What is HTML

HyperText Markup Language is the standard markup language for documents designed to be displayed in a web browser. It defines the content and structure of web content. It is often assisted by technologies such as Cascading Style Sheets and scripting languages such as JavaScript. Wikipedia

What is HTML made up of

All HTML pages have a series of HTML elements, consisting of a set of tags and attributes. HTML elements are the building blocks of a web page. A tag tells the web browser where an element begins and ends, whereas an attribute describes the characteristics of an element.

HTML was written by Tim Berners-Lee

The first version of HTML was written by Tim Berners-Lee in 1993. Since then, there have been many different versions of HTML. The most widely used version throughout the 2000's was HTML 4.01, which became an official standard in December 1999.

Features of HTML

It is platform independent. For example, Chrome displays the same pages identically across different operating systems such as Mac, Linux, and Windows.

Images, videos, and audio can be added to a web page (For example - YouTube shows videos on their website)

HTML is a markup language and not a programming language.

It can be integrated with other languages like CSS, JavaScript, etc. to show interactive (or dynamic) web pages

Why the Term HyperText & Markup Language?

The term 'HyperText Markup Language' is composed of two main words: 'hypertext' and 'markup language.' 'Hypertext' refers to the linking of text with other documents, while 'markup language' denotes a language that utilizes a specific set of tags.

Thus, HTML is the practice of displaying text, graphics, audio, video etc. in a certain way using special tags.

Note: Tags are meaningful texts enclosed in angle braces, like '<...>'. For example, the '<head>' tag. Each tag has a unique meaning and significance in building an HTML page, and it can influence the web page in various ways.

Quick Exercise:

Open a webpage of your choice, right click on the browser, and select 'View Page Source,' and then you will see the HTML code for that page. This is the code that the server sent to display the page you're currently viewing. In this tutorial, we'll learn how to write this type of code using HTML.

A beautiful analogy to understand HTML, CSS, and JavaScript:

Car Skeleton (only body) is HTML   Car Painted or Decorated is CSS   Car Engine and internal logic is JS

In building a webpage, think of HTML, CSS, and JavaScript as different parts of a car. HTML is like the car's skeleton, forming the basic structure and frame. CSS adds the paint and finishing touches, making the car look appealing with color, style, and design. JavaScript is similar to the engine and mechanical parts, infusing the car with functionality, movement, and interactive features. Similarly, when developing a website, HTML lays out the structure, CSS enhances its visual appeal, and JavaScript provides interactivity and dynamic content

History of HTML:

In 1989, Tim Berners-Lee established the World Wide Web (www), and in 1991, he created the first version of HTML.

From 1995 to 1997, further work was done to develop and refine different versions of HTML.

In 1999, a committee was organized that standardized HTML 4.01, a version still used by many today.

The latest and most stable version of HTML is 5, also known as HTML5.

Feel free to read more history of HTML here on the HTML Wikipedia page but I will move ahead and cover important aspects of HTML.

HTML Working

You must have heard of frontend and backend. Frontend refers to the visible part of a website or app that users interact with, like the tables, images, and buttons. It's built using languages like HTML, CSS, and JavaScript. The backend, on the other hand, handles behind-the-scenes operations like storing and processing data when users interact with the frontend. It uses languages like Python, Ruby, and Java. In essence, frontend is what users see, while backend manages the functionality.

How do websites work?

When we want to access any information on the internet, we search for it using a web browser. The web browser retrieves the content from web servers, where it is stored in the form of HTML documents.

An HTML document is created by writing code with specific tags in a code editor of your choice. The document is then saved with the '.html' extension. Once saved, the browser interprets the HTML document, reads it, and renders the web page.

The text editor has the HTML code of a website. This website can now be viewed in a beautifully rendered format using a computer program known as a web browser.

What is a Web Browser?

An HTML document is a text document saved with the '.html' or '.htm' extension, containing text and specific tags enclosed in '< >'. These tags provide the necessary instructions for configuring the web page. The tags themselves are standardized and fixed. The structure of an HTML document will be explained later in this HTML tutorial.

What is a Rendered Page:

The rendered page is the output screen of our HTML Document which is the page displayed on the browser.

How does a browser work?

A web browser plays a crucial role in parsing and rendering HTML code to the client. A web browser is a complex program that performs many tasks behind the scenes. Here's a summary of how it works:

A browser is an application that reads HTML documents and displays them as web pages. Browsers can't access the content directly from where it's stored; this is where servers come into play.

A server acts as an intermediary, listening to browser requests and fulfilling them by delivering the HTML document to the browser.

Web browsers perform two main tasks: parsing and rendering.

During the parsing stage, the browser receives raw bytes, which are converted into characters. These characters are then converted into tokens, which in turn are transformed into nodes. These nodes are organized into a tree-like data structure known as the DOM (Document Object Model).

Once the DOM tree is constructed, the browser moves on to the rendering stage. At this point, each node in the DOM tree is rendered and displayed on the screen. Dont worry about how browser exactly works just yet. Rather focus on learning HTML. In the next tutorial we will install VS Code and some extensions for writing our HTML code.

HTML Installation

Let's get our hands dirty and start preparing to write some code. In this tutorial, we will install VS Code and some related extensions for faster and more efficient HTML development.

What are the prerequisites to learning HTML ?

I can safely say that there are no prerequisites to learning HTML. HTML is the language of the web and is often the first step that web developers take in learning to code.

Tools needed to make an HTML page:

1) HTML Editor: It's a straightforward tool where every piece of HTML content must be written. You can use any text editor of your choice. In this tutorial, we're using Visual Studio Code because it's lightweight and open source.

Popular editors for HTML development include text editors like Notepad++ and TextEdit, code editors such as Sublime Text and Visual Studio Code, and full-fledged IDEs like WebStorm and Eclipse. Online platforms like CodePen and JSFiddle are also commonly used for quick HTML editing and testing.

Note: You can write HTML even in a Notepad. Text editors like VS code make these things easier.

2) Browser: HTML tags are not displayed by browsers; instead, they are read and interpreted to render the web page. In a web browser, HTML structures are displayed in a styled and visually appealing form. In this tutorial, we are using Google Chrome. Other commonly used browsers include Chromium, Firefox, Safari on Mac, and Microsoft Edge.

Installation & Setup of Visual Studio Code for HTML:

We will install and set up HTML to optimize its utility for creating web pages. Additionally, we'll install extensions in Visual Studio Code to enhance its functionality. If you're unsure about which editor to use, you can confidently start with Visual Studio Code. You won't regret it; it's one of the best free code editors available in the market.

Search for "Visual Studio Code download" on Google

Download Visual Studio Code for your Operating System. I am using Windows so I will install it for Windows

Here is a quick video showing VS Code installation: