

JavaScript Part-5 - Lab Assignment [Advanced JavaScript Concepts]

1. While Loop & do...while Loop

◆ Create a number guessing game.

- The program should keep asking the user to guess a number between **1 and 50** using a `while` loop.
- If the guess is wrong, prompt again.
- If the guess is correct, congratulate the user and break the loop.

◆ Modify the above game to use a `do...while` loop instead of `while`.

2. External JavaScript File

◆ Create a webpage that has two buttons: "Red" and "Blue".

- Store the JavaScript in an **external file**.
 - When a user clicks **Red**, change the background color of the page to **red**.
 - When a user clicks **Blue**, change the background color to **blue**.
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3. Radio Buttons & Checkboxes

◆ Build a pizza order form with Radio Buttons and Checkboxes.

- Radio buttons for **pizza size (Small, Medium, Large)** (Only one should be selected).
 - Checkboxes for **toppings (Cheese, Pepperoni, Mushrooms, Olives, etc.)** (User can select multiple).
 - When the user submits, show a **summary of their order using JavaScript**.
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4. for Loop & fieldset/legend Elements

◆ Create a dynamic multiplication table generator.

- Use a `for` loop to generate a **multiplication table (1 to 10)** based on a user-inputted number.
 - Use **fieldset** and **legend** to group the form elements neatly.
 - Display the output in a `<table>`.
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5. Manipulating CSS with JavaScript

◆ Create an interactive theme switcher.

- Have two buttons: **"Dark Mode"** and **"Light Mode"**.
 - Use JavaScript to dynamically **change CSS styles** (background color, text color, font size, etc.).
 - The page should switch between **dark and light mode** when the buttons are clicked.
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6. Using z-index to Stack Elements

◆ Create a layered image gallery using z-index.

- Place **three images** on top of each other using **absolute positioning and z-index**.
 - Use JavaScript to **bring an image to the front** when clicked.
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7. Textarea Controls

◆ Create a live word and character counter for a textarea input.

- As the user types in a `<textarea>`, **display the character count and word count** in real time.
 - Show an **alert if the user exceeds 200 characters**.
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8. Pull-Down Menus & List Boxes

◆ Create a country-state selection dropdown.

- The **first dropdown** contains a list of countries (e.g., USA, India, UK).
 - Based on the **selected country**, populate the **second dropdown** with relevant states (e.g., if "USA" is selected, show "California, Texas, New York").
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9. Canvas and Drawing

◆ Create a simple drawing app using HTML5 Canvas.

- Allow the user to **draw with a mouse** inside a `<canvas>`.
- Provide color and brush size options.
- Include a "Clear Canvas" button.

10. Event Handlers & Listeners

◆ Create an interactive "To-Do List" with event listeners.

- The user can **add items** to a list by typing in a text box and clicking "Add".
 - Each item should have a "Remove" button that **deletes the item when clicked**.
 - Use `addEventListener()` instead of `onclick` in HTML.
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