**XSLT** stands for **E**xtensible **S**tylesheet **L**anguage **T**ransformation.

* XSLT is used to transform XML document from one form to another form.
* XSLT uses Xpath to perform matching of nodes to perform these transformations.
* The result of applying XSLT to XML document could be another XML document, HTML, text or any another document from technology perspective.
* The XSL code is written within the XML document with the extension of *(.xsl)*.
* In other words, an XSLT document is a different kind of XML document.

**XML Namespace:** XML Namespaces are the unique names.

* XML Namespace is a mechanism by which element or attribute is assigned to a group.
* XML Namespace is used to avoid the name conflicts in the XML document.
* XML Namespace is recommended by W3C.

**XML Namespace Declaration:**  
It is declared using reserved attribute such as the attribute is *xmlns* or it can begin with *xmlns:*

* **Syntax:**

<element xmlns: name = "URL">

where

* + Namespace starts with the *xmlns.*
  + The word *name* is the namespace prefix.
  + the *URL* is the namespace identifier.

**Xpath:**

* Xpath is an important component of XSLT standard.
* Xpath is used to traverse the element and attributes of an XML document.
* Xpath uses different types of expression to retrieve relevant information from the XML document.
* Xpath contains a library of standard functions.

**Templates:**

* An XSL stylesheet contains one or more set of rules that are called templates.
* A template contains rules that are applied when the specific element is matched.
* An XSLT document has the following things:
  + The root element of the stylesheet.
  + A file of extension .xsl.
  + The syntax of XSLT i.e. what is allowed and what is not allowed.

**Example:**  
In this example, creating the XML file that contains the information about five students and displaying the XML file using XSLT.

* **XML file:**  
  Creating Students.xml as:

<?xml version="1.0" encoding="UTF-8"?>

<?xml-stylesheet type="text/xsl "href="Rule.xsl”?>

<student>

<s>

<name> Divyank Singh Sikarwar </name>

<branch> CSE</branch>

<age>18</age>

<city> Agra </city>

</s>

<s>

<name> Aniket Chauhan </name>

<branch> CSE</branch>

<age> 20</age>

<city> Shahjahanpur </city>

</s>

<s>

<name> Simran Agarwal</name>

<branch> CSE</branch>

<age> 23</age>

<city> Buland Shar</city>

</s>

<s>

<name> Abhay Chauhan</name>

<branch> CSE</branch>

<age> 17</age>

<city> Shahjahanpur</city>

</s>

<s>

<name> Himanshu Bhatia</name>

<branch> IT</branch>

<age> 25</age>

<city> Indore</city>

</s>

</student>

In the above example, Students.xml is created and linking it with Rule.xsl which contains the corresponding XSL style sheet rules.

**XSLT Code:**

Creating Rule.xsl as:

<?xml version="1.0" encoding="UTF-8"?>

<xsl: stylesheet version="1.0"

xmlns: xsl="http://www.w3.org/1999/XSL/Transform">

<xsl: template match="/">

<html>

<body>

<h1 align="center">Students' Basic Details</h1>

<table border="3" align="center" >

<tr>

<th>Name</th>

<th>Branch</th>

<th>Age</th>

<th>City</th>

</tr>

<xsl: for-each select="student/s">

<tr>

<td><xsl: value-of select="name"/></td>

<td><xsl: value-of select="branch"/></td>

<td><xsl: value-of select="age"/></td>

<td><xsl: value-of select="city"/></td>

</tr>

</xsl: for-each>

</table>

</body>

</html>

</xsl: template>

</xsl: stylesheet>

* **Output:**

