1. Create and XML document for the following data:

   Student Registration Form
   Name Rahul
   Age 16
   Gender Male
   Course C Programming

2. Check whether the following XML documents are well formed. If it is not well formed, correct the errors.

   ```
   <?xml version="1.0" encoding="iso-8859-1"?>
   <message>
   <email>
   <header>
   <sender>me@wipro.com</sender>
   <recipient>you@wipro.com</recipient>
   </header>
   <subject>Re: XML
   </subject>
   <text>I'm working on XML now.
   </email>
   </Message>
   ```

3. Develop DTD for the below given XML document:

   ```
   <address>
    <name>Manju</name>
    <company>Wipro</company>
    <phone>9988776655</phone>
   </address>
   ```

4. Develop DTD file for the below given XML document:

   ```
   <?xml version="1.0"?>
   <?xml-stylesheet href="catalog.xsl" type="text/xsl"?>
   <!DOCTYPE catalog SYSTEM "catalog.dtd">
   <catalog>
     <product description="Cardigan Sweater" product_image="cardigan.jpg">
       <catalog_item gender="Men's">
        <item_number>QWZ5671</item_number>
        <price>39.95</price>
        <size description="Medium">
          <color_swatch image="red_cardigan.jpg">Red</color_swatch>
          <color_swatch image="burgundy_cardigan.jpg">Burgundy</color_swatch>
        </size>
        <size description="Large">
          <color_swatch image="red_cardigan.jpg">Red</color_swatch>
   ```

```
                    <color_swatch image="burgundy_cardigan.jpg">Burgundy</color_swatch>
                  </size>
                </catalog_item>
                <catalog_item gender="Women's">
                  <item_number>RRX9856</item_number>
                  <price>42.50</price>
                  <size description="Small">
                    <color_swatch image="red_cardigan.jpg">Red</color_swatch>
                    <color_swatch image="navy_cardigan.jpg">Navy</color_swatch>
                    <color_swatch image="burgundy_cardigan.jpg">Burgundy</color_swatch>
                  </size>
                  <size description="Medium">
                    <color_swatch image="red_cardigan.jpg">Red</color_swatch>
                    <color_swatch image="navy_cardigan.jpg">Navy</color_swatch>
                    <color_swatch image="burgundy_cardigan.jpg">Burgundy</color_swatch>
                    <color_swatch image="black_cardigan.jpg">Black</color_swatch>
                  </size>
                  <size description="Large">
                    <color_swatch image="navy_cardigan.jpg">Navy</color_swatch>
                    <color_swatch image="black_cardigan.jpg">Black</color_swatch>
                  </size>
                  <size description="Extra Large">
                    <color_swatch image="burgundy_cardigan.jpg">Burgundy</color_swatch>
                    <color_swatch image="black_cardigan.jpg">Black</color_swatch>
                  </size>
                </catalog_item>
              </product>
            </catalog>
```

5. Develop an XML file following the DTD file given below:

```
<!DOCTYPE TVSCHEDULE [
<!ELEMENT TVSCHEDULE (CHANNEL+)>
<!ELEMENT CHANNEL (BANNER,DAY+)>
<!ELEMENT BANNER (#PCDATA)>
<!ELEMENT DAY (DATE,(HOLIDAY|PROGRAMSLOT+)+)>
<!ELEMENT HOLIDAY (#PCDATA)>
<!ELEMENT DATE (#PCDATA)>
<!ELEMENT PROGRAMSLOT (TIME,TITLE,DESCRIPTION?)>
<!ELEMENT TIME (#PCDATA)>
<!ELEMENT TITLE (#PCDATA)>
<!ELEMENT DESCRIPTION (#PCDATA)>

<!ATTLIST TVSCHEDULE NAME CDATA #REQUIRED>
<!ATTLIST CHANNEL CHAN CDATA #REQUIRED>
<!ATTLIST PROGRAMSLOT VTR CDATA #IMPLIED>
<!ATTLIST TITLE RATING CDATA #IMPLIED>
```

```
<!ATTLIST TITLE LANGUAGE CDATA #IMPLIED>
]>
```

6. Create namespaces for the following set of tags.

   Student- Root tag
   StudentID
   Theory Marks
   PracticalMarks
   TotalMarks
   Grade

   Student- Root tag
   StudentID
   Name
   DOB
   Gender
   Course

7. Avoid Naming conflict in the following XML document:

```
<Phone>
 <name>Moto E</name>
 <ModelNo>123</ModelNo>
 <Processor> Qualcomm Snapdragon 200 </Processor>
 <Battery>2390 mAh</Battery>
</Phone>
<Phone>
 <name>Beetel M71 Landline</name>
 <ModelNo>456</ModelNo>
 <Display>LCD Screen</Display>
 <Corded>Yes</Corded>
</Phone>
```

8. Create and XSD file for the XML document given in the DTD HandsOn section Exercise 1
9. Create an XSD file for the XML document given in the DTD HandsOn section Exercise 2
10. Create an XML file following the below given XSD:

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name='classroom'>
    <xs:complexType>
      <xs:sequence>
        <xs:element name='student' type='StudentDetails' minOccurs='0'
      maxOccurs='unbounded' />
      </xs:sequence>
    </xs:complexType>
```

```xml
    </xs:element>

    <xs:complexType name="StudentDetails">
      <xs:sequence>
        <xs:element name="firstname" type="xs:string"/>
        <xs:element name="lastname" type="xs:string"/>
        <xs:element name="division" type="xs:string"/>
        <xs:element name="marks" type="xs:positiveInteger"/>
      </xs:sequence>
      <xs:attribute name='rollno' type='xs:positiveInteger'/>
    </xs:complexType>
</xs:schema>
```