More HTML Tags

Images: `<img>`
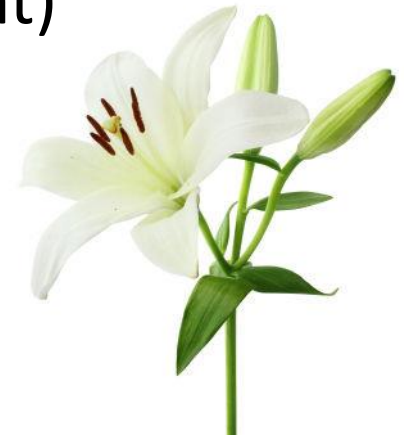
- Inserts a graphical image into the page (inline)
- The `src` attribute specifies the image URL
- HTML5 also requires an `alt` attribute describing the image
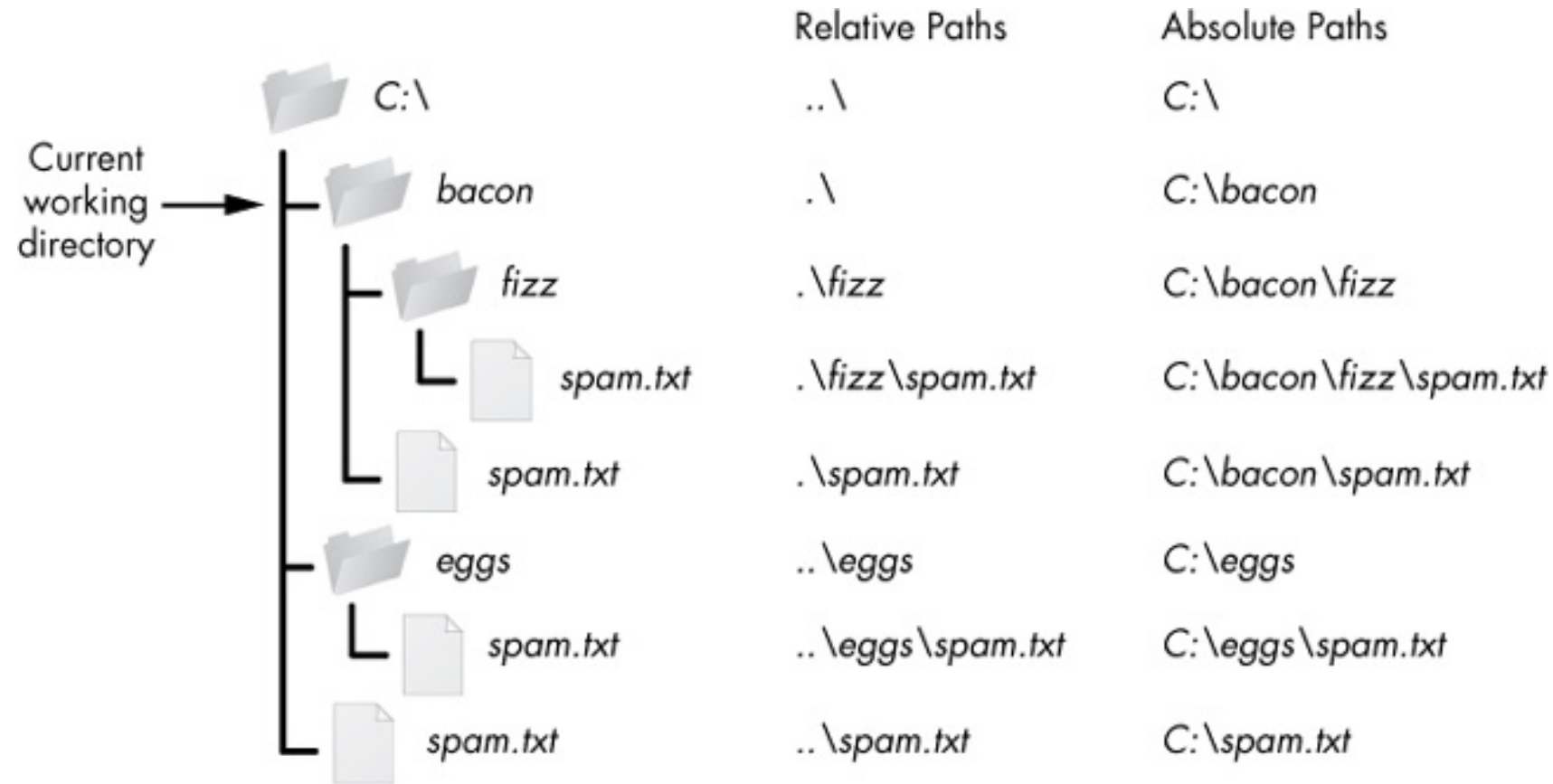- `title` attribute is an optional tooltip (on ANY element)

```html
<img src="../images/whiteLily.jpg" alt="White Lily" />
```
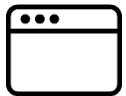
Relative vs absolute path

