CMPT 165
Unit 2 - Markup

May 22nd, 2015

Today's Agenda

- Recap of materials covered
- Introduce a few useful tags and concepts
  - lists
  - anchor
  - image
  - attributes
  - absolute vs. relative URL
- Lab exercise

Good Webpage (Design)

CONTENT

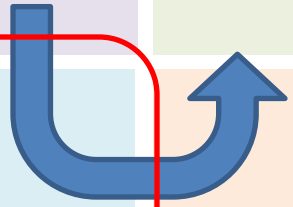
- Messages to your audience

→ You provide. Check grammar ☺

INTERACTION

- Provide responses to audience

→ Web-programming (Python)



STRUCTURE

- Give meaning to each element
- "Meta" data (meta=about)

→ Markup, i.e. XHTML, HTML5

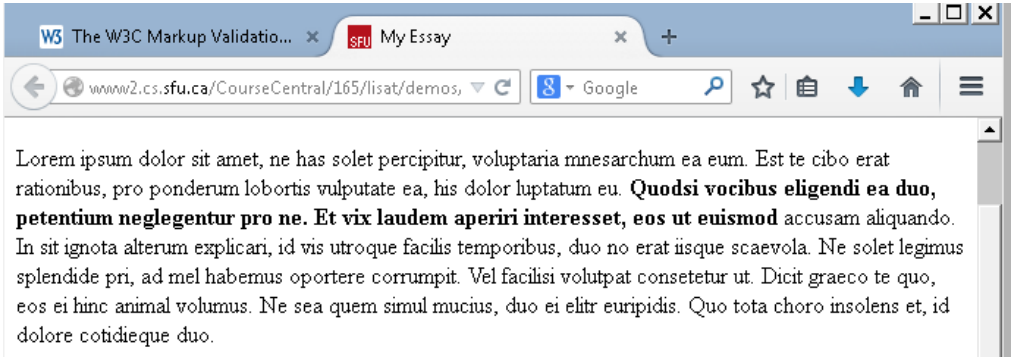
STYLE

- Describe visual properties of each element

→ Cascading Style Sheets (CSS)

Why do markup?

1. Gives you more control over browsers
2. Encourages you to focus on content (no formatting yet)
3. Allows you to reuse code (we'll see why/how later)
4. Visual properties of webpages are not accessible to some people, e.g.:
   - Software like "JAWS" is used to read out webpages to the blind
   - Bolded text like this image is therefore not meaningful to the blind:



   - Using e.g. `<strong>` tags:

```
<strong>Quodsi vocibus eligendi…</strong>
```

   Makes your webpages more accessible, e.g.

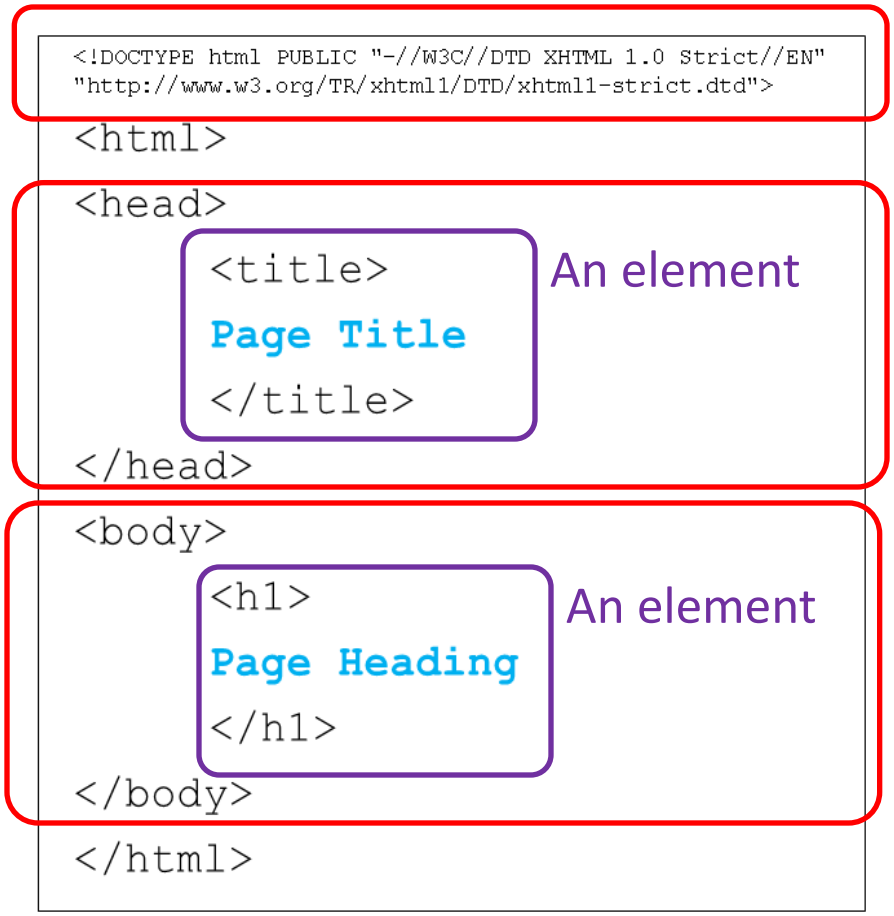
   "JAWS" will speak with a lower tone for contents of `<strong>` tags

High-level structure of a webpage

1. Document type declaration (DTD) …more later

2. Header: provides "meta" information, i.e. things about the webpage
   - **Not displayed in browser window!**
   - **Title is displayed on the tab**

3. Body: Actual content



High-level structure of a webpage

AN ESSAY FOR CMPT 165

"Anyone who has never made a mistake has never tried anything new."-- Albert Einstein

1. INTRODUCTION

Lorem ipsum dolor sit amet, ne has solet percipitur, voluptaria mnesarchum ea eum. Est te cibo erat rationibus, pro ponderum lobortis vulputate ea, his dolor luptatum eu. Quodsi vocibus eligendi ea duo, petentium neglegentur pro ne. Et vix laudem aperiri interesset, eos ut euismod accusam aliquando. In sit ignota alterum explicari, id vis utroque facilis temporibus, duo no erat iisque scaevola. Ne solet legimus splendide pri, ad mel habemus oportere corrumpit. Vel facilisi volutpat consetetur ut. Dicit graeco te quo, eos ei hinc animal volumus. Ne sea quem simul mucius, duo ei elitr euripidis. Quo tota choro insolens et, id dolore cotidieque duo.

Vix legere legimus id, discere repudiare in vis, amet ridens efficiendi qui no. Aeterno constituam qui id, in dicit bonorum corrumpit eum. Qui id dicam periculis philosophia, id eos explicari quaerendum. Habeo consul ex per. Pri an agam assueverit.

2. METHODS

Vix ne elitr aliquam erroribus, pro id quando deleniti gloriatur. Quo albucius philosophia cu, per diam audiam tamquam an. No illum luptatum delicatissimi his. Utamur qualisque deseruisse pro ei, usu modo eros invidunt ex.

2.1 Xaf sd afdsafasd f

Vix ne elitr aliquam erroribus, pro id quando deleniti gloriatur. Quo albucius philosophia cu, per diam audiam tamquam an. No illum luptatum delicatissimi his. Utamur qualisque deseruisse pro ei, usu modo eros invidunt ex. as aeque detraxit ad. **Cu assum exerci vix, quem congue deserunt ea cum. Quot repudiare in duo, consul consectetuer has** in. Nam novum malorum ne. Dictas perfecto sententiae ad sea, modus delectus ex mei. Lorem ando.

2.2 Xaf sd afdsafasd f

In sit ignota alterum explicari, id vis utroque facilis temporibus, duo no erat iisque scaevola. Ne solet legimus splendide pri, ad mel habemus oportere corrumpit. Vel facilisi volutpat consetetur ut. Dicit graeco te quo, eos ei hinc animal volumus. Ne sea quem simul mucius, duo ei elitr euripidis. Quo tota choro insolens et, id dolore cotidieque duo.

2.2.1 Afasdf Xaf sd afdsafasd f

Lorem ipsum dolor sit amet, ne has solet percipitur, voluptaria mnesarchum ea eum. Est te cibo erat rationibus, pro ponderum lobortis vulputate ea, his dolor luptatum eu. Quodsi vocibus eligendi ea duo, petentium neglegentur pro ne. Et vix laudem aperiri interesset, eos ut euismod accusam aliquando. In sit

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html>
<head>
    <title>
    Page Title
    </title>
</head>
<body>
    <h1>
    Page Heading
    </h1>
</body>
</html>
```

An element

An element

<h1> AN ESSAY FOR CMPT 165 </h1>

<blockquote>

"Anyone who has never made a mistake has never tried anything new."-- Albert Einstein

</blockquote>

<h2>

1. INTRODUCTION

</h2>

Lorem ipsum dolor sit amet, ne has solet percipitur, voluptaria mnesarchum ea eum. Est te cibo erat rationibus, pro ponderum lobortis vulputate ea, his dolor luptatum eu. Quodsi vocibus eligendi ea duo, petentium neglegentur pro ne. Et vix laudem aperiri interesset, eos ut euismod accusam aliquando. In sit ignota alterum explicari, id vis utroque facilis temporibus, duo no erat iisque scaevola. Ne solet legimus splendide pri, ad mel habemus oportere corrumpit. Vel facilisi volutpat consetetur ut. Dicit graeco te quo, eos ei hinc animal volumus. Ne sea quem simul mucius, duo ei elitr euripidis. Quo tota choro insolens et, id dolore cotidieque duo.

Vix legere legimus id, discere repudiare in vis, amet ridens efficiendi qui no. Aeterno constituam qui id, in dicit bonorum corrumpit eum. Qui id dicam periculis philosophia, id eos explicari quaerendum. Habeo consul ex per. Pri an agam assueverit.

<h2>

2. METHODS

</h2>

Vix ne elitr aliquam erroribus, pro id quando deleniti gloriatur. Quo albucius philosophia cu, per diam audiam tamquam an. No illum luptatum delicatissimi his. Utamur qualisque deseruisse pro ei, usu modo eros invidunt ex.

<h3>

2.1 Xaf sd afdsafasd f

</h3>

Vix ne elitr aliquam erroribus, pro id quando deleniti gloriatur. Quo albucius philosophia cu, per diam audiam tamquam an. No illum luptatum delicatissimi his. Utamur qualisque deseruisse pro ei, usu modo eros invidunt ex. as aeque detraxit ad. **Cu assum exerci vix, quem congue deserunt ea cum. Quot repudiare in duo, consul consectetuer has** in. Nam novum malorum ne. Dictas perfecto sententiae ad sea, modus delectus ex mei. Lorem ando.

<h3>

2.2 Xaf sd afdsafasd f

</h3>

In sit ignota alterum explicari, id vis utroque facilis temporibus, duo no erat iisque scaevola. Ne solet legimus splendide pri, ad mel habemus oportere corrumpit. Vel facilisi volutpat consetetur ut. Dicit graeco te quo, eos ei hinc animal volumus. Ne sea quem simul mucius, duo ei elitr euripidis. Quo tota choro insolens et, id dolore cotidieque duo.

<h4>

2.2.1 Afasdf Xaf sd afdsafasd f

</h4>

Lorem ipsum dolor sit amet, ne has solet percipitur, voluptaria mnesarchum ea eum. Est te cibo erat rationibus, pro ponderum lobortis vulputate ea, his dolor luptatum eu. Quodsi vocibus eligendi ea duo, petentium neglegentur pro ne. Et vix laudem aperiri interesset, eos ut euismod accusam aliquando. In sit

About "elements"

- Most elements consist of 1-2 components

```
<h1>This is a heading</h1>
```

  - Opening (+ closing) tags + content
- Some elements do not have content:
  - e.g. horizontal line (=rule), line breaks
  - Use empty tags

```
<hr/>
<br/>
```

e.g.
```
<p>This is a paragraph.</p><br/>
<p>This is another paragraph.</p>
```

Important notes

- Tags must be in lower cases, e.g. <body>, ~~<BODY>~~
- Most tags should be closed:

```
<h1>This is a subheading
<p>Validator will complain.</p>
```

- Semantics should be respected:

```
<p><h2>Bad annotations</h2>Validator will complain.</p>

<h2>Good annotations</h2>
<p>Validator will <em>approve</em> it.</p>
```

- Ordering of tags matters!
  - "Improper nesting":

```
<p><i>Validator will <em>not</i></em> approve this.</p>
```

Another note

- White spaces are ignored:

```
<h2>This is a subheading</h2>

<h2>This       is a subheading</h2>

<h2>This
        is a
                subheading</h2>
```

…will be displayed in same manner

Basic tags

<h1>, …, <h6>	headings
<p>	paragraph
<b>	bold
<i>	italic
<u>	underline
	emphasis*
	strong emphasis**
<blockquote>	indented quoting
<q>	quoting text (for citations)
<pre>	pre-formatted text
<tt>	typewriter type (“monospace”), not equivalent to <pre>
 	line break
<hr/>	horizontal rule (rule=line)

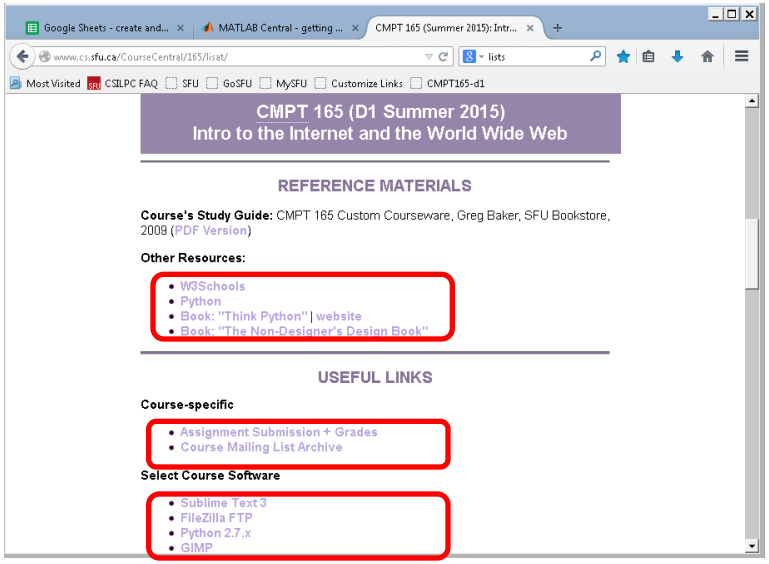
*preferred over <i>
**preferred over <b>
(as it gives semantic meaning of content)

Questions?

Unit 2 – Part 2
…More Tags

Lists

Display related items in an organized manner



Different uses of lists?

- Use the same way as in any document/report
- Summarizes keypoints (e.g. presentation)
- Create outlines for large webpages
- Describe steps in a procedure
- A set of definitions
- …

Structure of list

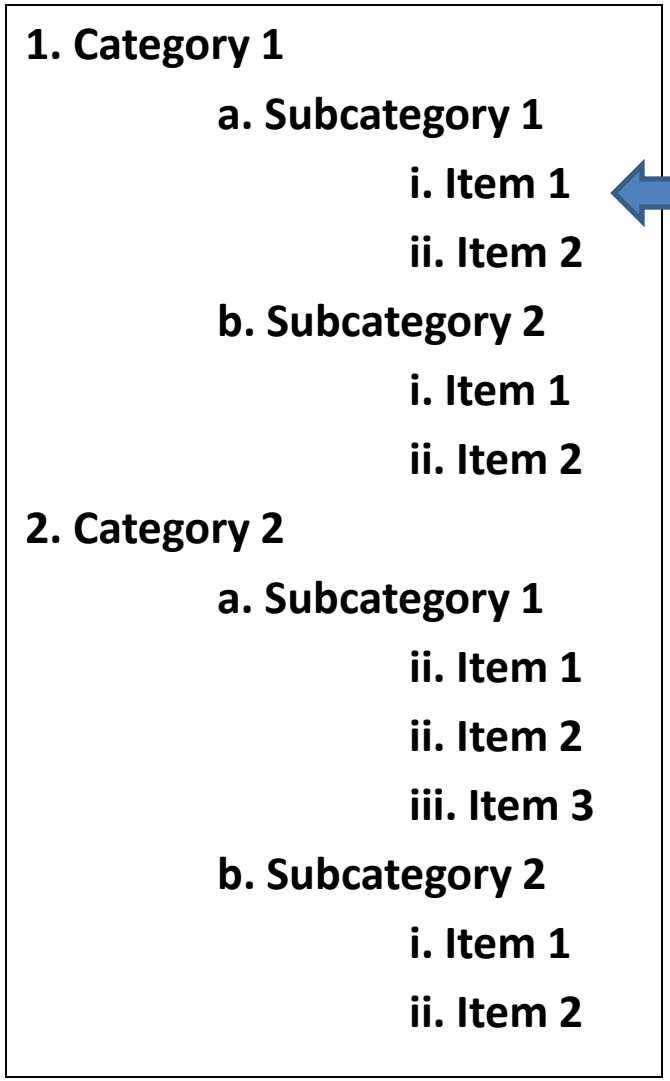
- Category 1
    - Subcategory 1
        - Item 1
        - Item 2
    - Subcategory 2
        - Item 1
        - Item 2
- Category 2
    - Subcategory 1
        - Item 1
        - Item 2
        - Item 3
    - Subcategory 2
        - Item 1
        - Item 2

Ultimately, helps you organize items systematically,

e.g. subcategories within categories

“sub-lists” within lists

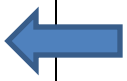
Types of lists



<ol> ordered list

Types of lists

- Category 1
  - Subcategory 1
    - Item 1
    - Item 2
  - Subcategory 2
    - Item 1
    - Item 2
- Category 2
  - Subcategory 1
    - Item 1
    - Item 2
    - Item 3
  - Subcategory 2
    - Item 1
    - Item 2



`<ol>` ordered list

`<ul>` unordered list

Types of lists

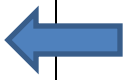
ABC
  This term means abc.

BCD
  This term means bcd.

DEF
  This term means def.

EFG
  This term means efg.

FGH
  This term means fgh.



`<ol>` ordered list

`<ul>` unordered list

`<dl>` definition list

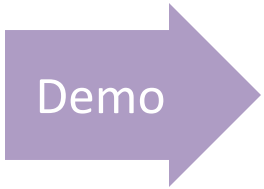
Creating lists

Web browsers

- **Safari**
- **FireFox**
- **Chrome**
- **IE**
- **Opera**

Top 5 browsers (?)

1. **FireFox**
2. **Chrome**
3. **IE**
4. **Safari**
5. **Opera**



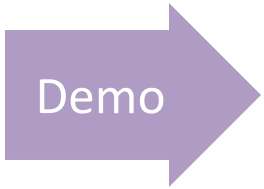

```
<h1>Web browsers</h1>
<ul>
<li>Safari</li>
<li>FireFox</li>
<li>Chrome</li>
<li>IE</li>
<li>Opera</li>
</ul>


<h1>Top 5 browsers (?)</h1>

<ol>
<li>FireFox</li>
<li>Chrome</li>
<li>IE</li>
<li>Safari</li>
<li>Opera</li>
</ol>
```

Q: <li>? **Ans: list item**

Creating Sub-lists

Common fruits in BC

- Apples
  - Granny smith
  - Golden delicious
- Oranges
  - Naval oranges
  - Mandarin oranges
- Bananas




```
<h1>Common fruits in BC</h1>

<ul>
<li>Apples</li>
<ul>
<li>Granny smith</li>
<li>Golden delicious</li>
</ul>

<li>Oranges</li>
<ul>
<li>Naval oranges</li>
<li>Mandarin oranges </li>
</ul>
<li>Bananas</li>
</ul>
```

Types of lists

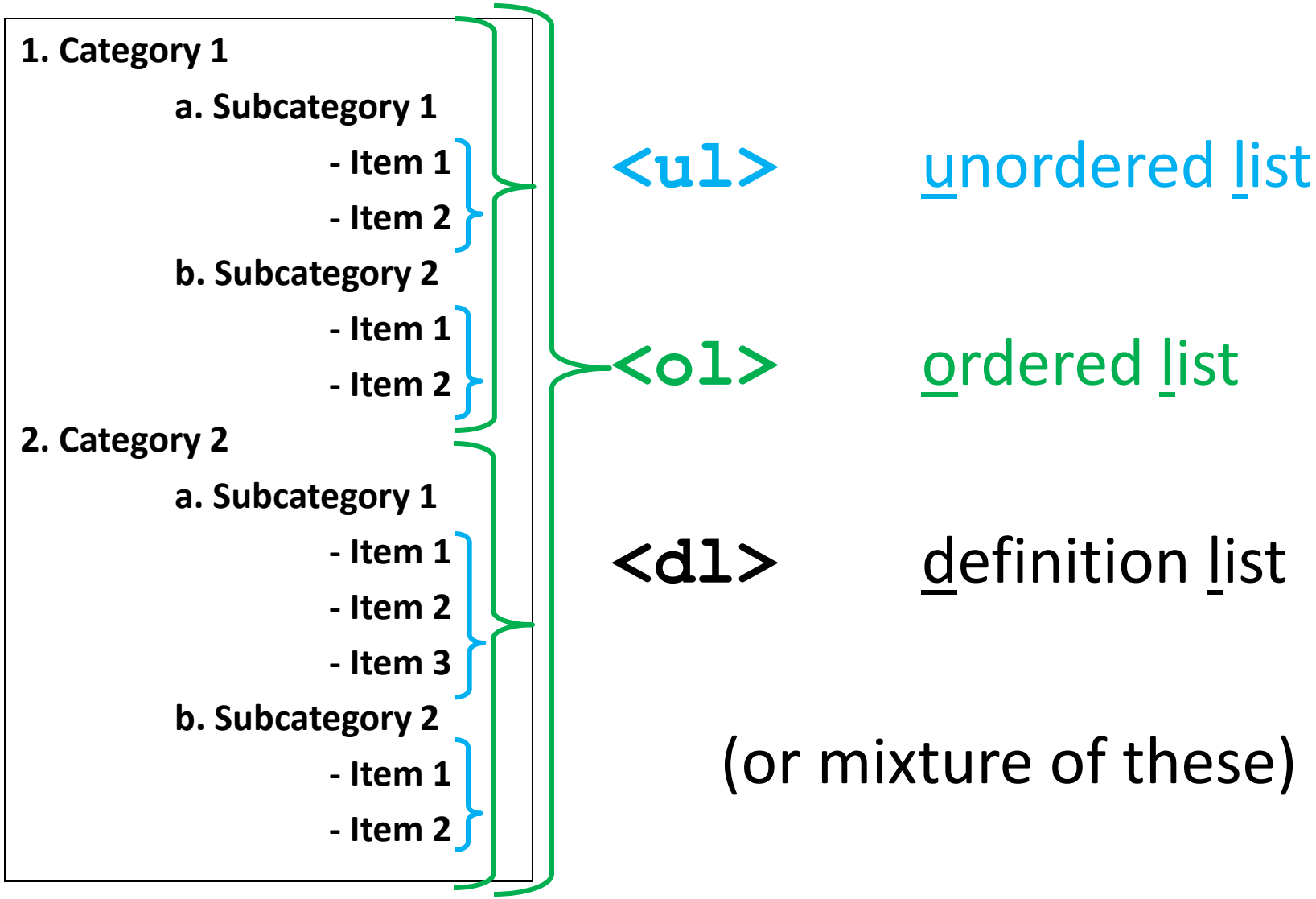
1. Category 1
    a. Subcategory 1
        i. Item 1
        ii. Item 2
    b. Subcategory 2
        i. Item 1
        ii. Item 2
2. Category 2
    a. Subcategory 1
        ii. Item 1
        ii. Item 2
        iii. Item 3
    b. Subcategory 2
        i. Item 1
        ii. Item 2

`<ul>` unordered list

`<ol>` ordered list

`<dl>` definition list

Types of lists



Defining Lists

```
<h1>Unordered list</h1>
<ul>
<li></li>
</ul>
```

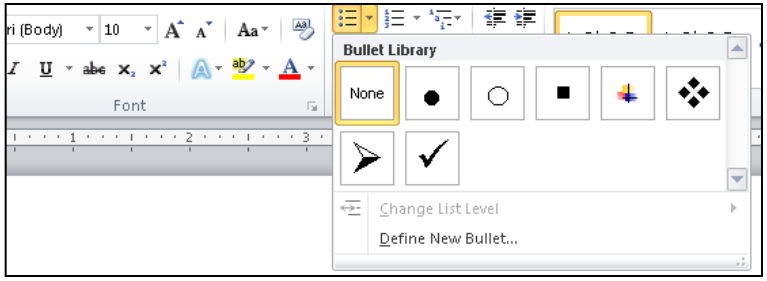
```
<h1>Ordered list</h1>
<ol>
<li></li>
</ol>
```

```
<h1>Definition list</h1>
<dl>
<dt>Term</dt><dd>Description</dd>
</dl>
```

<dt>: definition term <dd>: definition description

Attributes

In Word Processor (MS Word)



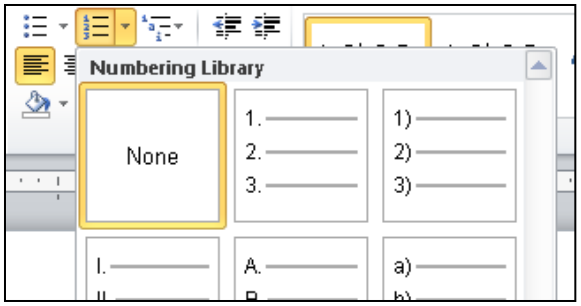
Provide variations to your elements

Examples:

- For lists:
  - Style of the list: bullet, arrow, square, disc, etc.

```
<ul type="disc">
```

In Word Processor (MS Word)



- For ordered list:

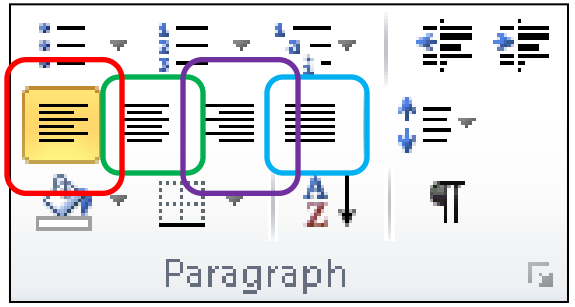
```
<ol type="i">
<ol type="A" start="3">
```

Attributes

More examples:

```
<p align="center">
<p align="left">
<p align="right">
<p align="justify">
```

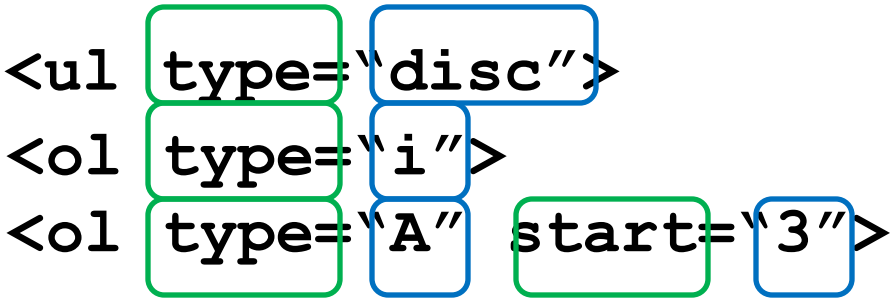
In Word Processor (MS Word)




```
<h1 align="center">
<h1 align="left">
<h1 align="right">
<h1 align="justify">
```

Attribute specification

- Assign attributes to elements:



name_of_attribute="value"

- Always close the value with double quotes ("value")!

Today's Agenda

- Recap of materials covered
- Introduce a few useful tags and concepts
  - lists
  - attributes
  - absolute vs. relative URL
  - image
  - anchor

URL (reviewed)

Universal resource locator: name of a resource

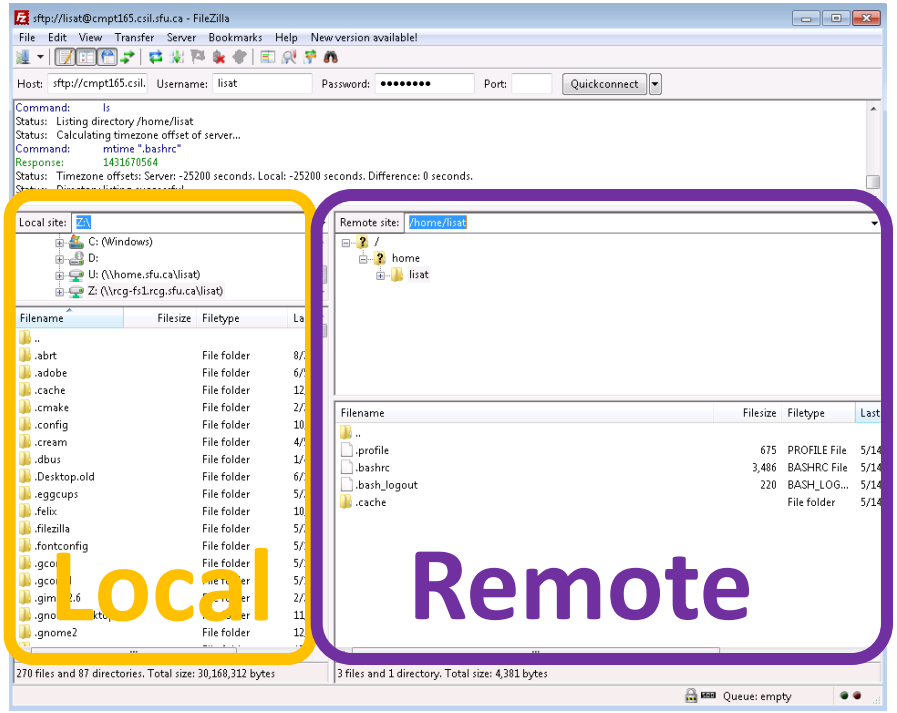
- html, pdf document, image file, etc.
- Examples:

http://www.cs.sfu.ca/CourseCentral/165/lisat/index.html

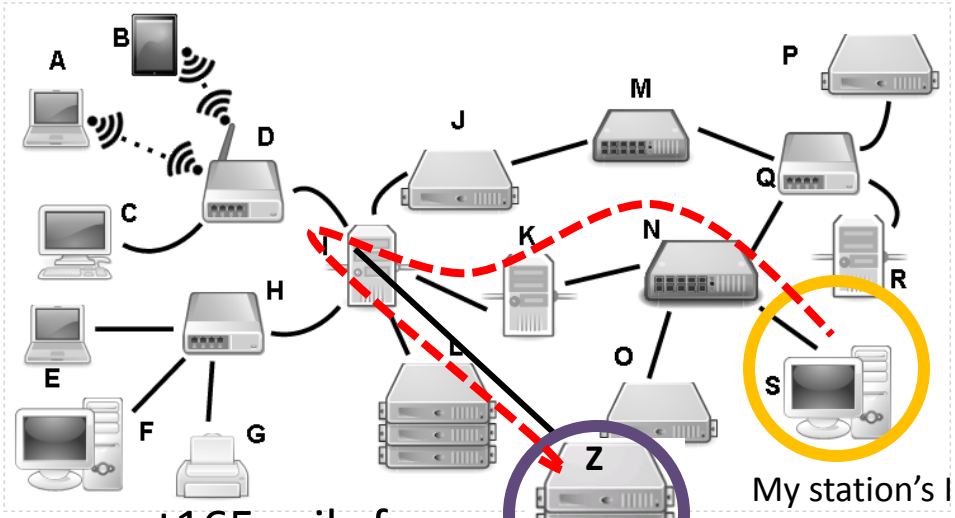
http://www.cs.sfu.ca/CourseCentral/165/lisat/lectures/Unit1-Part2.pdf

http://cmpt165.cs.sfu.ca/~lisat/demos/SFU_logo.png

FileZilla window



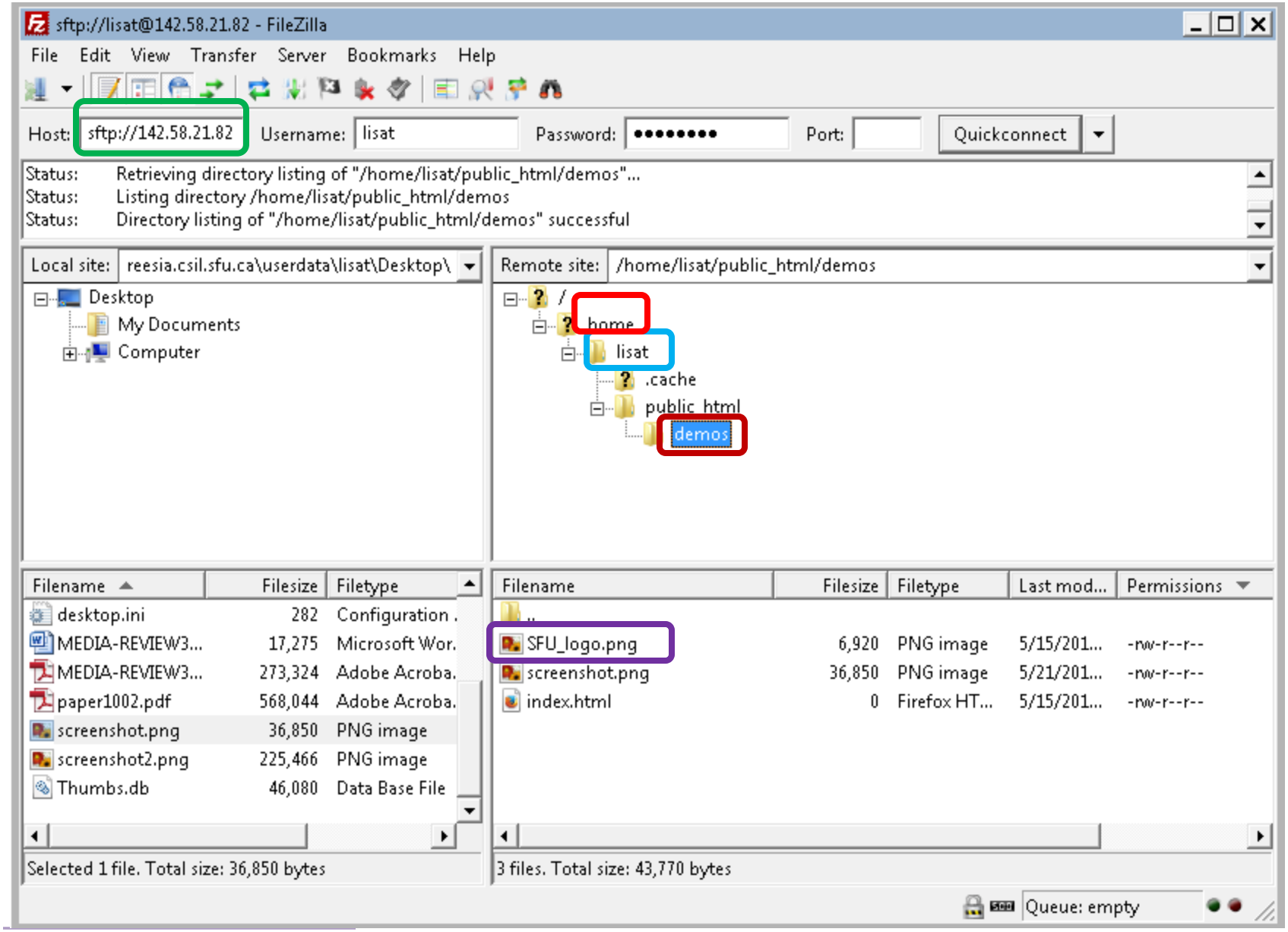
Demo



My station's IP: [199.60.5.178]

cmpt165.csil.sfu.ca
Web server's IP:[142.58.21.82]

http://cmpt165.cs.sfu.ca/~lisat/demos/SFU_logo.png



<img> tag

- An empty tag (no closing tag)
- Required attributes:

  src: where the image file is stored; abbreviation of "source"

  alt: alternative text to be displayed if file cannot be read

  Tip: be as descriptive as possible because search engines use them ☺

Example:

```
<img src="http://cmpt165.cs.sfu.ca/~lisat/demos/SFU_logo.png" alt="Library logo"/>
```

- Optional attributes:

  height: displayed height

  width: displayed width (% or pixels)

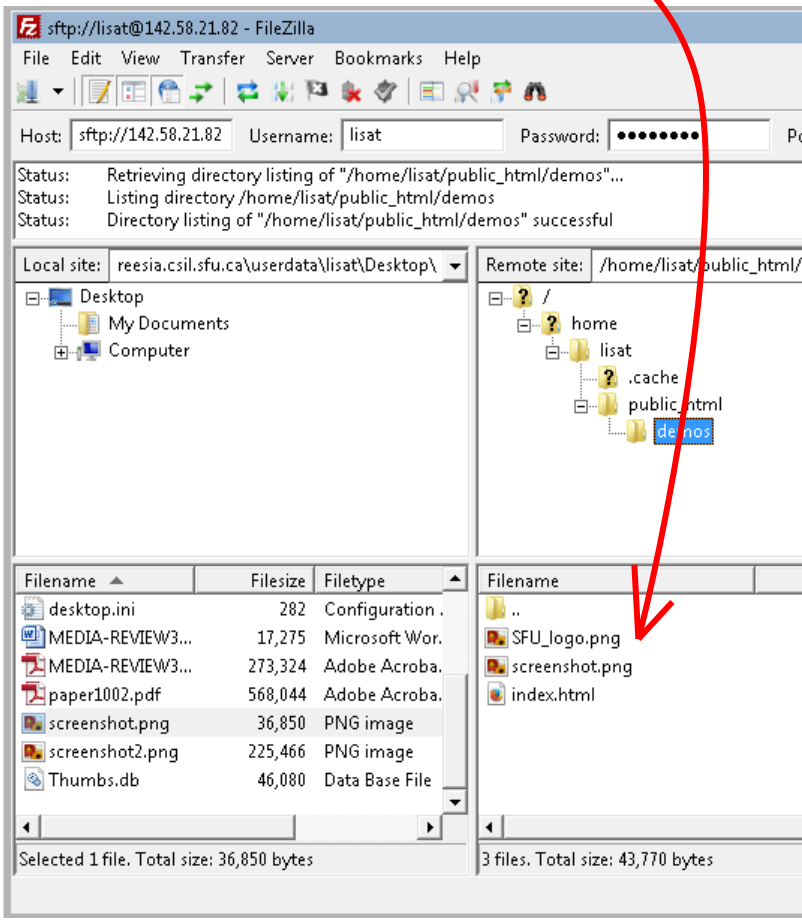
```
<img src="local_image.jpg" alt="Image saved locally" width="500"/>
```

Absolute vs. relative URL

SFU_logo.png + Index.html both in same “demos” folder

➔ use relative path (as opposed to absolute path)

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html>
  <head><title>Title</title></head>

  <body>

        <h1>Heading</h1>
        <p>
        <img
        src="http://cmpt165.csil.sfu.ca/
        ~lisat/demos/SFU_logo.png" />
        </p>

        <p><img src="SFU_logo.png" /></p>

  </body>

</html>
```



<a> tag

<a>: anchor tag creates a hyperlink to a resource

Example:

```
<p>click <a href="www.sfu.ca">here</a></p>
```

Required attributes:

href: hyper reference

Optional attributes

target : where the target page will be displayed

type: what type of resource **href** points to

Recap of the week

- Key components of good websites
- Structure of webpage: DTD vs. head vs. body
- Elements vs. tags vs. content
- Tags examined today:
  - List **<ol><ul><li><dl><dt><dd>**
  - Image **<img>**
  - Anchor **<a>**
  - http://www.w3schools.com/tags/
- Key concepts:
  - Attributes
  - Relative vs. absolute URL

Lab exercise 2

- Has been posted
- XHTML + CSS
- 9 steps
  - Materials covered up till now: Steps #1-4
  - We'll look at CSS next class, so you can complete Steps # 5-9 later then