Web Application Development

HTML

1

Tim Berners-Lee

- The invention of the WWW is usually attributed to the British Tim Berners-Lee, who, along with the Belgian Robert Cailliau, published a proposal in 1990 for a hypertext system while both were working at CERN in Switzerland.
  - https://en.wikipedia.org/wiki/Tim_Berners-Lee

image source: http://www.csail.mit.edu/user/769

2

HTML Tags

- http://www.w3schools.com/tags/

Exercise

index.html

```html
<!DOCTYPE html>
<html>
    <head>
        <meta charset="utf-8" >
        <title>My First Webpage</title>
    </head>
    <body>
        <h1>Welcome to my First Webpage!</h1>
    </body>
</html>
```

3

IMPORTANT! Live Preview doesn't always render page correctly

Extensions

Live Preview

4

Elements and Attributes


```
Opening Tag                              Closing Tag

<a href="http://www.centralpark.com">Central Park</a>

Element Name        Attribute              Content
```

park.html

5

Nesting HTML Elements


```html
<body>
    <p>
    This is some <strong>text</strong>
    </p>
    <h1>Title goes here</h1>
    <div>
        <p>
        This is <span>important</span>
        </p>
    </div>
</body>
```

6

Slide 7
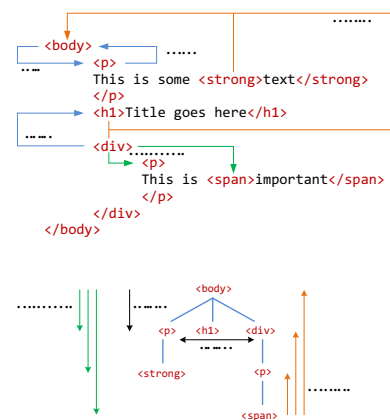
Which one is correct?

```
<h1>Share Your <strong>Travels</strong></h1>

<h1>Share Your <strong>Travels</h1></strong>
```

7

Slide 8

```
①    <!DOCTYPE html>
      <html>
②    <head lang="en">
          <meta charset="utf-8">              ⑤
③        <title>Share Your Travels -- New York - Central Park</title>
          <link rel="stylesheet" href="css/main.css">    ⑥
          <script src="js/html5shiv.js"></script>    ⑦
      </head>
      <body>
④        <h1>Main heading goes here</h1>
          ...
      </body>
      </html>
```

8

Slide 9

```
①    <!DOCTYPE html>
      <html>
②    <head lang="en">
          <meta charset="utf-8">              ⑤
③        <title>Share Your Travels -- New York - Central Park</title>
          <link rel="stylesheet" href="css/main.css">    ⑥
          <script src="js/html5shiv.js"></script>    ⑦
      </head>
      <body>
④        <h1>Main heading goes here</h1>
          ...
      </body>
      </html>
```

link: Defines the relationship between a document and
an external resource (most used to link to style sheets)
rel: relationship
script: defines a client-side script

9

Slide 10

```
      <body>
①        <h1>Share Your Travels</h1>
          <h2>New York - Central Park</h2>
②        <p>Photo by Randy Connolly</p>
          <p>This photo of Conservatory Pond in
              <a href="http://www.centralpark.com/">Central Park</a>    ③
              New York City was taken on October 22, 2011 with a
              <strong>Canon EOS 30D</strong> camera.
          </p>                                       ④
⑤        <img src="images/central-park.jpg" alt="Central Park" />

          <h3>Reviews</h3>
⑥        <div>                                       ⑦
              <p>By Ricardo on <time>September 15, 2012</time></p>
              <p>Easy on the HDR buddy.</p>
          </div>

          <div>
              <p>By Susan on <time>October 1, 2012</time></p>
              <p>I love Central Park.</p>
          </div>    ⑧

          <p><small>Copyright &copy; 2012 Share Your Travels</small></p>
      </body>                                    ⑨
```

