

Bertin-Graphs

-- internal / raw draft --

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Miscellaneous screen dumps and snippets for documentation.

ToDo:

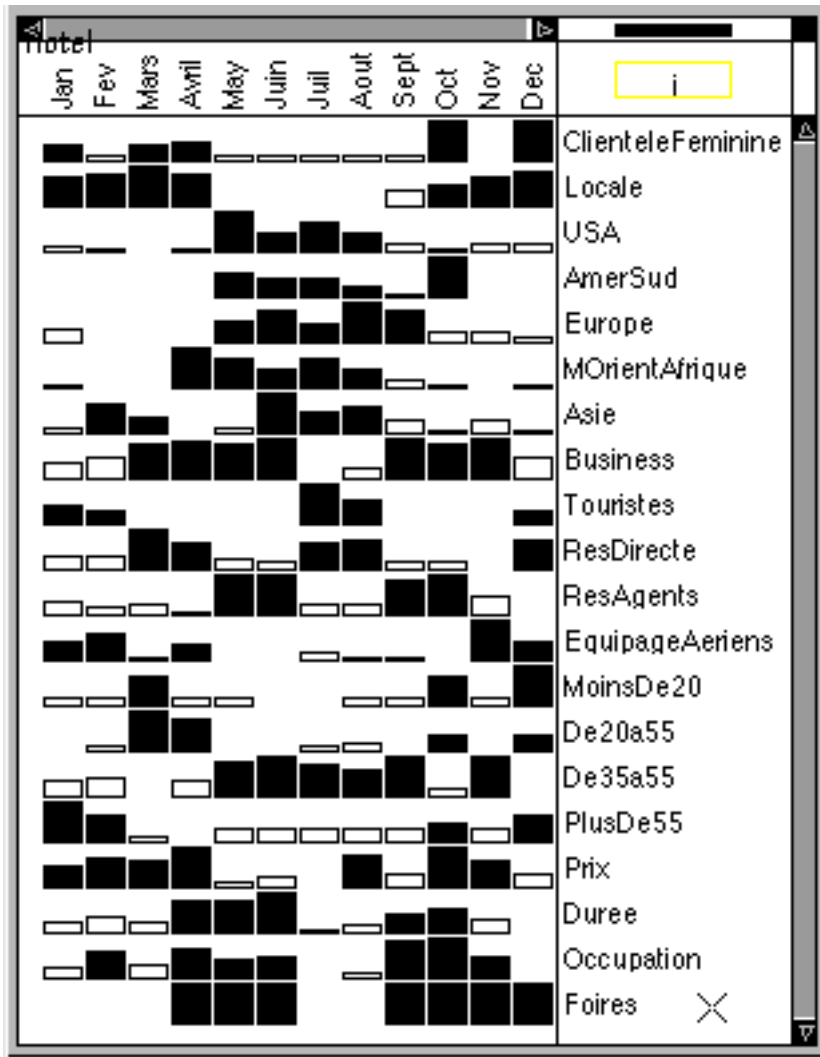
Screen shots for colour tables are only rudimentary.

Screen shots for model selections and residuals not included.

Clean up documentation.

Add vy2 documentation.

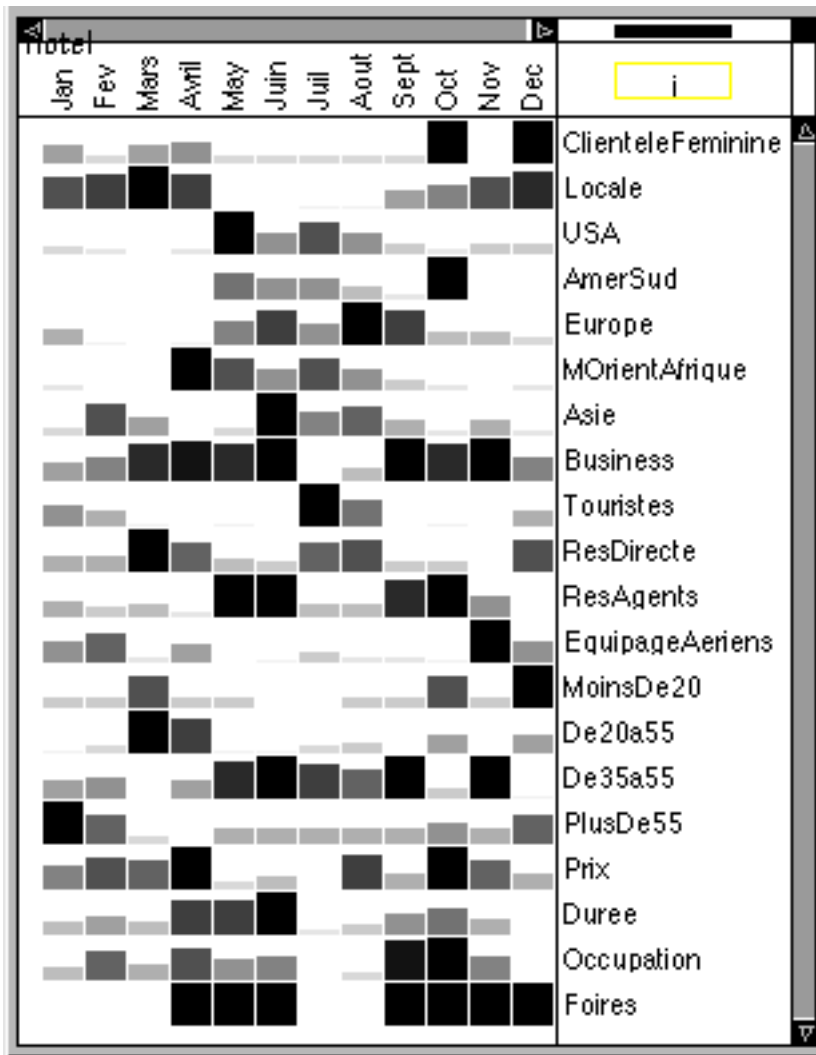
Nov. 1996 -- internal --



Bertin - A sample screen shot:

Hotel data.

