Meeting Two

Objective: To learn basic HTML and CSS
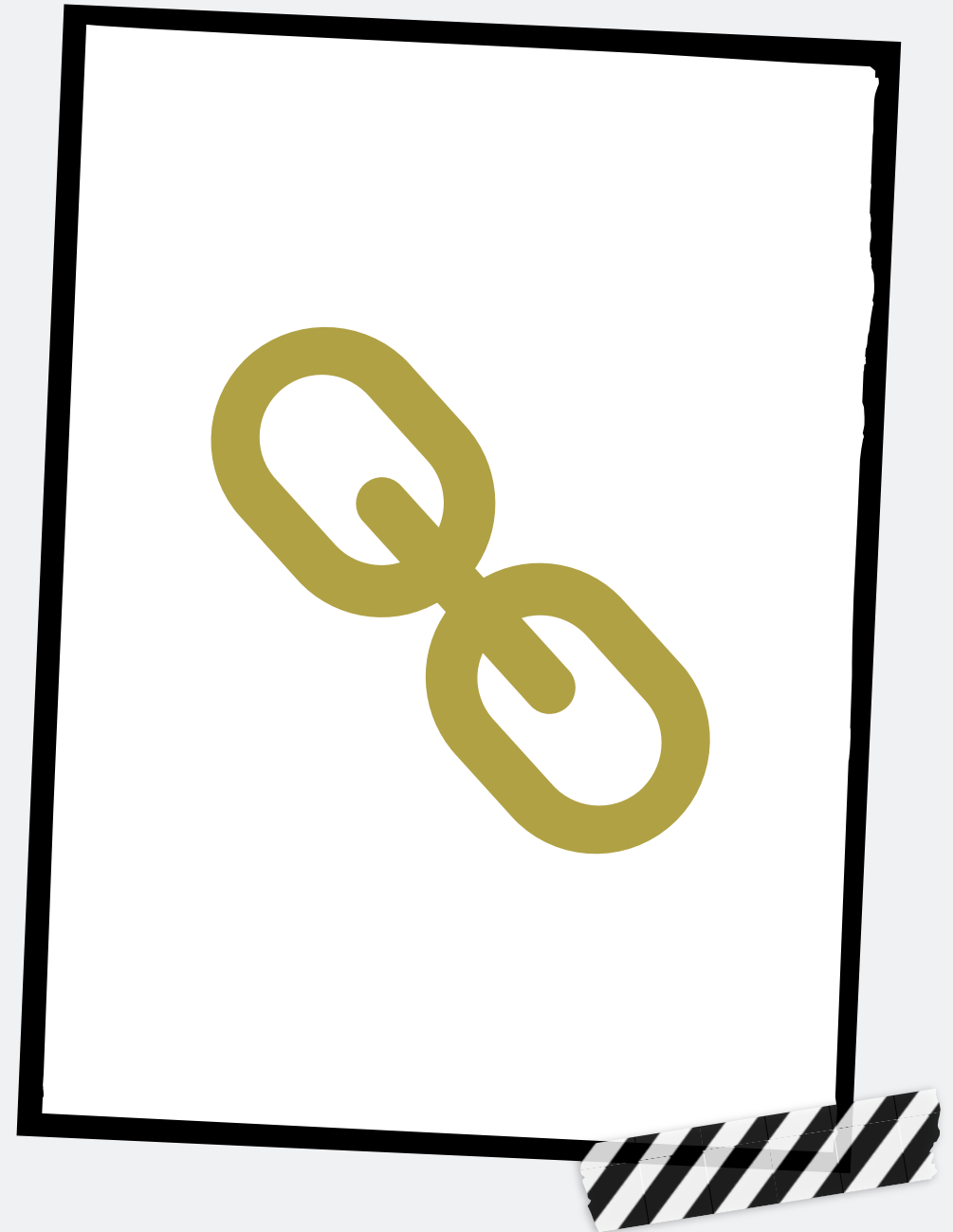
Computer Science Club

Warm-ups

- There is a warm-up for every CS member, regardless of which class you are in. Click on the following hyperlinks corresponding to your CS class level on the CS Club Website.

