

EasyCalc OnLine Help System

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Chapter 1

EasyCalc OnLine Help System

1.1 MAIN MENU

Welcome to EasyCalc Version 2.0 (MARCH/APRIL 1995)
Program Copyright (c) 1995 Andrew Woods

Please pick a topic to get some help on:

- Entering data
 - Creating cells
 - Pulldown Menus
 - Those menus in full
 - Cell Functions
 - Complete list of all cell functions
 - Maths Operators
 - Available maths operators
 - Icon Bar Functions
 - The icon bar
 - AREXX Interface
 - Some Arexx information
 - Tooltypes
 - EasyCalc 2.0 Tooltypes
 - Tutorial
 - Create your first worksheet
 - Drawing Graphs
 - Creating pretty pictures
 - Resizing Columns
 - Different column sizes
 - EasyCalc User Support
 - Getting more help
-

INDEX TO HELP

- Complete index to this guide

1.2 PULLDOWN MENUS REFERENCE

Project Menu

- File and Printing functions

Edit Menu

- Blocks and Import/Export functions

Options Menu

- Program options

Environment Menu

- Screen mode and palette

Graphs Menu

- Graphing options

1.3 PROJECT MENU REFERENCE

New Worksheet

- Open new project

Open Worksheet

- Read in saved worksheet

Open View

- Open a new window on a worksheet

Save Worksheet

- Store a worksheet to disk

Print

- Print out a worksheet

About EasyCalc

- Copyright information

Information

- Project information

Quit

- Quit EasyCalc
-

1.4 NEW WORKSHEET OPTION

Opens a new worksheet window. This worksheet is totally independent from the previous one and allows you to work with more than one worksheet at a time.

1.5 OPEN WORKSHEET OPTION

Brings up the file requester for you to choose a worksheet to load in. The worksheet will replace the one you are already working on.

1.6 OPEN VIEW OPTION

Opens a new window on this worksheet so you can view more than one part of it at the same time.

1.7 SAVE WORKSHEET OPTION

Brings up a file requester for you to choose the filename to save the worksheet as.

1.8 PRINT OPTION

A requester with four options appears. These are:

Entire Worksheet - Print EVERYTHING.
Current Block - Print currently marked block.
Last Block - Print the last block printed.
Screen Area - Print everything visible in the window.

Printer Help

1) If blank lines start appearing in your printout then change the right margin to a much bigger number in the WB Printer Preferences or change the Print Size to ELITE or CONDENSED. Also make sure the Preferences are set to continuous paper, otherwise page feeds will appear.

2) £ not appearing properly could be because you are using the wrong printer driver. If you are booted from the EasyCalc 2.0 disk, then the GENERIC driver will be used which will cause £ to appear as #. Simply switch to the correct printer driver.

3) The size of the printout is dictated by the Print Size option. To change the print quality you need to use the Preferences tool.

1.9 ABOUT EASYCALC OPTION

Displays some copyright information and tells you the name of the program in case you have forgotten. Also the version number is displayed (the V2.0a part), which you should quote in all your correspondence.

1.10 INFORMATION OPTION

Displays the Information requester, which allows you to view (and edit) several important attributes of your worksheet:

Worksheet Name - Obvious this one
Author - Who created the worksheet
Comments - Any important comments
Revision - How many times the worksheet has been saved
Password - For confidential data
Use Password - Controls whether the password is required on loading

1.11 QUIT OPTION

Asks if you are sure you want to quit, and if you answer YES then EasyCalc 2.0 will go away. If you have any unsaved work, EasyCalc 2.0 will tell you about this before quitting.

1.12 EDIT MENU REFERENCE

Cut
- Cut a block out of the worksheet

Copy
- Copy a block (leaving the original untouched)

Paste
- Paste a stored block into the worksheet

Delete
- Delete a range

Fill
- Fill a range

Column
- Insert/Delete columns

Row
- Insert/Delete rows

Precision

- Set the precision of a range

Colour

- Set the colours of a range

Justify

- Justify a range

Style

- Set the style of a range

Lock/Unlock

- Lock/Unlock a range

Export

- Export a range of cells

Import

- Import some data

1.13 CUT OPTION

The currently marked range of cells is cut from the worksheet into a separate memory buffer.

1.14 COPY OPTION

The currently marked range of cells is copied into a memory buffer leaving the original range unharmed.

1.15 PASTE OPTIONS

Any block stored in memory is pasted back into the worksheet (overwriting any cells that may already be there).

There are two types of paste:

RELATIVE - Any formulae with cell references are recalculated so that they remain valid and point to the correct cell after pasting. Any cell references that are prefixed with a '\$' symbol will not be changed.

ABSOLUTE - All cell references are left unchanged.

1.16 DELETE OPTION

Deletes all the cells in the currently marked range of cells.

1.17 FILL OPTION

Brings up the Fill requester. This is used for quickly filling a range with identical, or sequential numerical data. This request contains the following gadgets:

Start Number - controls the initial value for the first cell to be filled.
Operation - gives you a choice of Add, Subtract, Multiply and Divide.
Operand - the value that is applied to Start Number using Operation.

Examples

Start Number = 1, Operation = Add, Operand = 1

Fills the range with a simple ascending sequence starting at one, and adding one every cell that is filled.

Start Number = 1, Operation = Multiply, Operand = 2

Fills the range with the powers of two eg. 1, 2, 4, 8, 16, 32, 64 etc

1.18 COLUMN OPTIONS

INSERT - Inserts a column at the current cursor position.
DELETE - Deletes the column at the current cursor position.

All cell references are updated to keep any formulae valid.

1.19 ROW OPTIONS

INSERT - Inserts a row at the current cursor position.
DELETE - Deletes the row at the current cursor position.

All cell references are updated to keep any formulae valid.

1.20 PRECISION OPTION

A requester appears asking you how many decimal places you want to display in the current range. EasyCalc 2.0 supports anything from 2 to 14 places.

1.21 COLOUR OPTIONS

Controls the colour of cells in the marked range. There are two options:

SET TEXT - The colour of any text in the range.
SET BACKGROUND - The background colour of each cell in the range.

