Web Technologies – Lab

Submitted By:

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Submitted To:

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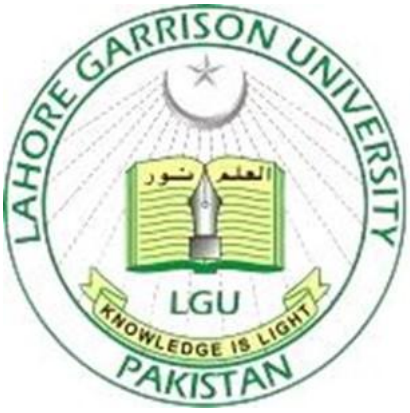
_____ (Signature)



Department Of Computer Science

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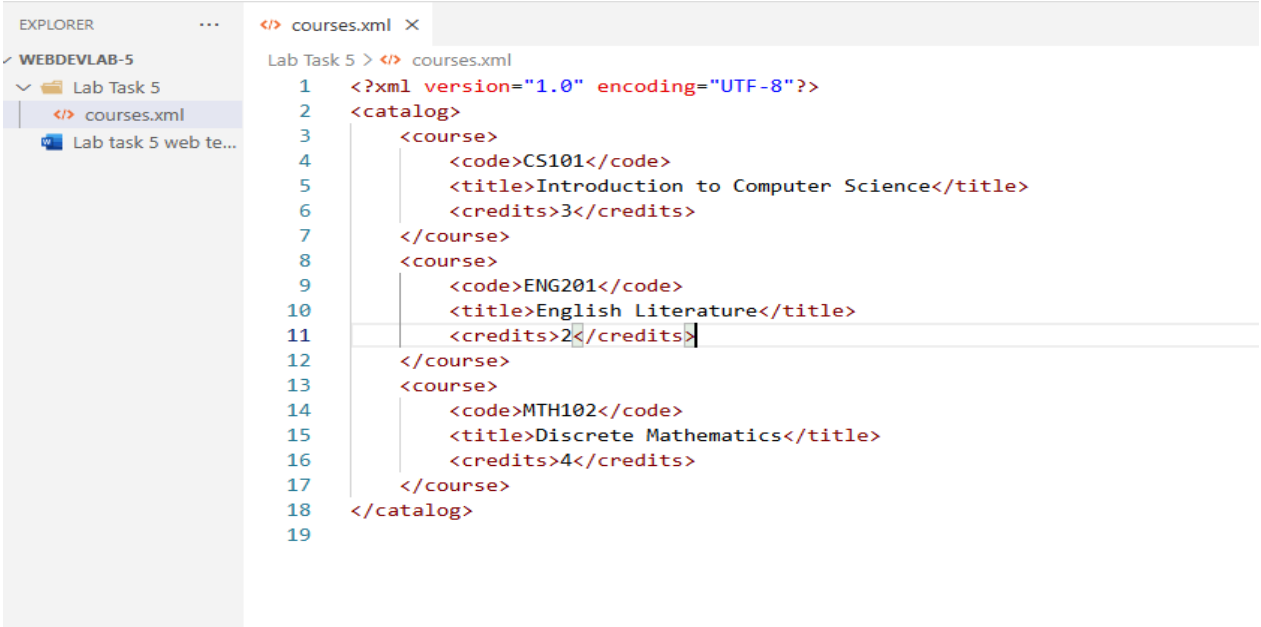
Lab Task 5 – Forms & Multimedia

Objective:

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

Step 1: Create an XML File

- **File Name: courses.xml**

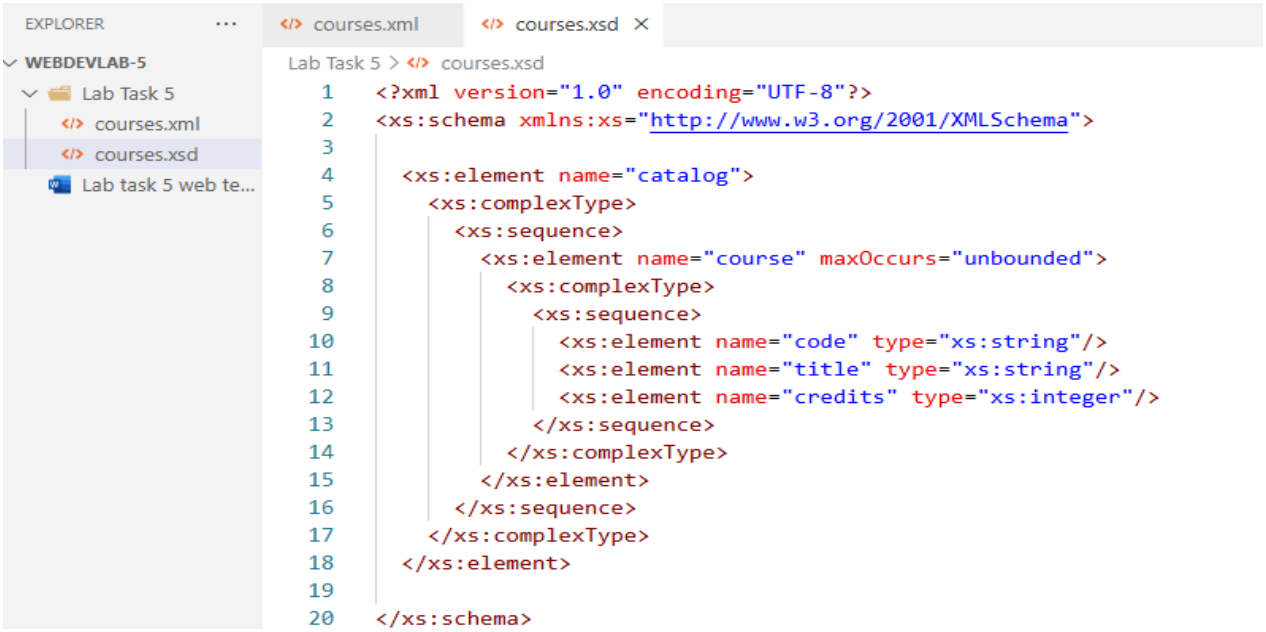


Explanation:

- **The root element is <catalog>.**
- **Each <course> contains <code>, <title>, and <credits>.**
- **The document follows XML syntax rules: proper nesting, a single root element, and case sensitivity.**

Step 2: Create an XSD File to Validate XML

- **File Name: courses.xsd**



Explanation:

- **The XSD defines the structure and data types for the XML file.**
- **maxOccurs="unbounded" means multiple <course> entries are allowed.**
- **xs:integer ensures credits are whole numbers.**

Step 3: Validate XML Against XSD

Steps to Validate:

1. **Open https://www.xmlvalidation.com/.**
2. **Paste your XML in the first box and your XSD in the second box.**
3. **Click Validate XML.**
4. **If both are correct, you will see:**

"XML is valid according to the schema."

Deliverable:
Take a screenshot of the validation result and attach it to your report.

No errors were found

The following files have been uploaded so far:

XML document:

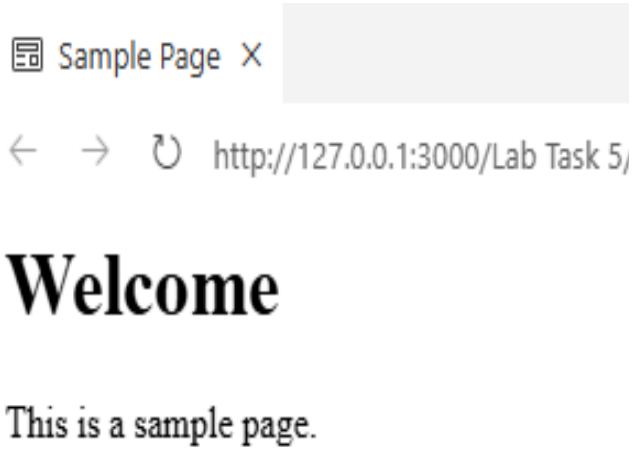
Click on any file name if you want to edit the file.

Step 4 (Optional): Convert HTML to XHTML

- **Original HTML Snippet:**

Lab Task 5 > sample.html > ...

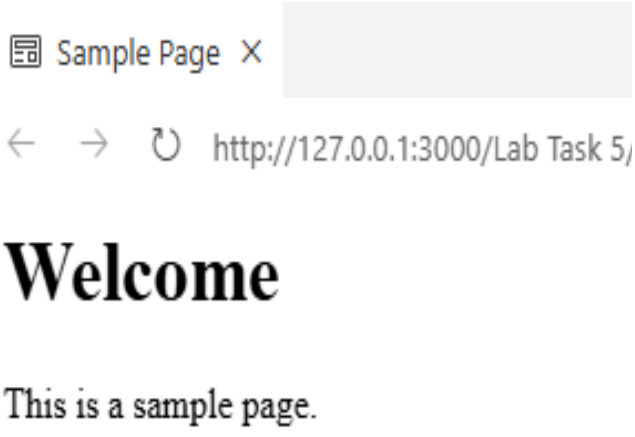
```
1  <html>
2  <head>
3  <title>Sample Page</title>
4  </head>
5  <body>
6  <h1>Welcome</h1>
7  <p>This is a sample page.</p>
8  </body>
9  </html>
10
```



- **Converted XHTML File (sample.xhtml):**

Lab Task 5 > sample.xhtml > ?

```
1  <?xml version="1.0" encoding="UTF-8"?>
2  <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4  <html xmlns="http://www.w3.org/1999/xhtml">
5  <head>
6    <title>Sample Page</title>
7  </head>
8  <body>
9    <h1>Welcome</h1>
10   <p>This is a sample page.</p>
11 </body>
12 </html>
```



Explanation:

- **XHTML is XML-compliant HTML.**
- **All tags are properly closed, lowercased, and nested.**
- **The document begins with an XML declaration and uses a strict DTD.**

Conclusion:

In this lab, we successfully created a well-formed XML document and validated it using an XSD schema. We also learned that XML focuses on data storage and structure, whereas HTML focuses on data presentation. Additionally, by converting HTML to XHTML, we saw how strict syntax rules make web documents more reliable and machine-readable.

Rubrics (for Instructor Use)

Performance	Total Marks	Marks Obtained
Ability to Conduct Practical	5	
Data Analysis & Interpretation	5	
Efficiency	5	
Total Marks Obtained	15	

Lab Report Structure	Total Marks	Marks Obtained
Structure	5	
Total Marks Obtained	5	

Instructor Signature: _____