Quick Reference

Lotus®

1-2-3 Release 2
Quick Reference

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@Functions

Mathematical Functions

@ABS *(x)*
Absolute, or positive, value of *x*

@ACOS *(x)*
Arc cosine of angle *x*

@ASIN *(x)*
Arc sine of angle *x*

@ATAN *(x)*
2-quadrant arc tangent of angle *x*

@ATAN2 *(x,y)*
4-quadrant arc tangent of angle *y/x*

@COS *(x)*
Cosine of angle *x*

@EXP *(x)*
The number *e* (2.71828...) raised to the *x*th power

@INT *(x)*
Integer part of *x*

@LN *(x)*
Natural log (base *e*) of *x*

@LOG *(x)*
Log (base 10) of *x*

@MOD *(x,y)*
Remainder of *x/y*

@PI
The number π (3.1415926...)

@RAND
Random number between 0 and 1

@ROUND *(x,n)*
x rounded to *n* places

@SIN *(x)*
Sine of angle *x*

@SQRT *(x)*
Positive square root of *x*

@TAN *(x)*
Tangent of angle *x*

Logical Functions

@FALSE
Logical value 0 (FALSE)

@IF *(cond,x,y)*
x if *cond* is TRUE, and *y* if *cond* is FALSE

@ISERR *(x)*
1 (TRUE) if *x* contains the value ERR; otherwise, 0 (FALSE)

@ISNA *(x)*
1 (TRUE) if *x* contains the value NA; otherwise, 0 (FALSE)

@ISNUMBER *(x)*
1 (TRUE) if *x* contains a numeric value; otherwise, 0 (FALSE)

@ISSTRING *(x)*
1 (TRUE) if *x* contains a string value; otherwise, 0 (FALSE)

@TRUE
Logical value 1 (TRUE)

Special Functions

@@ (cell address)
Contents in the cell referenced by cell address in *cell*

@CELL *(attribute, range)*
Information about the *attribute* in the upper left corner cell of *range*

@CELLPOINTER *(attribute)*
Information about the *attribute* of the highlighted cell

@CHOOSE *(x,v0,v1...,vn)*
The *x*th argument in list *v0,v1...,vn*

@COLS *(range)*
Number of columns in *range*

@ERR
Value ERR (error)

@HLOOKUP *(x,range,row number)*
Contents in the cell that is the specified *row number* down from the cell in the top row of *range* that matches *x*

@INDEX *(range,column,row)*
Value of the cell in *range* at the intersection of *column* and *row*

@NA
Value NA (not available)

@ROWS *(range)*
Number of rows in *range*

@VLOOKUP *(x,range,column number)*
Contents in the cell that is the specified *column number* from the cell in the first column of *range* that matches *x*

String Functions

@CHAR *(x)*
ASCII/LICS character that corresponds to the code number *x*

@CODE *(string)*
ASCII/LICS code number of the first character in *string*

@EXACT *(string1,string2)*
1 (TRUE) if *string1* and *string2* are exactly alike; otherwise, 0 (FALSE)

@FIND *(search string, string, start number)*
Position at which the first occurrence of *search string* begins in *string*

@LEFT *(string,n)*
The first *n* characters in *string*

@LENGTH *(string)*
Number of characters in *string*

@LOWER *(string)*
All letters in *string* in lowercase

@MID *(string,start number,n)*
n characters from *string*, beginning with character *start number*

@N *(range)*
Numeric value in upper left corner cell in *range*

@PROPER *(string)*
All words in *string* with the first letter in uppercase and the rest in lowercase

@REPEAT *(string,n)*
string, duplicated *n* times

@REPLACE *(original string,start number,n, new string)*
n characters removed from *original string*, beginning at *start number*. Then inserts *new string* in the same place

@RIGHT *(string,n)*
The last *n* characters in *string*

@S *(range)*
String value in the upper left corner cell in *range*

@STRING *(x,n)*
Numeric value *x* as a string, with *n* decimal places

@TRIM *(string)*
string with no leading or trailing spaces, and no consecutive spaces.

