



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 3-1

BU CS 103, Spring 2019

Today's Materials!

- ❖ A Few More HTML Tips
- ❖ Lab 1 Assignment (CSS Zen Garden Website)
- ❖ Introduction to copyright & CC Licenses
- ❖ A deeper look into HTML coding (if time permits)

Assignments: Grades & Deadlines

- ❖ Grades for Lab 0 Assignment & Lab 1 Challenge were posted on BB.
 - ❖ You can find them on BB under "My Grades" in the navigation bar
- ❖ Lab 1 Assignment due date is this Wednesday 02/06 at 6:00 PM.
- ❖ HW 1 was posted on BB.
 - HW 1 due date is next Monday 02/11 at 6:00 PM.

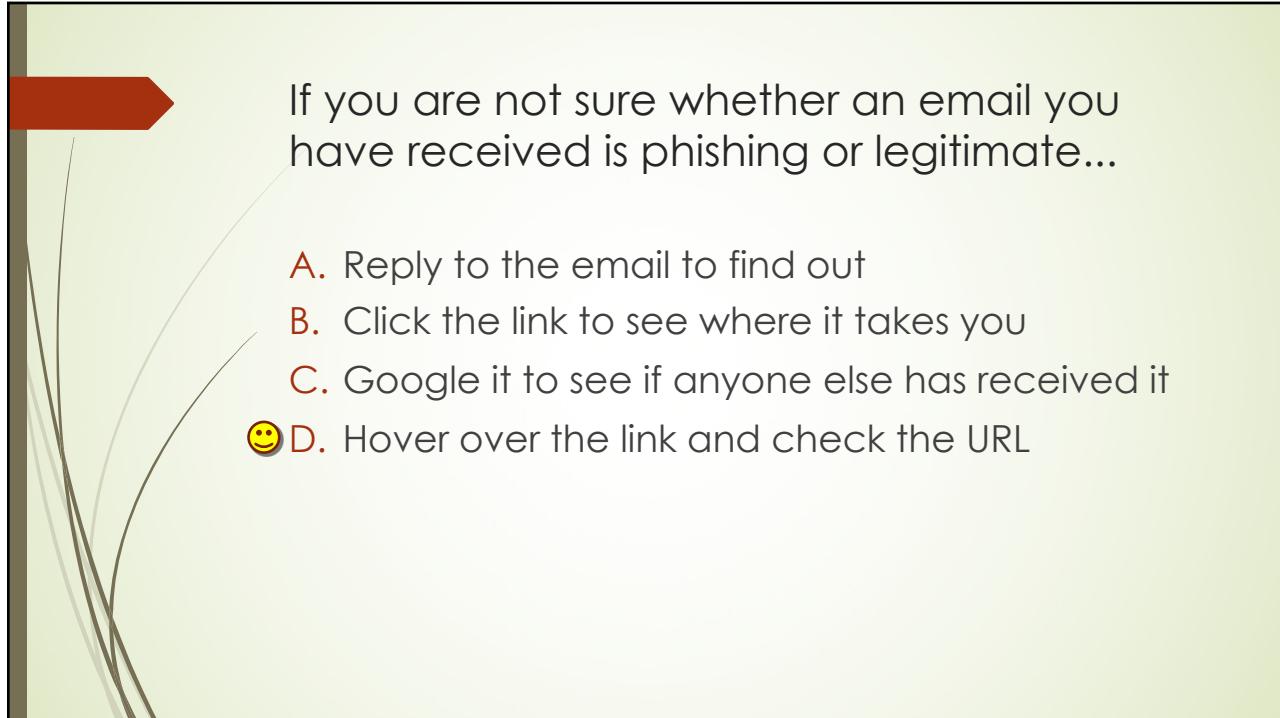


Review from Last Lecture



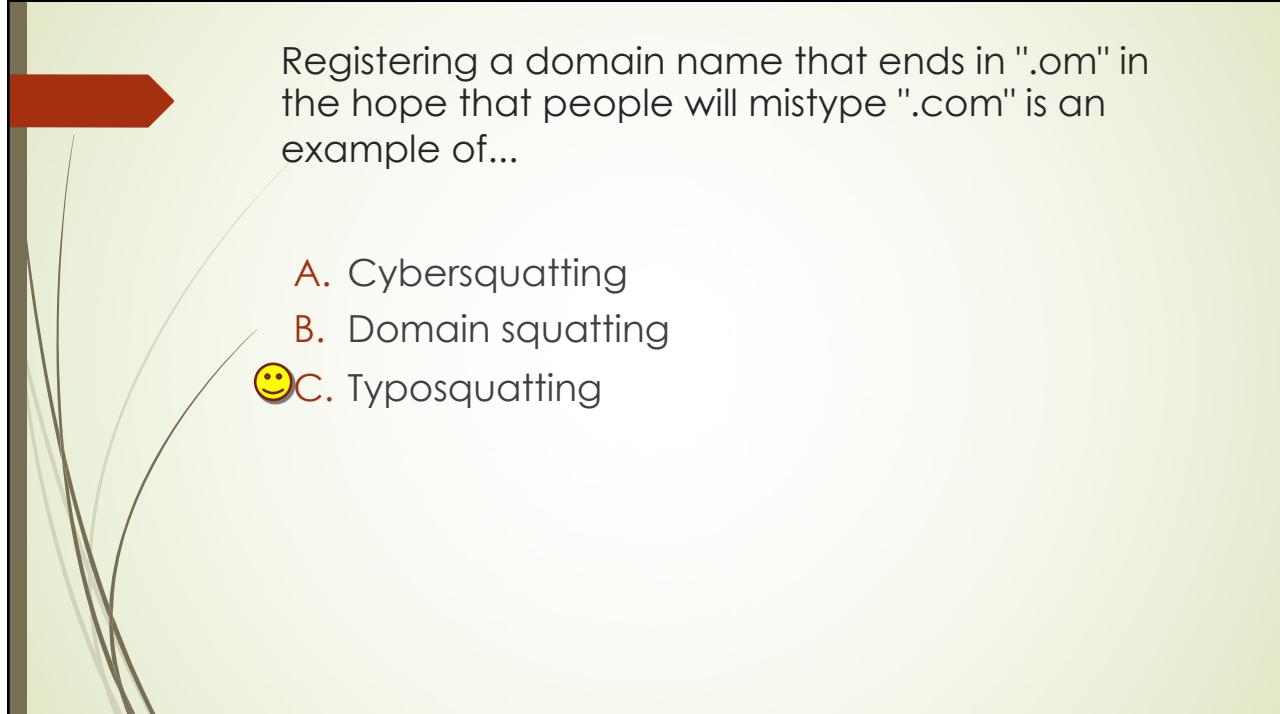
Which one is not a Markup Language?