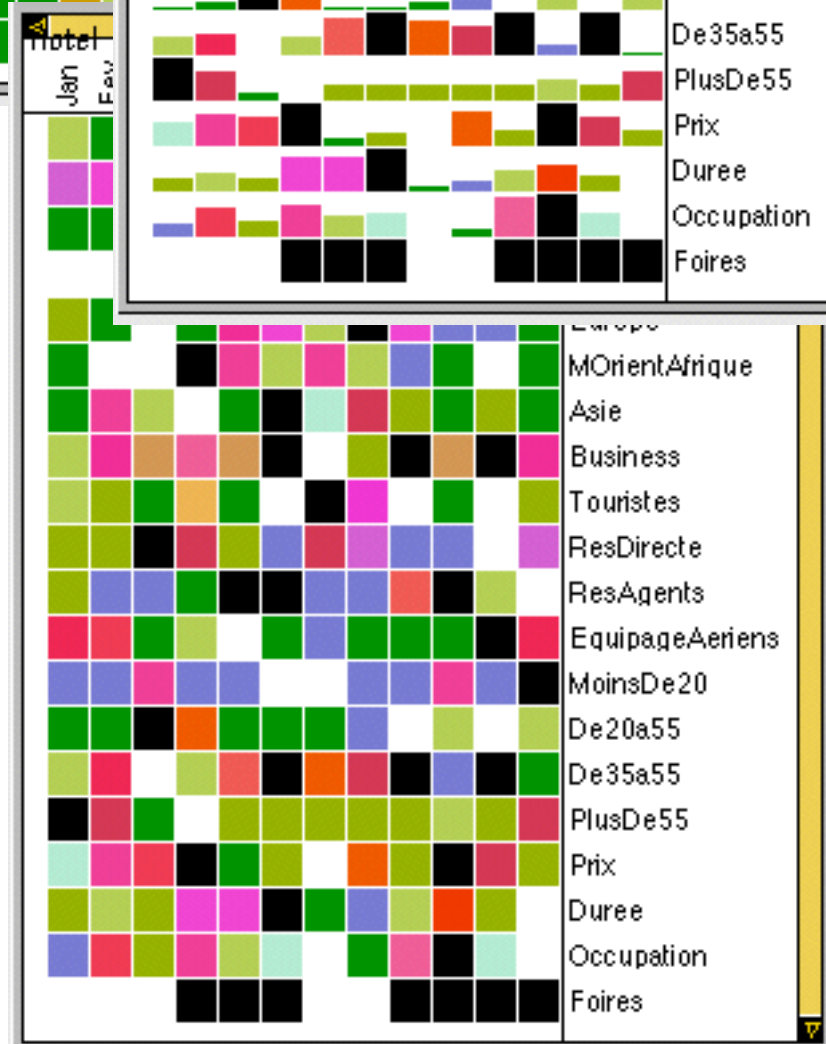
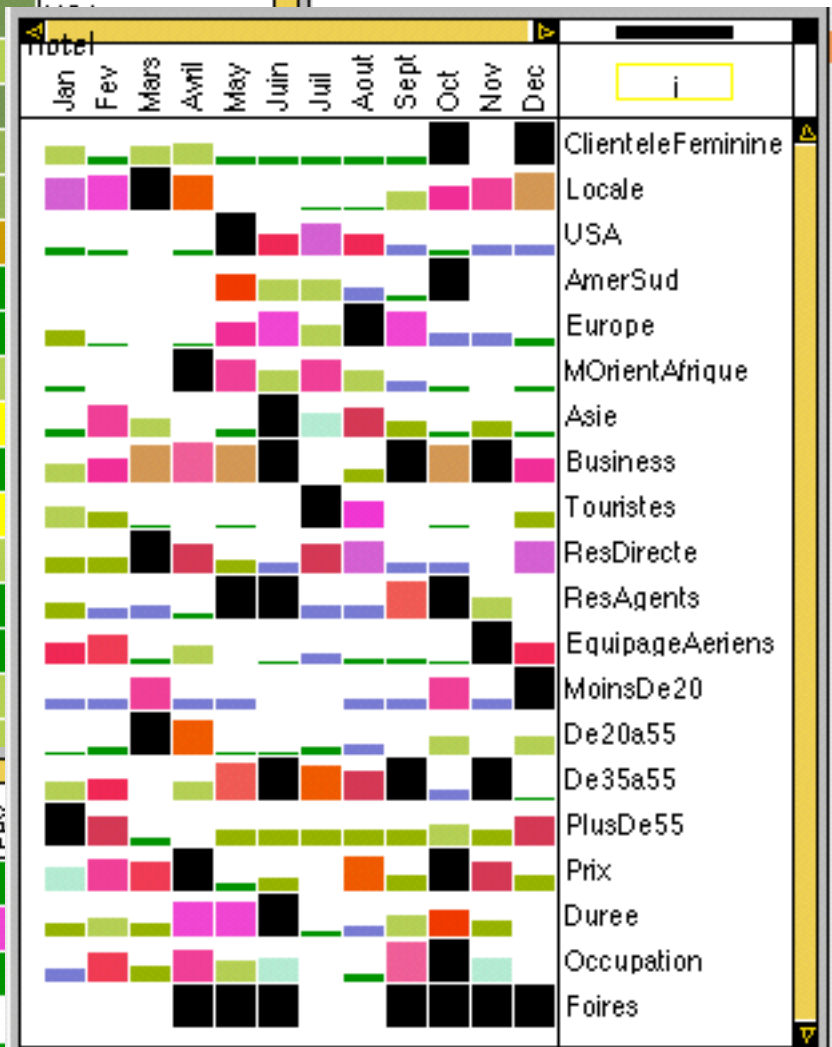
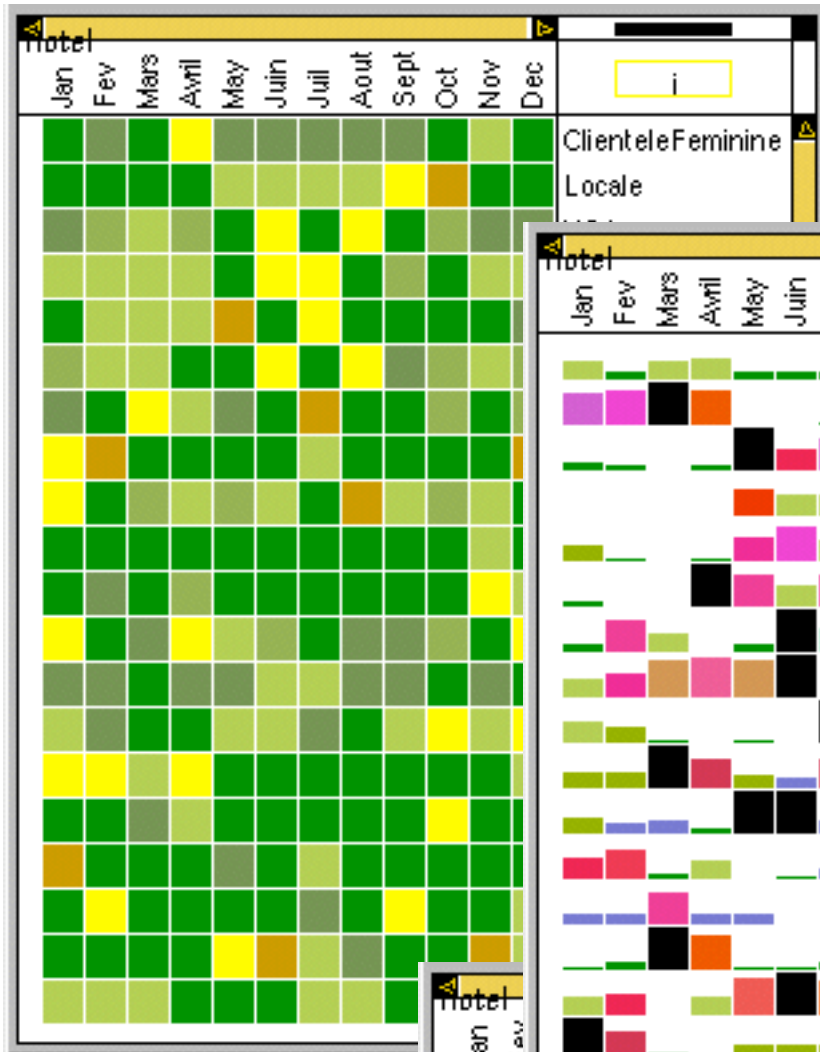
Original black&white Bertin representation, with bar height representation.



