



# St. Francis Institute of Technology

(Engineering College)

An Autonomous Institute, Affiliated to University of Mumbai

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## Department of Artificial Intelligence and Machine Learning

**Academic Year:** 2025-2026 **Term:** Even (Jan. 2026 – Jun. 2026) **Class / Branch:** SE –AIML

**Semester:** IV

**Course:** Web Programming Lab. (AI4VS\_LR4)

**Date of Assignment:** / /2026 **Date of Submission:** / /2026

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### Pre-Lab Exercises for Experiment-5

#### DOM Basics & Preparation for To-Do List Application

Before performing Experiment-5, understand how JavaScript interacts with HTML elements using the DOM. These exercises help practice element selection, content update, and event handling, which are essential for building a To-Do List application.

#### Part A: DOM Fundamentals (Conceptual)

##### Exercise 1: Understanding DOM

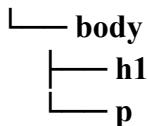
Task:

1. Define DOM.

Ans. DOM (Document Object Model) is a programming interface that represents an HTML document as a tree structure. It allows JavaScript to access and modify HTML elements dynamically.

2. Draw a simple DOM tree for an HTML page with `<html>`, `<body>`, `<h1>`, and `<p>`.

Ans. `html`



##### Exercise 2: DOM Selection Methods

Task: Write the purpose of:

1. `getElementById()`  
Selects an element using its unique ID
2. `querySelector()`  
Selects the first element that matches a CSS selector
3. `querySelectorAll()`  
Selects all elements that match a CSS selector

#### Part B: Hands-On DOM Practice

##### Exercise 3: Accessing Elements

Task:

- Create a paragraph with an id.
- Use JavaScript to change its text using a button click.

### CODE

HTML

```
<!DOCTYPE html>
<html>
<head>
    <title>Exercise 3</title>
</head>
<body>
    <p id="para">This is original
    text.</p>
    <button id="btn">Click Me</button>
<!-- Linking JavaScript file -->
<script src="5.js"></script>
</body>
```

### OUTPUT



This is original text.

```
</html>
```

JS

```
document.getElementById("btn").addEventListener("click", function() {
    document.getElementById("para").textContent = "Text changed
    successfully!";
});
```



Text changed successfully!

## Exercise 4: Creating Elements Dynamically

Task:

- Create a button.
- When clicked, add a new paragraph to the page.

### CODE

HTML

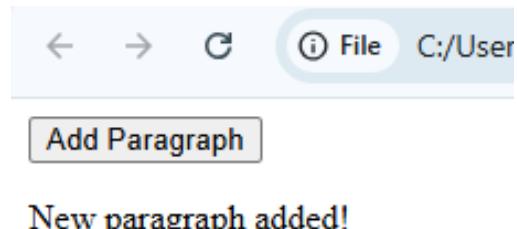
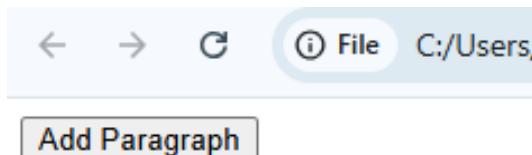
```
<!DOCTYPE html>
<html>
<head>
    <title>Exercise 4</title>
</head>
<body>
    <button id="addBtn">Add
    Paragraph</button>
    <script src="5.js"></script>
</body>
```

```
</html>
```

JS

```
document.getElementById("addBtn").addEventListener("click", function() {
    let newPara =
        document.createElement("p");
    newPara.textContent = "New
    paragraph added!";
    document.body.appendChild(newPara);
});
```

## OUTPUT



## **Exercise 5: Removing Elements**

Task:

- Create a paragraph.
- Add a button to remove the paragraph using JavaScript.