	Relative Paths	Absolute Paths
C:\	..\	C:\
bacon	.\	C:\bacon
fizz	.\fizz	C:\bacon\fizz
spam.txt	.\fizz\spam.txt	C:\bacon\fizz\spam.txt
spam.txt	.\spam.txt	C:\bacon\spam.txt
eggs	..\eggs	C:\eggs
spam.txt	..\eggs\spam.txt	C:\eggs\spam.txt
spam.txt	..\spam.txt	C:\spam.txt

Current working directory →

Phrase elements : ~~**\<i\>**~~**\<em\>**,~~**\<b\>**~~**\<strong\>**

- em: emphasized text (usually rendered in italic)
- strong: strongly emphasized text (usually rendered in bold)

```
<p> HTML is <em>really</em>,
<strong>REALLY</strong> fun! </p>
```
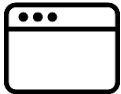
HTML is *really*, **REALLY** fun!

- As usual, the tags must be properly nested for a valid page.

Computer code: `<code>`

A short section of computer code (usually shown in a fixed-width font)

```
<p> The <code>ul</code> and <code>ol</code> tags make lists. </p>
```

The ul and ol tags make lists.
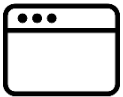
Quotations: `<blockquote>`

A lengthy quotation (block)

```
<p>As Lincoln said in his famous Gettysburg Address:</p>
<blockquote>
Fourscore and seven years ago, our fathers brought forth on this continent
a new nation, conceived in liberty, and dedicated to the proposition that
all men are created equal.
</blockquote>
```

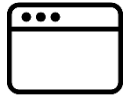As Lincoln said in his famous Gettysburg Address:

> Fourscore and seven years ago, our fathers brought forth on this continent a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal.

Inline quotations: <q>

A short quotation (inline)

```
<p>Quoth the Raven, <q>Nevermore.</q></p>
```

Quoth the Raven, "Nevermore."

Why not just write the following? `<p>`Quoth the Raven, "Nevermore."`</p>`

- HTML shouldn't contain literal quotation mark characters; they should be written as "
- Using <q> allows us to apply CSS styles to quotations (seen later)
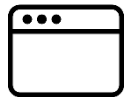
Displaying List Items

- Unordered List
- Ordered List

Unordered list: `<ul>, <li>`

- `ul` represents a bulleted list of items (block)
- `li` represents a single item within the list (block)

```
<ul>
    <li>No shoes</li>
    <li>No shirt</li>
    <li>No problem!</li>
</ul>
```

- No shoes
- No shirt
- No problem!

More about unordered lists

- A list can contain other lists
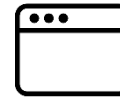
```
<ul>
    <li>Simpsons:
        <ul>
            <li>Homer</li>
            <li>Marge</li>
        </ul>
    </li>
    <li>Family Guy:
        <ul>
            <li>Peter</li>
            <li>Lois</li>
        </ul>
    </li>
</ul>
```

- Simpsons:
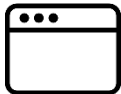   - Homer
    - Marge
- Family Guy:
    - Peter
    - Lois

Ordered list: `<ol>`

- `ol` represents a numbered list of items (block)
- We can make lists with letters or Roman numerals using CSS (later)

```html
<p>RIAA business model:</p>
<ol>
    <li>Sue customers</li>
    <li>Profit!</li>
</ol>
```

RIAA business model:
1. Sue customers
2. Profit!