1.22 JUSTIFY OPTIONS

Controls whether cells are justified or not. There are three available options:

LEFT - Cell contents are aligned with the left side of the cell.
RIGHT - Cell contents are aligned with the right side of the cell.
CENTRE - Cell contents are centred within the cell.

1.23 STYLE OPTIONS

Controls the text style for each cell in the range. There are four options:

BOLD - Whether text is in bold or not.
ITALIC - Whether text is in italics or not.
UNDERLINE - Whether text is underlined or not.
PLAIN - Cancels all of the above.

1.24 LOCK/UNLOCK OPTION

This option allows to you lock a range a cells to prevent them from being edited or overwritten. The lock does NOT protect them from being overwritten by a block being pasted, or by Arexx changing them.

If you chose this option for a range that is already locked, then they will be unlocked so you can edit them again.

1.25 EXPORT OPTIONS

This submenu allows you to export data to other programs in one of four formats:

CELL CONTENTS - The contents of the cells are exported in CSV (comma seperated values) using quotes and commas as delimiters.

FORMULAS - The formulas in cells are exported in CSV format.

LISTING - A listing (one cell per line) is generated containing enough information to recreate the worksheet in any other spreadsheet (if all else fails).

CLIPBOARD - The block is copied to the clipboard in IFF FTEXT format for importing into any other Amiga clipboard-aware software.

1.26 IMPORT OPTIONS

This submenu allows you to import data from other sources. Currently, there are four options available:

PARSING - Text is intelligently read in and split up into components.

An example. "There are 45 donkeys here" would become:
.....A.....B.....C.....D.....E
There area 45 donkeys here

TEXT - Text is read in one line at a time and each line becomes one cell.

LOTUS WKS - Allows partial importing of Lotus WKS files. I've tried my best to figure out the WKS format without much success. At present only cells with text can be read into EasyCalc 2.0, the rest are ignored. In Lotus you could convert all cells into text, import, then convert them back again in EasyCalc 2.0. If anyone out there has the file format, please get in touch so I can finish this one off.

CLIPBOARD - Imports IFF FTXT data from the clipboard. Basically, any data that any other Amiga clipboard-aware program can send.

1.27 OPTIONS MENU REFERENCE

Exact Size Copies

- Controls how blocks are pasted

AutoSave

- Timed reminder to save

AutoMove

- Move the cursor after each cell is entered

Recalc Order

- The order cells are calculated in

AutoRecalc

- When to recalculate the worksheet

Recalc Now

- Recalculate right now!

Iterations

- How many times to recalculate

Grid

- Pretty grid

Bookmarks

- Remember/Retrieve position

Print Size

- How big to print
- Cell Notes
- Give cells handy help texts
- Cell Names
- Give cells handy mnemonics
- Macros
- View/Execute Arexx scripts
- Save Options
- Store global settings

1.28 EXACT SIZE COPIES OPTION

If this option is checked then when you paste a block, it is copied back to the worksheet, EXACTLY the same size as it was when it was cut. Even if you mark one cell, if the block was sixty cells, then all sixty cells will be filled. This option makes EasyCalc 2.0 more consistent with other spreadsheets.

If the option is unchecked, then block is shrunk, or enlarged to fill the marked area -- regardless of how big the original block was. This is generally much more useful than having exact size copies. However, this option allows you to control this behaviour to get the best of both worlds.

1.29 AUTOSAVE OPTION

If checked then EasyCalc 2.0 will display a message reminding you to save periodically. The exact time interval (in seconds) is set with the AUTOSAVETIME tooltype. By default it is set to eight minutes.

1.30 AUTOMOVE OPTIONS

You have a choice of UP, DOWN, LEFT, RIGHT or NONE. Depending on which direction is checked, the cursor will automatically move one cell in your chosen direction when data is entered. Obviously, if NONE is checked, then EasyCalc 2.0 will not move anything for you.

1.31 RECALC ORDER OPTIONS

When a recalculation of the entire worksheet is done, all the cells are processed one at a time in a certain order. If you have forward references or similar you can run into problems unless this is set correctly.

AS ENTERED - The fastest option (and the default) calculates cells in the order they were entered into the worksheet.

ROWS - Each row is evaluated in turn.

COLUMNS - Each column is evaluated in turn.

1.32 AUTORECALC OPTION

If this option is checked, then the entire worksheet is recalculated after every cell is entered or changed. On a large complicated worksheet, this could take some time (especially on slower machines of course) so it is useful to switch this option off when entering large numbers of cells, then evaluate them all at the end.

1.33 RECALC NOW OPTION

Completely re-evaluates the entire worksheet, updating all the cell values.

1.34 ITERATIONS OPTION

Controls how many times a worksheet needs to be evaluated during a recalc operation. Normally, one is enough, but if you use lots of forward references, then this will have to be increased. The exact number depends on the individual worksheet.

Obviously, if you set this to a large number, recalc operations will take a long time.

1.35 GRID OPTION

If this option is checked, then a pretty grid will be drawn over the worksheet area.

1.36 BOOKMARK OPTIONS

EasyCalc supports five bookmarks. A bookmark is a handy way to remember the position of the cursor until a later date, then at a later date jump back to the position at the press of a key.

Set X - Stores the current cursor position in bookmark X.

Goto X - Jumps to the stored bookmark position X.

1.37 PRINT SIZE OPTIONS

This option lets you change how wide each character is when printed. You have three choices:

PICA - Normal size
ELITE - A bit smaller
CONDENSED - Smaller still

1.38 CELL NOTES OPTIONS

Introduction

Cell notes are handy messages you can attach to any cell on the worksheet. If you press HELP while the cursor is over a cell which contains a note, the help text is displayed.

There are three options:

DEFINE - Allows you to enter a cell note for the current cell.
EDIT - Allows you to edit an existing cell note.
REMOVE - Removes a note attached to a cell.

1.39 CELL NAMES OPTIONS

Introduction

EasyCalc allows you to give individual cells a logical name, which can be referenced by cell formula. Cell names are highly recommended, because unlike a cell address it doesn't matter if the cell needs to be moved.

There are three options:

DEFINE - Allows you to enter a name for the current cell.
EDIT - Allows you to edit the name of the current cell.
REMOVE - Removes a cell name.

EasyCalc 2.0 has two cell names built in which are available all the time, without defining anything. These are:

#ITERATIONS - Returns the number of iterations being used.
#CUR_ITERATION - Returns the current iteration, (from 1 to x) where x is the number of iterations set.

