

Chapter 13:

Introduction to XML

Informatics Practices
Class XII

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What is XML?

- ❖ eXtensible Markup Language (XML) is a text-based mark-up language which allows to create application specific structured documents.
 - ❖ XML is meta language i.e. you can create new tags.
 - ❖ XML is derived from SGML (Standard Generalized Mark-up Language) which was used to define a new Mark-up languages.
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HTML v/s XML

HTML and XML both are different types of Mark-up language.

□ HTML

- HTML documents format and displays web page' data.
- HTML Tags are pre-defined.
- HTML Tags may be Empty type.
- HTML Tags are not case sensitive.
- HTML documents are directly viewable in a Browser.

□ XML

- XML documents carry data along with their description.
 - XML Tags are not pre-defined. You may create your own Tags.
 - XML Tags must be Container type.
 - XML Tags are case sensitive.
 - XML documents are viewable if its Style Sheet is available.
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Features of XML

The common feature of XML are-

- XML was designed to carry data, not to display.
 - XML is self-Descriptive, (Tags are not predefined).
 - XML is free and Extensible (It is Meta Language).
 - XML is platform Independent.
 - XML may be used to create a new Mark-up Language.
 - It is supported and recommended by W3C.
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Structure of XML Document System

A XML Document is intended to display data like HTML.
An XML document system comprises the following-

- ❑ **Style Sheet (CSS or XSL)**

It defines the style (How it would appear i.e. font, color, size alignment etc.) of the elements.

- ❑ **Grammar Structure (DTD)**

It is optional component in XML document system and defines the Rules of the document (Tag definitions).

- ❑ **XML File**

It contains and describes actual data.

How to Prepare XML Document

In order to prepare XML Document system, you may do the following steps-

☐ Prepare XML document file as per problem

XML document is divided into two part.

1. The Prolog :

Preface or Introduction to the XML document. It includes An XML declaration, Comments etc.

1. The Data Instance :

It contains actual data.

☐ Prepare a style-sheet file for XML file

It contains style rules that tells a browser how to display an XML document.

☐ Link the XML file with Style sheet

Example to create XML document.

❑ Expected View on Browser

Suppose we want to make an XML document which is displayed in browser as shown here

Computer Parts

Mother Board

Asus
P3B-F
1230.00

TFT Monitor

LG Electronics
995e
8500.00

Example to create XML document.

❑ Preparation of XML (test.xml) document

Prolog

```
<?xml version="1.0" encoding = UTF-8" standalone="no" ?>
```

```
<?xml-stylesheet type="text/css" href="parts.css"?>
```

```
<PARTS>
```

```
<TITLE> Computer Parts </TITLE>
```

```
  <PARTS>
```

```
    <PARTNAME>Mother Board</PARTNAME>
```

```
    <MANUFACTURER>Asus</MANUFACTURER>
```

```
    <MODEL>P3B-F</MODEL>
```

```
    <COST>1230.00</COST>
```

```
  </PART>
```

```
  <PARTS>
```

```
    <PARTNAME>TFT Monitor</PARTNAME>
```

```
    <MANUFACTURER>LG Electronics</MANUFACTURER>
```

```
    <MODEL>995e</MODEL>
```

```
    <COST>8500.00</COST>
```

```
  </PART>
```

```
</PARTS>
```

Linking of .css
(Style Sheet)
file

Data
Instance

Example to create XML document.

□ Preparation of Style Sheet (part.css)

PARTS	{ display: block }
TITLE	{ display: block; font-family: arial; color: #008000; font-weight: 600; font-size: 16pt; margin-top: 12pt; text-align: center }
PART	{ display: block }
PARTNAME	{ display: block; font-family: arial; color: #008000; font-weight: 400; font-size: 14pt; margin-left: 10pt; margin-top: 10pt }
MANUFACTURER	{ display: block; font-family: arial; color: #600060; font-weight: 400; font-size: 14pt; margin-left: 30pt; margin-top: 10pt }
MODEL	{ display: block; font-family: arial; color: #600060; font-weight: 400; font-size: 14pt; margin-left: 30pt; margin-top: 10pt }
COST	{ display: block; font-family: arial; color: #800000; font-weight: 400; font-size: 14pt; margin-left: 30pt; margin-left: 5pt }

Why XML is used (Advantages)

XML offers the following advantages-

- XML is fully compatible to various application developed in Java or any other languages.
 - XML is portable and can be used on any network or hardware like palmtop or PDAs.
 - XML is Extensible i.e. You may create your own tags.
 - XML is platform Independent.
 - XML document can be stored in the database.
 - XML can be used to share data within wide area networks. It is most suited to Internet.
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