

CS101: Introduction to Computing

Lab # 05: Getting Started with HTML (Hyper Text Markup Language)

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Instructions:

- ☞ You are allowed to use your own laptops.
- ☞ You can consult the books, manuals and class lectures.
- ☞ You should have stationary like register and ballpoint to analyze the tasks first.
- ☞ Ensure that your working environment is working properly.
- ☞ Only in practice session, consultation is allowed.
- ☞ Attempt all questions yourself.
- ☞ No discussion is allowed during tasks solution.
- ☞ Submission of all tasks' solutions is necessary in any way.
- ☞ Tasks completed in specified time will be graded.
- ☞ Cheating is strictly prohibited otherwise rules as per university will be applied as a result of F-Grade in lab.

Introduction to HTML

HTML, which stands for Hyper Text Markup Language, is the predominant markup language for web pages. HTML is the basic building-blocks of web pages. A markup language is a set of markup tags, and HTML uses markup tags to describe web pages.

The purpose of a web browser is to read HTML documents and compose them into visual or audible web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page.

HTML Basics Practice

General Structure of HTML Page

The html element basically tells your computer that this is an HTML document. All other element tags are 'nested' within the start and end html tags.

HTML markup tags are usually called HTML tags

1. HTML tags are keywords surrounded by angle brackets like <html>
2. HTML tags normally come in pairs like and
3. The first tag in a pair is the start tag, the second tag is the end tag
4. Start and end tags are also called opening tags and closing tags

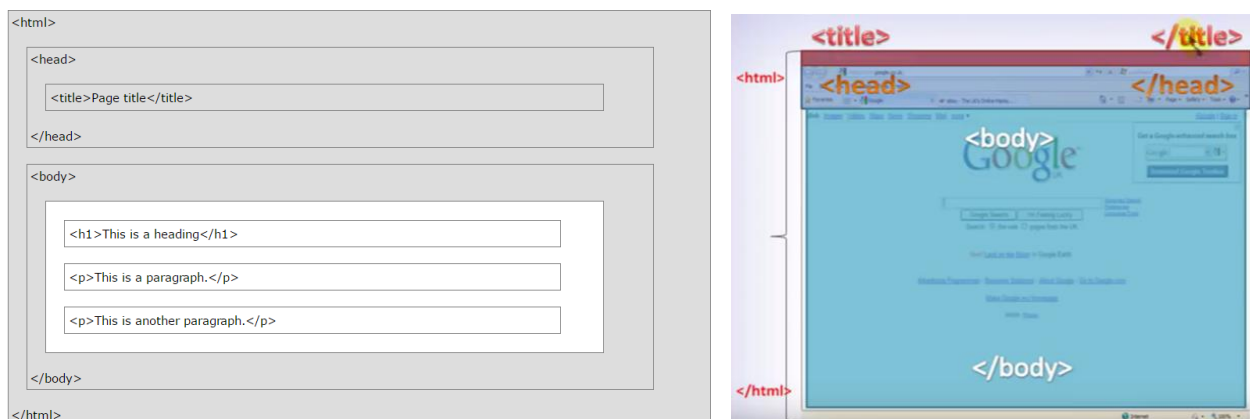
The web page is then further subdivided into two main sections which are the 'head' and the 'body'.

The head section begins with the <head> start tag and terminates with the </head> end tag.

Immediately following this comes the <body> start tag and just before the html end tag comes the </body> end tag.

When you save an HTML file, you can use either the .htm or the .html file extension. There is no difference.

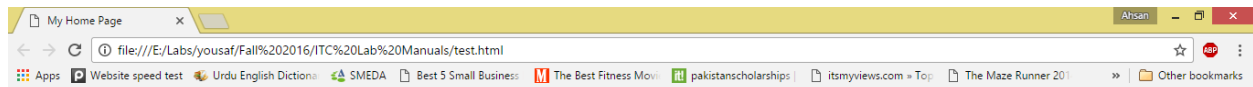
There is only one set of <html>...</html> tags, one set of <head>...</head> tags and one set of <body>...</body> tags. This basic HTML web page structure can be illustrated by the following example:



```
<html>
  <head>
  </head>
  <body>
    ... ..
    ... ..
    ... ..
  </body>
</html>
```

