

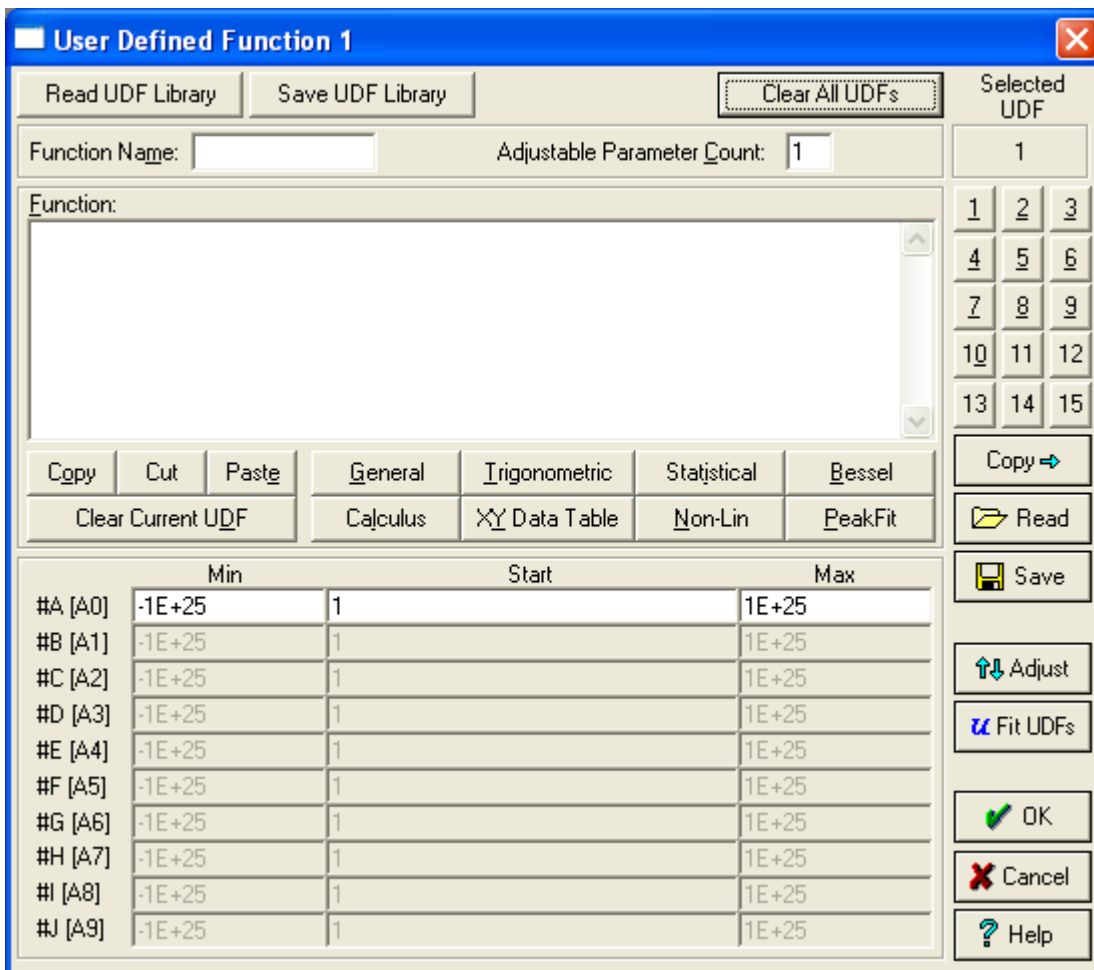
## User-Defined Functions (UDFs) with TableCurve 2D and TableCurve 3D

With TableCurve 2D and TableCurve 3D, you can simultaneously and automatically fit thousands of built-in equations. The program runs the fit, determines the parameters for each equation, and ranks the equations by goodness of fit. You can visually inspect the fitted curves/surfaces, residuals, etc.

You can do this for all built-in equations, or for a tailored set of equation categories. And you can also add your own equations (UDFs). The program will fit them separately or together with the other ones.

