CLAIMS

What is claimed is:

1. A method for spreadsheet programming comprising:

assigning labels to cells of a spreadsheet, each of the labels assigned to one of a plurality of adjoining variable value cells for data corresponding to a plurality of values of a variable, wherein the plurality of adjoining variable value cells is user defined by a pair of labels indicating a start and an end of a cell range of the plurality of adjoining variable value cells;

defining a spill area into which data can flow from a cell having an expression defined therein in response to the expression including a variable range defined by the plurality of values of the variable, the spill area automatically sized to a plurality of expression solutions corresponding to the plurality of values of the variable; and

defining a barrier across one or more cells to establish an elastic limit to the spill area, and wherein defining the spill area comprises defining cells in an elastic spill area without disturbing a rest of the spreadsheet adjoining the barrier when data entered into the plurality of adjoining variable value cells corresponds to a plurality of expression solutions greater than a number of the cells within the spill area.

2. The method in accordance with Claim 1 wherein defining a spill area comprises defining a non-shrinking spill area into which data can flow from a cell having an expression defined therein before subsequent user input of data into the plurality of adjoining variable value cells.

3. The method in accordance with Claim 1 wherein defining a barrier across one more cells comprises defining a barrier across less than all the cells of a row or a column of the spreadsheet.

4. The method in accordance with any of the preceding claims further comprising defining nestable table-within-tables (TWITs) circumscribing one or more mini-tables inside a larger table of the spreadsheet, wherein each of the one or more mini-tables comprises a rectangular section of cells within a larger table, and wherein a number of rows, a number of columns and a total area occupied by each of the one or more mini-tables are defined in response to a user TWIT input.

5. The method in accordance with Claim 4 wherein the mini-tables inside the larger table of the spreadsheet comprise at least two non-intersecting regions.

6. The method in accordance with any of the preceding claims comprising displaying cells of the spreadsheet in accordance with user programmable two-dimensional style definitions.

7. The method in accordance with Claim 6 wherein the user programmable two-dimensional style definitions comprise one or more of data font style, data font color, and cell background color.

8. The method in accordance with any of the preceding claims wherein access to read and/or write code in the one or more cells is controlled in accordance with fine-grained access control permissions, wherein the fine-grained access control permissions comprise sheet-owners and sheet-users defined in accordance with one or more of concrete users and abstract users.

9. A spreadsheet comprising:

a plurality of cells arranged in a two-dimensional array, wherein the plurality of cells comprise a plurality of adjoining variable value cells for data corresponding to a plurality of values of a variable, and wherein the plurality of adjoining variable value cells are user defined by a pair of cell values indicating a start and an end of a cell range of the plurality of adjoining variable value cells, and

wherein the plurality of cells further comprises a spill area into which data can flow from a cell having an expression defined therein in response to the expression including a variable range defined by the plurality of values of the variable, the spill area automatically sized to a plurality of expression solutions corresponding to the plurality of values of the variable, and

wherein a barrier is defined across one or more cells to establish an elastic limit to the spill area, and wherein the spill area comprises cells defined to be in an elastic spill area without disturbing a rest of the spreadsheet adjoining the barrier when data entered into the plurality of adjoining variable value cells corresponds to a plurality of expression solutions greater than a number of the cells within the spill area.

10. The spreadsheet in accordance with Claim 9 wherein the spill area comprises a non-shrinking spill area into which data can flow from a cell having an expression defined therein before subsequent user input of data into the plurality of adjoining variable value cells.

11. The spreadsheet in accordance with Claim 9 or Claim 10 wherein the barrier is defined across less than all the cells of a row or all the cells of a column of the spreadsheet

12. The spreadsheet in accordance with any of Claims 9 to 11 wherein access to read and/or write code in cells of the spreadsheet is controlled in accordance with fine-grained access control permissions, wherein the fine-grained access control permissions comprise sheet-owners and sheet-users defined in accordance with one or more of concrete users and abstract users.

13. The spreadsheet in accordance with any of Claims 9 to 12 wherein the plurality of cells comprise a first nestable table-within-table (TWIT) circumscribing one or more first mini-tables inside a larger table of the spreadsheet, and wherein each of the one or more mini-tables comprises a rectangular section of cells within a larger table, and wherein a number of rows, a number of columns and a total area occupied by each of the mini-tables are defined in response to a user TWIT input.

14. The spreadsheet in accordance with Claim 13 wherein the plurality of cells comprise a second nestable TWIT circumscribing at least one second mini-table inside the larger table of the spreadsheet, and wherein each of the one or more first mini-tables

and the at least one second mini-table comprise non-intersecting regions within the larger table of the spreadsheet.

15. The spreadsheet in accordance with any of Claims 9 to 14 wherein one or more of the plurality of cells include one or more user programmable two-dimensional style definitions for displaying the cell.

16. The spreadsheet in accordance with Claim 151, wherein the user programmable two-dimensional style definitions comprise one or more of data font style, data font color, and cell background color.

17. A spreadsheet comprising:

a plurality of cells arranged in a two-dimensional array, wherein the plurality of cells comprise a plurality of adjoining variable value cells for data corresponding to a plurality of values of a variable, and wherein one or more of the cells of the plurality of adjoining variable value cells are user defined by a label assigned thereto, and wherein a label position expression operates on the label in response to coordinates of the one or more of the cells of the plurality of adjoining variable value cells within the two-dimensional array, and wherein a barrier is defined across one or more cells to establish an elastic limit to the spill area, and wherein the spill area comprises cells defined to be in an elastic spill area without disturbing a rest of the spreadsheet adjoining the barrier when data entered into the plurality of adjoining variable value cells corresponds to a plurality of expression solutions greater than a number of the cells within the spill area.