Chapter 1

TANGRAM Graphics

Overview

TANGRAM's philosophy is to solve the data analysis layer and interface with other software packages that take care of other aspects (for instance, business graphics and visual inspection products).

It has been found convenient, however, to equip TANGRAM with some basic graphic functions. This has the advantage that TANGRAM knows all the meta data (element labels, axis labels, ...) so that the graphic functions require nearly no user inputs.

The graphic functions are based on Causeway's Rain product and are used here with their kind permission.

All TANGRAM graphic functions (except **TOWERCHART**), produce PostScript graphics and have a common interface.

You can enlarge an area by selecting it with the left mouse button, you can see the mouse position in the graph coordinates (at the bottom right) and you can move the mouse to a bar or marker to see additional info (overlapping markers, element labels, exact values - at the bottom of the screen).

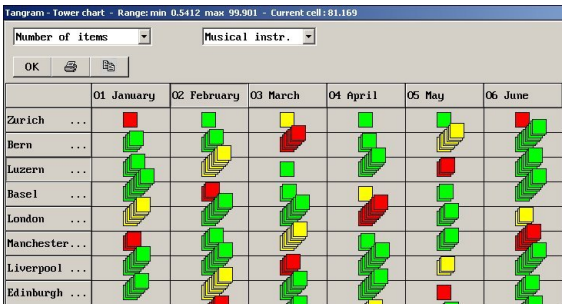
The toolbar and the right mouse menu allow you to

- Print the graph on the default printer
- Copy to clipboard as either bitmap or Windows metafile
- Export to file (as PostScript, EPS, metafile)

In turn, PostScript files can be transformed into Acrobat documents (.pdf) with a variety of tools, like Acrobat Distiller.

The metafile format is a convenient choice for Windows Office applications, as the image can be rescaled in the target document.

1.1 TOWERCHART



Function

Display the current cube cells as a tower chart.

This module is a variant of **BROWSE** and follows the same general rules.

Two cube dimensions are expanded as rows and columns. The rest become combos that allow you to move on each axis.

Each cell will be displayed as a tower or skyscraper with height 1-10 according to the cell value. Missing values produce no tower.

The minimum and maximum can be specified for the whole cube or can be the minimum and maximum of each displayed 2-way table (if you use the keyword `DEFAULT`).

You may also use a color code to classify the cells according to a given criterion. For example, you may want to highlight negative values, values below budget, forecasted values etc. See modules **BROWSE, GLOBAL** for the details of the color formula.

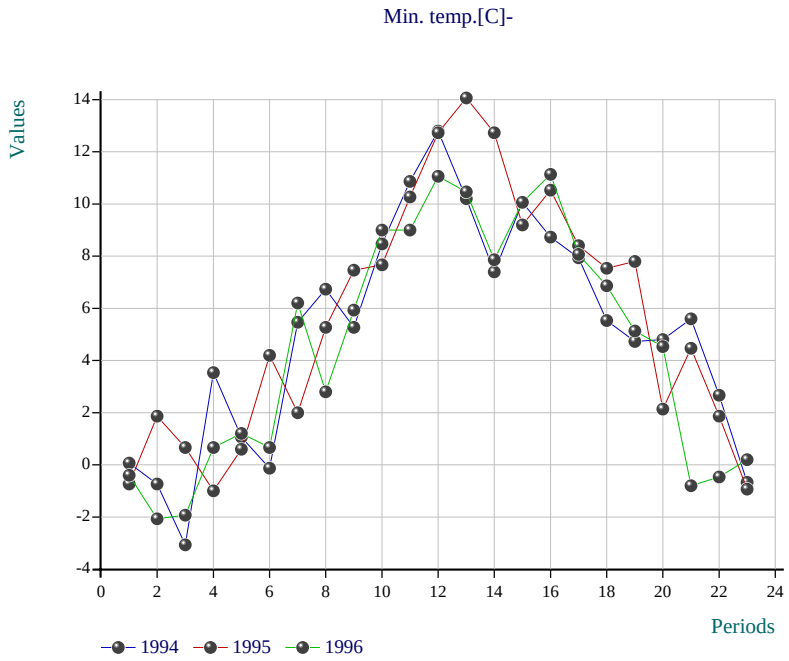
By clicking on a cell you display its value in the title bar.

Module limits: about 400 elements on each displayed axis and a total of 2000 displayed cells.

User options

- Choice of the cube dimensions shown as rows and columns
- Formula that defines colors (in the range 0 to 7) on a cell-by-cell basis
- Range of cell values to chart (e.g. -10 120) or the keyword `DEFAULT`.

