

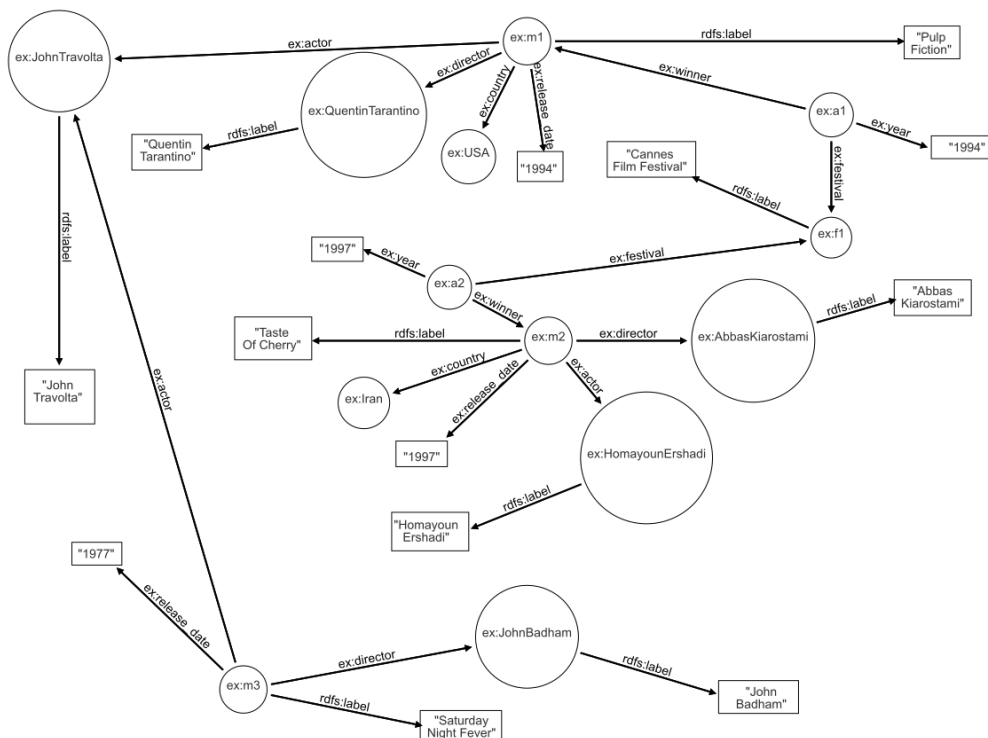
Knowledge Graph Analysis

Solutions to Exercise Sheet 1

Dr. Hamed Shariat Yazdi, Prof. Jens Lehmann

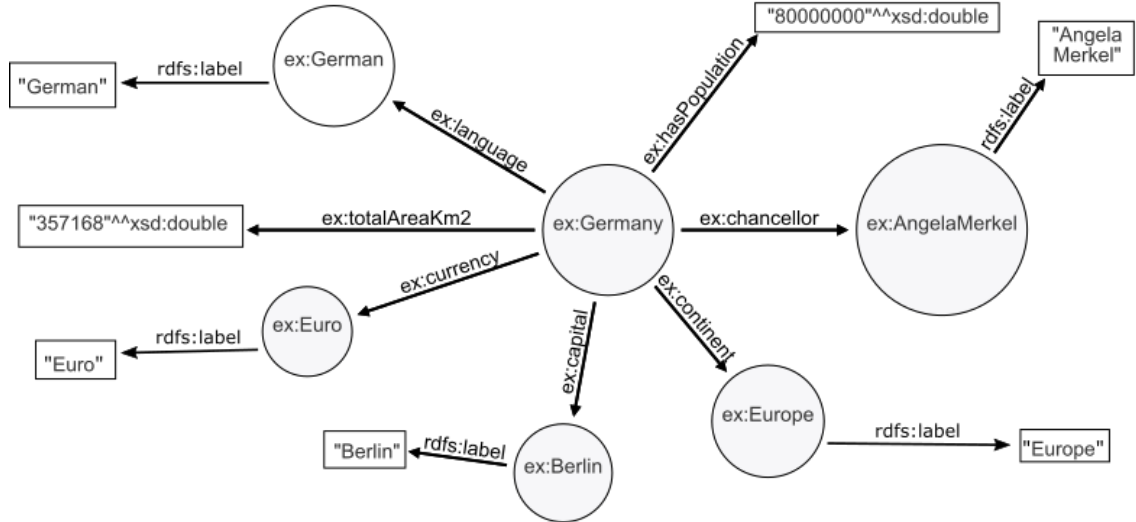
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1 IN CLASS



1.

2. 1- URIs are used to uniquely identify resources.
- 2- Literals describe data values that do not have an own identity.



```

3. @prefix dbr: <http://dbpedia.org/resource/> .
   @prefix
     rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
   @prefix dbo:<http://dbpedia.org/ontology/> .

   dbr:John_Travolta    rdf:type          dbo:Actor ,
                                                                dbo:Producer ;
                                                                dbo:starring  dbr:Basic_(film),
                                                                dbr:Shout_(film) .

```

```

4. SELECT ?movie_name
   WHERE {
     ?x rdf:type ex:Movie .
     ?x rdfs:label ?movie_name .
   }

   SELECT ?movie_name ?director_name
   WHERE {
     ?x rdf:type ex:Movie .
     ?x rdfs:label ?movie_name .
     ?x ex:year ?year .
     ?x ex:director ?director .
     ?director foaf:familyName ?director_name .
   }

```

```

ORDER BY DESC(?year)
SELECT ?movie_name
WHERE {
  ?x rdf:type ex:Movie .
  ?x rdfs:label ?movie_name .
  ?x ex:year ?year .
}
FILTER( ?year < "1996"^^xsd:gYear )
SELECT ?movie_name
WHERE {
  ?x rdf:type ex:Movie .
  ?x rdfs:label ?movie_name .
  ?x ex:genre ex:Crime .
}
SELECT ?actor_name
WHERE {
  ?x rdf:type ex:Actor .
  ?x ex:birthYear ?year .
  ?x foaf:familyName ?actor_name .
}
FILTER ( ?year < "1966"^^xsd:gYear )
SELECT ?movie_name
WHERE {
  ?x rdf:type ex:Movie .
  ?x rdfs:label ?movie_name .
  ?x ex:director ?director .
  ?director ex:birthYear ?year .
}
FILTER( ?year <= "1946"^^xsd:gYear )
5. PREFIX ex: <http://example.org/>
SELECT ?object
WHERE
  {{ ex:Sun      ex:satellite  ?object . } UNION
  { ex:Sun      ex:satellite  ?satellite .
    ?satellite  ex:satellite  ?object .}}
PREFIX ex: <http://example.org/>
SELECT ?object
WHERE {
?object ex:satellite ?satellite .
?object ex:name ?name .
FILTER(lang(?name)=='en')) . }
PREFIX ex: <http://example.org/>
SELECT ?object
WHERE {
?object ex:satellite ?satellite .
?object2 ex:satellite ?object . }

```

```
PREFIX ex: <http://example.org/>
SELECT ?object
WHERE {
  ?object ex:satellite ?satellite .
  ?object ex:name ?name .
  FILTER(lang(?name)='en') .
  ?object2 ex:satellite ?object .
  ?object2 ex:radius ?radius .
  FILTER(?radius >= 1500) . }
```

```
PREFIX ex: <http://example.org/>
SELECT ?object
WHERE {
  ?object ex:satellite ?satellite1 .
  ?object ex:satellite ?satellite2 .
  FILTER (?satellite1 != ?satellite2 ). }
```
