

Exercise 1 XML

1. Go to the XML Files folder (under XML Exercises) on blackboard
2. Task #1: Use an XML editor or a text editor (make sure you can save as ASCII text) to edit the “reviews_bad.xml” XML file to correct the DTD and to correct the XML so that it validates using <https://www.xmlvalidation.com>
3. Task #2: Use an XML editor or a text editor to create an XML file with an embedded DTD (see Employees.xml in XMLFiles folder for an example of valid XML file with embedded DTD), using elements and a couple of attributes, to describe:
 - Your name (distinguishing first, middle, surname)
 - Student ID
 - Favourite music groups
 - Expected date of graduation

Again use <https://www.xmlvalidation.com> to validate.



Exercise 2- XML

- Write down a “well formed” XML snippet, using elements and/or attributes, describing:
 - Your name (distinguishing first, middle, surname)
 - Student ID
 - Favourite music groups

- **Well formed-** XML Declaration required, Exactly one root element, Empty elements are written in one of two ways: Closing tag or Special start tag, For non-empty elements, closing tags are required, Attribute values must always be quoted, Start tag must match closing tag (name & case), Correct nesting of elements

Sample XML to show Syntax

```
<?xml version="1.0"?>
<!DOCTYPE catalog SYSTEM "books.dtd">
<catalog>
  <book id='bk101' type='softback'>
    <author>Gambardella, Matthew</author>
    <title>XML Developer's Guide</title>
    <genre>Computer</genre>
    <price>44.95</price>
    <publish_date>2000-10-01</publish_date>
    <description>An in-depth look at creating applications with XML.
  </description>
</book>
  <book id='bk102' type='hardback'>
    <author nationality='irish'>Jenkins, Fred</author>
    <title>XML Technology Guide</title>
    <price>50.00</price>
    <publish_date>2000-10-01</publish_date>
    <description>An in-depth look at using XML technologies.</description>
    <stocked_by>Easons</stocked_by>
    <stocked_by>Amazon</stocked_by>
  </book >
</catalog>
```



Exercise 3 – DTD

Begin to Suggest a DTD for the XML file on the left

```
<?xml version="1.0"?>
<!DOCTYPE catalog SYSTEM "books.dtd">
<catalog>
  <book id='bk101' type='softback'>
    <author>Gambardella, Matthew</author>
    <title>XML Developer's Guide</title>
    <genre>Computer</genre>
  <price>44.95</price>
    <publish_date>2000-10-01</publish_date>
    <description>An in-depth look at creating
applications with XML.
</description>
  </book>
  <book id='bk102' type='hardback'>
    <author nationality='irish'>Jenkins,
Fred</author>
    <title>XML Technology Guide</title>
    <price>50.00</price>
    <publish_date>2000-10-01</publish_date>
    <description>An in-depth look at using XML
technologies.</description>
    <stocked_by>Easons</stocked_by>
    <stocked_by>Amazon</stocked_by>
  </book >
</catalog>
```

EXAMPLE DTD to show SYNTAX

```
<!DOCTYPE NEWSPAPER [

<!ELEMENT NEWSPAPER (ARTICLE+)>
<!ELEMENT ARTICLE
  (HEADLINE,BYLINE+,LEAD?,BODY,NOTES*)>
<!ELEMENT HEADLINE (#PCDATA)>
<!ELEMENT BYLINE (#PCDATA)>
<!ELEMENT LEAD (#PCDATA)>
<!ELEMENT BODY (#PCDATA)>
<!ELEMENT NOTES (#PCDATA)>

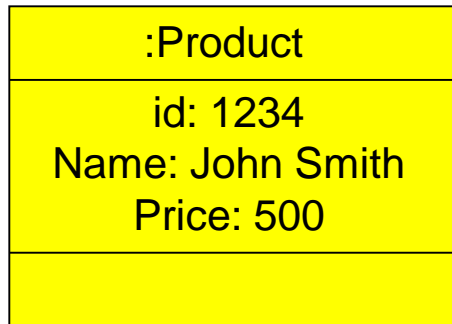
<!ATTLIST ARTICLE AUTHOR CDATA #REQUIRED>
<!ATTLIST ARTICLE EDITOR CDATA #IMPLIED>
<!ATTLIST ARTICLE DATE CDATA #IMPLIED>
<!ATTLIST ARTICLE EDITION CDATA #IMPLIED>

<!ENTITY NEWSPAPER "Trinity Times">
<!ENTITY PUBLISHER "Trinity Press">
<!ENTITY COPYRIGHT "Copyright 1998 TCD Press">
```

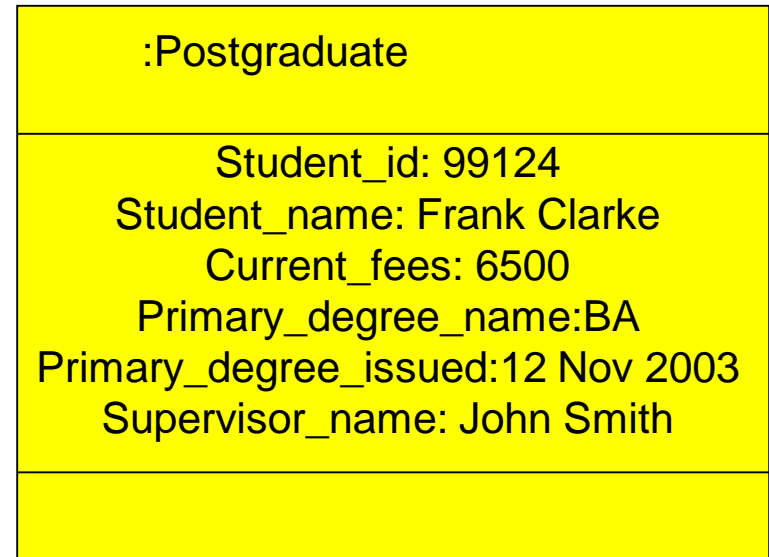
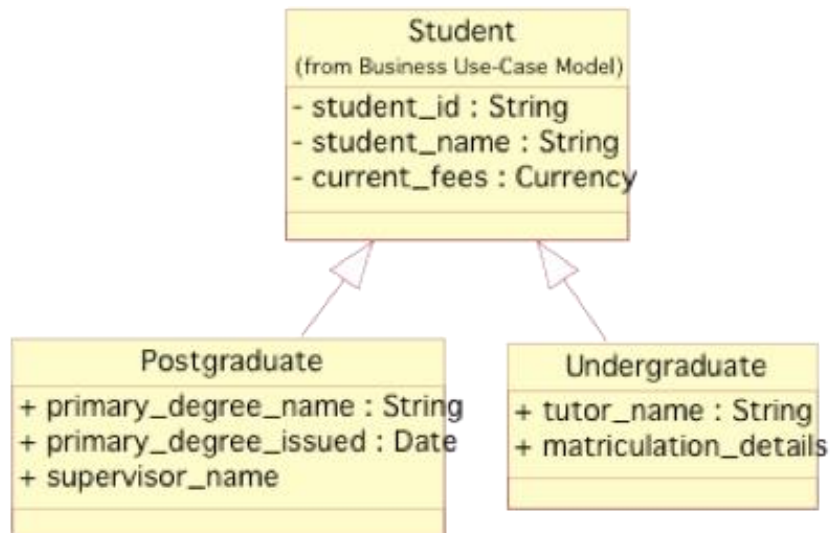
- Syntax for occurrences of elements in DTDs
 - ?: zero-or-one
 - +: one-or-more
 - *: zero-or-more



Exercise 4- Convert UML **Object** 2 XML



Exercise 5 - Convert UML **Object** 2 XML



Exercise 6 XML

- Spot the 6 deliberate errors in the XML opposite

```
<?xml version="1.0"!>
<!DOCTYPE catalog SYSTEM "books.dtd">
<catalog>
  <book id='bk101' type='softback'>
    <author>Gambardella, Matthew</author>
    <title>XML Developer's Guide</title>
    <genre>Computer</genre>
    <price>44.95</price>
    <publish_date>2000-10-01</publish-date>
    <description>An in-depth look at creating applications with XML.
  </book></description>
  <book id='bk102' >
    <author nationality=irish>Jenkins, Fred</Author>
    <title>XML Technology Guide</title>
    <price>50.00</price>
    <publish date>2000-10-01</publish date>
    <description>An in-depth look at using XML
technologies.</description>
    <stocked_by>Easons</stocked_by>
    <stocked_by>Amazon</stocked_by>
  </book type='hardback'>
</catalog>
```