## CODE

HTML

```
<!DOCTYPE html>
<html>
<head>
    <title>Exercise 5</title>
</head>
<body>
    <p id="removePara">This paragraph
    will be removed.</p>
    <button id="removeBtn">Remove
    Paragraph</button>
<script src="5.js"></script>
```

</body>

</html>

JS

```
document.getElementById("removeBtn").
addEventListener("click", function()
{
    document.getElementById("removePara")
    .remove();
});
```

## OUTPUT



This paragraph will be removed.

**Remove Paragraph**

**Remove Paragraph**

## **Part C: Event Handling Practice**

### **Exercise 6: Event Listener**

Task:

- Use addEventListener() to display a message when a button is clicked.

## CODE

HTML

```
<!DOCTYPE html>
<html>
<head>
    <title>Exercise 6</title>
</head>
<body>
<button id="btn">Click Me</button>
<p id="message"></p>
```

```
<script src="5.js"></script>
```

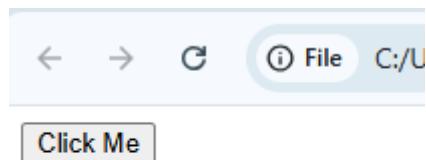
```
</body>
```

```
</html>
```

JS

```
document.getElementById("btn").addEventListener("click", function() {
    document.getElementById("message").textContent = "Button was clicked!";
});
```

## OUTPUT



## Exercise 7: Input Handling

Task:

- Create a text input.
- Display the entered text below the input when a button is clicked.

## CODE

HTML

```
<!DOCTYPE html>
<html>
<head>
    <title>Exercise 7</title>
</head>
<body>
<input type="text" id="inputBox"
placeholder="Enter text here">
<button id="showBtn">Show
Text</button>
<p id="output"></p>
<script src="5.js"></script>
```

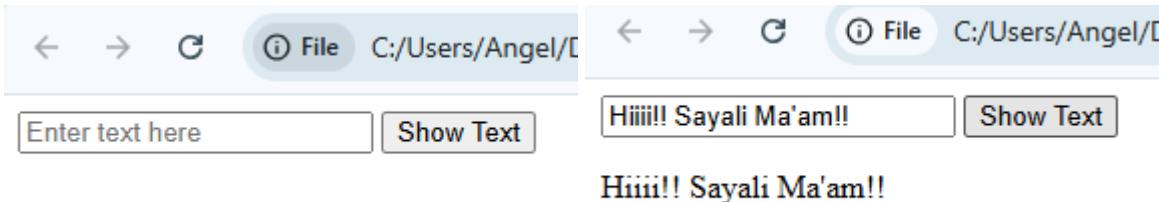
```
</body>
```

```
</html>
```

JS

```
document.getElementById("showBtn").addEventListener("click", function() {
    let text =
    document.getElementById("inputBox").value;
    document.getElementById("output").textContent = text;
});
```

## OUTPUT



## Part D: Logic Preparation for To-Do List Exercise 8: Simple Task Addition Logic

Task:

- Enter text in an input box.
- On button click, display it as a list item.

## CODE

HTML

```
<!DOCTYPE html>
<html>
<head>
    <title>To-Do Task
Addition</title>
</head>
<body>
<input type="text" id="taskInput"
placeholder="Enter task">
<button id="addTask">Add
Task</button>
<ul id="taskList"></ul>
<script src="5.js"></script>
</body>
</html>
```

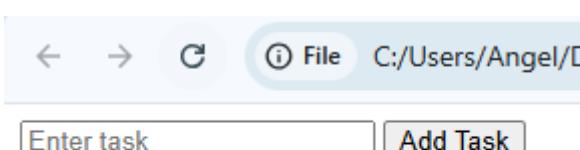
JS

```
document.getElementById("addTask").ad
dEventListener("click", function() {

    let task =
        document.getElementById("taskInput").v
alue;

    if (task !== "") {
        let listItem =
            document.createElement("li");
        listItem.textContent = task;
        document.getElementById("taskList").a
ppendChild(listItem);
        document.getElementById("taskInput").v
alue = "";
    }
});
```

## OUTPUT



- coffee
- go to sleep
- coffee
- Study
- Coffee
- doomscroll