Intro to HTML

Data Boot Camp

Lesson 11.1

The Web

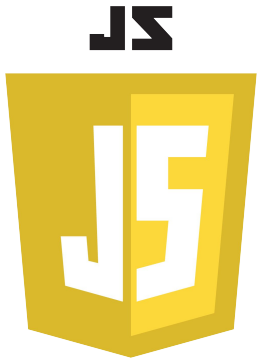
What's the Web?

Web developers build them into a special type of document: a webpage. These webpages are then accessible to other people on the internet.

Data analysts can use the web to
tell stories with data
and reach millions of people.

The core Three Front-End Web Technologies

Basic structure



Behavior

Layout and formatting

This class is all about HTML!

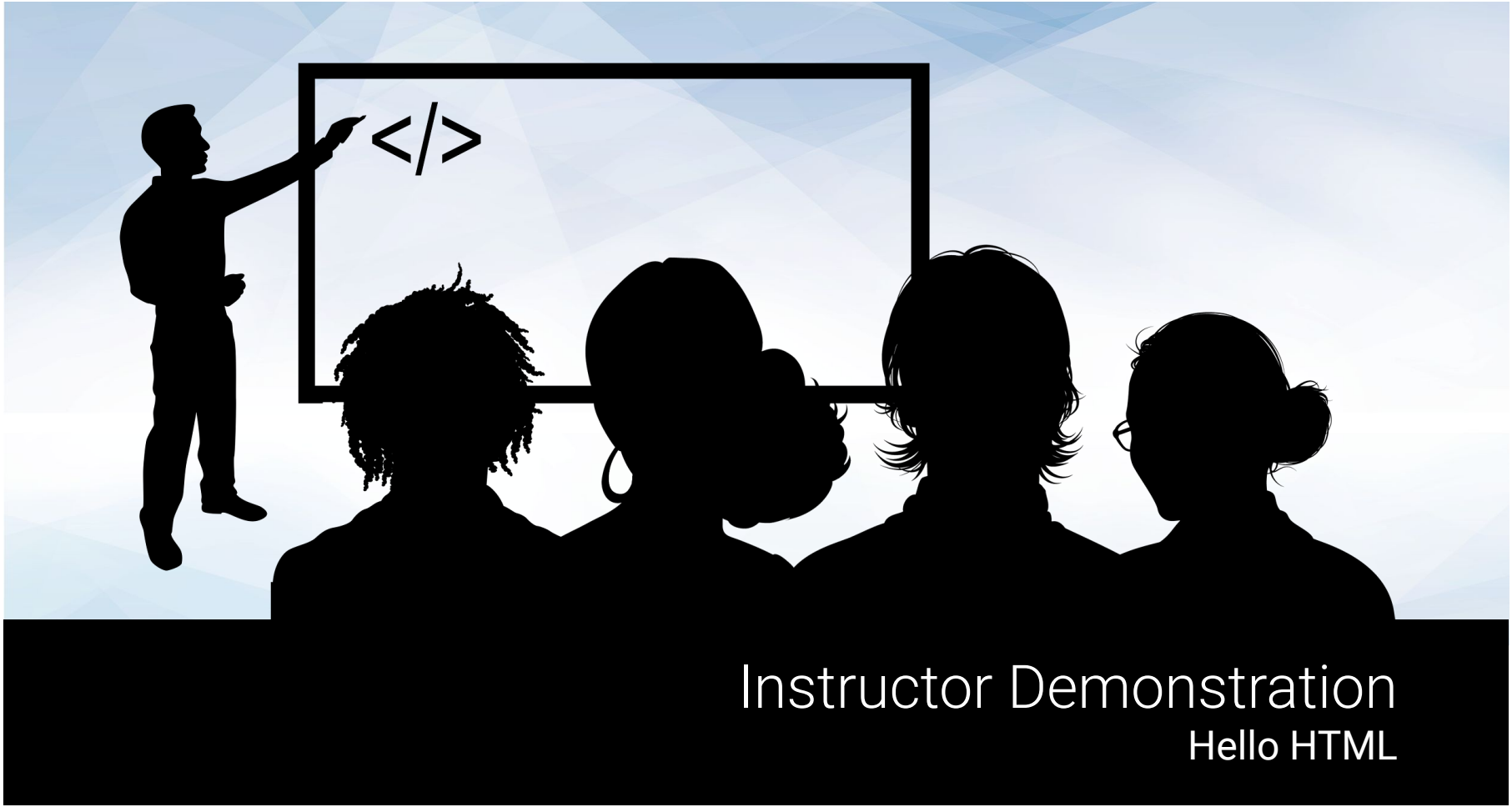
Class Objectives

By the end of today's class you will be able to:

Grasp the mechanics of HTML, CSS and JavaScript as their role building websites.