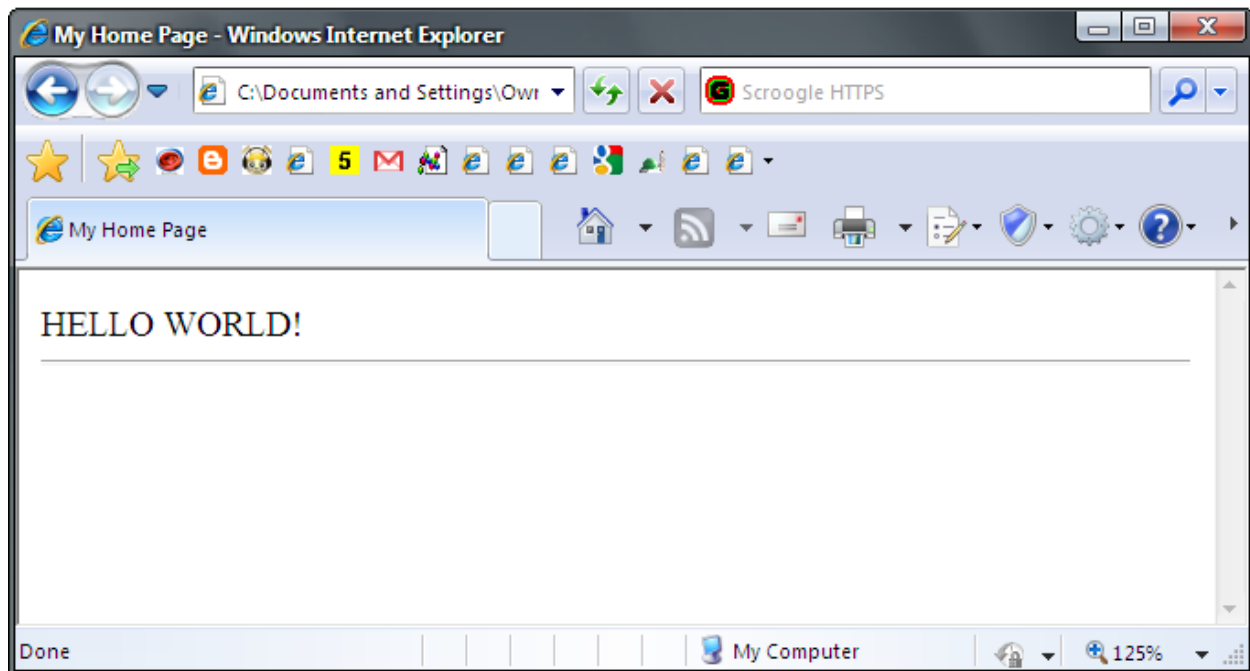
Adding a Title to your Web Page

```
<html>
  <head>
    <title> My Home Page </title>
  </head>
  <body>
  </body>
</html>
```



```
<html>
  <head>
    <title> My Home Page </title>
  </head>
  <body>
    HELLO WORLD!
    <hr />
  </body>
</html>
```

This will produce the result like this



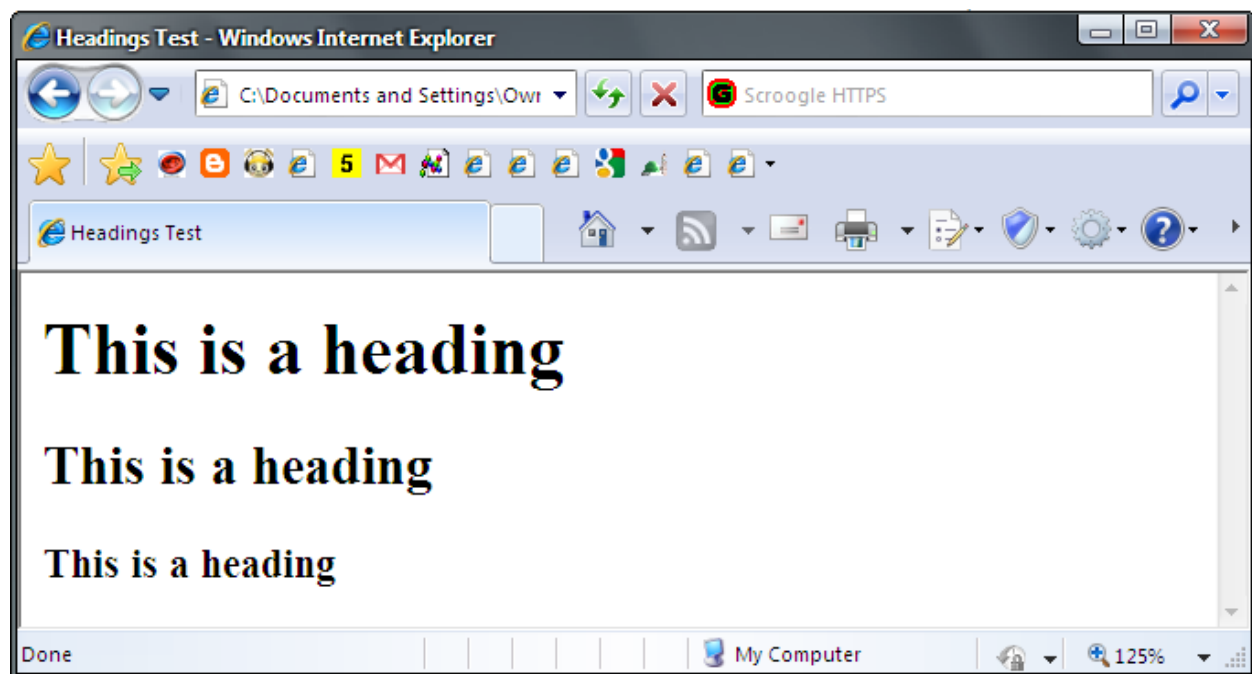
How to view source code of HTML Document

To find out, right-click in the page and select "View Source" (IE) or "View Page Source" (Firefox), or similar for other browsers. This will open a window containing the HTML code of the page.

HTML Document Elements

- Headings & Horizontal Lines

```
<html>
  <head>
    <title> Headings  Test </title>
  </head>
  <body>
    <h1>This is a heading</h1>
    <h2>This is a heading</h2>
    <h3>This is a heading</h3>
  </body>
</html>
```



