Formal Concept Analysis

II Closure Systems and Implications

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The next week

You will organize the lecture in the next week on your own.
Therefore, a bit of preparation is necessary:

- a homework to be solved until next week
- hints for the organization of the lecture

Don't worry, you will be able to do this together and in two weeks we will discuss problems and questions.

Homework: Closure Systems and Closure Operators

- read the Sections *3.1.1* and *3.1.2* of the script about *closure systems* and *closure operators*
- think of at least one question
- find at least one other example (i.e., not an example given in the script) of a closure system or closure operator

Organization of the Next Lecture

Preparation: do the homework and bring the script and copies I gave you.

1. Form four groups and select an example of a closure system for each group out of *subtrees, subintervals, convex sets, equivalence relations*
2. Each group then should
   - discuss the questions and examples from the homework
   - discuss the definition of a *closure system* and a *closure operator*
   - check whether the group's closure system really is a closure system using a concrete (small) example and visualize the example
   - read and discuss *Theorem 1* from the book
3. Then the groups mix ("Gruppenpuzzle") and
   - each expert explains the example from the group
   - the new group exchanges thoughts and results from *Theorem 1*
   - each group proofs that for a formal context (G, M, I) the extents form a *closure system* on G, the intents form a *closure system* on M, and that $''$ is a *closure operator*