@UPPER *(string)*
All letters in *string* in uppercase

@VALUE *(string)*
string that looks like a number in its actual numeric value

Date and Time Functions

Functions that generate serial numbers:

@DATE *(yr,month,day)*
Serial date number of *yr,month,day*

@DATEVALUE *(date string)*
Serial date number of *date string*

@NOW
Serial number for current date and time

@TIME *(hr,min,sec)*
Serial time number of *hr,min,sec*

@TIMEVALUE *(time string)*
Serial time number of *time string*

Functions that convert serial numbers to dates and times:

@DAY *(date number)*
Day number of *date number*

@HOUR *(time number)*
Hour number of *time number*

@MINUTE *(time number)*
Minute number of *time number*

@MONTH *(date number)*
Month number of *date number*

@SECOND *(time number)*
Second number of *time number*

@YEAR *(date number)*
Year number of *date number*

Financial Functions

@CTERM *(int,fv,pv)*
Number of compounding periods for an investment of present value *pv*, to grow to future value *fv*, earning a fixed periodic interest rate *int*

@DDB *(cost,salvage,life,period)*
Double-declining depreciation allowance of an asset, given the original *cost*, predicted *salvage* value, the *life* of the asset, and specific depreciation *period*

@FV *(pmt,int,term)*
Future value of series of equal payments, each of amount *pmt*, earning periodic interest rate *int*, over the number of payment periods in *term*

@IRR *(guess,range)*
Internal rate of return for the series of cash flows in *range*, based on the approximate percentage *guess*

@NPV *(int,range)*
Present value of a series of future cash flows in *range*, discounted at periodic interest rate *int*

@PMT *(prin,int,term)*
Amount of the periodic payment needed to pay off principal *prin*, at periodic interest rate *int*, over the number of payment periods in *term*

@PV *(pmt,int,term)*
Present value of a series of equal payments, each of amount *pmt*, discounted at a periodic interest rate *int*, over the number of payment periods in *term*

@RATE *(fv,pv,term)*
Periodic interest rate necessary for present value *pv*, to grow to a future value *fv*, over the number of compounding periods *term*

@SLN *(cost,salvage,life)*
Straight-line depreciation allowance of an asset for one period, given the *cost*, the predicted *salvage* value, and *life* of the asset

@SYD *(cost,salvage,life,period)*
Sum-of-the-years'-digits depreciation allowance of an asset for a *period*, given the *cost*, the predicted *salvage* value, and the *life* of the asset and the specific *period*

@TERM *(pmt,int,fv)*
Number of payment periods of an investment, given the amount of each payment *pmt*, the periodic interest rate *int*, and the future value of the investment *fv*

Statistical Functions

@AVG *(list)*
Average of the values in *list*

@COUNT *(list)*
Number of non-blank entries in *list*

@MAX *(list)*
Maximum value in *list*

@MIN *(list)*
Minimum value in *list*

@STD *(list)*
Population standard deviation of the values in *list*

@SUM *(list)*
Sum of the values in *list*

@VAR *(list)*
Population variance of the values in *list*

Database Statistical Functions

@DAVG *(input,offset,criterion)*
Average of the values in the *offset* column of the *input* range that meet the criteria in the *criterion* range

@DCOUNT *(input,offset,criterion)*
Number of non-blank cells in the *offset* column of the *input* range that meet the criteria in the *criterion* range

@DMAX *(input,offset,criterion)*
Maximum value in the *offset* column of the *input* range that meets the criteria in the *criterion* range

@DMIN *(input,offset,criterion)*
Minimum value in the *offset* column of the *input* range that meets the criteria in the *criterion* range

@DSTD *(input,offset,criterion)*
Population standard deviation of the values in the *offset* column of the *input* range that meet the criteria in the *criterion* range

@DSUM *(input,offset,criterion)*
Sum of the values in the *offset* column of the *input* range that meet the criteria in the *criterion* range

@DVAR *(input,offset,criterion)*
Population variance for values in the *offset* column of the *input* range that meet the criteria in the *criterion* range

Macros

Summary of Macro Names for Special Keys

{abs}	{escape} or {esc}	{right}
{backspace} or {bs}	{goto}	{table}
{bigleft}	{graph}	{up}
{bigright}	{home}	{window}
{calc}	{left}	
{compose}	{name}	~ (the RETURN key)
{delete} or {del}	{pgdn}	{~} (Tilde)
{down}	{pgup}	{{} (Left brace)
{edit}	{query}	{}} (Right brace)
{end}		

Macro Command Keyword Summary

Note: Arguments in < > are optional.

