## DESCRIPTION

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|---|---|
| SUTDENT'S NAME: | MANJU BALA 635-271684 |
| PROGRAM: | **Web design** |
| DATE: | 18-Sept-2021 |
| TEACHER'S NAME: | **Sutakhar** |
| COURSE: | **Data Processing Technologies (TTD)** |
| TYPE OF EXAM: | **Mid-term** |
| DURATION: | **3 hours** |
| AUTHORIZED MATERIAL: | **None** |

## OTHER INSTRUCTIONS FROM THE TEACHER

The exam has **XX5** pages including the cover page. In accordance with the syllabus, the evaluation is worth **XX20** % of the final grade.

Penalties imposed on a student accused of an attempt at plagiarism could include, but are not limited to, a grade of 0% for examination or for the entire course. The student could also be either put on probation, suspended and / or expelled from the program.

## OTHER INFORMATION

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Revised by : **M.-J. Villeneuve**

Approved by : _____

**Good luck !**

## Question 1

/3

**What is XML used for?**

XML provides **a standard method to access information**, making it easier for applications and devices of all kinds to use, store, transmit, and display data.

## Question 2

/3

**Using XML tags, write an example illustrating the XML structure.**

```
<?xml version="1.0" encoding="UTF-8"?>
<note>
  <to>Tove</to>
  <from>Jani</from>
  <heading>Reminder</heading>
  <body>Don't forget me this weekend!</body> </note>
```

/1

**What is an XML prolog?**

**XML Prolog is the component added in the beginning of an XML document**. Otherwise, we can say that whatever it appears before the document's root element can be considered as Prolog

## Question 4

/3

**Which of the following tags can't be used in a XML document? (Circle the letter corresponding to your answer)**

**a)** <xmlroot>

**b)** <myTag>

**c)** <tag>

**d)** <item15>

**e)** **None of the above.**

/5

## Question 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>
```

*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

/3

**Briefly explain what is CDATA used for.**

The term CDATA, meaning **character data**, is used for distinct, but related, purposes in the markup languages SGML and XML. The term indicates that a certain portion of the document is general character data, rather than noncharacter data or character data with a more specific, limited structure

. For example:

: <![CDATA[

<message>Example…..</message>

//Tags would be treated as a plain text

## Question

/2 **Briefly explain what is XSL language.**

XSL is a language for expressing style sheets. An XSL style sheet is, like with CSS, a file that describes how to display an XML document of a given type. XSL shares the functionality and is compatible with CSS2 (although it uses a different syntax). It also adds:

- A transformation language for XML documents: **XSLT**. Originally intended to perform complex styling operations, like the generation of tables of contents and indexes, it is now used as a general purpose XML processing language. XSLT is thus widely used for purposes other than XSL, like generating HTML web pages from XML data.
- Advanced styling features, expressed by an XML document type which defines a set of elements called **Formatting Objects**, and attributes (in part borrowed from CSS2 properties and adding more complex ones.
- ```
  <?xml version="1.0" encoding="UTF-8"?> <note>

    <to>Tove</to>
    <from>Jani</from>
    <heading>Reminder</heading>
    <body>Don't forget me this weekend!</body>
  </note>
  ```
-
  ```

## Question 8

/3

**Briefly explain what the following code lines would actually do.**

```
<xsl:for-each select="bookstore/book">
<xsl:sort select="year"/>
```

These attributes are used to make the templates using XML document. In the above example, the first code line uses the book element to display the sub elements(written in the code) of all the book elements that would be contained in the specific XML document.

The second code in the example is used to sorts the results to display on screen based on the selection by the users. 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.

## Question 9

/2

**Just like it is mandatory when parsing external files, what is mandatory to parse XML using JavaScript (or jQuery)?**

XML parser is a software library or a package that provides interface for client applications to work with XML documents. It checks for proper format of the XML document and may also validate the XML documents. Modern day browsers have built-in XML parsers. The goal of a parser is **to transform XML into a readable code**.

/2

## Question 10

**Write what language has been used to code the following lines of codes.**

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

/5

**JASON**

## Question 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(data.name + "is" + data.age);

</script>
```

/3

## Question 12

**Retrieving JSON data from an external file, using jQuery, what shorthand method could be used?**

we'll discuss three of the most used jQuery shorthand methods:

**load() $ ,**

The first method we'll discuss is `load()`. It enables us to load data from the server and place the returned data (often HTML code) into the elements matched by the selection. Before seeing it in action, let's see its signature

**. post() , -** Sometimes we don't only want to inject the content returned by the server in one or more elements. We may want to retrieve the data and then decide what to do with it after it's retrieved. To do that, we can use either the `$.post()`

**and $. get()-** is one of the means jQuery provides to make a GET request. This method initiates a GET request to the server using the URL specified and the optional data provided. It can also execute a callback when the request has been completed.

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>
```

## Question 13

/5

**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(data.users0.two) ;

$("div").append(result);

}
</script>
```