WEB TECHNOLOGY(LAB)

Lab 5 Task

(BSCS)

By

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Lab 5: Forms & Multimedia

Lab Objectives

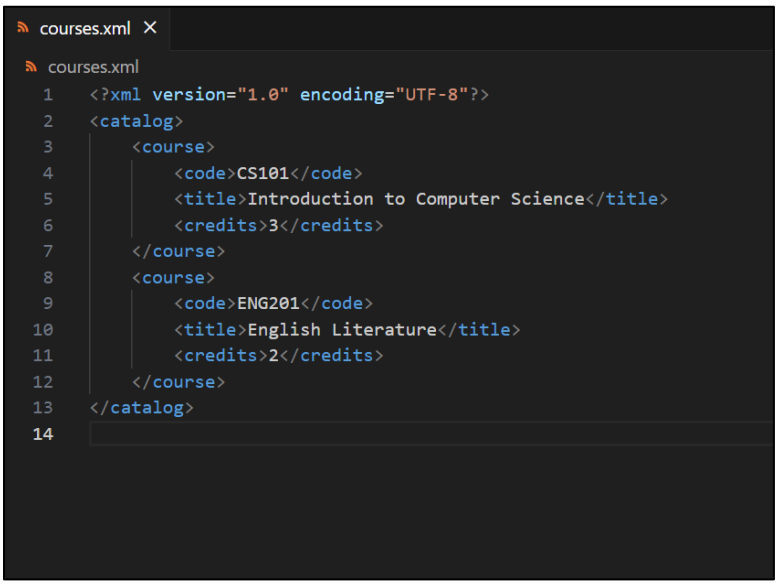
- **Create a well-formed XML document.**
- **Validate XML using XSD or DTD.**
- **Understand the difference between HTML and XML.**
- **Optionally convert a simple HTML snippet to XHTML.**

Tools Required

- **VS Code (or any text editor)**
- **Online XML Validator (e.g., https://www.xmlvalidation.com/)**
- **Sample XSD/DTD file (can be created or provided)**

Step 1: Create an XML File

- **Let's create a sample XML file for a Course Catalog.**
- **File Name: courses.xml**



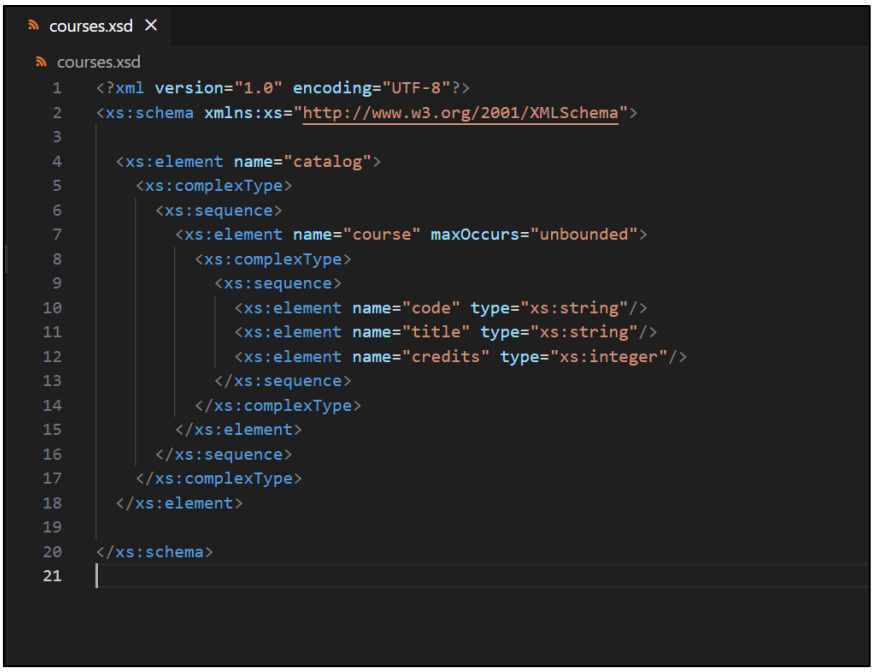
Explanation:

- <?xml version="1.0" encoding="UTF-8"?> → XML declaration line.
- <catalog> → Root element.
- Each <course> has three child tags:

<code> – Course code
<title> – Course name
<credits> – Credit hours

Step 2: Create an XSD File to Validate XML

- **File Name: courses.xsd**



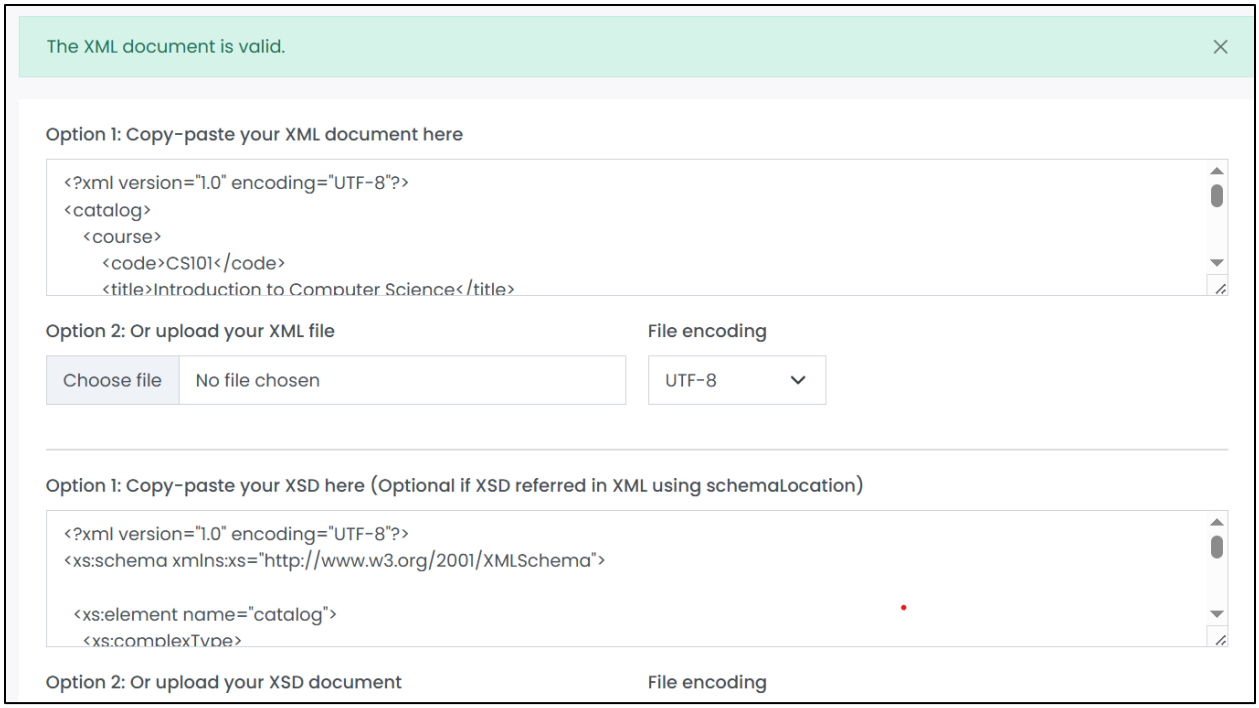
Explanation:

- xs:schema → Defines the XML schema (structure).
- catalog → Root element containing multiple course elements.
- maxOccurs="unbounded" → Means you can have many <course> entries.
- Data types:
  xs:string → Text
  xs:integer → Numbers only

Step 3: Validate XML Against XSD

- **Use an online XML validator:**
- **Go to https://www.xmlvalidation.com/ or https://www.freeformatter.com/xml-validator-xsd.html**
- **Paste your XML and XSD code**
- **Click Validate**

Deliverable: Save the validation result as a screenshot or report.



🔷 Step 4 (Optional): Convert HTML to XHTML

Original HTML Snippet:

```
<html>
<head>
<title>Sample Page</title>
</head>
<body>
<h1>Welcome</h1>
<p>This is a sample page.</p>
</body>
</html>
```

Converted XHTML:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
  "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
  <title>Sample Page</title>
</head>
<body>
```

```
  <h1>Welcome</h1>
  <p>This is a sample page.</p>
</body>
</html>
```

✅ Validate XHTML using https://validator.w3.org/

📦 Final Deliverables

- `courses.xml` (well-formed XML)
- `courses.xsd` (schema file)
- Validation report or screenshot
- (Optional) `sample.xhtml` file

CONCLUSION:

In this lab, I successfully created a well-formed XML document and validated it using an XSD schema. This helped me understand the structure and data types used in XML. Additionally, I learned how to convert HTML into XHTML, which follows stricter syntax rules for compatibility and correctness. This lab improved my understanding of XML, XSD, and XHTML validation techniques.

RUBRICS:

Performance			Lab Report		
Description	**Total Marks**	**Marks Obtained**	**Description**	**Total Marks**	**Marks Obtained**
Ability to Conduct practical	5		**Structure**	5	
Data Analysis & Interpretation	5		**Efficiency**	5	
Total Marks obtained			**Total Marks Obtained**		

Instructor Signature _____