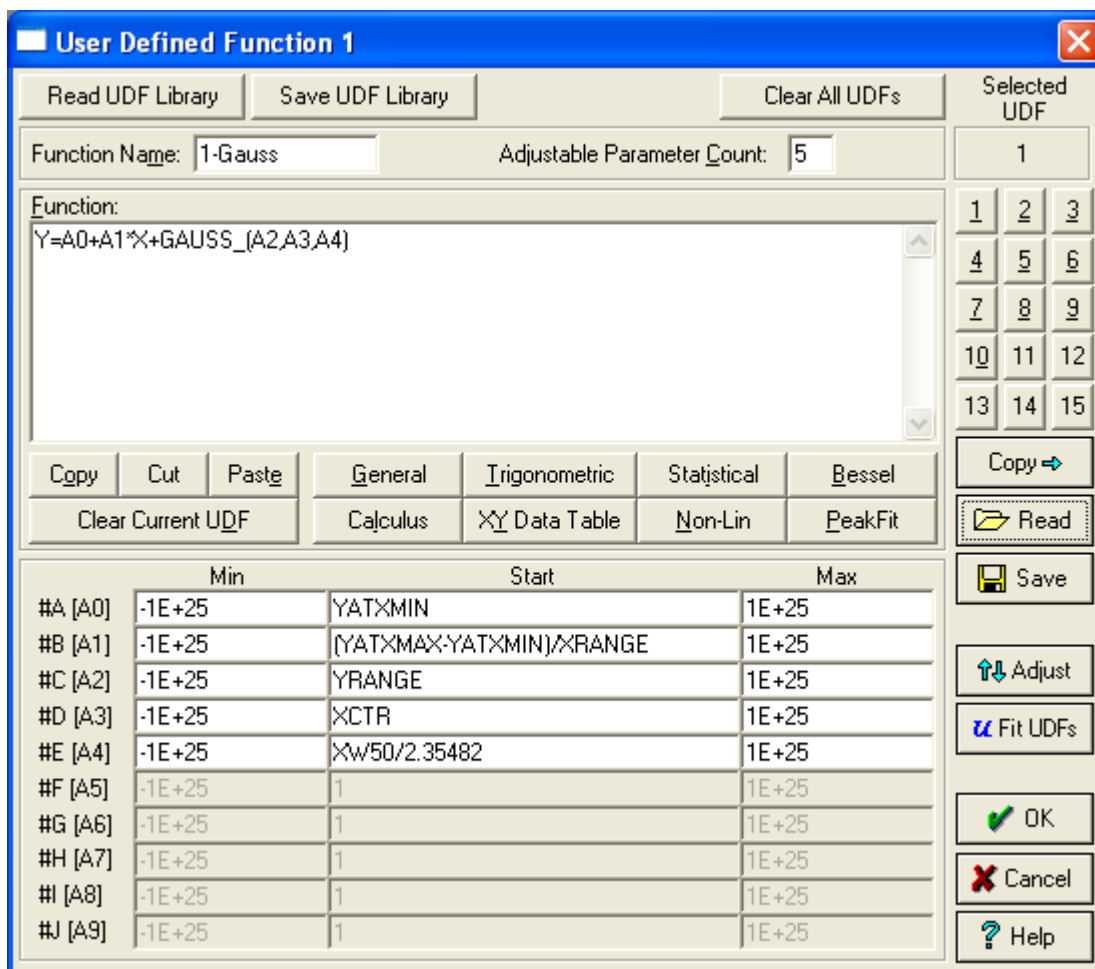
### How to enter a UDF

Load your data file. In the Process menu, select "User Functions..."



You can read a UDF library with up to 15 equations, from the "Read UDF Library" button. Or you can open a single equation = UDF from the "Read" button.

There are sample \*.udl files in the Program Files\TableCurve2Dv5.01\Data directory. Open "Sample02.udl". You can select from the 8 equations in this file with the numeric keypad in the upper right corner. The field above the keypad shows the selected equation.



### Parameters

Parameters can be named #A,#B,#C,#D (or A0,A1,A2,A3).

The parameter count in the top row must match the number of parameters in the equation.

Start value ranges for the parameters must be set in the lower half of the dialog. Under "Start", enter a start value for the parameter shown in the first column. Or enter a formula which can use a built-in function like "YATXMIN" in the first row.

### Terminology

- "User Defined Functions" in the Process > Curve Fit menu are equations, written in TableCurve syntax.

- You can save and read a single UDF in a .udf file, or up to 15 UDFs (library) in a .udl file.