- A.XML
- B.HTML
- C.XHTML
-  D.MathHTML
- E.MathML



If you are not sure whether an email you have received is phishing or legitimate...

- A. Reply to the email to find out
- B. Click the link to see where it takes you
- C. Google it to see if anyone else has received it
-  D. Hover over the link and check the URL



Registering a domain name that ends in ".om" in the hope that people will mistype ".com" is an example of...

- A. Cybersquatting
- B. Domain squatting
-  C. Typosquatting

In the definition of HTML, “HyperText” refers to the ability of web pages to

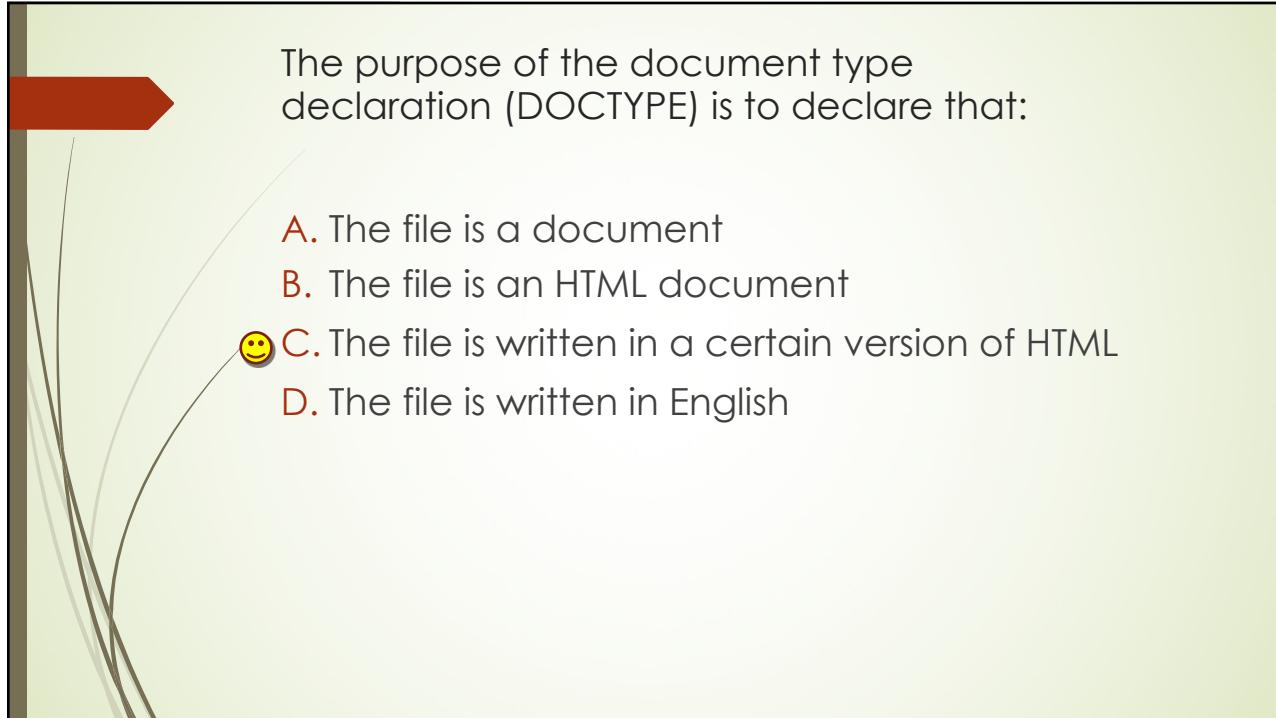
- A. Display text in any language
- B. Display not just text, but also media (e.g. images, video)
- C. Contain links to other web pages



<p> is an example of an HTML “tag”. HTML “tags” are also called

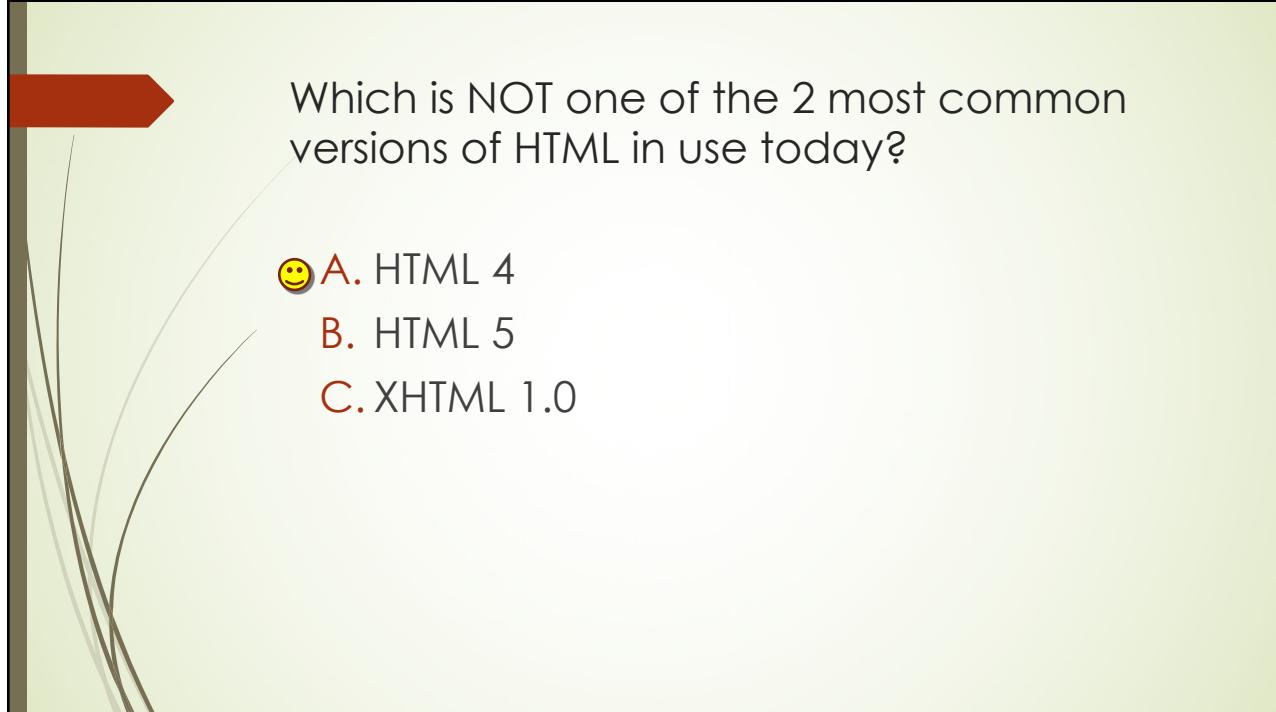
- A. Codes
- B. Elements
- C. Entities
- D. Labels





