

# Human Reasoning and Computational Logic

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In the lecture, four different logic programs have been presented for the moods A (for all), E (No), I (Some) and O (Some not), motivated by five principles. Additionally, an entailment relation has been specified, which determines which conclusions can be drawn under the Weak Completion Semantics. Following this approach, we can predict an average of 85% of the participants' responses for all 64 syllogisms.

For this assignment, we ask you to study the syllogistic reasoning approach presented in the lecture and come up with an improved or alternative approach. You can investigate whether it is possible to improve the results by

- defining other logic program representations for the moods A, E, I and O,
- determining an alternative entailment relation, or
- considering other aspects of the syllogistic reasoning task, which we have not considered yet (e.g. the figures of the moods, the combinations of the premises, ...).

Please keep in mind the following requirements:

- You can use an already existing implementation, which is written in Java, or implement your own syllogistic reasoning tool.
- The tutorial of the 20th of January is reserved to discuss questions and intermediate results.
- You can work alone or in groups.
- You will have the chance to present your results in the tutorial on the **28th of January**.