Exercises for

Knowledge Representation for the Semantic Web

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Exercise 1.1 Write the following part of an RDF document in Turtle syntax:

```
 <owl:Class rdf:about="Parent">
   <owl:equivalentClass>
     <owl:Restriction>
       <owl:onProperty rdf:resource="hasChild"/>
       <owl:someValuesFrom rdf:resource="Person"/>
     </owl:Restriction>
   </owl:equivalentClass>
 </owl:Class>
```

Exercise 1.2 Write the following part of an RDF document in Turtle syntax:

```
<rdf:Description rdf:about="Jack">
   <rdf:type>
     <owl:Class>
       <owl:intersectionOf  rdf:parseType="Collection">
         <owl:Class rdf:about="Person"/>
         <owl:Class>
           <owl:complementOf rdf:resource="Parent"/>
         </owl:Class>
       </owl:intersectionOf>
     </owl:Class>
   </rdf:type>
 </rdf:Description>
```

Exercise 1.3 Display the part of an RDF document from Exercise 1.1 as a graph.

Exercise 1.4 Write the following Turtle triple in RDF/XML syntax:

```
 :Person  rdfs:comment  "Represents the set of all people."^^xsd:string .
```

Exercise 1.5 Write the following Turtle triples in RDF/XML syntax: (`[]` can be used in Turtle for a blank node.)

```
[]  rdf:type              owl:NegativePropertyAssertion ;
    owl:sourceIndividual  :Bill ;
    owl:assertionProperty :hasDaughter ;
    owl:targetIndividual  :Susan .
```

Exercise 1.6 Model the following sentences in XML:

1. Mary is a woman.

2. Every mother is a woman.

3. Mary is John's wife.

4. Mothers are women who are also parents.

5. At least one child of a grandparent has also a child.

Exercise 1.7 Model the sentences from Exercise 1.6 in RDF.