Tag Reference of HTML Tags

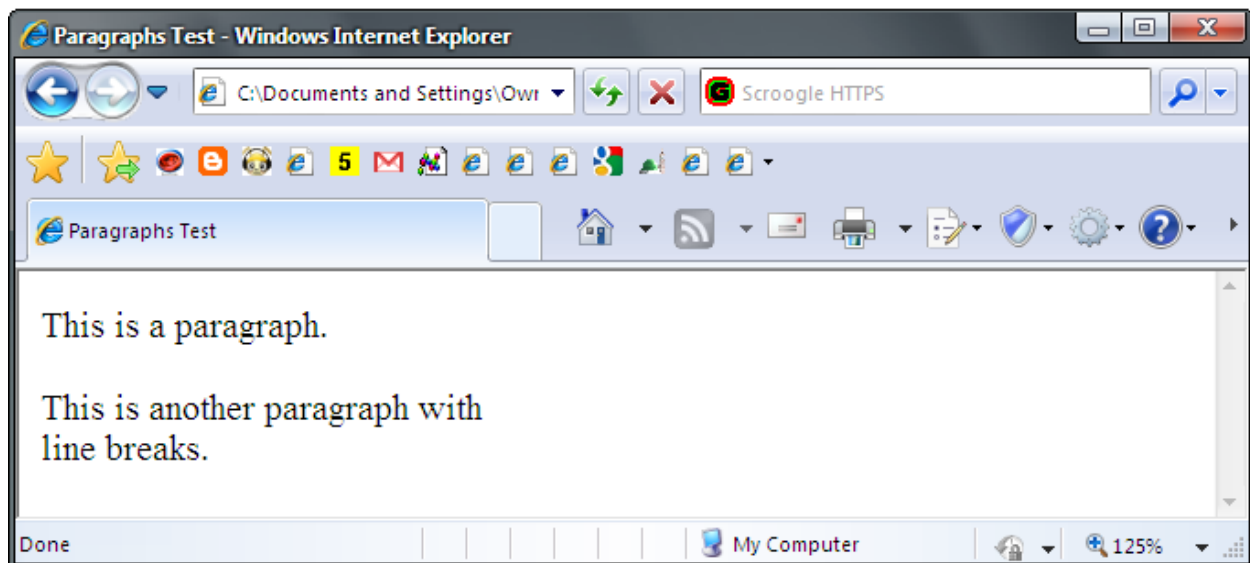
Tag	Description
<code><html></code>	Defines an HTML document
<code><body></code>	Defines the document's body
<code><h1></code> to <code><h6></code>	Defines HTML headings
<code><hr /></code>	Defines a horizontal line
<code><!--></code>	Defines a comment

- Paragraphs & Line Breaks

```

<!--This is a comment. Comments are not displayed in the browser-->
<html>
  <head>
    <title> Paragraphs Test </title>
  </head>
  <body>
    <p>This is a paragraph.</p>
    <p>This is another paragraph with <br/> line breaks.</p>
  </body>
</html>

