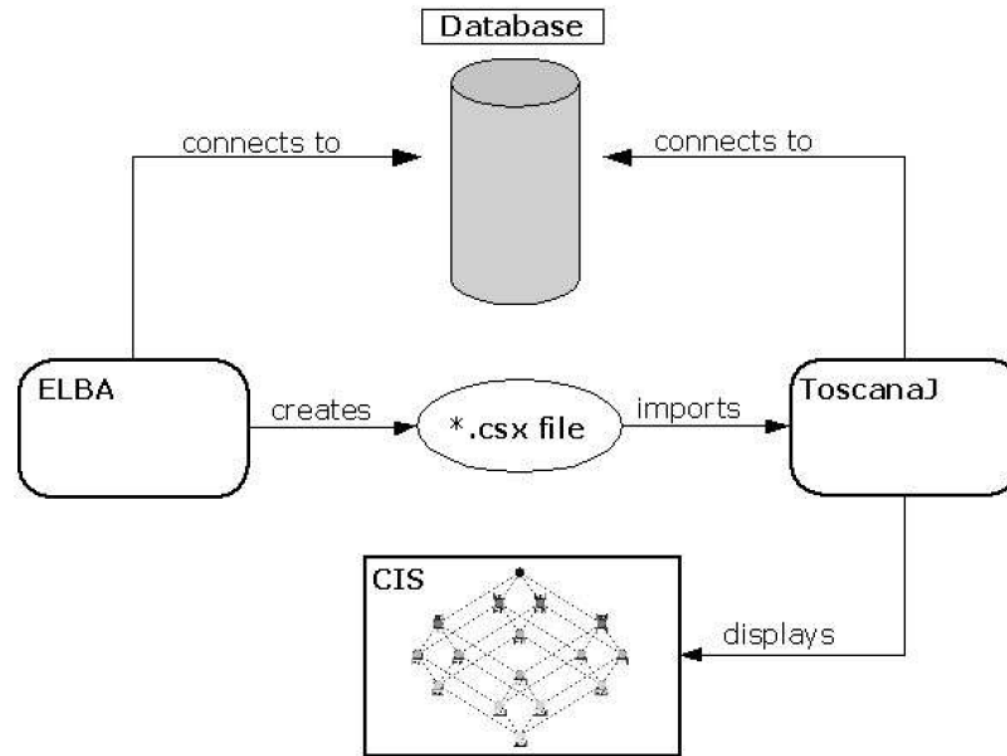


ToscanaJ Suite

ASIST. DIANA ŞOTROPA

ELBA

ELBA

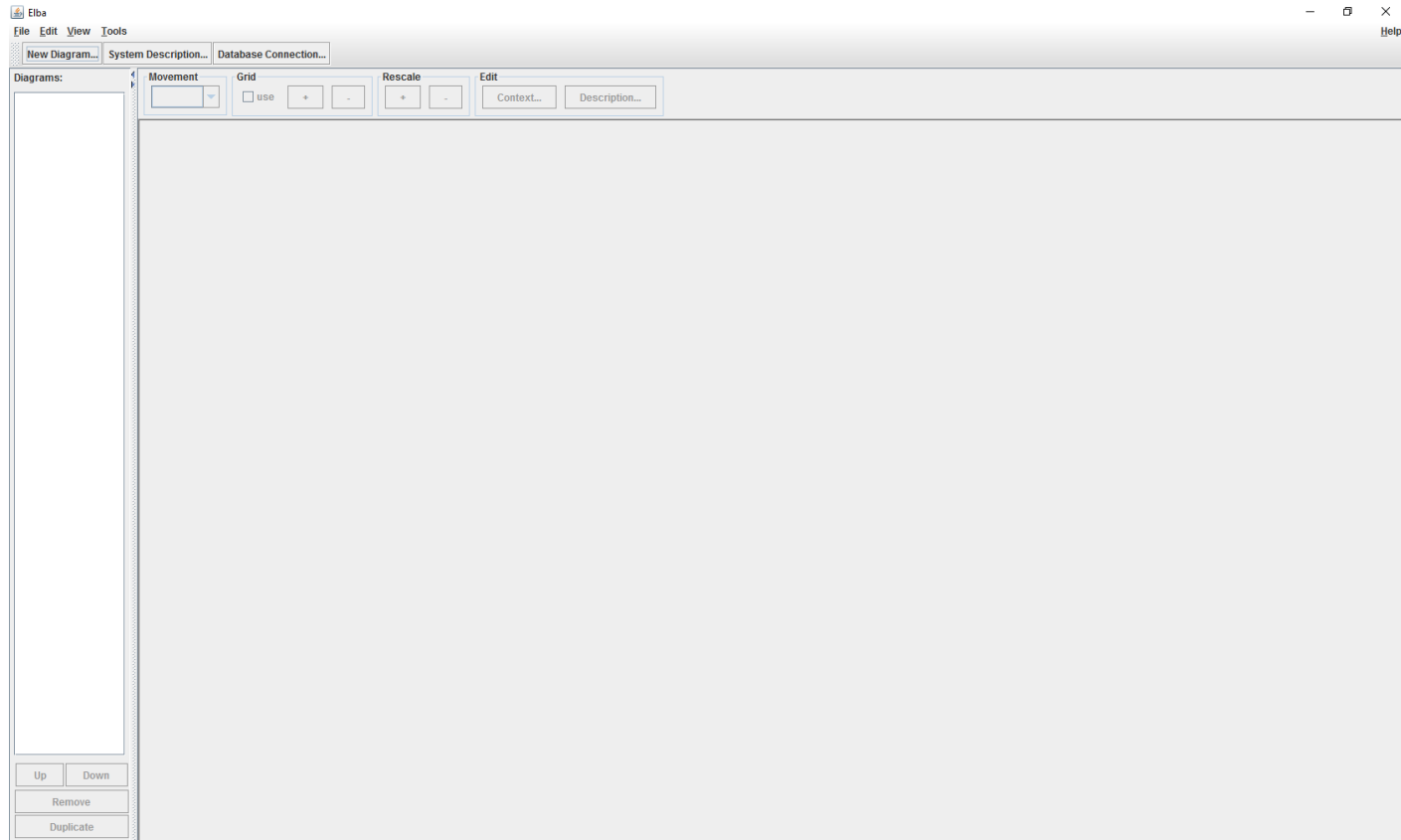


Conceptual Information Systems

ELBA

- ❑ The folder extracted from the ToscanaJ package also contains start files to execute Elba.
- ❑ On a Windows OS double-click the batch file **run-elba**, on a Linux or Unix OS choose **runelba.sh** to start Elba.
- ❑ Elba always opens the last file that was used, we would like to create a new file, so choose **File**
-> **New**:

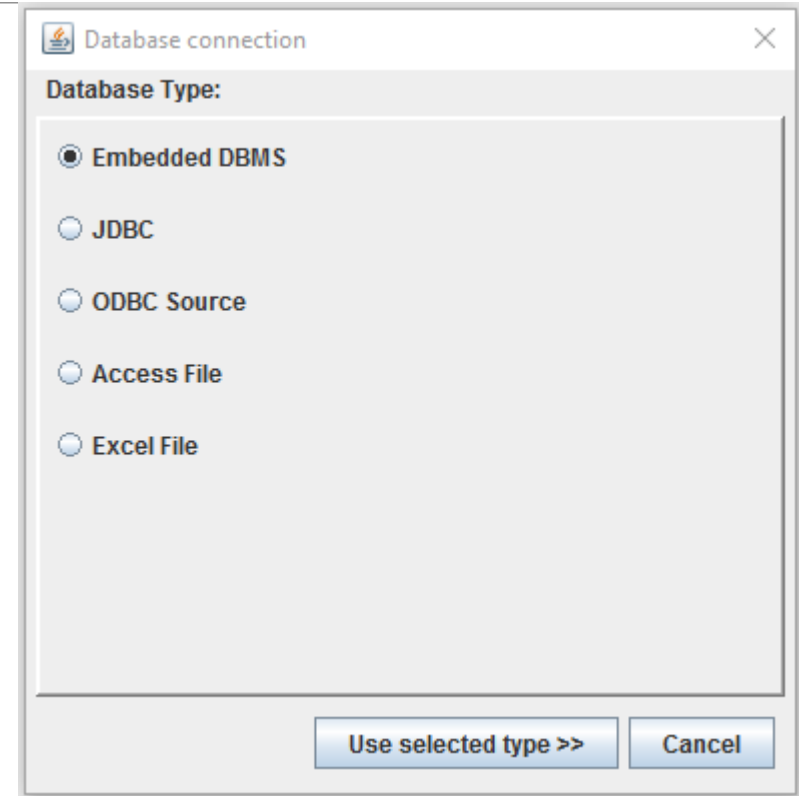
ELBA - STEPS



ELBA – Connect ELBA to the database

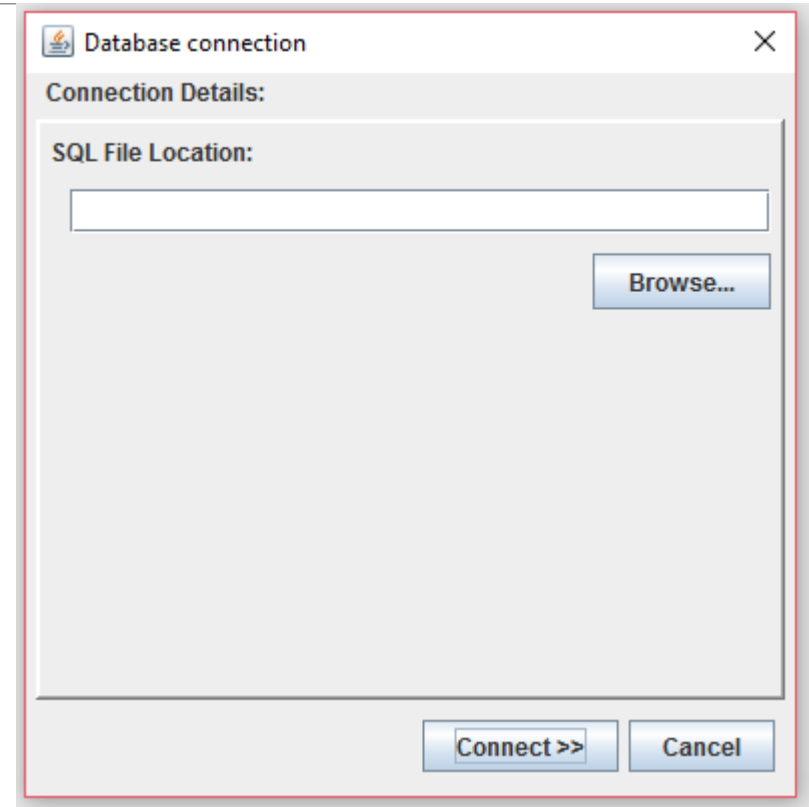
- ❑ File > New
 - ❑ Embedded DBMS > Use selected type

The database connection dialog will open



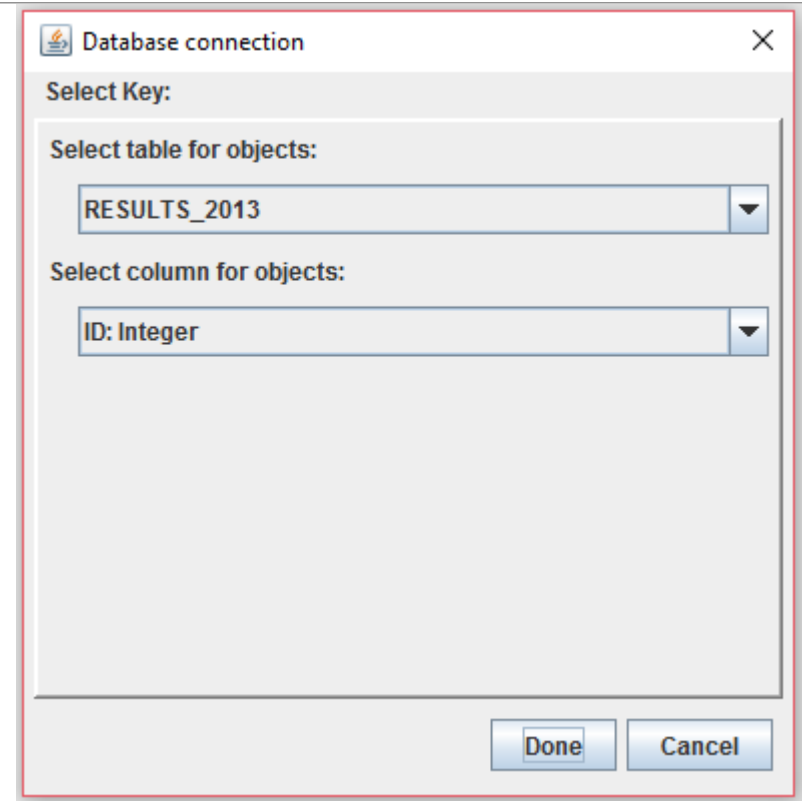
ELBA – Connect ELBA to the database

- ❑ File > New
 - ❑ Embedded DBMS > Use selected type
 - ❑ SQL File Location > Browse > Connect
(use the processed .sql file generated by this [tool](#))