Understand the basic parts of an HTML web page and how to create one from scratch.

Learn to cover and utilize some of the most common HTML tags and selectors.



Instructor Demonstration

Hello HTML

Hello HTML

HTML5

- HTML is one of the three base languages behind every website.
- It defines all the basic content and a bit of formatting.

Hello HTML

HTML elements are rendered by the browser as visible parts of a webpage

Hello HTML

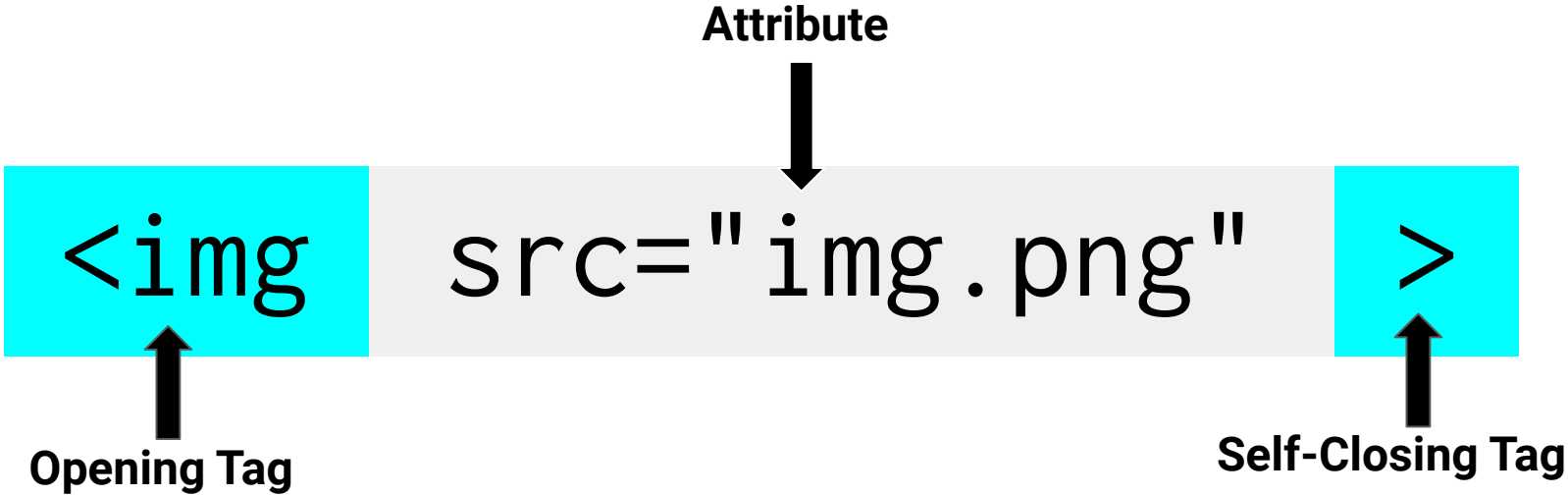
HTML Syntax (Basic)

Hello HTML

HTML Syntax (with Attribute)

