Solutions to CSCI-585 Spring 2014 Exam II

Problem 1

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Problem 2
XML schema has build-in data types, and users can define new types;
XML schema is also XML while DTD has different syntax;
etc.

Problem 3
(a)
```
<Universities>
    <University>
        <Name>University of Southern California</Name>
        <Type>Private</Type>
        <Founded>1880<Founded>
        <Area(acres)>308</Area(acres)>
    </University>
    <University>
        <Name>University of California, Los Angeles</Name>
        <Type>Public</Type>
        <Founded>1919<Founded>
        <Area>419</Area>
    </University>
</Universities>
```

(b)
```
<!ELEMENT Universities (University)+>
<!ELEMENT University  (Name, Type, Founded, Area)>
<!ELEMENT Name (#PCDATA)>
<!ELEMENT Type (#PCDATA)>
<!ELEMENT Founded (#PCDATA)>
<!ELEMENT Area (#PCDATA)>
```

Problem 4
(a)
- Attributes support default values;
- Attributes need less storage;

(b) Tags are used to represent meta data.

(c)
When we frequently process queries that need to read the entire data set, we'd better use a single document. Otherwise, if we frequently process queries that only need partial data set, we may consider using many small documents. In addition, if we splitting documents into many small documents, we may use a database to manage them.