```

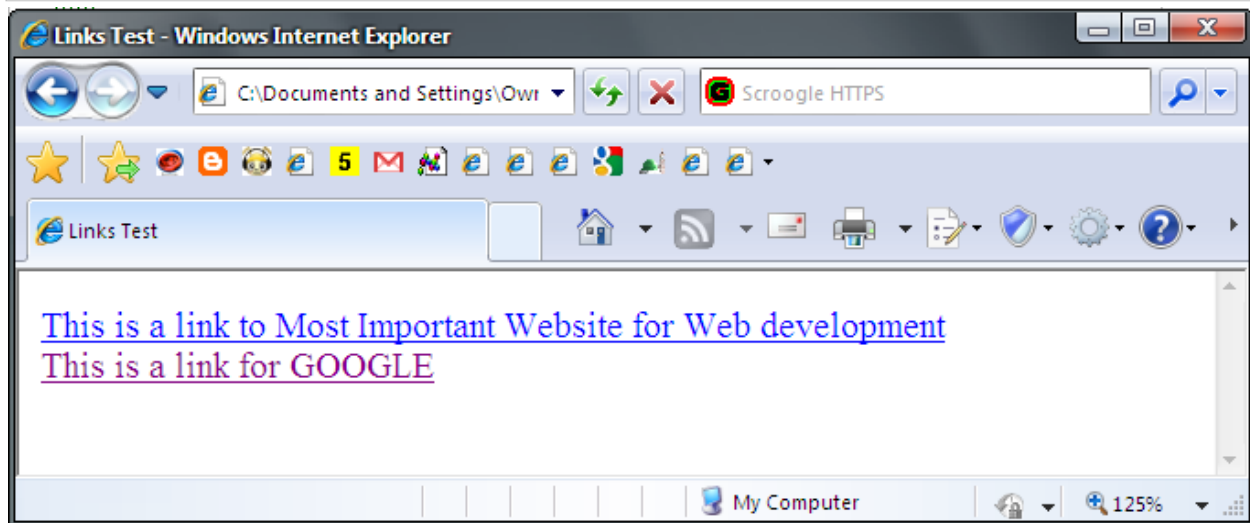


- HTML Links

Link to the exactly specified URLs,

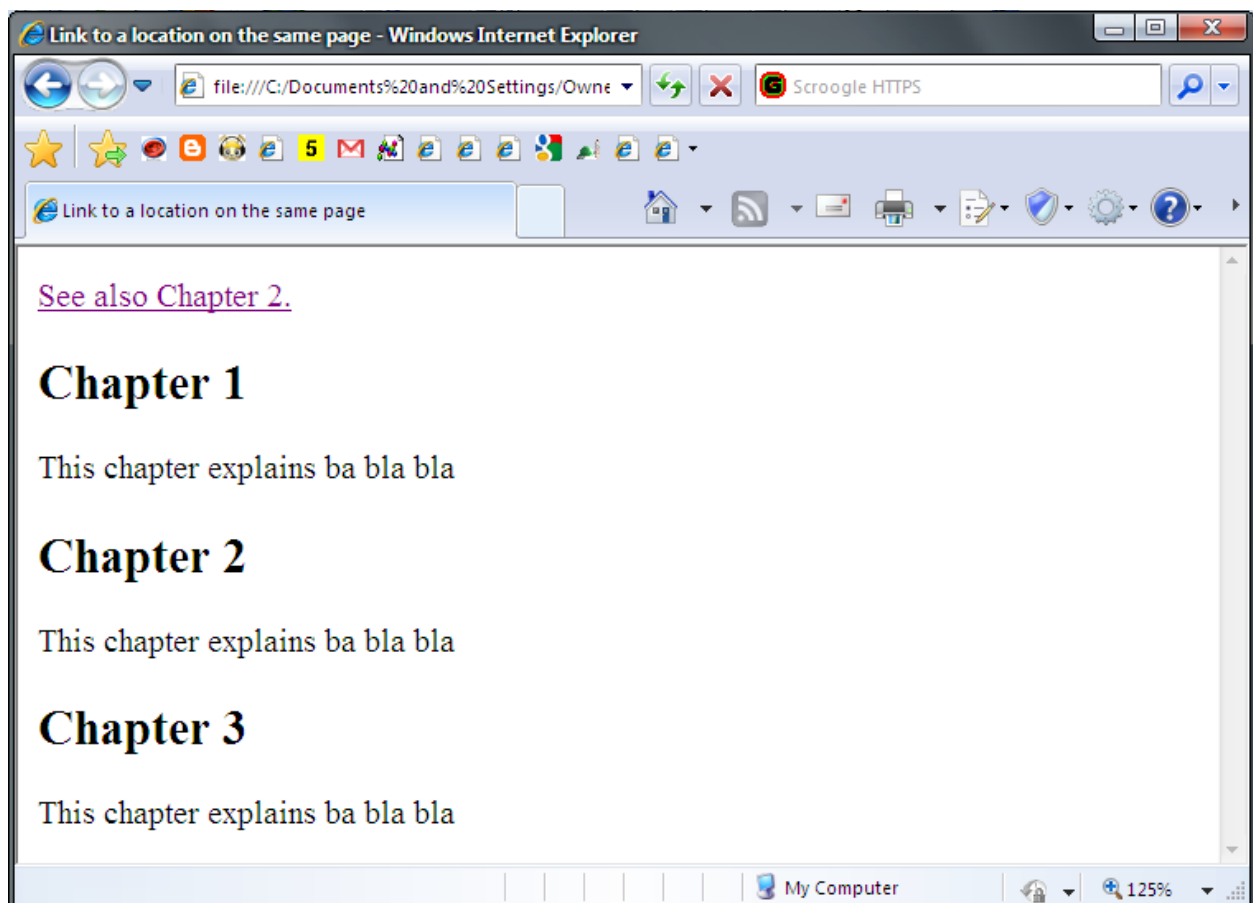
```
<html>
  <head>
    <title> Links Test </title>
  </head>
  <body>
    <a href="http://www.w3schools.com">This is a link to Most Important
Website for Web development</a><br/>
<a href="http://www.google.com">This is a link for GOOGLE</a>

  </body>
</html>
```



Link to a location on the same page

```
<html>
  <head>
    <title>Link to a location on the same page </title>
  </head>
  <body>
    <p><a href="#C2">See also Chapter 2.</a></p>
    <h2>Chapter 1</h2>
    <p>This chapter explains ba bla bla</p>
    <h2><a name="C2">Chapter 2</a></h2>
    <p>This chapter explains ba bla bla</p>
    <h2>Chapter 3</h2>
    <p>This chapter explains ba bla bla</p>
  </body>
</html>
```



Also try the example “An image as a link”. Visit

http://www.w3schools.com/html/tryit.asp?filename=tryhtml_imglink

Image in HTML

For this given example your image should be on the sample directory as your html page.

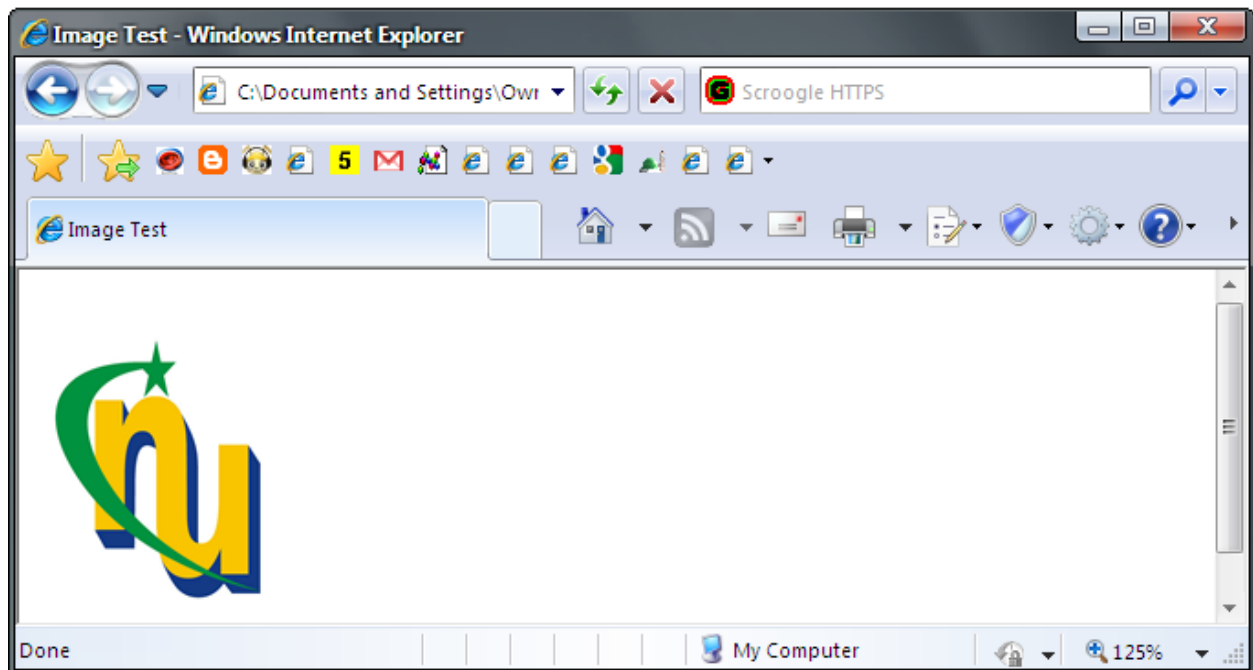
Otherwise you have to provide complete directory path in coding.

HTML images are defined with the tag.

Note: The name and the size of the image are provided as attributes.

```
<html>
  <head>
    <title>Image Test </title>
  </head>
  <body>
    
  </body>
</html>
```

The height and width attributes are used to specify the height and width of an image.



HTML Attributes

Attributes provide additional information about HTML elements. Attribute values should always be enclosed in quotes.

Double style quotes are the most common, but single style quotes are also allowed.

Attribute names and attribute values are case-insensitive.

However, the World Wide Web Consortium (W3C) recommends lowercase attributes/attribute values in their HTML 5 recommendation.

- HTML elements can have **attributes**
- Attributes provide **additional information** about an element
- Attributes are always specified in **the start tag**
- Attributes come in name/value pairs like: **name="value"**

HTML Links example is the one example of it. In which "href" is one attribute of tag <a>.

Also in example of image, width and height are attributes of tag .

Below is a list of some attributes that are standard for most HTML elements:

Attribute	Value	Description
class	<i>classname</i>	Specifies a classname for an element
id	<i>Id</i>	Specifies a unique id for an element
style	<i>style_definition</i>	Specifies an inline style for an element

For more details, http://www.w3schools.com/tags/ref_standardattributes.asp

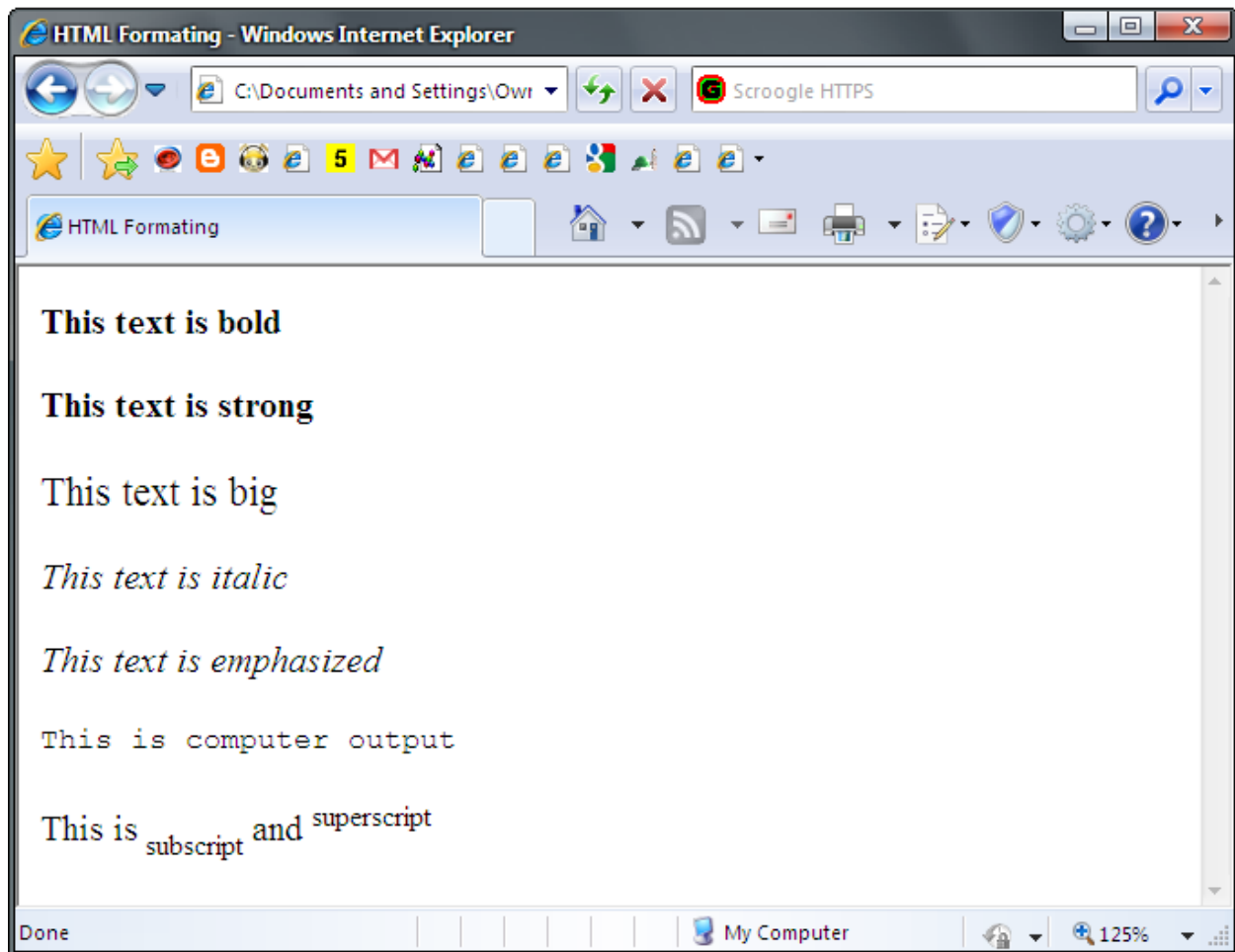
HTML Formatting

HTML uses tags like `` and `<i>` for formatting output, like bold or italic text.