Notes

Other built in names may be added in the future, please note that if you have a cell with one of the names above, your cell will be ignored, and the built in name will be used.

If you reference a cell name that does not exist then the evaluator will use 0 as the result (ie. no error message will appear).

1.40 MACROS OPTIONS

Introduction

EasyCalc 2.0 has over 60 Arexx commands available, this submenu allows you to first view an Arexx script and then execute it.

The two options are:

VIEW - Allows you to select a file and view it's contents. This can be any text file (although it is designed for Arexx files). The files is displayed in a scrolling list, but can't be edited. If part of it is missing, then you are short of memory.

EXECUTE - Allows you to choose an EasyCalc Arexx file and start it executing. When it is finished a requester will appear telling you if the file was executed successfully.

Much more information on Arexx can be found in EasyRexx.doc

1.41 SAVE OPTIONS

This option stores the following attributes to disk so that they are set every time EasyCalc 2.0 is invoked:

EXACT SIZE COPIES
AUTOSAVE
AUTOMOVE
RECALC ORDER
AUTORECALC
GRID
PRINT SIZE

The following are stored for each worksheet and can be set independantly:

BOOKMARKS
ITERATIONS

1.42 ENVIRONMENT MENU REFERENCE

Windows
- Control window position

Screen Mode
- Change screen mode

Palette
- Edit the palette

Save Screen/Palette
- Save the above for next time

1.43 WINDOWS OPTIONS

This submenu contains three options to make dealing with multiple windows easier:

CASCADE - Each window is positioned underneath each other allowing access to all the window title bars to bring any window to the front easily.

MINIMISE - Each window is reduced to its smallest size, and then cascaded as above.

ACTIVATE NEXT - The next window opened is activated. Repeated selecting of this option will allow you to cycle through all the windows without touching your mouse.

1.44 SCREEN MODE OPTIONS

This brings up a screen mode requester so you can change what screen mode and how many colours you want on the EasyCalc 2.0 screen. Upon confirming the changes, EasyCalc 2.0 will close everything, then reopen everything in the new screen mode.

Notes:

It is advisable to keep the number of colours as low as possible (certainly no more than 8) otherwise EasyCalc 2.0 will slow down considerably. Also SuperHires screen modes will also slow things down a hell of a lot.

1.45 PALETTE OPTIONS

This submenu hides two options:

EDIT - Allows you to change the colour scheme of EasyCalc 2.0 to anything you want.

RESET - If you mess up the colours, you can use this to copy the WB colour scheme.

Notes:

Every worksheet saves the current palette settings. When you reload a worksheet with a different palette, EasyCalc 2.0 will ask you if you want to change to the new colour scheme.

1.46 SAVE SCREEN/PALETTE OPTION

Stores the current screen information (size, resolution and depth) and the current palette settings so that when EasyCalc 2.0 is run again in the future the saved settings will be used instead of the internal defaults.

1.47 GRAPHS MENU REFERENCE

Make Graph

View Graph

Delete Graph

1.48 MAKE GRAPH OPTION

Choose the menu option "Graphs/Make Graph" and the currently marked block will be made into a graph. A graph MUST have atleast two cells marked, any less and you will get an error message.

Your new graph will appear on screen to allow you to play with the options. EasyCalc 2.0 graphs are very simple to use provided you understand how the program generates a graph from your data.

Basically, there are four types of blocks you can mark:

Type 1:

34.....23.....12 This is a block that just contains numbers so no labels
453....67.....3 will be generated for your graph.
4.....3....234

Type 2:

Jan...Feb....Mar This will generate labels for each column of graph data.
453....67.....3
4.....3....234

Type 3:

Fred...23.....12 This will generate labels for row of graph data.
Bill...67.....3
John....3....234

Type 4:

.....Feb....Mar This will generate labels for rows and columns of graph
Bill...67.....3 data. However notice the top left cell is empty (and
John....3....234 unused by the graph).

1.49 VIEW GRAPH OPTION

On the icon bar is an icon that hopefully looks a bit like a graph. (If my artistic ability has failed me then you can find the icon right from the "DEL" icon). Also the "Graphs/View Graph" options has the same affect. Choose this and you will be given a list of all graphs which you have created for this worksheet. Click on any of them and a new screen will be opened for you to play with the graph.

All graphs get saved off with the worksheet.

1.50 DELETE GRAPH OPTION

Choosing this option brings up a list of all the graphs for this worksheet. Simply choose the one you want to remove, or CANCEL to leave everything unharmed.

1.51 DRAWING GRAPHS

Introduction

EasyCalc 2.0 has the ability to output your worksheets in a variety of visual formats. Each worksheet you create may have an unlimited number of graphs attached to it. You can only view one at a time, but you can easily change which one you want to view.

Also see:

MAKE GRAPH OPTION

VIEW GRAPH OPTION

DELETE GRAPH OPTION

Graph Menus (on the Graph Screen, not the EasyCalc 2.0 screen)

When a graph is drawn it is on its own screen so its resolution and depth is totally independant from the EasyCalc 2.0 screen. However the default is just to clone the EasyCalc 2.0 screen EXACTLY. Also note that EasyCalc 2.0 is frozen until the graph screen is closed again.

The Project Menu

"Save as IFF..."

Brings up a file requester for you to save the current graph as an IFF ILBM file you can load into any Amiga art package.

"Print Graph"

Displays a requester allowing you to setup your printer then the graph is printed using your current printer preferences.

"Close"

Shuts the screen, and returns you to EasyCalc 2.0 proper.

The GraphType Menu

Allows you to choose one of ten different graph types to display your data. Currently the following are supported:

Bar2DVert - Simple, flat vertical bar chart.
Bar2DHori - Simple, flat histogram.
Bar3DVert - A prettier version of Bar2DVert.
BarStacked - A simple, flat stacked bar chart.
Pie2D - A simple, flat pie chart. *
Pie2DExp - A simple, flat, exploded pie chart. *
Pie3D - A prettier version of Pie2D. *
Pie3DExp - A prettier version of Pie2DExp. *
Line - A line chart. **
Area - An area chart. **

* = Pie charts need row and column labels in the marked block.

