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Exercises to the Lecture FSVT

Prof. Dr. Klaus Madlener sheet 1

Exercise 1:

Mathematical logic is required througout in the FSVT lecture and exercises. We expect that you had some courses on mathematical logic sometimes in your career as student.

1. Define the language needed to express statements on the natural numbers. What are the terms of your language, what are formulas?
2. Give models of your language other than the natural numbers.
3. Give universally valid, fulfillabe and unfulfillable formulas in the language you defined, and prove your claims.
4. What can you say on computability of the models you have looked at?

Exercise 2:

We expect that you know howto find and read the literature we mention on the slides and elsewhere. There are different sources of information. Most knowledge in science is published in the form of scientific papers first. Later on some authors decide to collect the knowledge and write books on certain subjects. Some material is electronically available, but by far not all.

1. Try to find some of the literature mentioned on the lecture slides in the informatics library in building 36. You may use the electronical catalog availabe on `http://www.ub.uni-kl.de`, which is the same as the library terminals offer. Don't get despaired if you don't succeed on many of the items, initially. You might ask the personnel, there. Verify at least some of the search results.
2. What different kinds of items are there in the library?
3. What kinds of signatures are used in the library?
4. Specify rules howto find literature in the library, or to decide that it is not available locally.

Exercise 3:

If you have done development projects in your life, what has been the project which you think had the requirements most difficult to formalize? Be prepared to give an outline of the problems and how they were dealt with.

Delivery: until n.a.,
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