For more details: http://www.w3schools.com/html/html_formatting.asp

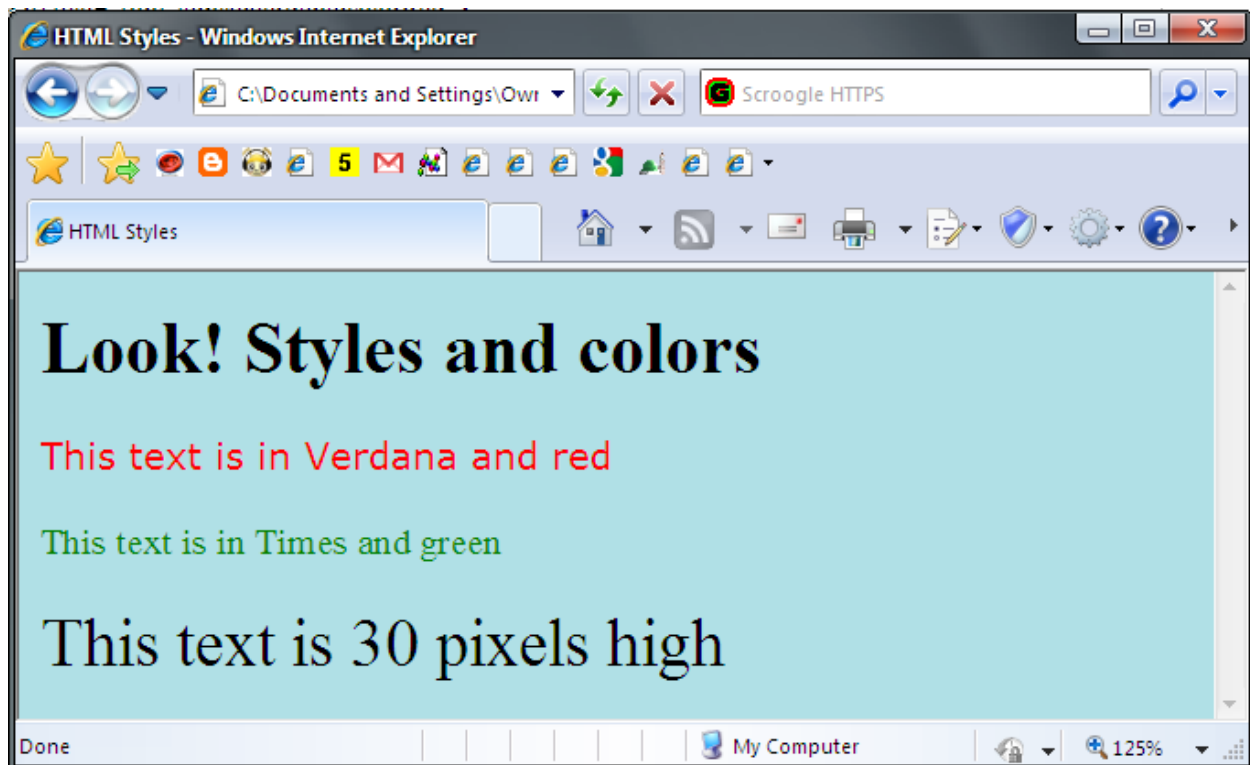
Also try formatting examples listed the same page.

```
<html>
  <head>
    <title>HTML Formating </title>
  </head>
  <body>
    <p>
      <b>This text is bold</b>
    </p>
    <p>
      <strong>This text is strong</strong>
    </p>
    <p>
      <big>This text is big</big>
    </p>
    <p>
      <i>This text is italic</i>
    </p>
    <p>
      <em>This text is emphasized</em>
    </p>
    <p>
      <code>This is computer output</code>
    </p>
    <p>
      This is<sub> subscript</sub> and <sup>superscript</sup>
    </p>
  </body>
</html>
```



HTML Styles

```
<html>
  <head>
    <title>HTML Styles </title>
  </head>
<body style="background-color:PowderBlue">
<h1>Look! Styles and colors</h1>
<p style="font-family:verdana;color:red">
This text is in Verdana and red</p>
<p style="font-family:times;color:green">
This text is in Times and green</p>
<p style="font-size:30px">This text is 30 pixels high</p>
</body>
</html>
```



HTML Tables with Attributes

A table is divided into rows (with the `<tr>` tag), and each row is divided into data cells (with the `<td>` tag). `td` stands for "table data," and holds the content of a data cell. A `<td>` tag can contain text, links, images, lists, forms, other tables, etc.

HTML Table with border attributes.