- CS1: CS1 Warm Up

- CS2: CS2 Warm Up

- CS3/CS4: CS3/CS4 Warm Up

What are we doing today?

- Today we will explain to you what HTML and CSS are, how to use them, and how to create a simple website of your own

- We will go over a bit of some background information and show you some code.

- At the end of this, we ask of you to create something of your own with what you learned here during this meeting and create a website about yourself, it's okay if it doesn't look fancy because it takes a long time to truly perfect web development and design

- At the next club meeting, we can present your websites and discuss how to use external libraries such as Bootstrap to organize your websites and have more design

HTML and CSS – What are they?

- They are programming languages that are very beginner-friendly

- HTML and CSS are primarily used for frontend web development

  + AKA the design aspect website

- For proper web development, you can also use JavaScript that can deal with the backend (we will not be covering this)

- CSS is Cascading Styles Sheet, and this is what we use to add colors, designs, fonts, etc.

- HTML is Hyper Text Markup Language and is used to display the actual elements on the webpage

- Let us start with how to set up HTML and CSS on the computers

How to set up HTML and CSS for our purposes

- Create a folder in your H drive labeled as "Web Intro"

- Go to the club website – crcsclub.github.io and go to the Downloads tab

- In there you will see a button with text "Template HTML file"

- Click on it and it will start a download, once completed copy and paste that file into your Web Intro folder

- To open that file right click on it click on open with and notepad

- Now you should see the notepad open with some code

What am I looking at?

- You are looking at basic HTML code and I will explain what it is doing and how to customize the text you are looking at

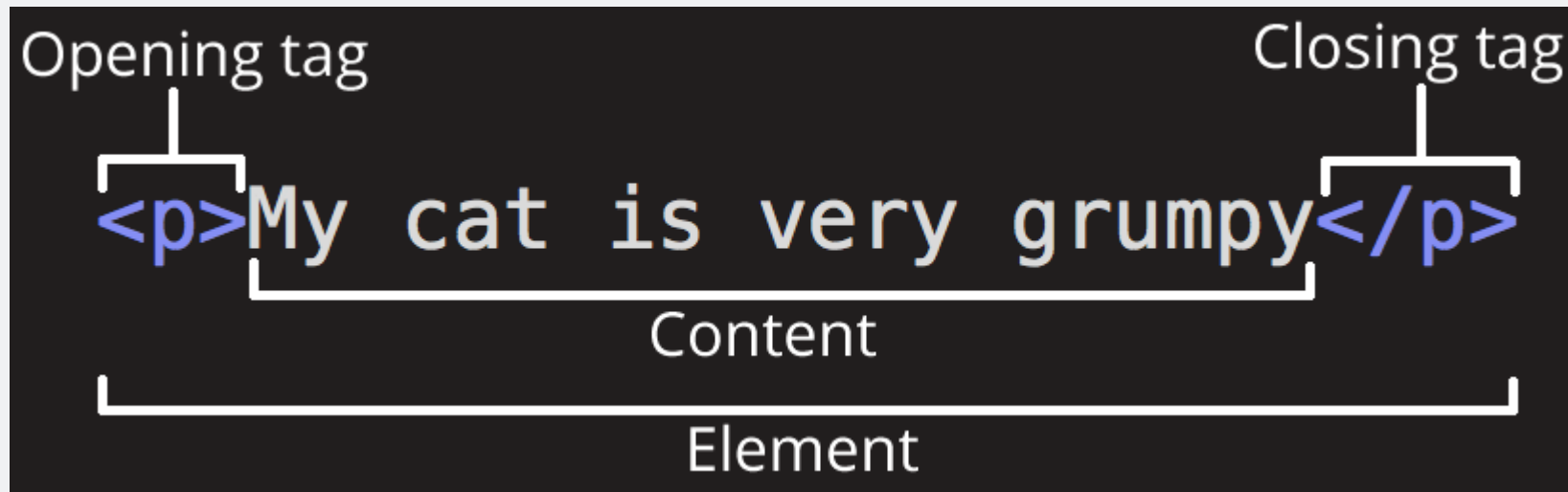- First, we need to understand some basic knowledge of HTML and CSS

What exactly are tags?

