

Due on: Tuesday 11.07.2006 (in lecture (only definition type questions) & via email (coding type questions))

Exercise 5.1

Given the following sentence:

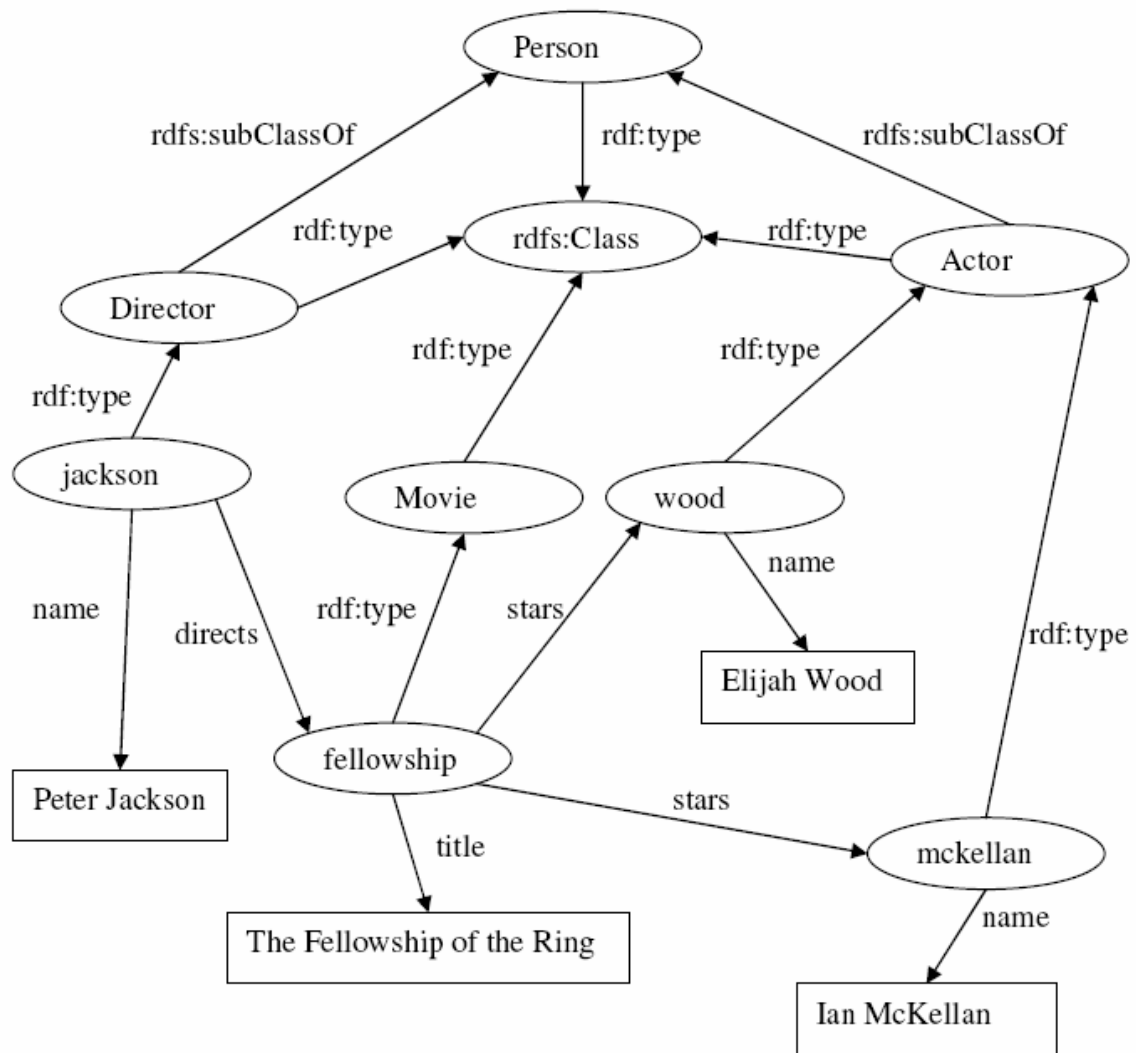
- a) [3 points] "Messe Freiburg is located at Hermann-Mitsch-Str. 3, 79108, Freiburg, Germany."
1. Write down the sentence in RDF N3 notation *without* blank nodes, using *at least* 3 triples.
- b) [5 points]
1. Write down the sentence in RDF N3 notation *with at least one* blank nodes, using *at least* 3 triples.
 2. Draw a Graph representation of 1b-1. Please indicate the resources, literals and properties.
- c) [5 points] A media store offers the following products:

```
<?xml version="1.1"?>
<products xmlns:xsi=""http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="products.xsd">
<book>
  <title>Learning XML</title>
  <author>EricRay</author>
  <price>30.00</price>
</book>
<cd>
  <title>for you</title>
  <interpret>Frank Chastenier</interpret>
  <price>15.00</price>
</cd>
<dvd>
  <title>Goldrush</title>
  <director>Charly Chaplin</director>
  <price>19.00</price>
</dvd>
</products>
```

Represent the contents of the product table in RDF/RDFS. Specify an RDF schema that tries to describe your vocabulary as precise as possible

Exercise 5.2

[5 points] Translate the following RDF Graph into the RDF/XML syntax. For node and arcs labeled with *QNames*, assume the standard prefixes apply. For other names, assume they are all local to the document you are writing.



Exercise 5.3

a) [5 points] Use RDF/XML notation to create a RDFS ontology about:

Vehicle, Truck, Van, Family Vehicle and SUV.

Note that in our case, we consider SUV belongs to both a Van and Family Vehicle. A vehicle belongs to *Person*. Number of doors of a family vehicle should be stated.

b) [5 points] Write an instance of a Family Vehicle using RDF/XML notation. E.g. an instance of Karen's family vehicle with 5 doors.

Exercise 5.4

Create a RDFS ontology about Company and Person in RDF N3 notation.

Given the following relations: Company, IT Company, Marketing Company, Person, Employee, Project Manager, CEO, Board member

- [2 points] Company has a location.
- [2 points] Person has a name and is employed by a company.
- [3 points] Employee and Board member are persons.
- [2 points] Project Manager is an employee.
- [3 points] CEO is a board member and an employee.