

# Artificial Intelligence: Questions to Exercise 7

Maik Kschischo, Elina Unruh

1. In Fig. 1 you find a schematic sketch of a flat. An elderly person, who needs support, lives in the flat. The robot (smiley) should support the person. The robot needs to move around the flat.

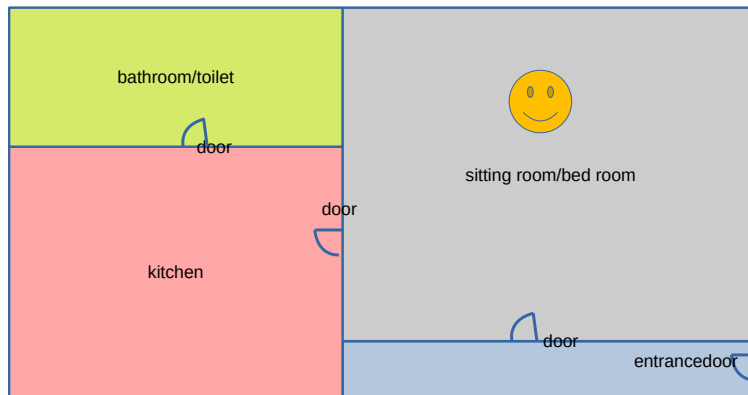


Figure 1: A flat of an elderly person needing support. The robot (smiley) should support the person in the different rooms. The robot needs to move around the flat, a process that can be described by first order predicate logic (PL1).

- (a) Describe the different possible positions of the robot using first order predicate logic (PL1). Try to find a simple description. Use a predicate "Door" to indicate rooms that are connected by a door.
  - (b) Describe the possible movements of the robot by one or more actions.
  - (c) Solve the planning task to move from the sitting room to the bathroom.
2. It is an accepted scientific base that physical characteristics of life are genetically transferred. Do you believe that information and knowledge are also genetically transferred? Justify for yes/no?