Automated Theorem Proving
List of Projects

Students who decide to work on a project must announce Mădălina Eraşcu on the chosen topic. This is an individual project which consists of a program solving the problem as well as documentation. The documentation (5 pages) should contain the problem what is solved, examples, design choices of the implementation and a small user manual of your tool.

The project can use any programming language. The documentation can be written in Word or Latex, however Latex is highly appreciated and preferred.
You could obtain maximum 20 points on the project, as part of the 40 points, the maximum you can obtain in the laboratory. The projects can be presented anytime before the first examination. The project has to be presented to Mădălina Eraşcu before first examination as well as sent by email together with the documentation.

1. Determine if a formula is satisfiable/unsatisfiable/valid/invalid. The algorithm must use equivalent transformations and when this not suffices truth table method should be used.

2. Transformation of a formula into DNF and CNF.

3. Implementation of the resolution method.

4. Implementation of the DPLL algorithm.

5. Implementation of the sequent calculus (proof by sequent calculus).