CGS 3175: Internet Applications
Fall 2007

XHTML – Part 3 – Lists and Hyperlinks

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School of Electrical Engineering and Computer Science
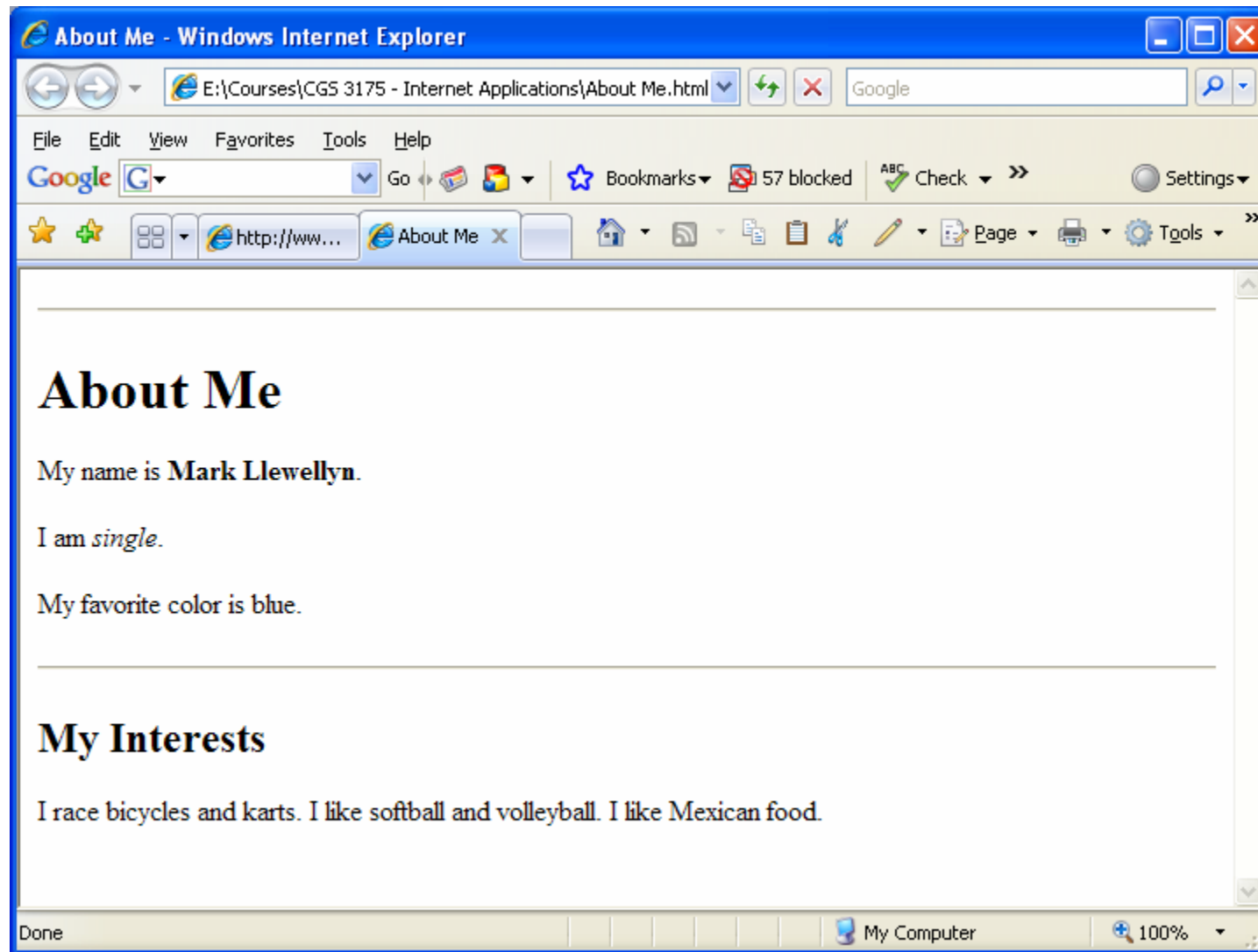University of Central Florida

Some Practice – From Part 2 Notes

1. Create an XHTML document when viewed with a browser will produce a page very similar to the one shown on page 34. (Change the information so it is about you and not me!)

2. Create an XHTML document when viewed with a browser will produce a page exactly like the one shown on page 35.

Practice Problem #1 – Output

Practice Problem #1 – The XHTML File

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
    <head>
      <title>About Me</title>
    </head>
    <body>
        <hr>
         <h1>About Me</h1>
         <p>My name is <b>Mark Llewellyn</b>.</p>
         <p>I am <i>single</i>.</p>
         <p>My favorite color is blue.</p>
         <hr>
         <h2>My Interests</h2>
         <p>
            I race bicycles and karts.
            I like softball and volleyball.
            I like Mexican food.
         </p>
    </body>
</html>
```

Practice Problem #2 – Output

Practice Problem #2 – The XHTML File

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
    <head>
      <title>Murphy's Laws</title>
    </head>
    <body>
         <h1>Murphy's Laws</h1>
        <hr>
         <h2>Original</h2>
         <q>If any can go wrong, it will.</q>
         <hr>
         <h2>Love Law</h2>
         <q> All the good ones are taken.</q>
         <hr>
         <h2>Computer Law</h2>
         <q>Any program, when running, is obsolete.</q>
         <hr>
         <h2>EMT Law</h2>
         <q>All bleeding stops...eventually.</q>
         <hr>
     </body>
   </html>
```

My Template File For XHTML Strict

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
    <head>
       <title> </title>
    </head>
    <body>