** = Line and Area charts need atleast two columns of data.

The Options Menu

Patterns

A check mark denotes whether the graph is rendered with dither patterns or not.

Colours

A check mark denotes whether the graph is rendered in colour or mono.

Grid

This hides a sub menu with two options, X and Y. A check mark on each option denotes whether a grid is drawn in that direction. For any pie chart, these are ignored.

Set Title

Allows you to change the default title of this graph into something more meaningfull.

Edit Palette

Allows you to control the colours used in the graph. Please note these are not remembered.

Screen Modes

Allows you to control the number of colours and resolution that your graphs are displayed in. The pie charts look best in a screen mode with square pixels. ie. Hires (unlaced) and SuperHires (laced).

1.52 EASYCALC AREXX INTERFACE

Introduction

The EasyCalc 2.0 Arexx interface has been greatly enhanced from the EasyCalc Plus version. There are now over sixty commands available. These are described in a separated document called EasyRexx.doc.

1.53 USER SUPPORT

Register EasyCalc 2.0 and I will give you a lifetime of techical support. However if you are initially stuck while trying to evaluate this program, then drop me a line at the address in the program.

OR Email me at this address:

awoods@enigmade.demon.co.uk

The registered version of EasyCalc 2.0 has the following additional features (amongst others):

- 68881 version of the program.
- Many more cell functions.
- Row and column locking.
- Many bug fixes.
- Built-in calculator program.
- Icon bar editor.

1.54 SUPPORTED TOOLTYPES

Currently, EasyCalc 2.0 supports the following tooltypes:

CURRENCY - This expects a one or two character currency symbol which will be used to display currency format cells correctly. The default is the sign. Example. To get French francs you would have CURRENCY=Fr.

EURODATE - Expects either TRUE or FALSE. If TRUE (the default) all date format cells are displayed as DD-MM-YY, otherwise MM-DD-YY is used.

SAVEICONS - Expects either TRUE or FALSE. If TRUE then icons are saved with each worksheet, otherwise no icons are saved.

AUTOSAVETIME - Expects a number of seconds between autosave notifcations. The default (480) is equivalent to 8 minutes.

VAT1 - The first VAT rate to use in the NEWVAT function.

VAT2 - The second VAT rate to use in the NEWVAT function.

1.55 CELL FUNCTIONS

The following cell functions are available in EasyCalc:

- @ABS
 - Absolute value
 - @ACOS
 - Arc-cosine
 - @ASIN
 - Arc-sine
 - @ATAN
 - Arc-tangent
 - @AVG
 - Average of range
 - @AVERAGE
 - Average of range
 - @CHR
 - Convert ASCII value into character
 - @CINT
 - Round value up or down
 - @COLS
 - Return number of columns in a range
 - @COMPARE
 - Compare two strings
 - @COS
 - Cosine
 - @COSH
 - Hyperbolic cosine
 - @COUNT
 - Count the number of cells in a range
 - @DATE
 - Convert a date into numbers
 - @DEG
 - Convert radians to degrees
 - @DIVIDE
 - Protected divide function
 - @EXP
 - Exponent
-

@FALSE
- Always 0

@FIND
- Return position of some text

@FIX
- Truncate a number

@IF
- Conditional function

@INDEX
- Extract value from a range

@INSTR
- Find text in a string

@INT
- Round a number

@ISNUM
- Check for number cells

@ISSTR
- Check for string cells

@LEFT
- Extract characters from left of string

@LENGTH
- Get the length of a string

@LINK
- Get a value from another worksheet

@LOG10
- Base 10 log function

@LOG
- Base e log function

@LOWER
- Make a string lowercase.

@MAX
- Maximum value in a range

@MID
- Extract characters from middle of string

@MIN
- Minimum value in a range

@MOD
- Remainder of a division

@NEWVAT
- Improved VAT function

@NOT
- Logic inverter

@NOW
- Current time

@ORD
- ASCII value of character

@PI
- 3.14159... etc

@PROPER
- Make a string look nice

@RAD
- Convert degrees to radians

@RAND
- Random number between 0 and 1

@REPEAT
- Repeat a string x times

@RIGHT
- Extract rightmost characters

@RND
- Random number between 0 and x

@ROWS
- Return number of rows in a range

@SIGN
- Get the sign of a number

@SIN
- Sine

@SINH
- Hyperbolic sine

@SQR
- Square root

@SQRT
- Square root

@STR
- Convert number into a string

@SUM
- Total of a range

@TAN
- Tangent

@TANH
- Hyperbolic tangent

@TIME
- Convert time into a value

@TODAY
- Return todays date

@TRUE
- Logical 1

@UPPER
- Make a string UPPERCASE.

@VAL
- Convert string into a number

@VAT
- Get 17.5% of value

1.56 abs

ABS(expression)

This function returns the ABSolute value of the expression. ie. The sign of the number is ignored so that all numbers become positive.

Examples:

VAT(-123.4) would give, 123.4.

VAT(10+1) would give, 11.

1.57 acos

ACOS(expression)

This function returns the arc-cosine of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions,

RAD
and
DEG
will help.

1.58 asin

ASIN(expression)

This function returns the arc-sine of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions,

RAD
and
DEG
will help.

1.59 avg

AVG(cell range)

This function returns the average of all values given in the cell range.

Examples:

AVG(A1:BB56) could give, 1.52084.

AVG(B6:A4) could give, -1.3734.

1.60 average

AVERAGE(cell range)

This function returns the average of all values given in the cell range.

Examples:

AVERAGE(A1:BB56) could give, 1.52084.

AVERAGE(B6:A4) could give, -1.3734.

1.61 compare

COMPARE("string2","string2")

Compares the two supplied strings. The comparison is not case sensitive (ie. A=a etc); If the strings are the same "1" is returned otherwise a "0" is returned.

Examples:

COMPARE("fred","ginger") = 0

COMPARE(d45,"reorder") could give 1

1.62 atan

ATN(expression) or ATAN(expression)

This function returns the arctangent of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions,

RAD
and
DEG
will help.

Examples:

ATN(20) would give, 1.52084.
ATN(-5) would give, -1.3734.

1.63 cint

CINT(expression)

This converts an expression into an integer by rounding the fractional part.

