

**Practical No. 3**

**Java Script and DOM**

**Perform following problem statements for DOM using Javascript**

**Problem Statement 0: Basics of DOM**

- What is the DOM?
- What is DOM Tree Structure? Elaborate its elements with example (you may create DOM tree structure of previously created web pages)
- Give examples for following:
  - Accessing the DOM
  - Manipulating the DOM
  - Event Handling
  - Traversing the DOM
- What are Performance Considerations while implementing the DOM and can DOM supports all browsers?
- Elaborate Common Methods and Properties of DOM

**Problem Statement 1: Dynamic Content Update**

Create a webpage with a button that changes the text of a heading when clicked.

**Requirements:**

- Use getElementById or querySelector to target the heading.
- Update its text dynamically when the button is clicked.

**Problem 2: Real-Time Character Counter**

Create a text input field where users can type a message, and display a live count of the number of characters typed.

- Use oninput or addEventListener("input", ...) to track user input.
- Display the live character count below the input field.

**Problem 3: Add and Remove List Items**

Create a dynamic list where users can add new items by typing in a text box and clicking an "Add" button. The list should also have a "Remove" button next to each item.

- Use createElement and appendChild to add new list items.
- Use .remove() to delete an item when the "Remove" button is clicked.

**Problem 4: Change Background Colour**

Create a webpage with three buttons: "Red," "Blue," and "Green." Clicking any of them should change the page background to the respective colour.

- Use `addEventListener` for each button.
- Use `document.body.style.backgroundColor` to update the background color.

### **Problem 5: Toggle Dark Mode**

Create a "Toggle Dark Mode" button that switches the page between light and dark themes.

- Use `classList.toggle("dark-mode")` to switch styles.
- Define CSS for both light and dark modes.

### **Problem 6: Simple Quiz Application**

Create a simple quiz with one question and three answer options. Display a message when the correct answer is selected.

- Use `addEventListener("click", function() {...})` to handle answer selection.
- Display "Correct!" or "Wrong Answer!" based on selection.

Note:

1. Create a **document** of the above website with screenshots.
2. Scan the document and **create a pdf file** with "**ExamSeatNum\_P#PS#**" as its **name**.
3. Upload the zip file on the **WCE Moodle** before the given deadline.