

HTML 2: Documents & Links

start time:

Before you start, complete the form below to assign a role to each member.
If you have 3 people, combine Speaker & Reflector.

Team	Date
Team Roles	Team Member
Recorder: records all answers & questions, and provides copies to team & facilitator.	
Speaker: talks to facilitator and other teams.	
Manager: keeps track of time and makes sure everyone contributes appropriately.	
Reflector: considers how the team could work and learn more effectively.	



(5 min) I. Hypertext	start time:
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1. (1 min) We usually read books and other text documents **linearly** from the first page through to the last page. What are some types of books we **don't** read linearly?

2. (2 min) These linear documents can contain nonlinear **references** to other parts of the same document or even to different documents. Most non-fiction books begin and end with special lists of references. What are these called, and why can they be difficult to use?

3. (2 min) A computer system to make it easy to explore non-linear references was described by Vannevar Bush in 1945. In the 60s, 70s, and 80s, researchers and several companies (e.g. Apple) developed working prototypes. In these systems, a nonlinear reference is called a **hyperlink** and text that contains hyperlinks is called **hypertext**. At first, hyperlinks referred to **other parts** of the **same document**. Based on your earlier answers in this activity, what challenges might arise when creating references to other documents and to other locations?

In the early 1990s, Tim Berners-Lee and colleagues at CERN developed the Internet-based hypertext system called the **WorldWideWeb**.

(This is why many web server names start with “www”.)

Hyper-Text Markup Language (HTML) is the markup language used to describe web page formatting and hyperlinks. Each browser (whether for Windows, Mac, Linux, Android, etc) knows how to read HTML and generate formatted text. The markup tags described above are part of HTML, but HTML can do much more...



(12 min) II. URLs & Hyperlinks	start time:
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Hyperlinks need a simple, consistent way to identify the location of other resources. On the Web, this is done with a **Uniform Resource Locator (URL)**. For example:

```
http://en.wikipedia.org/wiki/HTML
http://en.wikipedia.org/wiki/File:HTML.svg
http://en.wikipedia.org/w/index.php?title=Main_Page
http://en.wikipedia.org/wiki/HTML#Markup
https://www.facebook.com/Code.org
ftp://rtfm.mit.edu/pub/
```

1. (1 min) The first part of a URL (before the `://`) is the **scheme** (or **protocol**), which specifies **how** to connect.

What **schemes** are used above? What other schemes have you seen (if any)?

2. (1 min) The second part of a URL (between the `://` and the next `/`) is the **host**, which specifies **where** to connect. This is usually a **domain name**, but can also be a numeric **IP address**. (It can also include a port number).

What **hosts** are used above?

3. (1 min) The third part of a URL (after the host and `/`) is the **path**, which specifies **what** to ask for. The path might specify the directory and name of a file on a server, but it could also be used by the web server in other ways. The path may be followed by a **query string** (preceded by a `?`) which specifies other data for the web server, and/or a **fragment identifier** (preceded by a `#`) which specifies a position within the document.

What **query strings** and **fragment identifiers** are used above?



4. (3 min) To display an image in a web page, we use an **image tag**. For example:

```

```

Unlike the earlier tags, the image tag must provide more information using **attributes**. An attribute (usually) contains a **name** and a **value**.

- a. What is the **value** for the `alt` attribute, which specifies alternate text to use if the image can't be displayed?
- b. What is the **name** of the attribute with the URL for the image?

5. (2 min) To show text with a hyperlink, we use an **anchor tag**. For example:

```
<a href="http://pogil.org">The POGIL Project</a>
```

- a. What is the **name** of the attribute with the URL for the link?
- b. What **text** would the reader click on to follow this hyperlink?

6. (4 min) Write the HTML tag or tags you would use to display:

- a. The text “White House” with a hyperlink to the website `whitehouse.gov`?
- b. An image named `ovaloffice.gif` with alternate text “Oval Office” from the website `whitehouse.gov`?
- c. The same image as part of a hyperlink to the website `whitehouse.gov`?



(15 min) III. HTML Documents & Style	start time:
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A book is more than a collection of words grouped into sentences and paragraphs. Similar, an HTML document has a specific structure, shown below.

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8"/>
    <title>This is the Page Title</title>

  </head>
  <body>
    <header><h1>My awesome website</h1></header>
    <p>This is my <i>awesome</i> website.
    I bet you <b>can't wait</b> to check it out.</p>

    <footer>&copy; by me</footer>
  </body>
</html>
```

1. (3 min) Use this example to decide what tag or tags specify:

a.	The document type ?	
b.	The title of the page?	
c.	The document footer and header ?	
d.	The content that appears within the page?	
e.	Other information about the document?	

2. (3 min) Note that most browsers have a “View page source” menu option to display the actual HTML for a page that was downloaded from the webserver. For three web sites (google.com, amazon.com, and one of your choice), connect to the site, view the page source, and **briefly describe** what you see.



3. (2 min) HTML was simple at first, but became more complex over time, as people created more complicated web sites, and wanted more tags and attributes.

Show or describe how **3 tables** could be used inside each other to create the layout shown below.

page header	
first level menu	
second level menu	column 1
	column 2
page footer	

4. (2 min) Why might the team that develops one browser add new features that are not supported in other browsers? (e.g. Mosaic, Netscape, Internet Explorer, Firefox, and Google Chrome, to name a few)



5. (3 min) As web pages became longer and more complex, they used more tags and attributes, and HTML syntax became more complicated. Consider this example:

Early HTML	Later HTML
<pre><h1>In id lorem nunc</h1> <p>Cras <i>dignissim</i> magna ac ligula feugiat luctus. </p> <p>Proin diam leo, blandit sed orci vitae, pharetra venenatis arcu.</p></pre>	<pre><h1 align="center" color="blue" font-weight="bold" font-family="serif"> In id lorem nunc</h1> <p text-indent="3em" text-align="justify" background-color="green" line-height="110%"> Cras <i>dignissim</i> magna ac ligula feugiat luctus.</p> <p text-indent="3em" text-align="justify" background-color="green" line-height="110%"> Proin diam leo, blandit sed orci vitae, pharetra venenatis arcu.</p></pre>

a.	How many tags are used in the early HTML? (ignore end tags and duplicates)	
b.	How many tags are used in the later HTML?	
c.	How many attributes are used in the later HTML?	

6. (2 min) What **duplication** exists in the later HTML?

7. (2 min) What **problems** could arise in the later HTML?