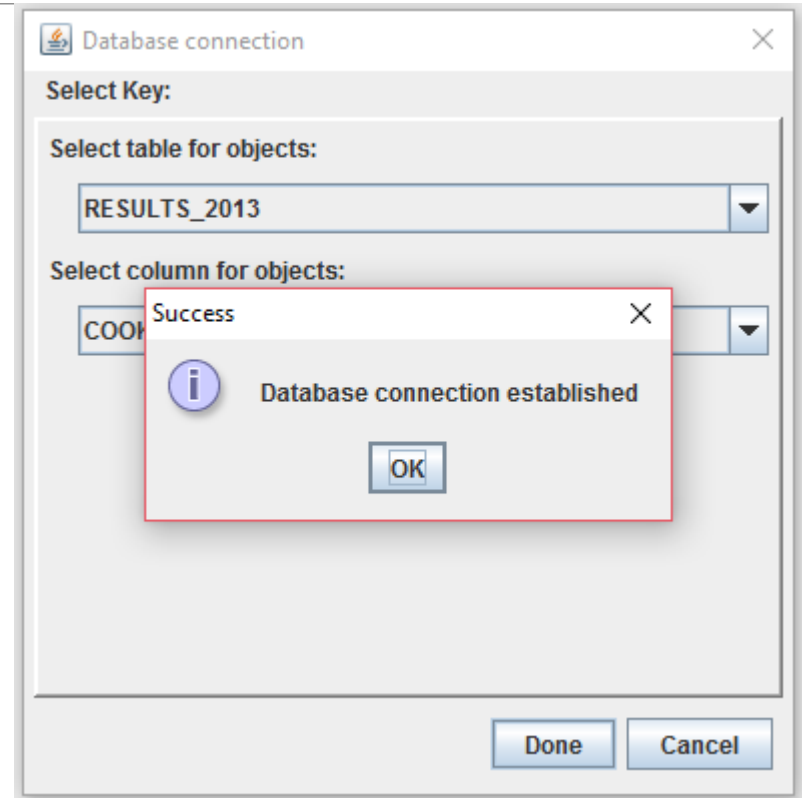
ELBA – Connect ELBA to the database

- File > New
 - Embedded DBMS > Use selected type
 - SQL File Location > Browse > Connect
(use the processed .sql file generated by this [tool](#))
 - Select table for objects
 - Select column for objects



ELBA – Connect ELBA to the database

- ❑ File > New
 - ❑ Embedded DBMS > Use selected type
 - ❑ SQL File Location > Browse > Connect
(use the processed .sql file generated by this [tool](#))
 - ❑ Select table for objects
 - ❑ Select column for objects
 - ❑ Now the database connection should be established.

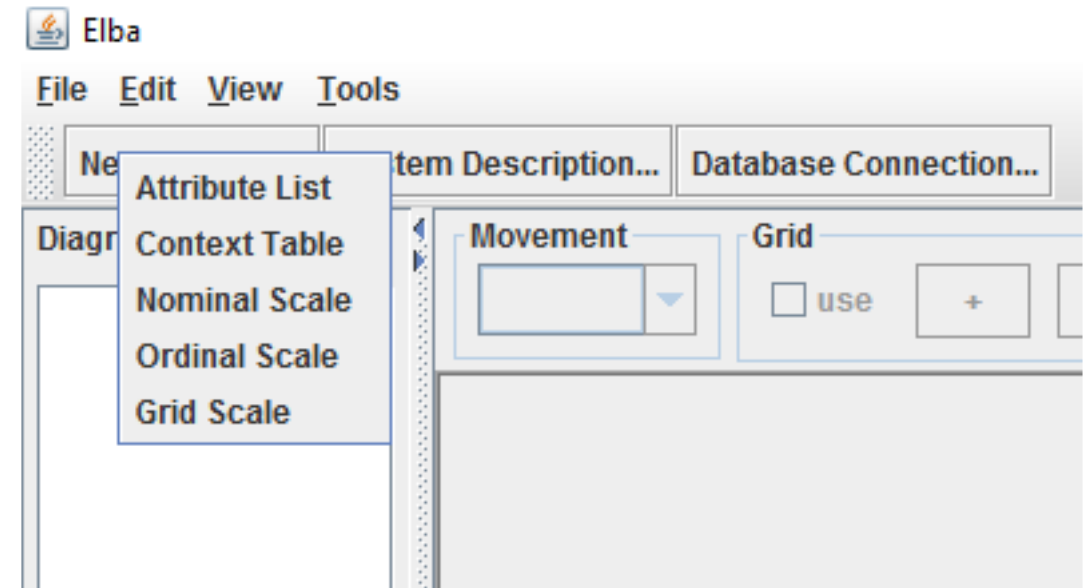


ELBA's – Main Window

- ❑ consists of two parts;
 - ❑ **LEFT:** display all conceptual scales that have been created.
The order of the scales can be changed here, they can be selected, duplicated and deleted.
 - ❑ **RIGHT:** the place where the diagrams will be manipulated.
- ❑ three buttons:
 - ❑ **New Diagram:** allow you to create a new diagram
 - ❑ **System Description:** opens a window with a little HTML editor. Here you can enter additional information about the CIS, which can be accessed from within ToscanaJ.
 - ❑ **Database Connection:** reopens the database dialog

ELBA – Creating diagrams

- ❑ **Attribute List:** offers an attribute centered view which allows creating complex scales intuitively
- ❑ **Context Table:** is the manual version for experienced users
- ❑ **Nominal Scale:** requires disjoint attribute values
- ❑ **Ordinal Scale:** display numerical or attribute values that have a linear order
- ❑ **Grid Scale:** are combinations of two independent ordinal scales



ELBA – Attribute List

- ❑ **Title:** the title of the new scale.
- ❑ **Label Name:** appear in the diagram as attribute label
- ❑ **SQL Clause:** selects objects from db that have the desired attribute.
- ❑ **Use all possible combinations:** a diagram of all listed attributes will be created, whether there exist objects in the database for each possible combination of attributes or not (theory driven and data driven conceptual scaling)
- ❑ **Use only combinations existing in the database:** the diagram will just consist of concepts that are derived from the data (data driven conceptual scaling)
- ❑ **Create:** closes the window and displays the created diagram in the main frame of Elba

Attribute List

Scale Title:

Label Name	SQL Clause
------------	------------

Use all possible combinations
 Use only combinations existing in the database

ELBA – Attribute List

Attribute List

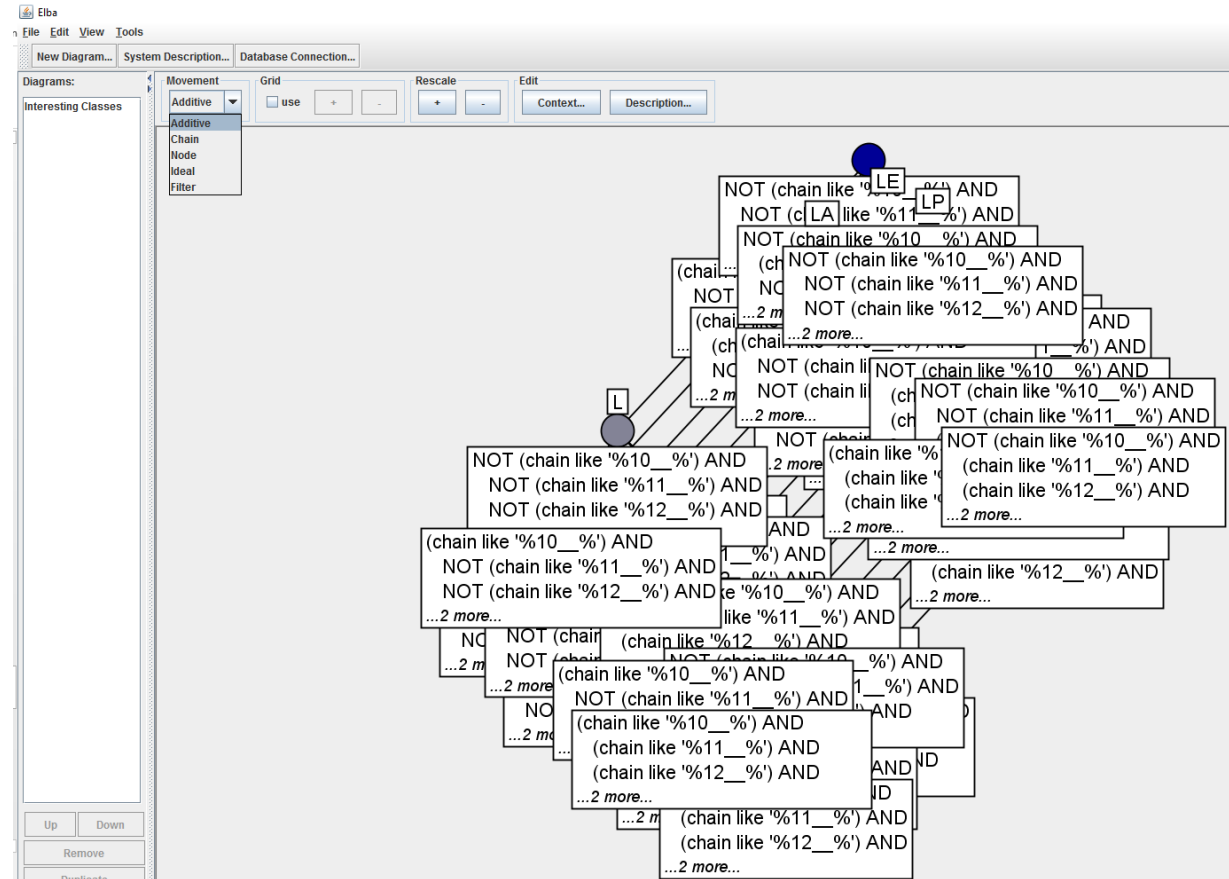
Scale Title: Interesting Classes

Label Name	SQL Clause
LA	chain like '%10_ %'
LE	chain like '%11_ %'
LT	chain like '%12_ %'
LP	chain like '%21_ %'
L	chain like '%22_ %'

Remove selected row

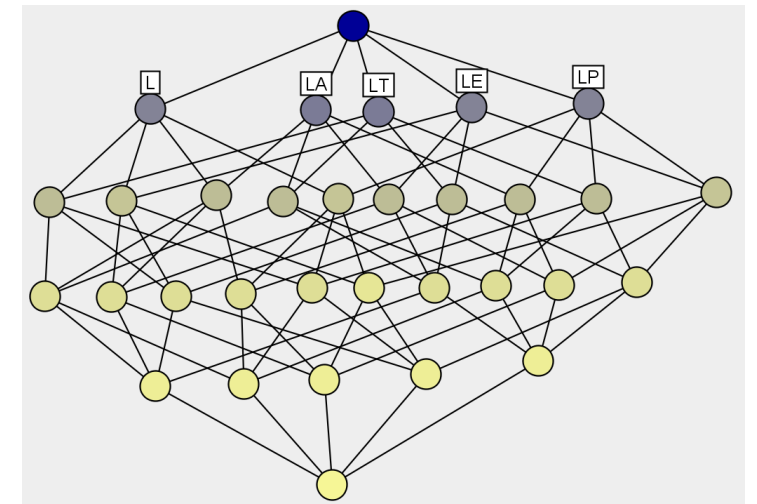
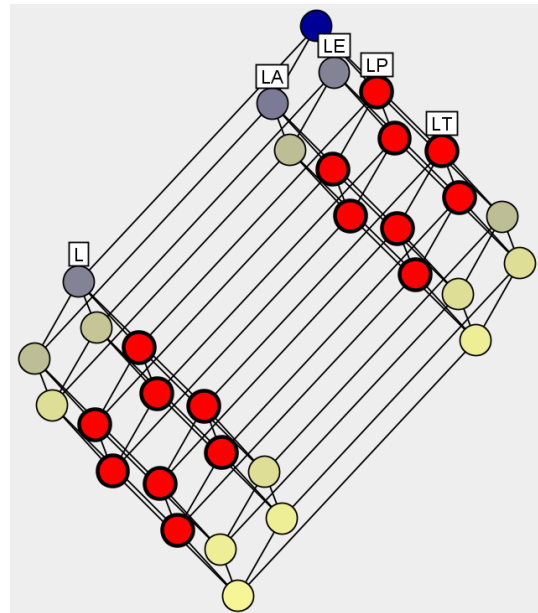
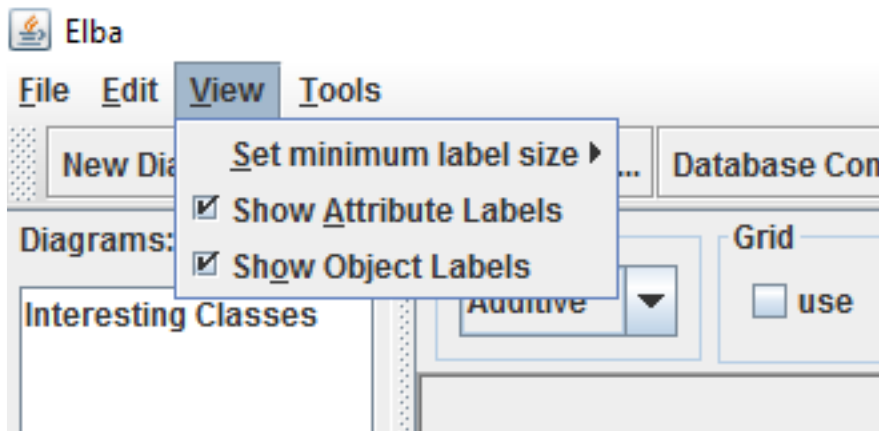
Use all possible combinations
 Use only combinations existing in the database

