DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
SUBJECT CODE: 19CS2107
ENTERPRISE PROGRAMMING WORKBOOK

2.XML Validation #2

Date of the Session: ___/___/___   **Time of the Session:**
_____to_____

Prerequisite:
- **Basic idea on XML Tags.**
- **Designing of Well-formed XML documents**
- **Knowledge on XML document validation against DTD & XSD**

Pre-Lab Task:

Problem Description

1. Write a program for Students information, and the XML file is created that contains
   Student [id, regno, name, avg, dob, time, mobileno, distinction], the information
   about five students of different categories and displaying the XML file.
   Sample Template:

   ```
   <students_info>
   <student>
     <regno>170024</regno>
     <name>ABC</name>
     <avg>92</avg>
     <dob>15-08-1992</dob>
     <time></time>
     <mobile no="9849984900"/>
     <distinction>YES</distinction>
    </student>
   …
   …
   </students_info>
   ```

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

<students_info>

    <student>
        <regno>190031187</regno>
        <name>RK</name>
        <avg>90</avg>
        <dob>2002-06-20</dob>
        <time>18:10:00</time>
        <mobile no="7286009239"></mobile>
```

```xml
            <distinction>YES</distinction>
        </student>
        <student>
            <regno>190031134</regno>
            <name>PAVAN</name>
            <avg>90</avg>
            <dob>2001-11-18</dob>
            <time>14:10:00</time>
            <mobile no="9874652130"></mobile>
            <distinction>YES</distinction>
        </student>
        <student>
            <regno>190031249</regno>
            <name>MOHITH</name>
            <avg>90</avg>
            <dob>2002-05-19</dob>
            <time>13:10:00</time>
            <mobile no="6548972331"></mobile>
            <distinction>YES</distinction>
        </student>
        <student>
            <regno>190031177</regno>
            <name>NAVNEET</name>
            <avg>90</avg>
            <dob>2001-02-15</dob>
            <time>15:10:00</time>
            <mobile no="7852314695"></mobile>
            <distinction>YES</distinction>
        </student>
        <student>
            <regno>190030004</regno>
            <name>RITHIK</name>
            <avg>90</avg>
            <dob>2001-04-25</dob>
            <time>17:10:00</time>
            <mobile no="8654123692"></mobile>
            <distinction>YES</distinction>
        </student>
</students_info>
```

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```xml
▼<students_info>
  ▼<student>
      <regno>190031187</regno>
      <name>RK</name>
      <avg>90</avg>
      <dob>2002-06-20</dob>
      <time>18:10:00</time>
      <mobile no="7286009239"/>
      <distinction>YES</distinction>
    </student>
  ▼<student>
      <regno>190031134</regno>
      <name>PAVAN</name>
      <avg>90</avg>
      <dob>2001-11-18</dob>
      <time>14:10:00</time>
      <mobile no="9874652130"/>
      <distinction>YES</distinction>
    </student>
  ▼<student>
      <regno>190031249</regno>
      <name>MOHITH</name>
      <avg>90</avg>
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      <distinction>YES</distinction>
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      <avg>90</avg>
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      <distinction>YES</distinction>
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▼<students_info>
  ▼<student>
      <regno>190031187</regno>
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      <avg>90</avg>
      <dob>2002-06-20</dob>
      <time>18:10:00</time>
      <mobile no="7286009239"/>
```

In Lab Task:

1. Create a DTD for Student information and the XML file contains,
   Student [id, regno, name, avg, dob, time, mobileno, distinction], the information
   about five students of different categories and displaying the XML file.for minimum 5
   students.
   DTD FILE