{?}
Halts macro execution temporarily for keyboard input.

{**routine-name** <*optional-argument*>, <*optional-argument*>... }
Calls a subroutine.

{**BEEP** <*number*>}
Sounds the computer's bell or tone.

{**BLANK** *location*}
Erases the contents of a specified cell or range.

{**BRANCH** *location*}
Continues executing macro instructions located in a different cell.

{**BREAKOFF**}
Disables the BREAK key during macro execution.

{**BREAKON**}
Restores the BREAK key, undoing {BREAKOFF}.

{**CLOSE**}
Closes a file that has been opened with the {OPEN} command.

{**CONTENTS** *destination-location,source-location,*
<width-number>,<format-number>}
Places the contents of one cell in another cell as a label.

{**DEFINE** *location1:type1,location2:type2,...*}
Specifies cells that store arguments in a subroutine call.

{**DISPATCH** *location*}
Branches indirectly to specified destination.

{**FILESIZE** *location*}
Determines number of bytes in currently open file.

{**FOR** *counter-location,start-number,stop-number,*
step-number,starting-location}
Repeatedly executes the macro subroutine that begins at a particular location.

{**FORBREAK**}
Cancels execution of current {FOR} loop.

{**GET** *location*}
Halts macro execution temporarily and stores a single character you type in a specified cell.

{**GETLABEL** *prompt-string,location*}
Halts macro execution temporarily, prompts you to type, and stores the characters that you type as a label in a specified cell.

{**GETNUMBER** *prompt-string,location*}
Halts macro execution temporarily, prompts you to type, and stores the characters that you type as a number in a specified cell.

{**GETPOS** *location*}
Determines current position of file pointer in open file and displays it into a specified location.

{**IF** *condition*}
Conditionally executes the command that follows the {IF} command.

{**INDICATE** *string*}
Changes the indicator in the upper right corner of the screen.

{**LET** *location,number*}
{**LET** *location,string*}
Stores a number or label in a specified cell.

{**LOOK** *location*}
During macro execution, checks to see if you have typed a character.

{**MENUBRANCH** *location*}
Sets up a customized menu, with user-defined choices.

{**MENUCALL** *location*}
Calls a subroutine in a user-defined menu.

{**ONERROR** *branch-location,<message-location>*}
Continues execution at a specified location if a 1-2-3 error occurs.

{**OPEN** *filename,access-mode*}
Opens a specified file for reading, writing, or both.

{**PANELOFF**}
Suppresses redrawing of the control panel during macro execution.

{**PANELON**}
Restores control panel redrawing, undoing {PANELOFF}.

{**PUT** *location,col-number,row-number,number*}
{**PUT** *location,col-number,row-number,string*}
Stores a number or label in one cell of a specified range.

{**QUIT**}
Terminates macro execution, returning control to the keyboard.

{**READ** *bytecount,location*}
Reads characters from a file into a specified cell.

{**READLN** *location*}
Copies a line of characters from the currently open file into a specified location.

{**RECALC** *location,<condition>,<iteration>*}
Recalculates the formulas in a specified range, proceeding row by row.

{**RECALCCOL** *location,<condition>,<iteration>*}
Recalculates the formulas in a specified range, proceeding column by column.

{**RESTART**}
Cancels a subroutine and clears the subroutine stack.

{**RETURN**}
(Subroutine return) Continues macro execution just after the location of the last {routine-name} or {MENUCALL} statement.

{**SETPOS** *file-position*}
Sets a new position for the file pointer in the currently open file.

{**WAIT** *<time serial-number>*}
Suspends macro execution until a specified time.

{**WINDOWSOFF**}
Suppresses redrawing the display screen during macro execution.

