Boolean algebra with Mathematica and TI-83

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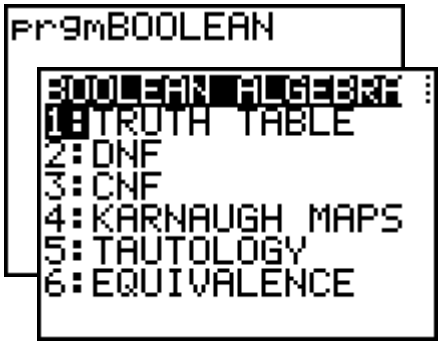
The package "Boolean algebra"

The package ”Boolean algebra” is a program package, which was created especially for TI-83 and is used for teaching in course of Discrete Mathematics based on a traditional textbook Ralph P. Grimaldi, Discrete and Conbinatorial Mathematics an Applied Introduction, fourth edition.***(Stipendium for idea development 2001 from Chalmers Teknikpark, Teknikbrostiftelsen in Gothenburg, Sweden Project: Boolean algebra with TI-83 (in cooperation with Jorryt van Bommel))***
Actually this package is a natural development and a further edition of the package ”Boolean.m” in MATHEMATICA, which has been used by the author during a long time for teaching in this course.[1][2] The package ”Boolean algebra” for TI 83 contains programs which allow to display different steps with illustrative explanations calculation in the Boolean algebra.[3]



Calculators allow to change the teaching process by replacing of MATHEMATICA with TI-83 due to their safety, low price and because they are easy to use and are possible to develop and provide. Of course MATHEMATICA has more powerful calculating possibilities, but calculators are very flexible, and can therefore be used during lectures in big rooms without technical facilities.

References:

1. I.B.Gachkov *”Teaching Discrete Mathematics with Computer Algebra: A New Approach to Modern Algebra and Error-Correcting Codes”*, El. Proceedings of the Conf.of Applications of Computer Algebra IMACS-ACA'97 , Hawaii, http://www.math.unm.edu/ACA/1997/ Proceedings/education/Hulth_abstract.txt (in cooperation with K. Hulth)
2. I.B.Gachkov *”The algorithms of discrete mathematics and graph theory with MATHEMATICA and TI-83,89”* 6th IMACS Conference on Applications of Computer Algebra (June, 25-28, 2000) Proceedings
3. I.B.Gachkov *”Teaching in discrete mathematics with TI-83”.* TiM-2000 The Techniques in Mathematical Teaching, University of Dalarna, Falun, Sweden 27 – 29 October 2000. Proceedings (in Swedish)