Open Information Systems
Exercises for Lecture 02 - RDFS

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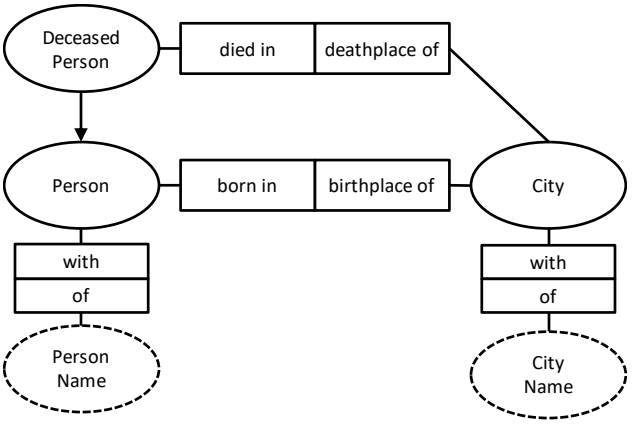
Exercise 1

In the lecture, we have implemented the conceptual schema shown below into RDF(S). We had two approaches to implement the roles relating Person and City to their names as properties. We have chosen to implement them as two separate properties (`personName` and `cityName`). In this exercise, you will implement the second approach:

- Create a new RDF TURTLE document and copy/paste the vocabulary. Ensure that there are not mistakes. Then comment the statements concerned with `personName` and `cityName`.
- Then create a new class `Thing`. We will later on see that OWL provides the class `owl:Thing`. For this exercise, however, we will create our own class representing "everything".
- Declare a property `name`. Ensure that the domain of that property is `Thing`.
- Rewrite one of the three examples with this new vocabulary.



Exercise 2

Starting from the person vocabulary of the second lecture (or the one resulting from the first exercise), create a property for capturing the date of birth of a person. Provide an adequate `rdfs:comment` and `rdfs:label`. Create a new RDF Turtle document and use this document to describe Audrey Hepburn.

- Reuse Audrey Hepburn's URI from DBpedia[1], which is `http://dbpedia.org/resource/Audrey_Hepburn`.
- Look for Audrey Hepburn's date of birth, place of birth, and place of death. For both places, look for URIs in DBpedia. Reuse these URIs in your own RDF TURTLE document.

Exercise 3

The following exercise is based on [1]. Decide whether the following propositions can be satisfactorily modeled in RDF(S) and, if so, give the corresponding RDF(S) specification.

1. Every pizza is a Meal
2. Pizzas always have at least two Toppins
3. Tomato is a type of Topping
4. Every pizza from the class PizzaMargarita has a Tomato Topping
5. Everything having a Topping is a Pizza
6. No Pizza from the class PizzaMargarita has a topping from the class Meat

References

[1] Pascal Hitzler, Markus Krötzsch, and Sebastian Rudolph. *Foundations of Semantic Web Technologies*. Chapman & Hall/CRC, 1st edition, 2009.

[1] `https://wiki.dbpedia.org/`