CSC 343H: Lecture Prep for Week 7

You will need to be logged in to a CS Teaching Lab computer to run `xmllint` for this prep.

Notice that you do not have to hand in your modified XML files. This is because the output of `xmllint` includes by default the contents of the file it is checking.

XML Basics

Learn some XML basics by watching the first 3:05 of Jennifer Widom's video: Well-formed XML.

Question 1.

Log on to cdf, create a directory for prep7, and copy the file `guests.xml`:

```
> cp ~csc343h/winter/public_html/prep/w7/guests.xml .
```

It does not contain well-formed XML.

1. Run

   ```
   xmllint guests.xml
   ```

2. Use the output from `xmllint` to identify the problems and correct them.

3. Run `xmllint` on the file again to confirm that you have fixed the errors.

Cut and paste from the unix shell to show your two calls to `xmllint` and the resulting output. Label them "=== Before fixing the XML ===" and "=== After fixing the XML ==="

Question 2.

1. Name three tags in the XML file.
2. An element is termed "empty" if it has just one tag rather than matching opening and closing tags. Name one empty element in the XML file. (Notice that the slash character is used differently in an emtpy element.)
3. What is the root element of this XML file?
4. Name one attribute in the XML file.

DTD Basics

Learn some DTD basics by watching the first 2:18 and then 5:40 to 8:53 of Jennifer Widom's video: DTDs, IDs, and IDREFs.

Now copy file `recipes.xml` from the same directory and take a look at it. It contains XML data, and also includes at the top a DTD that imposes some structure on the XML. Run `xmllint` on the file to confirm that it is well-formed XML. (It is well-formed.) Then run it again with the `valid` flag on to find out if it is not only well-structured XML, but also valid with respect to its DTD:

```
xmllint --valid recipes.xml
```

(It's not valid!)

Question 3

1. This time, don't change the XML data; instead, change the DTD in such a way that the XML data will be valid.
2. Run `xmllint` with the `valid` flag on to make sure the XML data really is valid.
3. Now add another recipe to the file, containing at least two ingredients and two steps.
4. Run `xmllint` with the `valid` flag on again to make sure it is still valid.

Cut and paste from the unix shell to show your two calls to `xmllint` and the resulting output. (Be sure you had the `valid` flag on!) Label them "=== Before fixing the DTD ===" and "=== After fixing the DTD ==="

Submitting your work

Put your answers in a plain text file called "prep7.txt" and submit it under Prep 7 on MarkUs. Be sure that you have included all the required information, especially for questions 1 and 3. To earn credit, you must include the correct `xmllint` commands, and their output.

Once you have submitted, click on the file's name to check that you submitted the correct version. You can submit a new version of a file later (before the deadline, of course); look in the "Replace" column.

And by the way

The recipe for hard-boiled eggs is a poor one. Try Martha Stewart's recipe instead.