

HTML5 & CSS 2021 - Notes

1. Introduction to HTML5

HTML5 is the fifth and most recent version of the HTML standard. It introduced several new features and changes, such as:

- New elements like `<header>`, `<footer>`, `<article>`, `<section>`, `<nav>` to improve semantic HTML.
- New input types like 'date', 'email', 'tel', and 'range' for better form validation.
- `<audio>` and `<video>` elements for embedding media without the need for plugins.
- Geolocation API and LocalStorage API for improved web experiences.

2. CSS Basics

CSS (Cascading Style Sheets) controls the layout and design of HTML elements on a webpage.

Key concepts:

- CSS selectors: class, id, element, and attribute selectors.
- The Box Model: defines the outer edge of an element with margins, borders, padding, and content area.
- Colors and Fonts: CSS supports RGB, HEX, and named color values. You can apply custom fonts with the 'font-family' property.

3. CSS Layout Techniques

CSS offers several techniques to create complex layouts:

- Flexbox: A layout model that enables efficient layout design by distributing space dynamically.

- CSS Grid: A two-dimensional layout system to create grid-based designs.
- Positioning: 'absolute', 'relative', and 'fixed' positioning allows precise element placement.

4. CSS3 Features

CSS3 introduced several new features:

- Transitions: Allow smooth changes between properties (e.g., color or size).
- Animations: A way to animate CSS properties without JavaScript.
- Media Queries: Help create responsive designs by adjusting styles based on device size.

5. HTML5 APIs

HTML5 introduced several powerful APIs:

- Canvas API: Allows dynamic rendering of 2D shapes, images, and animations.
- Geolocation API: Lets websites get the geographical location of the user.
- LocalStorage and SessionStorage: Store data on the user's browser for offline access or session persistence.