Bertin - A sample screen shot:

Hotel data.

Grey level representation, with bar height representation.



Misc. playground

Preceding remarks / warnings:

When working with Bertin, **please use the more recently updated Bertin.Panel** [[Bertin.Panel](#)]
rather than the Bertin.Tool [[Bertin.Tool](#)]

Be careful with Fits / Residuals for the moment - under construction !

When declaring a syntax (xxx) means a must , [xxx] is optional

Opening BertinPlots / basic facilities

To open a BertinPlot, you need a proper data set looking like:

```
[name]
(num of rows) (num of columns)
[column label1] [column label2] [column label3] ...
[row label1] (data 1,1) (data 1,2) (data 1,3) ...
[row label2] (data 2,1) (data 2,2) (data 2,3) ...
...
eg. open the data set
Bertin/data/Hotel [ Hotel Dataset ]
and a suitable LogFile, e.g.
Bertin/Hotel.Log [ Hotel LogFile ]
(A symbol in the data set (like the period in row2,column3) indicates a missing value
```

You may read in the data set by selecting it and executing: [Bertin.Read ^](#)
Be sure to set the caret at your desired output point **first** (e.g. somewhere in the Logfile)

Having executed this command you (hopefully) see a BertinPlot. You can resize and shift it on the screen like any gadget.

For some name definitions, now press the help button in the Bertin.Panel.

You may now try some interactive features of the plot. There is a command for some of these features.

Commands always refer to the so called focus picture. When opening a new Plot, this one gets focused.

For more intuitive feedback, please put on the feedback by executing once





Now try these actions:

[BertinPlot.ToggleFeedback ~](#)

Action	interactive	Command
- Transpose the Matrix	left mouse click on the transpose region	Bertin.Transpose ~
- Change the scaling orientation region	left mouse click on the orientation region	Bertin.FlipOrientation ~
- Focus this BertinPlot	left mouse click on the control region	
- Resizing Label heights	shift while middle button pressed in the row	Bertin.SetSize rows 10 ~
- widths	/ col label region	Bertin.SetSize cols 10 ~
- Shift plot content	shift bar while left button pressed in scroll region or click left button on triangles in scroll region	
- Adjust Row/ColSize to plot size		Bertin.AdjustMatrix ~
- Adjust Label Region to max size		Bertin.AdjustLabels ~
- Show Numbers instead/o labels		Bertin.ToggleNumbers ~
- Shift one row / column	shift label while left button pressed in label region	
- Shift row and column	shift a bar while left button pressed in matrix reg.	
- Select rows / columns	draw selection while right button pressed in label region.	
- Shift all selected rows/columns		a shift on one selected item shifts whole selection
- Hide Selection	select define interclick on selection	Bertin.HideSelected in label / matrix region
- Show selected	select command (RM) interclick on selection	Bertin.ShowSelected in label / matrix region
- Hide all but selected	define select interclick(LR) on selection	Bertin.HideNotSelected in label / matrix region
- undo hide but selected	define command (LM) interclick on selection	Bertin.HideNotSelected in label / matrix region

vy/bertin/data/Hotel vy/bertin/BertinPlot.Mod

Bertin	ToDo	Tool	AddSrch	Mod	Data	Tools
Bertin	ToDo	Tool	Dir .Mod	Dir Data	Dir Tools	

BertinIO	Read ^	Add Row ^	Add Column ^	
BertinLayout	Tranpose	FlipOrientation	Adjust matrix	Adjust labels
Bertin Colors	White-Blue	Wht-Grn-Blck	Yellow-Black	Green-Red
	Yellow-Red	Grn-Ylw-Red		
Bertin Displays	Color +/-	Bar height +/-	Missing +/-	
Background	 Col			
Select	 Fill			
Vis experiments Toggle..	..Feedback	..Labels	..ShowMode	
Bertin Distances missing values Based on	Correlation	L1 = .	L2	AntiCorrelation
	Correlation	L1 = .	L2	AntiCorrelation
	Raw data	Ranks	Percentage	

Bertin Actions	Sort	Bertin Transform		=	Bertin Views	Model Plot
	Sort =		Ln()	Ln(=)		Note Model
	Arrange		Exp()	Exp(=)		Note Selection
	approx		1/()	1/(=)		New fit
	= approx		1-()	1-(=)		New residual
			Rk()	Rk(=)		
	=		()->[0,1]	(=)->[0,1]		