Examples:

CINT(1.5) would give 2.
CINT(-1.5) would give -2.

1.64 cos

COS(expression)

This function returns the cosine of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions,

RAD
and
DEG
will help.

Examples:

COS(0) would give 1.
COS(1) would give 0.5403023.

1.65 cosh

COSH(expression)

This function returns the hyperbolic cosine of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions,

RAD
and
DEG
will help.

1.66 count

COUNT(range)

This function returns the number of used cells in a range.

Examples:

COUNT(A1:A5) could give 3

1.67 date

DATE(YY,MM,DD)

Converts the supplied date into a number of days since 1-Jan-1978. This will appear as a date if the celltype is a date

.

Examples:

DATE(78,1,1) = 0

1.68 deg

DEG(expression)

This function converts an expression in radians into degrees.

Examples:

DEG(1) would give 90.

1.69 exp

EXP(expression)

This function returns the exponential function of the given expression.

Examples:

EXP(1) would give 2.718...

1.70 false

FALSE

Returns the value 0. This is useful for making logical operations more readable.

Examples:

FALSE would return 0

1.71 true

TRUE

Returns the value 1. This is useful for making logical operations more readable.

Examples:

TRUE would return 0

1.72 instr

INSTR("string1", "string2")

This function searches for string2 in string1. The search is case insensitive. (ie. A=a); If the string is found then a 1 is returned otherwise a 0 is returned.

Examples:

INSTR("hello", "hell") = 1
INSTR("hello", "bye") = 0

1.73 leng

```
LENGTH("string")
```

Returns the length of the string.

Examples:

```
LENGTH("hello") = 5
```

```
LENGTH(b56) could give 23
```

1.74 ord

```
ORD("string")
```

Returns the ASCII value of the first character in the string.

Examples:

```
ORD("A") = 65
```

```
ORD("0") = 48
```

1.75 val

```
VAL("string")
```

Converts the supplied string into a number.

Examples:

```
VAL("45.6") = 45.6
```

1.76 fix

```
FIX(expression)
```

This returns the truncated expression. See the examples for how it differs from

```
INT
```

```
.
```

Examples:

```
FIX(1.5) would give 1.
```

```
FIX(-1.5) would give -1.
```

1.77 if

IF(expression,true action,false action)

This function examines the expression. If the expression is true (in a boolean sense), then the true action is evaluated, else the false action is evaluated.

Notes:

IF must be in a cell on its own. You can not have 10+IF(5<6,1,0) or similar. However you can use other functions inside IF as normal.

Examples:

IF(A1<5,1,A1)

If the contents of A1 were less than 5 then this would display in the cell, "1", else the contents of A1 would appear.

1.78 int

INT(expression)

This removes the fractional part of the expression by always rounding down.

Examples:

INT(1.5) would give 1.

INT(-1.5) would give -2.

1.79 isnum

ISNUM(cell ref)

Returns 1 if the cell reference is pointing to a cell that contains a value. Otherwise a 0 is returned.

Examples:

ISNUM(A5) could give 1.

1.80 isstr

ISSTR(cell ref)

Returns 1 if the cell reference is pointing to a cell that contains a string. Otherwise 0 is returned.

Examples:

ISSTR(A5) could give 1.

1.81 xlink

LINK("worksheet>cell")

This function returns the cell value in the specified worksheet. The worksheet must be already in memory (ie. loaded into another window of EasyCalc 2.0). If the worksheet is not loaded, then 0 is returned.

Notice the > symbol, this divides the worksheet name from the cell address.

Examples:

LINK("worksheet1>A5") - would return the contents of cell A5 in worksheet1.

LINK("income87>G67") - would return the contents of cell G67 in income87.

1.82 log

LOG(expression)

This returns the natural logarithm (base e) of the expression. The expression must be greater than 0.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions,

RAD
and
DEG
will help.

If you want the base-10 log then use

LOG10
.

Examples:

LOG(2) would give 0.30103.

1.83 log10

LOG10(expression)

This returns the logarithm (base 10) of the expression. The expression must be greater than 0.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions,

RAD
and
DEG
will help.

1.84 max

MAX(range)

This returns the maximum value in the specified cell range.

Examples:

MAX(A1:A12) could give 56.7.

1.85 min

MIN(range)

This returns the minimum value in the specified cell range.

Examples:

MIN(A1:A12) could give 56.7.

1.86 mod

MOD(x,y)

Returns the remainder (the modulus) of x divided by y.

Examples:

MOD(10,3) would give 1 (10/3 = 3 remainder 1)

1.87 not

NOT(expression)

Performs a binary invert on the expression. Imagine the expression changed into binary (1s and 0s). Every 0 is turned into a 1 and vice versa.

Examples:

NOT(1) would give 0.

1.88 now

NOW

This function returns the number of seconds since last midnight (anything up 86400). If the cell has a type of

time
then it will appear as a time in
the HH:MM:SS format. This function allows access to the Amigas built in
system clock.

Examples:

NOW could give 45743

1.89 pi

PI

Returns the value 3.14159... (The ratio of a circles diameter to its
circumference)

Examples:

PI would give 3.14159

1.90 rad

RAD(expression)

This function converts an expression in degrees into radians.

Examples:

RAD(90) would give 1.

1.91 rnd

RND(expression)

This function returns a number between 0 and expression. Every time the
worksheet is calculated this value will change.

Examples:

RND(10) could give 5.

1.92 rand

RAND

This function returns a number between 0 and 1 (but never 1). Every time
the worksheet is calculated this value will change. This function is

provided for compatibility with Lotus, AsEasyAs etc.

Examples:

RAND could give 0.4545452.

1.93 sign

SIGN(expression)

This function returns -1 if the expression is negative, 0 if the expression is 0, and +1 if the expression is positive.

Examples:

SIGN(-5) would give -1.

SIGN(2) would give 1.

1.94 sin

SIN(expression)

This function returns the sine of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions,

RAD
and
DEG
will help.

Examples:

SIN(1) would give, 0.8414709.

1.95 sinh

SINH(expression)

This function returns the hyperbolic-sine of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions,

RAD
and
DEG
will help.

1.96 sqr

SQR(expression) or SQRT(expression)

This function returns the square root of the expression. The expression must not be negative.

