DAY-5 Hands-On Activities

Problem 1: Greeting Generator (Level-1)

Scenario

A simple webpage should greet users based on the name they enter. This helps beginners understand how JavaScript functions accept parameters and how variables behave inside functions.

📌 Requirements

- Create an input box to enter a user's name.
- Create a button labeled "Generate Greeting".
- When the button is clicked:
- A JavaScript function should accept the name as a parameter.
- Display a greeting message like:
  "Hello, Rahul! Welcome to our website."
- Display the greeting inside a <p> element.

🛠️ Technical Constraints

- Use only vanilla JavaScript (no libraries).
- Use function keyword (not arrow functions for this task).
- Use document.getElementById() for DOM manipulation.
- Variable for the greeting message must be declared inside the function.

🎯 Learning Outcome

You should be able to:

- Understand how functions receive input using parameters.
- Learn local variable scope.
- Manipulate webpage elements using the DOM.

Problem 2: Simple Object-Based User Info Display (Level-1)

Scenario

A webpage needs to display basic user information stored inside a JavaScript object.

📌 Requirements

Create a JavaScript object user with properties:

- name
- age
- city

Create a function displayUserInfo(userObj):

- Accepts the object as a parameter.
- Displays user details in separate <p> elements.

A button click should trigger the function.

🛠️ Technical Constraints

- Object properties must be accessed using dot notation.
- Function should not use global variables.
- DOM elements should be updated dynamically.

🎯 Learning Outcome

You will be able to:

- Understand JavaScript objects.
- Pass objects to functions.
- Display object data dynamically on a webpage.

Problem 3: Counter App with Scope Control (Level-2)

Scenario

Build a counter application where users can increment and reset a value. This problem focuses on variable scope and DOM manipulation.

📌 Requirements

Display a counter value starting from 0.

Create two buttons:

- **Increment**
- **Reset**

Use:

- A global variable to store counter value.
- A function incrementCounter(step) that:
  - Accepts step value as a parameter.
  - Updates the counter.

Reset button should reset the counter to 0.

🛠️ Technical Constraints

- Counter value must be maintained outside the function (global scope).
- DOM updates must happen inside functions only.
- No inline JavaScript in HTML.

🎯 Learning Outcome

Learners should be able to:

- Understand variable scope (global vs local).
- Apply function parameters in real scenarios.
- Control UI behavior using JavaScript functions.

Problem 4: Dynamic Student Profile Manager (Level-2)

Scenario

Create a mini student profile system where details are stored in an object and displayed dynamically using DOM manipulation.

📌 Requirements

Create a student object with:

- name
- rollNo
- marks

Create a function updateStudentProfile(studentObj):

- Accepts the object as a parameter.
- Displays details in a styled .

Add another function updateMarks(newMarks):

- Updates marks and refreshes the display.

🛠️ Technical Constraints

- Student object must be declared in global scope.
- Functions should update object values using parameters.
- DOM should update without page refresh.

🎯 Learning Outcome

You will be able to:

- Deep understanding of object manipulation.
- Function interaction with shared data.
- Real-world use of DOM updates and scope handling.