file pointer and adds a carriage return and a line feed after the string.
string is the string that should be written to the file.
path is the file it should be written to.
Also see **{open}** and **{write}**
Ex:
```
{open "/tmp/new_file.txt"}
{writeln "a string"; "/tmp/new_file.txt"}
{close "/tmp/new_file.txt"}
```
#end_macro