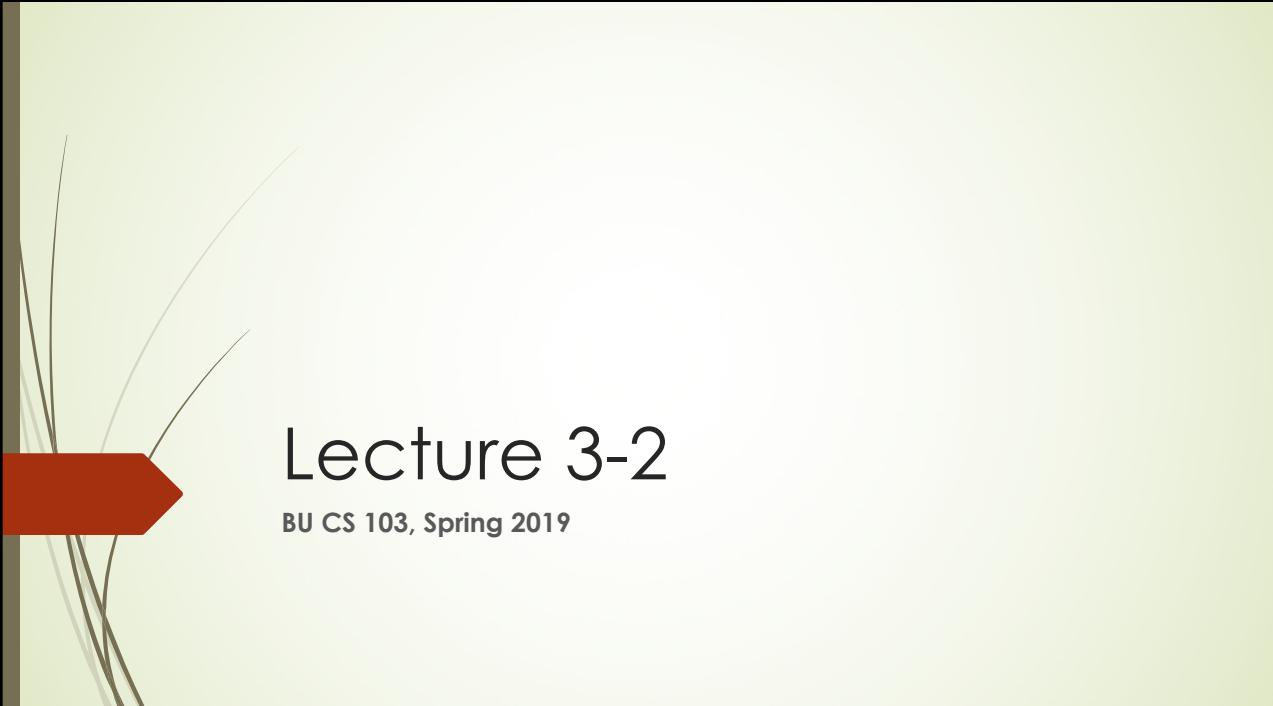


Introduction to Internet Technology and Web Programming

Computer Science 103
Boston University
Vahid Azadeh-Ranjbar

These notes are based on the lecture notes provided by [Professor Susan Worst](#).



Lecture 3-2

BU CS 103, Spring 2019

What will be Covered Today?

- ❖ HTML coding– a deeper look!
- ❖ Images & web (part 1)
 - ✓ images and copyright
 - ✓ adding images in HTML
- ❖ Audiovisuals & Web

Assignments

- ✓ **Lab 1 Assignment:** due was today at 6 pm.
- ✓ **HW 1** due is Monday at 6 pm.
- ✓ **Lab 2 Challenge** due is tomorrow at 6 pm.
- ✓ **Lab 2 Assignment** due will be next Wednesday at 6 pm.

Let me know by email (vranjbar@bu.edu) if you have any problem with homework submission in BlackBoard.



Review from Last Lecture



The current term of copyright for corporations is _____ years and for individuals is _____ years.