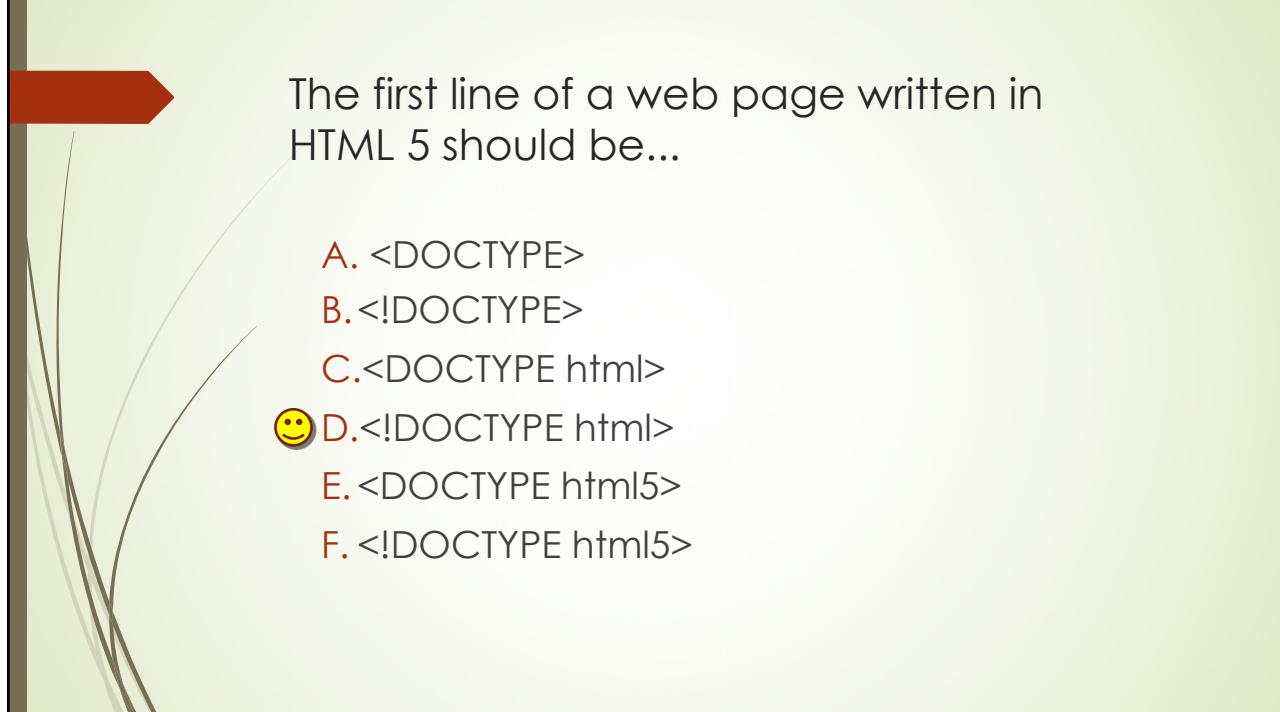
The purpose of the document type declaration (DOCTYPE) is to declare that:

- A. The file is a document
- B. The file is an HTML document
-  C. The file is written in a certain version of HTML
- D. The file is written in English



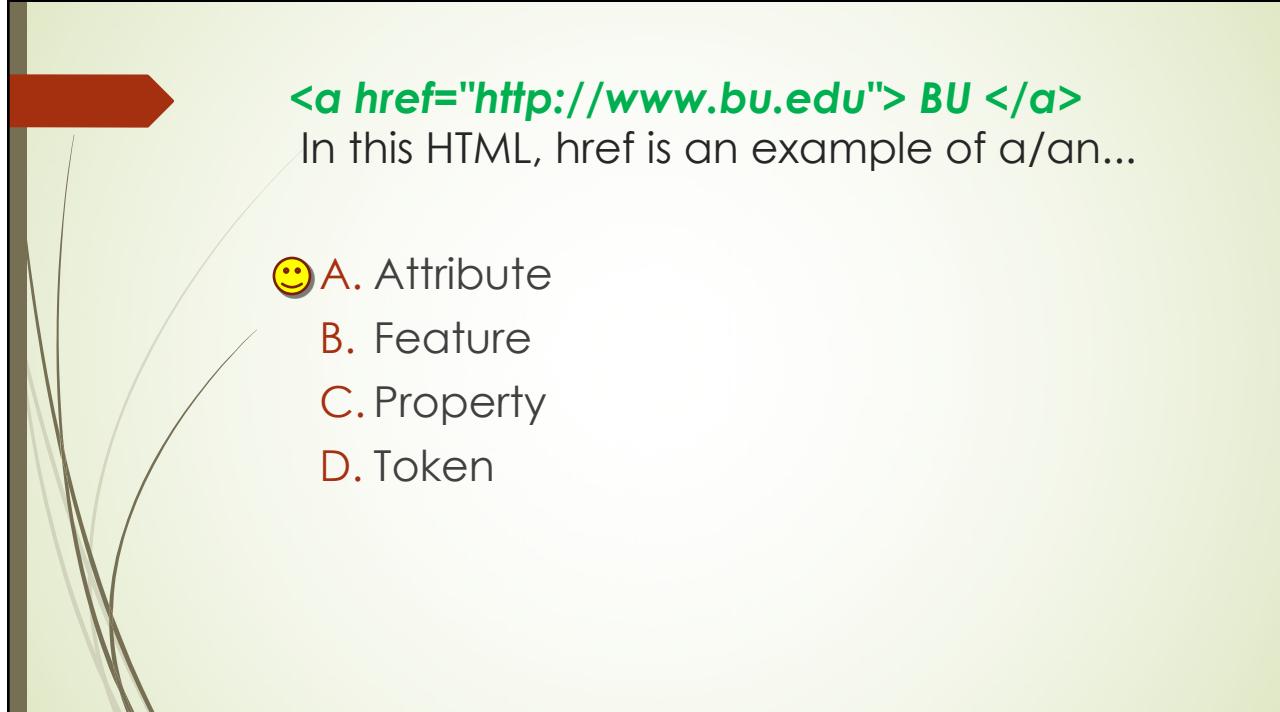
Which is NOT one of the 2 most common versions of HTML in use today?