1.2 TIMEPLOT



Function

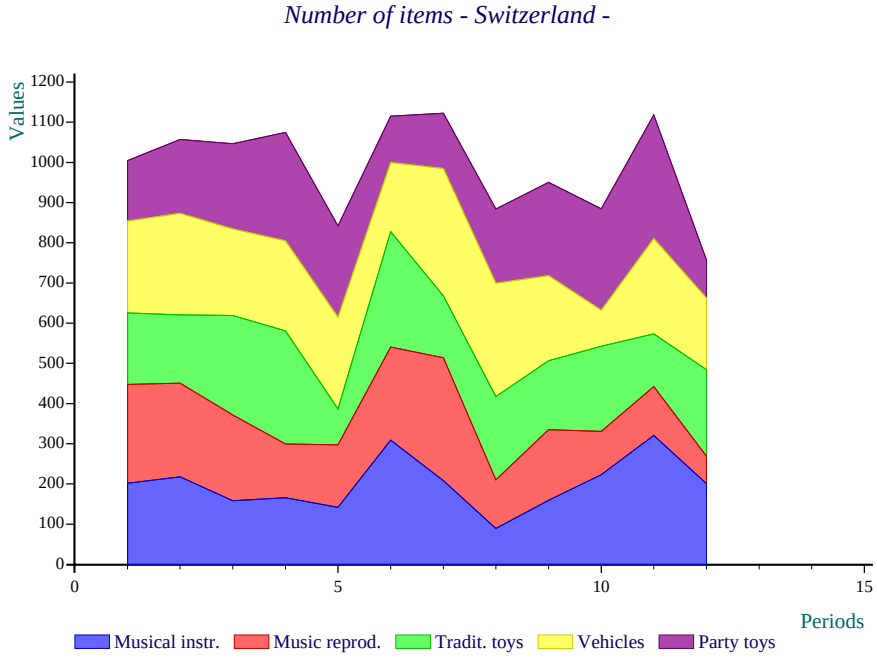
Draw a PostScript timeplot of all timeseries in the current cube. The second axis of the cube is assumed to be the time axis. A multiple combo allows you to choose the elements on the other axes.

The module will plot all time periods and up to five elements at a time on the *last* axis.

When you leave the plot, the multiple combo updates the current element on the last axis, so that you can plot all elements in turn by pressing Enter.

Reasonable limit: about 100 periods.

1.3 STACKEDPLOT



Function

Draw a PostScript *cumulative* timeplot of all timeseries in the current cube. The second axis of the cube is assumed to be the time axis. A multiple combo allows you to choose the elements on the other axes.

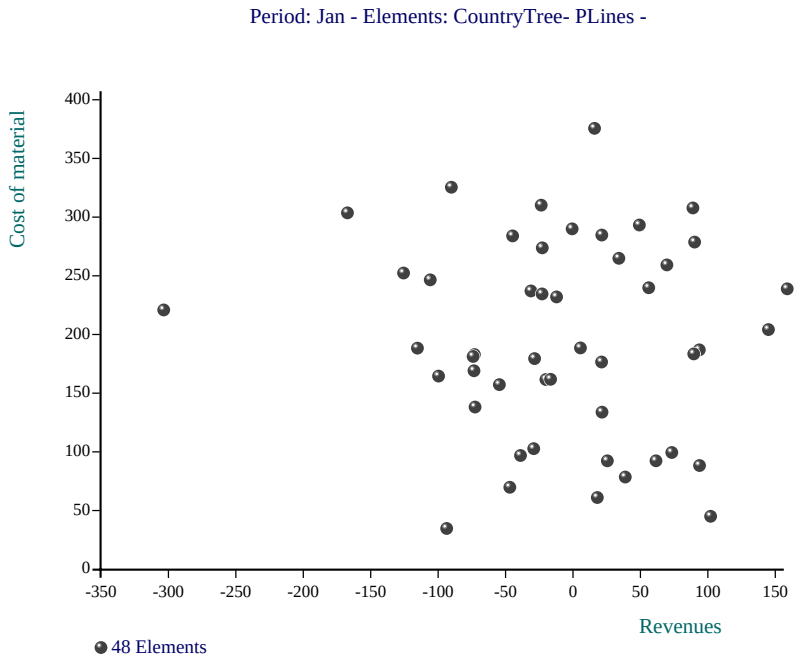
The module will plot all time periods and up to five elements at a time on the *last* axis.

The five elements will be stacked on top of each other, evidencing the contribution of each to the total.

When you leave the plot, the multiple combo updates the current element on the last axis, so that you can plot all elements in turn by pressing Enter.

Reasonable limit: about 100 periods. This type of plot assumes that all values have the same sign (all positive or all negative). If this is not the case, the shaded bands will overlap, spoiling the graph.

