

The Kiel RELVIEW Tool

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Relation algebra has a small set of fundamental constants, operations and tests which – in case of finite carrier sets – can be implemented very efficiently. This led to RELVIEW, a specific purpose computer algebra system for the manipulation and visualisation of set-theoretic relations, relational prototyping and relational programming. The development of the tool started in 1988 at the University of the German Forces Munich. Based on this prototype, the further work on RELVIEW has been done at the University of Kiel since 1993. The newest version of the tool (Version 8.2, released January 2016) is available via [8].

RELVIEW is written in the C programming language. The tool possesses an own programming language, which provides many pre-defined operations and tests and allows the user to formulate relational expressions, functions and programs. For implementing relations it uses reduced ordered binary decision diagrams. To facilitate the practical usage, all user interactions are done completely via a graphical user interface.

In the talk we explain the ideas behind RELVIEW, sketch the history of the tool (with the decisive phases of its development) and describe some domains of applications. Furthermore, we demonstrate its practical handling by means of selected examples.

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