

Solution fiche TD : RDF & RDFS

Les solutions proposées sont analysées par le validateur RDF en ligne à l'adresse : <https://www.w3.org/RDF/Validator/>

Exercice 1 :

Les triplets sont :

Sujet	Prédicat	Objet
amine	age	"20 "
amine	connait	sara
amine	rdf:type	Etudiant
sara	rdf:type	Etudiant
Etudiant	rdf:type	Adulte

On suppose qu'un RDF Schema a l'URI : <http://ex1/vocab#>

Les instances (données) ont l'URI : <http://ex1/data>

Document RDF/XML avec attribut xml:base

```
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:local="http://ex1/vocab#"
  xml:base="http://ex1/data">
  <rdf:Description rdf:about="#amine">
    <local:connait rdf:resource="#sara"/>
    <local:age>20</local:age>
    <rdf:type rdf:resource="local:Etudiant"/>
  </rdf:Description>
  <rdf:Description rdf:about="#sara">
    <rdf:type rdf:resource="local:Etudiant"/>
  </rdf:Description>
  <rdf:Description rdf:about="local:Etudiant">
    <rdf:type rdf:resource="local:Adulte"/>
  </rdf:Description>
</rdf:RDF>
```

Document RDF/XML (sans attribut xml:base)

```
<?xml version='1.0' ?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:local="http://ex1/vocab#">
  <rdf:Description rdf:about="http://ex1/data#amine">
    <local:connait rdf:resource="http://ex1/data#sara"/>
    <local:age>20</local:age>
    <rdf:type rdf:resource="local:Etudiant"/>
  </rdf:Description>
  <rdf:Description rdf:about="http://ex1/data#sara">
    <rdf:type rdf:resource="local:Etudiant"/>
  </rdf:Description>
```

```

</rdf:Description>
<rdf:Description rdf:about="local:Etudiant">
  <rdf:type rdf:resource="local:Adulte"/>
</rdf:Description>
</rdf:RDF>

```

Exercice 2 :

Vocabulaire: Classes et Propriétés

classes:

Universite	rdf:type	rdfs:Class
Personnel	rdf:type	rdfs:Class
dept-info	rdfs:subClassOf	Universite
Enseignant	rdfs:subClassOf	Personnel
Assistant-professor	rdfs:subClassOf	Enseignant

Propriétés :

- nom --> domaine:Personnel , co-domaine: valeur de type string
- homepage --> domaine:Personnel , co-domaine:URI
- travaille --> domaine:Personnel , co-domaine:Universite

Triplets du modèle de données:

(prelle , nom , 'X. Prella')

(prelle , travaille , dept-info)

(prelle , homepage , 'http://univ-YYY/~prelle')

(prelle , rdf:type , assistant-professor)

```

<?xml version="1.0"?>
<rdf:RDF
  xml:base="http://ex2/schema"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema#">

  <rdfs:Class rdf:ID="Universite"/>
  <rdfs:Class rdf:ID="Personnel"/>

  <rdfs:Class rdf:ID="Dept-info">
    <rdfs:subClassOf rdf:resource="#Universite"/>
  </rdfs:Class>

  <rdfs:Class rdf:ID="Enseignant">
    <rdfs:subClassOf rdf:resource="#Personnel"/>
  </rdfs:Class>

  <rdfs:Class rdf:ID="Assistant-professor">
    <rdfs:subClassOf rdf:resource="#Enseignant"/>
  </rdfs:Class>

```

```

<rdf:Property rdf:ID='nom'>
  <rdfs:domain rdf:resource='#Personnel'/>
  <rdfs:range rdf:resource='xsd:String'/>
</rdf:Property>

<rdf:Property rdf:ID='homepage'>
  <rdfs:domain rdf:resource='#Personnel'/>
  <rdfs:range rdf:resource='xsd:URI'/>
</rdf:Property>

<rdf:Property rdf:ID='travaille'>
  <rdfs:domain rdf:resource='#Personnel'/>
  <rdfs:range rdf:resource='#Universite'/>
</rdf:Property>

```

```
</rdf:RDF>
```

Exercice 3 :

Représentation du graphe en XML :

Schéma RDF :

```

<?xml version="1.0"?>
<rdf:RDF    xml:base="http://ex3/schema"
           xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
           xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
           xmlns:xsd="http://www.w3.org/2001/XMLSchema#">

  <rdf:Description rdf:ID="Personne">
    <rdf:type rdf:resource="rdfs:Class"/>
  </rdf:Description>

  <rdf:Description rdf:ID="Ville">
    <rdf:type rdf:resource="rdfs:Class"/>
  </rdf:Description>

  <rdf:Description rdf:ID="Region">
    <rdf:type rdf:resource="rdfs:Class"/>
  </rdf:Description>

  <rdf:Property rdf:ID='nom'>
    <rdfs:domain rdf:resource='#Personne'/>
    <rdfs:domain rdf:resource='#Ville'/>
    <rdfs:domain rdf:resource='#Region'/>
    <rdfs:range rdf:resource='rdfs:Literal'/>
  </rdf:Property>

```

```

<rdf:Property rdf:ID='habite'>
  <rdfs:domain rdf:resource='#Personne'/>
  <rdfs:range rdf:resource='#Ville'/>
</rdf:Property>

<rdf:Property rdf:ID='se_situe_en'>
  <rdfs:domain rdf:resource='#Ville'/>
  <rdfs:range rdf:resource='#Region'/>
</rdf:Property>
</rdf:RDF>

```

Instance RDF :

```

<?xml version="1.0"?>
<rdf:RDF xmlns:xsd="http://www.w3.org/2001/XMLSchema#"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:ss="http://td-ex3/schema#"
  xmlns:ins="http://td-ex3/#" >

<rdf:Description rdf:about="http://td-ex3/#pierre">
  <rdf:type>ss:Personne</rdf:type>
  <ss:nom rdf:datatype="xsd:String">Pierre </ss:nom>
  <ss:habite rdf:resource="http://td-ex3/#paris"/>
</rdf:Description>

<rdf:Description rdf:about="http://td-ex3/#marie">
  <rdf:type>ss:Personne</rdf:type>
  <ss:nom rdf:datatype="xsd:String">Marie </ss:nom>
  <ss:habite rdf:resource="http://td-ex3/#paris"/>
</rdf:Description>

<rdf:Description rdf:about="http://td-ex3/#paris">
  <rdf:type>ss:Ville</rdf:type>
  <ss:nom rdf:datatype="xsd:String">Paris </ss:nom>
  <ss:se_situe_en rdf:resource="http://td-ex3/#idf"/>
</rdf:Description>

<rdf:Description rdf:about="http://td-ex3/#idf">
  <rdf:type>ss:Region</rdf:type>
  <ss:nom rdf:datatype="xsd:String">Ile de france </ss:nom>
</rdf:Description>

</rdf:RDF>

```