# HTML (HyperText Markup Language)

* Introduced by Tim Berners-Lee.
* It defines the meaning and structure of web content.
* HTML 2.0 was first standard version and introduced forms, tables, and other elements.
* HTML 3.2 introduced elements like <table>, <script>, <style>, and allowed more control over document layout.
* HTML 4.01 introduced separation of structure (HTML), presentation (CSS), and behavior (JavaScript).
* HTML 5 introduced new APIs, native video and audio support, semantic elements like header, footer, article.

# CSS (Cascading Style Sheet)

* Introduced by W3C.
* It describes how elements should be rendered on screen.
* Initially was basic allowing simple control over fonts, colors, and layouts.
* CSS2 introduced positioning, media queries, and z-index.
* CSS3 introduced advanced styling techniques such as gradients, animations, transitions, flexbox, grid layouts, and CSS variables.

# JavaScript

* Introduced by **Brendan Eich** at **Netscape Communications** as client side scripting language.
* It is a **just-in-time complied** programming language with **first-class functions**.
* **Just-in-time** is a compilation process where code is translated from higher-level language to machine code at runtime rather than prior to execution.
* A function is called **first-class** when they are treated like any other variable. For example, it can be passed as an argument to other functions (**callback function**), can be returned by another function (referred to has **higher-order function**), or can be assigned to a variable as a value.
* Initially named Mocha, then LiveScript, then JavaScript.
* ES3 (1999) standardized JavaScript for web development.
* ES4 (2008) was a major revision planned but was cancelled due to disagreements in the community.
* ES5 (2009) introduced strict mode, getters and setters, and new array methods like forEach, map, filer, and reduce.
* ES6 (2015) was a major update that brought many new features:
  + let and const: Block scoped variables
  + Arrow functions: Shorter syntax for writing functions
  + Template literals: String interpolation with backticks (` `)
  + Modules: Support for import and export
  + Promises: Simplified asynchronous programming.
  + Destructuring: Easier assignment of variables from arrays or objects.
  + Default parameters and spread/rest operators
* ES8 (2017) added asyn/await, Object.entries, Object.values, and new String methods.
* More features are being added since then improving JavaScript.

# DOM (Document Object Model)

* Was initially conceptualized as a tree-like structure representing HTML or XML document.
* It is the data representation of the objects that comprise the structure and content of a document on the web.
* A Web API that is used to build websites.
* It provides a way for JavaScript to interact with the content of the page dynamically.
* Features like getElementByUd() and querySelector() allowed advanced manipulation of CSS and events.