{**WINDOWSON**}
Restores standard screen redrawing, undoing {WINDOWSOFF}.

{**WRITE** *string*}
Copies characters into an open file.

{**WRITELN** *string*}
Adds a carriage-return line-feed sequence to a string of characters and writes the string to a file.

The /X Macro Commands

/**XC***location*~
Instructs 1-2-3 to go to a specified location and to continue reading macro instructions at that location until it encounters an /XR command.

/XG*location*~
Instructs 1-2-3 to read the keystroke instructions at a specified location.

/XI*condition*~...
An if-then-else statement that tests the result of a specified *condition*.

/XL*message*~*location*~
Displays a message on the control panel and waits for you to enter any characters placed in the specified location.

/XM*location*~
Allows you to construct a customized menu (up to eight choices).

/XN*message*~*location*~
Displays a message on the control panel and waits for you to enter any number or formula (including range names and @functions) placed in the specified location.

/XQ
Stops macro execution.

/XR
Instructs 1-2-3 to return to main macro routine to continue reading keystroke instructions immediately following the /XClocation~ command.

Names for Keys

Standard Keys

Name	Definition
ABS	Cycles a cell address through relative, absolute, and mixed in POINT and EDIT modes.
BACKSPACE	Erases character to left of cursor; if a range is selected, erases current range.
BACKTAB	In READY mode, moves cell pointer one screen to the left; in EDIT mode, moves cursor five characters to the left.
BREAK	Cancels current operation.
CALC	Recalculates worksheet formulas in READY mode; converts a formula into its current value in VALUE and EDIT modes.
CAPS LOCK	When pressed, switches between uppercase and lowercase letters. Number and punctuation keys are not affected.
COMPOSE	When used in combination with certain keys, creates international characters.
CONTROL	When used in combination with certain keys, changes the function of those keys.
DELETE	Erases current character in EDIT mode.
EDIT	Places highlighted entry on the control panel for editing.
ESCAPE	Cancels current entry or range, or returns to previous command step.
GOTO	Moves cell pointer to the cell you specify.
GRAPH	Displays the graph most recently specified.
HELP	Invokes the Help facility.
INSERT	Switches between inserting text, by moving existing text to the right, and replacing existing text in EDIT mode.
MACRO	Invokes a macro when used in combination with a macro name.

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Name	Definition
NAME	Displays menu of the current range names in POINT mode and in conjunction with GOTO.
PERIOD	Makes the current cell the anchor cell, when range is unanchored or cycles anchor cell and free cell in range.
QUERY	Repeats most recent /Data Query procedure.
RETURN	Completes an entry, a command, or part of a command.
SCROLL LOCK	Switches arrow keys between moving the pointer and moving the window.
SHIFT	When used in combination with another key on the typewriter section of keyboard, produces the upper symbol on the key.
SPACE	Inserts a space.
STEP	Allows you to move through a macro, step by step.
TAB	In READY mode, moves pointer one screen to the right; in EDIT mode, moves cursor five characters to the right.
TABLE	Repeats most recent /Data Table procedure.
WINDOW	Switches pointer between the two windows when there is a split screen.

Pointer-Movement Keys

Name	Mode Definition		
	READY, POINT	MENU, HELP	EDIT
DOWN	Down one cell	Down one item in HELP mode and beeps in MENU mode	Computes entry and moves down one cell
END	(Must be used with another pointer-movement key)	Last item	Last character
HOME	Upper left corner	First item	First character
LEFT	Left one cell	Left one item	Left one character
PAGE DOWN	Down one page	---	Completes entry and moves down one screen
PAGE UP	Up one page	---	Completes entry and moves up one screen
RIGHT	Right one cell	Right one item	Right one character
UP	Up one cell	Up one item in HELP mode and beeps in MENU mode	Completes entry and moves up one cell

Combination Pointer-Movement Keys

Name	Definition
BIG LEFT	In READY and POINT modes, left one screen. In EDIT mode, left five characters.
BIG RIGHT	In READY and POINT modes, right one page. In EDIT mode, right five characters.
END DOWN	In READY and POINT modes, down to next intersection of blank and filled cell.
END HOME	In READY and POINT modes, lower right corner of active area.
END LEFT	In READY and POINT modes, left to next intersection of blank and filled cell.
END RIGHT	In READY and POINT modes, right to next intersection of blank and filled cell.
END UP	In READY and POINT modes, up to next intersection of blank and filled cell.