- In a UDF equation, you can use built-in functions.

Details: See the "User-Defined Functions" paragraph. Open it from the Help button.

### Example

Press "Clear All UDFs", and enter a simple quadratic equation in TableCurve syntax. Enter:

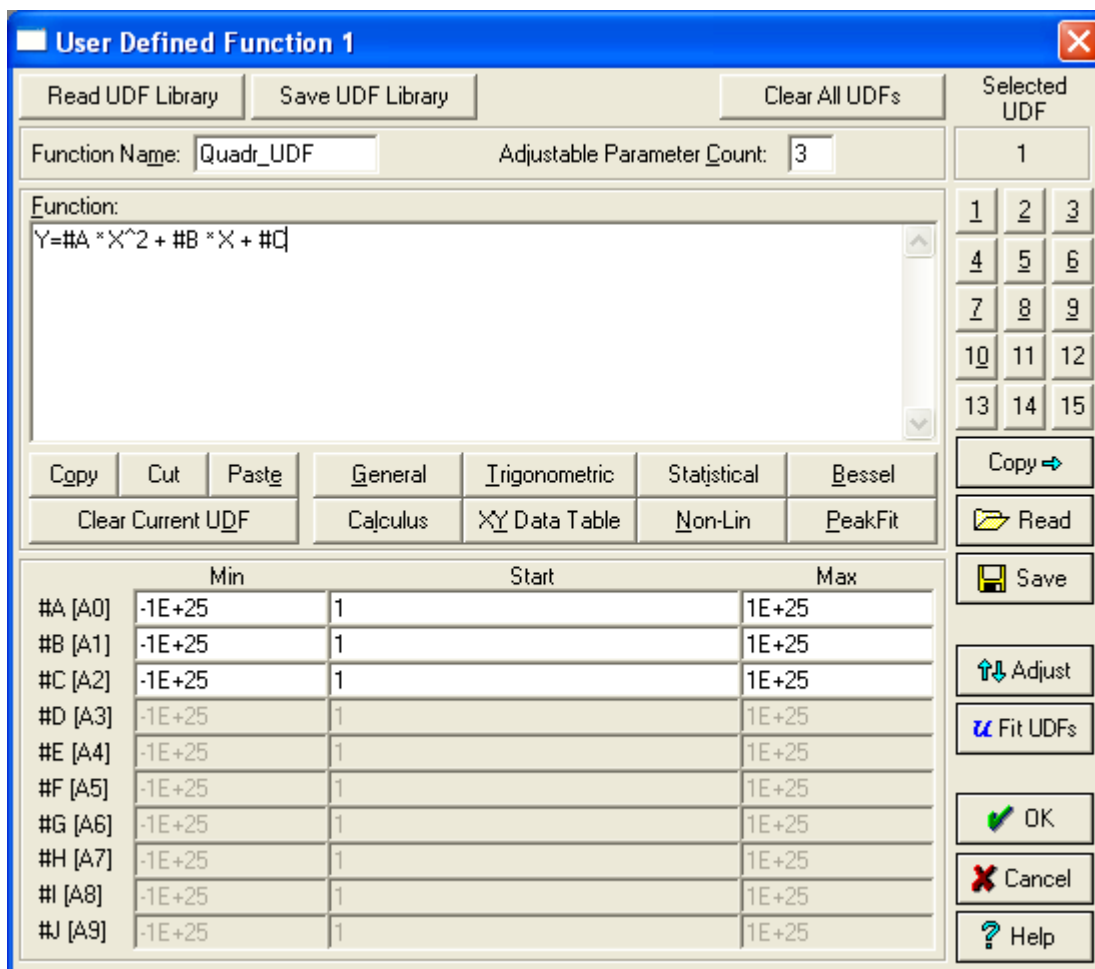
Name: Quadr\_UDF

Parameter Count: 3

Function:  $Y = \#A * X^2 + \#B * X + \#C$

or:  $Y = A0 * X^2 + A1 * X + A2$

The start values default to 1.



Run the fit of the UDF(s) with a click on the “Run UDFs” button, or from Process > Curve-Fit User Functions. Or select Process > Curve-Fit All Equations to fit the UDFs and the rest of the equations.

This procedure is the same both for TableCurve 2D and TableCurve 3D.