**Anukriti Verma: 19BCB0019**

**Fall Semester 2021-22**

Assessment-4

1. Design an XML document to store information about a student in an engineering college affiliated to VIT University. The information must include Reg. No, Student Name, Name of the College, Branch, Course, Year of Joining, Email id, CGPA, No. of course registered and No. of credits earned. Make up sample data for 10 students. Design the corresponding DTD and Schema for XML and

(i) Write XSL for display the information in sorted order based on college name

(ii) Write XSL for display the student details whose CGPA between 7.5 and 8.5.

Code:

college.xml

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

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

<information>

<student>

<regno>19BCB0001</regno>

<name>Kirit Kumar</name>

<college>SRM</college>

<branch>CSE</branch>

<course>IWP</course>

<year>2019</year>

<email>kirit.kumar2019@vitstudent.ac.in</email>

<cgpa>9.58</cgpa>

<coursesreg>24</coursesreg>

<creditsearned>73</creditsearned>

</student>

<student>

<regno>19BCB0006</regno>

<name>Prakhar Soni</name>

<college>BITS</college>

<branch>CSE</branch>

<course>IWP</course>

<year>2019</year>

<email>prakhar.soni2019@vitstudent.ac.in</email>

<cgpa>6.89</cgpa>

<coursesreg>25</coursesreg>

<creditsearned>72</creditsearned>

</student>

<student>

<regno>19BCB012</regno>

<name>Abivarshini Baskaran</name>

<college>MIT</college>

<branch>CSE</branch>

<course>IWP</course>

<year>2019</year>

<email>abivarshini.baskaran2019@vitstudent.ac.in</email>

<cgpa>9.23</cgpa>

<coursesreg>22</coursesreg>

<creditsearned>75</creditsearned>

</student>

<student>

<regno>19BCB0019</regno>

<name>Anukriti Verma</name>

<college>VIT</college>

<branch>CSE</branch>

<course>IWP</course>

<year>2019</year>

<email>anukriti.verma2019@vitstudent.ac.in</email>

<cgpa>8.61</cgpa>

<coursesreg>24</coursesreg>

<creditsearned>73</creditsearned>

</student>

<student>

<regno>19BCB055</regno>

<name>Karandeep Singh</name>

<college>KIIT</college>

<branch>CSE</branch>

<course>IWP</course>

<year>2019</year>

<email>karandeep.singh2019@vitstudent.ac.in</email>

<cgpa>7.32</cgpa>

<coursesreg>22</coursesreg>

<creditsearned>74</creditsearned>

</student>

<student>

<regno>19BCE0647</regno>

<name>Aritri Basu</name>

<college>VIT</college>

<branch>CSE</branch>

<course>IWP</course>

<year>2019</year>

<email>aritri.basu2019@vitstudent.ac.in</email>

<cgpa>9.72</cgpa>

<coursesreg>22</coursesreg>

<creditsearned>76</creditsearned>

</student>

<student>

<regno>19ECE0842</regno>

<name>Shreya Sharma</name>

<college>NIT</college>

<branch>ECE</branch>

<course>IWP</course>

<year>2019</year>

<email>shreya.sharma2019@vitstudent.ac.in</email>

<cgpa>8.42</cgpa>

<coursesreg>26</coursesreg>

<creditsearned>72</creditsearned>

</student>

<student>

<regno>19ECE2249</regno>

<name>Kasturi Chaterjee</name>

<college>IIIT</college>

<branch>ECE</branch>

<course>IWP</course>

<year>2019</year>

<email>kasturi.chaterjee2019@vitstudent.ac.in</email>

<cgpa>7.64</cgpa>

<coursesreg>21</coursesreg>

<creditsearned>73</creditsearned>

</student>

<student>

<regno>19ECE0024</regno>

<name>Rakshita Badhkar</name>

<college>SRM</college>

<branch>ECE</branch>

<course>IWP</course>

<year>2019</year>

<email>rakshita.badhkar2019@vitstudent.ac.in</email>

<cgpa>6.42</cgpa>

<coursesreg>23</coursesreg>

<creditsearned>73</creditsearned>

</student>

<student>

<regno>19ECE0037</regno>

<name>Jessica Philips</name>

<college>BITS</college>

<branch>ECE</branch>

<course>IWP</course>

<year>2019</year>

<email>jessica.philips2019@vitstudent.ac.in</email>

<cgpa>8.21</cgpa>

<coursesreg>24</coursesreg>

<creditsearned>70</creditsearned>

</student>

</information>

college-dtd.dtd

<!ELEMENT information(student)>

<!ELEMENT student(regno, name, college, branch, course, year, email, cgpa, coursesreg, creditsearned)>

<!ELEMENT regno(#PCDATA)>

<!ELEMENT name(#PCDATA)>

<!ELEMENT college(#PCDATA)>

<!ELEMENT branch(#PCDATA)>

<!ELEMENT course(#PCDATA)>

<!ELEMENT year(#PCDATA)>

<!ELEMENT email(#PCDATA)>

<!ELEMENT cgpa(#PCDATA)>

<!ELEMENT coursesreg(#PCDATA)>

<!ELEMENT creditsearned(#PCDATA)>

college-xsd.xsd

<?xml version="1.0"?>

<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" targetNamespace="https://www.w3.Schools.com" elementFormDefault="qualified">>

