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1: What is XML used for?
Answer: XML (Extensible Markup Language) is a markup language for storing and transporting data that can be read and understood by both humans and machines. Although JSON has mostly supplanted it, it continues to play a vital role in a variety of IT systems and is utilised in many parts of web development. XML is similar to HTML, except it uses a self-descriptive syntax, so there will be no confusion.no predefining tags and created according to database needs.

2: Using XML tags, write an example illustrating the XML structure?
Answer: <root>
<child>
<subchild>……</subchild>
</child>
</root> //This is a sample.
The proper coding will be following:

```
<?xml version="1.0" encoding="UTF-8">
<bookstore> //root
    <book>
        <title>Any name</title> //Sub child
    </book> //child
    <book>
        <title>Any name</title>
    </book> // 2nd child
</bookstore>
```

3: What is an XML prolog?
Answer: <?xml version="1.0" encoding="UTF-8"?>
This is an XML prologue that informs the browser about the language, version number, and character encoding. It must be the first line of an XML document, and there will be no closing tags.

4: Which of the following tags can't be used in XML document?

<xmlroot>
<myTag>
<tag>
<item15>
None of the above

Answer: None of the above.

5: It is sometimes possible to code elements in two different ways, transforming metadata in data. Re-code the following example to transform metadata in data.
<message date="2020-01-22">
<to>Students</to>
<from>Teacher</from>
</message>

Answer: The other method could be:

```
<message id="1">
    <date>
        <year>2021</year>
        <month>08</month>
        <day>01</day>
    </date>
    <to>Students</to>
    <from>Teacher</from>
</message>
```

Question 6: Briefly explain what CDATA is used for.
Answer: CDATA stands for Character Data, and it's described as plain text blocks that aren't parsed but are recognised as markup. When you use CDATA, you're notifying the parser that a particular piece of the document has no markup and should be handled as plain text. This is especially helpful when dealing with text that contains symbols and unusual characters. For example: <![CDATA[

<message>Example…..</message> //Tags would be treated as a plain text.
]]>

7: Briefly explain what XSL language is.
Answer: XSL stands for eXtensible stylesheet language. It is like CSS; it represents the style like how XML webpage should be displayed. Declaration can be used using two syntax either <xsl:stylesheet> or <xsl-transform>
Representation of XSL in the coding is:
<xsl:stylesheet version="1.0"
Xmlns:xsl=http://www.w3.org/1999/XSL/Transform>
OR
<xsl:transform version:"1.0"
Xmlns:xsl=http://www.w3.org/1999/XSL/Transform>
It will be represented in XML document as same as users use CSS in HTML document. For example:
<?xml version="1.0" encoding="UTF-8"?>
<?xml:stylesheet type="text/xsl" href="stylesheet.xsl"?>
<root>
<child>
<sub child>….</subchild>
</child>
</root>

8: Briefly explain what the following code lines would actually do.
<xsl:for-each select="bookstore/book">
<xsl:sort select="year"/>
Answer: : These properties are used to create XML document templates. The first code line in the preceding example uses the book element to display all of the book elements that would be contained in the specified XML document's sub elements (expressed in the code).
The second code in the example is used to sort the results so that they can be displayed on the screen based on the users' choices.As in example, user wants to sort the year. So, the document will sort only the "year" from the given XML document and displays on the screen.

9: Just like it is mandatory when parsing external files, what is mandatory to parse XML using Java script or jQuery?
Answer: To parse an XML document with java script or jQuery, you must first make an AJAX call. The external XML file is searched using the find() method to discover the child within the root. The values of the child will be found and stored using variables. Finally, using the concatenation method, an output will be created.

10: Write what language has been used to code the following lines of code.

```
{
      name: “John Smith”,
      age: “43”,
      city: “Montreal”
}
```

Answer: JSON language.

11: Based on the following lines of codes, complete the jQuery code so the DIV would show the result « John Smith is 43 »?

```
<div> </div>
<script>
let data = { “name : “John Smith”, “age” : “43”, “city” : “Montreal” };
let result = JSON.parse(data);
$(“div”).append( );
</script>
```

Answer: The code would be:

```
<div> </div>
<script>
let data = { “name : “John Smith”, “age” : “43”, “city” : “Montreal” };
let result = JSON.parse(data);
$(“div”).append(data.name + “is” + data.age);
</script>
```

12: Retrieving JSON data from an external file, using jQuery, what shorthand method can be used?

Answer: The method is shown below:

```
<div id=“results”> </div>
<script language=“JavaScript”>
$.get(“my_xml-02.xml”, function(data) { // AJAX request shorthand
var i = 0;
$(data).find(‘bookstore’).children(‘book’).each(function(){
var sTitle = $(this).find(‘title’).text();
var sAuthor = $(this).find(‘author’).text();
var sYear = $(this).find(‘year’).text();
var sPrice = $(this).find(‘price’).text();
$(“<p></p>“).html(“<b>” + sTitle + “</b>, ” + sAuthor + “, ” + sYear + “, ” +
sPrice).appendTo(“#results”);
i++;
});
```

```
var sTotalBooks = i;
$("<p></p>").html('<b>Total of books:</b> '+
sTotalBooks).prependTo("#results");
});
</script>
```

13: Based on the following JSON data, complete the code so the result showing in DIV would be «Jane Doe»

```
{
users: [
{
one : "John Smith",
two : "Jane Doe",
}
]
}
<div> </div>
<script>
$.getJSON('myfile.json', function(data) {
let result = ;
$("div").append(result);
}
</script>
```

Answer: The code will be: $("div").append(data.users[0].two)