

ASSIGNMENT 7

Due Date: 30 June 2021

QUESTION 1

Consider the following statements:

Lili, Ruth and Albert are wizards. Albert is the father of James while Ruth is James' mother. James is Harry's father while Lili is Harry's mother. Hagrid scares Dudley. All wizards are magical. A person is a wizard if both his mother and father are wizards. Uncle Vernon hates anyone who is magical. Aunt Petunia hates anyone who is magical or scares Dudley.

- (a) Create a Prolog knowledge-base for the statements.
- (b) Give Prolog queries to answer the following questions:
 - Does Aunt Petunia hate Hagrid?
 - Who does Uncle Vernon hate?
 - Who does Aunt Petunia hate?

QUESTION 2



A matryoshka doll is a toy that consists of figurines in decreasing size that can all be placed inside each other. A set of five dolls are named from outer to inner doll: anastasia -> katarina -> olga -> natsha -> irina. First, write a knowledge base using the predicate ***directlyIn*** which encodes which doll is directly contained in which other doll. Then, define a predicate ***in***, which determines which doll is (directly or indirectly) contained in which other doll. E.g. the query ***in(katarina,natasha)*** should evaluate to true, while ***in(olga, katarina)*** should fail.

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