    </body>
</html>
```

XHTML Lists

- XHTML provides three main types of lists: numbered, bulleted, and definition. These are summarized in the table below.

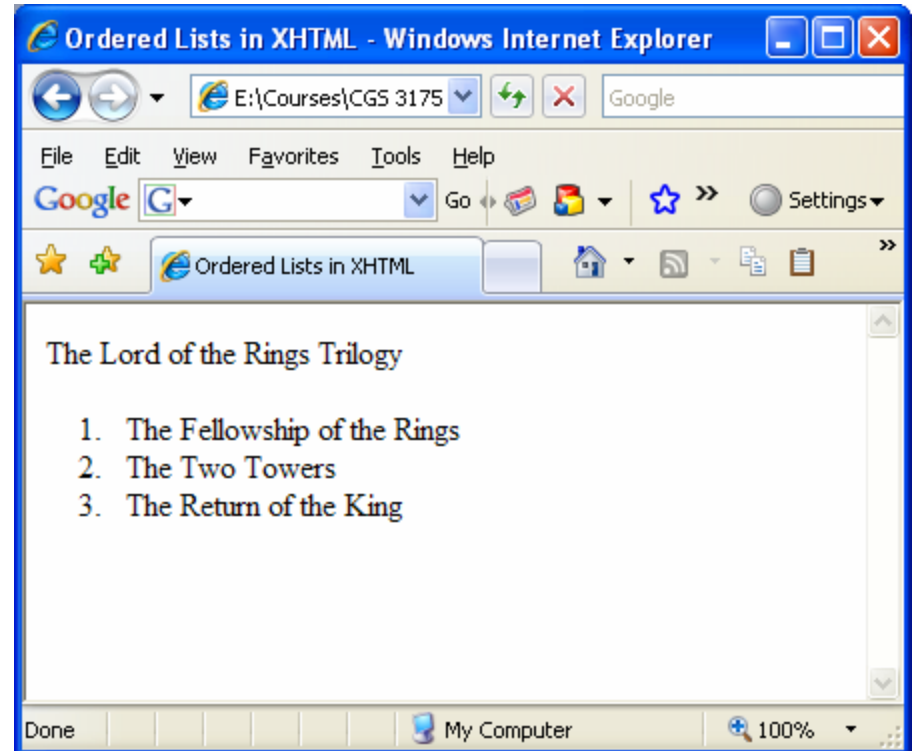| List type	XHTML element	Item element
Ordered list (numbered)	`<ol>…</ol>`	`<li>...</li>`
Unordered list (bulleted)	`<ul>…</ul>`	`<li>...</li>`
Definition list	`<dl>…</dl>`	`<dt>...</dt>` and `<dd>...</dd>`

Ordered Lists

- Ordered lists are numbered and are contained within the `<ol>...</ol>` , ordered list element.

- An ordered list may have any number of `<li>` list items appearing in the element content.

- A browser will list each of the elements in a number sequential list.

- For example:

```
<p> The Lord of the Rings Trilogy</p>

<ol>

    <li>The Fellowship of the Rings</li>

    <li>The Two Towers</li>

    <li>The Return of the King</li>

</ol>
```

Viewed in a browser →

Ordered Lists
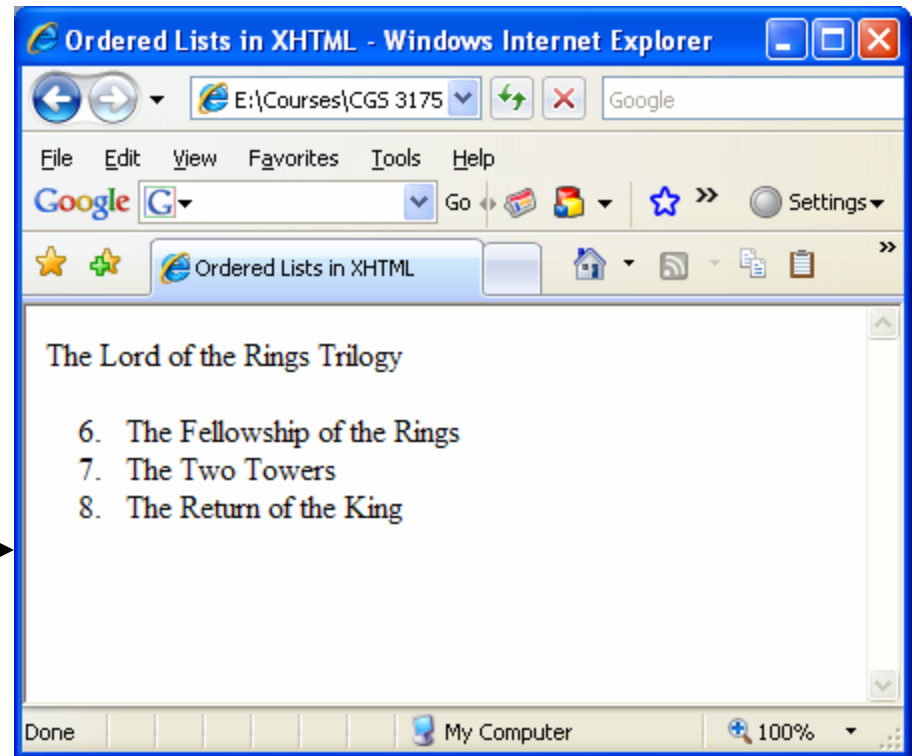
- Ordered lists can be formatted with two attributes:

1. The start attribute sets the starting number in the list to be something other than the default value of 1.

2. The type attribute identifies the type of numbering to use. The default numbering for `<ol>` lists is "1, 2, 3, …". The values of type can be one of the following:

   a. 1 – the default setting, Arabic numbers (1, 2, 3, …)

   b. A – uppercase letters (A, B, C, …)

   c. a – lowercase letters (a, b, c, …)

   d. I – Roman numerals (I, II, III, …)

   e. I – Small Roman numerals (i, ii, iii, …)

Ordered Lists