p vs. div

10

Slide 11

```
      <body>
①        <h1>Share Your Travels</h1>
          <h2>New York - Central Park</h2>
②        <p>Photo by Randy Connolly</p>
          <p>This photo of Conservatory Pond in
              <a href="http://www.centralpark.com/">Central Park</a>    ③
              New York City was taken on October 22, 2011 with a
              <strong>Canon EOS 30D</strong> camera.
          </p>                                       ④
⑤        <img src="images/central-park.jpg" alt="Central Park" />

          <h3>Reviews</h3>
⑥        <div>                                       ⑦
              <p>By Ricardo on <time>September 15, 2012</time></p>
              <p>Easy on the HDR buddy.</p>
          </div>

          <div>
              <p>By Susan on <time>October 1, 2012</time></p>
              <p>I love Central Park.</p>
          </div>    ⑧

          <p><small>Copyright &copy; 2012 Share Your Travels</small></p>
      </body>                                    ⑨
```

p: Defines a paragraph in a document
div: Defines a section in a document

11

Slide 12

Link to external site

```
<a href="http://www.centralpark.com">Central Park</a>
```

Link to resource on external site

```
<a href="http://www.centralpark.com/logo.gif">Central Park</a>
```

Link to another page on same site as this page

```
<a href="index.html">Home</a>
```

Link to another place on the same page

```
<a href="#top">Go to Top of Document</a>
```

12

Slide 13

href stands for Hypertext Reference

Link to external site
```
<a href="http://www.centralpark.com">Central Park</a>
```

Link to resource on external site
```
<a href="http://www.centralpark.com/logo.gif">Central Park</a>
```

Link to another page on same site as this page
```
<a href="index.html">Home</a>
```

Link to another place on the same page
```
<a href="#top">Go to Top of Document</a>
```

13

Slide 14

Try https://catalog.bridgew.edu/ Academic Policy

Link to specific place on another page
```
<a href="productX.html#reviews">Reviews for product X</a>
```

Link to email
```
<a href="mailto://person@somewhere.com">Someone</a>
```

Link to javascript function
```
<a href="javascript://OpenAnnoyingPopup();">See This</a>
```

Link to telephone (automatically dials the number when user clicks on it using a smartphone browser)
```
<a href="tel:+18009220579">Call toll free (800) 922-0579</a>
```

14

Slide 15

```
<img src="img/central-park.jpg"
    title="Central Park"
    alt="Central Park" />
```

src: Specifies the URL of the image to display
title: Text in the attribute will be displayed in a popup tooltip when user moves mouse over image
alt: Text in alt attribute provides a brief description of image's content for users who are unable to see it

img element, along with **form** elements, are something called "replaced content".
When the browser renders your HTML and finds replaced content, it leaves a box for it, and then replaces that box with the actual content.
They get replaced when the browser replaces the entire element.

15

Slide 16

Character Entities

- https://www.w3schools.com/html/html_entities.asp

- These are special characters for symbols for which there is either no easy way to type in via a keyboard (such as the copyright symbol or accented characters) or which have a reserved meaning in HTML (for instance the "<" or ">" symbols).

- They can be used in an HTML document by using the entity name or the entity number. e.g.,   and ©

```
<h2>The copyright sign: &copy;</h2>
```

16

Slide 17

Semantic Markup

- Over the past decade, a strong and broad consensus has grown around the belief that HTML documents should **only** focus on **the structure of the document**.
  - Information about how the content should look when it is displayed in the browser is best left to CSS (Cascading Style Sheets).
- That is, an HTML document should not describe how to visually present content, but only describe its content's structural semantics or meaning

17

Slide 18

HTML5 Semantic Elements

- http://www.w3schools.com/html/html5_semantic_elements.asp

- One substantial problem with pre-HTML5 semantic markup:
  - most complex web sites are absolutely packed solid with <div> elements. Unfortunately, all these <div> elements can make the resulting markup confusing and hard to modify.
- Examples of non-semantic elements:
  - <div> and <span> - Tells nothing about its content.
- Examples of semantic elements:
  - <form>, <table>, and <article> - Clearly defines its content.
- Developers typically try to bring some sense and order to the <div> chaos by using id or class names that provide some clue as to their meaning.

18

Examples

- index.html
- park.html
- www.seikyung.com

- How to debug from web browser
  - https://developer.chrome.com/docs/devtools/

19

Assignment0

```
git status

git add .
git commit -m "message"


git init
git remote add origin "github Repository SSH link"

github.com vs. github.io

Upload to github.io
```

20

20