

## Home Assignment 1.4

Version 1.0

1. Network A (2 mode network):
  - a. Develop a MatLab function `event_redundancy.m` that calculates the redundancy for every event in your 2 mode network. A second function `redundancy_rank.m` returns an  $n \times 2$  vector with event-labels in the first column, and corresponding redundancy values in the second column. Apply this function to your Network A, and interpret your findings.
  - b. Using ConExp, create a Galois Lattice of your network A, and interpret it. If required, you can reduce your network to a  $100 \times 100$  matrix to reduce visual clutter. Store your *layouted* Lattice in a file (`graphA_FCA.cex`). Add the results/your interpretations to the report.

Detailed interface descriptions are provided in a separate file (see below).

### Provided files:

[http://www.kmi.tugraz.at/staff/markus/courses/SS2009/707.000\\_web-science/provided-files3.rar](http://www.kmi.tugraz.at/staff/markus/courses/SS2009/707.000_web-science/provided-files3.rar)

- `Script3.m`: contains interface descriptions for the required MatLab functions

### Submission:

Home assignment 1.4 is due in week 6 (30.3.2009), together with home assignment 1.3.

**Deadline: Mo, 30<sup>th</sup> of March 2009, 12.15 pm**

Your submission “`swt_ass1_4_<YOURMATR.NR>.zip`“ should be structured as follows:

```
swt_ass1_4_<YOURMATR.NR>/report.pdf    # contains your results and interpretations.
                                          # Make sure to include your name and Matr. Nr.
                                          # on the first page of your report
swt_ass1_4_<YOURMATR.NR>/matlab        event_redundancy.m
                                          redundancy_rank.m
                                          graphA_FCA.cex
```

### Policies:

- No external Matlab packages are allowed.
- Your MatLab code will be tested with independent datasets and checked for plagiarism.

### Resources:

- MatLab
  - [http://www.math.umn.edu/~lerman/math5467/matlab\\_adv.pdf](http://www.math.umn.edu/~lerman/math5467/matlab_adv.pdf)
- ConExp (Concept Explorer version 1.3)
  - <http://sourceforge.net/projects/conexp>