

Day 5: Interactivity in Web Pages

Instruction for Students:

1. Watch the tutorial videos on the provided website that explain how to manipulate the DOM, handle browser events, and validate forms using JavaScript.
2. Complete **all 12 exercises** from the list below.

DOM Manipulation Exercises:

1. **Dynamically create and remove elements from the page:**
 - Create a button that, when clicked, adds a new paragraph to the page. Add functionality to remove the paragraph when clicked again.
2. **Create a modal window with JavaScript:**
 - Write JavaScript to open a modal window when a button is clicked and close it when the close button inside the modal is clicked.
3. **Toggle between light and dark mode using JavaScript:**
 - Create a button that switches between a light mode and dark mode on the page, changing the background color and text color.
4. **Dynamically create and remove elements from the page:**
 - Create a button that, when clicked, adds a new paragraph to the page with some text. When the paragraph is clicked, it should be removed from the page.

Event Handling Exercises:

1. **Implement a countdown timer with a button click:**
 - Use JavaScript to create a countdown timer that starts at 10 and decrements by 1 each second when a button is clicked. Stop the countdown when it reaches zero.
2. **Form field validation with multiple conditions:**
 - Create a form with name, email, and password fields. Use JavaScript to validate that the name is not empty, the email contains an "@" symbol, and the password has at least 6 characters before allowing the form submission.
3. **Implement a drag-and-drop functionality:**
 - Create two div elements. One should be draggable, and the other should be the target. When the draggable element is dropped into the target area, display a message or change the color of the target div.
4. **Implement a countdown timer with a button click:**
 - Write JavaScript to create a countdown timer that starts at 10 when a button is clicked. The timer should decrement by 1 every second. Once the timer reaches zero, the countdown should stop, and a "Time's up!" message should appear.

Advanced Form Validation Exercises:

1. **Check if a user's input matches a regular expression pattern:**
 - Create a form with an input field for a phone number. Use a regular expression to validate that the phone number matches the format (XXX) XXX-XXXX.
2. **Validate a form before submitting and show custom error messages:**
 - Create a form with fields for username, email, and password. If any field is empty, show a specific error message next to the corresponding field and prevent the form submission until all fields are filled out correctly.
3. **Password Strength Checker:**

- Create a password input field that shows a strength indicator based on the user's input. The indicator should display "Weak", "Medium", or "Strong" based on the number of characters and the inclusion of special characters, uppercase letters, and numbers.

4. Check if a user's input matches a regular expression pattern:

- Create a form with an input field for an email address. Use a regular expression to validate that the email contains "@" and a domain name (e.g., example@domain.com). If the email format is incorrect, show an error message below the input field.