# Project 2 – deadline 26th of January 2026

The project will consist of two parts:

1. implementation of the algorithms below (preferably in PROLOG; any other language is allowed but with 2 points penalization).
2. a written document, where you treat the first two subjects below (between 2-6 pages without the code - be clear and concise); the code is added at the end of the document – insert only the implementation of the algorithms, not the code for the graphical user interface).

You will upload your project in the Assignment created in the KRR MS Teams, as a single pdf file saved as LastName_FirstName_project2.pdf. **Do not send it by email**!

You must work individually for the project. **Attention:** your project will be checked for similarities with Turnitin. For this reason, you must not include pictures in your pdf, with the only exception allowed for drawing the degree curves in 2. The insertion of any other picture (for code or text) will be interpreted as a way to avoid the verification against plagiarism and will be penalized by grading the whole project with 1.

Starting with January 28th, I will meet individually with each of you at the faculty to present your project (max 45 minutes for each student, there will be a planning for that).

**Attention:** your project is not graded unless you present it.

**Attention:** a source code with any explanatory comments included will not be considered at all. You are not allowed to use libraries that implement (parts of) the algorithms (for example, *skfuzzy* in Python).

All the resources (articles, books, code) that you consult for the project must be cited.

If you have questions, my email is cidota@fmi.unibuc.ro

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You are required to solve the following:

1. The requirements in Lab 5, but with your own Rules and Questions. The Rules must be formulated such that the length of the chaining is at least 3 (i.e., there are at least 3 rules R1, R2, R3 such that one of the premises of R3 is the conclusion of R2 and one of the premises of R2 is the conclusion of R1).

2. The requirements in Lab 6, but with your own Rules (at least 3). You must also define the degree curves for the predicates that appear in the Rules.

   In the written document, you are allowed to draw the degree curves by hand and insert the scan into the document (everything else must be typed).

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3. For maximum 10 minutes during the presentation of the project, I will ask you general questions on other topics discussed in the courses C6-C12 (e.g., *How do frame systems operate (reason)?* or *What is a Bayesian network?* or *What is subsumption in a description language and how it is computed?* etc.)

**Note:** all the procedures will be implemented in the versions presented at the course (from Ronald Brachman, Hector Levesque. Knowledge representation and reasoning, Morgan Kaufmann 2004).

The knowledge will be represented in whatever format you choose, but preferably as simple and intuitive as possible. The KBs will be read from a file and the project will run through a graphical user interface written in any language you choose. You may use the example for Java-SWI Prolog interface provided at the course. You must not insert the code for the GUI in the documentation.

Marina Cidota

08.01.2026