

## Homework Assignment 1 (XML Document Processing)

You must prepare your homework as plain text files or documents marked up in XHTML, and send them to [evirt@iis.sinica.edu.tw](mailto:evirt@iis.sinica.edu.tw) by 9:30 am, March 27, 2007, Taipei Time. *No late homework will be accepted.*

- (20 points)** Study the XHTML Ruby Module definition at <http://www.w3.org/TR/ruby/xhtml-ruby-1.mod>. Answer the following two questions:
  - Which parameter entity declarations must be changed, and in which way, so that the element type `ruby` will always have content model `(rb, rp, rt, rp)`?
  - Which parameter entity declarations must be changed, and in which way, so that the element type `ruby` will always have content model `(rbc, rtc, rtc?)`?
- (50 points)** Study the following two pages from the Taiwan High Speed Rail web site:

Ticket fair tables (Standard Class and Business Class): [http://www.thsrc.com.tw/en/travel/before/ticket\\_info.asp](http://www.thsrc.com.tw/en/travel/before/ticket_info.asp).

Train timetables (Northbound and Southbound): <http://www.thsrc.com.tw/en/travel/before/timetable.asp>.

Design an XML document type definition (DTD) so that it will allow you to markup ticket fair tables and train timetables. You may assume there are only 8 stations: Taipei, Banciao, Taoyuan, Hsinchu, Taichung, Chiayi, Tainan, and Zuoying. Note that the southbound trains run from Taipei to Zuoying (in that order), and northbound trains run from Zuoying to Taipei. Note also that the ticket fair table is symmetric. Explain the design rationale of your DTD. After marking up the ticket fair tables and train timetables, validate your XML documents at the following site: <http://www.stg.brown.edu/service/xmlvalid/>.

- (30 points)** Write a valid XHTML document that produces this homework assignment. This XHTML document will have the following document template:

```
<?xml version="1.0" encoding="iso-8859-1"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
```

```
<html xml:lang="en-US" lang="en-US">
<head>
<title>Homework Assignment 1 (XML Document Processing)</title>
<style type="text/css">
body {line-height: 125%;}
li {margin-bottom: 10px;}
</style>
</head>

<body>
<h2>Homework Assignment 1 (XML Document Processing)</h2>

...

</body>
</html>
```

You must fill in the ... part using only the following elements: <p>, <code>, <em>, <ol>, <li>, <strong>, <a>, <ul>, and <pre>.

You may use CDATA section:

```
<![CDATA[ ... ]]>
```

After you have marked up your XML document, validate it at the following site: <http://validator.w3.org/>.