

applies, followed by a list of triplets of attribute name, attribute type, and value type. An *attribute* name is a name that may be used in an XML document using a DTD.

Attribute Types

Attribute types are similar to predefined data types, but the selection is very limited. The most important attribute types are

- CDATA, a string (sequence of characters),
- ID, a name that is unique across the entire XML document,
- IDREF, a reference to another element with an ID attribute carrying the same value as the IDREF attribute,
- IDREFS, a series of IDREFs,
- $(v_1 | \dots | v_n)$, an enumeration of all possible values.

The selection is not satisfactory. For example, dates and numbers cannot be specified; they have to be interpreted as strings (CDATA); thus their specific structure cannot be enforced.

Value Types

There are four value types:

- #REQUIRED. The attribute must appear in every occurrence of the element type in the XML document. In the previous example, itemNo and quantity must always appear within an item element.
- #IMPLIED. The appearance of the attribute is optional. In the example, comments are optional.