* Create file

type nul > dom\_exm.html

(Q) **What is dom** (**DOM stands for Document Object Model**) **Manipulation ?**

**DOM Manipulation** means **changing or interacting with the HTML elements of a web page** using programming, usually JavaScript.

It is the browser’s internal representation of a webpage.

* When a browser loads an HTML page, it creates a **DOM Tree** a structured object representing each element (like <div>, <p>, <h1>, etc.).
* JavaScript can use this tree to **read**, **change**, **add**, or **delete** elements on the page.

**What Can You Do with DOM Manipulation?**

* Change **text or content**
* Add or remove **HTML elements**
* Modify **styles** (CSS)
* Respond to **user events** (click, input, etc.)
* Build **dynamic user interfaces**

Ex:

<p id="demo" class="demo1">Hello BBD</p>

<button onclick="changeText()" id="btn1">Click me</button>

--------------js--------------------

function changeText() {

const element = document.getElementById("demo");

element.innerText = "Hello BBD Students, DOM Manipulation Start !";

element.style.textAlign = "center";

// Add the blinking animation class

element.classList.add("blink");

document.getElementById("btn1").style.display="none"

}

--------------css---------------

.blink {

animation: blink-animation 1s steps(2, start) infinite;

color: red;

font-weight: bold;

}

@keyframes blink-animation {

to {

visibility: hidden;

}

}

### Common JavaScript Methods for DOM Manipulation

| **Method** | | **Description** | |
| --- | --- | --- | --- |
| getElementById() | | Get a specific element | |
| getElementsByClassName() | | Get all elements with a class | |
| innerHTML | | Read or write content inside an element | |
| innerText | Read or write content inside an element | |
| addEventListener() | | Add a click event | |
| style | | Change inline CSS styles | |
| createElement() | | Create new element | |
| appendChild() | | Add an element | |
| removeChild() | | Remove an element | |

document.getElementById("addBtn").addEventListener("click", function() {

This is the callback function

});

* + **getElementsByClassName**

**-----------html-----------**

<h2 class="my\_class">Hello 1</h2>

<p class="my\_class">Hello 2</p>

<div class="my\_class">Hello 3</div>  
<button onclick="changeToPositiveThoughts()" id="btn2">Change Text</button>

---------------------css--------------------

.body\_class {

transition: background-color 0.5s, color 0.5s;

font-family: Arial, sans-serif;

padding: 20px;

}

---------------------js ------------------------

// function changeToPositiveThoughts () {

// var elements = document.getElementsByClassName("my\_class");

// // Loop through them and change their text

// for (var i = 0; i < elements.length; i++) {

// elements[i].innerHTML = "Text Changed " + (i + 1);

// }

// }

-------------------------------------------

function changeToPositiveThoughts() {

const elements = document.getElementsByClassName("my\_class");

const positiveThoughts = [

"Believe in yourself and all that you are.",

"Every expert was once a beginner.",

"Your only limit is your mind. Keep pushing!"

];

for (let i = 0; i < elements.length; i++) {

elements[i].innerText = positiveThoughts[i];

elements[i].style.color = "#2b9348"; // positive green

elements[i].style.fontSize = "18px";

elements[i].style.fontWeight = "bold";

elements[i].style.padding = "10px";

elements[i].style.backgroundColor = "#e9f7ef";

elements[i].style.borderRadius = "8px";

elements[i].style.marginBottom = "10px";

elements[i].style.boxShadow = "0 2px 6px rgba(0,0,0,0.1)";

}

document.getElementById("btn2").style.display = "none";