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!ELEMENT students_info (student)+>
<!ELEMENT student (regno,name,avg,dob,time,mobile,distinction)>
<!ELEMENT regno (#PCDATA)>
<!ELEMENT name (#PCDATA)>
<!ELEMENT avg (#PCDATA)>
<!ELEMENT dob (#PCDATA)>
<!ELEMENT time (#PCDATA)>
<!ELEMENT mobile (#PCDATA)>
<!ELEMENT distinction (#PCDATA)>
<!ATTLIST mobile no CDATA #IMPLIED>
```

      XML FILE

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE students_info SYSTEM "inlab.dtd">
<students_info>
    <student>
        <regno>190031187</regno>
        <name>RK</name>
        <avg>90</avg>
        <dob>2002-06-20</dob>
        <time>18:10:00</time>
        <mobile no="7286009239"></mobile>
        <distinction>YES</distinction>
    </student>
    <student>
        <regno>190031134</regno>
        <name>PAVAN</name>
        <avg>90</avg>
        <dob>2001-11-18</dob>
        <time>14:10:00</time>
        <mobile no="9874652130"></mobile>
        <distinction>YES</distinction>
    </student>
    <student>
        <regno>190031249</regno>
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        <avg>90</avg>
        <dob>2002-05-19</dob>
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        <mobile no="6548972331"></mobile>
        <distinction>YES</distinction>
    </student>
    <student>
        <regno>190031177</regno>
        <name>NAVNEET</name>
        <avg>90</avg>
```

```xml
            <dob>2001-02-15</dob>
            <time>15:10:00</time>
            <mobile no="7852314695"></mobile>
            <distinction>YES</distinction>
        </student>
        <student>
            <regno>190030004</regno>
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            <avg>90</avg>
            <dob>2001-04-25</dob>
            <time>17:10:00</time>
            <mobile no="8654123692"></mobile>
            <distinction>YES</distinction>
        </student>
</students_info>
```
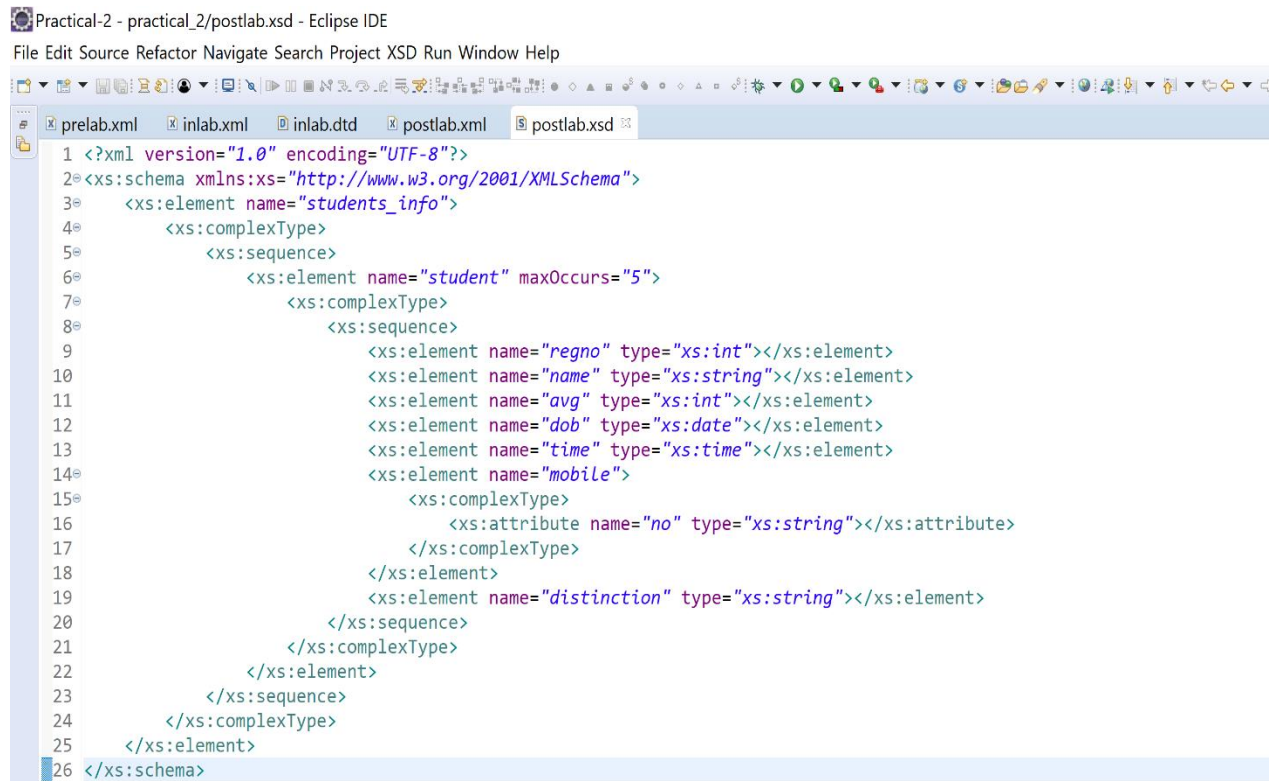
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  ▼<student>
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      <name>RK</name>
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      <distinction>YES</distinction>
    </student>
  </students_info>
```

Post Lab Task:

1. Create a **XSD** for Student information and the XML file contains,
   Student [id, regno, name, avg, dob, time, mobileno, distinction], the information
   about five students of different categories and displaying the XML file.for minimum 5
   students.

   ### XSD FILE

Practical-2 - practical_2/postlab.xsd - Eclipse IDE

File Edit Source Refactor Navigate Search Project XSD Run Window Help

```xml
1 <?xml version="1.0" encoding="UTF-8"?>
2 <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
3    <xs:element name="students_info">
4       <xs:complexType>
5          <xs:sequence>
6             <xs:element name="student" maxOccurs="5">
7                <xs:complexType>
8                   <xs:sequence>
9                      <xs:element name="regno" type="xs:int"></xs:element>
10                     <xs:element name="name" type="xs:string"></xs:element>
11                     <xs:element name="avg" type="xs:int"></xs:element>
12                     <xs:element name="dob" type="xs:date"></xs:element>
13                     <xs:element name="time" type="xs:time"></xs:element>
14                     <xs:element name="mobile">
15                        <xs:complexType>
16                           <xs:attribute name="no" type="xs:string"></xs:attribute>
17                        </xs:complexType>
18                     </xs:element>
19                     <xs:element name="distinction" type="xs:string"></xs:element>
20                  </xs:sequence>
21               </xs:complexType>
22            </xs:element>
23         </xs:sequence>
24      </xs:complexType>
25   </xs:element>
26 </xs:schema>
```

XML FILE

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