- A. 90 70
- B. 95 70 + life of author
- C. 95 70
- D. 90 70 + life of author

Which of these facts is true regarding “fair use”?

- A. Allows for limited use of copyrighted works for every purpose
- B. Allows to reproduce, distribute and publicly display with no limitation
- C. A &B
-  D. None of the above

A work is in the _____ if it is not protected by copyright law.

- A. Public Interest
-  B. Public Domain
- C. Possession Domain
- D. Public web
- E. Web Interest

A work is produced by the U.S. government is not in the public domain.

- A. True
-  B. False

Which of the following licenses do match with the logo?

A. CC BY-SA



B. Attribution



C. CC BY-NC



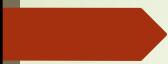
D. CC BY



 E. All of the above

F. A, C & D

G. Only A & D



Which of the following is not correct?

-  A. you have a public record of your copyright as soon as your work is created
- B. Copyright is in effect as soon as a work is created
- C. Display of copyright notice is not required
- D. You do not need to register with the U.S. copyright office



HTML coding- a deeper look!

Content vs. Design & Style

- ❖ Earlier versions of HTML (before 1996) included both content and design because it was the only way to develop a web.
- ❖ When Cascading Style Sheets (CSS) was made, it is used to format the layout of Web pages (design).
- ❖ So many of the tags were deprecated because of having CSS.
- ❖ Cascading Style Sheets will be presented in Lab 3.

Older HTML tags (Deprecated Tags)

- ❖ These tags which were used in previous versions of HTML, have been replaced by other more functional and flexible alternatives.
- ❖ Browsers should continue to support deprecated tags and attributes
- ❖ ... but eventually these tags are likely to become obsolete and so future support cannot be guaranteed.
- ❖ You need to avoid them when creating a HTML document.

Deprecated	Description	Replacement
<dir>	directory list	
<menu>	menu list	
<center>	centers elements	CSS coding
	applies font styles	CSS coding
<u>	underline	CSS coding

HTML Tags; continue...

- ❖ Comment tags <!-- -->
 - ❖ To insert comments in the source code
 - ❖ Comments are not displayed in the browser
 - ❖ Applications:
 - ✓ to explain your code, which can help you when you edit the source code at a later date.
 - ✓ indicating start and end of different sections of the code
 - ✓ Time of document creation

HTML Tags; continue...

- ❖ horizontal line tag <hr>

```
<h1> About me </h1>
<p> I am an instructor at Computer Science department at Boston
    University.....</p>
<hr>
<h2> Office location </h2>
<p> My office is at PSY 223, 64 Cummington Mall.... </p>
```

HTML Tags; continue...

❖ Line break tag **
**

- ✓ This tag is a line break (for example: create a break inside a paragraph) but...
- ✓ can not be used instead of a paragraph.
- ✓ can be used when multiple lines are part of the same unit such as contacts or addresses.

<p> Instructor: Vahid Azadeh-Ranjbar**
**
Office Location: PSY 223, 64 Cummington Mall**
**
Office Hours: Tue 10-11am/4-5pm & Thurs 2-4pm **
**
</p>

HTML Tags; continue...

