

Due on: Thursday 02.06.2005 by 14:00 (in class)

Exercise 1

- a) To which namespace belongs each "title" and "year" element in the following XML document? Does the document violate namespace constraints? Explain.

```
<?xml version="1.0"?>
<movies xmlns:xmllib="http://www.xmlmovielibrary.com">
  <xmllib:title>Star Wars:Episode I-The Phantom
Menace</xmllib:title>
  <xmllib:year>1999</xmllib:year>
  <purchase xmlns:xmllib="http://www.othermovielibrary.com">
    <xmllib:title>Star Wars:Episode II-Attack of the Clones
</xmllib:title>
    <xmllib:year>2002</xmllib:year>
  </purchase>
  <xmllib:title>Star Wars:Episode III-Revenge of the Sith
</xmllib:title>
  <xmllib:year>2005</xmllib:year>
</movies>
```

- b) Is the following XML document valid w.r.t. the given XML schema? If no, explain and correct the XML document.

XML document:

```
<?xml version="1.0"?>
<book>
  <title/>
</book>
```

XML Schema file:

```
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="tar">
  <xs:element name="book">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="title" type="xs:string"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

c)

- 1) Write an XML schema document for the given XML documents, such that it satisfies the following constraints:
 - Use <http://www.w3.org/2001/XMLSchema> as default namespace.
 - Set elementFormDefault and attributeFormDefault to unqualified.
 - Element books has the type t1
 - Element comments is of type string
 - Type t1 consists of an element book of type t2
 - Type t1 also has the elements comments.
 - Type t2 consists of an element title of type string

XML document:

```
<?xml version="1.0"?>
<bk:books xmlns:bk="http://abc.com/">
  <book>
    <title>XML for dummies</title>
  </book>
  <bk:comments>Books on the topic XML</bk:comments>
</bk:books>
```

- 2) What would be the changes to the XML document if the elementFormDefault is set to "qualified"?

Exercise 2

Write an XML schema document for the given XML documents using integrity constraints such that:

- Each child of products must have a number attribute whose value references an item number.
- Each child of items must have a number element containing a unique item number.

```
<stock xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="abc.xsd">
  <products>
    <book number="12">
      <quantity>90</quantity>
      <language value="en"/>
    </book>
    <book number="12">
      <quantity>23</quantity>
      <language value="de"/>
    </book>
    <cd number="89">
      <quantity>50</quantity>
      <category>pop</category>
    </cd>
  </products>
  <items>
    <item>
      <number>12</number>
      <name>XML Bible (2nd Edition)</name>
      <price currency="USD">34,99</price>
    </item>
    <item>
      <number>89</number>
      <name>Shania Twain - Greatest Hits</name>
      <price currency="USD">20,99</price>
    </item>
  </items>
</stock>
```