Bertin Plots

input

Bertin.Read ^ ~
 Bertin.Read \FlipOrientation ^
 Bertin.Read \Transpose ^ Bertin.Read \Transpose \FlipOrientation ^
 Bertin.Read \ToggleNumbers ^
 Bertin.Append row ^ ~ Bertin.Append column ^ ~
 Bertin.NewPlotFromSelection ~

output

Bertin.WriteP ~ Bertin.Write ~
 Bertin.WriteDistMatrix ~
 Bertin.WriteRankMatrix ~

permutations

Bertin.ReadPerm row ^ ~ Bertin.ReadPerm column ^ ~
 Bertin.WritePerm row ~ Bertin.WritePerm column ~

sort and arrangements

Bertin.SortBy Col ~ Bertin.SortBy Row ~
 Bertin.SetDist ^ ~
 Correlation ~ L1 ~ L2 ~
 CorrelationRegressed ~ L1Regressed ~ L2Regressed ~
 Correlation rows ~ L1 columns ~
 AntiCorrelation ~ AntiCorrelationRegressed ~
 Bertin.SetSortMode ^ ~
 original ~ rank ~ percentage ~

Bertin.SortByDist rows 1 2 ~ Bertin.SortByDist columns 1 2 ~
 (* sort red selection by distance against yellow selection *)

Bertin.Arrange rows ~ Bertin.Arrange columns ~
 Bertin.ArrangeApprox rows ~ Bertin.ArrangeApprox columns ~
 Bertin.ArrangeApprox rows rank ~ Bertin.ArrangeApprox columns rank ~

manipulating the view

Bertin.FlipOrientation ~ Bertin.Transpose ~
 Bertin.AdjustMatrix ~ Bertin.AdjustLabels ~ Bertin.AdjustLabelsOff ~
 Bertin.ToggleNumbers ~ Bertin.ToggleShowMode ~
 Bertin.SetSize rows 10 ~ Bertin.SetSize columns 10

Bertin.ToggleColored ~ Bertin.ToggleBarHeight ~
 Bertin.SetColorTable ^ ~
 white black 64 ~ white red black 64 ~ white green black 64 ~
 yellow black 64 ~ white yellow red black 200 ~

[white black red green blue yellow violet cayenne]

Bertin.ToggleColorizeMatrix ~
 (* Colorize selection red / orange / yellow on matrix *)

selections

Bertin.DeleteSel rows ~ Bertin.DeleteSel columns ~

Bertin.HideSelected rows ~ Bertin.HideSelected columns ~
 Bertin.ShowSelected rows ~ Bertin.ShowSelected columns ~
 Bertin.HideNotSelected rows ~ Bertin.HideNotSelected columns ~

modes

Bertin.SetSelectionMode ^ ~
 define ~ invert ~ add ~ remove ~
 Bertin.SetSelection ^
 1 ~ 2 ~

Functions on Sel

Bertin.InvertSelected rows ~ Bertin.InvertSelected columns ~

Bertin.FunctionFromSel rows ^ ~ Bertin.FunctionFromSel columns ^ ~
 Mean normalized ~ Sum normalized ~ Mean ~ Sum ~ Difference ~

Bertin.NormalizeBy row 1 2 ~ Bertin.NormalizeBy column 1 2 ~
 (* yellow=1 Reference row / col
 red =2 normalized rows / cols *)

Bertin.ScaleSelected rows ^ Bertin.ScaleSelected columns ^
 Id ~ Log ~ Exp ~ OneOver ~ OneMinus ~ Rank ~ ToScale01 ~

Bertin.FunctOf2Select rows 1 2 ^ ~ Bertin.FunctOf2Select columns 1 2 ^ ~
 ~ Mean ~ Sum ~ Difference ~
 (* yellow=1 Reference row / col
 red =2 Argument rows / cols *)

patches / models

BertinModelPlot.New ~
 BertinModelPlot.MemorizePatch ~
 BertinModelPlot.ToggleViewPermuted ~

interactive facilities on patches:

select-command on model : copy model
 select-define on model: delete model
 define on model: use model on BertinPlot
 define-select on model: insert patch in BertinPlot

miscellaneous

Bertin.NewSelection ~ Bertin.NewFit ~ Bertin.NewResidual ~

Bertin.SetMissingColor 1 ~
 BertinPlot.ToggleFeedback ~

- select all right mouse on control region
 - switch selection 1(yellow) <-> 2(red) middle mouse on control region
- [Bertin.SetSelection \(1/2\)](#)

You may even preset some switches when reading in the matrix, use this syntax:
`Bertin.Read [\FlipOrientation] [\Transpose] [\ToggleNumbers] ^`

Append Rows / columns by executing [Bertin.Append](#)
`(row/column) ^`

Delete selected Rows / Columns by executing [Bertin.DeleteSel](#)

`(rows/columns)`

Output

write the unpermuted data matrix by activating
If you rather want the permuted version, execute

Write the (row/column)- permutation by

`(row/col.) ~`

Read and use a permutation by

`(row / col.) ~`





[Bertin.Write ~](#)

[Bertin.WriteP ~](#)

[Bertin.WritePerm](#)

[Bertin.Readperm](#)

wy/bertin/data/Hotel wy/bertin/BertinPlot.Mod

Bertin	ToDo	Tool	AddSrch	Mod	Data	Tools
Bertin	ToDo	Tool	Dir .Mod	Dir Data	Dir Tools	Add Srch
BertinIO	Read ↑	Add Row ↑	Add Column ↑			
BertinLayout	Tranpose	FlipOrientation	Adjust matrix	Adjust labels		
Bertin Colors	White-Blue	Wht-Grn-Blck	Yellow-Black	Green-Red		
	Yellow-Red	Grn-Ylw-Red				
Bertin Displays	Color +/-	Bar height +/-	Missing +/-			
Background		Col				
Select		Fill				
Vis experiments	Toggle..	..Feedback	..Labels	..ShowMode		
Bertin Distances	Correlation	L1 = .	L2	AntiCorrelation		
missing values	Correlation	L1 = .	L2	AntiCorrelation		
Based on	Raw data	Ranks	Percentage			
Bertin Actions	Sort					
	Sort =					
Arrange	approx					
	= approx					
	=					
Bertin Transform		=				
	Ln()	Ln(=)				
	Exp()	Exp(=)				
	1/()	1/(=)				
	1-()	1-(=)				
	Rk()	Rk(=)				
	()->[0,1]	(=)->[0,1]				
Bertin Views	Model Plot					
	Note Model					
	Note Selection					
	New fit					
	New residual					

Bertin Plots

input

Bertin.Read ↑ ~
Bertin.Read \FlipOrientation ↑
Bertin.Read \Transpose ↑ Bertin.Read \Transpose \FlipOrientation ↑
Bertin.Read \ToggleNumbers ↑
Bertin.Append row ↑~ Bertin.Append column ↑~
Bertin.NewPlotFromSelection ~