❖ Subscript & Superscript tags

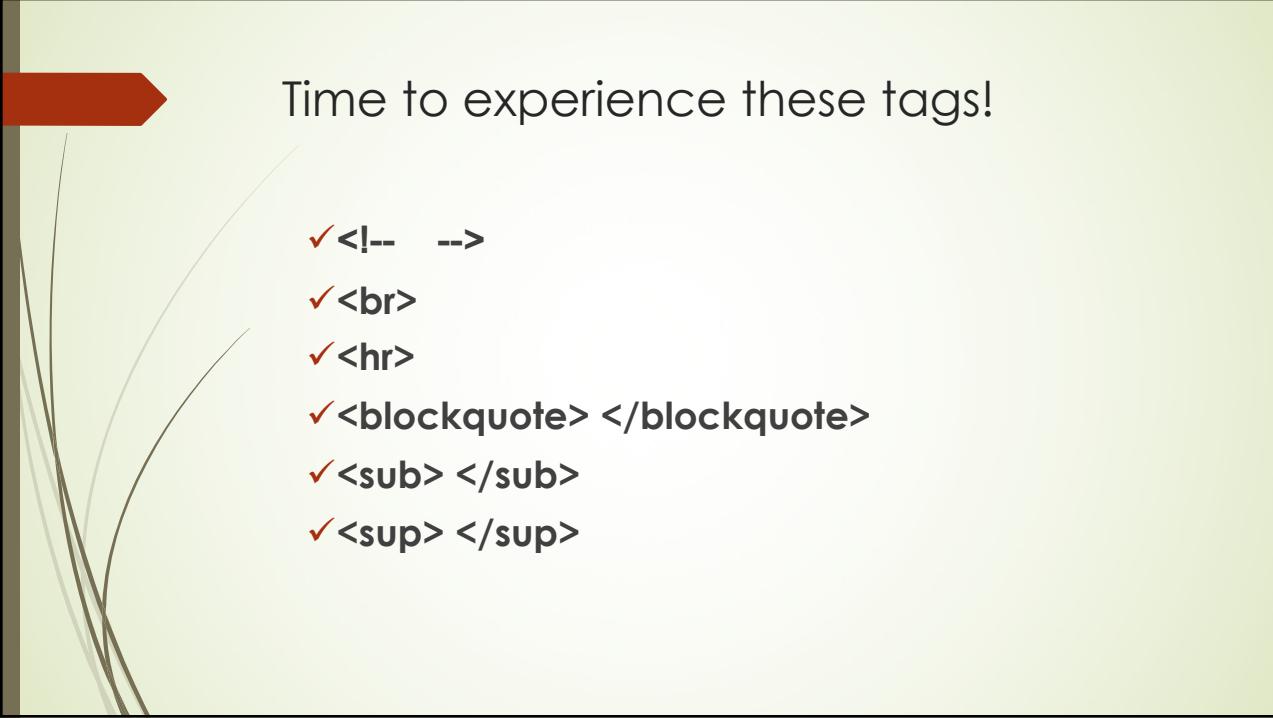
- ✓ ****
- ✓ ****

❖ Blockquote tag

- ✓ **<blockquote> </blockquote>**

➤ Application: indented block of text

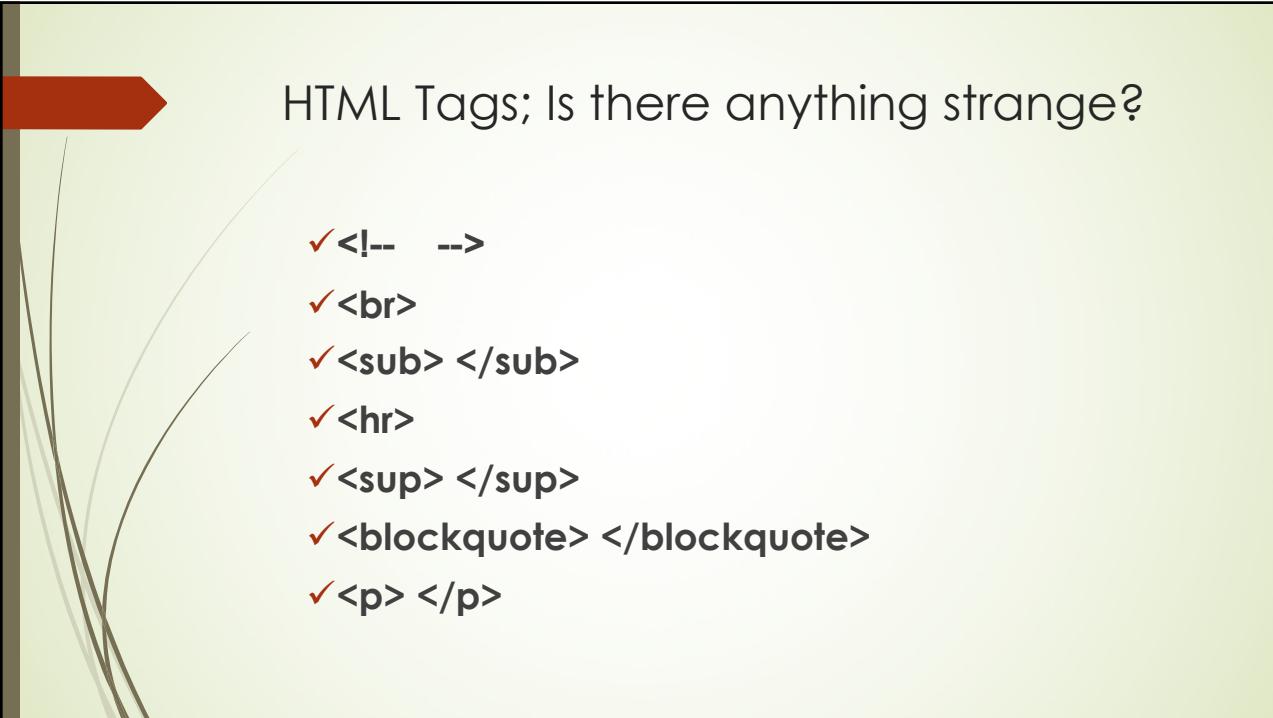
<blockquote> CSS stands for Cascading Style Sheets. CSS describes how HTML elements are to be displayed on screen, paper, or in other media. CSS saves a lot of work. It can control the layout of multiple web pages all at once. External stylesheets are stored in CSS files; [w3schools website](https://www.w3schools.com/css/css_intro.asp) **</blockquote>**



Time to experience these tags!

- ✓ <!-- -->
- ✓

- ✓ <hr>
- ✓ <blockquote> </blockquote>
- ✓
- ✓



HTML Tags; Is there anything strange?

- ✓ <!-- -->
- ✓

- ✓
- ✓ <hr>
- ✓
- ✓ <blockquote> </blockquote>
- ✓ <p> </p>

Paired tags vs. Standalone tags

- ❖ Standalone tags are also called “self-closing” tags such as `
`, `<hr>` and ``.
- ❖ Standalone tags have no closing tags.
- ❖ More standalone tags:
 - ✓ `<meta>` tags always go inside the `<head>` tag
 - ✓ `<link>` tags is used to link to external style sheets (CSS files).
- ❖ A difference between HTML and XHTML regarding standalone tags:
 - ✓ They can be closed by:

HTML 5	XHTML
<code>
</code> or <code>
</code>	<code>
</code>

Images & web (part 1)



Two kinds of Images for web: foreground images & background images

- ❖ foreground images:
 - ✓ also called content images
 - ✓ provide information
 - ✓ can be used as hyperlinks.

- ❖ background images:
 - ✓ can be created by CSS not by HTML



Using Images Created by Others Without Violating **Copyright**

1- Using Images provided by others

- ❖ How to find?

- ✓ **public domain images**

https://en.wikipedia.org/wiki/Wikipedia:Public_domain_image_resources

- ✓ **images with a Creative Commons license**

<https://search.creativecommons.org/>

Using Images Created by Others Without Violating **Copyright**

2- Providing Image credits

✓ Depends on the image: **CC-licensed image** or **public domain image**

✓ **CC-licensed image**

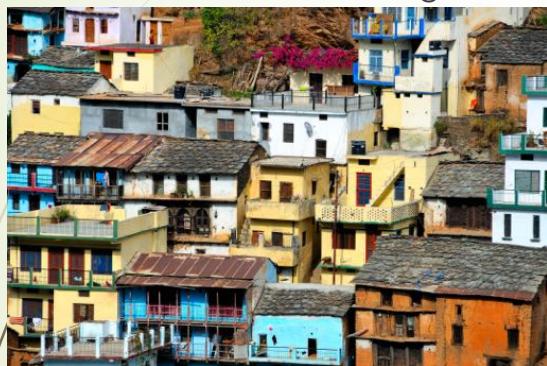
- Providing title of the image and a hyperlink to the image
- Providing name or username of the owner and a hyperlink to his/her website if applicable
- Providing name of the CC license and a hyperlink to the license

