

CT1114

Web Development

Section 4:

Various HTML Tags including Spans, Hyperlinks and Images

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Last Week's Final Exercise

- How many times will this loop iterate?
- Write a webpage to find out!
- Use alert() to show your answer

```
var i = 0, j = 10000;
```

```
while ( i < j ) {
```

```
    // Execute this code per loop iteration
```

```
    i++;
```

```
    j /= 1.4;
```

```
}
```



Last Week's Final Exercise (not graded – no need to submit)

- Edit the "twenty random numbers" example so that it shows the biggest, smallest, and sum of the numbers
- Bonus! - also display each of the 20 numbers



HTML Tags

- Tags denote markup **elements**
- Each tag is surrounded by angle brackets `< >`
- Tags normally (but not always) come in pairs:
 - the **opening tag** and the **closing tag**
- Tags are **not** case sensitive
 - `<html>` and `<HTML>` are functionally the same
 - Recommended to use lowercase (see good practice)
- Text between the tags is the **element content** or **inner HTML**
- Javascript can modify the innerHTML of an element (and its various other attributes)



HTML Tags have Attributes

- HTML Tags have associated attributes (also called properties) that provide extra information to the browser
- Attributes consist of **name="value"** pairs
- Attributes are always added to the **opening tag**
- For example:
 - ***bgcolor** is an attribute that **body** elements have*
 - `<body bgcolor="red">`
- Example with two attributes defined:
 - `<body bgcolor='red' onload='alert("loaded!");'>`
 - Note the use of doublequotes inside singlequotes to avoid ambiguity..



Some useful tags

Paragraph

`<p>Text</p>`

Line Break

`
`

Forces a line break wherever it's placed

Putting a carriage-return into the HTML code will *not* produce a visible line break!

Horizontal Rule

`<hr>`

HTML Comments

`<!-- Text here -->` **No ! at end**



Headings

<h1> ... </h1>

<h2> ... </h2>

<h3> ... </h3>

<h4> ... </h4>

<h5> ... </h5>

<h6> ... </h6>

Section 1

Section 1.1

Section 1.1.1

Section 1.1.1.1

Section 1.1.1.1.1

Section 1.1.1.1.1.1



HTML Lists

Unordered Lists

Each List Item appears as Bullet

```
<ul> </ul>
```

```
<li> </li>
```

Ordered Lists

Bullets replaced with numbers or letters

Type of order defined with `type` attribute

```
<ol> </ol>
```



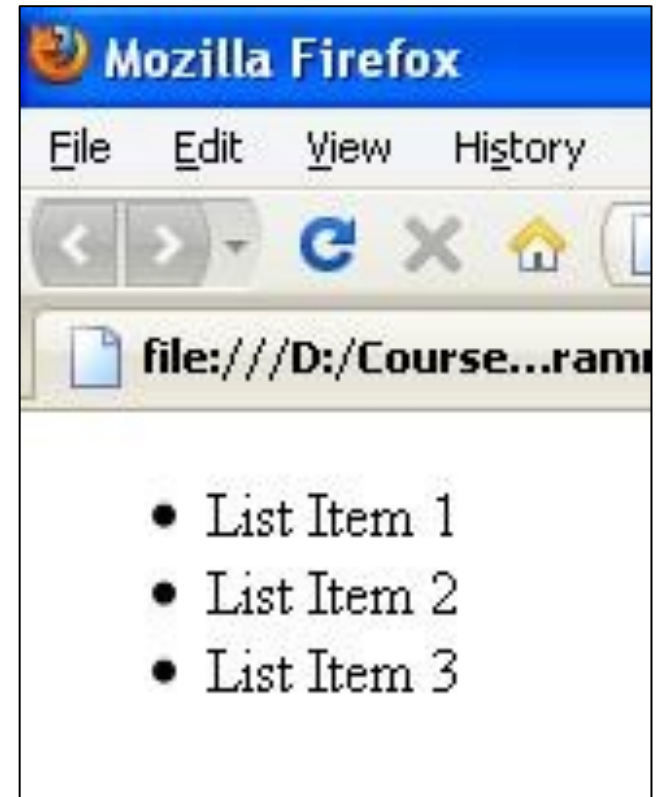
Unordered Lists

```
<ul>  
  <li>List Item 1</li>  
  <li>List Item 2</li>  
  <li>List Item 3</li>  
</ul>
```