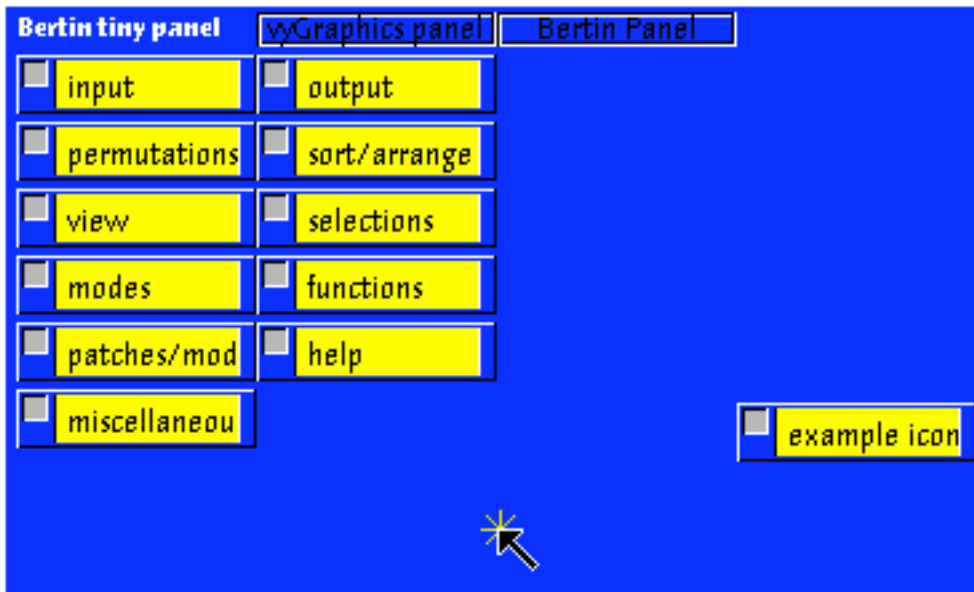
output

Bertin.WriteP ~ Bertin.Write ~
Bertin.WriteDist/Matrix ~
Bertin.WriteRank/Matrix ~