Create Cancel



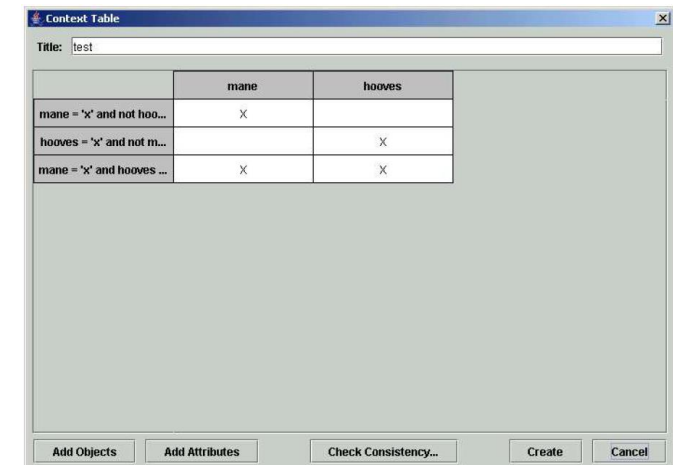
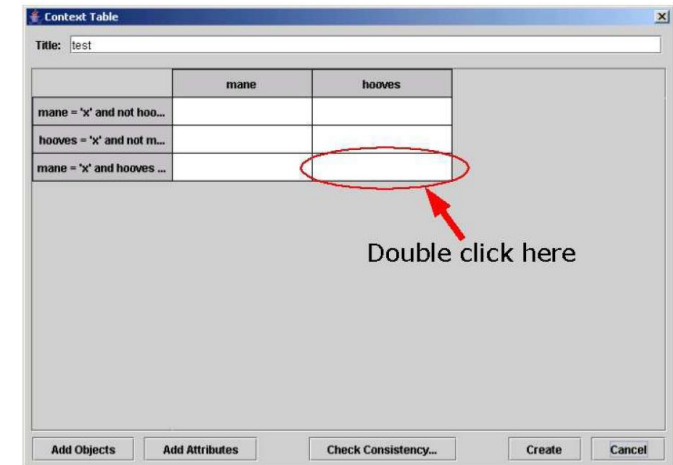
ELBA – Attribute List

- ❑ the labels you entered as attribute labels above the nodes representing the concepts
- ❑ the generated SQL queries covering the objects in the database appear below the nodes
- ❑ the labels of attributes and objects can be hidden via the “View” entry in the menu bar.



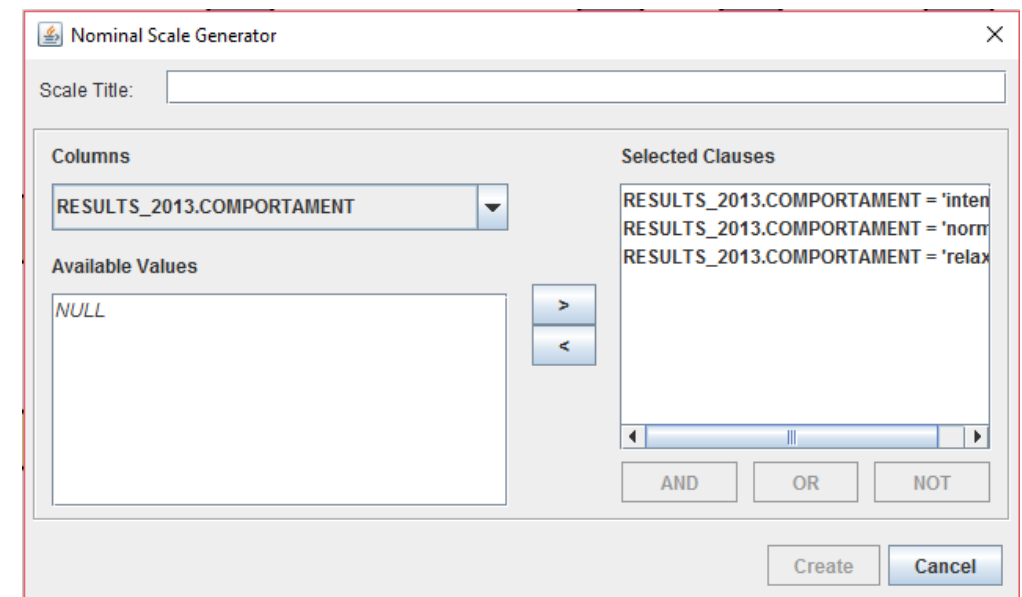
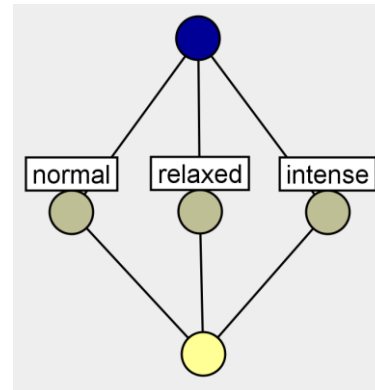
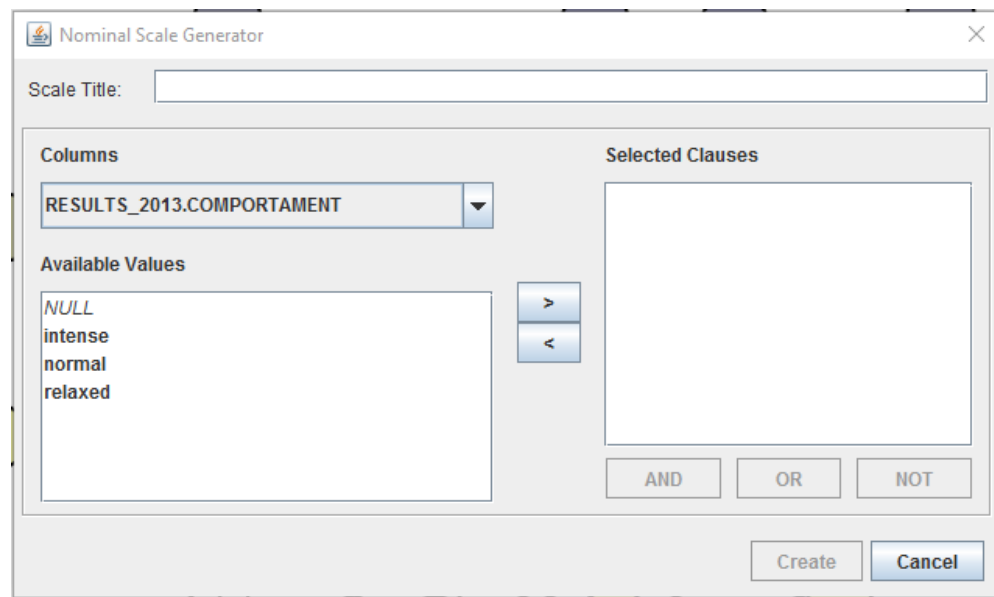
ELBA – Context Table

