

# Abstraction and Paradigms of Programming

**Bachelor of Engineering**

**Computer Engineering**

**II nd Year IV th Semester**

# XML Schema

- An XML Schema describes the structure of an XML document, just like a DTD.
- An XML document with correct syntax is called "Well Formed".
- An XML document validated against an XML Schema is both "Well Formed" and "Valid".
- Commonly known as XML Schema Definition XSD.
- It is used to describe and validate the structure and content of XML data.

# XML Schema

- It is a method of expressing constraints about XML documents.
- It is similar to DTD but provides more control on XML structure.

## **XML Schemas are More Powerful than DTD**

- XML Schemas are written in XML
- XML Schemas are extensible to additions
- XML Schemas support data types
- XML Schemas support namespaces

# Definition types of XML Schema

There are two types of definitions for an XML Schema :

Simple Type

Complex Type

Simple Type Definition - The simple definition of XML schema is used only in the context of text.

# XML Schema Simple Type

Dealing only with the data and its types basically the text that appears

```
#<xs:element name="note">
```

```
#<xs:complexType>
```

```
#<xs:sequence>
```

```
  <xs:schema xmlns:xs="schema1">
```

```
    <xs:element name="to" type="xs:string"/>
```

```
    <xs:element name="from" type="xs:string"/>
```

```
    <xs:element name="heading" type="xs:string"/>
```

```
    <xs:element name="body" type="xs:string"/>
```

```
  #</xs:sequence>
```

```
#</xs:complexType>
```

```
#</xs:element>
```

# XML Schema Complex Type

- It is the container for other element definitions.
- It allows you to specify which child element an element can contain, and allows you to provide some structure within your XML document.

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

```
<xs:schema xmlns:xs="schema1">
```

```
<xs:element name="Student">
```

```
<xs:ComplexType>
```

```
<xs:sequence>
```

```
<xs:element name="sname" type="xs:string"/>
```

```
<xs:element name="branch" type="xs:string"/>
```

```
</xs:sequence>
```

```
</xs:ComplexType>
```

```
</xs:element>
```

# Adding XSD to XML file

```
<students>
```

```
<student xsi:schemalocation="studentinfo.xsd">
```

```
<name>Mahesh</name>
```

```
<branch>CS</branch>
```

```
</student>
```

```
</students>
```