
XML, DTD, XML SCHEMA

L3 Info & L3 MIASHS

TP1 – Corrigé

Exercise 1.

exo1-xml.xml

```
<?xml version="1.0" encoding="utf-8"?>
<nations>
  <nation>
    <nom>France</nom>
    <capitale>Paris</capitale>
    <population date="2007">64 102 000</population>
  </nation>

  <nation>
    <nom>Italie</nom>
    <capitale>Rome</capitale>
    <population date="2006">58 133 509</population>
  </nation>

  <nation>
    <nom>Espagne</nom>
    <capitale>Madrid</capitale>
    <population date="2006">44 708 964</population>
  </nation>
</nations>
```

Exercise 2.

exo2-cd-2-modif-xml.xml

```
<?xml version="1.0" encoding="ISO-8859-1"?>

<!DOCTYPE CDlist SYSTEM "cd.dtd">

<CDlist>
  <CD>
    <composer>Raymond Domenech</composer>
    <performance>
      <composition></composition>
      <soloist>Thierry Henry</soloist>
      <orchestra>London Symphony Orchestra</orchestra>
      <conductor></conductor>
    </performance>
    <publisher>Springer</publisher>
    <length>105</length>
  </CD>
</CDlist>
```

exo2-note-2-modif-xml.xml

```

<?xml version="1.0" encoding="UTF-8" ?>
<notes>
  <note>
    <to>To1</to>
    <from>From1</from>
    <body>First body</body>
  </note>
  <note>
    <to>To2</to>
    <from>From2</from>
    <heading>Heading</heading>
    <body>Main body</body>
  </note>
  <note>
    <to>To3</to>
    <from>From3</from>
    <body>Third body</body>
  </note>
</notes>

```

Exercise 3.

famille.dtd

```

<!ELEMENT famille      (nom, personne+)>
<!ELEMENT personne    (prenom, age, (poids-kg | poids-lb), taille?)>
<!ELEMENT nom          (#PCDATA)>
<!ELEMENT prenom       (#PCDATA)>
<!ELEMENT age          (#PCDATA)>
<!ELEMENT poids-kg     (#PCDATA)>
<!ELEMENT poids-lb     (#PCDATA)>
<!ELEMENT taille       (#PCDATA)>
<!ATTLIST personne     pnumber ID #REQUIRED mere IDREF #IMPLIED pere IDREF #IMPLIED>

```

Exercise 4.

exo4-schema.xsd

```

<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" >

  <!-- Types -->
  <xs:simpleType name="type-id">
    <xs:restriction base="xs:ID">
      <xs:pattern value="[A-Z]+" />
    </xs:restriction>
  </xs:simpleType>

  <xs:simpleType name="type-score">
    <xs:restriction base="xs:string">
      <xs:pattern value="\d \d" />
    </xs:restriction>
  </xs:simpleType>
  <!-- -->

  <!-- Elements -->
  <xs:element name="nom" type="xs:string"/>

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<xs:element name="ville" type="xs:string"/>

<xs:element name="clubReceveur" type="type-id"/>
<xs:element name="clubInvite" type="type-id"/>
<xs:element name="score" type="type-score"/>

<xs:element name="journees">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="journee" minOccurs="1" maxOccurs="unbounded"
        />
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="championnat">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="clubs" minOccurs="1" maxOccurs="1"/>
      <xs:element ref="journees" minOccurs="1" maxOccurs="1"/>
    </xs:sequence>
  </xs:complexType>

  <xs:key name="rencontreID">
    <xs:selector xpath="journees/journee/rencontre"/>
    <xs:field xpath="clubReceveur"/>
    <xs:field xpath="clubInvite"/>
  </xs:key>

  <xs:key name="clubID">
    <xs:selector xpath="clubs/club"/>
    <xs:field xpath="@id"/>
  </xs:key>
  <xs:keyref name="receveurKeyRef" refer="clubID">
    <xs:selector xpath="journees/journee/rencontre"/>
    <xs:field xpath="clubReceveur"/>
  </xs:keyref>
  <xs:keyref name="inviteKeyRef" refer="clubID">
    <xs:selector xpath="journees/journee/rencontre"/>
    <xs:field xpath="clubInvite"/>
  </xs:keyref>

</xs:element>

<xs:element name="clubs">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="club" minOccurs="1" maxOccurs="unbounded"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:element name="rencontre">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="clubReceveur"/>
      <xs:element ref="clubInvite"/>
      <xs:element ref="score"/>
    </xs:sequence>
  </xs:complexType>

```

```

</xs:element>

<xs:element name="journee">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="date" type="xs:date"/>
      <xs:element ref="rencontre" minOccurs="1" maxOccurs="unbounded"
        "/>
    </xs:sequence>

    <xs:attribute name="num" type="xs:integer" use="required"/>
  </xs:complexType>
</xs:element>

<xs:element name="club">
  <xs:complexType>
    <xs:sequence>
      <xs:element ref="nom"/>
      <xs:element ref="ville"/>
    </xs:sequence>

    <xs:attribute name="id" type="type-id" use="required"/>
  </xs:complexType>
</xs:element>
<!-- -->

</xs:schema>

```