Caption

Questionnaire Results

Question	Women		Men	
	Yes	No	Yes	No
Question 1	42%	58%	61%	39%
Question 2	53%	47%	69%	31%
Question 3	26%	74%	51%	49%
Average	40%	60%	60%	40%

Row Group

Row

Column

Column Group

Cell

```
<html>
  <head>
    <title>Tables Test</title>
  </head>
  <body>
    <table border="1">
      <tr>
        <td>row 1, cell 1</td>
        <td>row 1, cell 2</td>
      </tr>
      <tr>
        <td>row 2, cell 1</td>
        <td>row 2, cell 2</td>
      </tr>
    </table>
  </body>
</html>
```

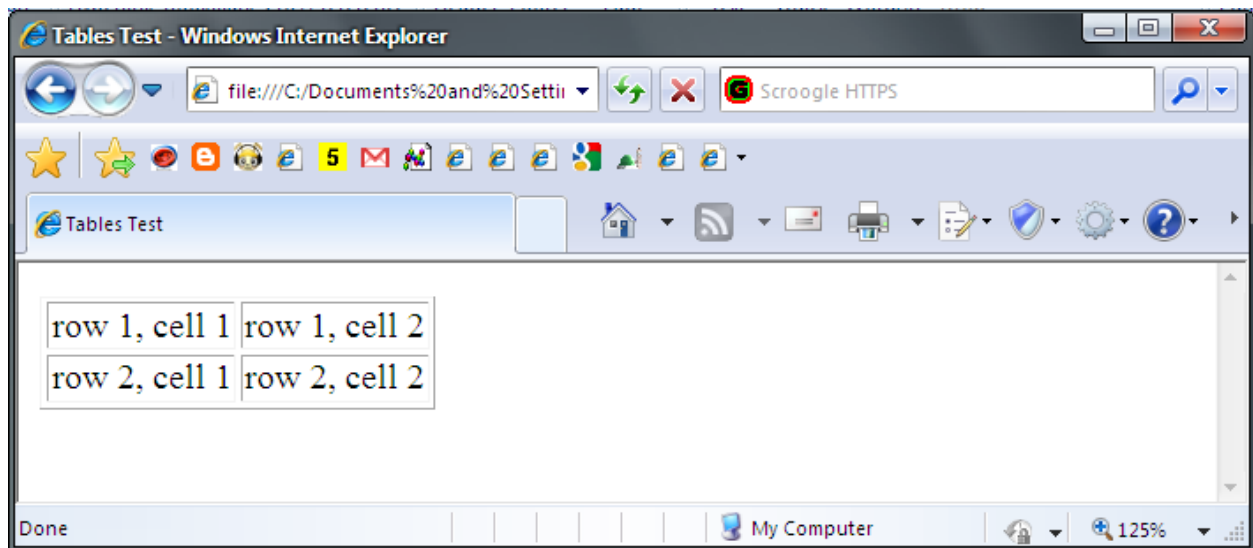
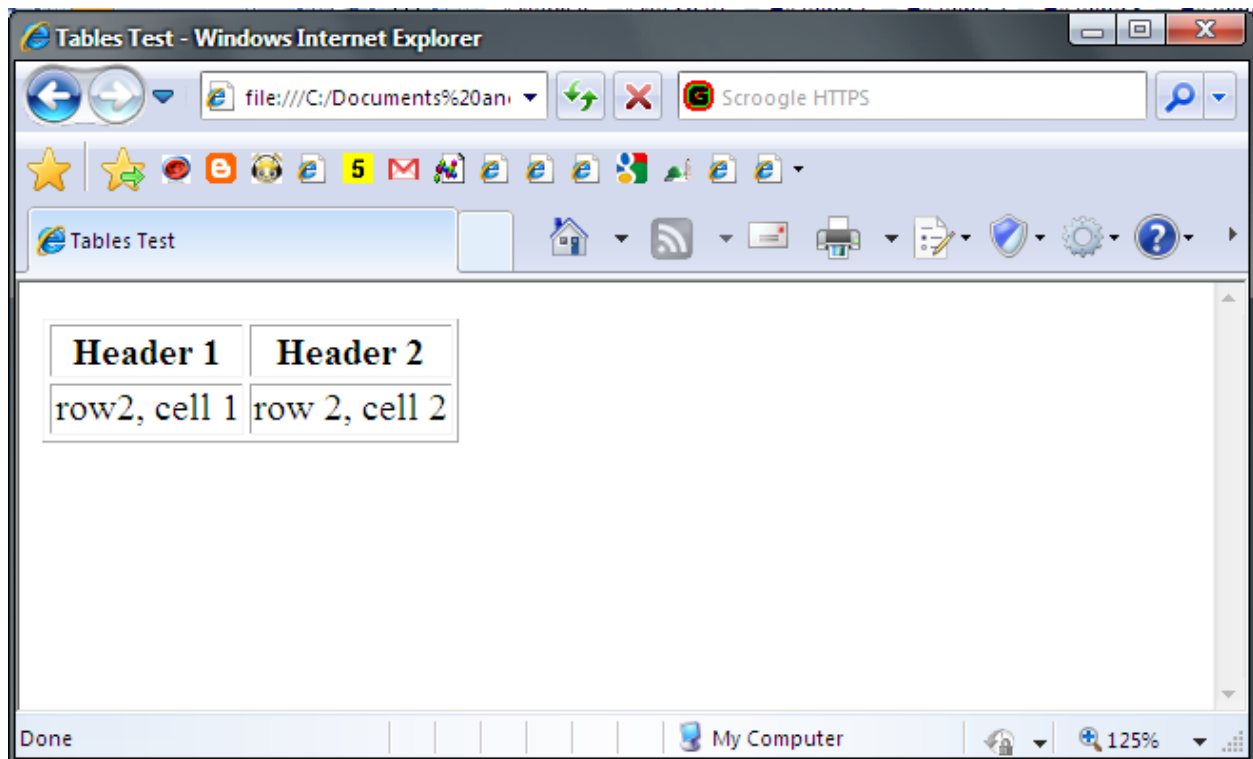