1.4 SCATTERPLOT



Function

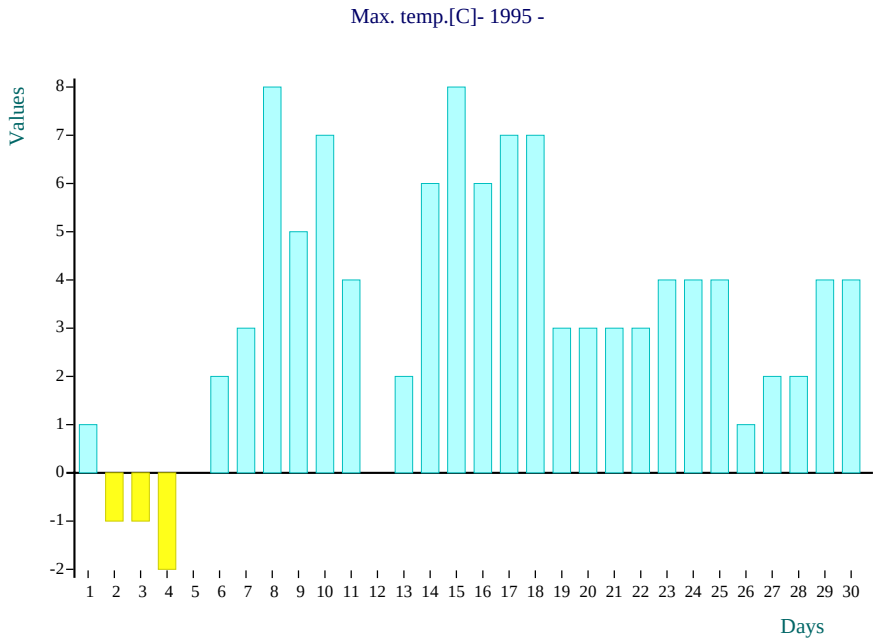
Draw a PostScript plot of the scattering of elements on two variables. The first dimension is assumed to represent variables, the second time periods. A multiple combo allows you to choose two variables and a time period.

The module will plot two variables (on the X and Y Cartesian axes) and a time period at a time. All elements of the other cube dimensions are plotted together and become markers (dots) on the plot.

If your cube contains 5 Variables, 12 Months, 10 Comanies, 6 Countries, then each plot will show 60 markers.

When you leave the plot, the multiple combo updates the period, so that you can plot all periods in turn by pressing Enter.

1.5 BARCHART



Function

Draw a PostScript barchart of all elements on a dimension.

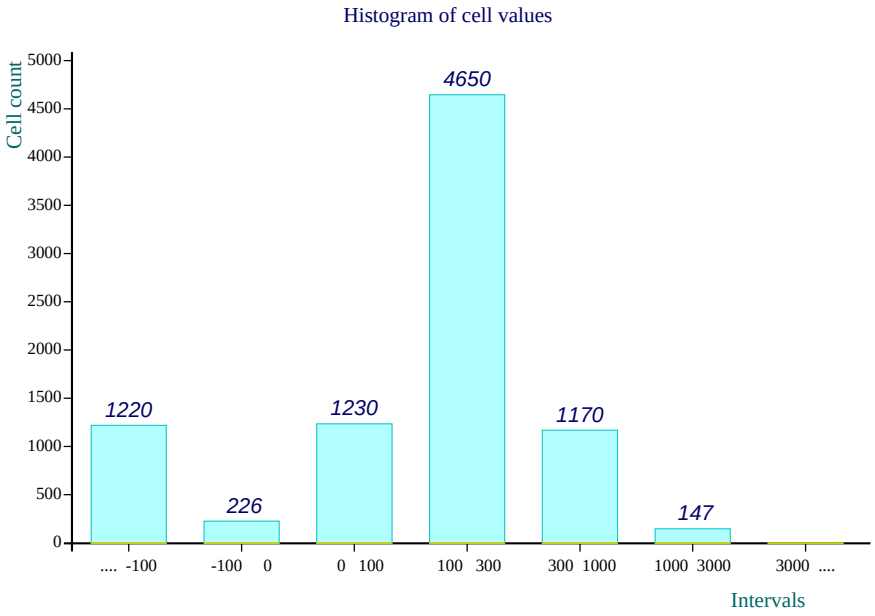
You choose the dimension to chart. A multiple combo allows you to choose the elements on the other axes.

The module will plot the selected string of values in a barchart.

When you leave the plot, the multiple combo updates the current element on the last axis, so that you can plot all elements in turn by pressing Enter.

Reasonable limit: about 100 elements on the chosen dimension.

1.6 HISTOGRAM



Function

Draw a PostScript histogram of all cell values in the current cube.

You choose the increasing thresholds (e.g. 20 50 200) or use the keyword `DEFAULT` to have reasonable thresholds based on the actual cube values.

The histogram will show how many cells are below 20, between 20 and 50 etc. If a cell is equal to a threshold, it will be counted in the left interval (a cell equal to 50 will be in the interval labelled 20...50).

If your variables have different order of magnitudes (e.g. Number of employees and Dollar Sales) you want to plot them separately.

Reasonable limit: some 10 thresholds.