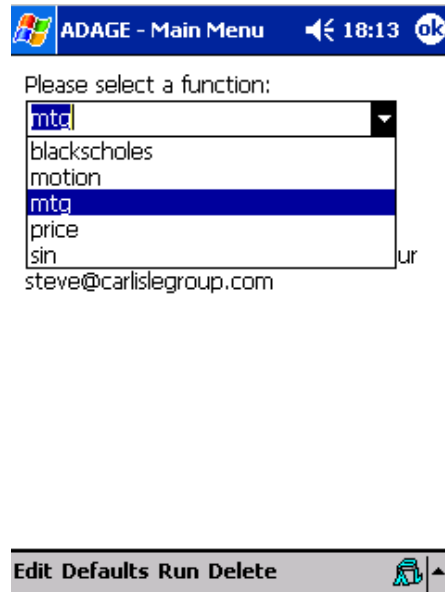


ADAGE © 2002 S.M. Mansour

steve@carlislegroup.com

ADAGE is a general purpose equation solver. It uses the Secant algorithm to solve non-linear equations of the form

$$f(x_1, x_2, \dots, x_n) = 0$$



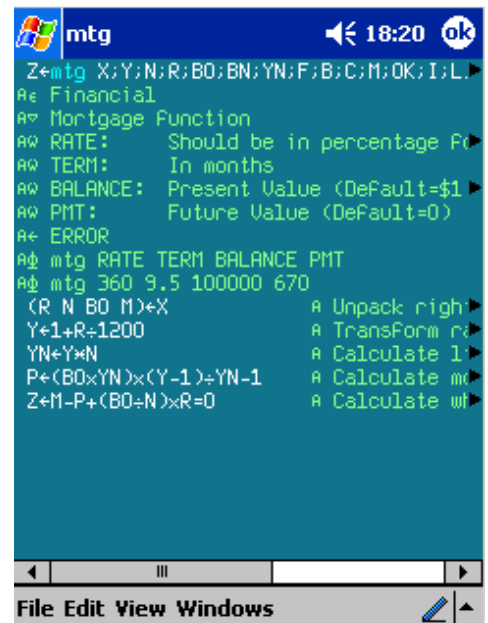
You are given all but one of the inputs; the system will solve for the missing value that will satisfy the equation.

There are five sample functions provided with the system:

Function	Description
Blackscholes	Option Pricing Model
Motion	Constant acceleration Model
Mtg	Mortgage payment Model
Price	Bond pricing model
Sin	Trigonometric function

The functions are just regular APL defined functions. You can view/edit the function by selecting *Edit* from the menu bar. The mtg function contains 4 inputs namely:

Input	Description
RATE	Interest Rate (%)
TERM	Length of mortgage in Months
BALANCE	Present Value
PMT	Future Value



Dyalog Ltd

South Barn
Minchens Court
Minchens Lane
Bramley
Hampshire
RG26 5BH
United Kingdom

Phone:

+ 44 (0) 1256 830 030

Fax:

+ 44 (0) 1256 830 031

e-mail:

sales@dyalog.com

ADAGE © 2002 S.M. Mansour

Calculate:	Enter Values:
Rate:	6.000
Term:	180
Balance:	\$100,000.00
Payment:	\$600.00

You can exercise the function by selecting *Run* from the menu bar.

This allows you to change one or more inputs and see the effect on the other parameters.

Example

Select the Payment button. The value will change to \$843.86 based on the other three parameters.

Now change the Balance to \$75,000 and select the Rate button.

The recalculated rate of 10.817% is the loan interest rate that must be in effect to be consistent with all of the other values.

Click the *OK* button to return to the *Main Menu* screen.

Calculate:	Enter Values:
Rate:	10.817
Term:	180
Balance:	\$75,000.00
Payment:	\$843.86

Dyalog Ltd

South Barn
Minchens Court
Minchens Lane
Bramley
Hampshire
RG26 5BH
United Kingdom

Phone:

+ 44 (0) 1256 830 030

Fax:

+ 44 (0) 1256 830 031

e-mail:

sales@dyalog.com

ADAGE © 2002 S.M. Mansour

- ▶ Pocket Dyalog
- ▶ ADAGE Sample

Variable	Description	Format	Default
RATE	Rate:	F7.3	6
TERM	Term:	I3	360
BALANCE	Balance:	P<\$>C1	100000
PMT	Payment:	P<\$>C1	600
			0
			0
			0
			0
			0
			0
			0
			0
			0
			0

OK Quit

The *Defaults* option in the menu bar allows you to define the characteristics of the function inputs. This displays a Grid containing:

- Variable** Name of variable used in function
- Description** Text to appear on each button on the *Run* Screen
- Format** Appearance of input and output values on *Run* Screen"
- Default:** Initial value which appears in the edit box for each variable. This value is also used as one of the starting points for the Secant Algorithm.

In the above example the Default Value for TERM is set to 360 and New values are saved by clicking OK.

Further instructions

Repeat the above steps for any other functions in the list. To create a new function, simply type in the name of a function not already in the list and select *Defaults*.

After filling in the *Defaults/FN Builder* Screen, click *OK* in the menu bar. Next, select *Edit* from the menu bar on the *Main Menu* screen. This will bring up the APL function editor allowing you to enter the function.

To delete a function, simply select it from the main menu then select the menu item *Delete*.

To exit ADAGE, click *OK* in the menu bar on the *Main Menu* screen.

To save all your changes, you must)SAVE the ADAGE workspace with all your new or changed functions.

Dyalog Ltd

South Barn
Minchens Court
Minchens Lane
Bramley
Hampshire
RG26 5BH
United Kingdom

Phone:

+ 44 (0) 1256 830 030

Fax:

+ 44 (0) 1256 830 031

e-mail:

sales@dyalog.com