IMY 210 Unit Assignment 2: XML Schema and Validation

An XML Schema is a language for expressing constraints about XML documents. There are several different schema languages in widespread use, but the main ones are Document Type Definitions (DTDs), Relax-NG, Schematron and W3C XSD (XML Schema Definitions)

Information in schema documents is often used by XML-aware editing systems so that they can offer users the most likely elements to occur at any given location in a document. Checking a document against a Schema is known as validating against that schema, this is to ensure quality assurance.

During this assignment you will be creating several XSD documents to validate XML documents. The assignment will not only test your ability to create XSD documents but also your understanding of namespaces and their implementations

Important!

- Make frequent backups of your working files in different locations.
- Use a text editor (e.g. Notepad++) to complete this assignment.
- This is an individual assignment.
- In terms of the class notes, the scope of this assignment is Themes 2.
- You will receive 0 if your final XSD document is not well form.
- You will receive 0 if you final XSD does not validate the provided XML.

Provided Files

- **Sample xml files**: Set of data to be validated by your final XSDs.

Scenario

- A restaurant has asked you to create XSD files for their online menu, to help standardise the data they are using for creating custom menus.
- They have provided you with a few XML structure as sample files to be validated.
- They also informed you that they use two main formats of defining menus (L and B), so two namespaces should be including and considered in the definition.

Task

- Create XML schema documents (in XSD format) to validate the provided XML files.
- All schema rules are provided within sample.xml.
- Some additional things to keep note of:
    - All elements must appear exactly once, unless otherwise specified.
    - Create different **named custom simple** and **complex types**, as necessary.
    - Need to use **occurrences** in more than one place.
    - Need to implement both a **restriction** and **extension** of data type
- Your final validation file needs to be **data agnostic**.

You will be evaluated on the following criteria:

- Applications of named custom simple.
- Ability to use import functions.
- Appropriate use of occurrences.
- Application of different model groups.
- Applications of facets for both restrictions and extensions of data types.
- Error detection.
- Demonstrate your understanding of namespaces.
- The data-agnostic capability of your schema file.

Warning:

- The inability to validate any of the four provided XML files will limit the final mark to 50%.
- If you are unable to demonstrate appropriate usage of certain criteria, you will not receive all the marks associated with said criteria.
- In instances where you use a custom name type for an element that does need to be defined in such a manner, you will not receive all the marks associated with custom name types.
- You will be penalised if your final files' formats are not the same as the files required.

Submission

- Compress only your XSD file(s) into an archive named **a2.zip**.
    - Name your main XSD file **a2.xsd**
    - Name your other files according to the namespace name (imdb.xsd and rt.xsd).
    - Make a final backup of all your files and keep it in a safe place.
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- Submit your ZIP file to link provided on clickUP.