**HTML Basics**

**What is HTML**

HTML is the language of the Web. It stands for Hypertext Markup Language.

Its purpose is to let us communicate with the browser the meaning of the content that we wish to place on a web page. To achieve this, HTML defines a number of **tags**that we can wrap the contents with.

* Headings and paragraphs of text
* Images
* Links
* Lists
* Tables
* Forms

HTML has pre-defined tags for each of these, which we will cover in the following tabs.

HTML tags **describe the content they contain.**For example, there are paragraph tags for paragraphs, anchor tags for links, etc. **The browser does not display the HTML tags** but uses the tags to interpret the content of the page.

**Why HTML and CSS**

The HTML chapter - and the following CSS and JavaScript chapters - is designed to take you through the theoretical components of the web as well as the first step in creating a web application (building out the client-side). When building a web application we believe it is best to always start with a clickable prototype involving only HTML, CSS, and Javascript so it is only natural to teach these technologies first.

**Create a Simple HTML Document**

* Create a new file in the Text Editor of your choice
* Type "Hello World!" into the file
* Save the file as **hello\_world.html**
* Drag the file into your browser to open it

That's it! You should see the text "Hello World!" displayed in your browser.

Now, you may have noticed that we didn't add any tags to our text. To see how the browser handles this situation, right click in your browser and click **Inspect**. A new module should open at the bottom of your browser with various tabs.

We're currently interested in the **Elements** tab. When you click on it, you should see:

<html>

<head></head>

<body>Hello World!</body>

</html>

In the case where your HTML document isn't "valid", the browser will try to add appropriate tags to fix it.

One of each of **<html>**, **<head>**, and **<body>** above are required for each valid HTML document.

Some terminology here:

* **Opening and closing tags**

Since tags are supposed to wrap things, **most tags come in pairs**: one opening and one closing tag, that denote the beginning and end of content. Tags without a leading forward slash are called opening tags while tags with leading forward slashes are called closing tags.

In the above example, <body> is an opening tag - it's equivalent to you telling the browser "Hey, I'm going to start putting in body content now". </body> is a closing tag that means "OK, I'm done with body content."

* **Nesting**

Notice that between the opening and closing HTML tags, we also have head and body tags.

**Tags can encapsulate other tags**. This is called nesting. Nested items are **indented with a tab** to make the document easier to read.

The hierarchy that rises from **nesting** is called **DOM** - Document Object Model.

* **Commenting**

The format for commenting in an HTML file is as follows:

<p> Some paragraph content. </p>

<!-- This is a comment -->

# Best Practices

At this stage of the boot camp, many people ask whether they are following "best practices" or not.  This is an important question and we want to address this to everyone. Please watch this video where we go over "best practices" during this stage of your learning.

1. Don’t worry too much to be so good but focus on learning the concept.
2. Over time, you’ll be better and faster based on your previous learnings/tries and learnings

**HTML Sections**

<!DOCTYPE HTML>

<html>

<head>

<body>

<p>Hello World</p>

</head>

</body>

</html>

Let's look at our example from the previous page and go through it line by line:

<!doctype html>

<html>

<head></head>

<body>Hello World!</body>

</html>

* You may notice that this time we added the line **<!doctype html>** .The purpose of this line is to tell the browser that we want our document to be read in *standard mode*. What this basically means is that we are using the latest accepted HTML conventions. This line **should be the first line in every HTML document**you create.
* **<html>** indicates that everything between it and its closing tag </html> will be **marked-up using HTML conventions**.
* The **<head>** will eventually contain **meta-data** about the document, the **external Stylesheets and JavaScript libraries** that the document will use, and the document's **title**.
* The **<body>** will contain the **user content** - everything in the document that will be **visible in the browser** window.
* For additional sectioning needs, we will use the **<div>** tag which stands for division.

# Parent, Child, Sibling Relationship

In this chapter, we will be covering 2 very important concepts: proper  **Indentation** and the**Parent, Child, Sibling Relationship** (PCS).