- ❑ a new window with an empty formal context
- ❑ enter the **context's name**
- ❑ **objects:** SQL expressions
- ❑ **attributes:** the labels that should appear in the diagram.
- ❑ **double clicking in the cells:** the incidence relation between objects and attributes can be established
- ❑ **Add objects** and **Add attributes:** the context can be extended

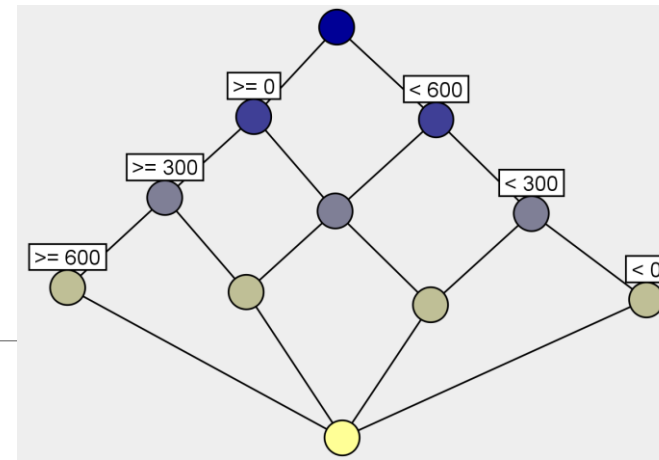


ELBA – Nominal Scale

- ❑ The nominal scale generator provides a view on the database.
- ❑ After selecting a column on the left side of the window, all entries of the selected column are displayed.



ELBA – Ordinal Scale



Using this dialog requires numerical data

The drop-down field “Column” contains all columns of the database that consist of numerical data. Types:

increasing, exclude bounds:

increasing, include bounds:

decreasing, exclude bounds:

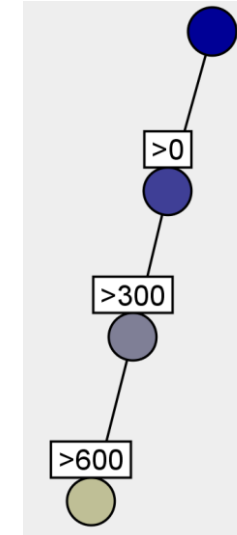
decreasing, include bounds:

produce chain-formed lattices

both, increasing side includes bounds:

both, decreasing side includes bounds:

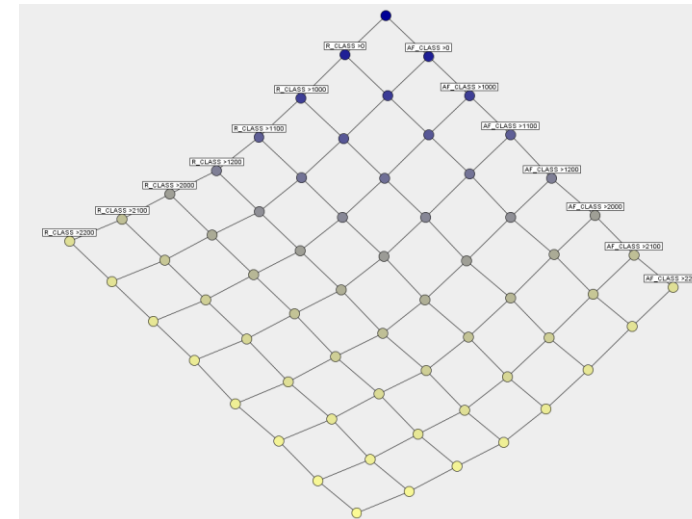
produce so called interordinal scales, which are combinations of two ordinal scales of a single attribute defining ranges of ordinal data.



ELBA – Grid Scale

- The resulting diagram can be compared with a matrix containing all combinations of all values of both attributes.

The screenshot shows the 'Grid scale editor' dialog box. It has a title bar with a close button. The 'Title' field is empty. Under 'Column:', there are two dropdown menus: 'RESULTS_2013.R_CLASS' and 'RESULTS_2013.AF_CLASS'. Under 'Type:', there are two dropdown menus, both set to 'increasing, exclude bounds'. There are two 'Dividers' sections. The left section has an 'Enter Value:' field with '0', '3', and '6' listed, and statistics: 'Min: .0', 'Max: 2212.0', 'Average: 368.0'. The right section has an 'Enter Value:' field with '1000', '1100', and '1200' listed, and statistics: 'Min: .0', 'Max: 2212.0', 'Average: 667.0'. At the bottom are 'Remove', 'Remove All', 'Create', and 'Cancel' buttons.

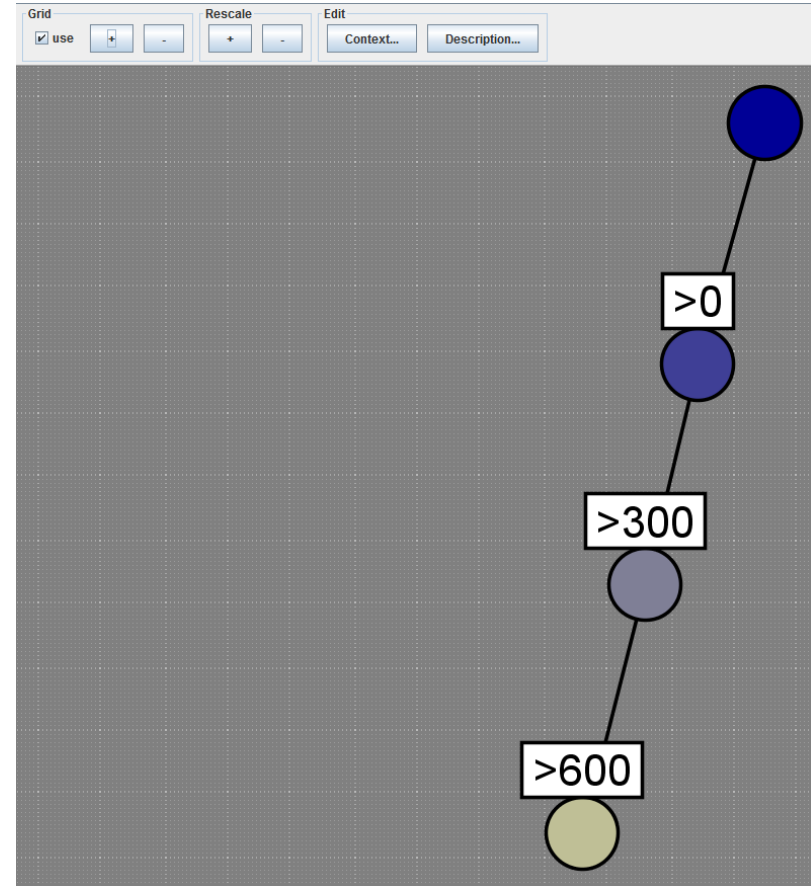


ELBA – Manipulating diagrams

- ❑ movement options for diagrams can be accessed by clicking on the button below “Movement” in the panel above the diagram view.
- ❑ start to organize the diagram from top to bottom:
 - ❑ **Additive:** click on a node and drag; dragging a node also moves other nodes;
 - ❑ **Chain:** click on a node and drag; dragging a node also moves other nodes; this feature maintains the vector space the layout is based on.
 - ❑ **Node:** just moves the selected concept.
 - ❑ **Ideal:** moves the node, considering that are all subconcepts of the selected concept.
 - ❑ **Filter:** moves the nodes, considering that are all superconcepts of the selected concept.

