Demonstration task 2

(Logical formulation of a riddle in Prolog)

1 Problem description and learning objective

Learning objective: The learning objective here is to model a given problem using logic so that you can use a declarative description of the problem to design a complete Prolog programme with a declarative description of the problem. For this purpose, you do not need to formulate a concrete of a concrete algorithm. The solution will be done by Prolog itself.

The symbol image above deliberately does not show coloured doors so that you are not 'confused' by additional information.
Five students live next to each other in a student dormitory. Each door has a different colour, they all study different subjects, drink five different drinks and each has a different pet.

1. Max lives in the room with the red door.
2. Bert likes to drink tea.
3. Ute has a cat.
4. The green door is (directly) to the left of the white door.
5. Coffee is drunk in the room with the green door.
6. The student studying EIT has a budgie.
7. The resident in the room with the yellow door is studying mechanical engineering.

8. The resident in the middle house drinks milk.
9. The person studying AI lives next door to the person with the dog.
10. The person with the parrot lives next door to the person studying mechanical engineering.
11. Monika lives in the first room if you number them from the left.
12. The computer science student drinks orange juice.
13. Rudolf is studying business administration.
14. Monika lives next to the room with the blue door.
15. Person studying AI has a neighbour who drinks water.

Which student has a pet hamster?

2 Task:

Write a complete prologue programme with which you can answer the question.
Notes: Model all the given facts appropriately with prologue predicates. You can also use lists for this. This is not absolutely necessary for solving the task, but it but it could make the modelling easier for you.
(At least your problem solver used lists for his own solution, as the solution is then be quite short).