Examples:

SQR(49) would give, 7.

1.97 sqrt

SQR(expression) or SQRT(expression)

This function returns the square root of the expression. The expression must not be negative.

Examples:

SQRT(49) would give, 7.

1.98 sum

SUM(range)

Returns the total of all cells in the specified range added together.

Examples:

SUM(A1:B12) - Returns the total of all the cells in the range, A1->B12.

VAT(SUM(A1:B12)) - Returns 17.5% of the total of all the cells in the range, A1-B12. (follow that?)

1.99 tan

TAN(expression)

This function returns the tangent of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions,

RAD
and
DEG
will help.

Examples:

TAN(0) would give 0.
TAN(1) would give 1.5574077.

1.100 tanh

TANH(expression)

This function returns the hyperbolic-tangent of the expression.

Note: Trig functions are all specified in radians. If you need to convert between degrees and radians, the functions,

RAD
and
DEG
will help.

1.101 time

TIME (HH, MM, SS)

Returns the number of seconds since midnight for displaying in a
time
format cell.

Examples:

TIME (23, 59, 59) = 86400

1.102 today

TODAY

Returns the number of days since 1-Jan-1978 for displaying in a
date
format
cell. This function allows access to the Amigas built in system clock.

Examples

TODAY could give 98345.

1.103 vat

VAT(expression)

This function returns 17.5% (current UK sales tax) of the expression given.

Examples:

VAT(100) would give, 17.5.
VAT(10+1) would give, 1.925.

1.104 str

STR(expression)

This function converts the given numeric expression into a string.

Examples:

STR(56.7) would give, "56.7"
STR(-2345.789) would give, "-2345.789"

1.105 right

RIGHT(string, number of chars)

Returns a string that contains the specified number of chars (counting from the right side of the string).

Examples:

RIGHT("fred",2) would give "ed"
RIGHT("john",1) would give "n"

1.106 proper

PROPER(string)

Makes a string look nicer by converting the first letter of each word into UPPERCASE and making the rest lowercase.

Examples:

PROPER("mr fred jones") would become "Mr Fred Jones"

1.107 mid

MID(string, startpos, length)

Returns <length> characters from the middle of the string, starting at the <startpos>.

Examples:

```
MID("freddie",2,3) = "red"  
MID("freddie",4,4) = "ddie"
```

1.108 left

LEFT(string, length)

Returns the specified number of characters from the left side of the string.

Examples:

```
LEFT("fred",2) = "fr"  
LEFT("fred",4) = "fred"
```

1.109 find

FIND(string to search, string to search for, startpos)

Searches (case sensitively) for the specified string, starting at the specified character in the string. If the string cannot be found, 0 is returned, otherwise the position in the string where the text was found is returned.

Examples:

```
FIND("freddie","red",1) = 2  
FIND("freddie","red",4) = 0
```

1.110 index

INDEX(range, x offset, y offset)

Returns the cell contents stored at range + x + y. If the cell is empty, 0 is return, otherwise a string or a number will be returned.

Examples:

```
INDEX(A1:B5,0,0) would return the contents of A1.  
INDEX(A1:B5,1,0) would return the contents of B1.  
INDEX(A1:B5,0,1) would return the contents of A2.
```

1.111 repeat

REPEAT(string, count)

Repeats the specified string, <count> number of times.

Examples:

```
REPEAT("fred",4) = "fredfredfredfred"
```

1.112 newvat

NEWVAT(amount, vat rate)

Applies the specified VAT rate to <amount>. The VAT rate is either a 1 or a 2 at the moment. By default 1 applies 17.5% to <amount>, and 2 applies 8% to <amount>. You can change these as VAT rates change using the

tooltypes
VAT1 and VAT2.

Examples:

```
NEWVAT(100,1) = 17.5  
NEWVAT(100,2) = 8
```

1.113 lower

LOWER(string)

Converts all characters in the string into lowercase.

Example:

```
LOWER("FrEd") = "fred"
```

1.114 upper

UPPER(string)

Converts all characters in the string into uppercase.

Example:

```
UPPER("fred") = "FRED"
```

1.115 chr

CHR (value)

Returns a string of one character which is represented by the ASCII <value>.

Examples:

CHR (65) = "A"

CHR (32) = " "

1.116 divide

DIVIDE (expression, divider)

Divides the given expression with the supplied divider. This is the same as using the / operator, but protection from divide by zero is added. If divider is 0 then DIVIDE will return 0 otherwise the division is performed.

Examples

DIVIDE (100,10) = 10

DIVIDE (N2,0) = 0

1.117 cols

COLS (range)

Returns the number of columns in a specified range.

Example:

COLS (A1:C5) = 3

1.118 rows

ROWS (range)

Returns the number of columns in a specified range.

Example:

ROWS (A1:C5) = 3

1.119 ENTERING DATA

The moment you enter an alpha-numeric character, the spreadsheet enters COMMAND MODE. That is, all the menus are ghosted and everything you type appears at the top of the screen.

Keys available in command mode:

Left + Right cursor keys - moves left and right.
 Escape - aborts input and leaves everything unchanged.
 Return - enters the data.
 Amiga + X - clears the input.
 Amiga + Q - undos a string change.
 HELP - see

ONLINE HELP

.

In EasyCalc there are three types of cell:

- Formula
- String Constant
- Numeric Constant

To denote the type of data you are entering, EasyCalc has the following rules for the first character of the input:

Start string with	Means
'	String (left justified)
^	String (centered)
"	String (right justified)
=	Formula
A..z	String Left justified (' will be added)
0..9	Numeric cell
\	String (repeats second character to width of column)
-	Negative numeric cell

In a string, the first character is not displayed.

Examples:

'hello - left justified string
 \- - displays a line of '-' (to fill the whole column)
 -3 - a numeric cell with -3 is created
 Go away - left justified string (a ' is added to the start of string)
 =10+2 - formula is displayed

Every cell in EasyCalc has a unique reference which is described by taking the letter from the column at the top of the screen and the row number from the left hand side of the screen. Using the system, the very first cell (in the top left corner) is called A1. The next cell across is B1 and so on. The cell below B1 is called B2 etc. In a formula you could have something like =10+B6. This would get the value in cell B6 and add 10 to it. Then the result would be displayed in this cell. This ability allows you to have a global VAT rate (for example) and have all cells use the same VAT rate. If the VAT rate changes, then it would be easy to change this one cell and all the other cells would change to reflect the new rate.