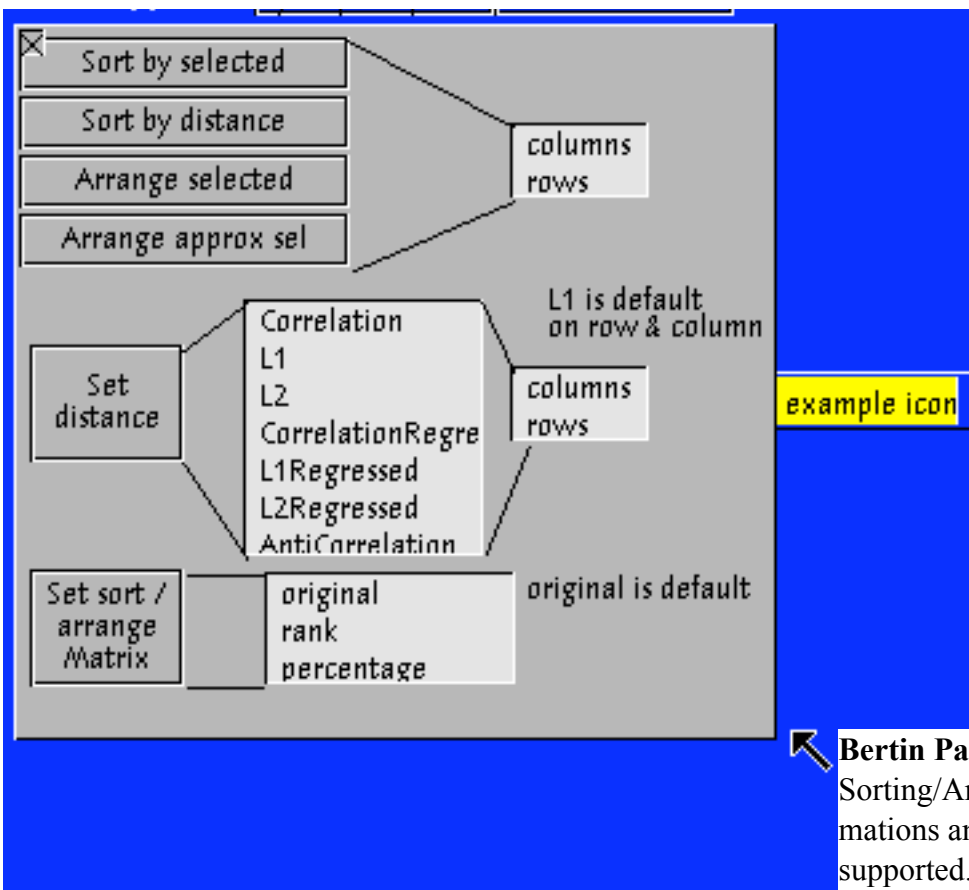
permutations

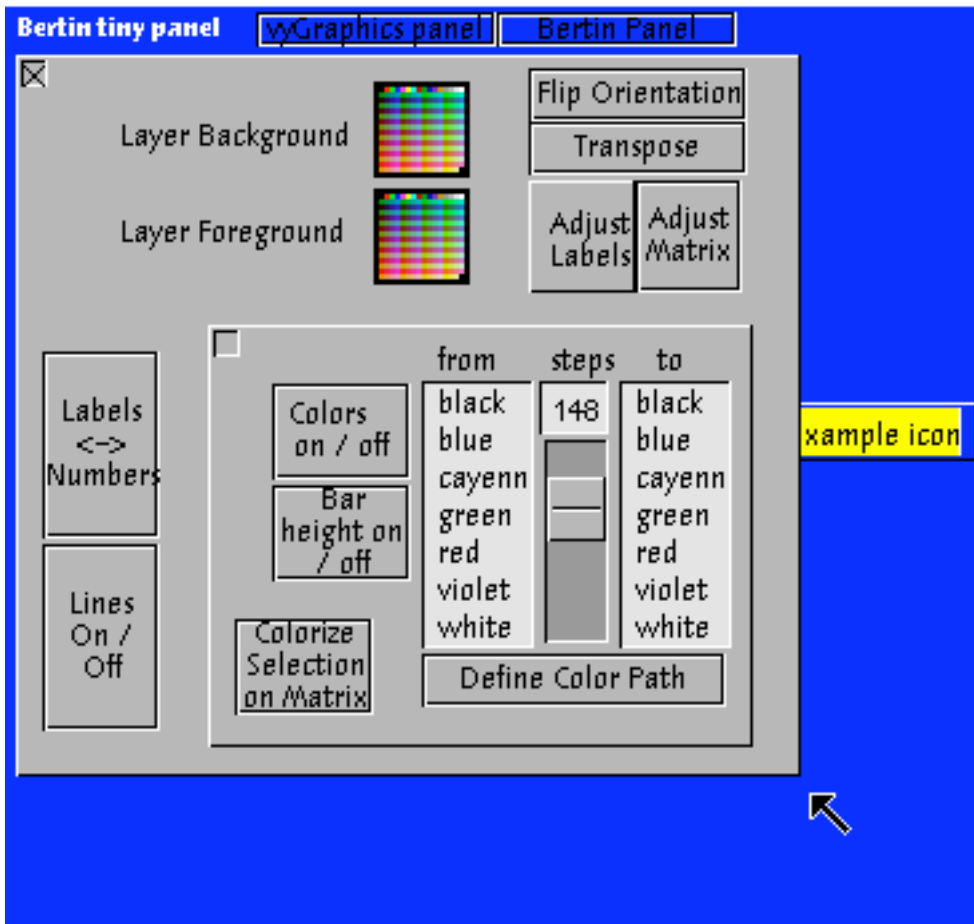
Bertin.ReadPerm row ↑~ Bertin.ReadPerm column ↑~
Bertin.WritePerm row ~ Bertin.WritePerm column ~

Bertin Tool: screen shot (detail)