Displaying tabular data

- HTML Table

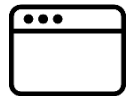# HTML tables: <table>, <tr>, <td>

A 2D table of rows and columns of data (block element)

```
<table>
   <tr><td>1,1</td><td>1,2 okay</td></tr>
   <tr><td>2,1 real wide</td><td>2,2</td></tr>
</table>
```

1,1	1,2 okay
2,1 real wide	2,2

- **table** defines the overall table, **tr** each row, and **td** each cell's data
- tables are useful for displaying large row/column data sets

Table headers, captions: `<th>, <caption>`

```html
<table>
  <caption>My important data</caption>
  <tr><th>Column 1</th><th>Column 2</th></tr>
  <tr><td>1,1</td><td>1,2 okay</td></tr>
  <tr><td>2,1 real wide</td><td>2,2</td></tr>
</table>
```

My important data
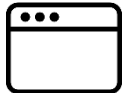
Column 1	Column 2
1,1	1,2 okay
2,1 real wide	2,2

- `th` cells in a row are considered headers; by default, they appear bold
- a `caption` at the start of the table labels its meaning

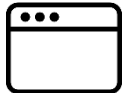# The `rowspan` and `colspan` attributes

- **`colspan`** makes a cell occupy multiple columns; **`rowspan`** multiple rows

- **`text-align`** and **`vertical-align`** control where the text appears within a cell

```html
<table>
    <tr><th>Column 1</th><th>Column 2</th><th>Column 3</th></tr>
    <tr><td colspan="2">1,1-1,2</td> <td rowspan="3">1,3-3,3</td></tr>
    <tr><td>2,1</td><td>2,2</td></tr>
    <tr><td>3,1</td><td>3,2</td></tr>
</table>
```

Column 1	Column 2	Column 3
1,1-1,2		
2,1	2,2	1,3-3,3
3,1	3,2	

Review: Block and inline elements

- block elements cover an entire large region of content
  - Examples: `<div>`, `<p>`, `<table>`
  - The browser places a margin of whitespace between block elements for separation
  - Can contain other block elements, as well as inline elements.
- inline elements affect a small amount of content
  - Examples: `<span>`, `<a>`, `<img>`
  - The browser allows many inline elements to appear on the same line
  - Can contain other inline elements, but can never contain block element.

Generic elements

- `<div>` - Generic block element
- `<span>` - Generic inline element

Semantic Tags

They generally have no default outward appearance on the page, instead they give insight into the structure of the page.

- section – defines a section in a document
- header – specifies a header for a document or a section
- footer – specifies a footer for a document or a section
- nav – defines a set of navigation links
- aside – like a sidebar
- article – specifies independent, self-contained content
- More Semantic Tags

HTML Character Entities

- Reserved characters in HTML must be replaced with character entities.
- Characters that are not present on your keyboard can also be replaced by entities.
- [Complete list of HTML entities](#)

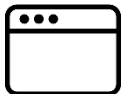| character(s)	entity
< >	< >
é è ñ	é è ñ
™ ©	™ ©
π δ Δ	π δ Δ
И	И
" &	" &

- How would you display the text & on a web page?

HTML-encoding text

To display the html code in a web page, its special characters must be encoded as shown below

```
&lt;p&gt;
    &lt;a href=&quot;http://google.com/&quot;&gt; Google&lt;/a&gt;
&lt;/p&gt;
```

```
<p>
  <a href="http://google.com/"> Google </a>
</p>
```
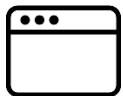
W3C HTML Validator

- Checks your HTML code to make sure it follows the official HTML syntax

- Pickier than the browser

```html
<p>
    <a href="https://validator.w3.org/check/referer">
        <img src="http://mumstudents.org/cs472/images/w3c-html.png" alt="Validate" />
    </a>
</p>
```

Main Point

More common tags include inline elements, lists, tables. The most important concept is to use tags based on their semantics (meaning), not based on their visual effect (which can easily be changed). By using tags for their meaning, clients (including non-visual) will better understand the meaning of your page and use it more effectively.

Clear and settled awareness allows us to better grasp the meaning of information and take the right actions for success.

Assignment

- Add a profile picture to your home page.
- Make a page that contain information about you and publish it to [GitHub Pages](#).
  - Your page should look like [this one](#).
  - You need HTML validator image link at the bottom of your page. For this, you can simply copy and paste the code from the slide.
    - Make sure your page passes the HTML validator check.
- Add a link to this page in your home page (index.html)