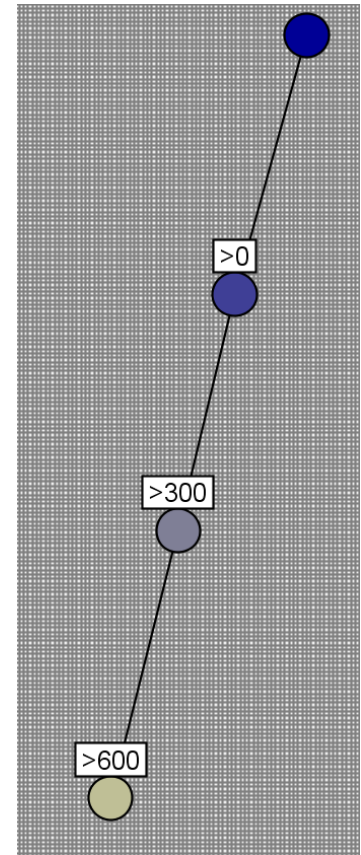
ELBA - Grid

- activate or change a line grid
- Select the box to activate or hide the grid.
- Clicking on + or - change the grid's scale.



ELBA - Rescale

- you can change the size of the nodes and their labels.

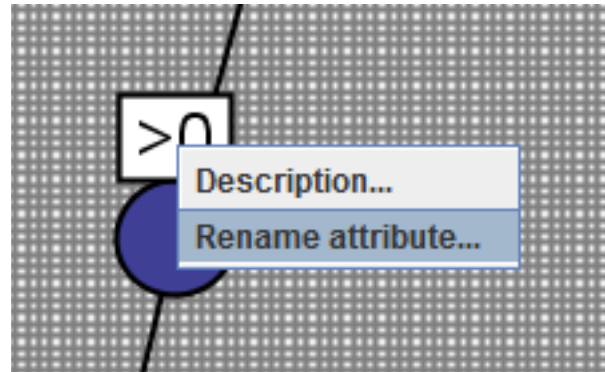


ELBA - Edit

- ❑ add additional information about the current scale to the CIS by selecting the “Description” button
- ❑ These descriptions can be accessed in ToscanaJ.
- ❑ Clicking **Context...** opens the context editor

ELBA – Context Menu

- Right clicking the attribute label of a concept opens a context menu where you can access the description editor and rename the attribute without losing the diagram layout.



ELBA – The menu bar

❑ File

- ❑ New, Save, Save As
- ❑ Export (PNG, JPEG)

❑ View

- ❑ hide or show the attribute and object labels.
- ❑ set a lower limit for the font size used in the labels.

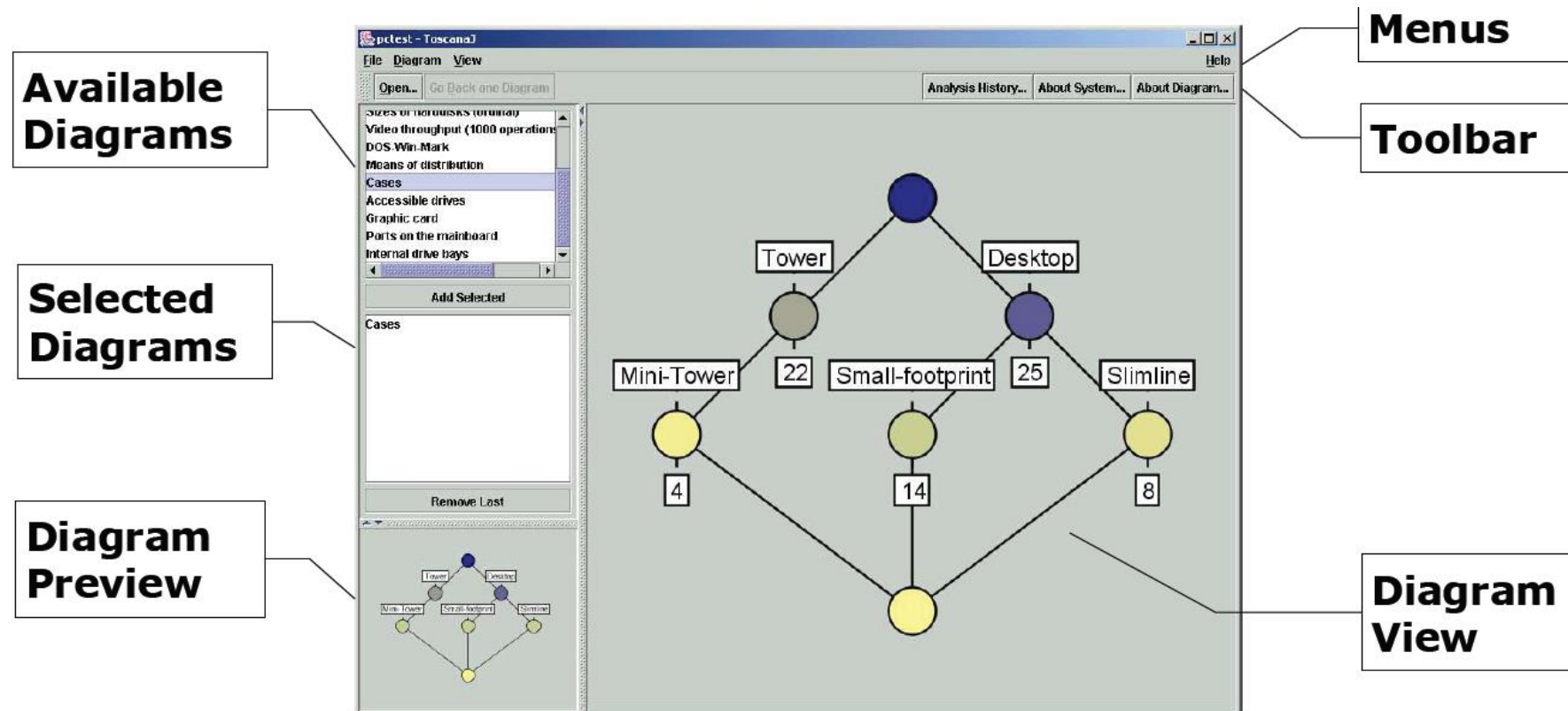
❑ Tools

- ❑ **Export Realized Scales:** Creates a XML files containing all concepts and scales of the CIS with their extent, intent and contingent sizes.
- ❑ **Export Database as SQL:** The database the created CIS is based on can be hereby easily exported into a SQL file.
- ❑ **Create Speed Optimized System:** a CIS on a large database can be slow if the queries are complex. To speed up such a system, Elba offers you to create a new, equivalent system that uses simpler queries.
- ❑ **Check Consistency with Database:** This feature checks the consistency of the created scales with the database. You get a notification if the SQL is not correct, the SQL clauses do not cover the data or if they are not disjoint

Toscana

ToscanaJ

□ is a browsing frontend for Conceptual Information Systems (CIS) in the tradition of the Windows-based Toscana tools.

