

Tutorial – 2
XML and Semantic Web Technologies – SoSe 2012
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Q-1.

Given is the following DTD:

```
<!ELEMENT movies (Movie+) >
<!ELEMENT Movie
( title, year, _director, (comment | newcomment)+)>
<!ATTLIST Movie id ID #REQUIRED>
<!ELEMENT title (#PCDATA)>
<!ELEMENT year (#PCDATA) >
<!ELEMENT _director (#PCDATA)>
<!ATTLIST _director name CDATA #IMPLIED>
<!ELEMENT comment (#PCDATA)>
<!ELEMENT newcomment (#PCDATA)>
<!ATTLIST comment lang CDATA #IMPLIED>
```

1.1 Correct the following documents w.r.t to above given DTD.

a)

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE movies [
<!ENTITY copy "&#169;";
]>
<movies>
  <movie id="56225">
    <title>Mamma Mia</title>
    <title/>
    <year>2008</year>
    <_director name=" Phyllida Lloyd"/>
    <comment text="Musical Romantic Comedy"/>
    <commentxml>Introduce XML content</commentxml>
    <newcomment text="An &lt;important>text">Oscar</newcomment>
    <comment lang="en">&copy; 2008 Universal Pictures</comment>
    <!-- Famous for ABBA music -->
  </movie>
</movies>
```

b)

```
<?xml version="1.0" encoding="utf-16"?>
<movies>
<movie id="56225">
<title>Love Story</title>
<title></title>
<year>1980</year>
<_director name='Coppola'></_director>
<comment text="Five start" text="Average"/>
<xml>Introduce XML content</xml>
<newcomment text="An <important> text">Oscar</newcomment>
<comment lang=de>&copy; 1980 Warner Bros.</comment>
<!-- Famous movie of the --80s -->
</Movie>
</movies>
```

1.2. What is the difference between CDATA and PCDATA ?

1.3. Provide reasons for using elements instead of attributes.

Q-2. Create an XML document to store bank account and customer data with following information:

- There are two account types: checking and savings accounts
- Each account has an id, interest and balance
- Besides accounts, bank also carries data of customers. Each customer has id, name and address.
- Use an element customer_account to relate each customer to its account.

Q-3. Use an external DTD for the attached courses-ID xml document.

- Use Oxygen xml editor to create and edit the XML document
- Save the file in the same directory as the XML document
- Reference the DTD in the document prolog of the XML document
- Check that the XML document is valid according to the DTD