Bullet is default type

Other types can be specified

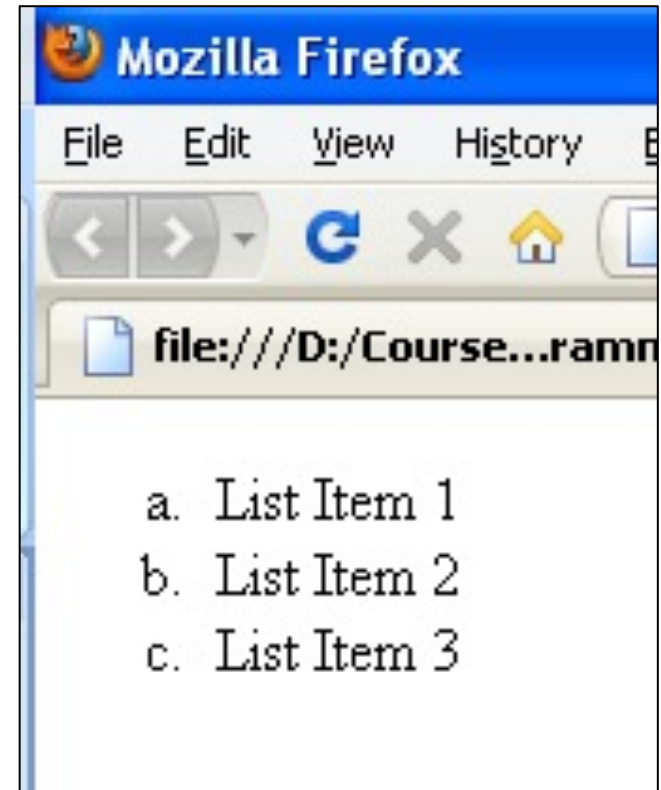
"disc", "square", "circle", etc



Ordered Lists

```
<ol type="a">  
  <li>List Item 1</li>  
  <li>List Item 2</li>  
  <li>List Item 3</li>  
</ol>
```

Numeric is default type
Other types can be specified
"1", "A", "a", "I", "i"



` .. `

```
<span> some content here </span>
```

spans let you define sections of content without line breaking. Useful for applying style to something, e.g.:

```
Some normal text and some <span  
style='color:red;'>red</span> text
```

style is a very important attribute that HTML Tags have, allowing you to define many visual settings for the Tag

Spans are useful for reading/writing innerHTML of a section of your page's text, using Javascript (see next slide)