In addition to cell references, there is something else called a cell range. Some functions (like SUM) take a range of cells and display an answer. A cell range is a rectangle of cells, everything in the rectangle becomes part of the range. Normally you describe a range by the cells that make up the top left corner and bottom right corner of the range. In a formula a cell range that was to include A5 to G8 would be written A5:G8. Simple really?

A new feature in EasyCalc 2.0 is the ability to reference a cell address with a symbolic name. For example you could give cell A6 the name "TOTAL", and then use the formula =10+#TOTAL instead of =10+A6. Notice the use of the # symbol, this is used to denote when a cell name is being used.

See

CELL NAMES
for more information

Also in EasyCalc 2.0, if you press either the UP or DOWN arrow keys instead of RETURN, you will automatically enter the data into the current cell, and the cursor will move in the specified direction -- saving a whole keystroke!

1.120 ONLINE HELP

When the HELP key is pressed this help window will pop up. However what help you get depends on what you were doing at the time, and where you were doing it:

Entering Data

Cursor over a @ symbol in a function - The relevant help of that function is displayed.

Cursor over anything else - The general entering data help message.

Not entering data - The main menu of the help system is displayed.

1.121 GENERAL FORMAT

A number is displayed with as many decimal places as is needed. This can be very messy as decimal points will not be vertically aligned.

eg.

123.456
4.4
-2.12

1.122 FIXED FORMAT

This uses the precision value to set the number of decimal places displayed. Even if a number has less than specified it will be padded out with zeros. The effect is similar to below:

```
123.456
  4.400
 -2.120
```

1.123 DATE FORMAT

The number in the cell is taken to represent the number of days since 1-Jan-1978. The cell is displayed in a DD-MM-YY or MM-DD-YY format.

1.124 TIME FORMAT

The number in the cell is taken to represent the number of seconds since midnight (00:00). The cell is displayed as HH:MM:SS.

1.125 CURRENCY FORMAT

The number is displayed as a whole number followed by two decimal places. A currency symbol is placed at the beginning of the number. This leads to an effect like the following:

```
£123.45 (assuming the currency was set to £)
£67.23
£0.45
```

1.126 PERCENT FORMAT

A percent symbol (%) is added to the end of the number.

```
eg.
145.6%
```

1.127 TEXT FORMAT

The cell formula is displayed instead of the result.

1.128 HIDE FORMAT

The contents of the cell are not displayed. The cell is maintained but becomes invisible.

1.129 COMMAS FORMAT

Every group of three zeros is padded out with a comma.

eg.

1,000,456,003.456

1.130 SCIENTIFIC FORMAT

The cell contents are displayed in scientific notation and also using the precision value to limit the number of decimal places.

1.131 HEX FORMAT

The cell contents are converted into hex (base 16) notation.

1.132 OCTAL FORMAT

The cell contents are converted into octal (base 8) notation.

1.133 ICON BAR FUNCTIONS

Going from the left to the right:

Load Worksheet
- Retrieve worksheet from disk

Save Worksheet
- Store worksheet to disk

Print Worksheet
- Print worksheet

B, I, U, P Style
- Change the text style

L, C, R Justify
- Justify range

Function List
- Function paster

Cut
- Cut block

- Copy
 - Copy block
- Paste
 - Paste block
- Delete
 - Delete block
- Graphs
 - View graphs
- Colour
 - Change colour of block
- Precision
 - Change precision of block
- Lock/Unlock
 - Lock/Unlock a block
- Format
 - Change the cell format

1.134 FUNCTION LIST

This option brings up a list of all the cell functions ↔ available in EasyCalc 2.0. When you choose one, it is automatically pasted into the input area at the top of the window.

See

FUNCTIONS
for a complete list of them all.

1.135 CELL FORMATS

This option brings up a requester allowing to format all the ↔ marked cells with the specified format. Currently there are:

- General
 - Unaltered display
- Fixed
 - Rounded value
- Date
 - DD-MM-YY or MM-DD-YY format
- Time

- HH:MM:SS format
- Currency
 - £XXXX.xxx
- Commas
 - XXX,XXX,XXX
- Percent
 - XXX.xx%
- Text
 - Cell formulas not results
- Hide
 - Invisible cells
- Scientific
 - Scientific notation
- Hex
 - Base 16 numbers
- Octal
 - Base 8 numbers

1.136 OPERATORS

An operator is something that performs an action on an expression. Basically that means +, -, *, / etc. Below is a list of available operators, and a description of the priority system:

(,)
 ^, >, <, >=, <=, <>, =
 *, /
 +, -

They have been listed in order of priority (also called precedance). If O Level maths theory has long since escaped you then let me explain. For example if you had $10+2*3$, the laws of precedance would give an answer of 16 ($2*3$ then $+10$), this is because multiplication has a higher precedance then +. The highest precedance of all goes to brackets. Using brackets you can force the order something is calculated in. The previous example would be $(10+2)*3$ to give 36. By knowing about precedance you can order calculations to minimise brackets and speed up the calculation.

Some of the above operators may look unfamiliar to you. Here is a description of each:

(,) - See precedance above.
 ^ - Raise to the power of. eg. 2^2 would be "2 raised to power of two" or would be written as $2\$^2\$$.

The next few are called comparisons, they are normally used in the IF command to compare numbers however you may need them for logical functions

sometimes. Basically they show if something is "true":

> - Greater than. Equals 1 if the value on the left of the > is greater than the value on the right. Otherwise it returns 0.
< - Less than. The opposite of above.
>= - Greater than or equal to.
<= - Less than or equal to.
<> - Not equal to.
= - Equal to.

*,/,-,+ - Do I need to explain these?

Examples:

=10>5 would give 1. (10 IS greater than 5)
=5<>5 would give 0. (5 DOES equal 5)
=5<=5 would give 1. (5 IS less than or equal to 5)

Note the equal sign at the start of the examples. This tells EasyCalc that what follows is a formula and not a string or something.

