Web Services & Semantic Web Tutorial Solutions

Question 1

Look at the WSDL document overleaf. Write an HTTP request containing a SOAP message to the service to ask what the weather will be like in the region "London" on the date "2009-12-25". Assume the SOAP message header is empty.

Sample solution

```
POST /weather HTTP/1.1
Host: www.inf.kcl.ac.uk:8080
Content-Type: application/soap+xml; charset=utf-8;
                    action="http://www.inf.kcl.ac.uk/smiles/weather/Query"

<soap:Envelope xmlns:soap = "http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Header/>
  <soap:Body>
    <w:WeatherQuery xmlns:w = "http://www.inf.kcl.ac.uk/smiles/weather">
      <w:region>London</w:region>
      <w:date>2009-12-25</w:date>
    </w:WeatherQuery >
  </soap:Body>
</soap:Envelope>
```

Question 2

Write an HTTP response message in reply to the above request, where the weather is reported as "snow" for a duration of "PT15H" (which is XML Schema's way of saying 15 hours). Again assume the SOAP message header is empty.

Sample solution

```
HTTP/1.1 200 OK
Date: Wed, 01 Aug 2007 11:13:09 GMT
Content-Type: application/soap+xml; charset=utf-8

<soap:Envelope xmlns:soap = "http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Header/>
  <soap:Body>
    <w:Weather xmlns:w = "http://www.inf.kcl.ac.uk/smiles/weather">
      <w:snow>PT15H</w:snow>
    </w:Weather>
  </soap:Body>
</soap:Envelope>
```

Question 3

An XHTML page contains only the following:

- A heading, "Colours I like"
- A bullet list with two items: "Aquamarine" and "Burgundy"

Write out the XHTML page including RDFa annotations to embed the following three statements into the page:

- The webpage has the title given in the heading, using predicate http://purl.org/dc/terms/title.
- The resource http://www.inf.kcl.ac.uk/staff/simonm is related to the first colour in the list by the predicate http://www.example.org/preferences/likes.
- The same resource is related in the same way as above to the second colour in the list.

Sample solution

```
<html>
 <head><title>Colours I like</title></head>
 <body>
  <h1 property="http://purl.org/dc/terms/title">Colours I like</h1>
  <ul resource="http://www.inf.kcl.ac.uk/staff/simonm">
   <li property="http://www.example.org/preferences/likes">Aquamarine</li>
   <li property="http://www.example.org/preferences/likes">Burgundy</li>
  </ul>
 </body>
</html>
```