```
<p> The Lord of the Rings Trilogy</p>

<ol start="6">

    <li>The Fellowship of the Rings</li>

    <li>The Two Towers</li>

    <li>The Return of the King</li>

</ol>
```
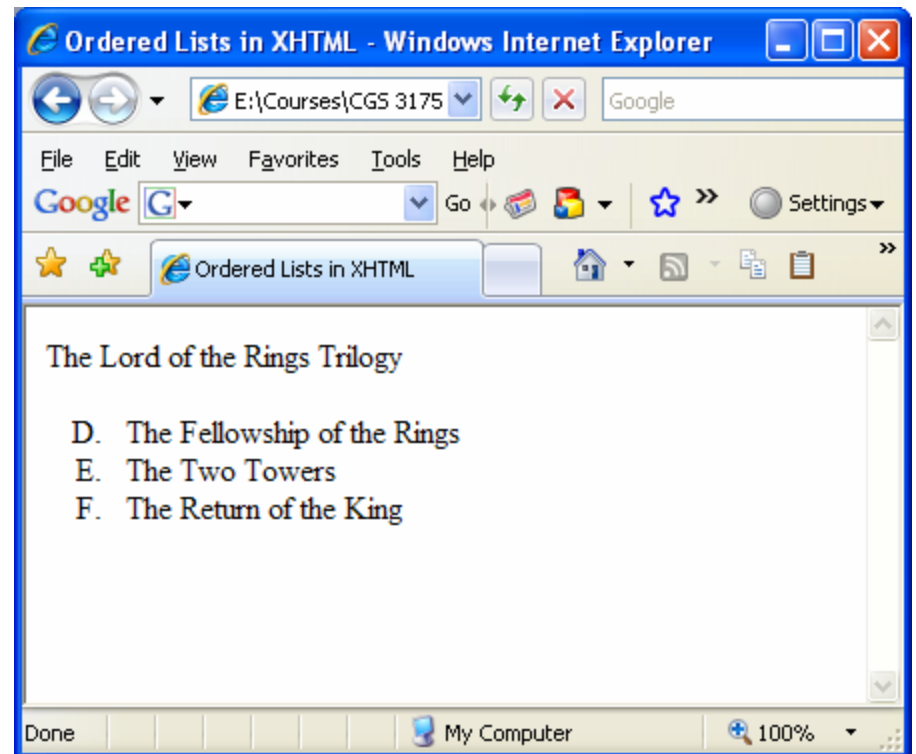
Viewed in a browser

Ordered Lists in XHTML - Windows Internet Explorer

E:\Courses\CGS 3175

Google

File   Edit   View   Favorites   Tools   Help

Google G▾   Go Settings▾

Ordered Lists in XHTML

The Lord of the Rings Trilogy

6. The Fellowship of the Rings
7. The Two Towers
8. The Return of the King

Done   My Computer   100%

Ordered Lists

<p> The Lord of the Rings Trilogy</p>

<ol start="4" type="A">

    The Fellowship of the Rings

    The Two Towers

    The Return of the King

Viewed in a browser

Ordered Lists in XHTML - Windows Internet Explorer

E:\Courses\CGS 3175   Google

File   Edit   View   Favorites   Tools   Help

Google |G ▾| ▾ Go ⊹ 🖉 🐷 ▾ | ☆ » ◯ Settings▾

Ordered Lists in XHTML

The Lord of the Rings Trilogy

    D.   The Fellowship of the Rings
    E.   The Two Towers
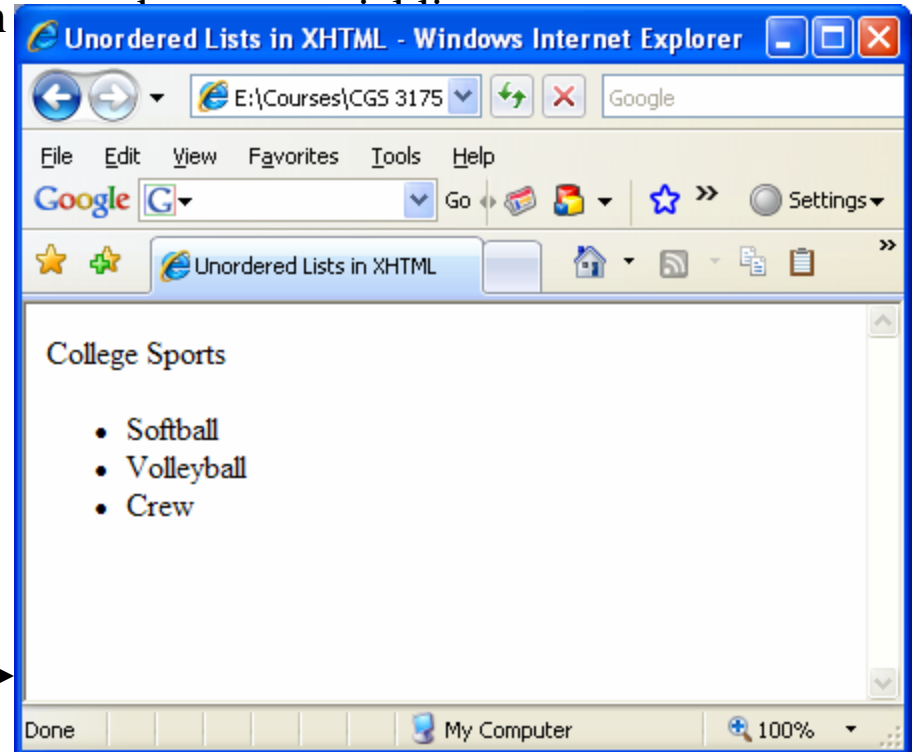   F.   The Return of the King

Done   My Computer   100%

Unordered Lists

- Unordered lists are bulleted instead of numbered. An unordered list is contained within the `<ul>...</ul>` , unordered list element.

- An unordered list may have any number of `<li>` list items appearing in the element content.

- A browser will list each of the elements in a new row surrounded by a

- For example:

```
<p> College Sports</p>
<ul>
    <li>Softball</li>
    <li>Volleyball</li>
    <li>Crew</li>
</ul>
```

Viewed in a browser →

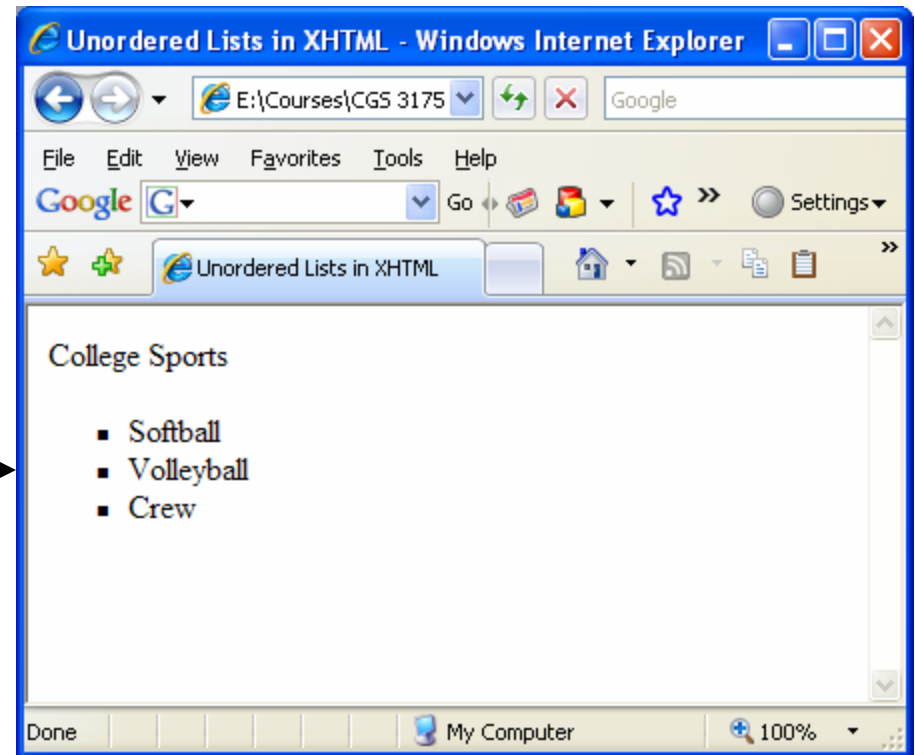College Sports

- Softball
- Volleyball
- Crew

Unordered Lists

- Unordered lists have only one formatting option:

1. The type attribute identifies the type of bullet that will appear before each list item. The default bullet is a disc. The values of type can be one of the following:

   a. disc – (•) the default setting

   b. square –

   c. circle –

Unordered Lists

