Trabajo Práctico OWL

1. Analice el código OWL de la ontología “An African Wildlife Ontology” (A Semantic Web Primer, Antoniou, 2002).
   a. Identifique los componentes con su respectivo vocabulario (rdf, rdfs,owl)
      - Clases y jerarquía
      - Relaciones
      - Propiedades
      - Restricciones
   b. Realice el modelo correspondiente

```
<rdf:RDF
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
xmlns:owl ="http://www.w3.org/2002/07/owl#"
xmlns="http://www.mydomain.org/african">
<owl:Ontology rdf:about="">
<owl:VersionInfo>
My example version 1.2, 17 October 2002
</owl:VersionInfo>
</owl:Ontology>
<owl:Class rdf:ID="animal">
<rdfs:comment>Animals form a class</rdfs:comment>
</owl:Class>
<owl:Class rdf:ID="plant">
<rdfs:comment>
Plants form a class disjoint from animals
</rdfs:comment>
<owl:disjointWith="#animal"/>
</owl:Class>
<owl:Class rdf:ID="tree">
<rdfs:comment>Trees are a type of plants</rdfs:comment>
<rdfs:subClassOf rdf:resource="#plant"/>
</owl:Class>
<owl:Class rdf:ID="branch">
<rdfs:comment>Branches are parts of trees
</rdfs:comment>
<rdfs:subClassOf>
<owl:Restriction>
<owl:onProperty rdf:resource="#is-part-of"/>
<ow:allValuesFrom rdf:resource="#tree"/>
</owl:Restriction>
</rdfs:subClassOf>
</owl:Class>
<owl:Class rdf:ID="leaf">
<rdfs:comment>Leaves are parts of branches</rdfs:comment>
<rdfs:subClassOf>
<owl:Restriction>
<owl:onProperty rdf:resource="#is-part-of"/>
<owl:allValuesFrom rdf:resource="#branch"/>
</owl:Restriction>
</rdfs:subClassOf>
</owl:Class>
<owl:Class rdf:ID="herbivore">
Web Ontology Language: OWL 19
<rdfs:comment>
Herbivores are exactly those animals that eat only plants,
or parts of plants
</rdfs:comment>
<owl:intersectionOf rdf:parsetype="Collection">
<owl:Class rdf:about="#animal"/>
<owl:Restriction>
<owl:onProperty rdf:resource="#eats"/>
<owl:allValuesFrom>
<owl:unionOf rdf:parsetype="Collection">
<owl:Class rdf:about="#plant"/>
<owl:Restriction>
<owl:onProperty rdf:resource="#is-part-of"/>
<owl:allValuesFrom rdf:resource="#plant"/>
</owl:Restriction>
</owl:unionOf>
</owl:allValuesFrom>
</owl:Restriction>
</owl:intersectionOf>
</owl:Class>
<owl:Class rdf:ID="carnivore">
<rdfs:comment>Carnivores are exactly those animals
that eat also animals</rdfs:comment>
<owl:intersectionOf rdf:parsetype="Collection">
<owl:Class rdf:about="#animal"/>
<owl:Restriction>
<owl:onProperty rdf:resource="#eats"/>
<owl:someValuesFrom rdf:resource="#animal"/>
</owl:Restriction>
</owl:intersectionOf>
</owl:Class>
```

```
<owl:Class rdf:ID="giraffe">
<rdfs:comment>Giraffes are herbivores, and they
eat only leaves</rdfs:comment>
<rdfs:subClassOf rdf:type="#herbivore"/>
<rdfs:subClassOf>
<owl:Restriction>
<owl:onProperty rdf:resource="#eats"/>
<owl:allValuesFrom rdf:resource="#leaf"/>
</owl:Restriction>
</rdfs:subClassOf>
</owl:Class>
<owl:Class rdf:ID="lion">
<rdfs:comment>Lions are animals that eat
only herbivores</rdfs:comment>
<rdfs:subClassOf rdf:type="#carnivore"/>
20 Grigoris Antoniou and Frank van Harmelen
<rdfs:subClassOf>
<owl:Restriction>
<owl:onProperty rdf:resource="#eats"/>
<owl:allValuesFrom rdf:resource="#herbivore"/>
</owl:Restriction>
</rdfs:subClassOf>
</owl:Class>
```

```
<owl:Class rdf:ID="tasty-plant">
<rdfs:comment>Tasty plants are plants that are
eaten
both by herbivores and carnivores</rdfs:comment>
<rdfs:subClassOf rdf:resource="#plant"/>
<rdfs:subClassOf>
<owl:Restriction>
<owl:onProperty rdf:resource="#eaten-by"/>
<owl:someValuesFrom>
<owl:Class rdf:about="#herbivore"/>
</owl:someValuesFrom>
</owl:Restriction>
</rdfs:subClassOf>
<rdfs:subClassOf>
<owl:Restriction>
<owl:onProperty rdf:resource="#eaten-by"/>
<owl:someValuesFrom>
<owl:Class rdf:about="#carnivore"/>
</owl:someValuesFrom>
</owl:Restriction>
</rdfs:subClassOf>
</owl:Class>
<owl:TransitiveProperty rdf:ID="is-part-of"/>
<owl:ObjectProperty rdf:ID="eats">
<rdfs:domain rdf:resource="#animal"/>
</owl:ObjectProperty>

<owl:ObjectProperty rdf:ID="eaten-by">
<owl:inverseOf rdf:resource="#eats"/>
</owl:ObjectProperty>
</rdf:RDF>
```

2. Analice el código OWL de la ontología: http://www.cs.man.ac.uk/~rector/Modules/CS646-2004/Labs/Thursday/Simple_University-01.owl

    a. Identifique los componentes
        - Clases y jerarquía
        - Relaciones
        - Propiedades
        - Restricciones
    - Realice el modelo correspondiente