TECHYJAUNT FRONTEND WEB DEVELOPMENT SYLLABUS

Pre-requisites:
No prior knowledge on frontend web development
Code editor such as VS code, Arom, Notepad etc.

General Introduction to Frontend Web Development and the Technologies Used

- Overview of frontend web development
- Introduction to HTML, CSS, and JavaScript

- **HTML: HYPERTEXT MARKUP LANGUAGE**
  - Introduction and overview
  - HTML syntax: structure, tags, attributes, elements
  - HTML elements and their respective attributes: header elements, image element, link elements, paragraph element, form, ordered and unordered list, etc.
  - HTML grouping: using div and span tags for grouping
  - HTML forms: different types of input elements, placeholder attribute, required attribute, labels, buttons, etc.
  - HTML tables: representing tabular data using HTML table elements
  - HTML events
  - HTML header elements and meta tags
  - **Semantic HTML**: importance and usage of semantic elements like `<article>`, `<section>`, `<header>`, `<footer>`, `<main>`

- **CSS: CASCADING STYLE SHEETS**
  - Introduction to CSS
  - How CSS can be added to HTML: Inline CSS, Internal CSS, External CSS
  - CSS selectors: ID, class, universal selectors, grouping selectors, descendant/child selectors, pseudo-selectors
  - Background styling: bg-repeat, bg-position, bg-image, etc.
  - Styling fonts: color, bg-color, text-align, font-family, font-size, etc.
  - Box model: borders and outline, margin and padding, height and width, CSS dimensions
  - CSS display and positioning: visibility, display, scrollbars, static position, relative position, absolute position, fixed position, z-index
  - CSS media queries
  - CSS float and clear
  - CSS animations
  - CSS flexbox and grid

    - **CSS preprocessors**: Introduction to Sass or LESS, benefits, variables, nesting, mixins
    - **Responsive Design**: mobile-first design principles, responsive typography, and images

- **JAVASCRIPT**
    - Introduction to JavaScript, rules and syntax, commenting, etc.
    - Linking JavaScript to your HTML file
    - Dialog boxes: prompt box, alert box
    - Document Object Model (DOM)
    - JavaScript variables: var, let, and const keyword, variable scope, variable data types, reserved words
    - JavaScript operators: logic operators, arithmetic operators, comparison operators
    - Strings and their methods: length(), slice(), charAt(), toUpperCase(), etc.
    - Conditional statements: if-else statement, switch statement, while loop, do-while loop, for loop
    - Loop control: continue statement, break statement
    - Functions: function definition, anonymous functions, function calling, function parameters, return statement
    - Numbers and their methods
    - Arrays and their methods: push(), map(), pop(), unshift(), etc.
    - Objects: key-value pairs, dot notation, bracket notation, destructuring, spread operator, etc.
    - DOM manipulation: the event object, event propagation, event bubbling
    - Event listeners: submit, click, mouse-over, etc.
    - **ES6+ features**: arrow functions, template literals, promises, async/await

- **Version Control with Git**
    - Basics of Git and GitHub
    - Cloning, branching, committing, pushing, and creating pull requests
    - Importance of version control in collaborative projects
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- **JavaScript Libraries and Frameworks**
    - Introduction to popular libraries/frameworks [React]
    - Basic usage and benefits of these tools
- **Build Tools**
    - Basics of npm (Node Package Manager)
- **Accessibility**
    - Importance of web accessibility
    - ARIA roles and attributes
    - Best practices for making websites accessible

- **Performance Optimization**
    - Basic techniques for optimizing website performance
    - Minification, image optimization, lazy loading
    - Importance of performance in user experience
- **Deployment**
    - Basic deployment concepts
    - Introduction to platforms like Netlify, Vercel, or GitHub Pages

Assignments and Projects:

- Assignments will be given at the end of each class to ascertain understanding.
- Necessary videos and PDFs will be provided to guide students.
- At the end of the course, each student will be required to build three projects.