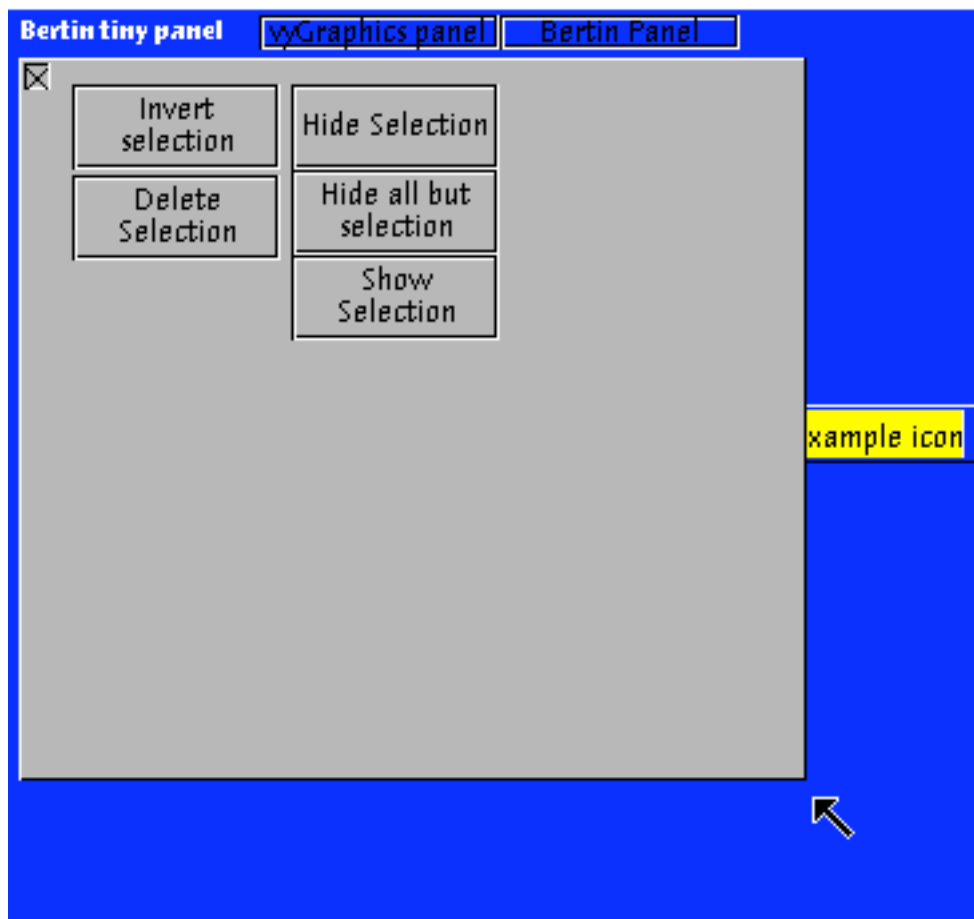


Bertin Panel:
Overview

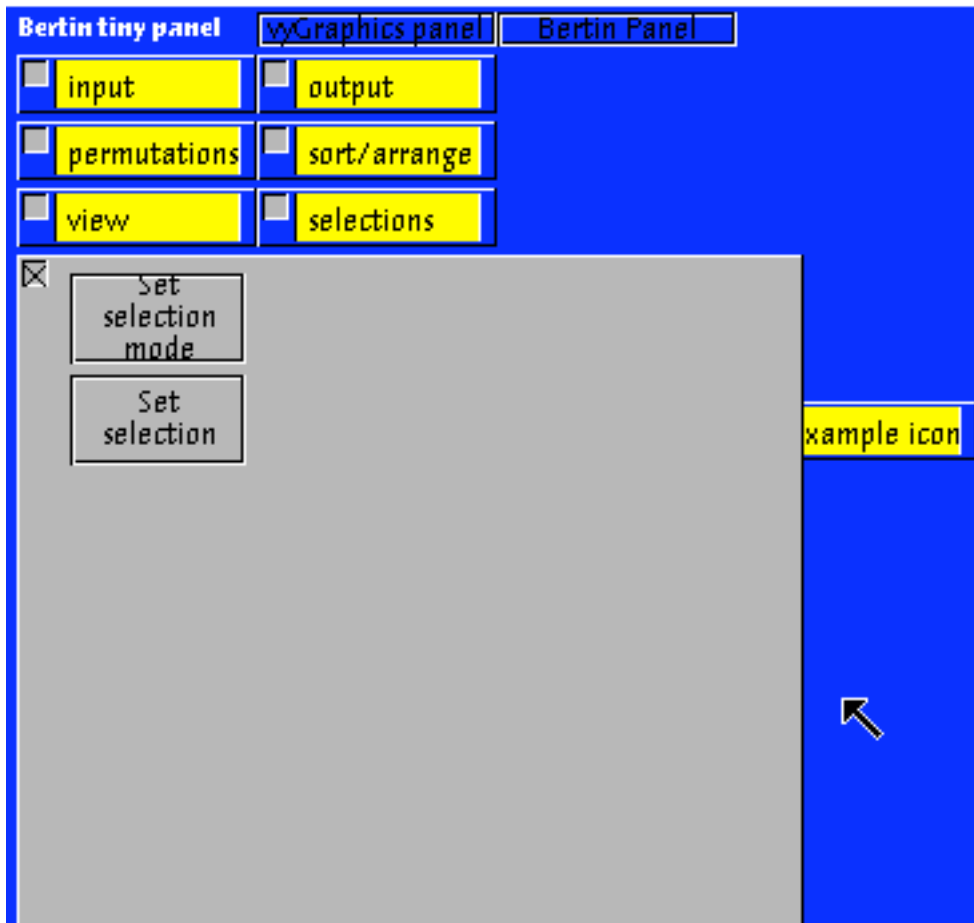




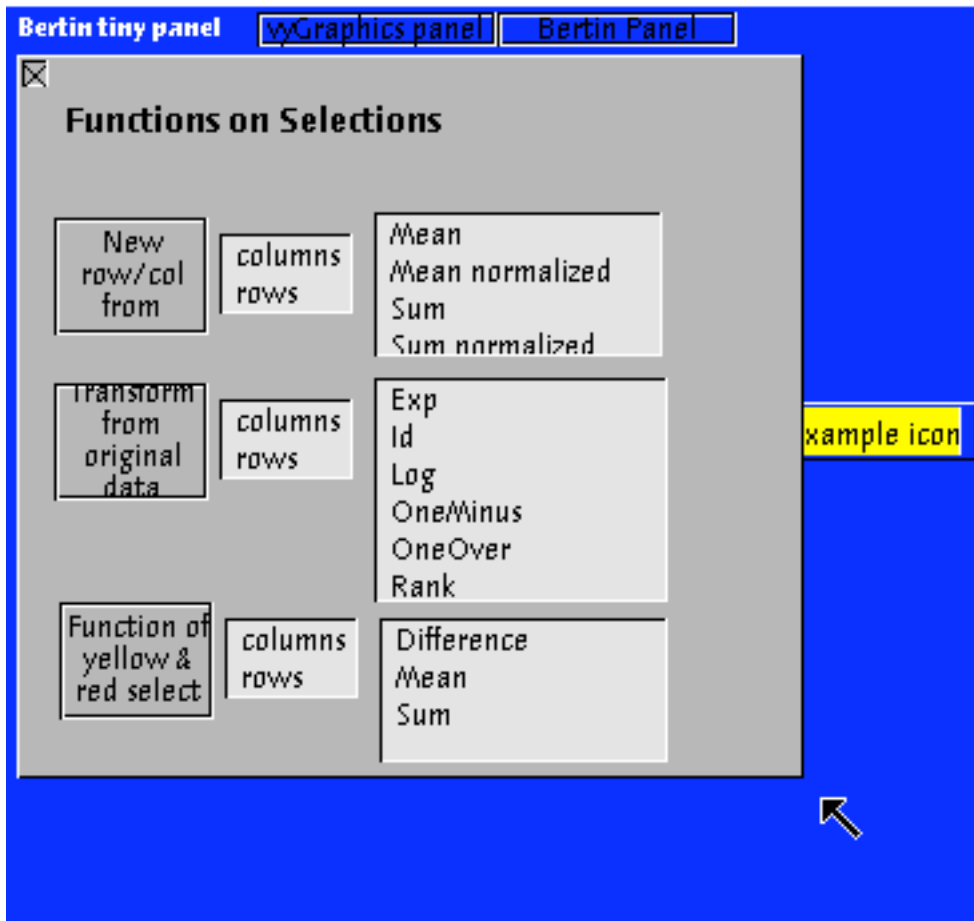
Bertin Panel:
General view control



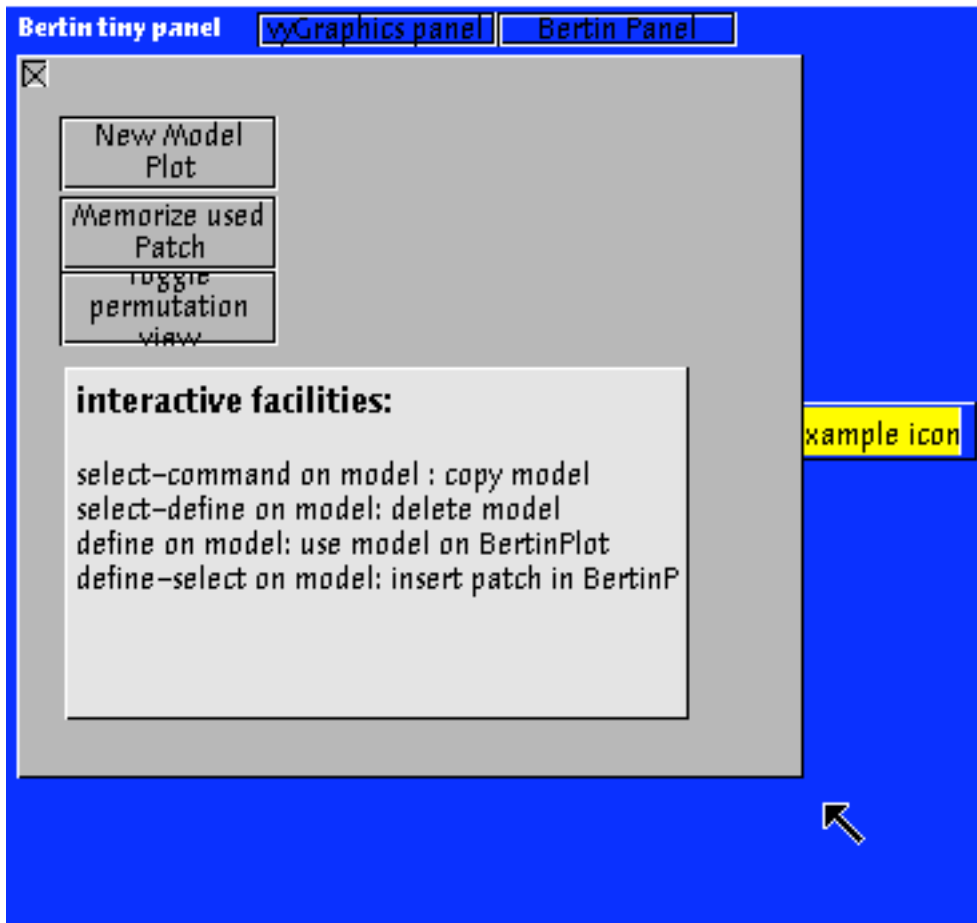
Bertin Panel:
Selection control