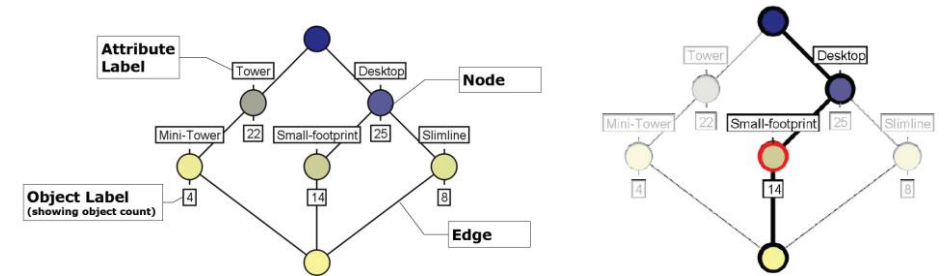


Toscanaj

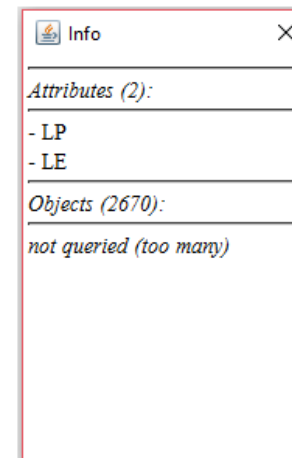
- ❑ The main part is the diagram view
- ❑ The diagram preview shows the same diagrams, but with reduced labeling.
- ❑ The diagrams are selected by their title from the list of available diagrams in the upper left corner.
- ❑ This list contains all diagrams defined in the conceptual information system currently opened.
- ❑ The list below is the list of selected diagrams. Here all the diagrams used in a particular analysis session are shown.
- ❑ **double-click on diagram title:** select diagrams from the list
- ❑ **click on ADD SELECTED button:** select diagrams from the list
- ❑ **click on REMOVE LAST button:** remove the last diagram from the list
- ❑ The order of the selected diagrams can be changed by dragging the names in the list.

ToscanaJ – Reading line diagrams

- ❑ There is always a top and a bottom node.
- ❑ The top represents the concept of every object available.
- ❑ The bottom represents the concept of everything being true: any object attached to it has all attributes in the diagram.

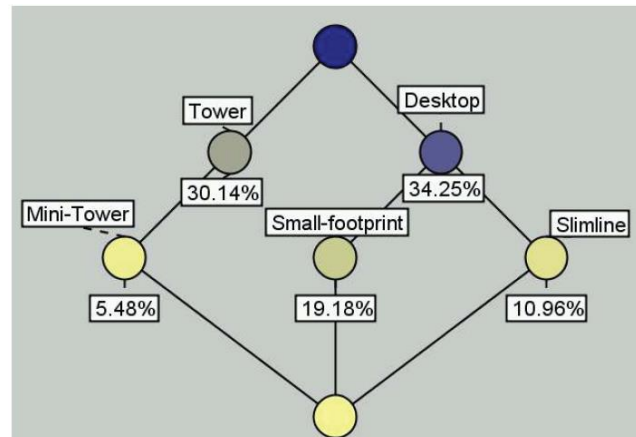


- ❑ Features:
 - ❑ View -> Show Concept Information
 - ❑ ToscanaJ will display the intent and the extent of the concept.
 - ❑ Right Click -> Export Concept Information
 - ❑ Single Click => Highlighting



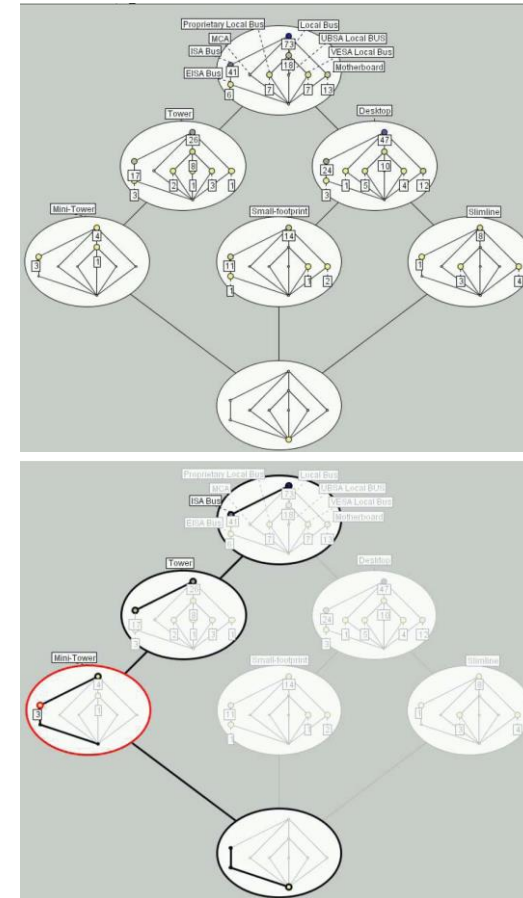
Toscanal - View Options

- ❑ **Count:** how many objects belong to a particular concept – either as exact matches or as part of the extent;
- ❑ **List:** enlists all the objects for a particular concept.
- ❑ **Distribution:** is similar to the count option, but instead of displaying the absolute numbers, the percentage of all objects is displayed.



ToscanaJ - Nesting Line Diagrams

- ❑ ToscanaJ allows nesting one diagram (the inner diagram) into another diagram (the outer diagram).
- ❑ Each of the inner nodes of this diagram represents a combination of attributes from the outer and the inner diagram.
- ❑ Highlighting can be used in the same way as in the normal (flat) diagram.



ToscanaJ – Printing / Exporting diagrams

- ❑ File > Print
 - ❑ Default: this is the normal mode with the color gradient
 - ❑ Grayscale: the gradient used goes from black (top) to white (bottom)
 - ❑ White nodes: all nodes are white
 - ❑ Black nodes: all nodes are black
 - ❑ User Defined: this schema can be changed in the preferences

- ❑ File > Export Diagram (png, jpg)