✓ **Public Domain image**

- Providing title of the image and a hyperlink to the image
- Providing name or username of the owner and a hyperlink to his/her website if applicable
- An statement such as "The image is in the Public Domain."

Examples

CC-licensed image



[Houses!](#) by Flickr user [Ralf Kayser](#). Made available through a [CC-BY license](#).

Public Domain image



[This image](#) by pixabay user [Ribastank](#). Made available through the public domain.

Using Images Created by Others Without Violating **Copyright**

3- Image resizing by Image editor (**GIMP/PREVIEW**)

- ❖ Resizing: increasing or decreasing?
 - ✓ Increase the size causes reduce the quality!
- ❖ Why do we need to resize the images in web developing?
 - ✓ Images account for most of the downloaded bytes on a web page
 - ✓ They often occupy a significant amount of visual space.
- ❖ Resize them as small as they are appropriate for your webpage.

Using Images Created by Others Without Violating **Copyright**

4- Image tag ****

- ❖ **** tag has four attribute:
 - ✓ src (source, specifying the location of the image file)
 - ✓ alt (alternative text)
 - ✓ height (in pixels)
 - ✓ width (also in pixels)
- ❖ src attribute is showing the location of the image
 - ✓ **If you want to show an image in the web, the image has to be somewhere in your web host not in your personal computer**
 - ✓ Transfer the image along with the html document to the same folder in your web host

```

