**JQuery Explanation**

**1. What is jQuery?**

jQuery is a fast, lightweight, and feature-rich JavaScript library designed to simplify HTML DOM traversal, event handling, animations, and AJAX interactions. It provides an easy-to-use API that works across different browsers, reducing the need for writing complex JavaScript code.

**2. Why Use jQuery?**

* Simplifies JavaScript programming.
* Cross-browser compatibility.
* Reduces code length.
* Enhances HTML document manipulation.
* Provides built-in animations and AJAX support.

**3. Basic jQuery Syntax**

The basic syntax of jQuery is:

$(selector).action();

* **$** → Indicates jQuery.
* **selector** → Selects HTML elements.
* **action()** → Performs an action on the selected elements.

**📌 Step 1: Understanding jQuery Selectors (Finding Elements in the DOM)**

Selectors help us **find** and **manipulate** elements in the HTML document.

**🔹 Step 1.1: Using ID Selector (#id)**

**✅ What It Does:**

Selects an element by its unique id.

**🔹 Example: Change the background color of a paragraph with a specific ID**

$(document).ready(function(){

$("#myPara").css("background-color", "yellow");

});

<p id="myPara">This paragraph has an ID.</p>

**🔹 Explanation:**

* $("#myPara") → Selects the <p> element with id="myPara".
* .css("background-color", "yellow") → Applies a yellow background to it.
* The function runs when the document is **fully loaded** ($(document).ready(...)).

**🔹 Step 1.2: Using Class Selector (.class)**

**✅ What It Does:**

Selects **all** elements that have a specific class.

**🔹 Example: Change the text color of all elements with class highlight**

$(document).ready(function(){

$(".highlight").css("color", "red");

});

<p class="highlight">First paragraph</p>

<p class="highlight">Second paragraph</p>

**🔹 Explanation:**

* $(".highlight") → Selects **all** elements with class="highlight".
* .css("color", "red") → Changes text color to red.

**🔹 Step 1.3: Using Tag Selector (tag)**

**✅ What It Does:**

Selects **all** elements of a given tag type.

**🔹 Example: Make all <h1> elements bold**

$(document).ready(function(){

$("h1").css("font-weight", "bold");

});

<h1>Heading 1</h1>

<h1>Heading 2</h1>

**🔹 Explanation:**

* $("h1") → Selects all <h1> elements.
* .css("font-weight", "bold") → Makes text **bold**.

**🔹 Step 1.4: Using Attribute Selector ([attribute])**

**✅ What It Does:**

Selects elements based on an **attribute and its value**.

**🔹 Example: Change the placeholder text of all text inputs**

$(document).ready(function(){

$("input[type='text']").attr("placeholder", "Enter your name");

});

<input type="text">

<input type="password">

**🔹 Explanation:**

* $("input[type='text']") → Selects all <input> elements where type="text".
* .attr("placeholder", "Enter your name") → Changes placeholder text.

**🔹 Step 1.5: Using Multiple Selectors (selector1, selector2)**

**✅ What It Does:**

Selects multiple elements at the same time.

**🔹 Example: Change text color for both headings and paragraphs**

$(document).ready(function(){

$("h1, p").css("color", "blue");

});

<h1>Main Heading</h1>

<p>Paragraph text</p>

**🔹 Explanation:**

* $("h1, p") → Selects **both** <h1> and <p> elements.
* .css("color", "blue") → Changes text color to blue.

**📌 Step 2: Manipulating Elements (Changing Content & Styles)**

Now that we can **select elements**, we can **modify them dynamically**.

**🔹 Step 2.1: Changing Text & HTML Content**

✅ .text() → **Gets or sets text content (no HTML)**

✅ .html() → **Gets or sets content, including HTML**

**🔹 Example: Change text without HTML**

$(document).ready(function(){

$("#textExample").text("New Text!");

});

<p id="textExample">Old Text</p>

**🔹 Explanation:**

* $("#textExample") → Selects <p> with id="textExample".
* .text("New Text!") → Changes its text **without adding HTML formatting**.

**🔹 Example: Insert HTML content**

$(document).ready(function(){

$("#htmlExample").html("<b>Bold Text</b>");

});

<p id="htmlExample">Old HTML</p>

**🔹 Explanation:**

* .html("<b>Bold Text</b>") → Inserts **bold** text.

**🔹 Step 2.2: Changing Attributes (.attr())**

**✅ What It Does:**

Changes an element’s **attribute value**.

**🔹 Example: Change an image’s source**

$(document).ready(function(){

$("img").attr("src", "newImage.jpg");

});

<img src="oldImage.jpg">

**🔹 Explanation:**

* .attr("src", "newImage.jpg") → Updates the **image source**.

**🔹 Step 2.3: Modifying Input Values (.val())**

**✅ What It Does:**

Gets or sets the value of form fields.

**🔹 Example: Set the value of an input field**

$(document).ready(function(){

$("input").val("New Value");

});

<input type="text" value="Old Value">

**🔹 Explanation:**

* .val("New Value") → Updates the **input field’s** value.

**🔹 Step 2.4: Show, Hide, & Toggle Elements**

✅ .hide() → **Hides an element**

✅ .show() → **Shows an element**

✅ .toggle() → **Toggles visibility**

**🔹 Example: Show & Hide on Button Click**

$(document).ready(function(){

$("#hideBtn").click(function(){

$("#myDiv").hide();

});

$("#showBtn").click(function(){

$("#myDiv").show();

});

$("#toggleBtn").click(function(){

$("#myDiv").toggle();

});

});

<button id="hideBtn">Hide</button>

<button id="showBtn">Show</button>

<button id="toggleBtn">Toggle</button>

<div id="myDiv">Hello!</div>

**🔹 Explanation:**

* .hide() → Hides #myDiv.
* .show() → Shows #myDiv.
* .toggle() → Toggles visibility.

**📌 Project Overview**

This project allows users to:

✅ **Add new tasks**

✅ **Mark tasks as completed**

✅ **Delete tasks**

✅ **Toggle visibility of tasks**