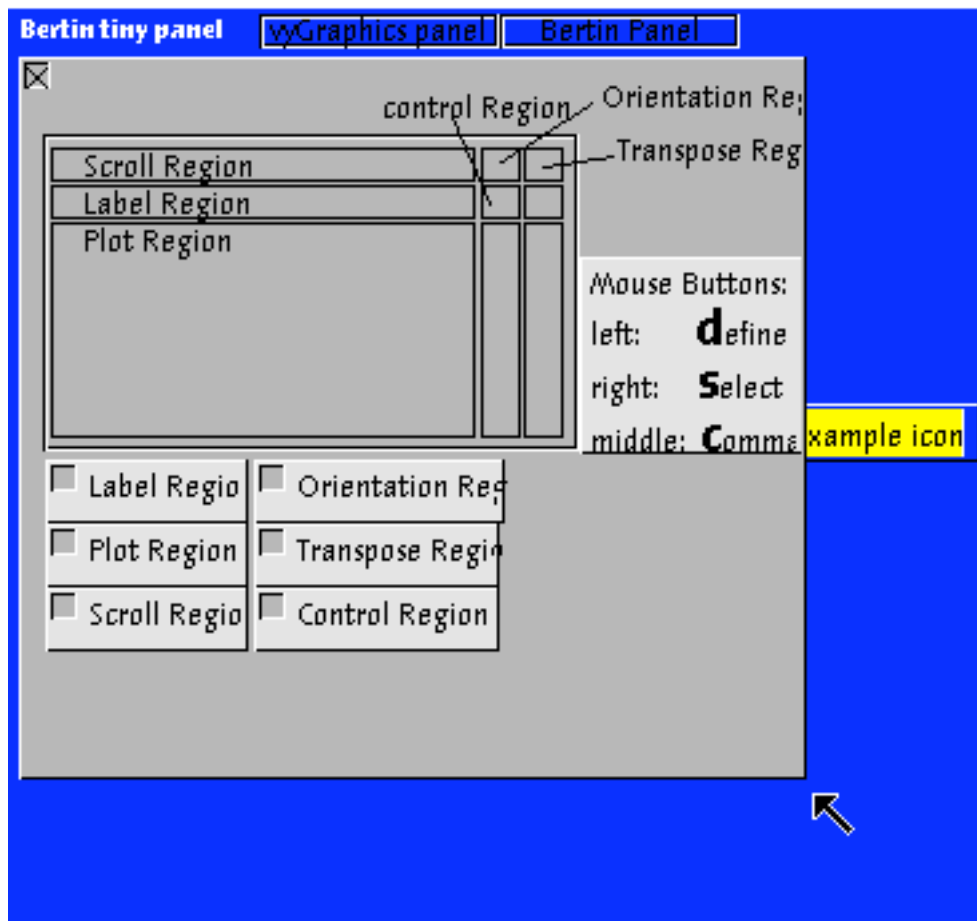
Bertin Panel:
Mode control



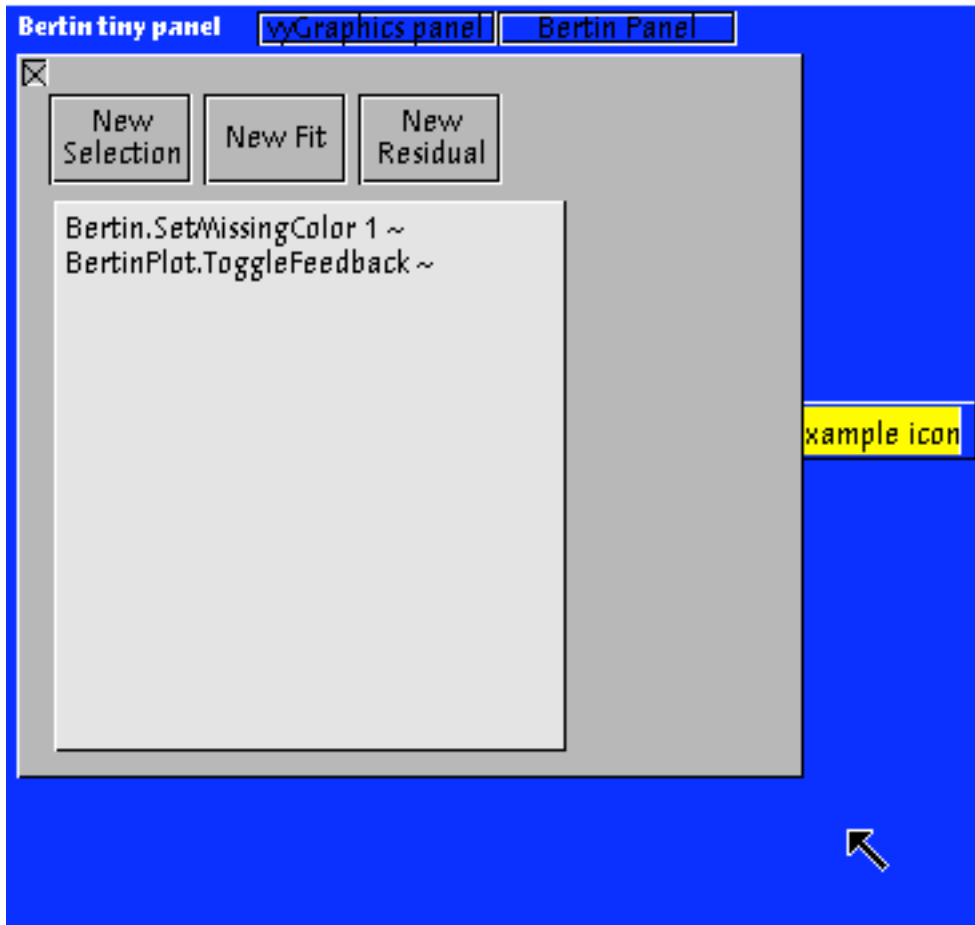
Bertin Panel:
Transformations on selections



Bertin Panel:
misc. controls



Bertin Panel:
help
& terms used



Bertin Panel:
note pad