```



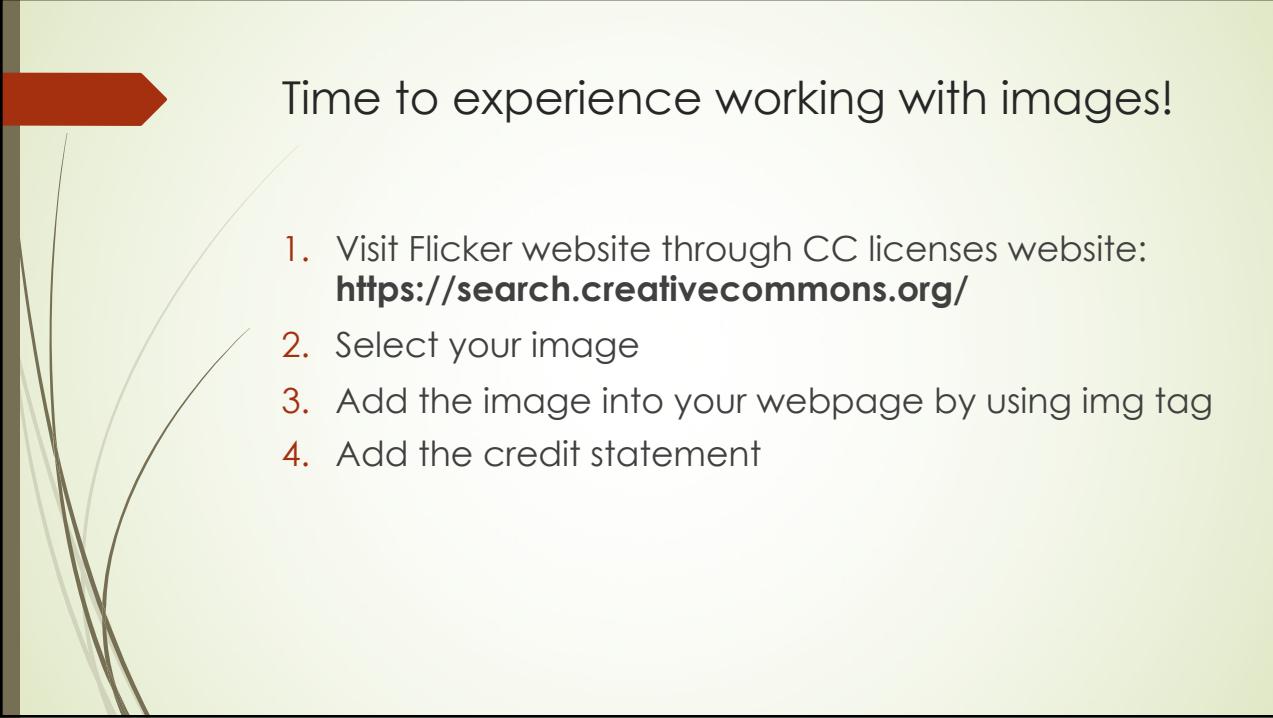
Alternative text for images

- ❖ Alt attribute is a **must** for images in the web
- ❖ Decorative images?



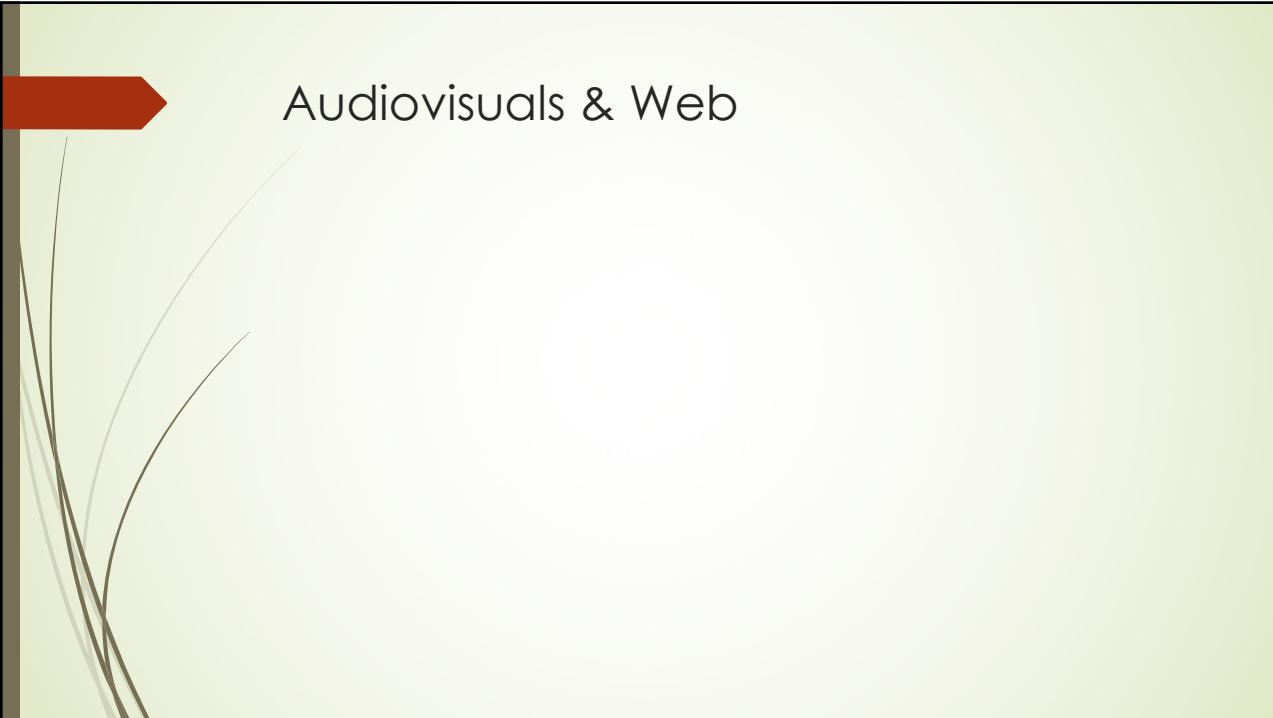
Alternative text for images

- ❖ Alt attribute is a **must** for images in the web
- ❖ Decorative images?
 - ✓ **use the null alt attribute: alt=""**
- ❖ If the image contains words, alt attribute should include those words
- ❖ If the image is a link, alt attribute should indicate the destination of the link



Time to experience working with images!

1. Visit Flickr website through CC licenses website:
<https://search.creativecommons.org/>
2. Select your image
3. Add the image into your webpage by using img tag
4. Add the credit statement



Audiovisuals & Web

How to add Audiovisual to a webpage

❖ To add audios to a webpage, `<audio>` tag is used.

1. `<audio>` is a paired tag. It needs a closing tag.
2. It needs at least one attribute “src”
3. `<audio src="horse.mp3"></audio>`

❖ To add videos to a webpage, `<video>` tag is used.

1. `<video>` is a paired tag. It needs a closing tag.
2. It needs at least one attribute “src”
3. `<video src="horse.mp3"></video>`

Web Audio/Video Formats

Browser	MP4	WebM	Ogg
Internet Explorer	YES	NO	NO
Chrome	YES	YES	YES
Firefox	YES from Firefox 21 from Firefox 30 for Linux	YES	YES
Safari	YES	NO	NO
Opera	YES From Opera 25	YES	YES

Video

Audio

Browser	MP3	WAV	OGG
Internet Explorer	YES	NO	NO
Chrome	YES	YES	YES
Firefox	YES	YES	YES
Safari	YES	YES	NO
Opera	YES	YES	YES

Attributes for Audio & Video tags

Attribute	Value	Description
<code>autoplay</code>	<code>autoplay</code>	Specifies that the video will start playing as soon as it is ready
<code>controls</code>	<code>controls</code>	Specifies that video controls should be displayed (such as a play/pause button etc.)
<code>height</code>	<code>pixels</code>	Sets the height of the video player
<code>loop</code>	<code>loop</code>	Specifies that the video will start over again, every time it is finished
<code>muted</code>	<code>muted</code>	Specifies that the audio output of the video should be muted
<code>poster</code>	<code>URL</code>	Specifies an image to be shown while the video is downloading, or until the user hits the play button
<code>preload</code>	<code>auto</code> <code>metadata</code> <code>none</code>	Specifies if and how the author thinks the video should be loaded when the page loads
<code>src</code>	<code>URL</code>	Specifies the URL of the video file
<code>width</code>	<code>pixels</code>	Sets the width of the video player

`<video src="horse.mp3" controls autoplay loop></video>`

Attributes for Audio & Video tags

- ✓ Some of the attributes like controls or autoplay do not need any value.

Attribute	Value	Description
<code>autoplay</code>	<code>autoplay</code>	Specifies that the video will start playing as soon as it is ready
<code>controls</code>	<code>controls</code>	Specifies that video controls should be displayed (such as a play/pause button etc.)
<code>height</code>	<code>pixels</code>	Sets the height of the video player
<code>loop</code>	<code>loop</code>	Specifies that the video will start over again, every time it is finished
<code>muted</code>	<code>muted</code>	Specifies that the audio output of the video should be muted
<code>poster</code>	<code>URL</code>	Specifies an image to be shown while the video is downloading, or until the user hits the play button
<code>preload</code>	<code>auto</code> <code>metadata</code> <code>none</code>	Specifies if and how the author thinks the video should be loaded when the page loads
<code>src</code>	<code>URL</code>	Specifies the URL of the video file
<code>width</code>	<code>pixels</code>	Sets the width of the video player

`<video src="horse.mp3" controls autoplay loop></video>`



Lab 2: More about image/audio/video

Learn more about images, video and audio in lab 2 challenge and lab 2 assignment.



For Next Time

- ❖ Enjoy the lab tomorrow!
- ❖ Do not forget that Lab challenge due is the same day as the lab section.