

Alonzo: An Intelligent Multi-Tutor for Logic Curricula

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Abstract

The aim of this talk is to present Alonzo, a web-based logic tutor. Alonzo is a reimplementation of a computer program that was designed in the late 80s by Diderik Batens, and that has since been used as a support system for logic courses taught at Ghent University to large groups of students. The tool provides not only support for learning how to construct proofs (in propositional logic, predicate logic, and a simple relevant logic), but also for gaining insight in the semantics (by means of an interactive tableau method, among other things), and for formalising sentences from natural language. Additionally, there are exercises for all other insights that the students are supposed to gain (basic notions from set theory, elementary distinctions in argumentation, ...). For all exercises, the students' answers are checked, and appropriate feedback is given. For all tasks that do not involve natural language, exercises are (or can be) generated by the tutor, and for complex exercises (such as the construction of a proof or of a tableau) hints can be asked for the next step. For some tasks (mainly proofs and tableaux), students have the option to enter exercises themselves. Whenever they do, it is checked whether the problem can be solved, and also in these cases, they can ask for hints when they are stuck. It has been proven that (for decidable fragments) the hints lead to a solution if there is one.

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[‡]Sofie Avery is a Master Student in Philosophy at Ghent University. In the summer of 2018, she worked on a refinement of the feedback in Alonzo, and presented the talk "When Learning to Construct Proofs with Alonzo, Help Helps" for the Sixth Young Researchers' Day of the Belgian Society for Logic and Philosophy of Science (<http://www.bspls.be/YRD6.html>).