1.137 UNMATCHED BRACKETS

This error can have two meanings:

- Left and right brackets do not match. eg. $10+((2*3)$ would give this error. You should ALWAYS have a matching right bracket for every left bracket used.
- Or too many right brackets were encountered before the matching left brackets. eg. $2+(5*2))()$ would give this error.

It should be noted that the above examples are artificially simple, often these errors occur in complex expressions.

1.138 DIVISION BY ZERO

Since a division by 0 is impossible if you have an expression that tries to divide by zero then it will fail. This error is not always trapped, so if you suddenly get strange numbers in some cells then check for 0.

1.139 INVALID PARAMETER

You have given a negative value to a function that cannot cope with one. ↩

Functions like $SQR()$ can only have positive (none zero) numbers. This is because the square root of a negative number is mathematically impossible when using real (not complex) numbers.

Functions affected:

.
SQR
.
SQRT
.
LOG
.
LOG10

1.140 INVALID NUMBER ENTERED

You have entered an invalid number. Invalid means that the number contains a character that is not part of a number and the EasyCalc evaluator cannot cope with it.

Alternatively, you have entered a formula, but forgotten to start the formula with a '=' sign. An example is 2+4. EasyCalc sees that the cell starts with a number so it tries to process the cell as a number, but then it comes across the +. Just add a '=' to the start of the formula and all should be alright.

1.141 RANGE EXPECTED

A function was expecting a range as a parameter, but did not find one.

1.142 STRING EXPECTED

A function was expecting a string (eg. "Bill" or "Cat"), but did not find one.

Functions like LENGTH only make sense if given a string.

1.143 NUMBER EXPECTED

A function was expecting a number as a parameter, but did not find one.

1.144 ADDRESS EXPECTED

A function was expecting an address (such as A5 or Z7 etc) but did not find one.

1.145 INVALID RANGE

A spreadsheet range (eg. A1:Z34) is invalid. This could be because you have exceeded the area of the worksheet or you have made a typing mistake (eg. AAZ) and caused the evaluator to be confused.

The maximum range possible in EasyCalc 2.0 is A1:IV8192. This is 256 columns by 8192 rows.

1.146 UNEXPECTED CHARACTER

During the course of evaluating a formula, EasyCalc has discovered a character it wasn't expecting. This has probably been caused by mistyping something.

1.147 TUTORIAL

Introduction

This simple tutorial is not an exhaustive lesson in spreadsheets, just a simple way for you to get a worksheet up and running quickly. You may find it helpful to print out this page right now.

Done that? Okay, here is some background information all about spreadsheets.

Think of a spreadsheet as a piece of blank paper -- the page from an accounting ledger for example. On this "paper" you can write numbers and titles for sections of the accounts. On paper you have to add up columns manually, with a spreadsheet you can write a formula, the word SUM for example, makes the spreadsheet add up a range of numbers (called cells). The power of spreadsheets lies in the fact that once a formula has been written, even if you change the column of numbers, the formula will automatically add them up again. A program like EasyCalc has many different formulae, so it is capable of much more than just adding columns.

Let's create a worksheet!

Firstly, make sure you have EasyCalc 2.0 up and running and you are looking at a blank worksheet. If not then quit the program, and then reload it.

Now follow the next few steps exactly, don't worry I'll explain everything as we go:

- 1) Move the cursor down to cell B2 (that's down one, and across one from the top left hand cell. Now type 56 and press RETURN. The number 56 should appear in that cell.

- 2) Now move down one cell (to B3) and enter 23 (followed by RETURN of course). Now enter 78 in cell B4, then 67 in cell B5.

3) You should now have four cells (B2:B5) containing the numbers, 56, 23, 78, 67 respectively. If not start again.

4) Now lets get EasyCalc 2.0 to add up these numbers for us. Move to cell B7 and type in the following EXACTLY:

```
=@sum(b2:b5) (then press RETURN)
```

Quick as a flash, EasyCalc 2.0 puts 224 in the cell. If you don't trust the program, then check it yourself. Now lets break down exactly what EasyCalc 2.0 did:

EasyCalc 2.0 saw the '=' sign and attempted to evaluate the rest of the line. Then EasyCalc 2.0 came across the @, which meant a function was next. The SUM function was recognised, and EasyCalc 2.0 knew that it must add up all the cells in the range that followed. Upon finding no other functions, EasyCalc 2.0 displayed the result in the cell.

Lets have a closer look:

```
= @ sum( b2:b5 )
```

----- This is the range for SUM to work on.

----- This is a FUNCTION called SUM which adds up any range of cells you give it (such as b2:b5).

----- This tells EasyCalc 2.0 to expect a FUNCTION, in our case SUM, but EasyCalc 2.0 has another 61 functions available.

----- Tells EasyCalc 2.0 that you want the rest of this line evaluated (as opposed to just sticking the text into the cell).

So to summarise: All formulae starts with an '=' sign.
All functions are prefixed with an '@' symbol.

Now go to cell B9 and enter the following exactly:

```
=@IF(b7 < 300, "I'm Skint!", "Loads of money")
```

When you press RETURN, the answer, "I'm Skint" should appear in the cell. IF is another EasyCalc 2.0 function, but it is very special because it can make decisions. In this case, IF is used to decide if cell B7 contains a value less than 300, if it does then it returns "I'm Skint", otherwise "Loads of money" should appear.

To test this second condition, try changing cell B2 to 150. Instantly, B9 should now read, "Loads of money".

Things to do:

1) In cell B7, change the SUM (nothing else) to MIN so it would now read:

```
=@min(b2:b5)
```

then try:

```
=@max(b2:b5)
```

```
=@avg(b2:b5)
```

What happens in each case?

2) Try changing the 300 in B9 to other values just to prove to yourself that it is not cheating.

The complete tutorial file, TUTORIAL.calc is available on disk.

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1.149 STRING ERROR

A string was not properly delimited. Each string should start and end with a ''' symbol, eg. "fred", "bill" etc. If you miss out a ''' then this error will occur. Simply fix the string and all will be well.

1.150 RESIZING COLUMNS REFERENCE

Simply move the mouse to the gap between two column labels and hold the left mouse button down. You should find you are able to move the mouse left and right and the column width changes as you do it.

Example:

```
-----
A   | |   B
-----
```

```
\
 \Click the mouse between here and hold
```