Consider the following example:

**Bacon Ipsum, Dolor Amet?**   
         Bacon ipsum dolor amet tail salami ball tip leberkas venison. Pig pork loin shoulder pork fatback corned beef chuck shank drumstick cow doner cupim capicola. Swine beef ground round, kielbasa meatball doner jowl rump chuck pastrami venison spare ribs turducken sirloin sausage. Sausage venison doner brisket, andouille pork pastrami strip steak drumstick tri-tip cupim.

Notice how the header is centered in the middle of the page. Also notice that the first word at the beginning of the paragraph is indented a few spaces over. As programmers, we also want our co-programmers to distinguish where our **code block** ends and the next begins. Applying this concept to coding, our “Bacon Ipsum” paragraph should be translated like this in HTML:

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>Document</title>

</head>

<body>

<h3>Bacon Ipsum, Dolor Amet?</h3>

<p> Bacon ipsum dolor amet tail salami ball tip leberkas venison. Pig pork loin shoulder pork

fatback corned beef chuck shank drumstick cow doner cupim capicola. Swine before ground, kiel

basa meatball doner jowl rump chuck pastrami venison spare ribs turducken sirloin. Sausage

venison doner brisket, andouille pork pastrami strip steak drumstick tri-tip cupim.</p>

</body>

</html>

Wait. Isn’t it supposed to be indented like below?

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>Document</title>

</head>

<body>

<h3>Bacon Ipsum, Dolor Amet?</h3>

<p> Bacon ipsum dolor amet tail salami ball tip leberkas venison. Pig pork

loin shoulder pork fatback corned beef chuck shank drumstick cow doner cupim capicola. Swine

beef ground round, kielbasa meatball doner jowl rump chuck pastrami venison spare ribs turdu

ken sirloin sausage. Sausage venison doner brisket, andouille pork pastrami strip steak drums

tick tri-tip cupim.</p>

</body>

</html>

Simple answer, **NO.**

Remember, we don't indent our code by our website's  content, we indent them via the HTML tag's **parent, child, sibling**(PSC) relationship. So how did we get the title centered? Good question! That'll require some CSS and we'll be learning all about positioning tomorrow. For now, just understand that indentation is determined by the PCS relationship, not by how we want the HTML to be visually rendered on the browser.

## What is the HTML PCS Relationship?

The PCS relationship is just a term to describe the relationship between tags/elements inside an HTML document. To know the relationship between tags, we must first determine the parents, children, and siblings within our HTML document.

Example:

<!DOCTYPE html>

<html>

<head>

<title> Hello World! </title>

</head>

<body>

<h1> Here is a heading tag </h1>

<p> Now a paragraph tag </p>

</body>

</html>

From the HTML above you can read:

* <html> is the root element
* <html> has no parents
* <html> is the parent of <head> and <body>
* <head> is the first child of <html>
* <body> is the last child of <html>

and:

* <head> has one child: <title>
* <title> has one content (text): "Hello World!"
* <body> has two children: <h1> and <p>
* <h1> has one content (text): "Here is a heading tag"
* <p> has one content (text): "Now a paragraph tag"
* <h1> and <p> are siblings
* <head> and <body> are siblings

## Is it really required to indent HTML code?

It's not required, but it is highly recommended, and here are the reasons why:

* Beautiful-looking code can make you happy, and one way to make them look beautiful is to properly indent them.
* Properly indented code leads to less time spent on troubleshooting. Imagine being stuck with a problem, and you curse the inventor of HTML (damn you, Tim Berners-Lee!) -- only to find out that you just missed a closing tag. You were not able to quickly see it because you did not properly indent!
* It's easy to browse through your own code. With a glance, you know right away which part is the header part, and which part is the footer.
* It's a good coding habit. Popular programming languages such as PHP, Java, or Ruby recommend proper code indentation. Python even enforces it.

### **How to Indent**

* Just tap the TAB key. 1 TAB is equal to 4 spaces. Some people like 2 spaces and you can change this option with your favorite text editor, but we recommend tabs, not spaces.
* For a quick demo, please watch the video below:

**Text

Description automatically generated**

At this point, you may not appreciate the significance of HTML PCSrelationship -- and that's okay. Just know that as early as the HTML course, you will be dealing with them (through properly indenting your code), but will not be directly working on them (target, and manipulate related elements via CSS and or jQuery).

A picture containing text

Description automatically generated

* Lesson notes \*