

CSCI E-33a

CS50's Web Programming
with Python and JavaScript

Spring 2020

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- Section Meetings: Wednesdays 8:30pm-10:00pm
- Office Hours: TBA

Section 0: HTML & CSS

Agenda:

- Introduction
- Zoom
- HTML
- CSS
- Project 0
- Q&A

Introduction

- Sections and office hours supplement the lectures, so please watch the lecture before attending a section or coming to office hours
- Try taking notes of any questions that you may have while watching the lecture, and then bring them to the section or to the office hours
- Ideally, check the project requirements early, so if you have questions, you can take a better advantage of sections and office hours
- Install a text editor, if you haven't already, such as Sublime Text, Atom, Brackets, Visual Studio Code, to name a few

Zoom

- Video call is encouraged
- Please mute your microphone when not speaking to avoid background noise
- Use the *raise your hand* feature if you want to interrupt with a question or comment
- Feel free to use the chat feature

HTML

HTML

HTML stands for Hypertext Markup Language

Definition: HTML is the standard markup language for documents designed to be displayed in a web browser

We are using HTML5, which is the fifth and last major version of HTML

Useful Links

- <https://www.w3schools.com/html/>
- <https://validator.w3.org/nu/>
- <https://html-online.com/editor/>

Basic HTML

```
<!DOCTYPE html>  
<html lang = "en">  
  <head>  
    <title>Hello!</title>  
  </head>  
  <body>  
    Hello, world!  
  </body>  
</html>
```


HTML common elements (tags)

- `<h1>` Heading `</h1>`
- `<p>` Paragraph `</p>`
- `<div>` Division `</div>`
- `<fieldset>` Fieldset `</fieldset>`
- `<table>` Table `</table>`
 - `<tr>` Table Row `</tr>`
 - `<td>` Table Data `</td>`
- `` Unordered list `` (Bullet point list)
- `` Ordered List `` (Numbered list)
 - `` List Item `` (Nested in an unordered or an ordered list)
- `` Anchor `` (Hypelink reference)
- `` Requires a source, alt is used to describe the image in case it doesn't load (note that img doesn't have a closing tag)
- `
` Line break element

More HTML elements

- `<form action=" " method=" " > Form </form>` Represents form-associated elements, some of each can be edited and submitted to a server for processing
 - `action` : specifies where to send the form-data when the form is submitted
 - `method`: specifies how to send form-data. Possible values are: `post` (data are included in the body of the form and sent to the server), `get` (data are appended to the action attribute URI and the resulting URI is sent to the server), `dialog` (use when the form is inside a `<dialog>` element to close the dialog when submitted)
- `<input type=" " name=" " value=" ">` Data field, usually with a form control that allows user to edit the data
 - `type`: specifies the type of input. Possible values are `button`, `hidden`, `search`, `submit`, `text` etc.
 - `name`: specifies the name of the input element
 - `value`: specifies a value, such as a description tag
- `<link href=" " rel=" ">` Link html document to other resources, such as a CSS document
 - `href`: URL of the linked resource, e.g. `"style.css"`
 - `rel`: names a relationship of the linked document to the current HTML document, e.g. `"stylesheet"`
- `<script>` Script Element `</script>`

CSS

It's all about style

CSS

CSS stands for cascading Style Sheets

Definition: CSS is a style sheet language used for describing the presentation of a document written in a markup language (HTML)

Useful links:

- <https://www.w3schools.com/css/default.asp>
- <https://jigsaw.w3.org/css-validator/>

CSS common Selectors

- **.class** Selects HTML elements with a certain class, e.g. <p class="center">Paragraph</p>
- **element** Selects HTML elements of a certain type, e.g. body, input
- **#id** Selects HTML elements with a certain id, e.g. Anchor
- ***** Selects all elements

CSS sample document

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

```
#nav {  
  font-size: 14px;  
}
```

```
.center {  
  text-align: center  
}
```

CSS common properties (with example values)

- border-radius: 10px;
- border-style: solid;
- border-color: blue;
- display: block;
- font-family: sans-serif;
- font-size: 15px;
- height: 24px;
- margin: 20px auto;
- padding: 4px 10px;
- text-align: center;
- width: 200px;
- height: 24px;

Project 0

- Please read carefully the requirements
- For this project your website should consist of at least three pages (three html documents)
- Ensure that you can navigate from each page to another
- Useful HTML elements for the project: form, input, anchor (a), link
- Inspect Google's (or any other website's) HTML and CSS through Developer Tools to get some ideas
- Check the references at <https://developers.google.com/custom-search>
- Project 0 is due by 11:59pm EST on Sunday 02/09

Q&A