}

* + **addEventListener()**

**------------------html -------------------**

**<h2>My List</h2>**

**<ul id="myList">**

**<li> Item 1</li>**

**<li> Item 2</li>**

**</ul>**

**<input type="text" id="itemInput" placeholder="Enter item">**

**<button id="addBtn">Add</button>**

**-------------------------js------------------------**

**document.getElementById("addBtn").addEventListener("click", function() {**

**var input = document.getElementById("itemInput");**

**var text = input.value;**

**if (text.trim() !== "") {**

**var li = document.createElement("li");**

**li.innerText = " " + text;**

**document.getElementById("myList").appendChild(li);**

**input.value = ""; // clear the input**

**}**

**});**

* + **createElement**

**<h2>Mini To-Do List App Add Task </h2>**

**<ul id="myList">**

**<li> Walk</li>**

**</ul>**

**<input type="text" id="itemInput" placeholder="Enter item">**

**<button onclick="addItem()">Add</button>**

**---------------js---------------------**

**function addItem() {**

**var input = document.getElementById("itemInput");**

**var text = input.value;**

**var li = document.createElement("li");**

**li.innerText = " " + text;**

**document.getElementById("myList").appendChild(li);**

**input.value = "";**

**}**

* **AddEventListener**

**<h2>My List</h2>**

**<ul id="myList">**

**<li> Item 1</li>**

**<li> Item 2</li>**

**</ul>**

**<input type="text" id="itemInput" placeholder="Enter item">**

**<button id="addBtn">Add</button>**

**--------------------js-------------------------**

**// Add event listener to the button**

**document.getElementById("addBtn").addEventListener("click", function() {**

**var input = document.getElementById("itemInput");**

**var text = input.value;**

**if (text.trim() !== "") {**

**var li = document.createElement("li");**

**li.innerText = " " + text;**

**document.getElementById("myList").appendChild(li);**

**input.value = ""; // clear the input**

**}**

**});**

**What is a Callback Function?**

A **callback function** is a function that is **given to another function as an argument**, and it gets **called later** — usually **after some event happens**, like a button click or when some task finishes.

* + **Add all create , append , remove**

**<h2>Student List</h2>**

**<p>Enter a student name below and click "Add Student" to add it to the list.</p>**

**<!-- Input box for dynamic student name -->**

**<input type="text" id="studentName" placeholder="Enter student name">**

**<button id="addBtn">Add Student</button>**

**<button id="removeBtn">Remove Last</button>**

**<ul id="studentList">**

**<li>📌Rajeev</li>**

**</ul>**

**----------------------js------------------------**

**// Add new student dynamically**

**document.getElementById("addBtn").addEventListener("click", function () {**

**var name = document.getElementById("studentName").value.trim();**

**if (name !== "") {**

**var li = document.createElement("li"); // createElement**

**li.innerText = " " + name;**

**document.getElementById("studentList").appendChild(li); // appendChild**

**document.getElementById("studentName").value = ""; // clear input box**

**} else {**

**alert("Please enter a student name.");**

**}**

**});**

**// Remove last student**

**document.getElementById("removeBtn").addEventListener("click", function () {**

**var list = document.getElementById("studentList");**

**if (list.lastChild) {**

**list.removeChild(list.lastChild); // removeChild**

**}**

**});**

* + **Change background theme**

**<div style="float: right; margin: 10px;">**

**<select id="themeSelector" onchange="changeTheme()">**

**<option value="">Change Theme</option>**

**<option value="ocean">Ocean Blue</option>**

**<option value="sunset">Sunset Orange</option>**

**<option value="dark">Dark Mode</option>**

**<option value="forest">Forest Green</option>**

**<option value="light">Light Mode</option>**

**</select>**

**</div>**

**<h2>Hello BBD Students</h2>**

**<p>Enjoy learning DOM and styling with colors!</p>**

**--------------------------js-----------------------------**

**function changeTheme() {**

**// Theme name get karo from dropdown**

**const theme = document.getElementById("themeSelector").value;**

**const body = document.body;**

**// Background & Text color set karo according to theme**

**if (theme === "ocean") {**

**body.style.backgroundColor = "#0077b6";**

**body.style.color = "#ffffff";**

**} else if (theme === "sunset") {**

**body.style.backgroundColor = "#ff6f61";**

**body.style.color = "#ffffff";**

**} else if (theme === "dark") {**

**body.style.backgroundColor = "#121212";**

**body.style.color = "#e0e0e0";**

**} else if (theme === "forest") {**

**body.style.backgroundColor = "#2a9d8f";**

**body.style.color = "#ffffff";**

**} else if (theme === "light") {**

**body.style.backgroundColor = "#ffffff";**

**body.style.color = "#000000";**

**} else {**

**body.style.backgroundColor = "";**

**body.style.color = "";**

**}**

**// Selected theme ko localStorage me save karo**

**localStorage.setItem("selectedTheme", theme);**

**}**

**// / Page load hone par theme apply kar do**

**window.onload = function () {**

**const savedTheme = localStorage.getItem("selectedTheme");**

**if (savedTheme) {**

**document.getElementById("themeSelector").value = savedTheme;**

**changeTheme(); // Apply theme**

**}**

**};**