

Classification of Taclets

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Introduction

Some numbers about KeY

- nearly 1400 taclets
- 32 rule sets
- 10 options in 5 categories
- about 800 to 1200 active taclets

Exact numbers can be found at

<http://i12www.ira.uka.de/~stenger/studienarbeit/generated/>

Demonstration

Demonstration of automated analysis

Problems

Problems of existing Rule Sets

- not properly documented
- redundant rule sets
 - *beta* and *split* are equal
- obsolete rule sets
 - *simplify prog subset*
- used by strategies, but not designed for them
- integration of user-defined, problem specific rules

Design Goals

Desired properties of new Rule Sets

- documented and formally defined
 - syntactic criteria where possible
- priority of problem specific rules can be boosted
- proper handling of implicitly executed taclets
- strategies become more efficient with new rule sets
- unification of existing strategies with minimal differences

Guidelines

Overview of new Rule Sets

- implicitly executed rules
- documentation and hints for strategies
 - *axiomatic, modular, nonconfluent*
- logic rule sets
 - *split logic*: supersedes old *beta* and *split*
- program rule sets
 - based on the Java Language Specification
 - interpretation oriented

Strategy Prototype

- uses new rule sets
- unifies several old strategies
- different behaviours available through options

Todo: performance comparison example between old and new strategy

Summary

- definitions help assigning rules to rule sets
- assignment could be computer aided in the future
- ...