-  A. HTML 4
- B. HTML 5
- C. XHTML 1.0



The first line of a web page written in HTML 5 should be...

- A. <DOCTYPE>
- B. <!DOCTYPE>
- C. <DOCTYPE html>
-  D. <!DOCTYPE html>
- E. <DOCTYPE html5>
- F. <!DOCTYPE html5>



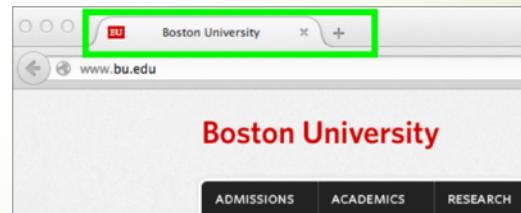
** BU **

In this HTML, href is an example of a/an...

-  A. Attribute
- B. Feature
- C. Property
- D. Token

In this screenshot of the BU home page, the text in the green rectangle comes from the

- A. head
- B. Heading 1 (<h1>)
- C. header
-  D. title



HTML so far ...

- ❖ HTML = Hypertext Markup Language
- ❖ Consists of **content (words and images)** and **HTML tags** indicating its structure.
- ❖ Declaration for HTML5 `<!DOCTYPE html>`
- ❖ the Skeleton:


```

<html>
  <head>
  </head>
  <body>
    </body>
  </html>
      
```
- ❖ Required Tags: DOCTYPE, html, head, body & title tags
- ❖ `<title> Lecture 3-1 | CS 103 </title>` needs to have two parts.
- ❖ Other tags which are needed to build an appropriate structure:
 - `P, h1, h2, ..., h6, ul, ol, li, a, em, strong ...`
- ❖ Some tags (such as anchor tag) need to have a required property called attribute:
`Boston University`

Online Editor

http://www.w3schools.com/html/tryit.asp?filename=tryhtml_intro

<http://Codepen.io>

A Few More HTML Tips

Don't Leave Text Stranded

❖ Put all text inside the appropriate HTML element.

For example:

instead of this:

```
<body>  
    The president of BU is  
    Robert Brown  
</body>
```

do this:

```
<body>  
    <p>The president of BU is Robert  
    Brown </p>  
</body>
```

Lists Can Only Contain List Items

instead of this:

```
<ul>  
    <p>My grocery list:</p>  
    <li>Apples</li>  
    <li>Kale</li>  
    <li>Zucchini</li>  
</ul>
```

Do this:

```
<p>My grocery list:</p>  
<ul>  
    <li>Apples</li>  
    <li>Kale</li>  
    <li>Zucchini</li>  
</ul>
```

No Lists or Paragraphs Inside Headings

instead of this:

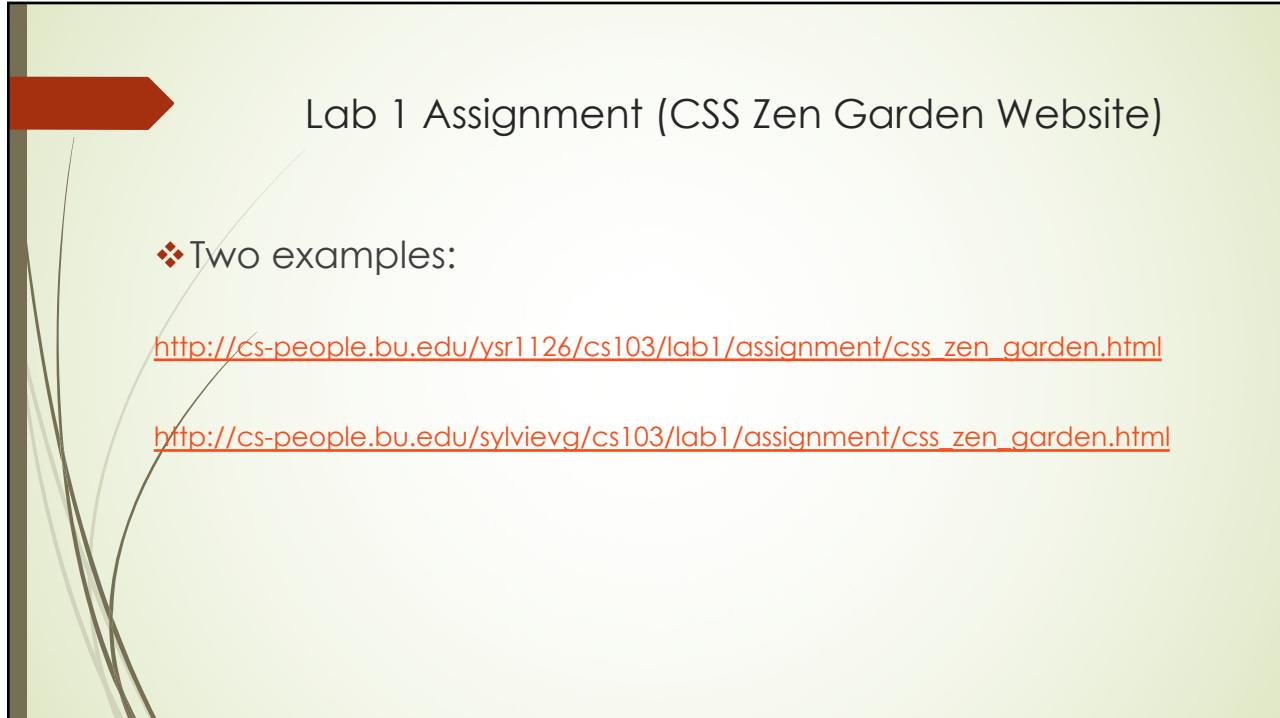
```
<h2><p> February </p></h2>
```

try this (the paragraph is not needed):

```
<h2> February </h2>
```

Lab 1 Assignment (CSS Zen Garden Website)

- ❖ In lab 1 assignment, you are supposed to make an exact copy of CSS Zen Garden Website at
<http://www.csszengarden.com/000/>
- What do we have to do to make a hyperlink with proper URL?
 - ✓ Hover over the hyperlink and look at the lower left side of your browser to see the proper URL



Lab 1 Assignment (CSS Zen Garden Website)

