

2. Basics of HTML - part I

2.1 Introduction to HTML

- Knowing how to code in any language is an extremely useful skill. Regardless of how complex a website is, it is still built with HTML, the basic building blocks of the web. The frameworks used to build websites are HTML and CSS. When it comes to building websites, you'll be much better off if you understand how they interact.

2.2 Understanding HTML

- **What is HTML?**
 - It is just a standardized system of tagging a text file
 - A text file that is "tagged" following the "HTML standard" is called an HTML document
 - This standard is followed by both web developers and web browsers in order to produce expected results.
- **HTML versions**
 - HTML has 5 versions so far, ranging from HTML 1.0 to the most recent, HTML5.
- **DOCTYPE**
 - DOCTYPE is not an HTML tag. It is simply an instruction for your browser to tell which version of HTML your document is using.
 - DOCTYPE declarations:
 - For HTML5, use this only: `<!DOCTYPE html>`
 - For HTML 4: `<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" http://www.w3.org/TR/html4/strict.dtd>`
- **For this course, you only need to focus on HTML5. Reasons:**
 - Browsers understand earlier versions anyways
 - HTML5 is simplified
 - HTML5 has better error handling ways
 - HTML5 includes multimedia elements, which means that browsers that support HTML 5 can also play video and audio.
 - Includes semantic content by including `<header>` `<footer>`, `<article>`, `<section>` and `<figure>`

- **Why should you learn HTML?(Purpose of learning HTML)**
 - The primary goal of learning HTML is to understand how to properly tag your text documents so that the browser understands what you are attempting to accomplish.
 - For example, if you want to include a title in a text document, how could you tell that it's a title? Or, if you want to include a paragraph, how do you tell it's a paragraph, and so on.
 - To accomplish this, simply adhere to a standard that browsers can comprehend.

2.3 How to write HTML code in VSC

- **The following are the most common tasks you do using Visual Studio Code**
 - Open existing folder or file
 - Create a new folder in a specific location
 - Create a new file in a specific location
 - Make edits and save
 - Rename files and/or folders
- **Here is a list of VSC extensions (which adds extra feature to VSC) that you must install:**
 - Open in default browser (by peakchen90): to fast open html file in browser
 - Live Server (by Ritwick Dey): Launch a development local Server with live reload feature for static & dynamic pages
 - Material icon theme (by Philipp Kief): provides lots of icons based on Material Design for VSC
 - Prettier (by Prettier): a tool that automatically makes your code more readable or formatted

- Auto rename tag (by Jun Han): automatically renames paired HTML/XML tags
- CSS Peek (by Pranay Prakash): to check the properties attached to a css class or id from your HTML file. With CSS Peek, you can view a hover image of your CSS from within you HTML file.
- Indent rainbow (by Odewart) : makes indentation easier to read
- JS Snippet (by Gajesh Panigrahi) Javascript, typescript, bootstrap, ES6, typescript-react, react, react-router code snippet

2.4 Basic rules of HTML tags

- **What do HTML tags do?**

- Tags provide web browsers with instructions about the type of the texts included in the html document.
- HTML tags are hidden keywords within a web page that specify how your browser should format and display the content.
 - For example,

- `<h1>` h1 means this text is a header `</h1>`
- `<p>` p means this text is a paragraph `</p>`

- **What are rules of HTML tags?**

1. Tags are always enclosed in angle brackets: `<>`

- Ex: look how this paragraph tag is enclosed with angle bracket: `<p>`

2. Tags usually come in pairs: An opening tag and a closing tag.

- Ex. Paragraph tag

```
<p>
Content of the <b>paragraph</b> goes in between the
opening and the closing tag.
</p>
```

- The opening paragraph (`<p>`) tag indicates where the paragraph starts, and the closing tag (`</p>`) shows where it ends

3. A few tags are called non-container tags. This means they don't have any content. There is no need for them to have a closing tag because they do not contain anything or actually mark anything up. There is no need for them to have closing tag.

○ Ex:

```
▪ <br>
▪ <hr>
▪ <img>
```

4. Tags are comprised of elements and attributes.

○ Examples:

- Image tag with width attribute

```
• 
```

The image tag () is the element and width and src in it are the attributes of the element.