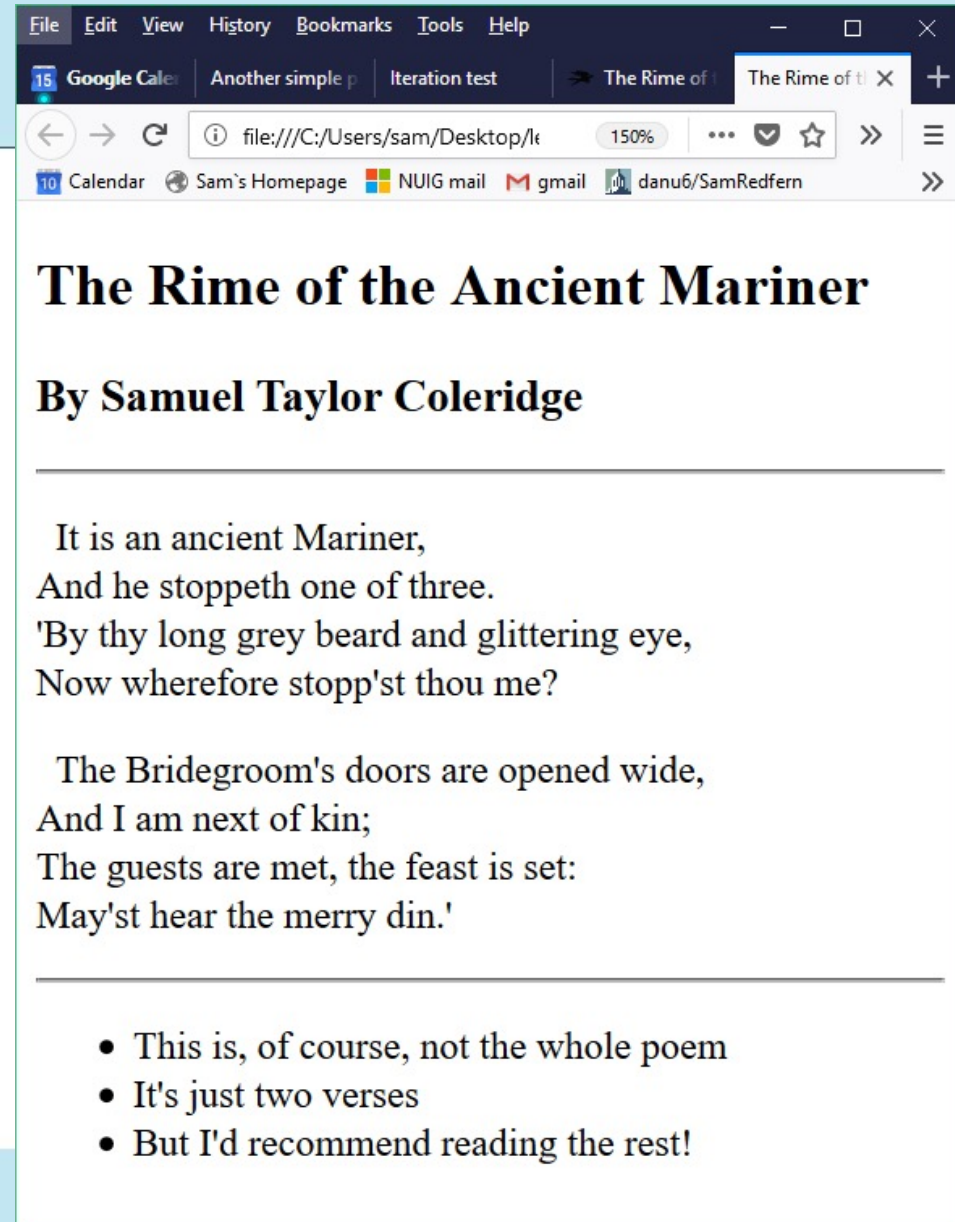


Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>Span click test</title>
    <script>
      var timesChanged = 0;
      function changeTheSpan() {
        timesChanged++;
        var msg = "has been changed "+timesChanged+" time";
        if (timesChanged>1)
          msg += "s";
        document.getElementById('mySpan').innerHTML = msg;
      }
    </script>
  </head>
  <body>
    This document contains a span whose content <span
id='mySpan' style='color:red;' onclick='changeTheSpan();'>may
be changed by clicking it</span>
  </body>
</html>
```

Exercise

Use HTML tags such as `<h1>`, `<p>`, `<hr>`, etc. to produce the depicted web page



Images in HTML.

- Images are added with the empty tag ``
 - “Empty” => it has no closing tag or innerHTML
- `` requires a **source (src) attribute** with the URL of the image, e.g.:

```

```

- Image (and other) filenames are **case sensitive** on Linux and Mac servers
 - .jpg is not the same as .JPG
- Format can be .jpg, .png, or .gif



Hyperlink Anchors

`<a> ... `

The anchor element `<a> ... ` is used to make clickable hyperlinks

- Use href attribute to define content to link to
- If content is on a different website:

```
<a href="http://www.amazon.com/">Visit Amazon</a>
```

- If content is on the same website:

```
<a href="page2.html">Here is page 2</a>
```

- If content is on the same page:

```
<a name="faq1">FAQ #1</a>
```

...

```
<a href="#faq1">Click here for FAQ #1</a>
```



Absolute and Relative References

URL: The path to a resource

Any URL path in HTML can be given as either via an **Absolute** or a **Relative** Reference

Both types are valid, interchangeable and useful in different situations

e.g. Anchor tags and Image tags can use both Reference Types



Absolute References

- Gives the complete (globally unique) path to resource
- Uses full URL, including protocol (http://) and path
- Absolute links reference a single, static, location
- To display the image "testimage.jpg" from the "images" folder within "www.randomsite.com":

```

```



Relative References

- Gives the path to the resource *relative to* the HTML document in which it is being referenced
- Excludes the full URL of the resource
- Only pages local to the resource can use it, e.g. if testimage.jpg is in the same folder as the HTML file that references it:

```

```

- Or if the image is, relative to the HTML file, inside a sub-folder:

```

```



Graded Exercise

- Write three separate web pages, which link to each other using hyperlinks, e.g.:

The image displays three overlapping browser window screenshots, each representing a different web page (A, B, and C) created for a graded exercise. Each window has a menu bar (File, Edit, View, History, Bookmarks, Tools, Help) and a toolbar with navigation buttons (back, forward, refresh, home, stop, search, print, zoom, etc.). The address bar shows the file path: file:///C:/Users/sam/Desktop/lec. The browser tabs include Google, Another simpl, Iteration test, Bb Learning, and The Rime of tl. The browser's status bar shows the page number (15) and the page title (Another simpl). The browser's background is white. The browser's content area shows the following text:

Page A: This is page 'A'. You can visit below:
[Page A](#)
[Page B](#)
[Page C](#)

Page B: This is page 'B'. You can visit below:
[Page A](#)
[Page B](#)
[Page C](#)

Page C: This is page 'C'. You can visit all of our informative pages below:
[Page A](#)
[Page B](#)
[Page C](#)