- Tags are used to used in addition with the content inside of them to create an element

  + An element is a component of the HTML document/website

- Tags are used to denote and start and end of each element

- Attributes can also be used inside of tags to give more information regarding the element (i.e., an alt text for an image or the source for a hyperlink)

- Hopefully, the following slide should clear some of this confusion up

An Example of an Opening and Closing Tags

What do those tags in the template file mean?

- The tags that you maybe seeing on template file may look confusing, but it really is not

  + <!DOCTYPE HTML> = Tells the web browser what version of HTML we are using

  + <html lang="en"> = Specifies what language the content on the page will contain

  + <head> = Contains the data of the HTML file and is not displayed on the site itself

    - Inside the head file tells the web browser that we are using the UTF-8 charset, sets the width to the width of the screen, and sets the zoom level to 1 when the page first loads

  + <body> = The "body" of the page, where all the content goes

  + <p> = This denotes the following text is a paragraph.

  + </[any tag]> = This essentially is the closing tag. All tags have an opening and closing tag and is used to note that the job of the tag is finished.

Now let's do something to Hello World

- Hello World is kind of bland and has no text customization

- Let's see how we can change that
  + Bolding Hello World: Hello World! = **Hello World**
  + Making Hello World a Header: <h1>Hello World!</h1> = Hello World
  + Making Hello World the Title of the Page (Need to do this in Head Tag):
    - <title>Hello World!</title> = Hello World
  + Italicizing Hello World: <i>Hello World!</i> = *Hello World*

- Not only can you do the things listed above, but you can also do much more!

What is the difference between <p> and <h1>?

- In short, it's the way you organize the text. To best understand this, think of a textbook

- Headers come in 6 levels (h1-h6), like a header, sub-header, another sub-header, and goes on.

- Paragraph tags are when you want to write things in paragraphs form, in small yet readable sentences

- To create paragraphs and to separate your text, you should use these tags to do so.

IDs and Classes

- Before we can talk about customization, let's talk about IDs and classes
  - + IDs: A unique value for each HTML element (can only have one id for each element and **cannot** be repeated), optional but can be referred to in the CSS file for styles regarding that element
  - + Classes: A class name works kind of like an ID but this can be repeated amongst classes, this is also used to identify where you want the customization to take place
- Alternatively, you could do CSS with just the tag name and will apply it to all code inside of those tags

```css
#id {
    display: absolute;
    text-align: center;
}

.class {
    display: relative;
    text-align: left;
}
```

How about new fonts and making the website look good?

- Here comes CSS
  - + CSS is what is used to customize the page such as the colors, fonts, aligning the text and much more
  - + You can CSS via two ways: in-line CSS and using a separate CSS file
  - + In this tutorial, we will be using a separate CSS file
  - + For this, I'd like for you all to create a new file in your directory and name it styles.css

Now to code in CSS

- CSS works a bit differently than html so we will start off with making the background color of the page something else

- When you open up styles.css you will see nothing

- But if you enter:

```
body {
    background-color: orange;
}
```

- The code will make the background orange

  + Alternatively, you can use hex codes to create custom colors

  + To change text color you can do "color:[colorOfChoice]"

Do something of your own

- Now that you have this knowledge, try building something of your own until the club meeting ends.

- If you need help, ask someone because there are more people than you think who know HTML and CSS

- If you have a flash drive and would like to work on this at home, save it on there

- Otherwise, you can set up a Replit project and can broadcast how to do so

- I hope you all found this to be informative and gives you the basics to create something of your own

- In addition, I highly recommend you work on this at home and use external resources to make your website look better and present it next week