- Anchor tag with hypertext reference:

```
• <a href="https://www.apple.com/"> Apple Website
  </a>
```

- It is important to note that no attributes are included between the opening and closing tags. They are only included in the opening tag.

○ **The basic skeleton of every web page looks like this:**

```
<html>
  <head>
    <title> </title>
  </head>
  <body>
    </body>
</html>
```

- The first tag in any HTML file is the `<html>` tag. This tells web browsers that the document is an HTML file.
- The second tag is a `<head>` tag. Information between the `<head>` tags, called meta information, don't appear in the browser window but are still important. The most important meta information in the HEAD tag is the `<title>` tag. Generally, the title should reflect the contents of the page
- The true content of your web page is included inside the `<body>` tag

2.5 Building your first HTML page

- **Steps to create an HTML page (.html)**
 - **Step 1, always create a folder for every project you work on**
 - To do this, go to your favorite working location and create a folder - Give the folder a proper name that relates with your project
 - **Step 2, open the folder using your editor (VSC)**
 - On the Visual Studio menu bar, choose File > Open > Folder, and then browse to the code location
 - You can also go to the folder you created right-click on it and select “open in Visual Studio Code”
 - **Step 3, create an HTML document**
 - An HTML document is a simple text file with a .html extension. Then, save that file within your working folder
 - **Step 4, define the DOCTYPE**
 - The first line of any HTML document starts by defining the HTML doctype. Because we are writing the HTML5 standard, we simply include the following line of code at the top of the document to define the doctype.

```
<!DOCTYPE html>
```

- **Step 5: Include the initial HTML5 boilerplate**
 - **What is an HTML boilerplate?**

- HTML boilerplate is a standard template code used when building HTML pages. As an HTML developer, you will use this basic structure of an HTML document when building any HTML page.
- HTML boilerplate includes the following HTML tags: `<html>`, `<head>` and `<body>` tags. - Please make sure all of them are closed properly
- **How do we add HTML boilerplate in VSC?**
 - One way is by just typing “html” in your .html file, and selecting html5 from the list Emmet suggests
 - The other way is by simply striking the “!” key from your keyboard and press “enter” key at the same time
- **Step 6: Give a title for your HTML document**
 - This is defined with in the `<title>` tag under the `<head>` section. At this point, you would have a starter HTML document ready
- **Step 7: Start including contents into your HTML document**
 - The main content of your HTML document is included with in the `<body>` tag. Only the contents that you write within the `<body>` tag will be displayed on your browser. It can contain text content, paragraphs, headings, images, tables, links, videos, etc.

2.6 Most commonly used HTML5 tags

- **Structural Tags**
 - `<html>`
 - `<head>`
 - `<body>`
 - `<header>`
 - `<nav>`
 - `<section>`

- <div>
- <h1> to <h6>
- <a>
- <p>
-

- <hr>
- <footer>

- **Metadata Tags**

- <link>
- <style>
- <title>
- <meta>

- **Form Tags**

- <form>
- <input>
- <textarea>
- <button>

- **Formatting Tags**

-
- <center>
-
- <small>
-
- <sup>

- **List Tags**

- ``
- ``
- ``

- **Scripting Tags**

- `<script>`

- **Embedded Content Tags**

- ``
- `<video>`
- `<iframe>`

- **Commenting and commenting out in HTML**

- Comments in HTML are used to add text to an HTML document without including that text in the Web page. HTML comments are not displayed in the browser and can be used to hide content temporarily. You can add comments to your HTML source by using the following syntax:

- ```
<!-- Write your comments here -->
```

- Refer the following link to see a complete list of standard tags belonging to the latest HTML5. From the list, identify the ones selected above and read about each of them. Understand what each of them represent when used as tags.

- <https://www.tutorialrepublic.com/html-reference/html5-tags.php>

## **2.7 Building Apple.com's terms and policy page in class (demo)**

- For this section, please watch the video demonstrating how Apple.com's terms and policy is built using HTML in class