

HTML (Hypertext Markup Language):

HTML is the standard markup language for creating web pages and web applications. It provides the structure and content of a webpage by using a system of tags and attributes. HTML documents are composed of elements, which are surrounded by opening and closing tags. These elements define the structure of the content, such as headings, paragraphs, lists, links, images, and more.

HTML is not a programming language; it's a markup language that describes the structure of a document. Browsers interpret HTML code and render it into a visually appealing webpage for users to interact with. HTML5 is the latest version of HTML and introduces new features such as multimedia elements, semantic elements for better document structure, form validation, and more.

CSS (Cascading Style Sheets):

CSS is a style sheet language used for describing the presentation and formatting of HTML documents. It allows web developers to control the layout, appearance, and visual styling of web pages across different devices and screen sizes. With CSS, you can define styles such as colors, fonts, spacing, borders, and positioning of HTML elements.

CSS works by targeting HTML elements or groups of elements and applying styles to them. Styles can be applied inline within HTML elements, within a ``<style>`` tag in the ``<head>`` section of an HTML document, or in external CSS files that are linked to HTML documents. CSS rules consist of selectors, which target HTML elements, and declarations, which define the styles to be applied to those elements.

CSS is essential for creating visually appealing and user-friendly web interfaces. CSS3 is the latest version of CSS and introduces advanced features such as animations, transitions, gradients, shadows, and flexible box layouts.

JavaScript:

JavaScript is a high-level, interpreted programming language primarily used for adding interactivity and dynamic behavior to web pages. It allows developers to create interactive elements, manipulate the content of a webpage, respond to user actions, and communicate with web servers to fetch or send data asynchronously.

JavaScript is supported by all modern web browsers and is widely used for client-side scripting. It can be embedded directly within HTML documents using `<script>` tags or included in external JavaScript files that are linked to HTML documents. JavaScript code can access and manipulate the HTML Document Object Model (DOM), which represents the structure of an HTML document as a tree of objects. This enables developers to dynamically update the content and styling of a webpage in response to user interactions or other events.

In addition to client-side scripting, JavaScript is also used for server-side scripting (e.g., with Node.js), mobile app development (e.g., with frameworks like React Native), game development, and more. ES6 (ECMAScript 2015) is a major update to the JavaScript language that introduces new syntax and features such as arrow functions, classes, modules, and promises to improve code readability and maintainability.