```
<p> College Sports</p>

<ul type="square">

    <li>Softball</li>

    <li>Volleyball</li>

    <li>Crew</li>

</ul>
```
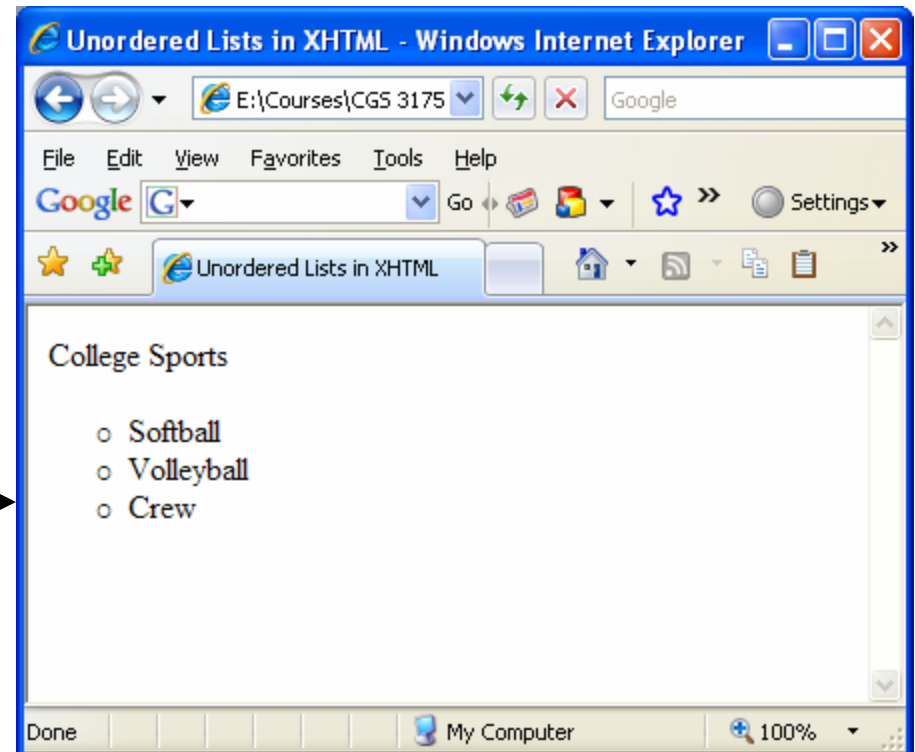
Viewed in a browser

College Sports

- Softball
- Volleyball
- Crew

Unordered Lists

```
<p> College Sports</p>

<ul type="circle">

    <li>Softball</li>

    <li>Volleyball</li>

    <li>Crew</li>

</ul>
```

Viewed in a browser

Unordered Lists in XHTML - Windows Internet Explorer

E:\Courses\CGS 3175

File   Edit   View   Favorites   Tools   Help

Google

Unordered Lists in XHTML

College Sports

  o Softball
  o Volleyball
  o Crew

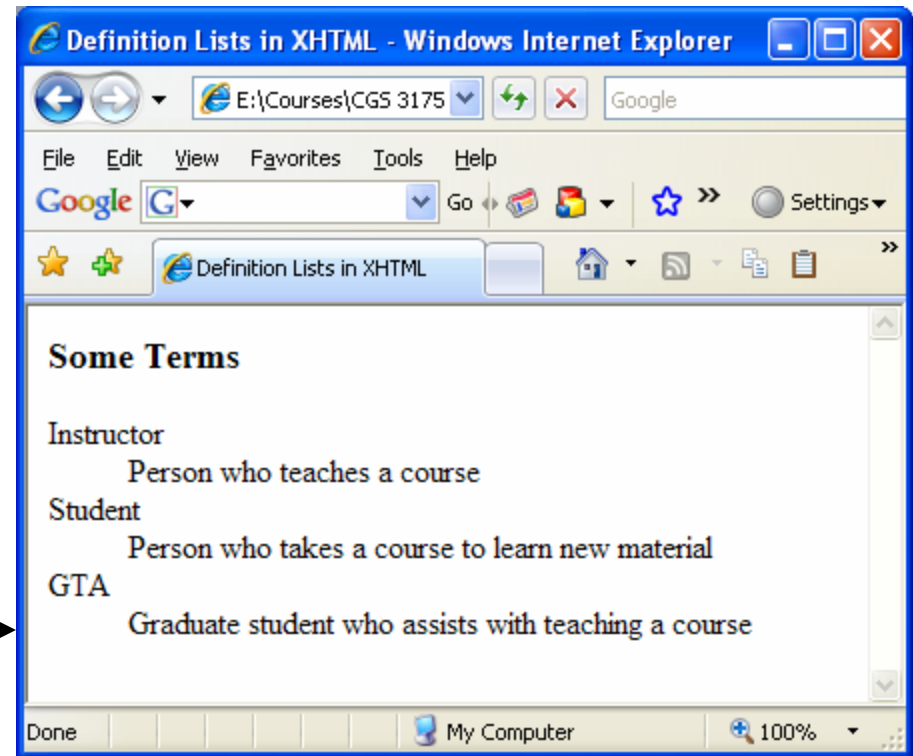Done   My Computer   100%

Definition Lists

- Definition lists are lists of terms and their definitions. They are a little different than ordered and unordered lists in that the items are lists in pairs.

- The `<dl>...</dl>` , surround the definition list. The name of the term appears between `<dt>` and `</dt>` tags, and the definition is between `<dd>` and `</dd>` tags.

- For example:

```
<h3> Some Terms</h3>
<dl>
  <dt>Instructor</dt><dd>Person who
      teaches a course</dd>
  <dt>Student</dt><dd>Person who
      takes a course to learn new
      material</dd>
  <dt>GTA</dt><dd>Graduate student
      who assists with teaching a
      course</dd>
</dl>
```

Viewed in a browser

Some Terms

Instructor
    Person who teaches a course
Student
    Person who takes a course to learn new material
GTA
    Graduate student who assists with teaching a course

Nesting Lists – Example
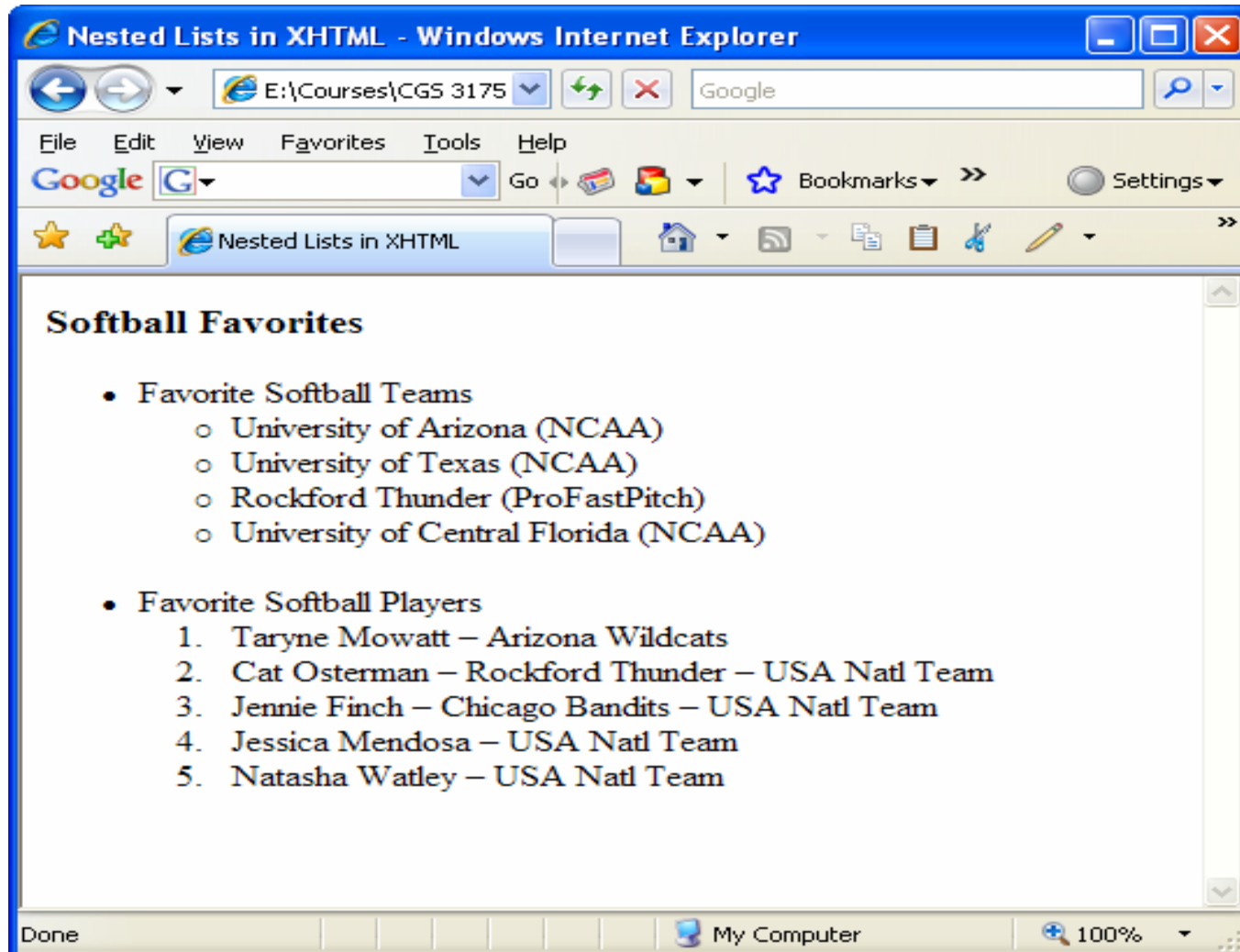
```
<h3> Softball Favorites</h3>
<ul>
  <li>Favorite Softball Teams
      <ul>
          <li>University of Arizona (NCAA)</li>
          <li>University of Texas (NCAA)</li>
          <li>Rockford Thunder (ProFastPitch)</li>
          <li>University of Central Florida (NCAA)</li>
      </ul>
  </li><br />
  <li>Favorite Softball Players
      <ol>
          <li>Taryne Mowatt – Arizona Wildcats</li>
          <li>Cat Osterman – Rockford Thunder – USA Natl Team</li>
          <li>Jennie Finch – Chicago Bandits – USA Natl Team</li>
          <li>Jessica Mendosa – USA Natl Team</li>
          <li>Natasha Watley – USA Natl Team</li>
      </ol>
  </li>
</ul>
```

Nesting Lists – Example

Hyperlinks

- A hypertext link, or hyperlink is an object in a Web page that when clicked will redirect the browser to another Web page or file.

- Usually, hyperlinks take the form of blue, underlined text, or an image.

- Special linking elements are included in the XHTML (also in HTML) specification that allow Web page authors to use images or text within a We page to create these links to other resources. The resource being linked to by the hyperlink is called the target resource.

- In addition to other Web pages, the target resource can be an image file, a multimedia file (such as an audio or video file), another section within the same page, or any Web page or file anywhere on the Internet.

- Hyperlinks provide Web page authors with a powerful means of organizing information and allow them to create very complex, cross-referenced Web sites with clickable tables of contents and menus.

Creating Hyperlinks With The `<a>` Element

- The `<a>` or anchor element in XHTML is used to create hyperlinks. These links require the user to perform an action – usually clicking on the link – in order to for the link to do anything. The clickable region of the link can consist of text or images.

- If the user never clicks the linked image or text, the link is never activated. Passively moving the cursor over the hyperlink will not activate it.

> Value of the `href` attribute is the URL of the target resource.

- The syntax of an anchor element is:

```
<a href = "http://www.cs.ucf.edu/courses/cgs3175/fall2007/index.html">
        This is a link. </a>
```

> Clickable area of the link in a Web browser.

Hyperlink – Example
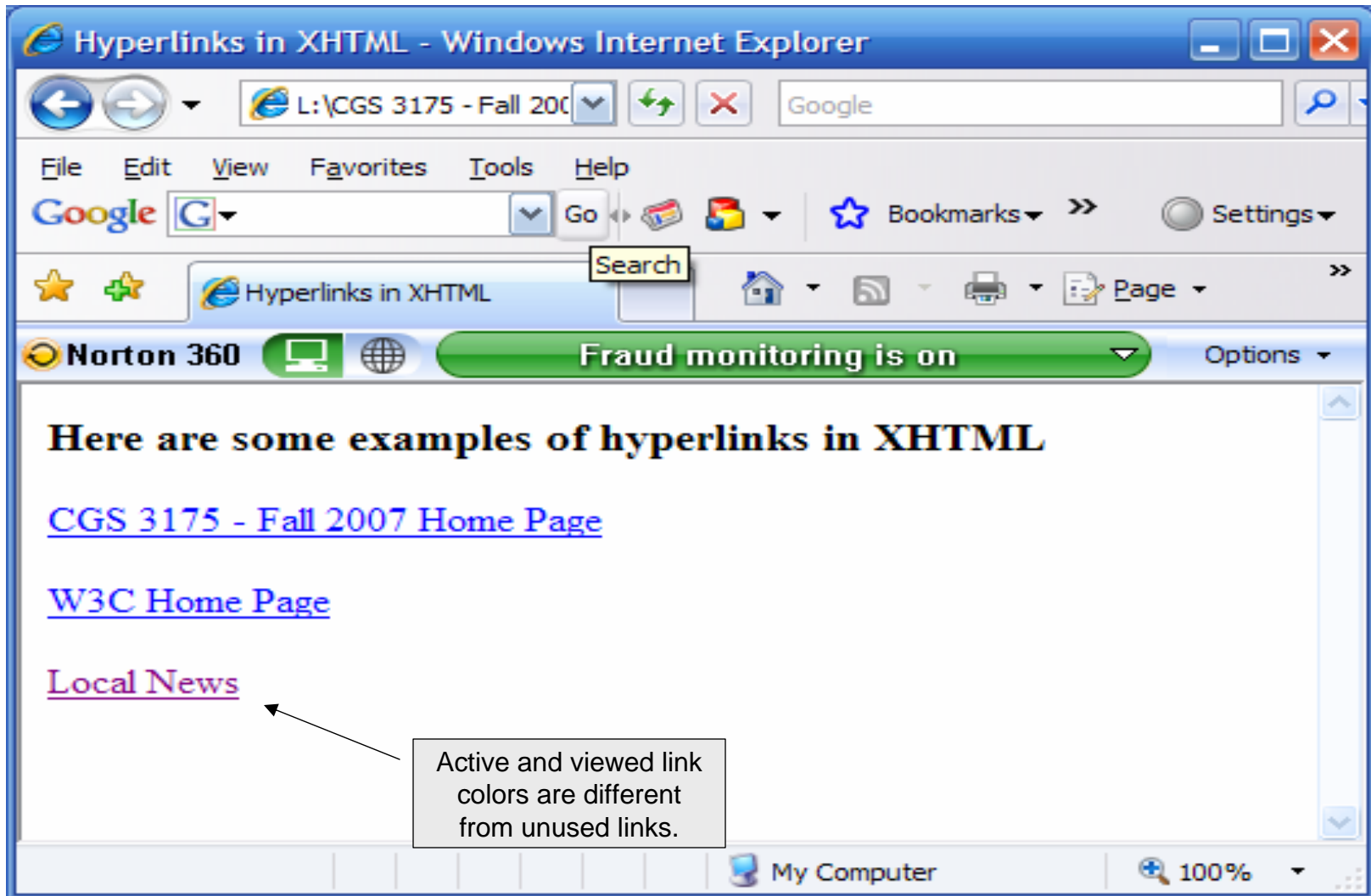
```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
    <head>
      <title>Hyperlinks in XHTML</title>
    </head>
    <body>
        <h3> Here are some examples of hyperlinks in
XHTML</h3>
        <a
href="http://www.cs.ucf.edu/courses/cgs3175/fall2007/index
.html">CGS 3175 - Fall 2007 Home Page</a>
        <br /><br />
        <a href="http://www.w3c.org">W3C Home Page</a>
        <br /><br />
        <a href="http://www.cfnews13.com">Local News</a>
    </body>
</html>
```

Hyperlink – Example

Here are some examples of hyperlinks in XHTML

CGS 3175 - Fall 2007 Home Page

W3C Home Page

Local News

Active and viewed link colors are different from unused links.

Relative versus Absolute URLs

- Relative URLs are used to link documents that reside on the same Web server. When a relative URL is used, the protocol and domain name are omitted. The link to the target resource is relative to the location of the document containing the link, or the source document.

- If the target resource resides in the same directory as the source document, you can use a link containing only the name of the target resource, as in the first example below.

- If the target resource resides in a different directory on the Web server, you must include the subdirectory information in the link, as in the second example below.

```
<a href="newpage.html">Click Here</a>

<a href="documents/newpage.html">Click Here</a>

<a href="images/mypicture.jpg">Click Here</a>
```

Relative versus Absolute URLs

- Absolute URLs are used to link documents that reside on different Web servers. When an absolute URL is used, the protocol (`http://`) and domain name (`cs.ucf.edu`) and domain name are included to direct the Web browser to the location of the new Web server. The absolute URL does not take into account any location information about the current document and can reference any target resource anywhere on the Internet.

- Below are some examples.