<xsd:element name="information">

<xsd:complexType>

<xsd:sequence>

<xsd:element name="Student" type="xsd:string"/>

<xsd:complexType>

<xsd:sequence>

<xsd:element name="regno" type="xsd:string"/>

<xsd:element name="name" type="xsd:string"/>

<xsd:element name="college" type="xsd:string"/>

<xsd:element name="branch" type="xsd:string"/>

<xsd:element name="course" type="xsd:string"/>

<xsd:element name="year" type="xsd:string"/>

<xsd:element name="email" type="xsd:string"/>

<xsd:element name="cgpa" type="xsd:string"/>

<xsd:element name="coursesreg" type="xsd:string"/>

<xsd:element name="creditsearned" type="xsd:string"/>

</xsd:sequence>

</xsd:complexType>

</xsd:sequence>

</xsd:complexType>

</xsd:element>

</xsd:schema>

(i) XSL file to display the information in sorted order based on college name

<?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>

<h3>Student Information</h3>

<table border="2" cellpadding="3" style="background: #153B50; color: white">

<tr bgcolor="#F2E94E" style="color: black">

<th style="text-align:center">Registration Number</th>

<th style="text-align:center">Name</th>

<th style="text-align:center">College</th>

</tr>

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

<xsl:sort select="college" order="ascending" data-type="text"/>

<tr>

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

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

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

</tr>

</xsl:for-each>

</table>

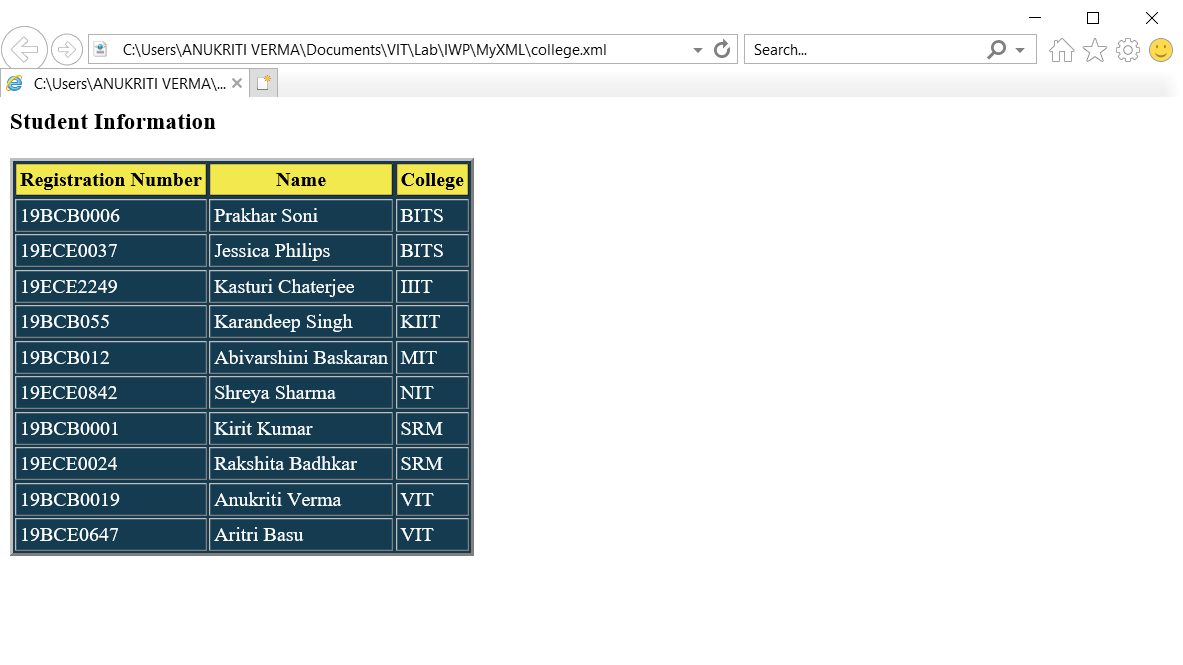
</body>

</html>

</xsl:template>

</xsl:stylesheet>

Output Screenshot:



(ii) Write XSL for display the student details whose CGPA between 7.5 and 8.5.

<?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>

<h3>Student Information</h3>

<table border="2" cellpadding="3" style="background: #153B50; color: white">

<tr bgcolor="#F2E94E" style="color: black">

<th style="text-align:center">Registration Number</th>

<th style="text-align:center">Name</th>

<th style="text-align:center">CGPA</th>

</tr>

<xsl:for-each select="information/student[cgpa &lt; 8.5] [cgpa &gt; 7.5]">

<xsl:sort select="cgpa" order="descending" data-type="number"/>

<tr>

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

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

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

</tr>

</xsl:for-each>

</table>

</body>

</html>

</xsl:template>

</xsl:stylesheet>