1-2-3 File Names

File names can be up to eight characters long, and include uppercase and lowercase letters, numbers, and the underscore (_) character. Check your operating system manual to see if it will accept any other special characters.

1-2-3 automatically adds an extension appropriate to the type of file you are naming:

.WK1	worksheet file
.PRN	print (text) file
.PIC	graph (picture) file
.CTF	character code translation file

(Driver sets that you create with the Install program automatically receive the extension .SET.)

When you specify a file that is not stored in the current directory or drive, precede the file name with a drive specifier and/or a pathname of subdirectories. For example:

B:SALESFIG
C:\ACCT1\ACCT04 \WORK4.WK1

Label Alignments

Label prefix characters determine how a label is aligned in a cell. You cannot assign a label prefix to a cell itself, only to its label entry.

Label Prefix	Alignment
' *(apostrophe)*	Left
" *(double-quote)*	Right
^ *(caret)*	Center
\ *(backslash)*	Repeating

/Worksheet Global Label-Prefix: Sets global label prefix, which 1-2-3 automatically adds to any label entered without a prefix.

/Range Label: Changes the label prefix for all labels in a range.

Long Labels: 240 characters; maximum character length in a cell.

Arithmetic and Logical Operators

Operator	Precedence Meaning	Precedence Number
^	Exponentiation	7 (highest)
+	Positive	6
–	Negative	6
*	Multiplication	5
/	Division	5
+	Addition	4
–	Subtraction	4
=	Equal	3
<	Less than	3
< =	Less than or equal	3
>	Greater than	3
> =	Greater than or equal	3
< >	Not equal	3
#NOT#	Logical NOT	2
#AND#	Logical AND	1
#OR#	Logical OR	1
&	String combination	1 (lowest)

NEW UTILITIES FROM LOTUS

The following Lotus Utilities are now available.

Enhanced Translate Program

The Translate program for 1-2-3 and Symphony has two new enhancements:

- Open Access (SIF) Translate Utility
- Multiplan (SYLK™) Translate Utility

These utilities are supplied on the PrintGraph Disk with 1-2-3 version 2.01 and on the Utility Disk with Symphony version 1.2.

The Open Access Utility allows you to translate Open Access Standard Interface (SIF) files to any release of Symphony or 1-2-3.

The Multiplan Utility allows you to translate Multiplan Symbolic Link (SYLK™) files to any release of Symphony or 1-2-3.

Both utilities work with the Translate program in the normal way, and have associated Help screens.

Diskette users using 1-2-3 should create a special Translate Disk, by copying TRANS.COM, UTIL.SET and *.XLT from their Utility Disk, and then copying *.XLT from the PrintGraph disk.

1-2-3 Macro Converter Utility

This Utility is available on a diskette directly from Lotus Development, or from your dealer.

The Macro Converter Utility lets you translate 1-2-3 macros between various languages and various releases of 1-2-3. It is a stand-alone utility, but has the same user interface as the Lotus Translate program which is part of the 1-2-3 product.

Prompts and Help screens give you information on how to use the Macro Converter utility and the different releases between which you can translate macros.

A list of source options appears: i.e. what do you want to translate FROM? (for example English Release 1A), followed by a list of TO options, (for example French Release 2.0). Then a list of all the .WK* files in the current directory appears. You select a file, and the translation process will start.

As the text is translated, a highlighted percentage bar appears on the screen, and the text of the original macro scrolls past, with the translation below. You can press any key to stop the scrolling, and hit any key to restart the process. If the Macro Converter Utility encounters an error, it stops translating to allow you to edit the cell affected.

Further Information

For more details on any of the new utilities, contact Lotus or if you are outside the UK your local Lotus Authorised Distributor as listed in the "Distributors Fact Sheet" of your product's "Softcare" kit. Alternatively see your nearest Lotus dealer.

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