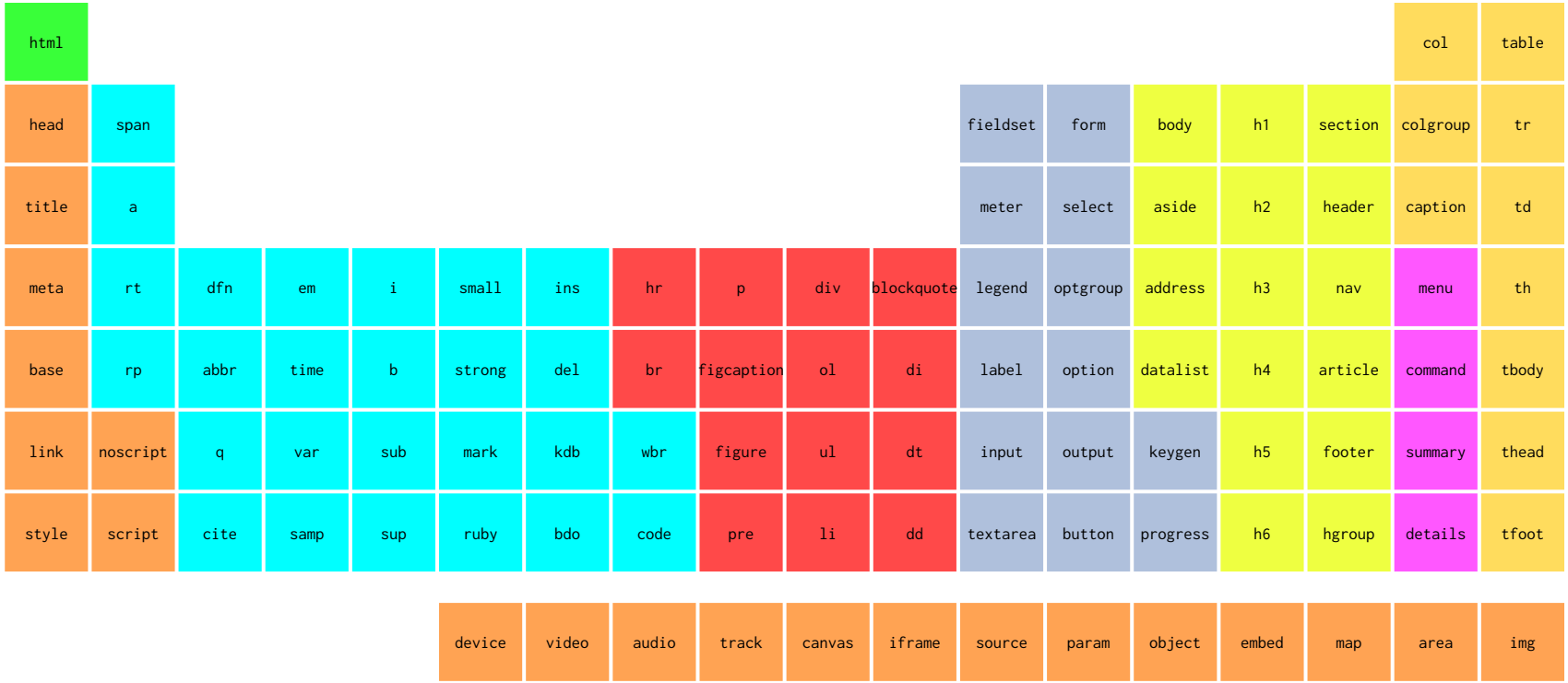
Hello HTML

Tricky Tags (Self-Closing)



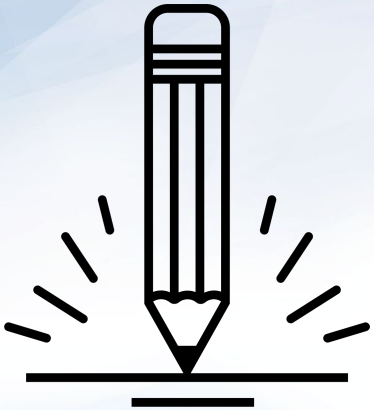
Hello HTML

Periodic Table of HTML5 Elements



Hello HTML

```html
<!DOCTYPE html>
<html lang="en-us">

<head>
  <meta charset="UTF-8">
  <title>My First Page</title>
</head>

<body>
  <!-- Header -->
  <h1>Hello World!</h1>

  <!-- Image -->
  <img src="http://en.spongepedia.org/images/thumb/3/33/Spongebob!!!.jpg/180px-Spongebob!!!.jpg" alt="Spongebob!" />
  <br>

  <!-- Link with New Tab -->
  <a href="https://www.google.com" target="_blank">Opens new tab</a>
  <br>

  <!-- Bold Link -->
  <strong><a href="https://www.youtube.com">This is a bold link</a></strong>
  <br>

  <!-- Placeholder link -->
  <a href="#">This is placeholder link goes nowhere, for now</a>

</body>

</html>
```



Activity: Inspect Hello, HTML

In this activity, you and your partner will spend a few minutes going over the example coded out in the last example and use Chrome Devtools to inspect it.

Suggested Time:
5 Minutes

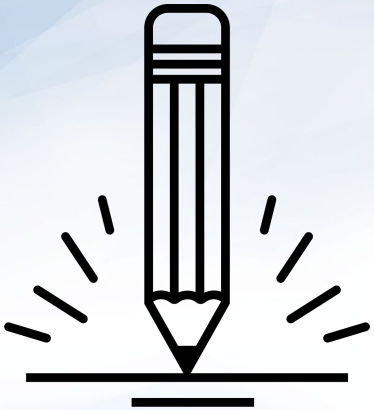
Instructions:

Activity: Inspect Hello, HTML

- Open the example from the last activity slacked out to you in Chrome and open Chrome Devtools. You can launch Chrome Devtools by doing any of the following:
  - Right click the rendered HTML document inside of Chrome and clicking the `inspect` option.
  - Pressing `F12` on Windows while in Chrome.
  - Pressing `command` + `option` + `i` on a Mac.

- Make sure the `Elements` tab is selected.
- Study the code here and see how it compares to the actual HTML document slacked out.
- Experiment with modifying the HTML document in VS Code and reloading the web page and inspector.
  - What happens when you remove an element's closing tag or misspell `head` or `html`?

Time’s Up! Let’s Review.



Activity: Research HTML Tags

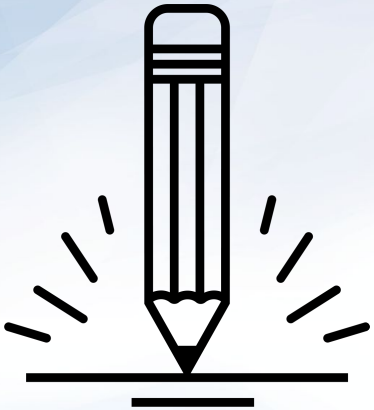
In this activity, you and your partner will create a list of HTML elements and their descriptions. You should create a valid, informational HTML document in which they use and describe as many of their researched elements as possible.

Suggested Time:
10 Minutes

Instructions:

Activity: Inspect Hello, HTML

- With a partner, research and create a list of different HTML elements and their descriptions.
- This list should be a combination of elements we've gone over already and some new elements we haven't yet discussed.
- Try to list as many elements as possible.
  - Identify which elements are void elements (self-closing), and which are not.
  - Create a valid, informational HTML document where you use and describe and use as many of the different researched elements as possible.

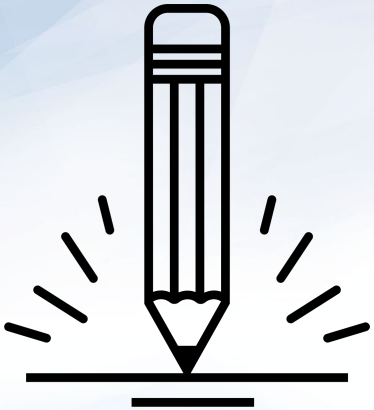


Everyone: Discuss HTML Tags

In this activity, everyone will discuss some of different HTML elements we were able to research in the last activity.

Suggested Time:
10 Minutes


Different
HTML elements
we were exposed
to so far!



Activity: My First HTML

In this activity, you will create a simple HTML page.

Suggested Time:
15 Minutes

Instructions:

Activity: Discuss HTML Tags

- In a new HTML file, create the basic structure of an HTML document and include in it the following:
  - `DOCTYPE` declaration
  - `head` tag with nested title tag
  - `h1` tag with a title of your choice
  - Embed an image
  - Create the following three links on your page:
    - One link that leads to the website of your choice. Give this link an attribute `target="_blank"` so that it opens a new tab when clicked.
    - Create a second link to a different website, but give this link bold text.
    - Make the third link a placeholder so it goes nowhere.

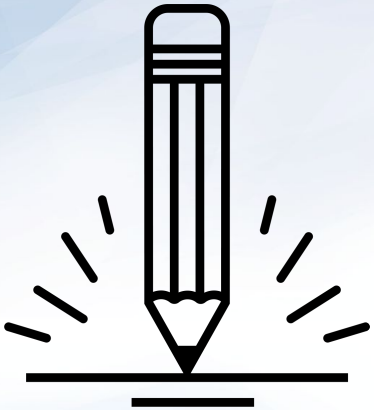
- **HINT**: You should be checking the rendered HTML in Chrome as you code to make sure you're going in the right direction.
- **Bonus**:
  - Create an ordered list of steps to make a sandwich.
  - Create an unordered list of 5 bands/musicians you like.
  - Use an alternate way of separating links without line breaks.
  - Embed a YouTube video of your favorite band/musician.

Time’s Up! Let’s Review.

Countdown timer

15:00

(with alarm)



Activity: Fix the HTML

In this activity, you will be tasked with fixing mistakes in a HTML document.

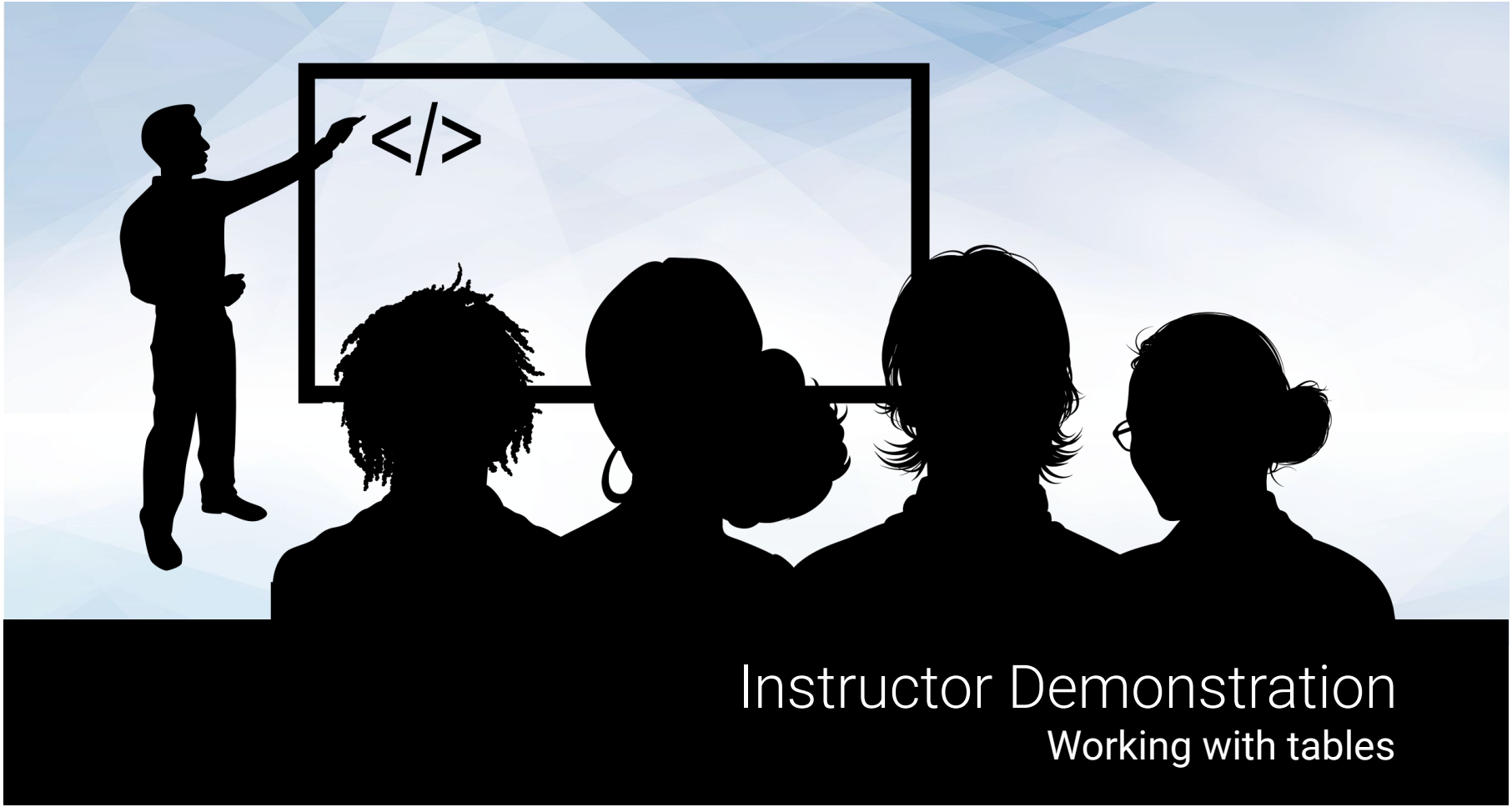
Suggested Time:
5 Minutes

Instructions:

Activity: Fix the HTML

- Open the `index.html` file inside the `Unsolved` folder.
- This HTML document has several errors. While it may seemingly load browser without many issues, this is not valid HTML.
- Correct the document and leave a comment above each error describing what you changed.
    - Refer to the Mozilla HTML Documentation to research any unfamiliar HTML tags.

Time’s Up! Let’s Review.



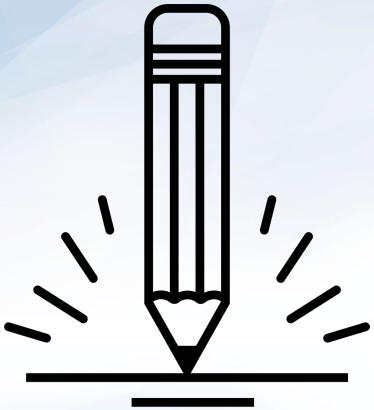
Instructor Demonstration

Working with tables

The Function of each element that goes into making a table

Working with tables

- **table**: Acts as a container for our rows and columns.
- **tr (Table Row)**: These elements serve as rows for our table. They contain a row of table cells.
- **th (Table Header)**: These are table cells that are for containing column titles. These will have bold text by default.
- **td (Table Data)**: These are table cells for holding data. These are not column titles.
- Optional table tags that can be used to give semantic meaning to our table. These include:
  - **thead (Table Head)**: Acts as a container for the row(s) holding our table headers.
  - **tbody (Table Body)**: Acts as a container for the rows holding our table data that is not part of the table head.
  - **tfoot (Table Footer)**: Acts as a container for bottom rows in a table which acts as a summary of the tables content. The tfoot element is rendered at the bottom of the table by default, regardless of which row(s) it's holding.



Activity: Working with tables

In this activity, you will create an HTML5 table modeled from a spreadsheet. You will use a border and colspan properties, as well as make use of the `thead`, `tbody` and `tfoot` elements.

Suggested Time:
15 Minutes

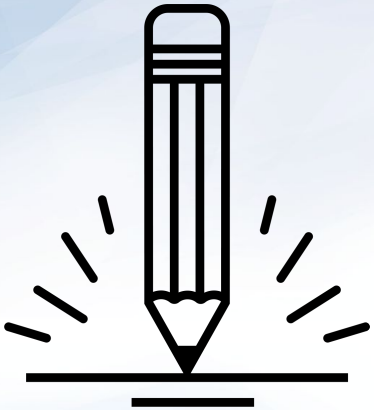
Instructions:

Working with Tables

- Open the Resources folder. Here we have a relatively simple spreadsheet.
- Create a new HTML document and create a table to represent the data in the spreadsheet.
- Try to get the formatting as close to the spreadsheet as possible.

- **Bonus**: Use table `colspan` and `border` attributes to make the table look even more similar to the spreadsheet.
  - Group the completed table using a `thead`, a `tbody`, and a `tfoot` element.
    - Check you **SLACK** for a good example of these semantic table elements being used.

Time’s Up! Let’s Review.



Activity: More with Images and Links

In this activity, you will create a webpage using images downloaded from their Jupyter notes from previous project.

Suggested Time:
15 Minutes

Instructions:

Activity: Fix the HTML

- Create a new project folder. Inside, create a new HTML file and name it `index.html`. Fill this document in with a basic HTML skeleton.
- Launch Jupyter Notebook, and open any previous project created using `matplotlib`. Download all images of graphs created with pyplot to your local project folder.
- At the top of the HTML page, add a H1 tag containing the name of your chosen project.
- For each downloaded image, add one image element to your `index.html` file. Set the `src` attribute of each image to the path to a different image in your project folder. Be sure to add a description for each image in the `alt` attribute.
- Add a horizontal rule between each image.
- Underneath each image, add a description of its graph in italicized text using the `<em>` element.
- Add functionality so that when an image is clicked, it will open a new tab to that image's URL.
- **Bonus:**
    - Take advantage of the `figure` and `figcaption` elements to have more semantic markup.

Time’s Up! Let’s Review.


The End