```
<a                       href="http://www.cs.ucf.edu/courses/cgs
3175/fall2007/index.html>">Click Here</a>

<a
href="http://www.cs.ucf.edu/courses/cgs3175/fall2007/backg
round.gif">Click Here</a>
```

Linking Within A Single Document

- If you are working with a large document, you may want to create links to sections within that document.

- For example, you may want to create a link at the bottom of the document that links to back to the top of the document, or a link that will take you to a footnote at the bottom of a page from within the body of the document.

- You see internal linking quite often when viewing on-line tutorials, or documentation in which each chapter is linked from one to the next and even pages within a chapter are linked from one to the next.

Linking Within A Single Document

- In order to create an internal link, you will need to first create the anchor at the place where you want the link to link to. The anchor element is used with an attribute called name, which identifies the anchor, or target.

```
<a name="footnote">Footnote</a>
```

- Next, you need to create a link that looks like the relative links we've already examined, but has a # sign in front of the relative URL to tell the browser that this link exists in the current document. This link would look like:

```
<a href="#footnote">Link to footnote</a>.
```

- This would create an anchor where the footnote resides in the document, and clicking on the link would then take the user to that place within the document. The example on the next couple of pages illustrates internal links.

Linking Within A Single Document

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
    <head>
      <title>Internal links in XHTML</title>
    </head>
    <body>
        <h3> How internal links work in XHTML</h3>
        <p>
            This is the body of the document.
            It isn't really very big, but we'll pretend
            that it is a very large document <a href="#footnote1">see
footnote #1</a>.
            To really see the effect of the browser "moving" you to the
location of
            the footnote...you either want to make the few paragraphs in
this document
            a lot bigger, or you can shrink the size of your browser
window, which is
            what I did so that it would fit onto the notes reasonably
well.

        </p>
```
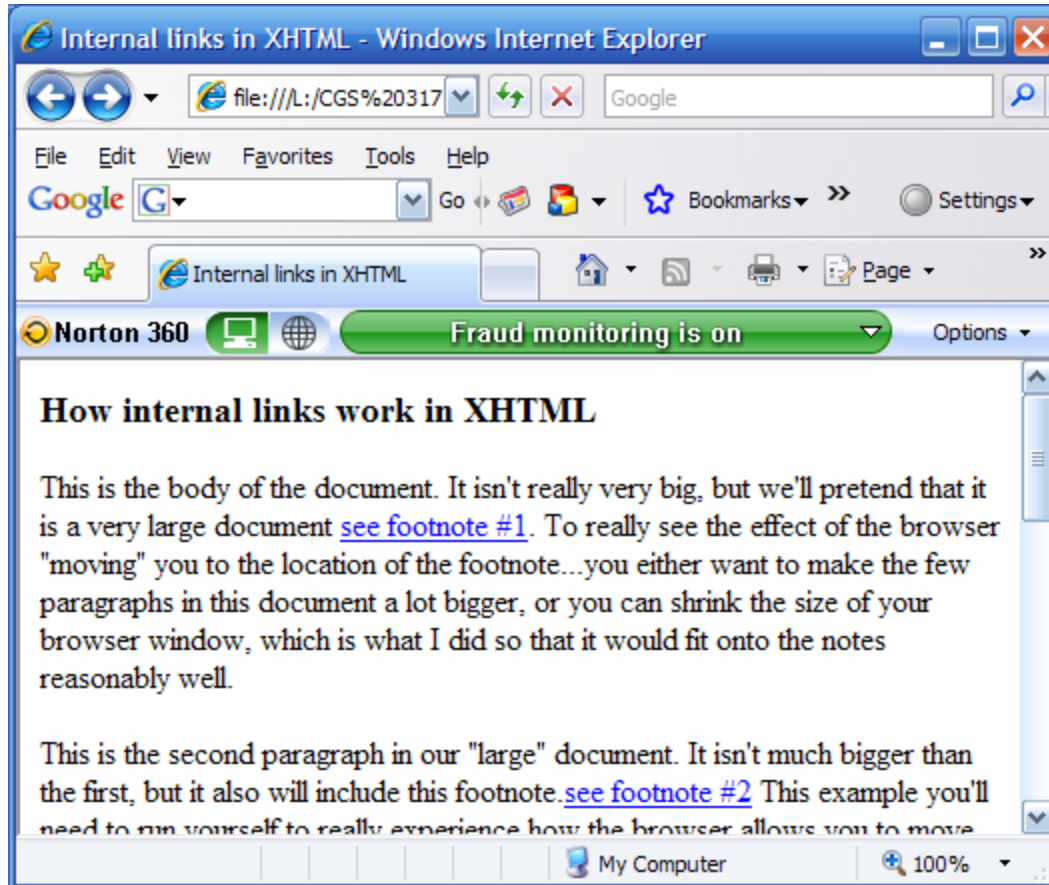
Linking Within A Single Document
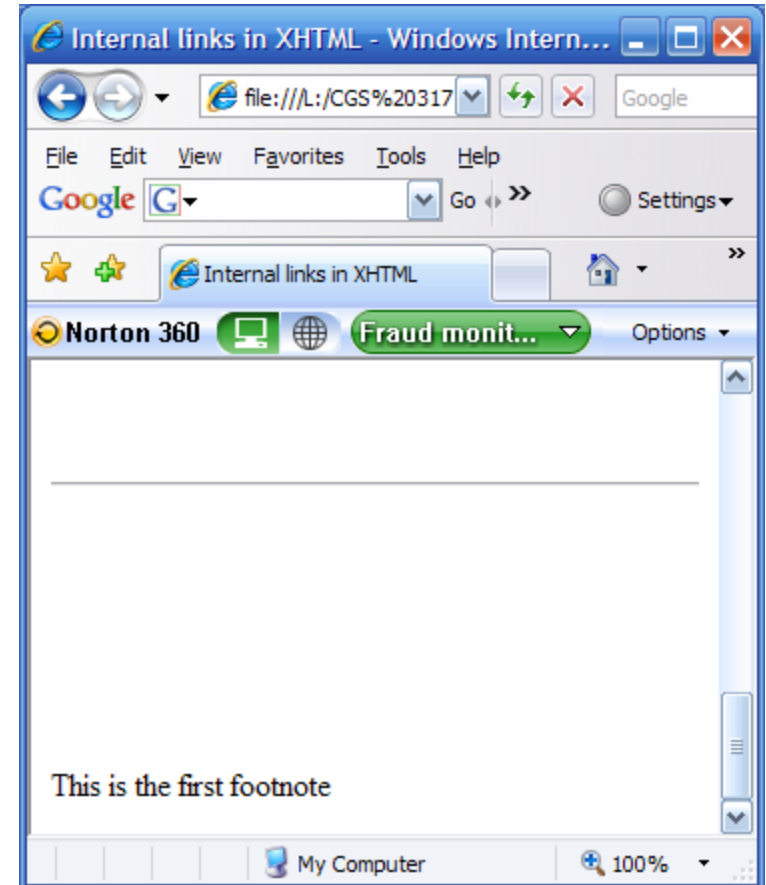
```
<p>
        This is the second paragraph in our "large" document.
        It isn't much bigger than the first, but it also will include
        this footnote.<a href=#footnote2">see footnote #2</a>
        This example you'll need to run yourself to really experience
        how the browser allows you to move to the footnotes when you
        click on them.
      </p>
      <p>
        This is the third paragraph in the "large" document.
        Notice that the footnotes both appear after this third
        paragraph.    Notice too, that the footnotes can be placed in
        any actual order in the document, their relative order is
        based on the reference to them in the actual document.
      </p>
      <!--- spacing and horizontal rule are for effect only - neither
are required.   --->
        <br />   <br />   <hr>      <br /> <br />
        <a name="footnote2">This is the second footnote</a>
        <br />   <br />   <br />   <br />   <br />   <hr>      <br />
        <br />  <br />   <br />   <br />   <br />   <br />
        <a name="footnote1">This is the first footnote<a/>
    </body>
</html>
```

Linking Within A Single Document

Initial browser window

After clicking footnote #1 link

Linking Within A Single Document - Returning

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
    <head>
      <title>Internal links in XHTML</title>
    </head>
    <body>
        <h3> How internal links work in XHTML</h3>
        <p>
           This is the body of the document.
           It isn't really very big, but we'll pretend
           that it is a very large document
           <a href="#footnote1">see footnote #1</a>.
           <a name="return1"></a>
           To really see the effect of the browser "moving" you to the
           location of the footnote...you either want to make the few
        </p>
        <a name="footnote1">This is the first footnote.</a>
        <a href="#return1">Return to document</a>
    </body>
</html>
```
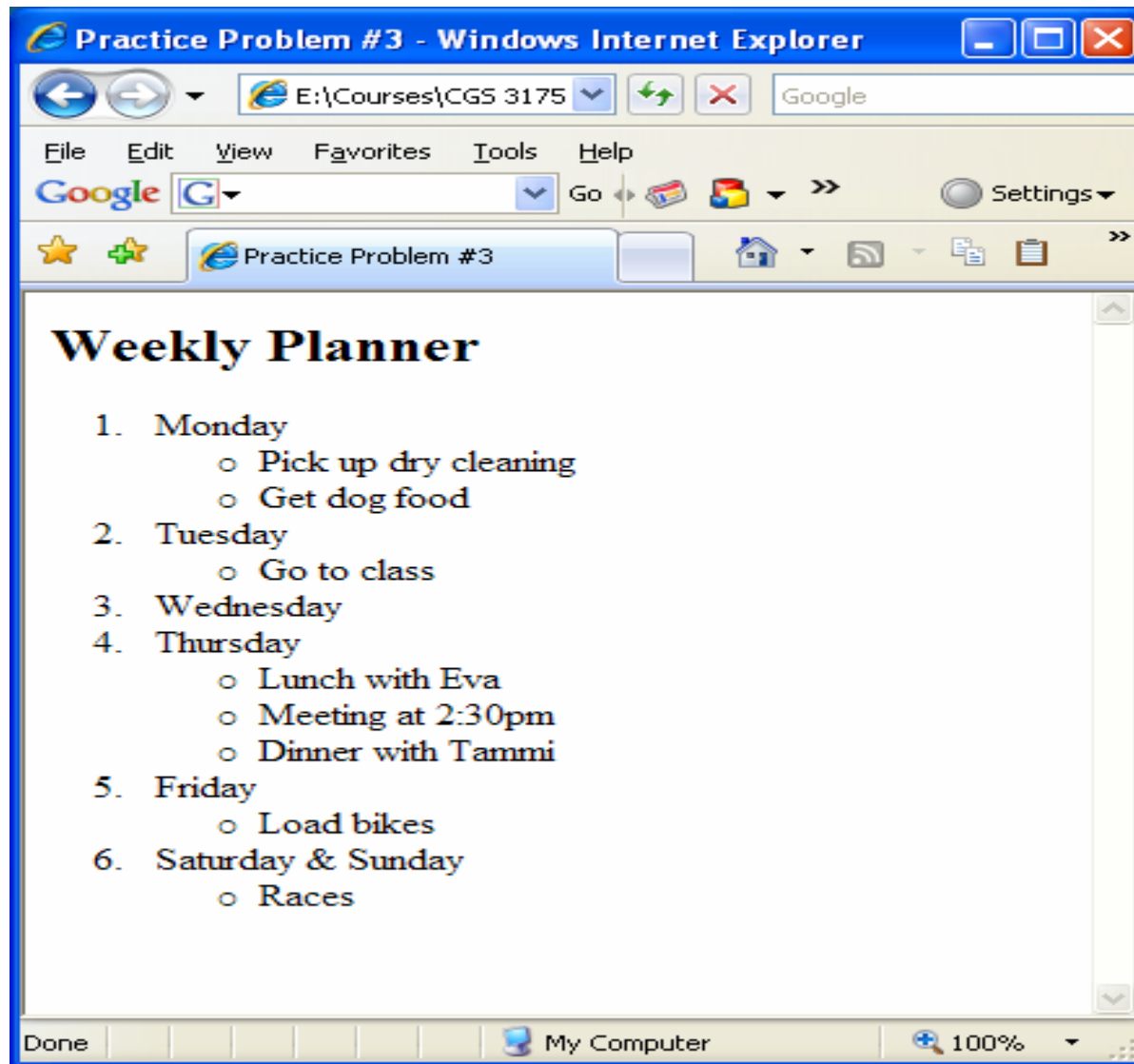
Some More Practice

3. Create an XHTML document when viewed with a browser will produce a page exactly like to the one shown on page 33.

4. Create an XHTML document that contains three hyperlinks to any Web pages of your choice and then verify your code at the W3C Markup Validation Web site. When viewed with a browser and you click on the links it will take you to the correct Web page. See page 34.

Practice Problem #3 – Output

Practice Problem #4 – Output