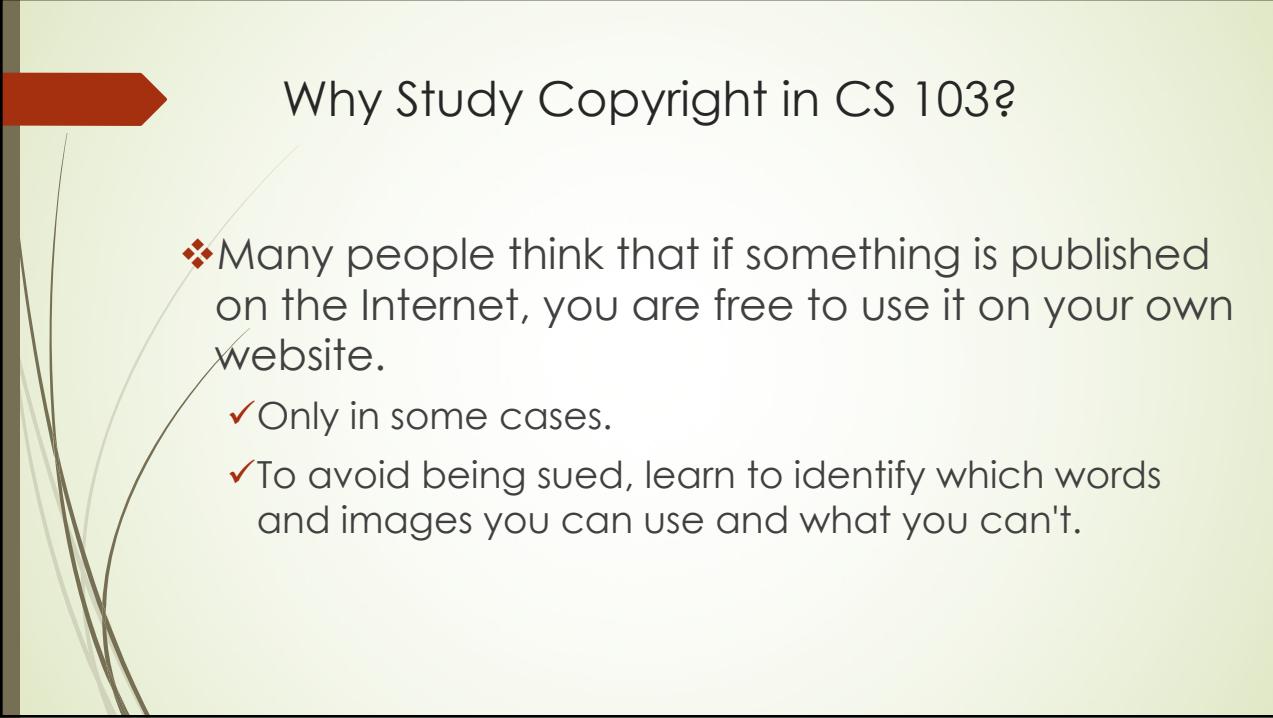
- ❖ Two examples:

http://cs-people.bu.edu/ysr1126/cs103/lab1/assignment/css_zen_garden.html

http://cs-people.bu.edu/sylvievg/cs103/lab1/assignment/css_zen_garden.html

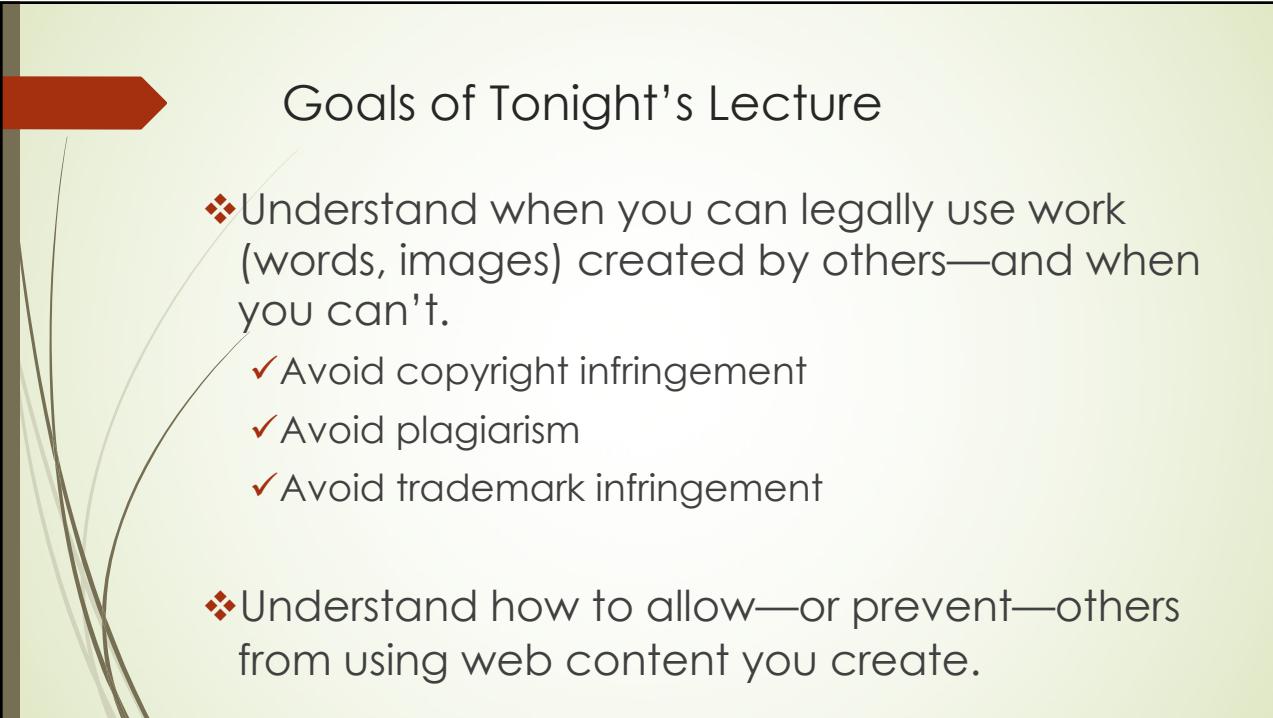


Copyright & Creative Commons Licenses



Why Study Copyright in CS 103?

- ❖ Many people think that if something is published on the Internet, you are free to use it on your own website.
 - ✓ Only in some cases.
 - ✓ To avoid being sued, learn to identify which words and images you can use and what you can't.



Goals of Tonight's Lecture

- ❖ Understand when you can legally use work (words, images) created by others—and when you can't.
 - ✓ Avoid copyright infringement
 - ✓ Avoid plagiarism
 - ✓ Avoid trademark infringement
- ❖ Understand how to allow—or prevent—others from using web content you create.



What Is Copyright?

- ❖ Copyright is a legal concept that **grants authors and artists control over certain uses of their creations for defined periods of time.**
- ❖ Copyright limits who may copy, change, perform, or share those creations.

—Berkman Center for Internet and Society

http://cyber.law.harvard.edu/copyrightforlibrarians/Module_1:_Copyright_and_the_Public_Domain

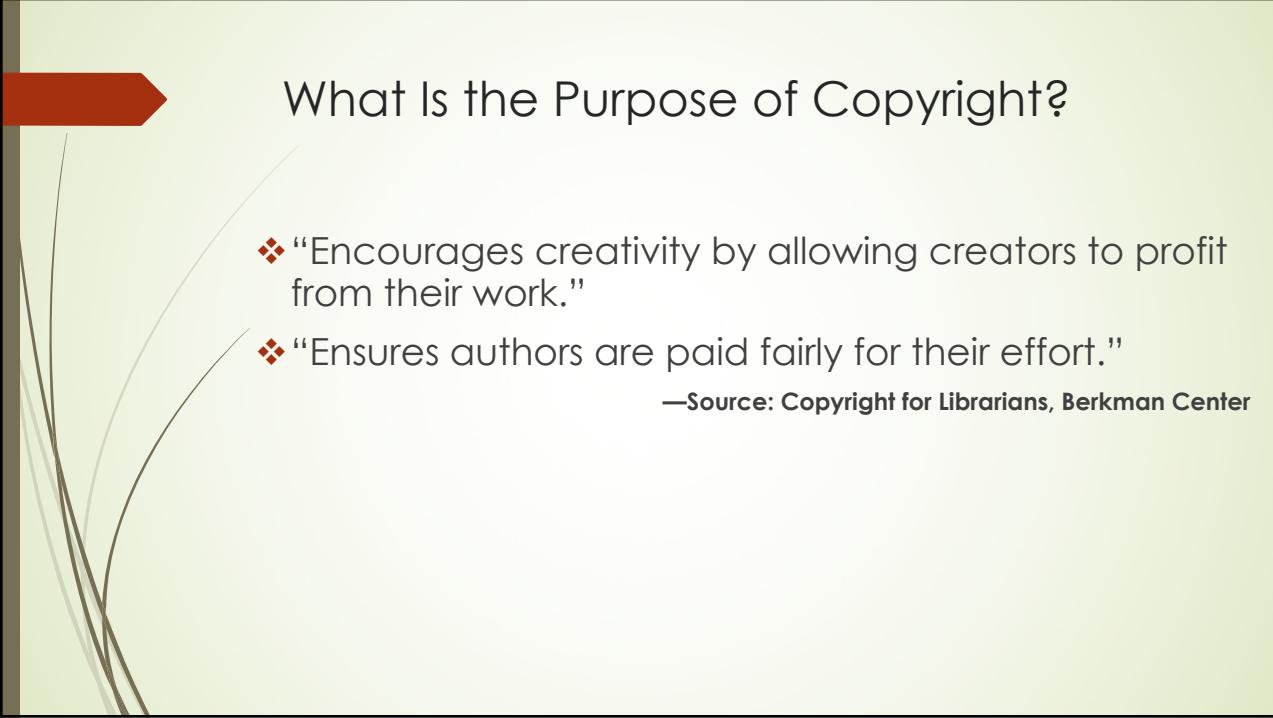


When Was Copyright Established?

- ❖ "The [U. S.] Constitution gives Congress the power to enact laws establishing a system of copyright in the United States. Congress enacted the first federal copyright law in May 1790, and the first work was registered within two weeks."

—United States Copyright Office, "A Brief Introduction and History"

<https://www.copyright.gov/circs/circ1a.html>



What Is the Purpose of Copyright?

- ❖ “Encourages creativity by allowing creators to profit from their work.”
- ❖ “Ensures authors are paid fairly for their effort.”

—Source: Copyright for Librarians, Berkman Center



What Does Copyright Protect?

- ❖ Works of authorship include the following categories:
 - (1) literary works;
 - (2) musical works, including any accompanying words;
 - (3) dramatic works, including any accompanying music;
 - (4) pantomimes and choreographic works;
 - (5) pictorial, graphical and sculptural works;
 - (6) motion pictures and other audiovisual works;
 - (7) sound recordings; and
 - (8) architectural works.

—17 U.S. Code § 102 - Subject matter of copyright: In general

<https://www.law.cornell.edu/uscode/text/17/102>

What Else Does Copyright Protect?

- ❖ In almost all countries, computer software are protected by copyright as well.

✓ Computer Software

—Source: Copyright for Librarians, Berkman Center

http://cyber.law.harvard.edu/copyrightforlibrarians/Module_1:_Copyright_and_the_Public_Domain

What Cannot Be Copyrighted?

- ❖ Ideas, Methods, Systems & Facts
- ❖ Names & Titles
- ❖ Short phrases or expressions
- ❖ Lists of ingredients, as in a recipe
- ❖ Works produced by U.S. government
- ❖ Fashion
- ❖ Works Without Authorship/Facts
- ❖ Commonly Known Information (Standard Calendar)

What About the Web?

- ❖ Can websites be copyrighted?
 - ✓ “The original authorship appearing on a website may be protected by copyright. This includes **writings, artwork, photographs**, and other forms of authorship protected by copyright.”
- ❖ Can domain names be copyrighted? No.

Source: U.S. Copyright Office

<http://www.copyright.gov/help/faq/faq-protect.html>

Copyright Infringement ≠ Plagiarism

- ❖ **Plagiarism** is representing the work of another person as your own,
 - ✓ whether by explicitly identifying yourself as the author,
 - ✓ or by failing to credit the author (thereby implying that the work is your own).
- ❖ **Copyright infringement** is using another person's copyrighted work without their permission, even if you give them credit.
- ❖ **Avoid both.**

Other Intellectual Property Protections

- ❖ **Patents** and **trademarks** are two other forms of intellectual property protection, not related to copyright.
 - ✓ **Patents** protect an inventor's right to sell his/her creation
 - ✓ **Trademarks** "are used to identify and distinguish the goods/services of one seller or provider from those of others, and to indicate the source of the goods/services."

—USPTO.gov

<http://www.uspto.gov/trademarks/basics/>

How Does Copyright Work?

- ❖ Under current U.S. law:
 - ✓ Copyright is in effect as soon as a work is created
 - ✓ Display of copyright notice not required
 - What is a copyright notice?
 - ❖ **Copyright © 2018 Trustees of Boston University**
 - ✓ You do not have to register with the U.S. copyright office...
 - ❖ ... unless you want a public record of your copyright
 - ❖ ... or want to sue for copyright infringement

—Source: U.S. Copyright Office,

<http://www.copyright.gov/help/faq/faq-protect.htm>

Who Can Claim Copyright?

- ❖ People

- ✓ Creator of work
 - ✓ Creator's heirs

- ❖ Corporations

- ✓ If work was created by an employee

- ❖ Copyright does not “disappear” when the creator dies, although it will not last forever.

How Long Does Copyright Last?

- ❖ Original U.S. statute: 28 years
- ❖ Now (in many countries, including U.S.): life of author + 70 years!
- ❖ Or for corporations, 95 years after publication.
- ❖ “Most creative works produced since the 1920s either are or might be subject to copyright protection.”

—William Fisher, "Copyright and Wrongs", *The Economist*

What Does Copyright Prohibit?

- ❖ Copyright makes it illegal to do the following without permission of the copyright owner:
 - ✓ Reproduce
 - ✓ Distribute (sell)
 - ✓ Perform
 - ✓ Publicly display
 - ✓ Make into a derivative work (e.g., translation, abridged version)

—Source: U.S. Copyright Office

<http://www.copyright.gov/help/faq/faq-protect.html>

Public Domain

- ❖ A work is **in the public domain** if it is **not protected by copyright**.
- ❖ This may occur because:
 - ✓ The work was something that could not be copyrighted—e.g., a name
 - ✓ The copyright has expired
 - ✓ The work was dedicated to the public domain by its creator (rare)
 - ✓ The work was created by the U.S. federal government
- ❖ If a work is in the public domain, you do not need to get permission to use it.

How Can You Tell?

- ❖ A work is in the public domain if:
 - ✓ It is produced by the U.S. government
Example: National Weather Service data,
<http://www.weather.gov/disclaimer>
 - ✓ Identified explicitly as "public domain".
Example: Kids Math Games,
<http://www.kidsmathgamesonline.com/pictures.html>
- ❖ The absence of a copyright statement does not mean the work is in the public domain.

Conclusion

- ❖ Most works produced in the 1920s or later are or could be protected by copyright
- ❖ That means you must obtain the copyright owner's permission in order to use the work yourself
- ❖ However, there is one exception....

Exception: Fair Use

- ❖ Fair use is a provision in U.S. copyright law that allows for limited use of copyrighted works for a few defined purposes.
 - ✓ criticism
 - ✓ comment
 - ✓ news reporting
 - ✓ research
 - ✓ scholarship
 - ✓ teaching

—Source: U.S. Copyright Office, “Fair Use”

<http://www.copyright.gov/fls/fl102.html>

Is It Fair Use?

- ❖ Determined on a case-by-case basis. These questions are considered:
 - ✓ Is it being used for commercial or non-commercial purposes?
 - ✓ How much of the copyrighted work is used?
 - ✓ What effect does the use have on the value of the work?

Fair Use Caution

- ❖ “The distinction between fair use and infringement may be unclear and not easily defined. There is no specific number of words, lines, or notes that may safely be taken without permission. . . .”
- ❖ **The safest course is always to get permission from the copyright owner before using copyrighted material.”**

—U.S. Copyright Office

Getting Permission

- ❖ To use copyrighted material, you must get permission from the owner. This can be done in several ways:
 - ✓ 1) The copyright owner may pre-emptively give you permission through a **Terms of Use** or **Creative Commons license** that grants permission as long as you follow those terms.
 - ✓ 2) Otherwise, you must get permission individually by writing to the copyright owner and negotiating a license. This may involve payment.



Getting Permission #1: **Terms of Use**

- ❖ The Facebook Brand Guidelines
<https://www.facebookbrand.com/>
- ❖ give you permission to use the Facebook logo on your own website, but only in certain limited ways.



Getting Permission #2: **Creative Commons License**

- ❖ Creative Commons licenses
 - ✓ Allow the copyright holder to keep copyright. The work does not become part of the public domain.
 - ✓ Allow others to reuse the content for free, without notifying the copyright owner, as long as they obey the license terms.
 - ✓ Are free to obtain and use

More About Creative Commons

- ❖ Creative Commons licenses mix and match these attributes:
 - ✓ **Attribution (BY) –**
 - Anyone using your work must provide attribution (give credit) to you
 - ✓ **NoDerivs (ND)**
 - Abbreviation for "no derivative works"
 - Others may use your work "as is", but not create a derivative work (collage, translation, mashup)
 - ✓ **Share Alike (SA) –**
 - Derivative works you create must have the same CC license as yours
 - ✓ **Non-Commercial (NC)**
 - Commercial (business) use not allowed

—<http://creativecommons.org/about/licenses/>

Get To Know These Licenses

- ❖ Attribution: **CC BY**
- ❖ Attribution-NoDerivs : **CC BY-ND**
- ❖ Attribution-NonCommercial: **CC BY-NC**
- ❖ Attribution-ShareAlike: **CC BY-SA**
- ❖ Attribution-NonCommercial-ShareAlike : **CC BY-NC-SA**
- ❖ Attribution-NonCommercial-NoDerivs : **CC BY-NC-ND**

<http://creativecommons.org/licenses/>

Get To Know These Licenses

- ❖ What you need to know are:
 - ✓ Names
 - ✓ Abbreviations
 - ✓ Logos
 - ✓ What they allow
 - ✓ What they prohibit
 - ✓ What they require

Review of Creative Commons Licenses

- ❖ Names of the licenses with icons:
<http://creativecommons.org/about/licenses/>
- ❖ Creative Commons "Choose a License" page for Homework 1:
<https://creativecommons.org/choose/>

Creative Commons in Action

- ❖ Wikipedia

<http://www.wikipedia.org>

- ❖ Third-party content on www.whitehouse.gov

<https://www.whitehouse.gov/copyright>

- ❖ MIT Open Courseware

<https://ocw.mit.edu/index.htm>

- ❖ Flickr image search

(via <http://search.creativecommons.org/>)

Copyright Guidelines for CS 103

- ❖ For images and content on your web assignments and projects:

- ✓ The best choice: create it yourself
- ✓ Or use content with a Creative Commons license
- ✓ Or content in the public domain
- ✓ Or content allowed by Terms of Use (e.g. embedded YouTube videos)
- ✓ Or get permission from copyright holder

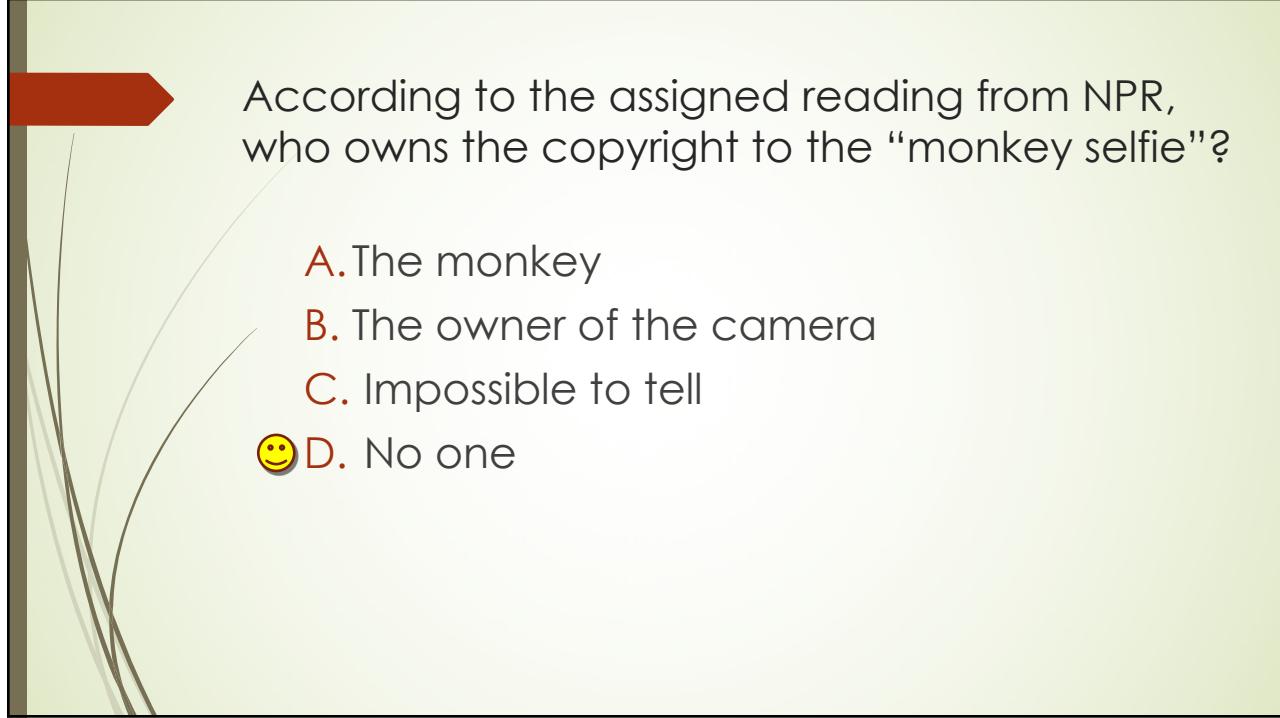
- ❖ **Avoid trademark infringement –**

- ✓ do not use others' logos
- ✓ **Always** give attribution for images, even for your own works and works in the public domain

Discussion of Assigned Reading

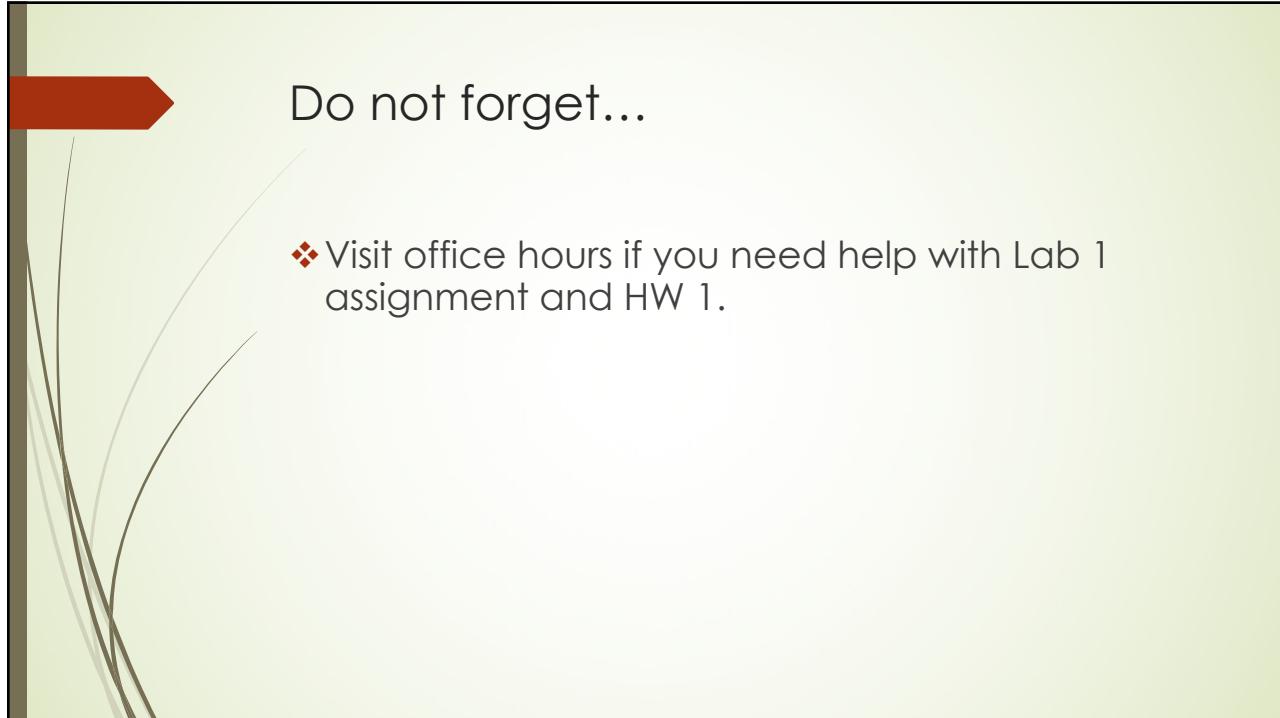
According to the assigned reading, how can you avoid getting sued for copyright infringement?

- A. Use images you created yourself
- B. Use public domain images
- C. Use Creative Commons images
- D. Pay for access to stock photos
-  E. Any of the above



According to the assigned reading from NPR,
who owns the copyright to the “monkey selfie”?

- A. The monkey
- B. The owner of the camera
- C. Impossible to tell
-  D. No one



Do not forget...

- ❖ Visit office hours if you need help with Lab 1 assignment and HW 1.