**CHAPTER 1: XML**

XML (eXtensible MarkupLanguage) is a metalanguage (a language used todescribe other languages) for defining vocabularies, which is the key to XML importance and popularity.

**Language Features Tour**

XML provides several language features: XML declaration, elements and attributes, character referencesand CDATA sections, namespaces, and comments and processinginstructions

**XML Declaration**

An XML document usually begins with the XML declaration

The XML declaration minimally looks like <?xml version="1.0"?> in which the non optional version attribute identifies the version of the XML specification to which the document conforms

**Elements and Attributes**

 A hierarchical (tree) structure of elements,where an element is a portion of the document delimited by a start tag (such as<name>) and an end tag (such as</name>)

**Character References and CDATA Section**

Certain characters cannot appear literally in the content that appears between a start tag and an end tag or within an attribute value.

One solution to this problem is to replace the literal character with acharacter reference, which is a code that represents the character

**Namespace**

It’s common to create XML documents that combine features from differentXML languages. Namespaces are used to prevent name conflicts whenelements and other XML language features appea

 Without namespaces, anXML parser couldn’t distinguish between same-named elements or other language features that mean different thing

A namespace is a Uniform Resource Identifier (URI)-based container that helps differentiate XML vocabularies by providing a unique context for its contained identifiers.

The namespace URI is associated with a name space prefix (an alias for the URI). When prefix is specified, the prefix and a colon character are prepended to the name of each element tag that belongs to that namespace

**Comments and Processing Instructions**

XML documents can containcomments, which are character sequences beginning with <!-- and ending with -->

**Valid Documents**

A valid document adheres to constraints.

Some XML parsers perform validation, whereas other parsers don’t because validating parsers are harder to write. A parser that performs validation compares an XML document to a grammar document. Grammar documents are written in a special language. Two commonly used grammar languages are Document Type Definition and XML Schema

**Document Type Definition**

Document Type Definition (DTD) is the oldest grammar language fors pecifying an XML document’s grammar

The first element declaration states that exactly one recipe element can appear in the XML document—this declaration doesn’t imply that recipe is the root element

The second element declaration states that the title element contains parsed character data (nonmarkup text).

Parameter entities are classified as internal or external. An internal parameter entity is a parameter entity whose value is stored in the DTD and has the form <!ENTITY %name value>, where name identifies the entity and value specifies its value. Anexternal parameter entityis a parameter entity whose value is storedoutside the DTD. It has the form<!ENTITY %name SYSTEM uri>, where name identifies the entity and uri locates the external file

**XML Schema**

Introductory schema element:









