

Attendance



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Software Saturdays

Spring 2023 - Lesson 1

HTML/CSS

Review of the Beginner Track

- » 5 Lessons
 - ◇ HTML/CSS
 - ◇ JavaScript
 - ◇ JSX and Intro to ReactJS
 - ◇ More ReactJS
 - ◇ APIs and ReactJS
- » 2 Project Days



Help Available

- » Weekly Office Hours
 - ◇ TBD, will start this week
- » Slack Channels
 - ◇ spring23-questions



Teaching Staff

- » Adithya Chandrasekar
 - ◇ Chair
- » Albert Xu



Before We Begin

All attendees will be registered on Brightspace

Join the Software Saturdays Slack!

<https://softwaresaturdays.slack.com>

1. #announcements
2. #general-discussion
3. #spring-2023-reactjs



Before We Begin

- » Please have a text editor to open and edit code files
 - ◇ If you do not have one, Visual Studio Code is a good choice
 - ◇ <https://code.visualstudio.com/download>
- » Demo files and examples are on GitHub
 - ◇ <https://github.com/SoftwareSataturdays/2022-Spring-ReactJS>



Before We Begin

- » We need to install NodeJS and NPM
 - ◇ <https://nodejs.org/en/download/>
- » NodeJS is a very customizable JavaScript toolbox
- » NPM is a JavaScript package installer



Part 1: HTML



What is HTML?

- » HTML is **H**yper**T**ext **M**arkup **L**anguage
- » Uses the ideas of 'tags' to represent each element on a web site
 - ◇ Each 'tag' has an open (<>) and close (</>)



HTML describes layouts

- » HTML defines the location, styles, and content of each web site
- » HTML can use CSS to add stylings like color, font, borders, etc.
- » HTML can use JavaScript to add more user interactivity



Basic HTML syntax

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
  </head>
```

```
  <body>
```

```
  </body>
```

```
</html>
```

1. Defines HTML
2. Starts HTML
3. Start Browser info
4. End Browser info
5. Starts Layout
6. Ends Layout
7. Ends HTML



College of Engineering

Some Basic HTML Tags

- » `<div></div>`: Invisible groups of other tags
- » `<h#></h#>`: Big heading text, 1 (big) through 6 (small)
- » `<p></p>`: Paragraph text



Some Basic HTML Tags

- » ``: Bullet point list
- » ``: Numbered list
- » ``: List text (Used with the above)



Demo Program #1



Some More HTML Tags

- » ``: Shows an image on the page
- » `<button></button>`: Adds a clickable button
- » `
`: Adds a line break
- » `<a>`: Links to other sites



The <head> Tag

- » It defines properties for the browser
- » Tags in head:
 - ◇ `<title></title>` Title of the web site
 - ◇ `<link>`: Links CSS and JS files



HTML Attributes

- » Attributes provide additional information that allows us to control the behaviour of the element.
- » Defined in the starting tag of the element
- » `<tag attribute_name="value">`



href

- » href: Stands for Hypertext Reference. specifies the location of an external resource, which is opened when the element is clicked.

```
<a href="https://www.w3schools.com">W3</a>
```



src and alt

- » src: Specifies location of the external resource that is embedded in the page at the element's location.
- » alt: Provides alternative information in case the element does not load for the user.

```

```



Demo Program #2



Other Resources: HTML

- » We only went over the basics
- » Other tags include videos, formatting, frames, etc.

<https://www.w3schools.com/html/>



Checkpoint #1

Create a website with a list of tasks. Each task should have text and a link. Include at least 1 image.



Part 2: CSS



What is CSS?

- » CSS stands for **C**ascading **S**tyle **S**heets
- » It describes how to style HTML tags
- » Makes formatting simple and easy to read



How to use CSS

- » CSS consists of groups of similar HTML tags with the same styles
- » Each group is given styling instructions



Classes and IDs

- » An ID is used to give a unique name to an element. Only one element can have that id.
- » A class can be used to identify a group of elements. These elements will share the style instructions defined for the class.

```
<h1 id="id1">Heading1</h1>  
<div id="id2">  
  <h2>Heading2</h2>  
  <p>Nothing to see here</p>  
</div>
```

```
<h1 class="class1">Heading1</h1>  
<div class="class1">  
  <h2>Heading2</h2>  
  <p>Nothing to see here</p>  
</div>
```



How to use CSS

- » CSS has three types of groups
 - ◇ 'Tag' groups consist of every HTML element by that name
 - ◇ 'Class' groups are multiple different HTML elements
 - ◇ 'ID' groups are a single HTML elements
- » HTML elements can belong to multiple CSS groups



How to use CSS

- » Use a `<link />` tag to add a CSS file to your HTML file. Also need the 'rel' and 'href' properties.

```
<link rel="stylesheet" href="file1.css" />
```



CSS Syntax

- » Name of the group to style
- » Open bracket
- » All the style instructions
- » Closing bracket

```
h1 {  
    color: blue;  
}
```



CSS Syntax

Tag group

```
<name> {  
    ...  
}
```

Class group

```
.<name> {  
    ...  
}
```

ID group

```
#<name> {  
    ...  
}
```



Some Style Options

- » color: Color of the text
- » background-color: Color of the background
- » font-size: Size of the font in px
- » font-family: What font is used
- » text-align: Text alignment
- » margin: Margin space for 4 sides of an element in px



Demo Program #3



Checkpoint #2

Use CSS to style the list you made in Checkpoint 1



Other Resources: CSS

- » There are a lot of CSS properties, we only went over the basics
- » Other options include underlines, borders, margin, etc.

<https://www.w3schools.com/css/>

<https://www.w3schools.com/cssref/default.asp>



Thanks for coming!

- » Any Questions?
 - ◇ Office hours will be posted on Slack
 - ◇ Ask a mentor during the meeting or on Slack



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