Writing XML

Updated: 12/26/2011
References

• *XML, Second Edition*. Kevin Howard Goldberg, PeachPit Press, 2009
  – Chapter 1 – Writing XML
Background

• XML is a document specification, not a language
  – but it is written in a custom markup language
  – and there is an underlying XML grammar

• Tools for writing XML (Windows)
  – XML Copy Editor, EditjX XML, Altova XML Spy,
    oXygen XML Editor
  – Look for: XSLT preview,
• Begin with the XML Declaration, also known as a processing instruction:
  
  ```xml
  <xml? version="1.0"?>
  ```

• Every document must have a root element:

  ```xml
  <wonder>
  ```

• End of root element

  ```xml
  </wonder>
  ```
Add Child Elements

```xml
<?xml version="1.0"?>
<wonder>
  <name>Colossus of Rhodes</name>
  <location>Rhodes, Greece</location>
  <height units="feet">107</height>
</wonder>
```

*units* is an attribute of the `<height>` element.
Creating Multiple Child Elements

• On the next slide, a new root element is used to contain multiple <wonder> elements
<?xml version="1.0"?>
<ancient_wonders>
  <wonder>
    <name>Colossus of Rhodes</name>
    <location>Rhodes, Greece</location>
    <height units="feet">107</height>
  </wonder>
  <wonder>
    <name>Great Pyramid of Giza</name>
    <location>Giza, Egypt</location>
    <height units="feet">455</height>
  </wonder>
</ancient_wonders>
A Few Simple Rules

1. A root element is required.
2. Closing tags are required.
3. Elements must be properly nested.
4. XML is case-sensitive.
5. White space around elements is ignored.
6. Attribute values must be enclosed in quotation marks (single or double).

Title="One Flew Over the Cuckoo's Nest"
Elements, Attributes, and Values

• An **Element** is the most basic building block
  – can contain text, attributes, and other elements
  – surrounding white space is ignored

• **Attributes** contain metadata (information about an element's data)
  – known as *name-value pairs*.
  – **values** are strings enclosed in quotes.

• Element and attribute names must begin with a letter, and underscore, or a colon.
Parents and Children

• Elements are only permitted inside the opening and closing root tags.

• Nested elements
  – must not overlap with enclosing parent tags
  – use indentation to make nesting clear

<ancient_wonders>
  <wonder>
    <name>Colossus of Rhodes</name>
  </wonder>
</ancient_wonders>
<xml version="1.0"?>
<ancient_wonders>
  <wonder>
    <name>Colossus of Rhodes</name>
    <location>Rhodes, Greece</location>
    <height units="feet">107</height>
  </wonder>
  <wonder>
    <name>Great Pyramid of Giza</name>
    <location>Giza, Egypt</location>
    <height units="feet">455</height>
  </wonder>
</ancient_wonders>