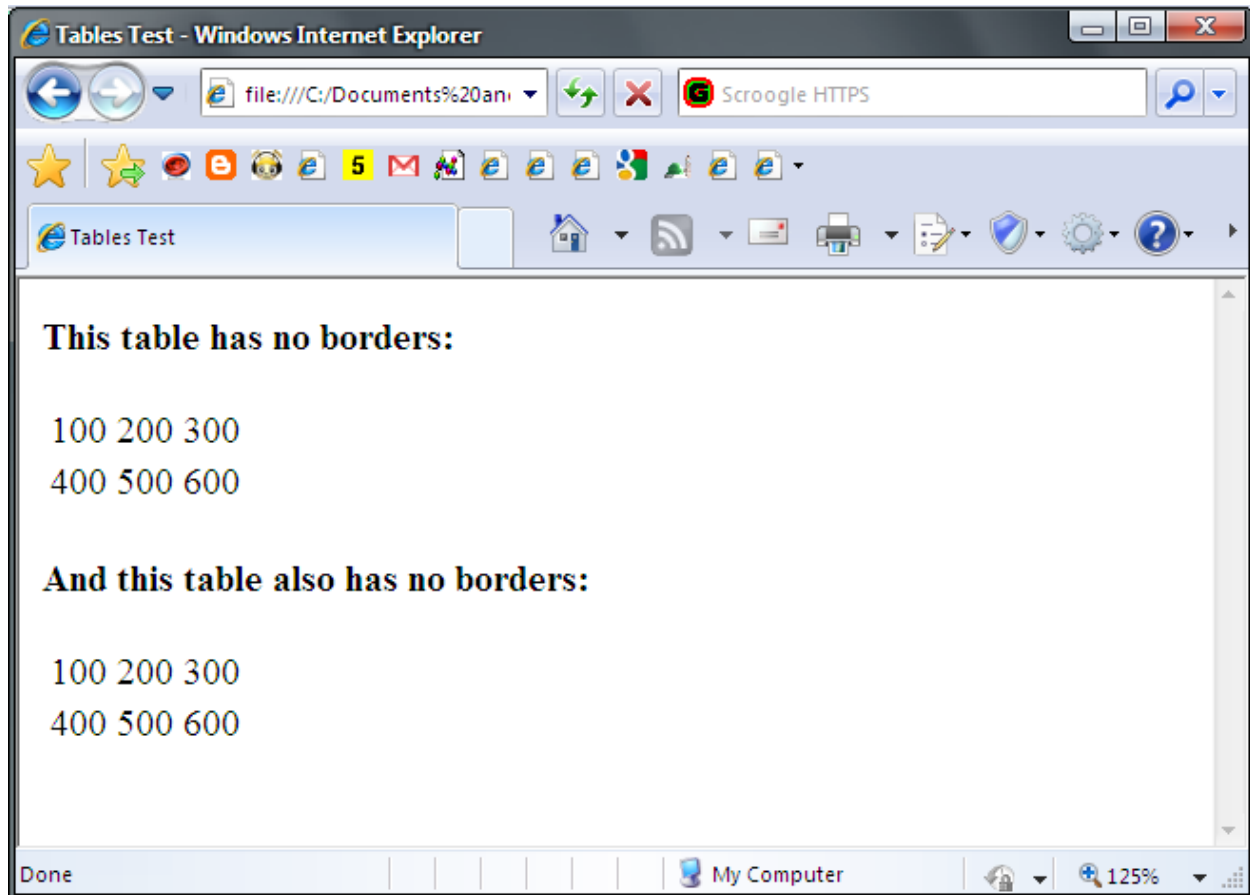
Table with Headings

```
<html>
  <head>
    <title>Tables Test</title>
  </head>
<body>
<table border="1">
<tr>
  <th>Header 1</th>
  <th>Header 2</th>
</tr>
<tr>
  <td>row2, cell 1</td>
  <td>row 2, cell 2</td>
</tr>
</table>
</body>
</html>
```

Tables with no borders

```
<html>
  <head>
    <title>Tables Test</title>
  </head>
<body>
<h4>This table has no borders:</h4>
<table>
<tr>
  <td>100</td>
  <td>200</td>
  <td>300</td>
</tr>
<tr>
  <td>400</td>
  <td>500</td>
  <td>600</td>
</tr>
</table>
<h4>And this table also has no borders:</h4>
<btable border="0">
<tr>
  <td>100</td>
  <td>200</td>
  <td>300</td>
</tr>
<tr>
  <td>400</td>
  <td>500</td>
  <td>600</td>
</tr>
</table>
</body>
</html>
```



Practice Session

1. Practice given below tables' attributes from http://www.w3schools.com/html/html_tables.asp
 - a) Table headers
 - b) Table with a caption
 - c) Table cells that span more than one row/column
 - d) Tags inside a table
 - e) Cell padding
 - f) Cell spacing
 - g) The frame attribute (How to use the "frame" attribute to control the borders around the table)
2. Practice given below image attributes from http://www.w3schools.com/html/html_images.asp
 - h) Aligning images (How to align an image within the text.)
 - i) Let the image float (How to let an image float to the left or right of a paragraph.)
 - j) Make a hyperlink of an image. (How to use an image as a link.)
 - k) Create an image map. (How to create an image map, with clickable regions. Each of the regions is a hyperlink.)
 - l) Add a video in your html document.
 - m) Marquee tag...

References:

"HTML Tutorial" February 07, 2011, <http://w3schools.com/html/default.asp>, www.w3schools.com

"The Basics of HTML Attributes" February 07, 2011,
http://www.ironspider.ca/basic_html/attributes.htm