Midterm Instruction:
Commenting, Programming Style & Debugging

Objectives	- Learn good programming style. - Learn how to fix the errors in your HTML file based on the XHTML transitional 1.0 specifications
Required Reading	- None
Supplemental Reading	- Please refer to the topic I discussion forum about validation. It would help you interpret the error messages that you may receive from the validator.
Assignment	- Fix the XHTML Correction File. Add the comments in the source code to show what you have changed and why the changes would fix the problem. **- Midterm is due on July 13th, 2007 at 11:45 pm**

I. Important Concepts

1. Programming Style

Computers and browsers don't care what your XHTML code looks like. If it is correctly structured, then everything will work fine. BUT computers are not the only things viewing your code. You must review it as you write it (looking for problems) and everyone on the Internet can view your code (viewing the source). With potentially millions of eyes viewing your code and you spending your precious time hunting for those mysterious errors, it is extremely important to write XHTML in good style. The code should be easy to read.

White space and indentation are your friends. Look at the following examples.

Example 1

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd"><html><head><title>this is a
title</title></head><body><p>This is a paragraph</p><p>This is another
paragraph</p></body></html>
```

Example 2

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html>

<head>
        <title>this is a title</title>
</head>

<body>
        <p>This is a paragraph</p>
        <p>This is another paragraph</p>

</body>

</html>
```

Both examples above are using XHTML correctly, but which one is easier to read? It is good programming practice to use example 2 to write your code. Each example will display the same way in a browser, but the first example is difficult for me to grade and difficult for you to de-bug.

When we write XHTML, we're not writing text to be viewed on a page. We're writing code that will be rendered by a browser to display stuff on a page. XHTML has structure. We do cool stuff with XHTML through the use of tags. Tags generally come in pairs: opening and closing. One of the most common mistakes of beginner, and experienced, web developers is to forget the closing tag. Get in the habit of writing your XHTML by lining up the opening and closing tags. Then all you have to do is to find the opening tag and run straight down the page to find the closing. If it’s not there, then you forgot it. It's that easy!

Now you have probably noticed that some of my tags are not vertically aligned. Why? This is how I write my code. We will all write a little differently. I vertically align tags that hold other tags, but horizontally align tags that only hold text. Why? It's my style. I think it looks "pretty". :-)

The important point is to develop an indenting style and stick with it. After a while, your "style" will become such a habit that you will instinctively know when you forgot something.

2. Commenting

In addition to using good programming style, it is also good practice to use commenting in your code. This helps you to remember why you did things a certain way and it helps anyone who takes over maintaining your site to know why you did what you did (please refer to the unit 6 instruction).

A little bit different from the regular use of commenting, in this debugging assignment, you’re expected to use commenting in your code to demonstrate your understanding about identifying errors in the source code, what necessary changes you need to make, and why such changes would get rid of the errors. Can you find the error from the code below?

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html>

<head>
        <title>this is a title</title>
</head>

<body>

        <p>This is another paragraph</p>

</html>
```

Yes – the closing body tag is missing. As you know that tags generally come in pairs: opening and closing. Please refer to the text in red as my comment.

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html>
```

```
<body>

        <p>This is another paragraph</p>

</body> <!-- The closing body tag is missing. In XHTML all of the elements must be closed, I
        need to add the closing body tag here, right before the closing html tag -->

</html>
```

II. Midterm Assignment

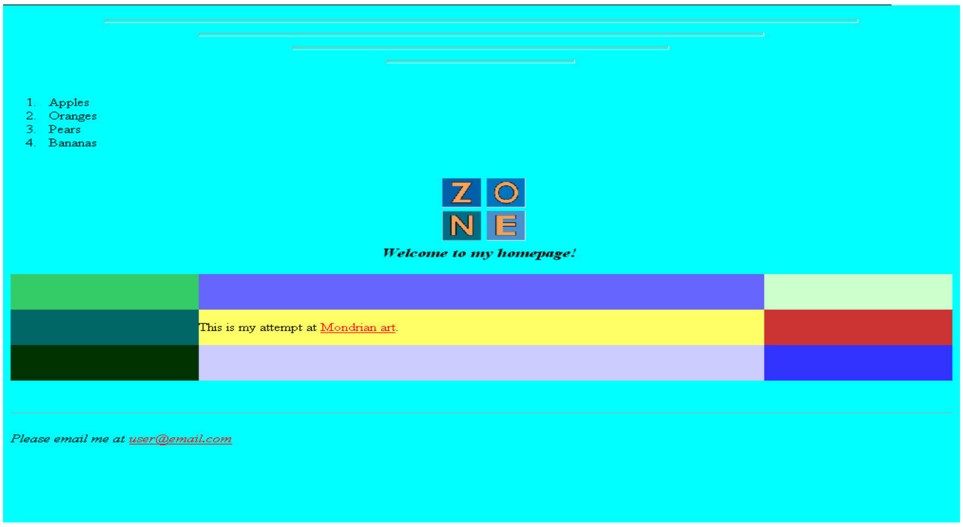
1. The Debugging Task

Your task for this unit assignment is to analyze the HTMLcorrection.txt file attached to the Midterm – Debugging Assignment in the Assignments tool. Download the HTMLcorrection.txt file and open it in your text editor such as Notepad or TextWrangler. Find the errors and fix them based on the XHTML transitional 1.0 specifications. You should not make any design decision with this file -- only fix the incorrect code. You may use the xhtml validator (http://validator.w3.org/) to help you find the bugs. Also, you need to add commenting in the source code to show which part that you have changed and the reason that you made such changes. Use the example provided in the Midterm – Debugging Assignment instruction as a sample when you do commenting. You're expected to explain the reason in such detail.

You're encouraged to refer to the error messages you have collected in the Topic 1 Discussion Forum. Also, use the checklist of xhtml specifications provided in the unit 3 instruction. They should help you to interpret the error messages that you may receive from the validator.

You can use the Midterm – Debugging Assignment discussion board to ask for questions regarding the instruction of the assignment or our expectations. Use this opportunity to do a mid-term review on what you have learned so far in this semester. You should complete this assignment ALONE. We will not provide any feedback for this assignment before it's due.

When you made all necessary changes, the page rendered in a web browser should be similar to the image below.



1. Apples
2. Oranges
3. Pears
4. Bananas

Welcome to my homepage!

This is my attempt at Mondrian art.

Please email me at user@email.com

2. How to Submit Your Corrected HTML File

- After you make all the necessary changes, save the file as **yourlastnameFIX.txt**. For example, a file might look like kumalasariFIX.txt. Yes, save it as txt this time. Hint: The total number of errors is around 20.
- Go to the “Assignments” tool in Sakai and reopen the “Midterm – Debugging Assignment”.
- Attach the corrected HTML file (**yourlastnameFIX.txt**). If necessary, include a description of any problems you encountered while doing this assignment.

3. Evaluation

Your debugging assignment will be graded based on the following criteria:

- Making all the necessary changes to correct the code
- Adding all the necessary comments explaining the changes correctly
- Having the page rendered looked like the output image above.